

ISSN: 2450-6869

eISSN: 2719-6763

No. 12, 2021

DEFENCE SCIENCE REVIEW

<http://www.journalssystem.com/pno/>

[DOI: 10.37055/pno/150873](https://doi.org/10.37055/pno/150873)

The Influence of Cyberwars on Socioeconomic Activity of Residents of Central and Eastern Europe

Original article

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Received: 2022-03-28

Revised: 2022-06-10

Accepted: 2022-06-11

Final review: 2022-06-11

A – Research concept and design, B – Collection and/or assembly of data, C – Data analysis and interpretation, D – Writing the article, E – Critical revision of the article, F – Final approval of article

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Abstract

Peer review:

Double blind

Keywords: material subsystem, logistic security of Polish Armed Forces, peaceful training process, battalion food point, battalion water extraction point, battalion refueling point, battalion ammunition point

Objectives: The aim of this article is to present theoretical aspects of functioning of the material subsystem at the tactical level. Show like at the turn over the years the process of logistics protection of the Polish Armed Forces has evolved in accordance with the accepted directions of development, meeting the standards of international military logistics

Methods: The research method used in this study consists in review of Poland and global logistics literature, as well as military literature. On the basis of conducted observations and on the basis of literature there has been presented basic elements organized by logistic subunits realizing tasks of material security of troops at tactical level.

Results: The analysis of documents allowed to identify and characterize the operation of material security elements at tactical level. The article presents their grouping and deployment in the grouping of own troops during the assault and defense.

Conclusions: Identified elements and their tasks are focused on satisfying material needs in the supply of means of procurement and providing specialized material services. Properly organized and functioning material subsystem is a guarantee of proper material security of supplied units. The main objective of the material subsystem is to meet the needs of the Polish Armed Forces in times of peace, crisis and war through ensuring an adequate amount of required assortment of supplies and providing specialized material services at the right time and place. During the process of peacetime training, the material subsystem prepares logistics units and subunits for material security of tactical level units.

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Introduction

The Armed Forces of the Republic of Poland carry out activities in times of peace, crisis and war. Depending on the expected result of their conduct, military operations may be organized and conducted at one of three levels – tactical, operating and strategic. The purpose of tasks carried out at the tactical level, including crisis, stabilization and combat, is to achieve a tactical or operational goal. These are all activities conducted on the battlefield by operational and territorial defense troops. The Armed Forces must be able to conduct operations at the tactical level in the national, allied or multi-national system. Tasks put before the military logistics are determined by the needs of the Polish Armed Forces realized in times of peace, crisis and war. Its right and timely functioning is conducive to the achievement of the set objectives in maintaining the territorial integrity of the state, support of internal security, as well as the implementation of alliance commitments resulting from Polish membership in the North Atlantic Treaty Organization (NATO), the European Union (EU) and other international organizations. The objectives set for the Polish Armed Forces relate not only to military operations but also to non-military activities conducted both within the country and abroad. Providing effective logistical support and security requires coordinating activities at all levels of command with elements of the functional logistics system. Its main task is to secure the needs of troops, which is achieved through the realization of tasks by subsystems and functional areas of logistics of the Polish Armed Forces. One of the elements of the logistics functional system is the material subsystem consisting of management and logistics units intended for planning, organizing and supplying material needs and providing specialized material services. A properly organized and functioning material subsystem is a guarantor of proper material security for supplied units.

1. Theoretical aspects of material security at the tactical level and its importance in the process of securing logistics of the Armed Forces of the Republic of Poland

With Poland's membership in the NATO and other international organisations, the material security subsystem evolves in accordance with the implemented and adopted directions of development, changes in tasks and organisational structures. The material subsystem is one of the elements of the logistics system of the Polish Armed Forces. It is a structured set of organs and executive units of the organizational and functional structure of military logistics. The mutual relations and interrelations of the implementation of supply and provision of economic and livelihood services ensures the efficient functioning of troops in times of peace, crisis and war. The role of the material subsystem is to plan, organize, and

