

CHAPTER 3

MODERN MANAGEMENT TECHNOLOGIES

LOGISTICS ENSURING THE PERFORMANCE OF SECURITY AND DEFENSE TASKS IN CONDITIONS OF HYBRID WARFARE

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Abstract. *In this article, modern theoretical and methodological principles have been formed regarding the essence, place and role of logistical support in the sphere of security and defense of the state in the conditions of a hybrid war in the field of regional tourism. The current state of the normative legal framework of state regulation and the state of scientific research regarding the purpose, principles of formation and approaches to the systematization and structuring of the components of logistics support and the assessment of its quality and effectiveness are determined. It was established that certain provisions of regulatory documents regulating these processes are outdated and do not meet the requirements of the times. The authors of the work identified the main alternative approaches to the formation of the basic principles of the formation of logistical support for the purposes of national security of the state and its regions. The composition of the specified principles was clarified based on the specific conditions for the implementation of logistical tasks both in the field of military logistics and the logistics of crisis situations typical for the conditions of conducting a hybrid war. As a result of the analysis of the mentioned approaches, it is proposed to supplement the existing complex with such macroeconomic principles as: the principle of partnership and multilateral cooperation, the anticipatory principle of collective defense, and at the level of individual tasks, the list of existing principles is supplemented with the principle of logistics optimization and outsourcing. The modern understanding of the "logistics support" category based on a systemic approach has been clarified. It was established that logistics support is, firstly, a complex of multifunctional means and tools, secondly, it is hierarchical in its structure, thirdly, the set of its components is determined by a list of specific tasks both within individual functions and in the whole set of tasks of complex (force and other) operations. An analysis of existing approaches to the systematization and structuring of logistics support components was carried out. Deficiencies in the structuring of the components of the logistics environment in the professional publications of individual scientists have been identified. On the basis of a critical analysis of current publications, an author's decomposition of the components of logistical support for solving security and defense tasks in the conditions of hybrid warfare was formed and their content was revealed. It was established that within the framework of the system approach, logistics support is a complex of interconnected links and components connected to each other in a single process of implementing tasks aimed at achieving internal and external security and defense goals. It is substantiated that the main components of this system are normative-legal, informational, organizational-economic, infrastructural, production-technological and medical. It has been proven that logistics support formed on the basis of analysis and consideration of environmental factors enables the realization of security and defense goals by integrating functional, management and support functions, and within them, processes and operations.*

Keywords: *hybrid war, security, defense, system, logistical support, purpose of logistical support, principles of logistical support, systematization of types of logistical support, structuring of components of logistical support.*

JEL Classification: D74, D86, H56**Formulas: 0, figure: 1, table: 0, bibl.: 34**

Introduction. After the Revolution of Dignity in 2014, a military conflict between the Russian Federation and Ukraine began with the seizure of Crimea and part of the eastern territories of Ukraine by the Russian Federation. In early 2022, this conflict escalated into a full-scale undeclared war between the two countries. On the morning of February 24, 2022, Russian military formations invaded the territory of Ukraine and occupied part of its southern and northern territories. The analysis of this war shows that it belongs to the category of hybrid wars, which are characterized by the following series of features [1-2]. This armed conflict combines traditional (combat) and non-traditional (mainly informational) methods of influence. Combat actions are aimed not only at the destruction of military infrastructure, armed forces and means, but also at the destruction of the population throughout the country and the destruction of civil (housing and communal, energy and other service) infrastructure. In the temporarily occupied territories, the aggressor creates a humanitarian catastrophe and implements a policy of genocide of the local population.

The enemy constantly uses political, military-political and diplomatic factors to carry out regional and global food, energy and nuclear blackmail operations. It continuously conducts information warfare and tries to resolve situations of internal political instability and initiates interregional conflicts within the country. Systematically violates existing norms and rules of warfare. At the current stage, scientists are investigating Russian armed aggression against Ukraine in various dimensions: military, diplomatic, political, economic, social, humanitarian, informational, etc. For this study, the theoretical and applied aspect of logistical support for the effective operation of the Armed Forces of Ukraine in the process of liberating its territory from the occupation armed forces of the Russian Federation is important.

The issue of logistical support became relevant at the beginning of the 21st century when developing the military doctrines of the leading Western countries. In Ukraine, in the process of European integration and implementation of advanced practices for resolving military conflicts with the involvement of a contingent of NATO countries, as well as the experience gained in the process of the Anti-Terrorist Operation, the main provisions of the logistical support of the Armed Forces of Ukraine were developed and approved [3-9]. The problem is that science currently lacks a comprehensive analysis of logistical support for the conditions of providing resources to solve the tasks of the Armed Forces related to armed conflict, crisis situations and humanitarian disasters caused by it, as well as the simultaneous solution of issues of protection and recovery economy and peaceful life in the liberated territories. This work examines the issues of rear support of military units in more detail.

