

PERFORMANCE-BASED BUDGETING IN THE DEFENSE SECTOR: ORGANIZATIONAL STRUCTURE ISSUES

Ivan OKROMTCHEDLISHVILI

International Black Sea University,
Faculty of Business and Technology, Tbilisi, Georgia

Today's challenging, unpredictable, and volatile international security environment and recent developments in Ukraine require the states of Eastern Europe, especially those that are not members of powerful military alliances, to focus on strengthening the most important instrument of national power, military power, in order to be able to defend their national interests. Enhancing military capability is usually associated with an increase in funding for defense programs. However, having a significant defense budget does not guarantee security, and the main question is how efficiently and effectively defense funds are allocated to particular programs, projects, or activities. The way to improve the efficiency and effectiveness of managing defense funds is through the introduction of the performance-based (program) budgeting approach. At the same time, it must be kept in mind that programs cannot disregard the structure of the MOD departments and services, since budgets are implemented by allocating resources to organizational units to use for conducting activities aimed at producing outputs. In this paper, I proposed some structural changes in order to place the organizational structure of the MOD of Georgia on more of a "product line" basis; bring it more in line with the basic principles of management, and improve capability planning and program development processes.

Key words: program budgeting, organizational structure, performance, output, outcome, military capability.

1. INTRODUCTION

In today's challenging, unpredictable and volatile international security environment and in light of recent developments in Ukraine, the states of Eastern Europe, especially those that are not members of powerful military alliances, must focus on strengthening the most important instrument of national power, military power, in order to be able to defend their national interests.

In resource-limited conditions, nations must resolve the so-called "guns versus butter" dilemma and achieve the proper balance between investment in defense and civilian goods that best suits the needs of citizens. The choice to be made is partly influenced by the military spending and military posture of potential adversaries (Military Wiki, n.d.). Depending on security situation, defense may take precedence over social issues, especially in times of crisis or war. However, in times of peace, decisions to increase defense budgets are usually difficult to make. It should also be borne in mind that having a significant defense budget does not imply guaranteed security, and the main question is how efficiently and effectively defense funds are allocated to particular programs, projects or activities.

The management of defense resources implies converting them into military capabilities in a timely and cost-effective manner,

in consistency with the government strategy. The way to improve the efficiency and effectiveness of managing defense funds is through the introduction of the performance-based budgeting approach that shifts the focus to managing results rather than managing spending and provides managers with "greater discretion in the use of resources and deciding the input mix" (IMF, 2018, 79).

One of the more advanced government-wide performance budgeting systems that uses performance information systematically is program budgeting, which, when properly applied, provides a clear linkage between allocated resources and desired/produced outputs and outcomes and enables defense decision-makers to compare the costs and benefits of alternative spending options in order to choose the most efficient and effective (Robinson, 2011).

An appropriate definition of programs and other elements of the so-called program hierarchy is the foundation of good program budgeting, and the *fundamental principle* in determining programs is that to serve their intended purpose, they must be *results (output/outcome)-based* to the maximum possible extent. They should be defined as groups of *outputs* (products or services) delivered to external parties that have common *outcomes* (so-called "product lines")

[1]). Along with this, in developing a program classification, it is necessary to take into account “that programs cannot disregard the structure” of government departments since “budgets are implemented by allocating resources to organizational units to use for activities” aimed at producing outputs (Robinson, 2013, p. 5). To ensure the efficiency and effectiveness of the defense resource management process [2] and improve organizational performance, the structure of the Defense Ministry should be organized on a “product line” basis to the maximum possible extent and comply with the basic principles of management.

Constantly changing security environment, emerging threats, volatile economic environment, improving technology, and development of new operational and management concepts may occasionally cause changes in the rules by which the defense sector is governed, as well as organizational changes.

In my recent article (Okromtchedlishvili, 2022a), I supposed that the current program structure of the MOD of Georgia does not fully comply with the above most basic principle of defining programs and proposed an updated defense program structure.

The main goal of this paper is to propose some structural changes in order to place the organizational

structure of the MOD of Georgia on more of a “product line” basis, bring it more in line with the basic principles of management, and improve capability planning and program development processes.

Due to the general lack of detailed information and limitations in obtaining primary data on the defense sector in terms of the secrecy, the study mainly relied on information and secondary data available from open sources.

