ROMANIAN MILITARY THINKING

TROOPS AIR DEPLOYMENT – A NECESSITY FOR MOUNTAIN FORCES –

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In the current context of war, adaptation to the ever-changing situation is very important. Mobility in the battlefield is one of the main factors that make the difference. This article aims to highlight the advantages of mountain troops air deployment, hence the need to develop this capability for Romanian mountain troops.

In this regard, the article addresses the mountain troops air deployment as an additional capability necessary for mountain troops to successfully conduct military actions in mountainous-wooded terrain. Resorting to a qualitative type of research, the author presents a series of advantages arising from the establishment, within the mountain troops structures, of the structures capable of being deployed or parachuted into areas of operations that are difficult to access, as they exist in countries with tradition in this military specialty (Italy, Germany)

Keywords: mountain troops; air deployment; mountainous environment; capability; alpine parachuting;

INTRODUCTION

Adapting to a modernized, easily deployable and unpredictable enemy is a topic that is increasingly on the agenda of the North Atlantic Alliance, even more so if we think about the evolution of the current conflicts in our country's neighbourhood or in the Middle East. The combat capability of a military structure, whether we refer to events that have unfolded or to the current geopolitical context with ongoing events, depends more and more on a series of factors and combat principles that are directly related to the understanding of the use of force in a confrontational environment.

In modern warfare, survival is essential, given the employment of increasingly sophisticated and lethal weapons in combat. Starting from the notion of *capability* (Petrescu, Ioniță, 2020, p. 16)[1] that a military structure can have at a given moment, the differences between the weapons used in a confrontation determine the emergence and development of a continuous process of research and development. In this context, technological change, which is in perpetual progress, can produce opposite effects, depending on how the forces are used (Biddle, 2006, p. 34).

Based on these considerations and the author's experience both in the specific field of mountain troops and in that of military parachuting, the article is intended to draw attention, by resorting to a qualitative type of research, to the need to develop capabilities so that the mountain troops could be air deployed. In this way, we believe we can design a research process in the field to establish guidelines for proposing and subsequently developing such a combat capability for mountain troops.

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[1] *"The ability to perform actions in order to achieve objectives".* In *Law no. 203/2015 regarding defence planning,* in *Monitorul Oficial/Official Gazette*, no. 555, 27 July 2015, art. 13, para. (1).

MOUNTAINOUS AREA – GEOGRAPHIC AND MILITARY CHARACTERISTICS

The alpine area is that part of a massif, placed above the forested areas, at heights between 1.700-2.544 m, covered with pastures and dwarf trees (mountain pines and junipers) (Oancea et al., 1987, pp. 35-37), devoid of communications and settlements, with steep slopes, difficult to be approached, where strong winds and blizzards blow, characterized by very low temperatures in the cold seasons and at night, by the existence of a thick layer of snow during the winter, and by a higher temperature during the day in the summer, where ultraviolet rays dominate, which can affect the human species.

As part of military actions in mountainous areas, it is necessary to deploy specialized forces, military structures capable of carrying out combat missions, capable of survival, independent, self-supporting actions in such areas. These military structures are the mountain troops whose actions are carried out mainly in the alpine environment and against an adversary prepared to act in the same environment.

As part of military actions in mountainous areas, it is necessary to deploy specialized forces, military structures capable of carrying out combat missions, capable of survival, independent, self-supporting actions in such areas. These military structures are the *mountain troops* whose actions are carried out mainly in the alpine environment and against an adversary prepared to act in the same environment. Such structures reach a high degree of efficiency due to the level of training and the capabilities they develop. Under these circumstances, it is necessary to understand that certain principles of combat, such as effort capacity, manoeuvre, economy of forces and means, speed, surprise of the enemy, can significantly tilt the balance in favour of those who respect and can apply them. Moreover, in the context of profound technological developments in the military field, there is also a *"rapid evolution of mechanisms, equipment, techniques and procedures that must be maintained at a high level of development"* (Stanciu, Gimiga, 2023, p. 157). As the operational environment undergoes changes and transformations, the adaptation of all actors to the created situation is permanently required.