Literature review. The study of the genesis of various aspects of logistical support for the organization of complex operations in various spheres of activity is devoted to the work of the following domestic and foreign scientists: V. Alkema [13], D. Bowersox [14], V. Voinov [11], D. Wardlow [17], J.J. Wood [17], F. Donald [17],

M. Christopher [15], D. Kloss [14], E. Krykavskiy [10], D. Lambert [18], L. Murphy Jr. [17], J. Stock [18], O. Sumets [11], D. Waters [19], R. Paul [17] and others.

The work is devoted directly to the problems of logistical support in solving problems of crisis situations and various aspects of logistical support in solving security and defense tasks: O. Bondarenko [26-27], S. Belai [27], V. Vasylevsky [33], E. Horokhovskiy [30], A. Dimich [25], I. Drabik [24,34], S. Zaderienko [32], Ch. Donelli [16], V. Kyvliuk [5], M. Klontsak [5], V. Loza [5], O. Maslii [20], I. Morozov [34], O. Minenko [34], O. Nakonechny [28], O. Nesterenko [9], P. Onofriychuk [29], V. Sagan [33], I. Sapiga [4], V. Servatyuk [8], O. Stupnytsky [23], O. Sumets [12], A. Tarasenko [21], I. Rolin [34], R. Romanchenko [6-7], S. Tregubenko [7], O. Uhrynovych [8], V. Shevchenko [5], V. Shuenkin [6], O. Khazanovich [7], V. Kharchenko [31], O. Cherkashin [27], Yu. Chirva [9] and others.

The analysis of foreign and domestic professional sources shows that the essence of logistics support in modern scientific and applied professional sources is considered from the standpoint of functional tasks that should be implemented, processes for achieving goals and systems that ensure the organization and implementation of complex operations. According to Nukov residents, logistics support in various spheres and types of activity is a unique, multifunctional, hierarchical, complexly structured complex of means, methods, technologies, processes and resources that allow to achieve certain goals in specific conditions. Western scientists believe that "the main task of logistics support is the material support of economic and other activities, its planning, finding the optimal set of sources of means and quality resources and ensuring their availability for the subjects of activity" [14, 17-19].

Domestic scientists at the formal level perceive logistics support "as a set of spatially coordinated and time-synchronized means, resources and processes that generate them, which are integrated into a system aimed at the implementation of a set of activity tasks" [10-11,13]. Within this system, a service subsystem is distinguished, which ensures the proper functioning of its links and elements. material, informational, service, financial and other flows of appropriate quality. Specialists in the field of military logistics and logistics of crisis situations and scientists who study the structure and content of logistics support for solving security and defense tasks "consider in more detail both the essence and functions and the structure and composition of logistics support depending on the level of logistics activity and the purpose and tasks, which are defined for the relevant subjects" [5-6, 9, 23, 33]. Accordingly, for the practice of military units, the NATO alliance has defined a basic normative framework for the structure and composition of logistical support for their activities during the implementation of military and peacekeeping operations [22, 33]. Domestic military science and practice also developed the basic principles of logistical support of the Armed Forces and other power structures of the state [3-9, 26-32].

The bibliographic analysis of sources regarding legal, organizational, economic and other aspects of logistics support indicates the presence of a situational and mostly fragmentary approach to understanding its essence, place, role and assessment of quality and efficiency relative to the defined goals.

In the analyzed professional sources, logistical support is considered mainly at one level of activity, namely at the level of the state, region or specialized service or division. Only in some works, such support is considered within the framework of a system approach [4, 16, 25]. When considering the logistical support for the implementation of military operations, the peculiarities of the logistical environment characteristic of conducting modern hybrid wars are not always taken into account.

Aims. The purpose of the study is the formation of theoretical and methodological principles regarding the essence, place and role of logistical support for solving complex tasks of security and defense in the conditions of martial law, hostilities and crisis situations.

Methods. In the process of research, contextual and comparative analysis was used to clarify existing approaches to understanding logistics support, the decomposition of support components was studied using system and structural-functional analysis, individual components of logistics support were studied using methods of detailing and formalization. Methods of analogy, interpretation, analysis and synthesis were used to describe the decomposition of the specific structure of logistics support.

