

WOJSKOWY SYSTEM LOGISTYCZNY

THE MILITARY LOGISTICS SYSTEM

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Streszczenie

Restrukturyzacyjne zmiany w polskiej armii dokonane na przestrzeni ostatnich lat, spowodowane przyjęciem do struktur NATO, profesjonalizacją wojska oraz koniecznością funkcjonowania w określonym otoczeniu społeczno-politycznym wpłynęły na ewolucję systemu zabezpieczenia logistycznego sił zbrojnych. Szczególnie istotnym parametrem funkcjonowania zabezpieczenia logistycznego okazuje się efektywność stosowanych rozwiązań, a jako drogę do osiągnięcia jej optymalizacji wskazano współpracę wojskowego systemu logistycznego z gospodarką narodową oraz integrację z otoczeniem wewnętrznym (wojskowym) i zewnętrznym (narodowym i międzynarodowym). W określonych uwarunkowaniach funkcjonowanie terytorialnego systemu zabezpieczenia logistycznego wojsk nabiera sukcesywnie nowych treści. Dotyczą one nowych rozwiązań w organizacji i realizacji zabezpieczenia logistycznego.

Słowa kluczowe: wojskowy system logistyczny, efektywność, system funkcjonalny, zdolność logistyczna, integracja, potencjał logistyczny

Abstract

The restructuring changes in the Polish Armed Forces made within the recent years caused by Poland access to the NATO structures, professionalization of the military and urgency of functioning in the social-political surroundings had an impact on the progress in evolution of the logistic support system of armed forces. An extremely important parameter of logistic support functioning is effectiveness of applied solutions whereas the way to achieve its optimization is cooperation between the military logistics system and national economy as well as integration with the internal (military) and external (national and multinational) environment. Under favorable conditions functioning of the territorial system of logistic support for the military, gains entirely new concepts. They concern new solutions in organizing and providing the logistic support.

Key words: military logistics system, effectiveness, functional system, logistic capability, integration, logistic potential

Trends of functioning optimization

An inevitable element of changes accompanying the armed forces functioning is technological progress and possibility of applying technologically modern weapons and methods of spreading them. It leads to establishing smaller and more mobile armed forces but much more effective in use. Under such conditions the modern military logistics needs its new more effective systems and manners of logistic bodies activity at all organizational levels of the military providing rational/effective use of own execution potential.

The challenges of military logistics¹ are determined by the tasks of armed forces in scope of maintaining territorial integrity of the state, internal security support, aid for the community and meeting the NATO and EU allied commitments for peacekeeping and the international stabilization. However, the armed forces are only a military element functioning in the national defense system. The armed forces are placed in the defense subsystem as a link capable for tasks performance in the field of state security and defense but -first of all – military security. The legal foundations for armed force tasks performance in such an organizational system of the state security is formulated in Article 5 of the Polish Republic Constitution specifying the basic functions of the state² and its Article 26 item 1 defining the social systemic position of armed forces and assigning them a role of factor dedicated for state independence security and indivisibility of its territory as well as security and sanctity of national borders.

Performance of the state defense functions requires possessing a proper defense potential created by: services for foreign affairs (diplomacy) working in favor of the state security, armed forces as a key-important instrument designated for the Polish security policy, military secret services as well as defense industry³. They maintain readiness for performing the three sorts of mission: warranty of the state defense and standing up to aggression, participation in the stabilization process of international situation, crisis reaction and humanitarian operations, internal security support and aid for the community. The state defense subsystem comprises the following functional systems: combat grouping, command, reconnaissance, destruction, combat support, logistics support and replenishment.

The most important role among the functional systems is played by the military logistics system constituting an ordered set of elements of the organizational structure and functional areas. Their designation, relations and connections provide an efficient functioning the armed forces during peacetime, crisis and war.

The basic function of the logistics system of armed forces is a permanent supplying these forces with material assets, equipment, weaponry and technical devices as a condition for the training processes completion in peacetime and conducting effective operations during crisis or war.