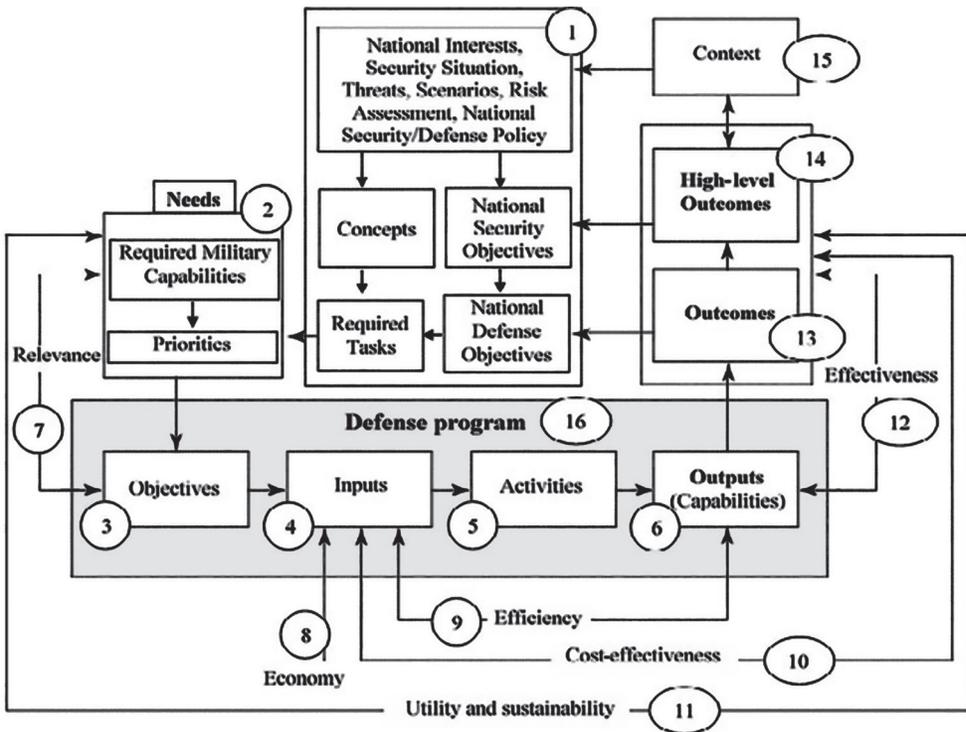
2. PRODUCTION MODEL OF PERFORMANCE IN THE DEFENSE SECTOR

For a better understanding of the processes occurring in the Defense Ministry, if it is considered as an enterprise, the Production Model of Performance in the Defense Sector can be applied (Okromtchedlishvili, 2022b).

The starting point of the production model is the identification of the national interests; the security situation; threats and anticipated scenarios; risk assessment; and the definition of national security and defense objectives and tasks, as indicated in the National Security and Defense Policy documents. National security and defense issues (1 in Figure 1) persuade defense planners and decision-makers to elaborate the military capability requirements needed to achieve defense objectives and tasks and prioritize these

requirements according to available resources (2). These priorities, following the model, are translated into objectives (3) of the defense program under consideration. By comparing policy objectives with needs (prioritized military capability requirements), it is possible to assess the relevance (7) of the policy being pursued.

organizations carry out activities (5) to produce outputs/capabilities (6). Economy (8) implies the ratio of monetary inputs to other inputs (e.g., the cost of a tank, weapon system, or uniforms). The input-over-output ratio means efficiency (9). As Omitoogun and Hutchful (2006) noted, “efficiency implies the optimal output for any given input; that is, the best value for money” (p. 43).



Note: Adopted from Van Dooren et al. (2015)

Fig. 1 Production Model of Performance in the Defense Sector

2.1. Defense Outputs and Efficiency

Consuming allocated inputs/resources (such as human, financial and material) (4), defense

The often applied definition of defense outputs in terms of the numbers of military personnel, military units, warships, and aircraft squadrons is not sufficient. For example, troop numbers can be a

misleading indicator if training, sustainment, and readiness for operations are ignored, as well as the number of warships, tanks, and aircraft without data on their operational availability currently and in the future, and their average age (Hartley, 2011).

The main output of Defense – *Military Capability* is comprised of a complex set of variables and can be considered as a function of multiple components, and defined

As a comprehensive force structure consisting of its constituent force elements/capabilities (combat, combat support, combat service support, training, management, command and control) with an integrated set of aspects categorized as doctrine, organization, training, materiel, leadership development, personnel, and facilities, and with an appropriate readiness level [3] assessed at a concrete time. (Okromtchedlishvili, 2022a, p. 94)

Readiness in this case can be considered an *output indicator*.

2.2. Defense Outcomes and Effectiveness

Defense, with its main desired outcome in the form of deterrence and defense, is a classic example of a public good that is non-exclusive and non-competitive. For example, the consumption of an air defense service by a particular resident of Tbilisi

does not affect the consumption of his/her neighbors. Moreover, once air defense is provided, no one can be excluded from consumption (Hartley, 2012).

Outcomes can be intermediate (13 in Figure 1) or final/high-level (14). The outcomes often depend on the context (15), over which the organization or program has limited or no influence. Such contextual factors may include socio-economic or environmental trends, as well as policies of other governments. In the case of the Ministry of Defense, these can be relations with strategic partners and opponents, trends in regional or global security, changes in the political situation both within the state and at the international level, etc. The ratio of output to outcome is the *effectiveness* (12). The ratio of the input to the outcome is called *cost-effectiveness* (10). The outcomes of the Defense Ministry must address the needs of society, for example, providing deterrence from potential adversaries or defense in the event of aggression. The confrontation of needs and outcomes allows evaluation of the program's or organization's *sustainability* and *utility* (11) (Okromtchedlishvili, 2022b).

The main outcomes of the defense program should be determined on the basis of the defense objectives specified in the

defense policy documents. In the case of the Georgian Ministry of Defense, the Strategic Defense Review (SDR) for 2021-2025 defines three main defense objectives, namely: *ensuring deterrence and defense; supporting civil agencies to handle various emergencies; and contributing to strengthening regional and international security.* The *availability and capacity* of the Georgian Defense Forces (GDF) to carry out their assigned tasks and achieve or contribute to the achievement of the outcomes (national defense objectives) and high-level outcomes (national security objectives) can be defined as *outcome indicators*. A means of confirming the indicators can be considered the results of research carried out according to a certain methodology, the results of an assessment conducted by a local or international organization, etc. (Okromtchedlishvili, 2022b).