execute material security projects and provide services. Cooperating with other subsystems of the logistics system, it realizes regular supply of troops with all means of procurement. It should be remembered that in carrying out procurement tasks, military and civilian resources are used. The material subsystem is considered in structural and functional terms. In terms of structure, these are specialized internal units and elements of command and control positions that carry out the tasks of military material security. In functional terms, these are the activities of the services (uniform, food, engine fuels and lubricants (MPS), warfare agents) ensuring continuity of the process of supplying military equipment and supplies and providing services. These tasks are accomplished during the process of training troops and executing tasks in accordance with the wartime designation. Depending on the degree of involvement of the Polish Armed Forces in the execution of tasks for the country, NATO, European Union or on the international arena, depends on the range of tasks carried out by the material subsystem. The main objective of the material subsystem is to satisfy the needs of the Polish Armed Forces in times of peace, crisis and war through the provision of adequate quantities of the required assortment of supplies and specialized material services at the right time and place. The procurement and provision of specialized services at the assumed place and time with adequate quantity, quality, and frequency of supply to enable troops to accomplish their tasks is the essence of material security. According to the possibilities resulting from the structures, at the tactical level the tasks of material security are realized according to the functioning territorial system of security (Fig. 1) to the level of tactical unions (brigades, divisions and subdivisions and branches included in them), wings, flotillas, independent unit, Regional Logistic Base (RBLog), Logistic Brigade (Blog), Military Economic Unit (WOG) and Security Unit (OZ).



Fig. 1. Territorial material security system

Source: Military Economic Units. Basic principles of operation, General Staff of the Polish Army, Logistics Planning Administration - P4, Warsaw 2011, p. 3.

During peacetime and crisis, the purpose of the material subsystem is to secure the needs of troops resulting from current operations and to collect, maintain, and store material resources stock. During the process of mobilization and achieving readiness to take action, the effort is focused on supplying troops. In wartime, the main task is to supply participating troops with the required provision. It should be remembered that after the completion of the mission, the task of the material subsystem is to restore the combat capability of troops and also to restore the resources of the material subsystem to the state before the start of operations.

The specificity of the activities of Polish Armed Forces determines the method of organization of material security in accordance with accepted procedures at each level of tasks carried out on four levels of logistics protection.

Levels one and two include tasks at the tactical level.

- level one (I) - tactical level (subunit/unit/warship). It is characterized by direct material security of soldiers and/or a piece of armament and military equipment. It is

implemented by integral subdivisions of the battalion, regiment, brigade with the support of stationary material potential - WOG/OG/OZ [1];

- the second level (II) - tactical level - (Tactical Union, Flotilla, Wing). Undertakings at this level are related to the replenishment of supplies and the organization of specialized services. It is realized by integral subdivisions of the Tactical Union (equivalent) with the support of mobile and stationary material potential - BLog/WOG [1].

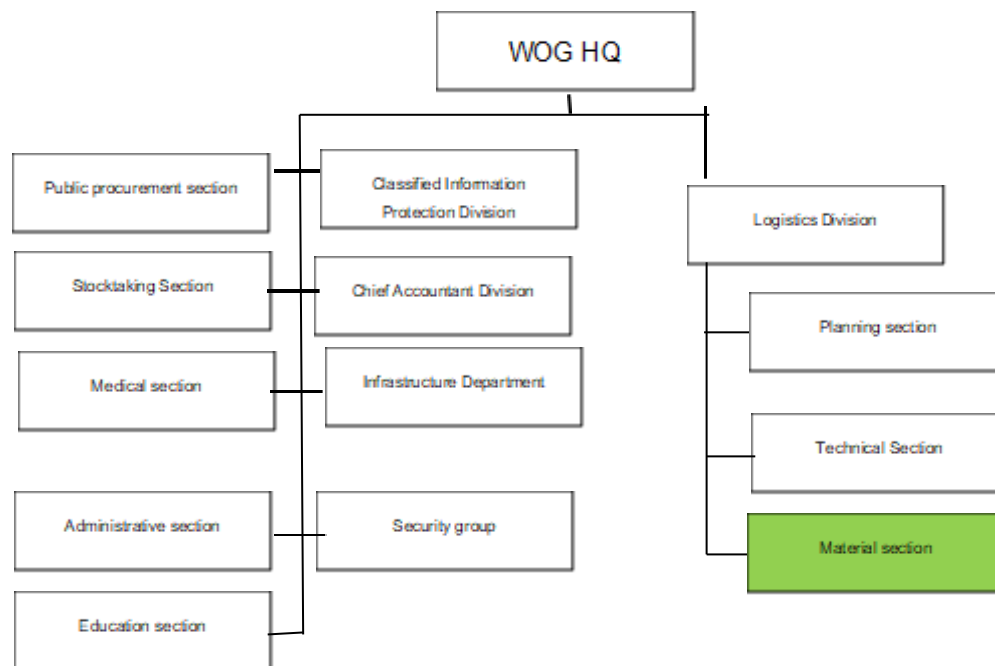


Fig. 2. Framework of WOG

Source: Military Supply Units. Basic principles of operation, General Staff of the Polish Army, Logistics Planning Administration - P4, Warsaw 2011, p. 7.

