

Features of the Ski Area from the Romanian Banat

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Abstract

The Romanian Banat is endowed with an important mountain area composed of the Banatului Mountains and the north-western part of the Retezat-Godeanu Range, i.e. Țarcu – Muntele Mic. The purpose of our paper is to make an account of the features of the two important ski areas within this mountain area: Țarcu - Muntele Mic and Semenic. Their structure evolved over time according to the local and regional interest, but also due to more recent activities of the Romanian investors. Our research concluded that both ski domains have a great natural potential to sustain winter-sports and to further develop what today are two very small resorts. They have a low capability of attraction due to the small capacity of the pistes and to the fact that each resort has only two ski-lifts. In both cases the access is rather limited and as far as accommodation is concerned in both cases it is disproportional in relation with the provisioned capacity of the ski pistes. Having these aspects in view, we conclude that these resorts do not represent as yet a major attraction, especially due to the fact that there are undercapitalized and underdeveloped for the raising demand of the regional market for winter-sports. On the other hand in both cases projects have already been blue-printed by the aforementioned investors which are waiting to be undertaken for development.

Keywords: ski domain, infrastructure, Romanian Banat, Semenic ski area, Țarcu - Muntele Mic ski area

Rezumat. Trăsături ale domeniilor schiabile din Banatul Românesc

Banatul românesc dispune de o importantă zonă montană, compusă din Munții Banatului și partea de nord-vest a Grupei Retezat-Godeanu, respectiv Munții Țarcu - Muntele Mic. În lucrarea de față ne-am propus prezentarea caracteristicilor celor două domenii schiabile din această zonă: Țarcu - Muntele Mic și Semenic. Structura lor a evoluat în timp, în funcție de interesul local și regional, dar și datorită mai multor inițiative, recente ale investitorilor români. Cercetările noastre au ajuns la concluzia că cele două domenii de schi dispun de un important potențial natural pentru a susține activitățile sportive de iarnă, respectiv de ski în cadrul a două mici stațiuni de iarnă. În prezent. Acestea au o capacitate redusă de atracție, datorită existenței unor pârtii mici și a câtorva mijloace de transport pe cablu. În ambele cazuri, accesul este destul de limitat și datorită capacității de cazare disproporționată în raport cu gradul de încărcare a pârtiilor de ski. Având în vedere aceste aspecte, putem concluziona că aceste stațiuni nu reprezintă încă o atracție majoră, datorită faptului că sunt insuficient utilizate și subdezvoltate în raport cu creșterea cererii pieței regionale de sporturi de iarnă. Pe de altă parte, în ambele cazuri, au fost inițiate la nivel local, proiecte de extindere spațială a domeniilor schiabile și a capacităților de cazare, proiecte care încă așteaptă să fie puse în aplicare.

Cuvinte-cheie: domeniu schiabil, infrastructură, Banatul Românesc, Țarcu - Muntele Mic, Semenic

INTRODUCTION

The skiing activity represents a very important attribute of winter tourism. At the same time the ski activity is similar to sport activity, generating an entire industry within mountain areas (Agrawala, 2007; Hudson, 2002), being one of the most spectacular forms of tourism (Booth & Cullen 2001; Heberlein et al., 2002; Jeanneret, 2001; Godde et al., 2000; Yang et al., 2009).

The Romanian ski industry is in development (Master Planul pentru Dezvoltarea Turismului Național 2007-2026, 2010) and is polarized by the well-known Prahova Valley ski area, which has

indeed the highest density of resorts and corresponding amenities. From the total carrying capacity of the Romanian ski domains: 35,000 persons (Master Planul pentru Dezvoltarea Turismului Național 2007-2026, 2010), up to 20,000 can be sustained by the resorts of the Prahova Valley (Master plan în turism pe Valea Prahovei și Zona Brașov-Râșnov, Faza I - Analiza zonei Valea Prahovei și Brașov - Râșnov, 2009). On the other hand, we need to consider that Romania is a country covered up to a third of its surface by the Carpathians. Therefore winter sports have developed in other regions as well, but as a consequence of the distant major demand pool, the

capital city of Bucharest, these ski domains have not always evolved into proper resorts and as a general characteristic they are undercapitalized when compared to their true potential. More important than the amenities the resorts are endowed with, are the natural factors and conditions, of which the major role is played by the characteristics of snow. So that the largest quantities of snow are registered towards the western part of the country rather than the central part where the area aforementioned is located and where the continental influences play an important role. In the south - western part of Romania, in the Banat Region, there are two resorts of regional importance, which even though they pertain to two

different mountain-ranges they bare, more or less the same features.

Study area

This study is focusing on two ski resorts in western of Southern Carpathians, Țarcu - Muntele Mic and Semenic. The Țarcu - Muntele Mic ski area is located in the Țarcu Mountains within the western-most range of the Southern Carpathians called the Retezat - Godeanu Range. And the other ski area, Semenic, is located in the massif bearing the same name within the Banat Mountains, the southern-most range of the Western Carpathians (fig. 1).