3. PROPOSALS ON STRUCTURAL CHANGES

As was mentioned above in the study, a core issue in good program budgeting is the appropriate definition of programs and other elements of the so-called program hierarchy. The ideal of program budgeting is that programs should be *results (output/outcome)-based* to the maximum possible extent; that

is, they should be based on groups of *outputs* (services or products) delivered to external parties that have *common outcomes* (so-called “product lines”) (Robinson 2013, p. 4).

As Robinson (2013) also noted, in developing a program classification, it is necessary to take into account

That program cannot disregard the structure of their government, because budgets are implemented by assigning resources to organizational units to use for activities designed to produce outputs. (p. 5)

Along with the proposed changes in the structure of the defense programs (Okromtchedlishvili, 2022a, p. 97-100), *it is desirable to consider some structural changes as well, in order to place the organizational structure of the MOD of Georgia on more of a “product line” basis, bring it more in line with the basic principles of management, and improve capability planning and program development processes.* The most obvious, in my opinion, are the necessary changes in Infrastructure, Military Police, Land Forces, and structural units of the Georgian Defense Forces (GDF) responsible for the capability planning and programming process.

3.1. Infrastructure

It would be advisable to detach the infrastructure function from the Force Logistic Support Command

and establish a separate Defense Infrastructure Organization in the form of a legal entity of public law to take over the infrastructure-related functions currently provided by the aforementioned Command, such as: carrying out design and construction activities in the system of the MOD; ensuring relations related to the registration of real estate; forming current infrastructure requirements and submitting them to the State Procurement Department of the MOD; registration and accounting of real estate used by the MOD, as well as its management and maintenance related activities; providing the structural subdivisions of the MOD with communal and household conditions; providing bath-laundry services for the personnel of the Defense Forces; control of engineering networks of electricity, heating, water supply, sewerage, natural gas and other facilities used by the Ministry; accounting of utility costs, etc. (MOD, 2014). It should be noted that the lack of a structural unit responsible for infrastructure development in the Ministry of Defense was indicated as a shortcoming in the report on the results of the audit of the effectiveness of real estate management conducted by the State Audit Office in 2019 (SAO, 2019). Although the Department of Infrastructure Management, Standardization and

Codification was established in 2021 (MOD, 2021a), the tasks of this department are to develop a policy for the development of the infrastructure system of the Ministry and monitor its implementation, but not to plan and conduct day-to-day infrastructure-related activities and support the Defense Forces “by enabling military capability through planning, building, maintaining and servicing infrastructure over the lifecycle of acquire, operate, maintain and dispose” (MOD UK, 2020). [4] In turn, the Force Logistic Support Command will focus on providing logistics support to the GDF units both in peacetime and in combat, and will serve as the central functional subprogram for the logistics function to centralize the management of scarce resources and ensure their allocation to subprograms with the highest priority.

3.2. Military Police

As for the Military Police Department, it would be advisable to separate the functions of conducting operative-investigative activities and investigating criminal cases from the Department and assign these functions to a structure created within the Civil Office of the Ministry (for example, the Criminal Investigation Service). The Military Police Department, in this case, can be reorganized into the Military

Police Command, subordinated to the Chief of Defense Forces, which will focus on providing combat and military police support to combat elements and military operations (MOD, 2015).

3.3. Land Forces

It would also be advisable to consider some changes related to the Land Forces.

According to Harborne *et al.* (2017),

There is a critical difference between the “institutional” military forces under the command of the service chiefs, which are focused on force provision, and the “operational” military force, under the command of combatant or joint-force commanders, which is focused on force employment. (p. 181)

As a rule, the program managers for the force provision elements are appointed senior military officers, known as service chiefs or chiefs of staff, who lead the military forces and are responsible for establishing (organizing), developing, and maintaining combat ready forces in accordance with the national defense (military) strategy. The existence of the force provision requirements does not depend on whether or not military forces are employed operationally, but when employed, as mentioned above, they usually fall under a different command structure (Harborne *et al.*, 2017).

As a result of the structural reorganization, instead of the Land Forces Command of the MOD of Georgia, two regional commands were created. [5] According to the Law of Georgia “On the Defense of Georgia” (POG, 1997), the main purpose of the Eastern and Western Defense Commands is to manage the subordinate units in the operation area specified in the defense plan and to perform the set assignments. The Commands are responsible for the force employment, the near-term planning and preparation (through training and exercises) of the existing forces to fulfill their assigned missions within the near future, as well as for the force development, which, on the contrary, is forward looking and entails mid-term and long-term planning to invest in building “the future force structure through defense resource management, human resource management, and logistics” (Taliaferro *et al.*, 2019, 13).