¹ Military logistics is a chapter of military art on planning, organizing and delivering supplies and rendering services providing the military with efficient training and conducting tasks, according to W. Nyszk [in:] *Leksykon obronności. Polska i Europa*, red. nauk. M. Huzarski, J. Wolejszo, Bellona, Warszawa 2014, s. 223.

² The Republic of Poland protects independence and sanctity of its territory, provides freedom, human and citizen rights as well as citizens security. It guards the national heritage and provides environmental protection based on the sustained development. *Constitution of the Republic of Poland Art. 5*. Civil Code 1997 no. 78 item 483.

³ *Strategy of National Security of the Republic of Poland, Warsaw 2014 p.29*

The logistics system of armed forces ought to be presented in certain cognitive categories and relations. When taking into account the modern determinants of systemic approach the following features of this system⁴ may be distinguished:

- logistics of armed forces is considered as an object (to research and change);
- logistics system of armed forces is a part of the bigger system (like the NATO logistic system);
- rationalization and innovation methods are functioning in the logistics system (for instance: codification);
- aware using a visual model of logistic system of a given resolution has an impact on solution of various problems (like managing, quality);
- logistic system consists of its subsystems.

Functioning of the armed forces logistics system is based on the general rules of logistic support covering responsibility, competence, operational priority, coordination, sufficiency, effectiveness, elasticity, transparency of logistic situation, simplicity, multinational character⁵.

The military logisticians of the western states used to apply only some logistic rules. In their opinion a logistics system should be featured with mobility, initiative, simplicity, capability of rapid reaction and elasticity. The leading thought of this way systemized rules is to supply the military with all that is essential for task completion with simultaneous releasing soldiers from everything preventing them from task performance.

When basing upon the definition of logistics system, it results that this system can be considered in structural and functional approach. In structural approach it is constituted of managerial bodies subordinated to the Chief of Staff . They are designated for logistic support to provide logistic tasks completion in peacetime, crisis and war that makes possible conducting military operations in every conditions - also far away from own territory. In functional approach the logistics system means purposeful activities of logistic bodies providing continuity of logistic support the military in the training process and performance of current tasks.

The above considerations lead to a conclusion that the scope of military logistics functioning covers everything that is based on the systemic studying and conducting the processes to full satisfying the needs of the military during peacetime, crisis and war.

Complexity and specificity of processes ongoing in the structure of national defense department focuses on systemizing division of military logistics in relation to its organizational and task areas. The currently established structure of the ND Ministry and adopted activity ranges of the particular functional departments are the reason for dividing military logistics to production logistics (also known as logistics of strategy or logistics of purchases) and consumption logistics.⁶ In this approach production logistics is a subsystem of military logistics dealing with researching, developing, designing, producing and receiving military equipment and supply assets. It also covers standardization, contracting, normalizing,

⁴ A. Szymonik, *Logistics as a system for rational gaining defense products In favor of the Polish Armed Forces of the Republic of Poland*. AON, Warsaw 2007, p.28.

⁵ *Logistic Doctrine of Armed Forces of Republic of Poland D-4(B)* Center for Doctrines and Trainings of Armed Forces Ministry of National Defense Bydgoszcz 2014 p. 48-52.

⁶ *NATO Logistics Handbook*, NATO, Brussels 2007, s. 4-5.

and quality supervision, supply of spare parts, analysis of reliability, determining standards of equipment safety, specificity and production processes as well as equipment documentation⁷ Consumption logistics covers a part of military logistics dealing with receiving deliveries from suppliers, storing, transporting, exploiting and deploying, using and removing weaponry, military equipment and materiel⁸. Consumption logistics can be divided into planning logistics placed in the staff structures and execution logistics covering logistic potential in favor of logistic support tasks completion. The department of planning logistics managing the logistic activity to follow the military defense doctrine and the economic possibilities of the state, elaborates the plans of logistic support for employing the army at the particular levels of command. The structures of this department are responsible for determining general requirements of logistic support, planning and conducting trainings, exercises and seminars on logistics, coordination of logistic plans in scope of own staffs and also planning material, technical and transport support. In such a way of logistics division consumption logistics is created by reorganized logistic subdivisions of the military units such as Military Economic Units and Regional Logistic Bases subordinated to the Inspectorate of Logistic Support for the Armed Forces.