In the mountainous environment, these principles acquire a new physiognomy when the air, transport or fire support components are introduced into the equation. Whichever type of military action is addressed, a comparative analysis can be developed in the application of these principles, depending on the deployment capability that the mountain troops have at their disposal. The long-term resistance in the mountains, especially in the alpine area, implies the fulfilment of the decisive objectives of all operations – to stop, destroy (repel)

the aggressor, to firmly maintain the strongholds in the field, to keep communications and localities under control, even when the opponent has deeply penetrated in some directions. The advantages in mountainous-wooded terrain are on the side of mobile, adaptable and flexible structures, with light combat assets, specialized in fighting in the mountainous operational environment, structures that are capable of conducting joint actions for longer periods of time (Petriceanu, Ghelegeanu, 1977, p. 45). In the mountains, the movements, manoeuvring and actions of the support forces, the technical or medical evacuations, as well as the supplies are much more difficult than in flat, open terrain.

TACTICAL FORCES AIR AND GROUND DEPLOYMENT – COMPARATIVE ASPECTS

Considering the trends of modern war, in the conditions of the execution of tactical actions and operations, both those of an offensive nature and those classified as defensive, the need to deploy one's own forces within a time that leads to favourable conditions for the development of troops manoeuvre, infiltration, exfiltration or prepositioning becomes an essential requirement in the execution of missions.

From the perspective of tactical ground deployment, the mountainous area leads to a thorough planning of actions/operations as well as to a much more careful analysis of terrain, so that the recognition of some areas of interest could be performed not only on the map but also in the field.

An eloquent comparative analysis to inform commanders' decision, whether we are referring to low-level military leaders or considering the conduct of large-scale military operations, should relate both types of deployments to both the components of terrain analysis and the factors that can influence the performance of the mission. For a better understanding of these considerations, we propose the simulation of military actions and operations in the mountainous environment. Thus, from the perspective of tactical ground deployment, the mountainous area leads to a thorough planning of actions/operations as well as to a much more careful analysis of terrain, so that the recognition of some areas of interest could be performed not only on the map but also in the field, while, in view of air deployment, the approaches are not limited/restricted by natural obstacles, but only by the weather.

Adverse weather conditions (low air temperature, precipitation, freeze-thaw phenomenon) influence the actions/activities carried out by personnel, the use of military equipment, as well as the operation

of specialized equipment (tracks, terrain vehicles – ATVs, utility task vehicles – UTVs, snowmobiles), exposing them to increased risks from the tactical ground deployment perspective (F.T./V.M.-8, 2015, art. 0222).

The use, by changing the destination according to the needs, of versatile equipment in the execution of different types of operations carried out within the air deployment can determine the reduction of some risks in terms of survival in the mountainous environment, whether we limit ourselves to sunstroke, frostbite, dehydration, or to the occupation of a patrol base.

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Observing some activities/actions of the adversary becomes much easier by air deployment, while, in the case of ground deployment, the forces have to either use forward elements or infiltrate reconnaissance elements into the adversary disposition.

Abundant vegetation or the lack of it, especially in alpine hollows, is a disadvantage in the execution of movements through the use of armoured or tracked vehicles, making tactical deployment difficult and/or even impossible. On the other hand, regarding the use of helicopters in carrying out air deployment, the abundant vegetation constitutes an impediment in establishing the landing zones.

Regarding the masking and covering of military actions/operations, the vegetation, the limitations and restrictions imposed by the mountainous-forested terrain, in conjunction with its key points, the tactical ground deployment requires additional efforts to surprise the enemy forces and avoid the own troops being surprised by them, as well as to maintain mobility, while air executing deployment would increase mobility and it would also lead to success in surprising the enemy.

Considering the fact that in the mountainous area most covers, mainly represented by the key points in the terrain (especially peaks, elevations etc.) are natural, they become obstacles both for tactical ground deployment and in terms of support by fire, especially that executed by ground artillery elements, while the air deployment, by helicopters, facilitates both the movement and the execution of close air support for the own forces.

The tactical advantages obtained by air deployment are greater than those derived from the use of key terrain points, whether

we are referring here to dominant elevations or valleys/watercourses, judiciously exploited especially by helicopters in tactical deployment. Thus, the stages of airborne operations, landing or disembarking from aircraft, as well as tactical air landing operations, are much more effective than embarkation/disembarkation/mixed tactical movements of own forces in terms of occupying a stationing/regrouping area.