According to the MOD UK (2020),

Defense Force Development (DFD) is an evidence-informed process by which forces and capabilities are designed, tested and generated to meet policy requirements effectively and efficiently [...and] includes the development of Concepts, which describes how forces will need to operate and adapt

to meet predicted future threats and subsequently develop the military capability that Defense needs now and in the future. (p. 13)

Effective force development requires the appropriate structural and personnel capabilities of the above-mentioned commands to conduct capability planning, acquisition planning, program planning, and budget planning processes, which implies the reallocation of human and material resources to augment the existing structural units or the creation of new ones responsible for force development. It should also be taken into account whether focusing on force development processes will negatively affect the quality of the force employment processes (planning and preparation of military operations, training and exercises of troops available).

In the case of Georgia, given the current and anticipated number of land forces maneuver units (SDR 2021-2025, 2021) and the basic principles of management, maybe it is reasonable to consider the establishment of a unified Land Forces Command, which will be responsible for the development of the Land Forces as a single service branch and its constituent branches of the armed forces (infantry, armor, artillery, etc.), including capability planning, acquisition

planning, program planning, and budget planning. To comply with the principle of unity of direction, the Land Forces will be developed on the basis of a unified plan; the Land Forces Commander, as a program manager, will direct the activities of the subordinate units (subprograms) and ensure their coordination to produce land forces capabilities in order to achieve the main common goal: the combat and mobilization readiness of the Land Forces units. Henri Fayol (1949), the founder of the School of Administrative (Classical) Management, emphasized the principle of unity of direction and expressed it as follows:

One head and one plan for a group of activities having the same objective [, which] is the condition essential to unity of action, co-ordination of strength and focusing of efforts. (p. 25)

It should be noted that according to the Law of Georgia “On the Defense of Georgia” (POG, 1997), in times of crisis, the Chief of Defense Forces is authorized to

Create, depending on the objectives, an operational group (a temporary military structure for completing operational-level tasks, which may include some tactical groups/subdivisions) and a tactical group (a temporary military structure for completing tactical level tasks,

which may include several military sub-divisions), and define the rules for their management. (Article 8)

It is also important that, during the war, the Land Forces Command should not be viewed as an intermediate link in the command chain of the Defense Forces but as a unified integrated body of operational-strategic command with the General Staff under the leadership of the Chief of Defense Forces. As for the brigades under the Command, their headquarters structures should be strengthened and improved in order to be able to form regional operational-tactical level headquarters on their basis to provide command and control of the aforementioned operational and tactical groups during a crisis.

The Finnish experience in this matter is interesting and significant. As a result of the reforms carried out by 2015, the number of structures in the Finnish Defense Forces was reduced, they were consolidated; the logistic was centralized; and one level of command was abolished - the Regional Commands, whose competencies were divided between the Land Forces headquarter, brigade-level units and their regional offices, and for some regional tasks (e.g., planning statements, statements related to environmental protection) to the Logistics Command of the

Defense Forces. Eight brigades were subordinated to the Army (Land Forces) Command, which steers the Army activities in accordance with the set requirements for readiness and force production (development); leads the planning, implementation and lifecycle management of projects and significant defense acquisitions; and in addition to the various divisions, also includes Inspectors of Service Branches of the Army. Under the brigades, there are twelve regional military districts (offices), which are responsible for recruiting reservists, preparing and activating them in times of crisis, forming local battalions, and organizing territorial defenses in their areas of responsibility (Defence Command, 2016).

At this stage, an important issue is to conduct a thorough analysis of the entire structure of the MOD of Georgia in order to eliminate unnecessary (redundant) structures and avoid duplication of functions, especially in the areas of supply and administration.

In case of implementation of the above structural transformations, the proposed Major Force Program - Defense Forces Capabilities (Okromtchedlishvili, 2022a, p. 98) will look as shown in Figure 2.