Understanding of armed forces logistics system in the military logistics became common as a complex military organization composed of its managerial bodies, units and logistic devices connected one another to provide an efficient delivering supplies and rendering logistic services to the allotted military units. It is connected with performing basic logistic functions such as managing processes of logistic support for the armies, preparing and maintaining logistic potential (connected with functioning managerial bodies, units and logistic devices), completion of supply deliveries as well as rendering logistic services.

Performance of this way defined functions takes place in proximal or distant surroundings of the logistics system. Its proximal surroundings cover mainly domestic factors, and distant ones constitute international factors. In other approach the military logistics system is shaped by the internal and external factors. Among the external factors one can distinguish the national and international environment of security, political-economic situation on global scale, technical and technological progress. The internal factors include - first of all - number and structure of armed forces, obligatory legal norms and engagement in military operations abroad.

A multidimensional analysis of the military logistics system favors monitoring the impact of above discussed factors on elements of this system in many areas, aspects etc. For example, it may be an area of internal conditions of the armed forces logistics system including the factors like qualities of military logistics system or personal, economic-financial, legal-organizational, organizational-structural conditions and area of military logistics needs where factors are the needs of particular entities such as Polish military components, logistical Host Nation Support HNS in crisis situations and training of armed forces components. When referring to proximal surroundings area we deal with the factors like domestic market of supplies, national logistics system, logistic potential of host nation, potential of logistic services market, premises of logistics outsourcing theory as well as

⁷ *NATO Glossary of Terms and Definitions*, AAP-6 (2007), NATO, Brussels 2007, s. 2–C–13.

⁸ ⁸ *Ibidem*, s. 2–P–19

distant surroundings with factors such as foreign supply markets, logistics systems of allied forces, international logistics systems of armed forces.

The relations in the military logistics systems are appropriate to organizational feedbacks between commands of logistic units and logistic bodies of management as well as their external and internal environment. In such an approach one can distinguish duty relations as a result of the hierarchical organizational structure of military logistics system and positioning persons performing particular functions. The structure of military logistics as division to functioning departments of management, materiel, technical, transport, concerns external relations (between logistic managerial bodies and military units commands) and internal relations (between logistic managerial bodies and particular cells/teams of staff representing other subsystems of the military system).

The permanent changes made in the logistics system of armed forces aiming at improvement of this system model while performing tasks with its use make this system more and more functional and effective. Premises of the logistics system modernization are also external conditions resulting mainly from the process of adjusting it to the standards of NATO and supporting in the multinational peacekeeping operations. An exemplary reason for urgency of changes in the logistics system is membership of Poland in the NATO proving that multinational operations require cooperation at all levels of command between national and multinational structures of logistic support. Planning of logistics ought to cover standardization of materiel and services influencing activity and effectiveness of task completion by the armed forces. Elements essential for logistics such as capability for cooperation, basic equipment, changeability of combat supply, and common procedures. It is also reasonable to pay attention to the issues of transport planning, military troops movement and host nation activity.

Apart from the external factors an important role in the process of improving the logistic support system functioning is also played by the internal factors. The point is in an impact of economic-financial, legal and organizational conditions that on the one hand enable the particular elements and areas of the logistics system development, but they also can restrain efficiently this development on the other.

It is worth paying attention to the market economy conditions among the economic-financial factors forcing application of this economy rules in military logistics. Expenses on the defense budget are connected with activities of military logistics where the current expenses play a dominant role. One can emphasize maintenance of the armed forces connected with salaries, uniforms, food, accommodation, health care, trainings (ammunition, explosives, material assets used in training process, exploitation of weaponry and equipment) and current needs (communication, telecommunication).