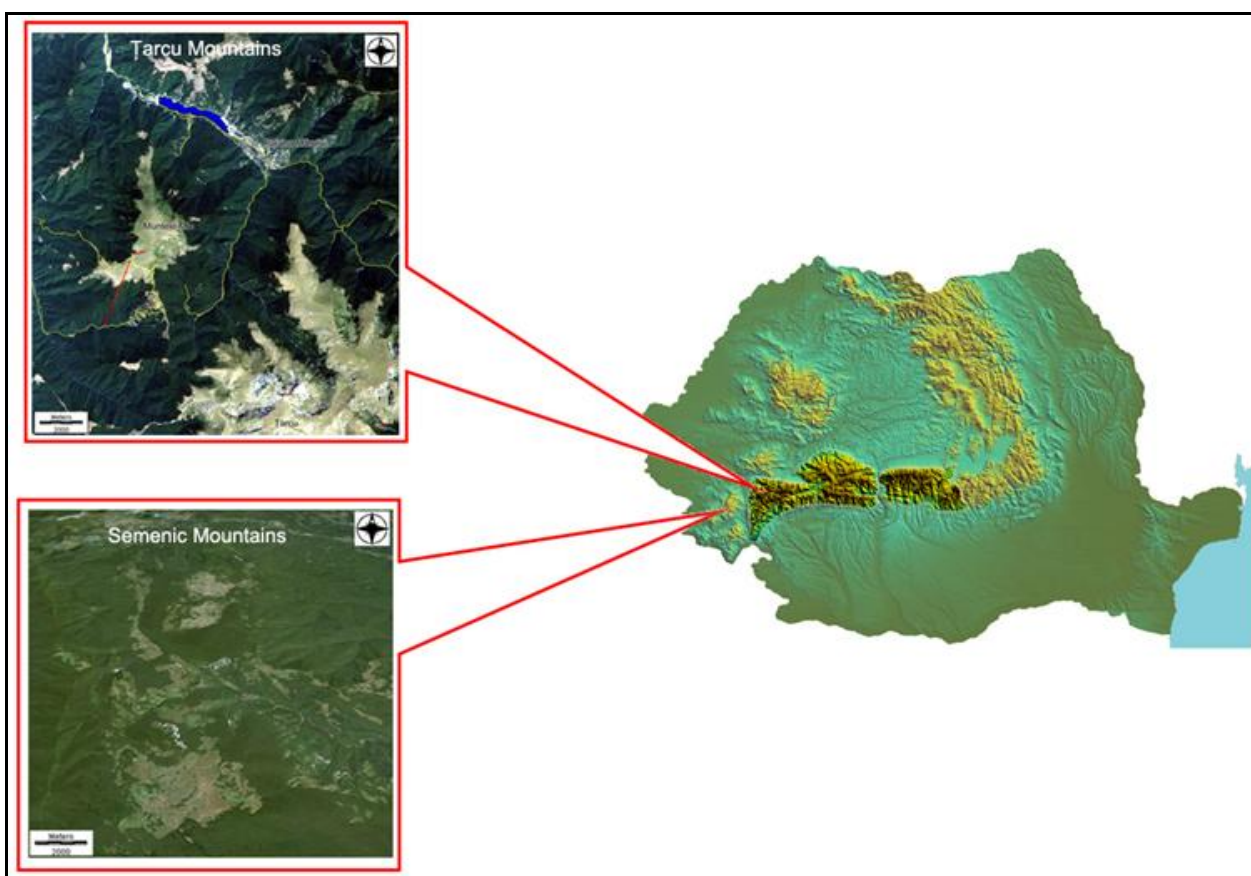


Fig. 1 Location of the Țarcu and Semenic Mountains
(source: Aster 30m resolution DEM and 30m resolution spot images - Google Earth)

Țarcu - Muntele Mic ski area is in the north-eastern part of the Țarcu Mountains. It is characterized by the lowest altitudes within the massif, with a large planation surface located at 1800 m (reaching the highest altitude in the Muntele Mic Peak, 1802 m). This characteristic denotes lean to moderate slopes, adequate for the average Romania skier. On the other hand, towards the south - east, in the Țarcu-Căleanu division, the slopes are steeper, and there are no resorts or

marked ski - pistes, only freeride skiing, snowboarding, skiboarding, skitouring and back-country skiing being practiced like in other mountain areas of the world (Hudson, 2004; Pickering et al., 2003). On the other hand, the Semenic Mountains, located just across the Caransebeș basin to the west, are characterized as having the highest altitudes of the Banat Mountains reaching the top altitude in Gozna Peak - 1447 m, but with the same plantation surface as in the Țarcu

- Muntele Mic Mountains, present at lower altitudes, between 1250 - 1400 m (Geografia României, vol. III, Carpații Românești și Depresiunea Transilvaniei, 1987).

MATERIALS AND METHODS

The main features of mountain resorts to be analyzed and compared are the natural factors, especially the ones related to terrain and to the climatic factors, having the major concern directed onto snow – duration of the snow layer, depth and the economic conditions related to infrastructure and capitalization of winter-sport produce. Therefore, we have used a 30 meter resolution Aster DEM to depict the thematic maps concerning the terrain analysis important for ski resorts: altitude, slope and aspect (Török-Oance, 2001-2002). As for the analysis of the climatic factors we have used the data provided by the Țarcu and the Semenic weather stations. We have also used a Lansat image to extract the forested/ non forested areas in order to use it together with the slope, aspect, and altitude maps and with the average snow-depth map to estimate the avalanche risk in the Țarcu - Muntele Mic ski area (for the Semenic Mountains, due to their physical characteristics such a map was not reclaimed). On the other hand we have used terrain gathered data for the ski domain metrics: length, width of ski pistes and type and condition of the cable transportation devices. And for the correlation of the ski domains caring capacity and the resorts carrying capacity we have used data regarding the accommodation found in the Zonal Urbanism Plans of the two ski area.

RESULTS

Terrain features

The terrain factor is an essential element serving the principle of providing high quality natural background for the winter - sport tourism (Jamieson and Johnson 1998; McClung and Schweizer 1999; Schweizer and Jamieson 2001; Țigu, 2001).

The most important factors that need to be studied within the terrain analysis are: altitude, slope, and aspect, to which we can add plane and profile curvature as well. Altitude bares two connotations: absolute attitude (of the domain) and vertical drop. High altitude resorts are not characteristic for the Romanian ski area landscape, but with a few exceptions (Sinaia being one of

them, the ski area here rises up to 2000 m). In terms of vertical drop, to be able to consider a ski area for a future or existing resort the vertical drop has to integrate within these values: 400 - 1600 m (Peterson, 2005). The importance of the slopes' aspect rises with the drop in altitude. The most favorable slope aspect is the northern one. It becomes almost imperative at altitudes below 1800 m (for moderate latitudes) and is usually chosen to insure the maxim persistence possible of the snow layer.

