

# Considerations regarding the necessity to develop the Croatian Armed Forces' capability to conduct mountain area operations

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## Abstract

*Security is the obligation of the state toward its citizens, and part of security is the defense for which the Armed Forces develop and improve their capabilities. A significant increase in the popularity of mountain warfare reveals the potential lack of capabilities of the Armed Forces of the Republic of Croatia related to the conduct of operations in mountainous areas. Although the geographical analysis shows that the share of mountainous areas in the total area of the Republic of Croatia is 21%, which does not make it a mountainous country, due to further strategic implications, recent events in the region and the experience of the Croatian Homeland War, capability for conducting operations in mountainous area may be more needed than in countries with a nominally higher percentage of mountainous area. To solve the defined problem, three possibilities are proposed, the opening of a school of mountain warfare, the organization of a light infantry battalion and the organization of a mountain infantry battalion, with possible results shown. In the end, it is clear that such a move would give great importance to the Armed Forces of the Republic of Croatia, as a modern and professional organization ready to act both in the context of its own state and in the regional and international context.*

## Keywords

*Mountainous Area, Capability, Operations in Mountainous area, Mountain Warfare, Mountain Infantry.*

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## Introduction

Security has always been the state's key obligation toward its citizens. Security as a concept encompasses the defense. Republic of Croatia's<sup>2</sup> Defense Act (2018) defines "defense" as a state function which ensures the sovereignty, independence and territorial integrity of Croatia. It thereby points out the Armed Forces of CRO<sup>3</sup> as the forces organized for the defense of Croatia and its allies by military means, as well as for other forms of utilization in accordance with the national and international laws (Defense Act, 2019).

The National Security Strategy (2017) defines the 3 CAF missions:

1. The defense of territorial integrity, sovereignty and independence of CRO, and the defense of its allies.
2. Contribution to international security.
3. Assistance to civilian institutions.

The defense of the territorial integrity, sovereignty and independence of Croatia is the primary mission. In order to accomplish the aforementioned missions, the CAF develop and maintain certain capabilities prescribed by strategic documents<sup>4</sup>. Within this context, it is impossible to overlook the growing importance of mountain warfare, primarily driven by the peacekeeping mission in the Islamic Republic of Afghanistan, and furthermore by the creation of NATO Mountain Warfare Centre of Excellence<sup>5</sup> and "Mountain Training Initiative"<sup>6</sup>, a European Union mountain warfare training initiative. The Republic of Austria is in charge of the main capability development, whereas Croatia takes part as an equal member. Due to their inherent characteristics, mountain areas possess a great significance in asymmetric conflicts, as is the case in the Islamic Republic of Afghanistan. Considering the total percentage of mountain areas on Earth's surface is 35% (Safer, 2014), such conflicts are highly probable in the future. Additionally, 85% of states' land borders lie in mountainous areas (Safer, 2014), meaning that conventional conflicts in mountainous areas are almost inevitable.

The countries bordering with Croatia have extensively developed the capability of conducting operations in mountainous areas. The Republic of

Slovenia has had a mountain infantry unit since 1992, and the Italian mountain infantry units, together with the French, Austrian, Swiss and German – are some of the oldest in the world. Today, these units represent the long European tradition of maintaining a contingent of mountain infantry units, which is hardly surprising considering the geographical characteristics of these countries. In 2020 the Republic of Serbia also decided to step forward and form a mountain infantry battalion in Priboj.

The main idea of this work is to showcase the necessity for the creation of a Croatian mountain infantry unit, even though the Croatian mountainous area is not equal (size and altitude-wise) to the mountainous areas of the aforementioned countries. This necessity is compounded by the strategic importance of the mountainous area of Croatia, the recent experience of the Homeland war, and the contemporary instabilities in the Balkan region, which is displayed in the first part of this work. The possible solutions for the capability to conduct operations in mountainous areas, as well as their potential results, are described in the second part. The goal of this work is to present the possibilities and to initiate a discussion.

## Geographic characteristics of Croatia

Croatia is a predominantly lowland country, whose 79.03% of territory is below 500m above MSL<sup>7</sup>. According to the model created in the “CDA GIS” laboratory, based on the “SRTM”<sup>8</sup> satellite data (Consortium for Spatial Information, 2019), the following results were acquired which are shown in Table 1.