2. Preparation of logistic units and subunits for material security of tactical level units. Peacetime training process

„Si vis pacem, para bellum”¹. In peacetime, the army carries out training activities aimed at preparing the armed forces to carry out all kinds of tasks in times of crisis and war in the country and abroad. The process of peacetime training applies to all units and institutions that are part of the national defense subsystem. Logistic subunits train by securing the training of combat, support and command support units. During military exercises carried out in Poland together with Tactical Associations, logistic units, including supply subunits, conduct their

¹ Literally "If you want peace, prepare for war" - a Latin proverb. A sentence paraphrased from the prologue to the work "Epitoma Rei Militaris" by Vegetius.

training. The task of logistic units is to meet the material needs of exercising subunits. By fulfilling the tasks for supplied units during training, the readiness of logistics system elements to function efficiently in all conditions is achieved. According to "Doktryna logistyczna Wojsk Lądowych. DD/4.2.", material security is defined as the fulfillment of military needs for supplies and specialized services in all classes of supply. Supply means are divided into five classes [5]:

- Class I - supplies intended for consumption by both personnel and animals, occurring in uniform rations regardless of local combat or terrain conditions;
- Class II - supplies for which tables of dues or equipment have been established;
- Class III - fuels, oils and lubricants for all uses (excluding aviation) and special warfare agents manufactured from petroleum products,
- Class IIIA - aviation fuels, oils and lubricants used in aviation;
- Class IV - supplies, including structural and fortification materials, for which tables of charges and equipment have not been established;
- Class V – warfare agents.

Apart from participation in general military exercises, units and subunits exercise by conducting tactical-logistic training, which is the main subject of their training program. Tactical-logistic training is the basis for the preparation of subunits to perform tasks in accordance with their purpose. It constitutes the basis for the preparation of a squad, platoon, company to fully execute the assigned tasks on the battlefield. In combat operations logistics company creates a battalion supply point (bpz) in a battlegroup. It consists of: battalion food point (bpż), battalion ammunition point (bpa), battalion refueling point (bpt), battalion water extraction point (bpww). The specificity of subunits, which results from the structure and tasks, is taken into account during the implementation of tactical-logistic training, in particular during exercises with troops. This training is aimed at preparing commanders of logistics subunits to plan, organize and perform the tasks entrusted to their subunits, learning and perfecting the tasks resulting from their assignment, as well as cooperation with other subunits and performing specialized tasks. By conducting exercises with troops we improve cooperation of logistic subunits with subunits of different types of troops during joint execution of tasks. During the training the subunit's full-time resources are used, which are used for actions within the protection of general military subunits. Taking into account an individual level of soldier's and subunit's training, forms of training are selected according to the commander's decision. These forms depend on the stage and period of training. Most often they include theoretical, practical, tactical (tactical-special) and combat drill.

The task given to the logistics subdivision in Phase I and Period I should be used for individual and team improvement. Each exercise can be divided into smaller activities as well as training topics. First, the topic on the operation of the logistics subdivision during the march to the deployment area is implemented. The execution of the march is followed by the selection, occupation and departure from the deployment area of the subunit. During the action one of the topics is the operation of elements and equipment in defense and attack. Individual and team training is evaluated at the end of the training.

3. The place and role and importance of material security in tactical operations

Supply platoon (plzaop) of logistics company (klog) is responsible for organization of battalion supply point (bpz). It supplies combat and material means to all-military subunits as well as provides social and welfare services for the battalion. Depending on the tactical and logistic situation in a battlegroup of bpz is deployed behind subunits in the attack at a distance of 2-4 km, in defence at a distance of 2-5 km from the line of contact with the enemy. For plzaop, a main and one or two reserve deployment areas are designated at a distance of 2-5 km from the main one. These regions are selected to ensure that the plzaop moves closer to the fighting troops to shorten the arm of supply and to avoid enemy influence. A battalion supply point consists of: a battalion ammunition point, a battalion food point, a battalion refueling point, and a battalion water extraction point. Additionally, waiting areas, reloading areas, internal roads, combat security, protection and defense elements are designated.