There are of course degrees of favorable to unfavorable slopes, with northern orientation considered to be most favorable and the southern-east favorable. Slope is a defining parameter for ski domains for it separates the type of ski pistes for different category skiers. Penniman (1999, pp. 36) separates the skiers into two large categories: skiers who are users of skies or snowboards or other gravity propelled recreational devices whose design and function allow users a significant degree of control over speed and direction on snow and beginners, whom he categorizes as: those individuals whom use one or another of these devices for the first time or who possess marginal abilities to turn or stop on slopes with an incline greater than 20%. It is fair to say that these are quite different one from the other and also use different reporting units (% and °), therefore, today, there are accepted different classifications. There are numerous classifications of ski pistes and of skiers alike. Therefore, some researchers (Borgersen, 1977, quoted by Penniman, 1999; Gaylor and Rombold, 1964; Tremper, 2001) separated the skiers into 3 large categories and allocated very tight classes of declivity for them: beginners or novice, intermediates, advanced or expert (table 1) or according to Blanchère scale (Tremper, 2001), moderate skiers, good skiers and very good skiers (table 2). Directing our attention towards our areas of interest we can realize that from the altitudes' point of view, the Țarcu - Muntele Mic ski area is located within the range of 1800 m and 800 m, measuring a vertical drop higher than 1000 m (fig. 2), being very well integrated into Petterson's principle (2005).

In terms of aspect, the slopes used for skiing are northern (fig. 2), almost exclusively, and the newly designed ski pistes, which are following the chair-lift line are mostly southern and south-western, likely to denote a short season for these ones.

Table 1. Slope gradient criteria

Erickson, 1992 (quoted by Penniman, 1999)			Borgersen, 1977 (quoted by Penniman, 1999)			Gaylor and Rombold, 1964		
Trail Code	Skier Ability	Grade Max	Trail Code	Skier Ability	Grade Max	Trail Code	Skier Ability	Grade Max
Easier	Basic beginner	15% (8.5°)	(No code)	Beginner	20% (11.5°)	(No code)	Novice	20% (11.5°)
More Difficult	Basic intermediate	24% (13.5°)	(No code)	Intermediate	35% (19°)	(No code)	Intermediate	34% (18°)
Most Difficult	(No description)	50% (26.5°)	(No code)	Advanced	55% (29°)	(No code)	Expert	35% (8.5°)
Extreme	(No description)	(no value)	(No code)	Expert	80% (39°)			>35% (>19°)

Table 2. Blanchère scale (Tremper, 2001)

Skier Ability	Characteristics
Moderate skier	A skier of moderate ability capable of secure stem turns, off-piste, in all condition, on slope of 25°-30°
Good skier	Able to make controlled turns of snow on slopes of 30°-35°. Able to descend short steeper pitches and handle difficult snow
Very good skier	Able to ascend and descend on skis sustained and exposed slopes that most people can only climb up with axe and crampons. These are slopes in excess of 45° requiring a high level of skill and experience, to say nothing of courage.

These is why the future project of development for the Muntele - Mic ski area (Bocicai, 2006) is actually aiming for the northern slopes, towards the resort of Poiana Mărului. As a result the two resorts will become connected and will exchange tourists, making Poiana Mărului an auxiliary pillar on terms of accommodation for the Țarcu - Muntele Mic ski

area. In terms of declivity (see fig. 2) we notice the prevalence of light to medium-steep slopes, particularly favorable to winter-sport activities (skiing, snowboarding, backcountry skiing), and which can be associated with the average Romanian skier whose expertise ranges from beginner to advanced.

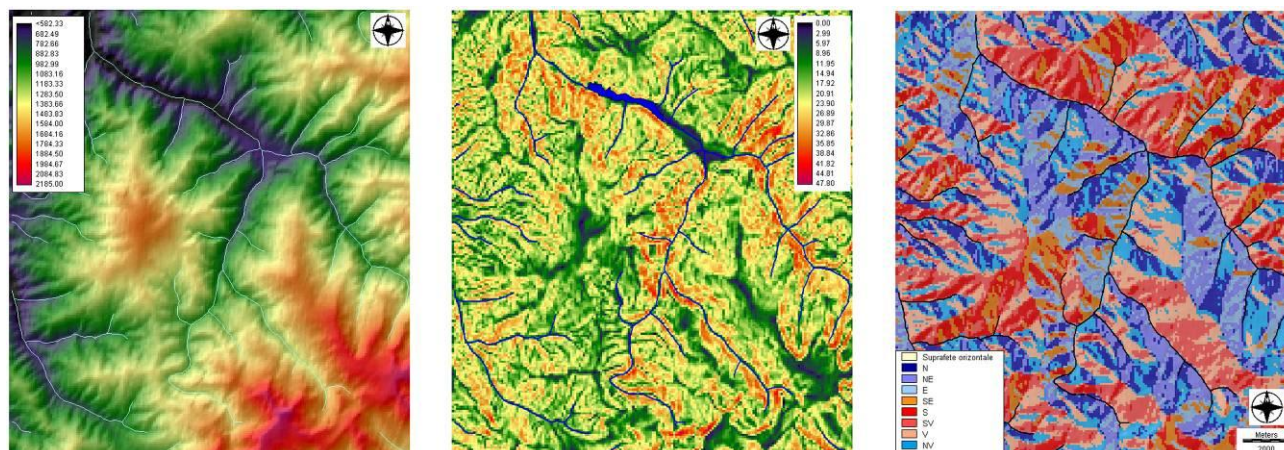


Fig. 2 Thematic maps of the Muntele Mic - Țarcu area (with the location of the cable transportation): altitude (in the left side), aspect (in the centre) and declivity (in the right side) (Török-Oance et al., 2010)

Only the slopes of Țarcu ski area are steeper where there are no ski pistes, where is the realm of more advanced to expert skiers practicing free-riding and backcountry skiing.