**Table 1. Croatian territory height profile (GIS HVU, 2019)<sup>9</sup>**

Elevation zone (MSL)	Area (in km <sup>2</sup> )	Percentage (%)
0-200	30,015.46	53.22
200-500	14,560.26	25.82
500-1000	9,635.12	17.09
1000-1500	2,101.68	3.73
1500-2000	81,28	0.14
Total	56,393.80	100.00

The Croatian Mountaneering Association (2021) defines mountains, in the geographical sense, as elevated parts of Earth’s crust higher than 500m MSL<sup>10</sup>. Therefore, the total mountainous area of Croatia equals 11,818.12km<sup>2</sup>, or 20.96% of its territory. This encompasses hills, plateaus and mountains, notably the Velebit and Dinara. The mountainous area of Croatia is a part of the Dinaric mountain chain which stretches from the Slovenian Alps, through

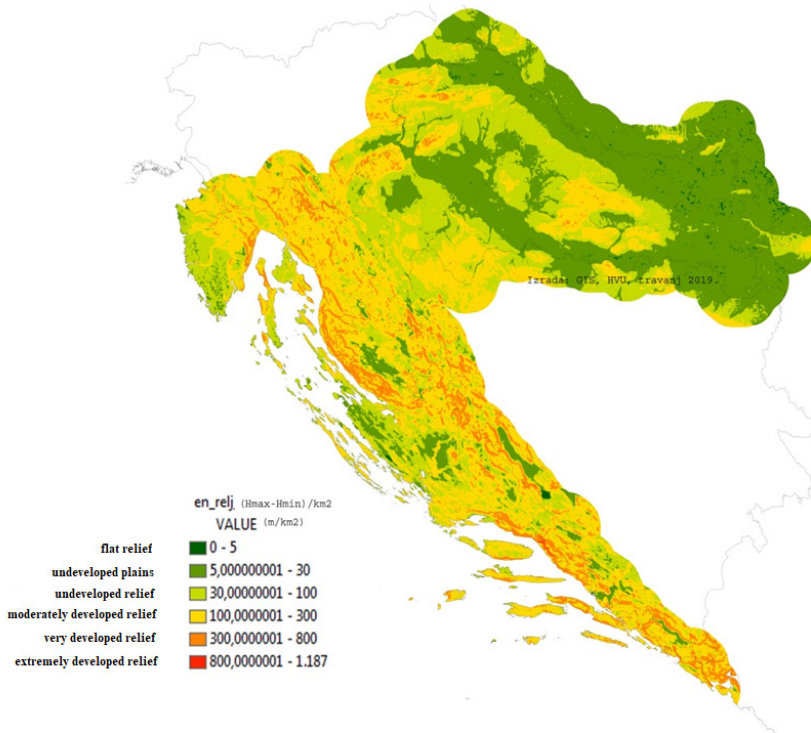
<sup>7</sup> Mean sea level

<sup>8</sup> <http://srtm.csi.cgiar.org/srtmdata/>

<sup>9</sup> The model’s reliability is verifiable by reviewing the data available in the statistical yearbook of DZS (2018). The maximum data discrepancy is 0.2%, and in the percentage sums of mountains and lowlands, there is a 0.01% discrepancy. The statistical yearbook of DZS (2018) is available at: [https://www.dzs.hr/Hrv\\_Eng/ljetopis/2018/sljh2018.pdf](https://www.dzs.hr/Hrv_Eng/ljetopis/2018/sljh2018.pdf)

<sup>10</sup> By applying this definition to the data in the table, i.e. from Picture 1, the surface of the mountainous area is represented by the sum of the last 3 categories.

Croatia and Bosnia and Hercegovina<sup>11</sup> to Albania. Picture 1<sup>12</sup> illustrates the relief structure of Croatia.



Picture 1. Croatia's relief energy (CDA GIS, 2019)

11 Hereinafter BIH

12 Relief energy or the vertical disambiguation of relief is the display of the vertical difference in meters between the highest and lowest altitude on a 1km<sup>2</sup> surface. Generally, lowlands have a low relief energy, while mountainous areas have a high or very high relief energy. The relief energy showcases terrain in more detail - the display of terrain divided by altitude zones as shown in Picture 1 may show a certain terrain in a certain altitude zone, but it is impossible to identify whether it is a mountain top or a plateau, while it is clearly discernible on a relief energy.