Results. At the first stage of the research, the existing normative-legal definition of the essence of logistics support was analyzed in the context of solving national security tasks. According to the Basic Provisions on Logistics Support of the Armed Forces of Ukraine, "logistics support is a complex of interrelated measures that ensures the activities of the Armed Forces in peacetime and wartime"[3]. A. Dimich, in her research, on the basis of current domestic legislation, revealed the essence of the powers of administration subjects in the field of logistical support of national security in Ukraine [25]. A detailed analysis of this source shows that the logistical support of state security in Ukraine is entrusted to a wide range of entities that are endowed with a special status. Based on the analysis of regulatory acts, A. Dymych systematizes the main principles of logistical support of national security, namely: "rule of law, legality, equality of participants, priority of humanism; sufficiency; efficiency; flexibility; transparency; coordination; responsibility; cooperation; functional compatibility; stability; compliance with the non-blocking policy; scale; planning; differentiation" [25]. In our opinion, most of these principles are really basic rules that contribute to the organization of effective logistical support of security and defense issues at the state level. However, as evidenced by the experience of the war of the Russian Federation against Ukraine, instead of the principle of non-alignment, it is necessary to add the principle of partnership and multilateral cooperation with international actors, and in the future also the principle of collective defense.

O. Stupnytsy's vision [23] is interesting for understanding the principles of the formation of logistics support, which highlights both "general principles (individuality, completeness, reliability) and additional principles (sustainability, information security, economy, hierarchy, integrity, system approach, universality)". The principle of integrity provides for the functional interconnection of the elements of the civil logistics system and the material and technical support of the troops. Skillful use of this principle allows you to optimize the interconnected resources of the system and

ensure the change of individual elements without disrupting its structure as a whole. The principle of the system approach provides for a comprehensive analysis of the issues of providing the armed forces as a component of the national economic potential, and its use will allow to objectively determine the scope and effectiveness of the planned measures. The principle of universality involves the development and use of uniform approaches to the organization of material and technical support of the armed forces. In this regard, it is important to find alternative sources of reliable supplies according to specific conditions.

Based on this, in our opinion, the principles of optimization and logistics outsourcing should also be added to the additional principles. It should be recognized that the goal of logistics support at the state level defined by current regulations does not fully correspond to the current strategic task. From our point of view, the main goal of logistical support at the state level in specific conditions is to provide military units with the means and resources to create conditions for the liberation of all temporarily occupied territories and to make it impossible for the Russian state to implement its intentions regarding armed aggression against Ukraine in the future. A related goal is the restoration of the economy and peaceful life in the liberated from the enemy and other territories of the country.

The second stage of the research was devoted to the issues of systematization and structuring of logistical support. From this point of view, logistical support according to O. Bondarenko "a wide range of interrelated activities related to the planning, control and management of supply, transportation, storage and other material and immaterial operations, including the transfer, storage and processing of relevant information, which are carried out in the process of ensuring the activities of any the formation of the country's security and defense services in peacetime and wartime, as well as when responding to crisis situations that threaten state security" [26-27]. In turn, the scientist singles out the following "main components of logistical support: medical support as a type of logistical support, the purpose of which is medical care for personnel and personnel of power units and the civilian population when performing tasks related to responding to crisis situations. Financial support is a type of logistical support, the purpose of which is to provide financial support in the interests of all other types of logistical support when performing tasks related to responding to crisis situations. Material support, as a type of logistical support, the purpose of which is the timely and complete supply to the security forces of all necessary material means (including fuel and lubricant materials and fuel and energy resources, as well as, if necessary, weapons and ammunition), the organization of high-quality food for personnel and personnel, ensuring proper living conditions for the performance of tasks related to responding to crisis situations. This type of provision includes property and apartment maintenance, food provision and provision of fuel and lubricants. Technical support as a type of logistical support, the purpose of which is the transportation and transportation of people and material means by all types of transport, preparation, maintenance and repair of weapons, military and special equipment, deployment and maintenance of transport communications, etc. for the performance of tasks related to

response to crisis situations. It is conditionally divided into transport and technical support and technical support of weapons and special means" [26-27].

O. Bondarenko singles out the main functions of logistics support [27]: "forecasting and planning of the logistics situation; determination of resource and personnel needs of management bodies for types and subtypes of logistics support; planning, organization, coordination and regulation of joint actions regarding logistical support with other structures, services, suppliers, volunteer and public organizations when solving crisis situations; accounting, analysis, evaluation and control of the activities of management bodies for logistical support of joint actions of security services in response to crisis situations". It should be noted that O. Bondarenko carries out a sufficiently generalized systematization of types of logistical support for crisis situations. There is practically no informational component important for the conditions of hybrid warfare and modern armed conflicts, without which effective management of logistics support is impossible.