The time necessary for the tactical ground deployment is sometimes much longer than that required for the own forces air deployment, which implies dosing the effort according to the deployment stages. The use of armoured or tracked vehicles in the mountainous environment entails a considerable disadvantage from a tactical point of view, if we were to consider the evacuation of combat equipment following some clashes/encounters with losses.

In the tactical ground deployment, the use of armoured/track mounted weapon systems can become problematic both in conditions of reduced visibility and taking into account the characteristics of the mountainous-wooded terrain (abundant vegetation, natural obstacles, narrow areas), while the tactical air deployment would allow both the execution of direct fire on some objectives and the possibility of using *"intelligent"* (e.g.: thermally guided, remote-controlled etc.) weapon systems/munitions, as well as the air command and control by establishing some command points (Rus, Cioabă, 1988, p. 156).

In the tactical ground deployment, the use of observation devices at night or in conditions of reduced visibility becomes even more difficult in unfavourable weather conditions (fog, temperature below 0° C), as well as considering the abundant vegetation. Tactical air deployment somehow solves the issue of too many variables of observing the actions of the opposing forces by exploiting the key points of the terrain, if we were to consider the fact that any point of the aircraft's trajectory becomes a location for the tactical exploitation of the adversary's actions.

The air transport of troops connects the point of departure with the point of destination through a straight line, thus reducing the time required for the own forces to reach the deployment area, while, by land, delays can be recorded either caused by the circumvention of natural obstacles or by the need for restoring the combat capacity of the subunits.

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The phasing of the effort of the own forces is directly influenced both by the level of performance achieved in the execution of the march in mountainous-wooded terrain and by providing them with equipment and materials intended to facilitate not only the advance in this type of terrain, but also the creation of minimum necessary rest and feeding conditions. Thus, the tactical ground deployment becomes problematic from the point of view of ensuring the logistics to carry out actions/operations prolonged either by rugged terrain, difficult to access with equipment, or by unfavourable weather conditions. On the other hand, providing logistical support by conducting tactical approaches/landings removes hard-to-reach terrain from the equation, and even if it does not completely solve the limitations/restrictions imposed by the weather, it proves much more effective.

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Even if they are more efficient in terms of the economy of effort, resources and, sometimes, from the perspective of costs, the operations specific to air deployment do not introduce into the actions/operations the own forces armoured assets. At the same time, air deployment solves the problem of much more easily extracting one's own personnel from an area that has become dangerous, whether we refer to withdrawal/regrouping, or whether it involves evacuating the wounded/victims.

The rough, mountainous-forested terrain often complicates the choice of flight paths and generates additional navigational burden and pressure on the entire crew, as they have a small margin for error. In this environment, commanders must avoid the human-created obstacles on more than 46 m above the area elevation, and high terrains or hills can be considered dangerous only if they are an evacuation obstacle (FM 3-99, 2015, p. 5, Chapter V). Direct routes can rarely be used without exposing the aircraft to an unacceptable risk of enemy detection and destruction.

Tactical flight routes follow valley corridors, where it is possible to obtain cover and concealment, while forcing the maintenance of the highest possible flight altitudes in such terrain. Flying in the mountains can prevent the use of closed formations. Multi-helicopter operations are normally planned to be executed in loose or staggered formations with greater spacing between aircraft.

The land suitable for the selection of several helicopter landing zones (Landing Zone/LZ) in mountainous regions is limited. Level areas that are suitable for mountain LZs frequently require little preparation, beyond engineering reconnaissance, as the ground is usually firm enough to support the weight of helicopters. When only single-aircraft landing zones are available, the distance between helicopters must be increased significantly (Air Transport Manual, 2019, p. 24).

Table 1 highlights some of the advantages and disadvantages resulting from a comparative analysis of the two types of previously mentioned force deployment – air and ground. For this purpose, four of the principles of combat, considered relevant for the approach within this research, are used as reference indicators.

Table 1: Forces air and ground deployment – advantages and disadvantages (author's design)

COMBAT PRINCIPLES	Air deployment		Ground deployment	
	ADVANTAGES	DISADVANTAGES	ADVANTAGES	DISADVANTAGES
Economy of forces/ Economy of effort	1. Capacity to transport a larger amount of assets, equipment, ammunition. 2. Maintaining the combat capacity of the military.	1. Aviation resource is much more expensive. 2. Airfields or take-off /landing grounds are needed.	1. Reduced logistic effort.	1. Weakening the effort capacity following movements, embarked, disembarked or combined. 2. Smaller number of materials, assets, equipment that can be transported.
Concentration of effort	1. Execution of the vertical manoeuvre for the inter-positioning of forces.			