The importance of the mountainous area of Croatia lies in its location – the relatively low and narrow area of the Dinarides is called the “Croatian threshold”. It provides the easiest passage through the mountains, connecting the Central Europe and the Adriatic Sea, which is of economic importance for Croatia. Additionally, the “Croatian threshold” is the main road junction connecting Istria, Croatian littoral and Dalmatia with mainland Croatia. Losing it means severing Croatia in two.

Croatia’s border with BiH is its longest border, amounting to 1,011km (DZS, 2018). It can be divided into two parts. The northern portion of the border extends from the Maljevac border crossing to the village of Račinovci which lies near the border junction between Croatia, BiH and Serbia. The southern portion extends from Maljevac to the Prevlaka peninsula. The entire southern portion of the border lies on mountainous area. It is important to point out that the shortest distance between BiH and the Republic of Slovenia is 47km, and it passes through Maljevac itself.

The unique nature of the territories and borders of Croatia and BiH means that BiH is of strategic interest to Croatia. The dominant relief shape in BiH are mountains and valleys, with the median height of 500m (Central Intelligence Agency, 2021)<sup>13</sup>. It is impossible to view Croatian and BiH mountain areas as separate, for together they constitute one natural obstacle, which is confirmed by the experiences from the Croatian Homeland War. The shape of Croatia’s territory restricts the strategic and operational depth, which means that some of the liberation operations had to be planned and executed both on the Croatian and BiH territories.<sup>14</sup>

During the entire the Croatian Homeland War, there were numerous engagements and operations conducted in Croatian mountains. Units without adequate equipment and with differing levels of training survived

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13 <https://www.cia.gov/the-world-factbook/countries/bosnia-and-herzegovina/>

14 Operations “Zima 94”, “Skok 1”, “Skok 2”, “Ljeto 95”, “Oluja”, “Maestral” and “Južni potez”, for a more detailed overview see Dubravica, B., and Rakić, R., (2009), *Kratak pregled vojnih djelovanja u Domovinskom ratu 1991-1995*, CDA, Zagreb, as well as Marijan, D., (2016), *Domovinski rat, Despot infinitus*, Zagreb. It is important to note that the operations were largely executed in mountainous areas.

and fought under extreme weather and terrain conditions<sup>15</sup>, the most extreme of which were engagements in the Velebit and Dinara. Significant mountain engagements were also recorded during the deblocking of Dubrovnik.

The wartime creation of the "Mountain Company Velebit" and "Mountain Brigade", is noteworthy, since these were the only two wartime units which were entirely made up of men with experience in alpinism and speleology. Thus, they can be considered the only Croatian specialized mountain warfare units of the Homeland War. Those units were made up of volunteer members of the Croatian Mountaineering Association in expectation of a large number of engagements in mountainous areas during the war<sup>16</sup>. This premise holds equally as strong today as it had at that time. However, the CAF seem to have neglected the mountainous areas in its defense planning, which is made obvious by its lack of specialized mountain warfare units.

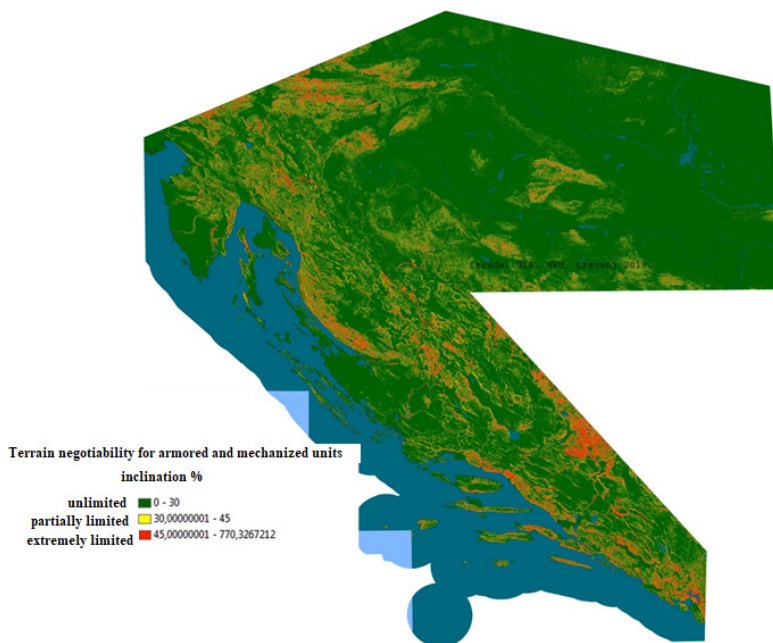
Considering the specified ambition level, the Croatian Army must possess the capability to: identify threats and conduct adequate preparations in a timely manner in order to slow down and stop the attacking enemy force from at least 2 separate avenues of approach; to ensure timely force buildup and simultaneously accept, guide in and task allied forces, and possess the capability to conduct joint operations (Strategic Defense Review, 2018)<sup>17</sup>. The basis for the conduct of the aforementioned operations are the 2 Guard Brigades, the Guard Armored Mechanized Brigade and the Guard Mechanized Brigade. The total order of battle of these 2 brigades comprises 8 battalions (2 armored, 2 armored mechanized, 3 mechanized and 1 motorized battalion).