The battalion food point (bpz) organized (Figure 3) by the economic and supply squad is tasked with preparing meals for the battalion. According to calculations, they have the capacity to prepare three hot meals for approximately 800 soldiers. Dry provisions or hot meals are delivered to the company feeding points. The bpz (Fig. 3) consists of the following elements: field kitchen deployment area, utility niches, meal delivery point, water extraction point, kitchenware washing point.

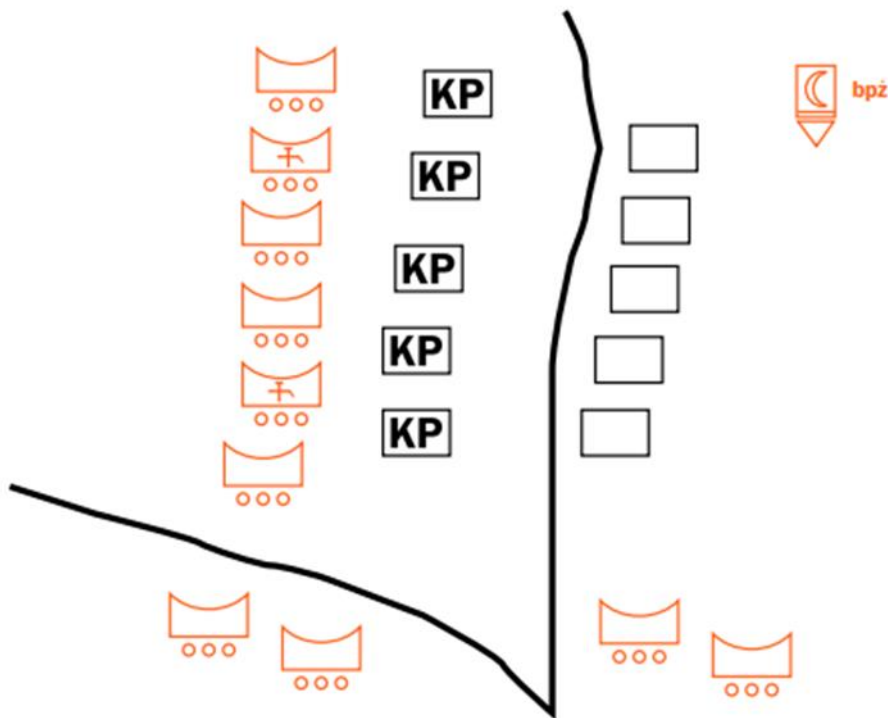


Fig. 3. Diagram of a battalion food point deployment
 Source: Developed from Land Forces Logistics Doctrine DD/4.2.

The bpz tasks include the timely preparation and delivery of meals and dry provisions as well as maintaining stocks of foodstuffs. The area of the deployment region occupied by the bpz is 0.02 km². Time to unfold to perform the task is 20 min, while the time to fold after performing the task is 10 min. Bpz is deployed at a distance of 200-300m from bpt and bpa. When organizing it one should remember that the distances between means of transport should be about 15-30m. Full-time means of transport (table 1) allow to transport about 25t. of food and equipment.

Depending on the actions carried out - defense or combat, two forms of feeding are organized. During combat, food supplies are replenished to full norms. The superior level delivers supplies from a store organized by a supply company from the logistics battalion (blog) of the brigade. It is also possible to obtain supplies from local sources selected by the superior.

Table 1: Full-time bpz appropriations

Headcount of soldiers	22
Medium capacity car	5
Field Kitchen	5
Water tanker 3000 l	2
Refrigeration	1
Breadmobile	1
Light-duty vehicle	1
Water tank 500 l	5
Lighting power plant EO-1	1
Water heater PPGW-200	5

Source: Land Forces Logistics Doctrine DD/4.2

During contact with the enemy the meals are delivered to individual points by designated carriers. In order to acquire and purify water a battalion water extraction point (bpww) is organized on a temporary basis. Acquired water is used for satisfying soldiers' living needs, technical service, medical and sanitary procedures. Water for troops is obtained primarily from local resources, waterworks and water intakes. The regular bpww equipment includes tube well SR7 together with portable filter for water purification FPW-350 and FPW-30. During the organization of the bpww a strict region is defined which includes the water intake and equipment for its extraction and purification, the region of water storage and distribution, technical and waiting region (Fig. 4). The area of the bpww deployment region is 0.01 km². It takes up to 120 min to deploy for a task and up to 20 min to retract. With specialized equipment, it is possible to extract 10m³ of water per day and treat 4m³ of water per day. A battalion water extraction point is not organized during the assault.