Legal conditions of the military logistics system mainly depend on the legislature obligatory in the state. The legal acts should include the changes in the task-organizational structures of armed forces and new security strategies of the state. The highly important national legal acts concerning common obligation of national defense, support for restructuring the industrial defense potential and technical modernization of armed forces, competence agreements made in connection with supplies satisfying the national defense and security needs are extremely important to the logistics system functioning. The legal documents of lower importance are also essential for military logistic support proper

functioning such as ordinances, decisions, orders and guidelines of instructive-methodical character.

Organizational conditions of the military logistics system are in permanent changes made in the Polish Armed Forces. They are caused by the above-mentioned internal and external factors. The organizational structure of the military is based on the sort of uniforms and equipment of soldiers and its designation. Usage of weaponry and equipment of armed forces concerns not only combat actions but more and more often it is applied in trainings during peacetime. These tasks completion requires permanent satisfying the logistic needs such as accommodation, supply, technical support, transport, medical and the rest of broad services spectrum. Restructuring the military logistics system results from the necessity of permanent adjusting the organizational structures and performed tasks to requirements imposed to the armed forces. The reason for these changes are the needs connected with guarantying the state security and fulfilling the allied commitments. They are also determined by domestic economic capacities. Another reason for the armed forces logistics system transformation not connected with the security area of the state is the necessity of following the civilization progress, trends in global logistics, and -first of all- technical and technological progress.

Accordingly with the tasks determined to the armed forces by the Constitution of the Republic of Poland the military logistics system should develop its capabilities for completion tasks of logistic support for the armed forces or their part participating in the collective defense on the domestic territory and abroad as well as sharing the liquidation of local conflicts beyond the NATO responsibility area, in multinational operations of crisis reaction, stabilization operations and humanitarian missions. These capabilities can also be used in international or self-dependent military operations aiming at shield for mining industry and industrial networks of energetic resources, in antiterrorist tasks completion, and also in support for national and local authorities during liquidation of natural disaster impacts caused by human activity. It is worth keeping in mind that besides logistic support tasks performance in typically military operations the logistics system of armed forces must complete the tasks of logistic support in scope of maintaining the permanent combat readiness and mobilization as well as training the military.

Participation in such a wide array of domestic and international ventures forces the logistics system to acquire the following skills⁹:

- Capability of managing the logistic system at all levels of command in scope of integrated military command system should cover all logistics subsystems with use of modern communication and data exchange systems.
- Capability of managing the logistic resources in the ;logistics system should favor observation quality of these resources and their flow in the real time in scope of integrated informatics system compatible with the logistics systems of allied countries.
- Capability for performance of logistic support tasks of all sorts of the military and components in joint operations in the state and abroad in various geographic and climatic conditions as well as in scope of multinational logistics.

⁹ W. Nyszk *Logistics system of armed forces of the Republic of Poland* [in:] *Contemporary logistics – selected aspects*, scientific editor W. Nyszk Academy of National Defense, Warsaw 2013 p.20

- Capability of providing continuity of protection and support for the armed forces through gathering spare supply assets and share of national economy in the process of delivering goods and rendering services.
- Capability of support for the process of training the armed forces through creation the modern system based on employing the civil contractors to regard training as the basic and essential condition for completing other tasks of the armed forces;

Gaining the planned level of above-mentioned capabilities is supported with technical modernization in logistics resulting with increasing capacities of transport, evacuation, storing, reloading, rendering alteration services and providing better resistance against destruction assets of enemy and equipping with new generation of telecommunication and informatics measures.

Dynamics of changes influencing directly or indirectly the armed forces functioning requires a permanent improvement of the military logistics system. This sphere of activity is based not only on the military solutions and potential but also on the civil resources that must be planned to use in case of operational and economic reasonability.

The military logistics system proper functioning requires permanent developing and improving the rules and procedures of its particular subsystems. In this framework a challenge is to adjust the domestic standards to the NATO solutions following its policy, principles and rules of activity.