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15 A more detailed insight into the meaning of mountain training, as well as a more detailed overview of mountain area engagements during the Croatian Homeland War is available in Šubat, R., Semren, S., (2020.) *Planinsko ratovanje: Pojam, povijesni pregled, definicija i terminologija*, Strategos, Vol 4., No. 2.

16 It is necessary to point out that the experiences and lessons drawn from the conflict were never institutionalized through the lessons learned system, nor have they ever been studied.

17 Hereinafter "SPO"



Picture 2. Terrain negotiability for mechanized units (CDA GIS, 2019)

It is clear from observing Picture 2 that movement by armored vehicles<sup>18</sup> in mountainous areas will be impossible or restricted to road-travel only. In combat, mechanized infantry doctrinally rely on direct fire support from their own vehicles (ATP 3-21.11, 2020)<sup>19</sup> which cannot traverse on such terrain. Moreover, the mechanized infantry is neither trained nor equipped for other types of engagements. This may indicate a lack of CAF capability to defend a part of Croatia's territory.

Of course, considering the success of the aforementioned operations, when CAF had no trained mountain warfare units, but rather a small fragment of mountaineering training – data on which is rather obscure – it is possible to

18 "AFV PATRIA", IFV "M-80" and "MRAP"

19 It should be noted that CAF have no valid, ratified doctrinal document which prescribes how mechanized infantry units fight, except for the draft version of DPK-30-11.2 "AFV Patria Mechanized Platoon" from 2017 which is yet to be ratified



conclude that CAF have no need to develop this capability. Such an approach to solving an identified problem (a lack of capability) does not represent the correct approach to the defense system development, which is one of the key state functions. Today, 30 years after the war ended, it is necessary to objectively consider the circumstances and the context as they were when CRO was forced into a disadvantageous position and driven to undertake desperate and *ad hoc* solutions, which could have resulted in mass casualties<sup>20</sup>. The CAF today must develop concrete solutions for contemporary problems worthy of a serious system of defense.

As it was already mentioned, Croatia is surrounded by some of the countries with the longest tradition of mountain warfare infantry units whose traditions are supported by the geography of their respective territories. However, even in today's geopolitical circumstances of extremely low risk of war in the Alpines, these units are not shut down and their traditions have not been destroyed. On the contrary, the scope of their activities has only been broadened<sup>21</sup>. Croatia, as a part of a politically unstable region, a country which is not geographically mountainous and does not have any specialized mountain warfare units, needs the latter more than ever. This is compounded by the interposition of Croatian and BiH territory where the BiH mountain territory continues across the Croatian mountain territory, and opens a route into the strategically sensitive area, domination over which can cut Croatia in two, which had already occurred during the Homeland War. Additionally, the almost non-existent strategic depth to conduct operations has already

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20 One of the notable examples is the combat engagements on the strategically important Ljubovo saddle on the traffic route Gospić – Korenica on the first day of Operation “Storm”. Due to the terrain configuration, the cliffs, canyons and large rocks, additionally fortified by trenches, bunkers and minefields, the Serbian rebels believed their positions around Ljubovo are impregnable. Even though Croatian forces seized it during Operation “Storm”, that feat in mountainous terrain resulted in mass casualties, little of which is known today, and information is limited to various newspaper articles. There is a considerable disagreement around the death toll which varies from 65 to 72 KIA in that engagement alone, while Marijan (2016) states the casualties for the entire “Assembly Area Gospić” in “Storm” were 68 KIA, 298 WIA. In any case, the “Battle of Ljubovo” was never analysed nor were any lessons learned from it.