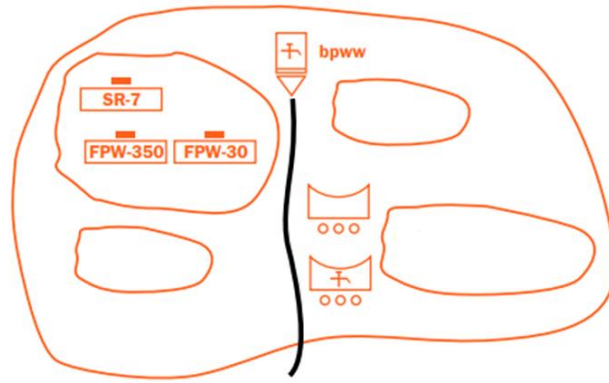


Fig. 4. Schematic of battalion water extraction point deployment
 Source: Developed from Land Forces Logistics Doctrine DD/4.2.

A battalion refueling point (bpt) is organized at a distance of at least 200 m from bpž and bpww. A higher level superior delivers to it transports of fuel and lubricants (mps), which are stored and issued to subunits. Its essential elements are fuel barrel hiding places, a waiting area, and an mps dispensing point (fig. 5). During combat operations, the bpt receives mps by superior transport from the logistics battalion depot. During defense, it may use local fuel stations and depots. The supply of materials to first-line subdivisions is carried out by the superior's forces. Other sub-units take them from specified sources using their own transport. Refueling is done in one of three ways. The refuelling vehicle drives to the vehicles being refueled, the vehicle being refueled drives to the refuelling vehicle and a mixed one, the so-called canister way. The first two ways are mainly used. Defense mps stocks are restored at the end of the day's fighting. The bpt's standard equipment includes a high-mobility medium truck and three fuel tankers, a CD-5W dispenser. This equipment allows transport of about 11 tons of fuel and about 3.5 tons of other mps. The deployment area is about 0.03 km². Bpt is deployed in 10 min, retraction after task completion is also up to 10 min. The area is organized at a distance of 300-400 m from bpa and 200-300 m from bpž and bpww.

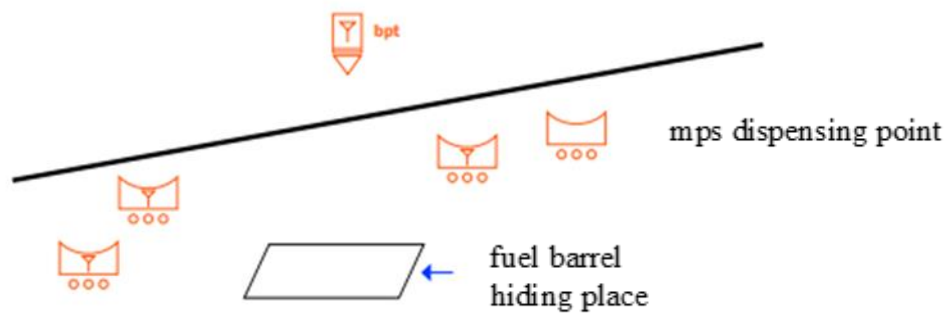


Fig. 5. Schematic of battalion refueling point deployment
Source: Developed from Land Forces Logistics Doctrine DD/4.2.

The last element to be rolled out is the battalion ammunition point (bpa). It is organized in a place hidden from enemy observation in a way that ensures convenient exit and departure of transport means. The possibility of exposure to direct enemy fire should be minimized. For this purpose, natural hiding places are used - funnels, niches. If this is not possible, engineering development is carried out. The essential elements include niches for ammunition, the point of issuing ammunition and the transport waiting area (Fig. 6). The supply of ammunition to the first-line subdivisions is executed by the superior's forces. Subdivisions which are not in contact with the enemy receive ammunition with their own means of transport. The tasks of the bpa include receiving ammunition from depots, preparing it for use, completing sets, distributing ammunition to sub-units, receiving casings and packages from sub-units. The ammunition is transported in airtight packages which should be opened. If possible, cartridge belts and magazines are loaded in the bpa. The bpa operates eight medium-duty vehicles, which provide the capability to transport approximately 34 tons of combat assets. It takes up to 10 min to deploy a region to perform an action, it also takes up to 10 min to retract after the task is completed. The area of the deployment region is up to 0.02 km². It should be noted that the distance between transport means is 15-30 m.