Generalizing the subject structuring of military logistics, R. Sapiga [4] presents the following structuring of logistical support, taking into account the existing NATO doctrine. He singles out: "material support as a set of actions of the material subsystem, the purpose of which is to provide the needs of the troops with an assortment of necessary quantities of supplies (weapons and military equipment, combat equipment, propellant materials and lubricants, food, uniforms, medical and sanitary materials, quartering equipment, operational materials and liquids, technical gases, as well as water for technical and consumer purposes), as well as specialized material services.

Technical support is the measures implemented by logistic maintenance and repair bodies that enable the use of military equipment, as well as ensure its constant readiness for the implementation of tasks. It covers: maintenance, repair, technical recognition, technical evacuation, metrological services, supply of aggregates, blocks, sub-blocks, technical materials, as well as training of technical personnel. Medical support includes measures that are implemented with the aim of maintaining a high state of health of the personnel, proper provision of medical care to the wounded and sick, as well as ensuring appropriate sanitary and anti-epidemic conditions in the quartering areas. Medical support covers medical and evacuation, sanitary and hygienic and anti-epidemic measures, as well as medical protection against the consequences of weapons of mass destruction. Medical support is integrated with logistics as part of the functional support of military operations.

In the Armed Forces, the medical support system may not be a logistics subsystem, and medical support itself may constitute a separate function. However, there are connections that indicate the need for coordination and cooperation between the logistics and medical spheres. Transport support is a set of organizational and technical measures related to the implementation of military transports, cargo operations that accompany them, as well as measures to prepare and maintain the transport network and control the movement of troops" [4].

First of all, we are talking about measures related to the implementation of military transports, with the planning of transport services with the integrated use of various types of own transport, as well as other carriers and their implementation.

In his research, R. Sapiga [4], first of all, focuses only on logistical support for solving military tasks and does not take into account the need to simultaneously solve tasks related to solving crisis situations in the state economy and individual de-occupied territories. Secondly, it does not identify and separate infrastructure and information support, which are extremely important. In his research, the scientist defines only one of the functions of infrastructural support, namely, the operation of military infrastructure as a set of tasks of maintaining the operational condition of construction objects provided for use, managing mobile infrastructure, as well as ensuring the quartering of the armed forces in the country and abroad. On the basis of a systematic analysis of sources, the author's vision of the specific structure of the logistic support system for solving security and defense tasks was proposed, presented in the figure 1. In comparison with the existing approaches, infrastructural support was added to the system, which includes the following components: transport, energy, warehouse, and customs.

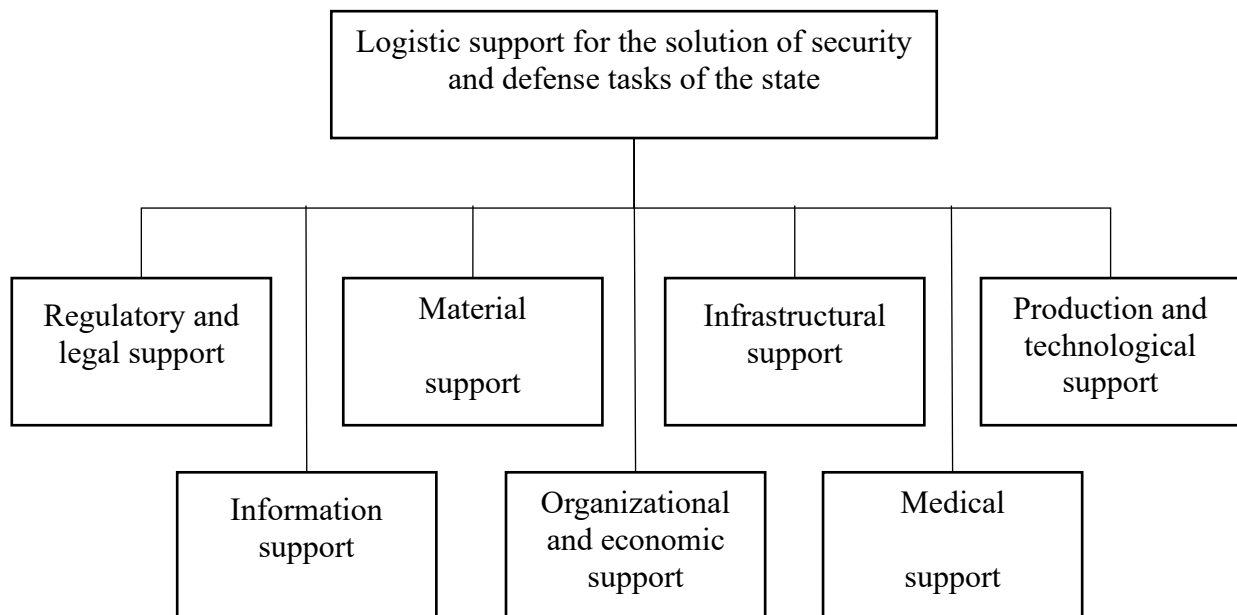


Figure 1. Complex of components of logistical support for the solution of security and defense tasks of the state