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	ADVANTAGES	DISADVANTAGES	ADVANTAGES	DISADVANTAGES
Surprising the enemy and avoiding surprise	1. Surprising the enemy by quickly deploying structures in different areas or positions. 2. The introduction into battle of flexible force structures or support elements, in the right place and at the right time.	1. The adversary air defence, from the ground, prevents the free use of aircraft flight paths.	1. The covert movement of the force. 2. Weather conditions facilitate the interposition of forces in the enemy's disposition. 3. Avoiding surprise by the enemy, by using the terrain specific to the mountainous environment for movement.	1. The deployment of forces cannot be carried out over longer distances, when a reaction time is required.
Speed	1. Speed of introduction of reserves. 2. Reaction speed, adaptation of the combat disposition of forces.	1. Weather conditions affect aircraft flight regime.		1. Longer time for deployment.

It appears, following a *joint* analysis of the advantages and disadvantages, in different contexts, based on the chosen combat principles as benchmarks *(table 1)*, that air deployment is preferable for the support of mountain troop combat actions. Climatic factors and conditions, time and season, often make the difference, and in this sense, a rigorous planning of combat actions is necessary.

THE NEED FOR THE ALPINE TROOPS AIR DEPLOYMENT

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Mountainous terrain does not facilitate mounted, dismounted or ski movement and manoeuvre. Climate and weather conditions frequently influence the conduct of combat actions in this operational environment, acting on the key factors of time and speed. Climate is defined, as *"the regular succession of meteorological processes determined by the complex of physical-geographical conditions and expressed through the regime of time over several years. The climate of the mountains is characterized by winters lasting 6-8 months with snow and blizzards, summers lasting 2-3 months with rains and showers, short springs and autumns, 10-30 days with cold rains, sleet and snow"* (Tactical Actions in Mountainous Areas Manual, 2015, art. 0211). In this context, we appreciate that it is necessary to develop an air transport capability, which would allow the forces movement in order to execute the manoeuvre, infiltration, exfiltration or prepositioning, at a much higher speed. In this way, significant advantages could be created and the responsiveness of alpine structures could be increased. The deployment speed advantage generates the successful application of another, essential and very important principle, namely the *enemy surprise*. The current battlefield requires for quick reaction, mobility, flexibility, ingenious manoeuvre and a continuous concern to surprise the adversary. It is necessary to understand that the mountainous terrain, being a very challenging environment for conducting military operations, imposes the seizing of initiative and versatility. The success of military actions in mountainous terrain depends on using *hic et nunc* actions and the well-known principle: the right man at the right place. This is the main reason behind backing up the idea of mountain troops air deployment for increased efficiency and enhanced capability to surprise the enemy.

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In addition to the package of forces to be introduced into the operation, the helicopters have the ability to carry command elements, becoming real command points in the air, which ensure the coordination and command of the troops on the ground: *"(...) different command points have been set up on helicopters for some echelons of the ground troops, thereby achieving a more efficient, more elastic, timelier and, above all, continuous leadership. Such a command point*

can move quickly, from one place to another, where the situation calls for its presence" (Rus, Cioabă, 1988, p. 156).

When talking about the economy of forces and unity of effort, an important issue arises, essential for making mountain troops more efficient. In the current structure of the mountain troops the transportation means for personnel, equipment, materials, munitions are not adequate for the mountainous terrain, thus leading to a supplementary effort on behalf of the combat forces that renders them combat ineffective by tiring them before entering combat actions. Air deployment, using rotary wing for transport, would not only solve this problem but also provide the solution for the resupply, according to the principle of vertical logistics, increasing the mountain troops self-sustainment capability.

Mountain troops are specialized in conducting operations in alpine environment, being categorised as specialized light infantry that conducts a large variety of military actions in a hostile environment, both from the point of view of weather conditions and terrain, and from the point of view of the enemy's possibilities of action.

Beside surprise, obtained when forces are air deployed, deception is achieved, by denying the enemy access to indicators on movement. Mountainous terrain provides the proper environment for the actions of an airmobile force, a force that becomes indestructible and effective if rapidly deployed.