21 This applies mostly to the activities within the Croatian territory which would fall under the contributing to international security and the support to civilian institutions.

forced CAF to operate outside national territory in the predominantly mountainous terrain of BiH. These are exactly the reasons why it is absolutely necessary to develop the capability to conduct operations in mountainous terrain, and why this capability is more important to the CAF than to some other countries with much longer mountain infantry traditions. Considering the recent events in Kosovo, a predominantly mountainous area, as well as the recent formation of a mountain infantry battalion within the Armed Forces of the Republic of Serbia, a Croatian mountain warfare unit would greatly contribute to the security of the region.

## **The development of capability to conduct mountain area operations**

### *Updating Strategic Documentation*

According to Hernaus (2009), organizations – such as CAF in this case, will only be as successful as their organizational design allows them to be. The organizational design can be viewed as a state or a process. As a process, the organizational design is defined as the harmonization of organizational structure, managerial and business processes, information systems, employee award systems and other organizational elements with a chosen strategy (Kates and Galbraith, 2007). Consequently, the organizational design as a state is the result of the described process. By considering the definitions, it is possible to discern two key terms which are self-implied by the organizational documents – those are organizational elements and strategy. The organizational elements represent the present which is to be shaped according to the strategy, which in turn represents the long-term goal in the future.

Regarding the defense, the long-term goal is defined by the documents which are in turn defined as basic defense documents<sup>22</sup> by the Defense Act

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22 These are the Defense Strategy of CRO, Military Strategy of CRO, SPO, CAF Long-Term Development Plan, and the Defense Plan of CRO. These documents represent the basis for the development of defense capabilities, which is why they need to be compatible with each other and regularly updated.

(Zakon o obrani, 2018). However, the basic problem is what is stated in the SPO (2018). It recognizes the significant social, economic, strategic and security developments which have happened in the period between the two Strategic Defense Review (SPO) documents (2013-2018) (Official Gazette, No. 101/13) and stresses out the need to revise the aforementioned or the making of a new Long-Term Development Plan (DPR)<sup>23</sup>. The environmental changes, so common in the contemporary context, call for updating of the strategic documents, primarily with the purpose of their improvement and development - in order for them to better follow the reality, so rarely reflected in such documents.<sup>24</sup> Therefore, if there is to be any development of capabilities regarding operations in mountainous areas, but also the development of other branches of CAF, it would be wise to maintain and update strategic documents which will keep up with the real situation, trace further progress and provide measurable criteria for assessing success.

### *Possible solutions and results*

The recently ratified NATO ATrainP6 (2018) defines mountain operations as the utilization of forces in mountain terrain with great elevation differences, specific meteorological influences and an underdeveloped or a non-existent infrastructure. Continuing, as a part of a possible mountain operations spectrum, Clarke (2012) defines mountain warfare as a joint utilization of fire and maneuver functions of the unit, in order to conduct tactical action in mountain terrain or at great altitudes. The definitions also cite the key specifics of conducting mountain operations, such as great elevation differences, harsh meteorological and climate conditions, rough terrain which restricts maneuver and fires, the non-existent infrastructure, which

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23 The Ministry of Defense is obligated by the same document to draw up a new DPR until December 2018, which at the time of writing, has not been done yet.

24 A good example of this is the Defense Strategy, the previous version of which was written in 2002, and the Military Strategy, which was previously in effect since 2003. Since that time the CAF have significantly improved, and it should be noted that the CAF have taken part in the peacekeeping operations in the Islamic Republic of Afghanistan from February 2003 until 2020. Croatia has been a NATO member since 2009, and has been included as a "Sponsor Nation" in the NATO Center of Excellence for mountain warfare since its creation in 2015.

requires the development of adequate capability<sup>25</sup> from the armed forces. The capability in question is the conduct of operations in mountain areas<sup>26</sup>, and mountain warfare units are mostly the units responsible for maintaining of the aforementioned. Mountain infantry is an infantry unit specially organized, trained and equipped for the conduct of mountain operations (Šubat and Semren, 2020).

Within the CAF, the only units capable to conduct mountain area operations are the Special Forces Command<sup>27</sup> but in the context of special operations – which are doctrinally different from conventional operations, and reconnaissance units – where this capability boils down to mere movement in mountainous terrain. Offensive and defensive actions in mountainous areas are, according to doctrine, tasks delegated to mountain infantry units which are trained and equipped to carry them out. Such operations took place during the entirety of the Croatian Homeland War in the mountainous area of CRO and BiH.

