

# Actual problems of creating general logistics system in the Ukraine Defense Forces

## Актуальні проблеми створення єдиної логістичної системи сил оборони України

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**Purpose:** identify the main problems of the logistics as a management governing organ to support the defense system of Ukraine and to suggest ways to solve them.

**Design/Method/Approach:** the main research methods are methods of statistical analysis, military-economic analysis, expert forecasting methods.

**Findings:** from the mentioned problematic issues, there is a need to create the state logistics, as a system of logistics flow management and the definition of state standards, a clear conceptual framework for logistics, both state and military (military).

**Theoretical implications:** in the article, the authors made an attempt and proposed to improve the system of material resources support and services of the Ukraine Defense Forces and create a united logistics system of the state, as management system of material, information and human flows which based on their optimization.

**Papertype:** descriptive and analytical.

**Key words:** logistic, material and technical support, material resources, services, support.

**Мета роботи:** визначення основних проблем застосування логістики як органу управління системи забезпечення сил оборони України та запропонувати шляхи їх вирішення.

**Дизайн/Метод/Підхід дослідження:** основними методами досліджень є методи статистичного аналізу, військово-економічного аналізу, експертного прогнозування.

**Результати дослідження:** з зазначених проблемних питань виникає необхідність створення державної логістики, як системи управління потоками та визначення державними стандартами чіткого понятійного апарату, як державної так військового (військового).

**Теоретична цінність дослідження:** у статті автори зробили спробу та запропонували удосконалення системи забезпечення матеріальними засобами та послугами сил оборони України і створення єдиної логістичної системи держави. як системи управління матеріальними, інформаційними і людськими потоками на основі їх оптимізації..

**Тип статті:** описовий та аналітичний.

**Ключові слова:** логістика, матеріальні засоби, послуги, забезпечення.

### 1. Introduction

Based on the analysis logistics of the Ukraine Armed Forces at the present stage of development, the article identifies the main problems of logistics Ukraine Armed Forces and suggests ways solve them.

The issue of creating an effective system of logistical support defense forces in peaceful and special periods (war time) is considered. The authors highlight one of the main problems – to creation effective logistics system of the Ukraine Armed Forces, which should be able to plan and manage the process of providing troops with material resources in peacetime and war times and will be compatible with NATO. In the article formulated directions of further researches concerning improvement of the system logistical support of state defense forces.

Given the no-completion to implement the standards and procedures adopted in NATO member states in all areas of Ukraine's defense forces in order to acquire and maintain the required level of defense capabilities, effectively respond to threats and challenges to national security, there

is an urgent need to avoid distorted wording. or other definitions (concepts) regarding the logistic systems troops and its compatibility with NATO and EU member states.

The expected result of the reform is the creation of an effective system of defense forces. To achieve the goal, you need to perform a number of tasks. One such task is creating a united state logistic system that will be able to provide the defense forces according with NATO standards, doctrines and recommendations.

## **2. Formulation of the problem**

The current state of the logistic system of defense forces, specially the Armed Forces of Ukraine requires urgent measures to improve it and bring it in line with modern requirements. The lack of scientific and methodological basis for its improvement at the present stage of development the Armed Forces of Ukraine leads to a contradiction in the logistic system in the current conditions.

The established organizational staff structure does not meet modern requirements about full satisfaction the needs of state military organizations in special period (war time).

Present logistics structures unbalanced by subordination and are not transformation into a signal logistical system of providing material resources to the State Armed Forces in special time (war time).

**According to the analysis of recent publications.** For today, there are many materials in the Internet and (doctrinal) guidelines of the development our defense forces about logistics in the Armed Forces of Ukraine (Strategic Defense Bulletin of Ukraine; On approval of the Basic; Doctrine "Joint Logistics"; Kalchenko A.G. "Logistics"; Logistics forces and means Doctrine).

## **3. Result**

In the article, the authors made an attempt and proposed to improve the system of material support and services of the Ukraine Defense Forces and create a united logistics system of the state, as management system of material, information and human flows which based on their optimization.