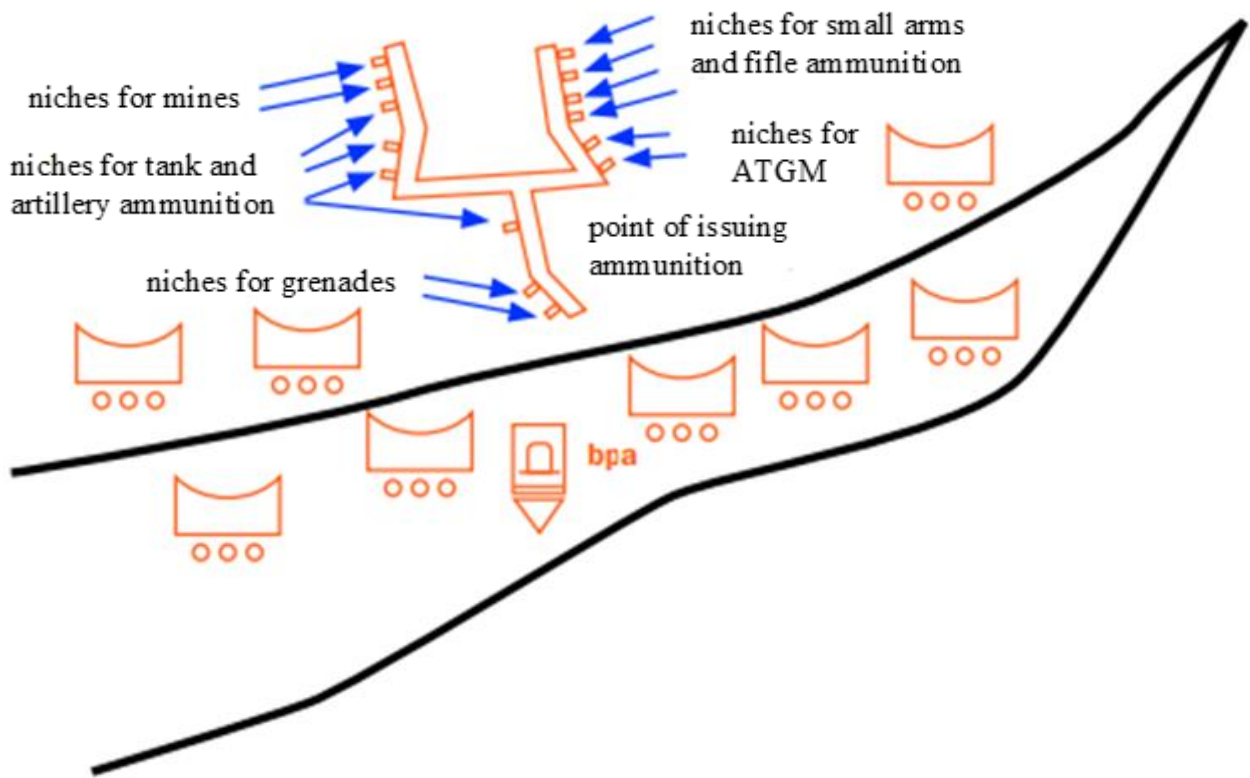


Fig. 6. Diagram of battalion ammunition deployment
 Source: Developed from Land Forces Logistics Doctrine DD/4.2.

Ammunition stocks are replenished to full standards, if necessary ad hoc stocks are accumulated. During defence, on the basis of consumption forecasts, ammunition is delivered at a frequency of 2-3 times a day. This depends on the logistic security plan and reports of commanders on the depletion of stocks. Ammunition can be delivered to individual combat vehicles or is collected by subunits in bpa.

Conclusions

The material subsystem is one of the elements of the logistics system of the Armed Forces of the Republic of Poland. It is an ordered collection of bodies and executive units of the organizational and functional structure of military logistics. Mutual relations and interrelations of supply realization and provision of economic and living services ensure efficient functioning of troops in times of peace, crisis and war. The task of the material subsystem is to plan, organize and implement material security projects, as well as to provide services.

The process of peacetime training applies to all units and institutions that are part of the national defense subsystem. By performing tasks for supplied units during training, the readiness of logistics system elements to function efficiently in all conditions is achieved. Tactical-logistic training is the main subject of the program training of logistics subunits.

Depending on the tactical-logistic situation in a combat grouping, elements of the material subsystem are deployed behind subunits in the attack at a distance of 2-4 km, in the defence at a distance of 2-5 km from the line of contact with the enemy. Essential elements are: battalion food point, battalion water extraction point, battalion refueling point, battalion ammunition point.

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