Turning our attention to the Semenic ski area, from altitude point of view, the existing ski pistes are located at the top of the massif, stating at 1440 m, and descending not lower than 1250 m (fig. 3). If we are to consider the vertical drop it cannot even be included in the proper resorts which need to have a vertical drop of at least 400 m (Petterson, 2005). There is however a plan to develop this resort in three stages and the lowest point of the projected resort would be located at 600 m in altitude by

Văliug Lake, reaching an 800 m vertical drop, which is almost 4 times bigger than the present one. We need also to consider that these plans were blue - printed in 2007 and to this day (November, 2010) no action was undertaken in fulfilling the project. From the aspect point of view, both existing ski pistes have northern, north-eastern and north-western orientation (fig. 3). Having in view also the future development, those ski pistes as well are of the majority provisioned to have the same aspect as the already existing two, except a couple of the ski pistes designed to appear in the third phase of construction, which have a western orientation and do not cover more that 20% of the future ski area.

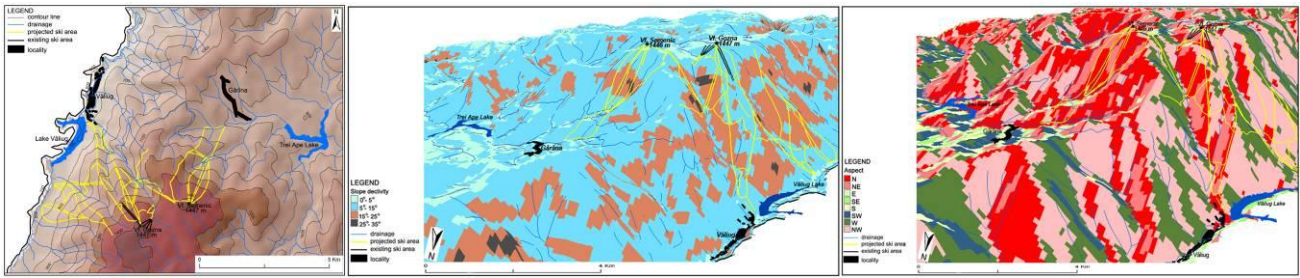


Fig. 3 Thematic maps of the Semenic ski area (with the location of existing and projected cable transportation): altitude (in the left side), declivity (in the centre) and aspect (in the right side) (source: Aster 30m resolution DEM)

In terms of slope (fig. 3), the two existing ski pistes are designed for medium skiers, having their average slope within the 5°-15°. The projected ski domain will build a ski area that is comprised of 70% ski pistes for advanced skiers (with average slopes within 15°-25°), 18% for medium skiers and around 12% to the very good skiers. We need therefore to notice the disproportion between the projected resort and the average Romanian skier whom is either beginner or a medium skier.

Climatic analysis

The other fundamental natural factors are the climatic ones with a major focus on snow (Jamieson and Johnson 1998; McClung and Schweizer 1999; Schweizer and Jamieson 2001; Țigu, 2001), where literature states that in order to have an economic efficient resort, it is necessary to have 120 days of snow - covered ski area (Țigu, 2001), or other researchers have the opinion that if in seven out of ten winters there is snow covering of at least 30 cm

on at least 100 days between 1 December and 15 April (Becken, Hay, 2007, pp. 38; Besancenot 1990; Freitas 2005; Hall and Higham, 2005) it is the place of a safe investment.

Temperature plays an essential role because it denotes the type of precipitations. Analyzing the temperature graph for the Țarcu weather station (2180 m), we can conclude that temperature, on average favors the solid precipitation from the month of December until April when these are negative (fig. 4). Literature and common practice suggest that in order to undergo an exploitation process of the ski domain a 30 cm layer needs to be present. Therefore, when comparing snow cover and snow depth (fig. 4) we can make a note of the fact that in the area of the Țarcu area weather station (close to the Țarcu - Muntele Mic ski area) there are around 135 days that meet this requirement. Consequently, there is no need for artificial snow production.

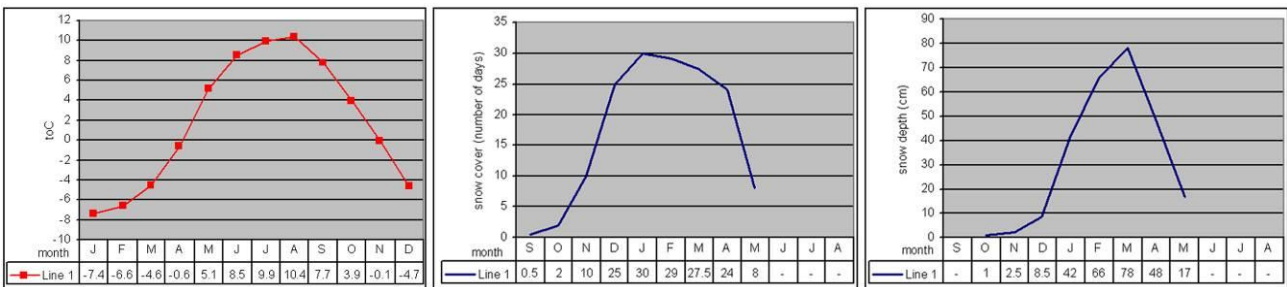


Fig. 4 Temperature (°C) on the left, snow cover (days) in the centre and snow depth (cm) variation on the right, at the Țarcu weather station (average monthly values)

Analyzing the data from the Semenic weather station, which is located at a considerably lower altitude (at 1440 m), we can notice that the average temperatures are characteristically negative until March (fig. 5), approximately a month less than in the previous case. But, when turning our attention to the number of days with snowfall (fig. 5), we notice that, even for April there are characteristic more than 6 days with snowfall, which could guarantee

prolonging the season, should those days be closely distributed. Looking closer to the distribution of the snow depth on the decades of the winter months we came to realize that on average, the necessary conditions for winter-sports are met from mid – December, when there are more than 30 cm of snow available, until the second decade of April, when there still are a few centimeters over 30 that insure the good conditions for skiing (fig. 5). To support

the climatic data, we mention the Snow Celebrations of the Semenic resort which are

usually held the week-end that proceeds the 1st of May.