Among the key tasks for today of the Ukraine Government is to create and maintain the capabilities of the defense forces needed to deter armed aggression, ensure the stability of national defense, increase the interoperability of the Ukraine Armed Forces with the armed forces of member states NATO and EU (Strategy of the Ukraine Military Security; Strategic Defense Bulletin of Ukraine; NATO Logistics Handbook; Procedure logistical support). The logistics of the Ukraine Armed Forces play an important role in fulfilling these tasks and achieving positive results in the defense capabilities of our state. Today, the logistics of the Ukraine Armed Forces is undergoing a process of reform and transformation, the positive results of which will allow resolve the issue of providing troops (forces), which will allow quickly respond to the changes in the military-political environment in the world.

But to understand in detail the definition of *logistics*, let's turn to history, which establishes that the concept of "*Logistics*" comes from the Greek word "*logistika*", which means the art of calculation, the ability to think. The emergence and development of practical logistics are a thing of the past time. Professor of the Hamburg University G. Pavellek notes that even in the Roman Empire there were servants who wore the title of "*logistics*" or "*logisticians*"; they were involved in the distribution of food. According the expression of Archimedes, in the IV century. B.C., the period of the highest power of Athens, the greatest democratization of the social order and the flourishing of culture, in ancient Greece there were 10 *logisticians*. The German philosopher, mathematician, and physicist Gottfried Leibniz (XVII-XVIII centuries) called logistics as mathematical logic, formal logic. This term, was officially established in September 1904 at the philosophical conference in Geneva.

According the scientific ideas of many Western scholars, logistics has become a science due to military affairs. The founder of the first scientific works on logistics is considered Baron Antoine Henri Jomini (1779-1869). He was French general and military theorist of the early 19th century. In his "*Treatise on the Art of War*" (1837), he defined logistics as the practical art of managing,

transporting, planning, organizing supply of the troops, and providing logistics for front, the success of it was due to the degree of interaction between the various units that were involved.

In the following decades, the term “logistics” was used only in the military literature in such leading countries as the United States, England, Italy and Germany (Application of logistics forces Doctrine).

Since the early 90's, logistics is defined as a new direction in science – the theory and practice of management materials and relevant information flows, to wit as a set of issues related to the circulation resources, materials, components, spare parts, finished products, their delivery from the supplier to the manufacturer and from the manufacturer to the final consumer according to his requirements and interests. Analyzing the variety of definitions logistics, it is easy to see a number of aspects scientifically. The most widespread are management, economic, operational- financial aspects. Thus, Professor G. Pavellek and his colleagues in the US National Council of Material Distribution Management, defining the essence of logistics, make focus on the management aspect.

*Logistics* is the planning, management and control flows of material products.

Many researching specialists prefer the economic aspect of logistics. In view of this, they think that logistics is a set of different activities which have aim to obtain required products with lowest cost at a specified time and needed place. Viewed from the life cycle perspective, *logistics* is the bridge between the deployed forces and the industrial base that produces the weapons and materiel for forces to accomplish their mission. Inconsistency and non-interactions of any fragments of this link leads to delays in production, increased costs, and failure of contracts, unplanned losses and as a result reduced combat readiness. The main operational task of logistics is organization optimal placement the sources of resources and materials that would meet the requirements of troops, and which would be associated with the lowest possible costs. Due to the *logistics* (management flows of materials) the materials are delivered to troops on time and distributed efficiently there.

According to NATO's concept for the collective responsibility for logistics to work effectively and efficiently, NATO must provide joint and single service logistics command and control, identify the operational logistics requirements, plan the support solutions to meet those requirements and provide the means for the visibility of assets. The nations need to provide the national and multinational logistics capabilities and resources required while ceding the appropriate authority to allow the NATO commander to execute his mission. This does not imply that nations cannot select to use national logistic support solutions, but the aim should be to consider such solutions primarily to meet unique national requirements that cannot be met by multinational capabilities in order to improve efficiency for all parties involved and to limit the overall logistics footprint in theatre. Coordinated logistic planning is, therefore, an essential aspect of the efficient and economical use of resources. According to the NATO Doctrine of Logistics (AJP-4) of December 2018, modern logistics must be guided by such basic principles as proper correspondence between responsibility and authority, sufficiency and efficiency, simplicity and flexibility, coordination and openness (Kyvliuk, V., & Gannenکو, Y., 2018).