Character of structures and task performance of the military logistics system depends on many changeable factors such as external and internal conditions of security, number and character of armed forces, military national and allied needs, economic possibilities of the state, and also the worldwide and national political-economic situation, technical and technological progress.

Contemporary logistics including military one is a concept of shaping economy organization based on increasing its functioning effectiveness. The methods of managing the economic processes of institutions is integration of logistics. Apart from the basic logistic parameters time is an extremely important aspect. As issue of time is particularly important in military logistics functioning, especially in the context of maintaining the combat readiness of military equipment and soldiers.

Changes in the external and internal surroundings of military logistics imposed the necessity of introducing the modern informatics systems capable of undertaking ventures at all organizational levels of armed forces. The proposed solutions enabling military logistics functioning in the network center environment are settled by the Integrated Multilevel Informatics System of the National Defense Department. It is the centralized and unified informatics system supporting management of logistics, finances, and personnel to guarantee standardization of activity as well as exchange and integration of data among all users of the system.

Permanent changes in the proximal and distant surroundings of defense sector, urgency of adjusting armed forces logistics to domestic and international requirements as well as the need of following the trends in civil logistics makes logisticians seeking new concepts and methods of management adequate to the needs and capabilities of contemporary army.

However, the military is a specific organization that can only partially follow such footsteps and the state security depends from adoption of the right way to the assumed goals.

In case of the military organization it is worth keeping in mind that it is not focused on financial profits and its supreme goal is public security. This way understood armed force is a governmental organization, and managing the military should be regarded as the public administration. The armed forces in Poland are financed from the state budget like other governmental organizations supported by tax payers. Therefore any activities of the military system of logistic support must be effective and economically reasonable.

Management science can be helpful in choice of proper tools for managing the owned logistic potential. It can be defined as “set of activities (covering planning and decision making, organizing, leadership as managing people and control) made intentionally to achieve purposes of organization in efficient and effective manner¹⁰”.

In the context of high social expectations, a choice of proper conception to be used in logistics, forces the decision makers to a deep analysis of theory and practice at all levels of command.

There are the following methods and concepts of management possible to use among others: benchmarking, outsourcing, reengineering, lean management, and management by quality. All of them are well known and successively applied in the civil environment – that is why they are permanently improved and adjusted to the needs of every organization. It is necessary to keep in mind that the military is a strictly hierarchic institution what makes it fit its activities to many orders, ordinances and obligatory doctrines what considerably reduces possibilities of applying modern concepts and management methods.

In spite of the fact that methods and concepts of managing the owned logistic potential are not named in the doctrinal military documents (except for outsourcing) they are often used in various forms and intensity by many experts at many levels in logistics. Since these methods and concepts have been verified, it is reasonable to strive for popularizing them among the logistics support personnel and logistically supported military units. The basis for increasing effectiveness of owned logistic potential is also the ability of understanding a service-minded character of activity by everybody.

Civil practice of broadening a cooperation with the external contractors led to conviction that it was necessary to develop the capabilities for which an enterprise owes its competitive advantage on the market. The functions beyond the key-importance to a firm should be ordered to external entities. Similar conditions accompany military logistics in the vicinity of modern free market economy that is connected with decreasing costs of military units and institutions functioning and understood as the basic purpose of outsourcing.

Seeking possibility to broaden cooperation with the entities of national economy takes place at all levels of military logistics management. Currently more and more often the tasks of logistic support are performed on the basis of external logistic resources. Such situation results from the military budget reduction, technical modernization, decrease in number of soldiers including the support units and finally searching the solutions and resources guarantying not only efficiency of action but also cost reduction. Apart from economic reasons the necessity of providing simplicity of solutions makes decision makers employ civil

¹⁰ R. W. Griffin, *Bases for managing organizations* PWN Warsaw, 2001, p. 38

suppliers both in military trainings and military missions despite the fact that it is connected with loss of logistic self-sufficiency of armed forces in favor of solutions engaging civilian economic entities.