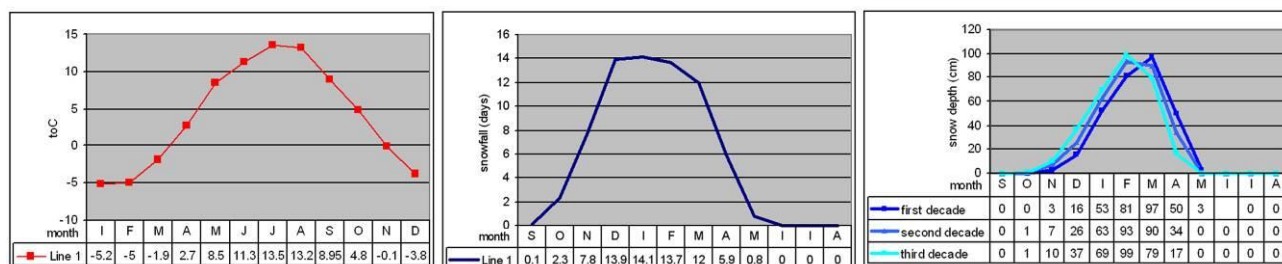


Fig. 5 Temperature (°C), snow fall (days) and snow depth (cm) variation at the Semenic weather station (average monthly values)

Therefore we can estimate that for the Semenic ski area, at the same altitude as the weather station, there are around 130 days with snow cover, but from terrain observations, we could realize that towards the end of the season, under the limit of 1300 m, the snow was present only as patches and there was no management as to insure the proper distribution of snow onto the patches of grass. Furthermore, if we consider that the lowest point of the provisioned ski resort will be 600 m, than snow data should be gathered at lower altitudes as well to determine the running time of each ski pistes, each type of cable transportation as to realize if the provisioned extension of the resort is feasible. To conclude our terrain and climatic analysis we have developed an avalanche risk map (fig. 6) for the Țarcu - Muntele Mic ski area, with the help of the ArcGis Raster Calculator, where we have overlapped the following maps: slope, aspect, snow depth and a Boolean map with forest - nonforest

areas depicted from the Lansat satellite image. The study of snow avalanches is necessary and very important because many snow avalanches are triggered by skiers (Grímsdóttir and McClung, 2006; Pfeifer, 2009; Tremper, 2001; Schweizer and Camponovo 2001; Schweizer and Lütsch, 2001). In this context we should mention that snow avalanche accidents were defined as incidents where skiers were totally or partially buried by snow avalanches. Also, snow avalanches related deaths occurring directly as a result of burial or crushing (Burtscher, Nachbauer, 1999, pp. 46). Snow avalanches have a particularly high incidence in the higher part of the Țarcu - Muntele Mic ski area where the slopes are steeper. There have been recorded some tragic events, when freestyle and freeride skiers triggered snow avalanches. Between steepness and avalanche danger there is a very good relationship. In table 3 (Tremper, 2001) we can find some typical situations for our study area.

Table 3. Relationship between steepness and avalanche danger (Tremper, 2001)

Steepness	Slope Rating at a Ski Area	Avalanche Activity
10°-25°	Beginner to intermediate slopes	Slush flows in arctic climatic. Infrequent wet avalanche runouts. Dry slabs in extremely unusual situations.
25°-30°	Intermediate slope	Infrequent slabs in unstable conditions. Those that do occur tend to be large.
30°-35°	Advanced slope	Slabs increasing rapidly in frequency as you approach 35 degrees. Usually requires fairly unstable conditions.
35°-45°	Expert slope	This is prime avalanche terrain with the bulls-eye around 38 degrees. Frequent slab avalanches, some large.
45°-55°	Extreme terrain (couloirs in cliffs-usually roped off)	Frequent smaller slabs and sluffs reduce the number of larger slabs.
55°-90°	Alpine climbing terrain (cliffs and very steep couloirs)	Frequent sluffs and small slabs dramatically reduce the number of larger slabs.