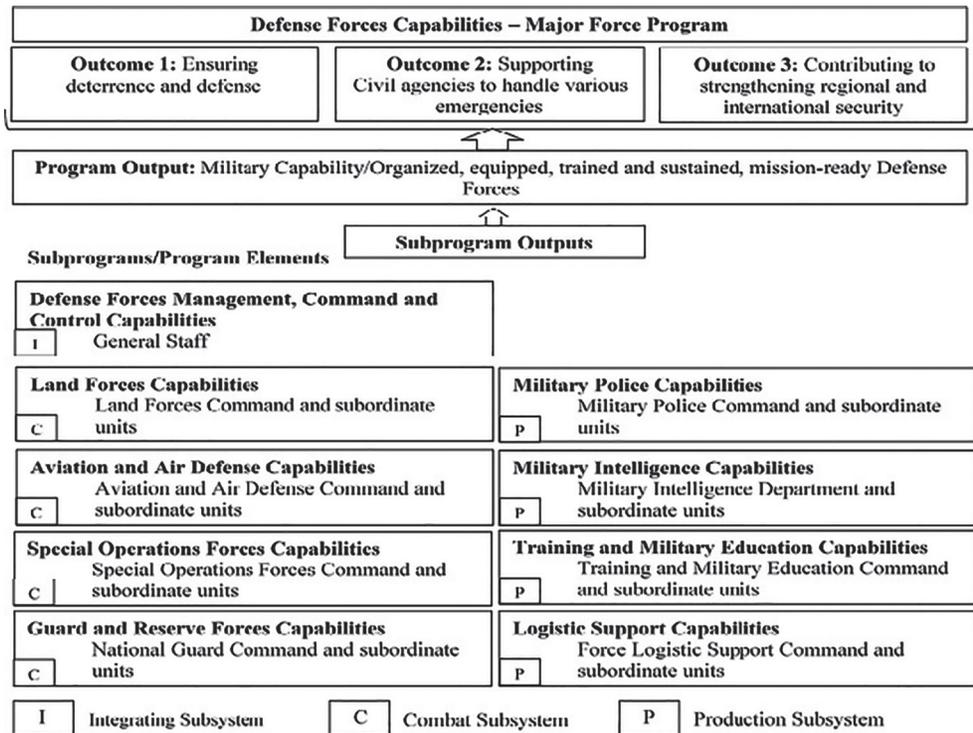


Fig. 2 Sample Major Force Program Structure for the MOD after the Proposed Structural Transformations

3.4. Structural Units Responsible for the Programming Process

Effectively managing the day-to-day programming process requires permanent personnel with unique skills and experience. David Novack, one of the founding fathers of program budgeting, noted that the programming office should be staffed by analysts who possess specific mathematical skills, as well as extensive knowledge and experience in key areas related to the area under management. In the case of the Defense Ministry, good program

analysts can be found in fields such as finance, personnel management, intelligence, acquisition and logistics; land, air, and special operations. It is advisable for staff to be a mix of military and civilian personnel, since military analysts will provide insight to military issues, while civilian analysts usually have higher academic credentials (Taliaferro *et al.*, 2017). It is crucial that the structural unit working on the resource management issues (including the programming process) has a direct link to the relevant highest decision makers

(e.g., Minister of Defense, Chief of Defense Forces, Chief of Service, Force Commander, etc.).

Figure 3 shows the main structural units of the MOD of Georgia responsible for the capability planning and programming processes.

The core responsibilities of the Department of Defense Policy and Development are: assessing the security environment of the country and developing proposals on defense policy directions; analysis of defense capabilities, development of priority requirements, as well as

the definition of short, medium and long-term plans for the development of the defense forces; development of the defense policy, planning and strategic documents, coordination of the process of their elaboration/revision; coordinating the planning, programming and budgeting process, as well as participating in the defense budget formation process within the framework of resource management, etc. (GOG, 2018).

J-5 Strategic Planning Department of the General Staff of the GDF participates in the process of

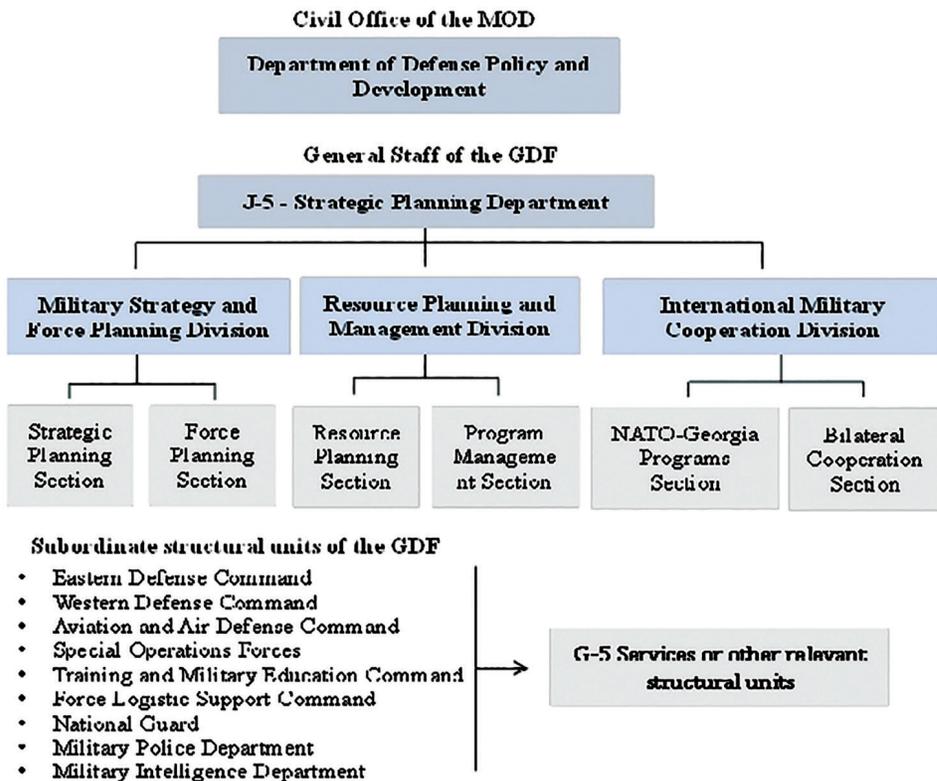


Fig. 3 Major Structural Units of the MOD of Georgia Responsible for the Programming Process

elaborating defense policy, strategic planning documents and resource management policy; determines the capabilities for defense and develops medium and long-term military plans and strategic directives and projects for the development of defense capabilities; prepares, coordinates and monitors the implementation of bilateral and multilateral military cooperation programs and plans with partner countries; monitors the implementation of the defense forces' programs, provides comprehensive analysis, evaluation and recommendations for the efficient use of resources, etc. (MOD, 2021b).