Mountain troops are specialized in conducting operations in alpine environment, being categorised as specialized light infantry that conducts a large variety of military actions in a hostile environment, both from the point of view of weather conditions and terrain, and from the point of view of the enemy's possibilities of action. Nowadays, mountain troops would need modern deployment capabilities, which allow the execution of military activities within large tactical units or independently. (Toader, 2019, p. 7).

The current context shows us that most military actions take place in or near towns, but their preparation is carried out in mountainous, remote, hard-to-reach areas. That is why we appreciate the need for a highly mobile force, specialized in conducting actions in such a confrontational environment, that can be easily deployed to long and very long distances, a force that can be inserted by air, either by disembarking, rappel, the *"fast rope"* procedure or by parachuting. Thus, *"air deployed alpine troops"* can be established. Moreover, the idea of establishing small structures, company-level ones at the beginning, specialized to act in this way, within mountain troops, is rooted in the previous one.

The forces specialized to operate in the alpine environment must have a higher level of training, be strictly and rigorously selected and have specific training programmes, similar to special operations forces and reconnaissance structures. In order to improve their action and reaction level, I consider that they need to be certified as military paratroopers and trained at parachuting in the alpine environment. There are mountain troops in Europe that have in their composition alpine paratroopers, the most famous being *Il 4^{0} Reggimento Alpini Paracadutisti/*The 4th Alpini *Paratroopers Regiment* (Grey Dinamics, 2022). The German armed forces also train mountain troops for obtaining the *alpine paratrooper* qualification. It would not be hard to make a comparison between a mountain trooper deploying on foot in level 2 or 3 mountainous terrain towards the crest and a mountain trooper airdropped in an alpine clearing or glade, as close to the objective as tactically viable. In order to do this, he obviously needs wing or ram-air parachutes, training in precision landing, training in parachute controlling in high-speed winds, equipment to carry weapons and ammunition, water and food. In other words, mountain troops would train and conduct operations like paratroopers, the difference between the two being the environment in which they specialize. This additional capability would create advantages like gaining speed in military actions, achieving surprise, concealing actions, unity of effort, improved self-sustainment etc.

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CONCLUSIONS

The air deployment of alpine troops must be addressed, in the current geopolitical context, as an additional capability necessary for mountain troops, for the successful conduct of military actions in mountainous-wooded terrain. In this presentation, the characteristics of this capability have been highlighted, in conjunction with the entire range of mountain troops missions, due to the necessity to develop them within the alpine troops and in order to highlight the need to create an additional mountain troops transport capability to ensure their deployment in all areas of the mountain environment. If the combatant structures could have the possibility to airlift and airdrop, maintaining the capacity for effort, speed and surprise, the logistics component would certainly encounter great difficulties in carrying

out the tasks of supplying, evacuating and transporting weapons and equipment. In this context, we appreciate that, in the near future, drones will be able to be used to provide the element of vertical logistical support, an essential function of fighting in mountainous-wooded terrain.

The mountain troops have performed and regularly perform training in terms of their air deployment, and the research hypothesis considers the presentation of the need for the force air mobility. If equipping mountaineers' structures with helicopters is not taken into account at this time, we consider it appropriate to train them as military paratroopers by qualifying platoon/company level structures. It would be a major advantage in the use and projection of force at long distances. Effects in depth, created by the actions of the projected force, provide advantages to the attacking force both by disorganizing the enemy through manoeuvre and by disrupting the enemy's supply lines and combat equipment. For this reason, the joint actions at the operational level can have a replica at the tactical level through *combined arms* actions or through aviation support actions for the design of tactical elements.

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If we were to analyse the current situations, in the context in which combat actions are carried out nowadays, we notice that, in order to maintain a tempo corresponding to that of the opponent, it is necessary to think of airlift and airdrop as opportunities that must be supported and implemented. Thus, speed is gained, the opponent is surprised, the manoeuvre is judiciously executed, and an important effort capacity is preserved. In this regard, we propose that, within the Romanian Armed Forces, mountain troops structures, capable of being air deployed or parachuted into hard-to-reach areas of military action should be established. These structures could follow models already existing in countries with tradition in this military specialization (Italy, Germany).

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