The CAF have several opportunities offered to improve or develop this capability. One of the possible solutions is the establishment of a training center or school for the conduct of operations in mountainous areas. In that case selected, existing battalions, could undergo additional training for the conduct of operations in mountainous areas. The training can also be conducted with the help of the NATO Center of Excellence and its mobile instructor teams, which is probably the “cheapest” option for capability development. However, this solution, which may seem the cheapest at first, is a significant waste of resources for establishing schools that already exist. Also, the effectiveness of units that, in addition to their basic purpose and

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25 Mountain operations are a part of specific environment operations, and even though they belong to land operations, they have been distinguished due to their characteristics. For a detailed definition, distinction, and the specifics overview see: Šubat, R., Semren, S., (2020) *Planinsko ratovanje: Pojam, povijesni pregled, definicija i terminologija*, Strategos, Vol 4, No. 2.

26 Given the constant likelihood of both conventional conflict, counter-insurgency and stability operations, it is more appropriate to talk about developing the capability to conduct operations in mountain areas than to talk about mountain warfare itself, because the term covers a wider range of operations.

27 Hereinafter “ZSS”

equipment, are additionally trained to conduct operations in mountainous areas is very questionable due to the previously mentioned specifics.

One other possible solution is to reorganize an existing battalion into a light infantry battalion, one of whose capabilities would be to conduct operations in mountainous areas. Today, battalion<sup>28</sup> is a basic tactical unit, with its own headquarters, capable of acting independently in terms of planning and conducting operations, as well as logistical support. Therefore, setting up a unit smaller than a battalion would not be optimal. The battalion would be equipped with light armored vehicles<sup>29</sup>, and could be trained for various types of landings, and with the addition of helicopters as a means of transport, which is highly effective in mountainous areas, this unit would be highly mobile and easily deployed throughout CRO. The structure could reflect the structure of American light infantry battalions, parachute battalions, and even "Rangers", where the lack of firepower from vehicles is compensated by a larger amount of portable group weapons. The tactics manual and parts of the training could be largely taken over from the Rangers, and in the future, depending on the course requirements, the entire set of their capabilities may be copied<sup>30</sup>. This medium-grade solution improves the value for money, because the CAF get more capabilities in one unit. However, this improvement in ratio comes at the expense of quality in terms of conducting operations in mountainous areas<sup>31</sup>.

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28 The approximate strength of the battalion is 500 personnel. The battalion has its headquarters and all the elements necessary for independent action, and independence in operations in the mountains due to the characteristics of the terrain acquires a completely new significance compared to other operations.

29 For example, "HMMWV" (High Mobility Multipurpose Wheeled Vehicle) or "M-RAP" (Mine Resistant Ambush Protected).

30 The "Ranger Handbook" is available at: [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/ARN3039\\_TC%203-21x76%20FINAL%20WEB.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN3039_TC%203-21x76%20FINAL%20WEB.pdf) (accessed: 17 December 2021), and training means parts of the "Ranger School", and available parts from the selection and training of the 75th Ranger Regiment. Although today they are stated special force units with an expanded scope of tasks, they are still largely organized as light infantry. More available at: <https://www.army.mil/ranger/> (accessed: 17 December 2021)

31 As an upgrade to this solution, a potential solution could be the establishment of a new, third light infantry brigade that would combine various specialties of light infantry, including mountain.

One of the possible solutions is the transformation of an existing battalion into a specialized mountain infantry battalion<sup>32</sup>. Mountain infantry training is time-consuming and challenging, which is why it is best to have an entire battalion designated as a specialized mountain infantry unit<sup>33</sup>. Even though mountain area operations require specialized equipment<sup>34</sup>, mountain infantry can be successfully deployed to other areas, while vice-versa it is usually not the case. In this regard, this seemingly most expensive model of capability development could eventually become the most cost-effective, which is why it is the solution that the CAF should strive for. It should not be overlooked that the creation of a mountain infantry battalion would raise the reputation of the CAF in the international eyes, and in the eyes of members of this elite unit and members of the CAF in general.