NATO gives the following definition of logistics (NATO Logistics Doctrine (AJP-4)). “**Logistics**: The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, the aspects of military operations which deal with:

- design and development, acquisition, storage, movement, distribution, maintenance, evacuation and disposal of materiel;
- transport of personnel;
- acquisition or construction, maintenance, operation and disposition of facilities;
- acquisition or furnishing of services; and
- medical and health service support.

This definition covers a wide range of responsibilities that include a number of different domains of work within NATO.”

If one considers that logistics comprises both the building up of stocks and capabilities and the sustainment of the troops (forces), then it is clear that a distinction can be made between three important aspects of logistics, spanning the life cycle of logistic resources: production, technical and household maintenance of all types of property in the process of their operation and its direct use to maintain troops (forces) (NATO Logistics Doctrine (AJP-4)). The following definitions of these aspects enjoy widespread acceptance within the NATO logistics community:

Production is a part of logistics activity related to research and development, design, engineering, production and acceptance of military property. Production activities also include standardization, contract work, quality assurance of military equipment, conducting appropriate tests and issuing technical documentation, control over the correctness of equipment and modification of equipment.

The maintenance troops and related with them all types of property are part of the logistics business, which is the link between the production and the user of military equipment. It includes functions provision and distribution the military property to troops (forces) and maintains it in accordance with established regulations.

The use of military property by troops (forces) is the part of logistics related to the receipt, storage, transportation, repair of military property and its disposal. Globalization and the division of labor have led to some inefficiencies in some defense organizations and military operations, and specialized organizations are emerging in the market that provide specialized services with optimal prices and a high level of professional quality. Therefore, outsourcing is widely used in NATO member countries, both at the national and multinational levels.

One of the most important components of defense reform is the development of human capital. The effectiveness use weapons and military equipment depends from the skill of the man, the serviceman. The effectiveness logistics depends from logistics professionals. This requires using of modern approaches in the educational process, the best principles in personnel policy and career growth of logisticians. The future belongs to those officers who have a type of military thinking based on modern international standards.

So, a logistics manager is a profession that requires excellent skills, mathematical mind, ability to make accurate calculations and ability to manage the staff. The logistician must have excellent knowledge in economics, law, mathematics and other exact sciences, as well as be able to apply innovative technologies in their work and have the appropriate knowledge to use software. The logistician has to know their rights and responsibilities, as well as the fact that he is responsible for failure supply systems (for the material flows passing through the logistics chain, starting from the primary source of resources through all intermediate processes up to the supply of finished products to the final consumer, i.e. directly to the military unit and serviceman). Objects of management are also financial and information flows.

The essence of the logistics is the calculations based on mathematical models related to the justification of the planned measures to provide troops (forces), necessary for further assessment combat capability of the troops (forces) in terms of achieving their level of combat readiness, primarily different types of material means, which is realized through the functioning of the transport system with a certain efficiency of the respective subsystems. At the same time, in higher military educational institutions the training of logisticians of the Armed Forces is carried out on the principle of the type of support (rear and technical).

The level training of the logisticians who come to the army based on their experience in the relevant positions remains low in terms of theoretical and practical training, as they are trained as chief of the relevant support service, not as a logistician.

#### 4. Conclusions

For functioning of the Armed Forces (Defense Forces) there is an urgent need to create state logistics, which is a governing organ that including central and local executives, local governments, which are responsible for implementing state policy and strategy in the sphere of national logistics.

From the above-mentioned problematic issues, there is a need to create the state logistics, as a system of logistics flow management and the definition of state standards, a clear conceptual framework for logistics, both state and military (military). The state has branches of government, state institutions, the appropriate system of organization, interdependence, interaction, coordination. The government is the administrator of loans. The national organizational and legal structure of the economy directly affects to provision material resources, both the Armed Forces and other military formations.

It is necessary to define: military logistics is a system of managing the processes of movement material, information, financial, labor and legal flows to ensure functioning of the Ukraine Armed Forces (defense forces) in peacetime and wartime (special period).

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#### 6. Competing interests

The authors declare that they have no competing interests.

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