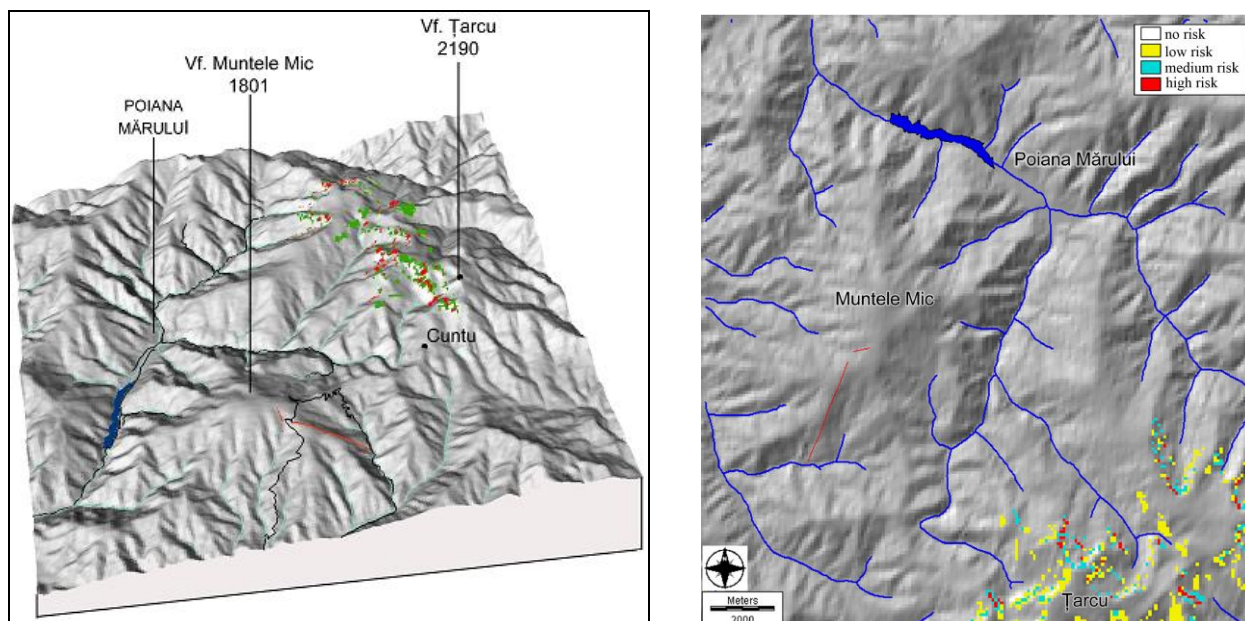


Fig. 6 Avalanche risk map of the Țarcu - Muntele Mic ski area

The results were as expected, with no risks for the Muntele Mic area, but with different degrees of risk for the Țarcu area, where the fragmentation of the landscape is higher due to their geomorphologic past regarding the Quaternary Ice Age. The areas of high and moderate risk are consistent with the high slopes and lack of forested vegetation depicted from the thematic maps (fig. 2).

Infrastructure and ski pistes

For the ski area of Muntele Mic, there are two ski lifts and only one chair lift that are taking skiers up the slope. There are in fact six pistes (table 4, fig. 7):

Table 4. The features of infrastructure ski pistes of skis area Muntele Mic

Name	Difficulty level	Length (m)	Departure elevation (m)	Arrival elevation (m)	Vertical drop (m)	Type of cable-way	Facility
Valea Soarelui	beginner skiers	1500	1700	1520	180	ski-lift	-
Sub teleschi	for medium skiers	800	1700	1520	180	ski-lift	-
Măloasa	beginner skiers	16000	1780	800	980	chairlift	-
Valea Craiului	for medium skiers	4500	1780	1150	630	chairlift	-
Raindor	for medium skiers	2500	1620	1150	470	chairlift	-
Pârția Nordică	for medium skiers	1200	1780	1520	260	ski-lift	night skiing

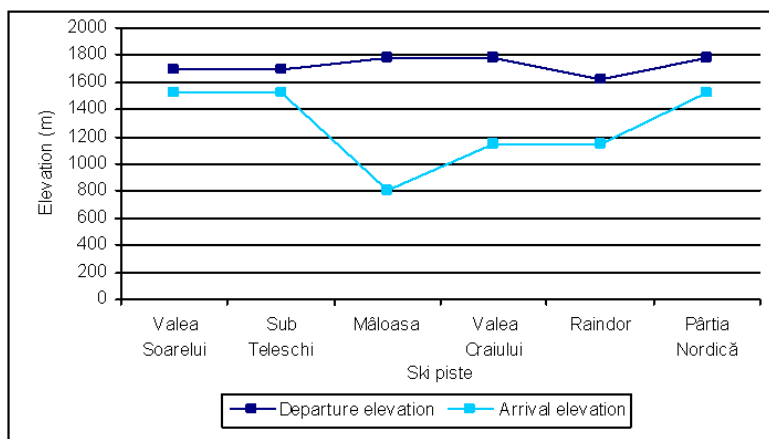


Fig. 7 The departure and arrival elevation of Muntele Mic ski area

Valea Soarelui and Măloasa pistes are for beginner skiers, Valea Craiului, Raindor and Pârția

Nordică (fig. 8) are for medium skiers, which offer the possibility of night skiing as well.

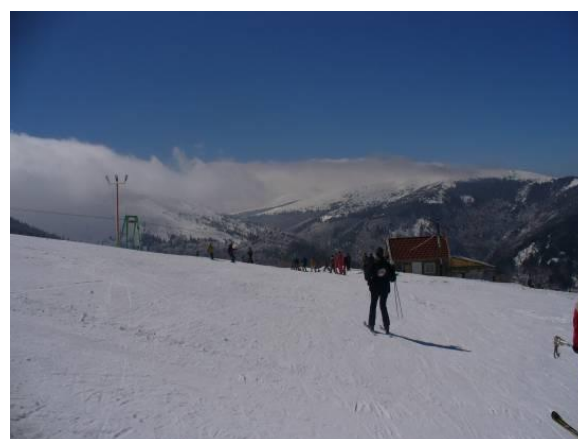
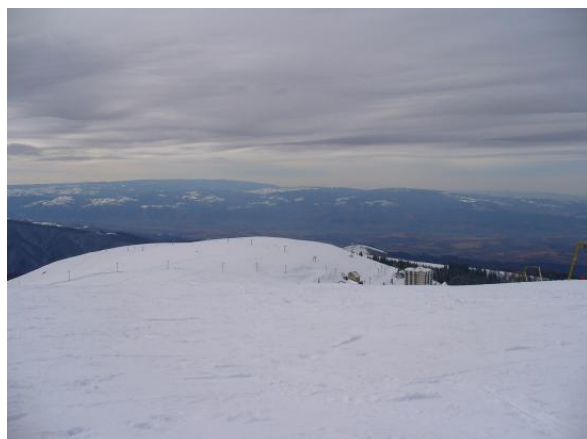


Fig. 8 Ski pistes on the Muntele Mic ski area (photos by Török - Oance, 2008)

In between the two ski lifts there is one piste called Sub Teleschi, which is not groomed at all and where off-piste skiing and snowboarding is practiced. This is the proper ski area, to which there are added other three pistes, which can be accessed by means of the chair-lift (the same that insures access to the resort); but these are seldom used due to the fact that they are not groomed or managed in any manner, for that matter. They can be used by very good skiers, who know the area quite well because there are large rocks, fallen trees and other obstacles on these so-called ski pistes. Still, we are considering them in the following index calculation because in time, with proper management they could sustain the number of skiers resulted in the following calculus.