It follows that there is a wide range of possible solutions. Choosing the optimal requires a thorough study that would cover all today's requirements, from the security environment, current events, through history, geography, strategic and operational implications, and the requirements of our allies. It is only crucial to develop the capability to conduct operations in mountainous areas that will meet the requirements of CRO, and to enable its further improvement and adaptation.

Certainly, any organization or reorganization should be guided by the doctrine. To develop the doctrine of conducting operations in mountainous areas, the necessary expertise can be provided by the Center of Excellence and its staff, together with its own doctrinal publications that can be adopted in their existing form or adapted to the needs of the CAF<sup>35</sup>. Further elaboration

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32 Due to its location (Gospić) and equipment (MRAP / M-ATVs) currently in use, the motorized battalion "Vukovi" seems to be the optimal choice.

33 Regarding duration of training and some possible solutions to the issues already mentioned, see more in Šubat, R., Semren, S., (2020.) *Planinsko ratovanje: Pojam, povijesni pregled, definicija i terminologija*, Strategos, Vol 4., No. 2.

34 While conducting mountain area operations, specialized artillery is used, and pack animals may be used for logistics support. These are only some of the specific issues which dictate the structure and organization level of a mountain unit.

35 Through mobile training teams, standardization of doctrine, tactics, techniques and procedures, various doctrinal publications, and general implementation of specialist training within the center at minimum training costs.

of the doctrine on tactics and procedures would enable the concrete conduct of operations and from its system of lessons learned, the capability would be constantly updated and upgraded.

The factor that makes any specialized unit specialized is training. In the initial phase of establishment, basic training of members in individual skills in mountain areas can be conducted by ZSS, because even though the conduct of special operations and conventional operations in mountain areas differ in doctrinal terms, there are no major differences in individual skills. Some members should certainly be sent to allied schools of mountain warfare. Instructor training<sup>36</sup> would also be carried out there, so that members of the appointed unit could take over this function. Equally, the training of commanders and first sergeants would be conducted at the NATO Center of Excellence, with the assistance of the unit's training, at least in the early stages until the acquisition of its own capabilities. Training in an international framework and the acquisition of expertise would open up the opportunities for other forms of bilateral cooperation and exchange of experience. Having a larger number of trained personnel and gaining new experience would open the door to expanding CAF engagement within the NATO Center and open up new opportunities for cooperation, training and exchange of experiences. The Marko Babić Leadership Development Center, whose training content coincides well with the training of light infantry, should not be left out. This expertise can be used to create a light infantry battalion, or vice versa, where the mountain infantry battalion would be added the ability to use it as a light infantry. The ZSS could be also employed as a variant of military assistance<sup>37</sup>. Training in mountain areas can also be incorporated into the Leadership Development Center training by adding more mountain content in the current training program and could then serve as a selection to join the unit. Moreover, it could be added as a separate training program. In this way, a triangle of interaction and support between the three mentioned units would be created, while members of the mountain infantry unit would be a pool for both the Marko Babić Leadership Development Center and the ZSS.

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36 Mountain Warfare School in Slovenia or Austria.

37 Military Assistance is one of the three basic missions of the Special Forces, and represents the training and mentoring of an infantry battalion.

Regarding the location of training, the Josip Jović Bararcks in Udbina stands out as suitable. The local geography enables the conduct of operations in mountainous areas, and this possibility is further enhanced by the proximity of the Velebit and other mountains in Lika. Due to its geographical features and proximity to the Dinara, the military range of Crvena Zemlja above Knin stands out as suitable too. The Eugen Kvaternik military range is also usable. At these training grounds, it is possible to conduct both individual training and unit exercises, and to hold international exercises. The same is possible at various training grounds in NATO member states. Certainly, in order for the mentioned unit to conduct operations in defense of the mountainous area of CRO in case of hostilities, it is inexpedient that any mountainous area of Lika, Gorski Kotar and Dalmatia be left out, and it is desirable to conduct training in all parts. Differences and specifics of the conduct of operations in summer and winter periods should also be taken into account, which would effectively mean the division of training into two periods with regard to the time of implementation.

Undoubtedly, as mountain warfare and winter warfare are similar, and as mountain infantry units are trained in movement and survival under snowy conditions, the CAF would realistically create and develop the ability to conduct operations in extremely cold environments. By creation of a mountain infantry unit, new opportunities for international cooperation would be opened up, both bilaterally and within the NATO Center for Excellence in Winter Warfare in Norway. In this sense, a mountain infantry unit, which can be used both as a light infantry unit and as a winter warfare unit, would effectively give the CAF not one but three new capabilities. However, due to the complexity of these capabilities, the conduct of operations in mountainous areas should certainly take precedence, as mountain infantry units can be used under extremely cold conditions, while the opposite is not the case due to geographical specifics.