As for the subordinate structural units of the GDF, their G-5 services or other relevant divisions involved in the resource management process, develop recommendations for changes in the structures of the units and their functions based on the analysis of combat capabilities and structural compliance; participate in the resource planning process; develop recommendations on the purposeful, economic, and efficient spending of resources; develop long-term development plans for the Commands, etc. (MOD, 2018).

Defense is a complex system that, in peacetime, must transform allocated resources (inputs) into mission-ready forces (outputs).

The strategic guidance, framework, objectives and milestones for the development of the defense forces are provided by the National Security and Defense Policy documents. Defense planning, by using analytical, planning, and programming efforts, determines what kind of armed forces are suitable, feasible and affordable to the state. Defense planning is aimed at converting the national security and defense policy, and derivative defense strategies and guidance documents into a set of achievable and affordable capability requirements, spending priorities, programs, budgets, and ultimately into a comprehensive and capable force structure that will enable the accomplishment of the assigned defense tasks and achievement of the national defense and security objectives.

The capability planning process should focus on generating a force (capability) development plan; it determines and prioritizes the means (capability requirements, derived from analyses of strategic policy guidance, scenarios, and concepts) necessary to develop the future force structure in accordance with the minister's policy guidance and known fiscal restraints, and

should be completed well in advance to inform the programming and budgeting processes.

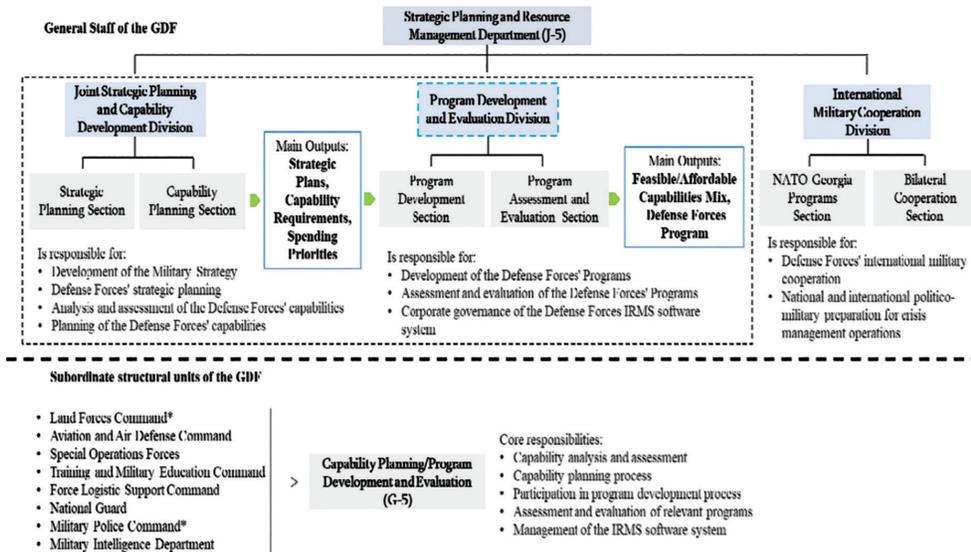
Programming provides a critical link between capability planning and budgeting and determines activities and, according to the minister's policy guidance and within fiscal constraints, allocates resources necessary to develop capabilities over a multi-year period. It produces a program plan "that allocates resources (inputs) to force elements over time in order to create capability (outputs)" and enables "decision makers to understand the costs and tradeoffs required to implement a capability proposal" (Taliaferro *et al.*, 2019, p. 52). The main outputs of the programming are feasible/affordable capability mix and approved defense forces program.

As Taliaferro *et al.* (2019) noted, in small defense establishments, the programming process can be simplified. In the case of the GDF, based on its size and organizational structure, instead of each of the subprogram managers preparing their own subprogram recommendations (proposals), it would be advisable the central department in the General Staff to assemble the Major Force

Program according to capability development plans submitted by each subprogram manager. The baseline will be set based on the last approved subprogram; actual changes will be made to create a new baseline for new solutions, and then data on inputs will be requested from the subordinate organizations. The central programming staff will act as an input integrator, providing feedback to subprogram managers when their portion of the program proposal exceeds financial limits. The central programming staff will manage all the data and provide feedback to staff in each subprogram manager's organization.

The first year of the approved defense programs is the basis for budget development (Taliaferro *et al.*, 2019). Finally, the approved defense budget is executed to create the actual military capability - defense forces capable of achieving the strategic goals set.

In the case of the introduction of the Major Force Program and implementation of the structural changes proposed above in the paper, it is advisable to consider amendments to the GDF structural units responsible for the programming process, as indicated in Figure 4,



Note * Proposals for the creation of the Land Forces Command and transformation of the Military Police Department are given in the previous subsection

Fig. 4 Sample of Major Structural Units of the GFD Responsible for the Programming Process

which will improve capability planning and program development processes.

4. CONCLUSIONS

The increasingly tense and explosive international security situation caused by recent developments in Ukraine requires Eastern European states, especially those that are not members of powerful military alliances, to focus on strengthening the most important instrument of national power, military power, in order to be able to defend their national interests.

Strengthening military capability is usually associated with an increase in funding for defense programs. However, having a significant defense budget does not guarantee security, and the main question is how efficiently and effectively defense funds are allocated to particular programs, projects, or activities.