Any resort can be as big as the carrying capacity of its ski domain; therefore we have calculated the optimum capacity for these ski pistes from the Muntele Mic ski area, following the formula (according to Țigu, 2001):

$Q = D \times L / Z / H$, where

Q - optimum capacity

D - average flow calculated in accordance with the skier's speed and distance in between the skiers on the ski piste in accordance with the difficulty of the ski piste

L - width coefficient

Z - average length that a skier of that particular category descends within a day

H - vertical drop

1. $Q_{\text{Valea Soarelui}} = D \times L / Z / H = (D \times L \times H) / Z = 850 \times 1,67 \times 180 / 1400 = 180$ skiers

2. $Q_{\text{Nordica}} = 1750 \times 2,5 \times 260 / 2700 = 420$ skiers

3. $Q_{\text{Sub teleschi}} = 1000 \times 1,67 \times 180 / 2700 = 111$ skiers

4. $Q_{\text{Raindor}} = 1750 \times 1,67 \times 470 / 2700 = 508$ skiers

5. $Q_{\text{Măloasa}} = 1750 \times 1,67 \times 980 / 2700 = 1,060$ skiers

6. $Q_{\text{Valea Craiului}} = 1750 \times 1,67 \times 630 / 2700 = 682$ skiers

$Q_{\text{actuel total}} = 2,961$ skiers

The actual carrying capacity is of 711 skiers, but if we were to add the rest of the three trails supposedly served by the chairlift, then the total number of skiers that could be present at one time on the Muntele Mic would be 2,962. The total number of accommodation places within the Muntele Mic resort is around 600 (Bocicai, 2006). Having in view that the accommodation capacity needs to be 20% larger than the carrying capacity of the ski domain, there would be a shortage of about 180 places, which in the last 4 years it is highly likely it has already been covered. Considering the last three trails, we mention that there is no real infrastructure support for their economic efficiency, and therefore this is one of the reasons why they are not managed in any way. On the other hand, the ski pistes provisioned by the mentioned Bocicai (2006), which would connect the Muntele Mic Resort with the Poiana Mărului Resort, would allow 2,260 skiers on the slopes connecting the two resorts (fig. 9).

Then the need of accommodation places would go up to 2,860, which the planners suggest to divide between the two corresponding resorts, in order not to overcrowd the mountain area and to over urbanize it, but rather to offer the chance of development for the Poiana Mărului as well; so that within the mountain area, there will not be more than 1,400 accommodation places, the others being located at Poiana Mărului. Like the Țarcu - Muntele Mic ski area, the Semenic ski area has only two ski lifts as well, but in this particular case there are no other alternatives at the present moment. The existing ski pistes are Gozna, which offers actually two versions of descend - on the left and on the right side of the ski lift, and the Slalom ski piste (table 5, fig. 10). Calculating the same index for the two ski pistes of the Semenic ski area, we have reached the following results:

$$1. Q_{Gozna} = D \times L / Z / H = (D \times L \times H) / Z = 1000 \times 3.53 \times 103 / 1400 = 260 \text{ skiers}$$

$$2. Q_{Slalom} = D * L / Z / H = (D \times L \times H) / Z = 1750 \times 1.67 \times 252 / 2700 = 273 \text{ skiers}$$

$$Q_{actual \text{ total}} = 533 \text{ skiers}$$

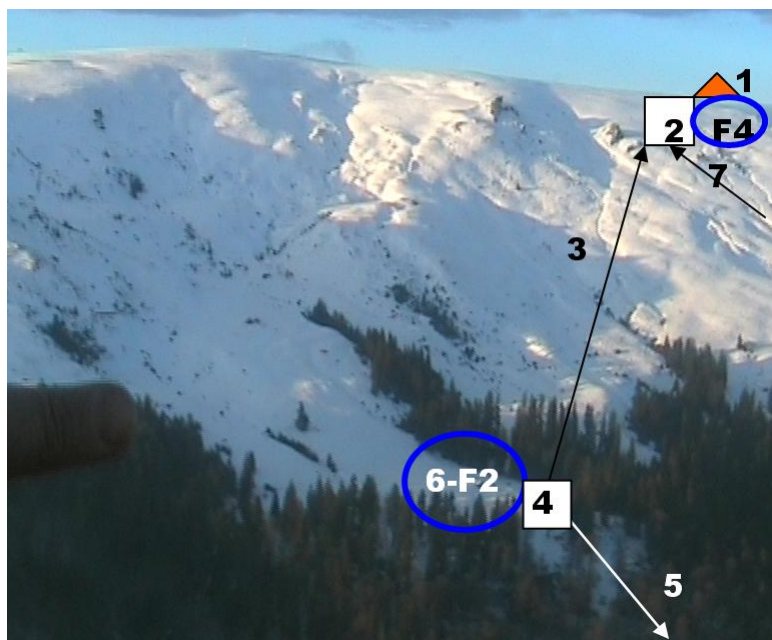


Fig. 9 Expansion plan of the ski area Muntele Mic - Poiana Mărului resort (Bocicai, 2006)

Table 5. The features of infrastructure ski pistes of Semenic ski area

Name	Difficulty level	Length (m)	Departure elevation (m)	Arrival elevation (m)	Vertical drop (m)	Type of cable-way	Capacity (pers/h)
Gozna	for medium skiers	400	1421	1318	103	ski-lift	500
Slalom uriaș	for medium skiers	1200	1432	1252	180	ski-lift	1000
Idioții	beginner skiers	225	-	-	-	babyschi	-