What is perhaps the most important thing, with this expansion of capabilities, the CAF would open up to a completely new range of people. Such a wider replenishment pool would mean the possibility of accepting younger, more motivated people who want to develop in the field of conducting operations in mountainous areas. This would create a tradition of positive elitism, a



sense of belonging and success, and thus directly and indirectly increase the quality of the CAF.

In accordance with the recent instability in the region, especially in Kosovo, which is a country dominated by mountain geography, the statement which is also true for BiH, CRO would, with creation of a mountain infantry unit, not only increase its own security, but certainly strengthen the position of regional power and increase its peacekeeping capability.

NATO constantly estimates the future combat environments. By utilizing "SFA" and "FFAO"<sup>38</sup>, it is determined that the battles of the future will be fought over water and technologically significant materials, and therefore NATO must achieve and maintain the readiness to conduct operations in specific environments – including mountain areas<sup>39</sup> (Zupančić, 2015). Considering the aforementioned, strengthening the capabilities to conduct operations in mountain areas would also mean the strengthening of CAF role and heightening of its image within NATO.

The benefits of creating such a unit would not be limited to the first and second of the three CAF missions. Furthermore, a specialized unit may provide assistance to civilian institutions in cases of Search and Rescue operations in Croatian mountain areas, as well as border surveillance, considering that a major part of Croatia's borders is in mountainous area. Considering the skills required for Search and Rescue operations as well as mountaineering, a mountain unit would have been extremely useful during the earthquake relief efforts after the disaster in Petrinja. Ultimately, creating a specialized mountain infantry unit would be of a strategic significance to CRO.

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38 Strategic Foresight Analysis and Framework for Future Alliance Operations.

39 Mountainous areas are extremely rich in potable water and minerals.

## Conclusion

To maintain the security of the state, it is crucial to build the capabilities of the CAF that enable the response to current and future threats. However, 21% of the territory of CRO is a mountainous area, where, taking into account the equipment and training that the Croatian Army has, the implementation of operations would be extremely limited, if not impossible. Although CRO, with its geography, is not a predominantly mountainous state like the states from the surrounding area and beyond previously mentioned that have mountain infantry units, the ability to conduct operations in mountainous areas is very much needed. This is supported by the strategic features of the territory of CRO conditioned by the interdependence of CRO and BiH, current events in the regional environment, and historical events, especially the experience of the Croatian Homeland War.

There are numerous opportunities to build the capability to conduct operations in mountainous areas, and certainly the first step should be to update and maintain current strategic documents that should guide the further development of the CAF. Possible choices include the establishment of a school for conducting operations in mountainous areas as a likely “cheapest” solution, the organization or reorganization of an existing battalion into a light infantry battalion that would further specialize in conducting operations in mountainous areas, and the organization or reorganization of an existing battalion into a battalion of mountain infantry. The latter certainly represents the choice that the CAF, as a serious system, should strive for. In this way, the CAF, through time and constant investment, which would not be small, would get a unit that maintains and develops the necessary capability to conduct operations in mountainous areas, and initiates and maintains the tradition of elite mountain infantry troops, thus achieving all possible positive effects. In addition, with such a unit, the CAF could develop as many as three capabilities: the capability to conduct operations in mountainous areas, extremely cold areas, and the capability to conduct light infantry operations<sup>40</sup>. Of course, there are more solutions, and a detailed and quality study is needed to choose the optimal one.

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40 This includes operations in hilly areas.

The Mountain Infantry Unit, as the bearer of the ability to conduct operations in mountainous areas, would have a far broader impact than just raising security by fulfilling the first of the three CAF missions. The growth of capabilities through cooperation with international mountain schools and the mentioned NATO center would open up many new opportunities for cooperation and the reputation of the CAF would grow. Also, in the context of recent events in Kosovo and BiH, CRO would make an even greater contribution to international and regional security by having such a unit. In addition, the unit could provide support to civilian institutions through, for example, search and rescue in the mountainous area. Taking into account all the above, such a unit would be of strategic importance to the Republic of Croatia.

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