The way to improve the efficiency and effectiveness of managing defense resources is through the introduction of the performance-based budgeting approach.

In particular, one of the more advanced government-wide

performance budgeting systems is program budgeting, which uses performance information systematically.

It should be noted that without implementing the results-based defense program structure, with military capability defined as a main output and outcomes based on national defense objectives, and without adequate and effective performance indicators and their application to assess the performance of program managers, program budgeting in the defense sector does not make sense as a tool to improve the efficiency and effectiveness of the defense resource management process; this will only make it easier and simpler for the ministry to allocate and use budgetary resources by loosening line item controls, without obtaining the core benefits of program budgeting.

Since programs cannot disregard the structure of the MOD departments and services, and budgets are implemented by allocating resources to organizational units, in this paper, some changes to the organizational structure of the MOD were proposed. They are aimed at placing the structure of the Ministry on more of a “product line”

basis; bringing it more in line with the basic principles of management, and improving capability planning and program development processes.

Finally, I believe that the proposals presented in this article will be useful in enhancing the efficiency and effectiveness of the defense resource management processes and improving the organizational performance of the Ministry.

ACKNOWLEDGEMENT

The views represented in this paper are those of the author and don't reflect the official policy or position of the Ministry of Defense of Georgia.

ENDNOTES

[1] According to Kotler *et al.* (1999), “a product line is a group of products that are closely related because they function in a similar manner, are sold to the same customer groups, are marketed through the same types of outlet, or fall within given price ranges” (p. 588).

[2] “Defense resource management,” as used here, includes a range of activities, from the definition of mid- to long-term defense objectives, through the formulation of intermediate plans to achieve those objectives, to the development and execution of annual

budgets that implement the plans, and finally to the collection and review of data on the results of actual expenditures and the adjustment of the plans to recognize those results” (Gordon *et al.*, 2011, p. 2).

[3] Doctrinally, readiness is defined as “The ability of U.S. military forces to fight and meet the demands of the NMS [National Military Strategy].” CJCS Guide to the Chairman’s Readiness System. CJCS Guide 3401D. 15 November 2010. Available at <https://www.jcs.mil/Library/CJCS-Guides/>

[4] Excerpt taken from the mission of the Defense Infrastructure Organization (DIO) of the Ministry of Defense of the UK: “The DIO is the professional estate expert for Defense, supporting the Armed Forces by enabling military capability through planning, building, maintaining and servicing infrastructure over the lifecycle of acquire, operate, maintain and dispose” (MOD UK, 2020).

[5] The Land Forces Command was established on February 17, 2006. In 2016, the Land Forces Command was abolished and by order of the President of Georgia (Supreme Commander-in-Chief) №1 of March 4, 2016, two commands were approved - the Eastern Command of the Land Forces and the Western Command of the Land Forces.

Available at <https://mod.gov.ge/ge/news/read/7233/tavdacvis-dzalebshi-agmosavlet-da-dasavlet-sardlobebis-daarsebis-dge-agnishnes>

REFERENCES

- [1] Defence Command. (2016). *Puolustusvoimauudistuksen loppuraportti. [The Report of Defence Reformation.]*. Helsinki: Puolustusvoimat, Pääesikunta, Suunnitteluosasto. <https://puolustusvoimat.fi/-/puolustusvoimauudistuksen-loppuraportti-valmis>
- [2] Fayol, H. (1949). *General and Industrial Management*. London: Sir Isaak Pitman & Sons, Ltd. <https://ia801600.us.archive.org/4/items/in.ernet.dli.2015.13518/2015.13518.General-And-Industrial-Management.pdf>
- [3] Gordon, C. V., & Wade, P. H. (2011). *Best Practices in Defense Resource Management*. Alexandria, Virginia: Institute for Defense Analyses (IDA). <https://apps.dtic.mil/sti/pdfs/ADA541650.pdf>
- [4] Government of Georgia (GOG). (2018). *On Approval of the Statute of the Ministry of Defense of Georgia*. Resolution №580 https://mod.gov.ge/uploads/public/public/saministros_debuleba_580_axali_12.2021.pdf