Source: compiled on the basis of [4-7,9, 20, 24-27,30, 33-34]

Information support, which allows the implementation of logistics operations by designing and organizing a complex of information systems of military logistics and logistics of crisis situations. Organizational and economic support is connected, first of all, with the formation of personnel potential for the performance of logistic functions and the economic evaluation of processes, resources and operations. An important part of it is the organization of supply on the basis of outsourcing. Production and technological support is represented in practice by productions and technologies aimed at maintaining the appropriate level of resource stocks in the system of logistical support for solving security and defense issues.

Discussions. Thus, the analysis of sources regarding the essence of the concept of logistical support and existing approaches to its understanding and analysis of its components indicates the absence of a unified vision of this phenomenon. On the other hand, the ideas of scientists about the essence and structure and composition of logistics support have been significantly transformed in recent years. The modern vision of this phenomenon and its components is based mainly on the normative documents of the NATO Alliance and examples of the successful practice of conducting combat operations and peacekeeping missions, as well as the practice of the Armed Forces of Ukraine and other power structures involved in solving issues of security and defense of the state.

The analysis of the existing principles of formation and implementation of logistic support indicates the need to revise them in the legal framework regulating this activity at the state level. In our opinion, the following should be added to the existing principles at the macro level: the principle of partnership and multilateral cooperation with international actors, and in the future also the principle of collective defense, and at the level of process organization: the principle of systematicity, logistical optimization and outsourcing. The identification of the components of the logistics support system, which was carried out by various scientists, shows the fragmentation and lack of complexity when it is decomposed in relation to the goals. The main existing problem is a view of logistical support either from the point of view of solving the tasks of military logistics, or from the point of view of a certain crisis situation. Thus, during the conduct of a hybrid war, all phenomena of a humanitarian, social, economic, epidemiological and other nature can take place simultaneously. This requires a more diversified view on the formation of a logistics support system to solve the specified tasks.

The author's proposed approach to the formation of a logistics support system determines the composition of the main types of such support. In comparison with the existing approaches, the actual system should additionally contain infrastructural support, which includes the following components: transport, energy, storage, operational and customs. Information support, which covers the entire complex of operations necessary for the preparation and making of management decisions - forecasting and planning of means, processes and actions, their coordination and regulation between individual subjects. This component is important in the aspect of ensuring the implementation of logistics operations using a complex of information systems of military logistics and logistics of crisis situations. Organizational and economic support is connected, first of all, with the formation of personnel potential for the performance of logistical support functions, the organization of processes, means and resources and their economic evaluation. An important element of this component is the organization of supply on the basis of integration and outsourcing.

As part of logistical support, production and technological support is provided, which is represented in practice by productions and technologies aimed at maintaining the appropriate level of restoration of resource stocks when solving security and defense issues. The composition of each type of support and its component structure in a specific situation will depend, first of all, on a complex of factors of the external

environment, among which the dynamics of changes and the complexity of decisions are the most important.

Conclusions. Thus, the article reveals the content of the "logistics support" category in the aspect of solving security and defense tasks at the national level in the conditions of a hybrid war. The conducted analysis shows that the following are generalizing postulates regarding the modern understanding of the essence of logistics support for these purposes. Logistics support is, firstly, a complex of multifunctional means and tools, secondly, it is hierarchical in its structure, thirdly, the set of its components is determined by a list of specific tasks both within individual functions and in the whole set of tasks of complex (power and other) operations. An analysis of existing approaches to the basic principles of forming logistical support for these purposes was carried out. The composition of the specified principles was clarified based on the specific conditions of the implementation of logistical tasks both in the field of military logistics and logistics of crisis situations. An analysis of existing approaches to the systematization and structuring of logistics support components has been carried out. The author's decomposition of the components of logistic support was formed and their content was disclosed. Within the framework of the system approach, logistics support is a complex of interconnected links and components, combined in a single process of implementing tasks aimed at achieving internal and external security and defense goals.

The main components of this system are normative-legal, informational, organizational-economic, infrastructural, production-technological and medical. Logistics support enables the realization of security and defense goals by integrating functional, management and support functions, and within them, processes and operations.

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