Possibility of cooperation with so important contractor like armed forces led to appearance on the market of logistic services in Poland the entities capable of rendering logistic services in favor of the military when keeping standards on procedure of information security. The national legal regulations and military rules were aligned to the common obligatory rules in the UE to originate the situation. A broadening of cooperation with civil entities of free market economy had also its reason in the necessity of adjusting the Polish Armed Forces to the NATO obligatory standards and the need of following the changes in the market economy caused by quantitative and qualitative transformations in the whole national defense sector and its logistic back-up.

Each organization functioning in a given environment imposes taking actions to cooperate with this environment that in case of firms focused on profits is to bring assumed economic advantages, and proper understanding and using needs, capabilities and adjustment to proximal or distant surroundings of the entity functioning is the best way for gaining a position of leader. Other often competitive entities functioning in such an environment on the one hand make achieving own goals difficult to attain, but it is an opportunity to compare the entity with the best ones and introduce the verified organizational-functional solutions focused on optimization of own potential on the other hand. Economic statement of account currently applied in the civil sector of management concepts indicates that optimization is possible through applying cooperation elements with other firms. Outsourcing solutions are the best example of own basic capabilities through handing over auxiliary tasks to an external contractor to share certain knowledge and solutions.

Similar circumstances concern the military sector where the current political situation favors the military cooperation with other countries and the agreements or alliances between them lead to exchanging the best civil and military organizational-functional solutions. Cooperation of the Armed Forces of the Republic of Poland in terms of NATO, EU and UN, matching the best entities and even following their footsteps is not only an element of rivalry but –first of all- stimulus to improve own qualifications . It is an extremely important quality of military organization ensuring Poland its high position on the international arena and guarantying the citizens security and sanctity of borders.

Innovatory solutions of civil logistics successively introduced to military logistics by the armies of Alliance, especially concerning informatics, technological and economic solutions have been verified in military terms, so a risk of applying them is considerably lower. In spite of this fact there are many conditions that can influence their efficiency and profitability of applying in the logistics solutions of the Armed Forces of the Republic of Poland. Economic capabilities, technological progress, mentality, culture and –first of all- the real need of implementing such solutions supported with the knowledge instead of fashion and willingness of matching other countries with entirely various resources ought to play a basic role. It is always worth keeping in mind that the implemented solutions concern the military sector that excludes any possibility of making mistakes. Therefore it must be forwarded with a deep analysis of own applied solutions, possibly the most precise diagnosis of the Alliance

solutions and as a result implementing them in own armed forces as the only necessary solutions.

Usage of logistic concepts successively functioning in the civil and military external entities, experiences from operations abroad and the procedures obligatory in the sector of civil logistics may contribute to the strict transformations in the sphere of military logistics. Analysis of structures, procedures and rules of functioning referred to the logistic support of the NATO armed forces including our national restraints give possibilities of seeking new trends of optimization of military logistic system functioning.

Conclusion

The basic function of the logistics system of the Armed Forces of the Republic of Poland is a permanent supplying the military with essential material assets and rendering services that are conditional for completion of all tasks in the training processes in the military and nonmilitary areas. Logistic system functioning depends on a series of domestic and foreign factors and surroundings where performs its functions. Mission of the logistics system is determined by tasks of the armed forces that are a basic element of the state defense system. Magnitude, structures and tasks of armed forces as well as capabilities of the national economy in scope of maintaining security, territorial integrity and fulfillment of allied commitments.

At present the changes in the logistics system organization result from the progress in the international security environment and armed forces professionalization with its technical modernization following this progress. In spite of such deep changes in adjusting the logistics system to requirements of contemporary armed forces it is still ready for many ventures such as interoperability with the logistics systems of the NATO states, ending the implementation of multilevel informatics system and aligning the departmental regulations to legal acts in Poland. It ought to guarantee the required logistic capabilities for supporting the task completion by the armed forces and contribute to effective and efficient functioning of the military logistics system.

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