- [5] Harborne, B., Dorotinsky, W., & Bisca, P. M. (2017). *Securing Development: Public Finance and the Security Sector*. Washington, DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/25138>
- [6] Hartley, K. (2011). Defense Output Measures: An Economics Perspective. *Defence R&D Canada-CORA Contract Report*, no. 2011-178 (November). https://www.researchgate.net/publication/277811054_Defence_Output_Measures_An_Economics_Perspective
- [7] Hartley, K. (2012). Conflict and Defence Output: An Economic Perspective. *Revue d'économie politique, Dalloz*, vol. 122(2): 171-195 https://ideas.repec.org/a/cai/repdal/redp_218_0171.html
- [8] International Monetary Fund (IMF). (2018). *Fiscal transparency handbook*. Washington, DC: International Monetary Fund. <https://www.elibrary.imf.org/view/books/069/24788-9781484331859-en/24788-9781484331859-en-book.xml>
- [9] Kotler, Ph., Armstrong, G., Saunders, J., & Wong, V. (1999). *Principles of Marketing*. Prentice Hall Europe.
- [10] Parliament of Georgia (POG). (1997). *Law of Georgia on the Defense of Georgia*. <https://matsne.gov.ge/en/document/view/28330?publication=20>
- [11] Military Wiki. (n.d.). *Guns versus butter model*. https://military-history.fandom.com/wiki/Guns_vs_butter_model accessed June 1, 2022
- [12] Minister of Defense of Georgia (MOD). (2014). On Approval of the Statute of the Force Logistic Support Command. *Order №44*, June 6. <https://matsne.gov.ge/ka/document/view/2341914?publication=0>
- [13] Minister of Defense of Georgia (MOD). (2021a). On Approval of the Statute of the Infrastructure Management, Standardization and Codification Department of the Ministry of Defense of Georgia. *Order No. 23*, April 16. <https://matsne.gov.ge/document/view/5151538?publication=0>
- [14] Minister of Defense of Georgia (MOD). (2015). On Approval of the Statute of the Military Police Department of the Ministry of Defense of Georgia. *Order №7*, February 23. <https://mod.gov.ge/ge/page/28/samxedro-policiis-departamenti>
- [15] Minister of Defense of Georgia (MOD). (2021b). On Approval of the Statute of the General Staff of the Ministry of Defense of Georgia. *Order №17*, April 6. <https://matsne.gov.ge/ka/document/view/5143035?publication=0>

- [16] Minister of Defense of Georgia (MOD). (2018). On Approval of the Statute of the Eastern Command of the Ministry of Defense of Georgia. Order №134, December 14 <https://matsne.gov.ge/ka/document/view/5298668?publication=>
- [17] Ministry of Defense of the UK (MOD UK). (2020). *How Defense Works*. Version 6.0. <https://www.gov.uk/government/publications/how-defence-works-the-defence-operating-model>
- [18] Omitoogun, W., Hutchful, E., & Stockholm International Peace Research Institute. (2006). *Budgeting for the military sector in Africa: The process and mechanisms of control*. Oxford: Oxford University Press. <https://www.sipri.org/sites/default/files/2018-10/sipri06omitoogun.pdf>
- [19] Okromtchedlishvili, I. (2022a). PROPOSALS ON DEFENSE PROGRAM STRUCTURE: THE CASE OF THE MINISTRY OF DEFENSE OF GEORGIA. *Journal of Defense Resources Management (JoDRM)* Volume 13, Issue no. 1 (24): 88-105 http://www.jodrm.eu/issues/Volume13_issue1/06_OKROMTCHEDLISHVILI.pdf
- [20] Okromtchedlishvili, I. (2022b). Performance Measurement Issues in the Defense Sector in the Face of Global Security Challenges. *Georgian Technical University, Saarland University of Technology and Economics and International Black Sea University, FROM A SERIES OF MONOGRAPHS "GLOBAL CHALLENGES OF THE WORLD", Publishing House "Technical University"*: 285-292 <https://doi.org/10.36073/978-9941-28-871-5>
- [21] Robinson, M. (2011). *Performance-based Budgeting manual*. CLEAR Training Materials. https://www.pempal.org/sites/pempal/files/event/attachments/pb-budgeting-manual_eng.pdf
- [22] Robinson, M. (2013). *Program Classification for Performance-based budgeting: how to structure budgets to enable the use of evidence*. Washington, DC: The World Bank. <https://openknowledge.worldbank.org/bitstream/handle/10986/21767/959380PUB0perf00Box391429B00PUBLIC0.pdf?sequence=1&isAllowed=y>
- [23] Strategic Defense Review (SDR) 2021-2025. (2021). https://mod.gov.ge/uploads/2021/november/Strategic_Defence_Review_2021-2025.pdf
- [24] State Audit Office of Georgia (SAO). (2019). On the results of the Audit of the effectiveness of real estate management of the Ministry of Defense of Georgia. *Report no. 36/36*, July 5 <https://sao.ge/files/>

- auditi/auditis angarishebi/2019/
konebis%20martva_NEW.PDF
- [25] Taliaferro, A. C., Morgan, G.D., Wilson, J. L., Wallace, T. J., & Hinkle, W. P. (2017). *Defense Governance and Management: Improving the Defense Management Capabilities of Foreign Defense Institutions. Part 1: Program Budgeting, Part 2: Program Analysis Seminar*. Alexandria, Virginia <https://www.ida.org/-/media/feature/publications/d/de/defense-governance-and-management-improving-the-defense-management-capabilities-of-foreign-defense-institutions/p-5317.ashx>
- [26] Taliaferro, A. C., Gonzalez, L. M., Tillman, M., Ghosh, P., Clarke, P., & Hinkle, W. (2019). *Defense Governance and Management: Improving the Defense Management Capabilities of Foreign Defense Institutions. A Guide to Capability-Based Planning (CBP)*. Alexandria, Virginia: Institute for Defense Analyses (IDA) <https://www.ida.org/media/feature/publications/d/de/defense-governance-and-management--improving-the-defense-management-capabilities/d-10369.ashx>
- [27] Van Dooren, W., Bouckaert, G., & Halligan, J. (2015). *Performance Management in the Public Sector (2nd ed.)*. Routledge. <https://doi.org/10.4324/9781315817590>