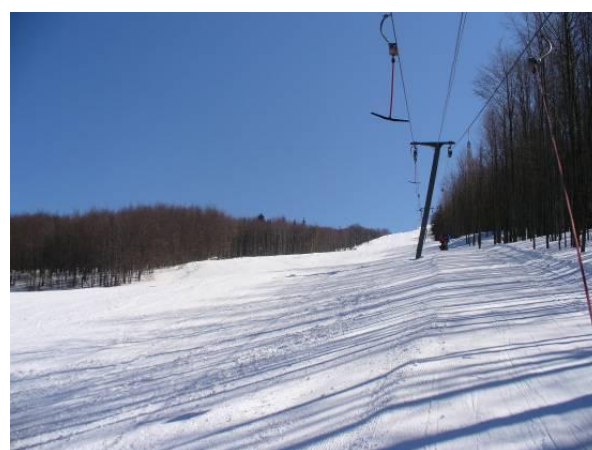


Fig. 10 Gozna ski piste (on the left) and Slalom Uriaș ski piste (on the right) (photo by Popescu, 2009)

The total number of the accommodation places on the Semenic plateau is very small, around 200, but if we consider all the small resorts around it (Văliug - Crivaia, Gârâna, Trei Ape) the number goes up to 820. This is the only way we could reach a reasonable correlation index. The whole area is actually providing a little over 100 accommodation places for the existing ski domain. If we are to consider the project of development for this area,

the provisioned optimum capacity, when all the three phases of construction would be complete would sum up to 4,456 skiers, making the exiting carrying capacity accounting for only 12% of the provisioned one, consequently this would mean, enhancing the accommodation capacity with 32,000 accommodation places. This seems rather unrealistic if we consider the existing accommodation capacity and the existing road

network, which would not be able to support the traffic generated by this network of resorts. The Semenic ski area is managed by a successful businessman, which today represents only a fraction of the plan which he has commissioned. According to Caraş County Council, the development plan (fig. 11) is built on the basis of a feasibility study

underwent by an Austrian contractor. The future resort will be endowed with up-to-date cable transportation, snow-making facilities and proper maintenance equipment. Upon completion it will become an important ski destination for much of the western part of Romania and furthermore a proper ski area for regional scale competitions.

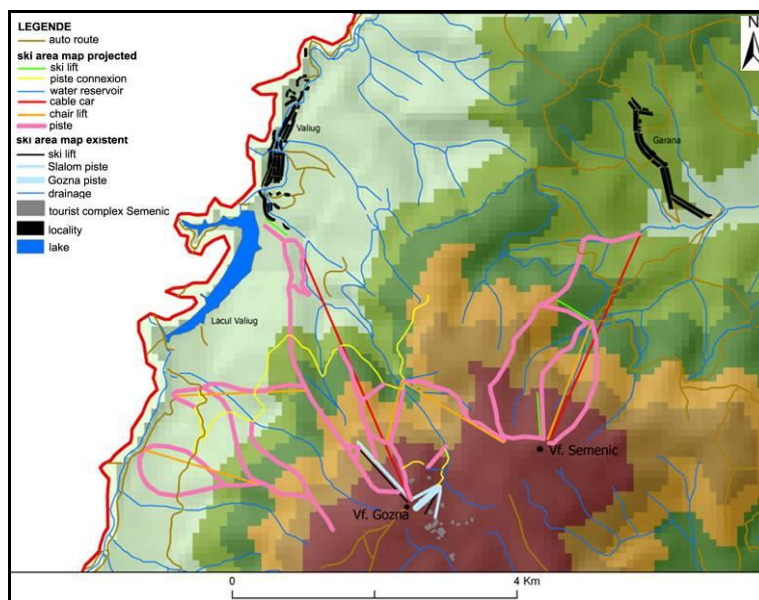


Fig. 11 The development plan of ski area Semenic (according to Caraş County Council)

DISCUSSIONS

Both ski areas as mentioned have provisioned bold plans of development, but apart from the already analyzed terrain parameters, it is recommended that plane and profile curvature analyses are performed in order to have ski pistes with smooth surfaces and with correct orientation down the slope. More importantly, it is advisable to make an account of the number of vehicles, which can drive to the destination in order to see if the dimensions of the resorts are in accordance with the access index; otherwise alternative means of access need to be delineated in order to have an acceptable traffic charge. Furthermore, market research needs to be undertaken with regard to the closest market pools, which do not need to be confined within the borders. The major advantage in this case it is given by the location of the two resorts close to the border with Serbia (120 km from Semenic to Vršac). The study needs to focus on the size of the winter-sports tourism market and on the right marketing strategies to make these resorts appealing to the target market. These studies and strategies could be joint ones for both resorts due to the fact that they are both within the limits of Caraş - Severin County and could make use of regional development structural funds.

CONCLUSION

The two resorts have an enormous advantage with regard to their location. Just within the country, close to these resorts there is a market larger than these two resorts could polarize (mentioning just the larger towns: Timișoara, Lugoj, Caransebeș, Reșița), and also being close to the Serbian border, the target market could enlarge tremendously; yet the resorts fail to attract tourists to their potential. The main reason is the lack of proper infrastructure: the access infrastructure is limited to an access road in both cases, which for the Semenic ski area during winter is more often than not covered with snow in the upper part due to the fact that there is no forest vegetation to shelter the road and therefore the snow is storm-swept onto the road even immediately after the road was ploughed; and in the case of Țarcu - Muntele Mic ski area, a new access road was opened which can take tourists up the mountain to the resort. Unfortunately this road is rarely ploughed and when it is, they just ploughed one lane, creating traffic jams; furthermore at the end of this road there is no proper parking space. There is an alternative means to get up the mountain, on a 50-year-old chairlift, which is also expensive. This implies leaving your

car at the bottom of the chairlift where the parking space cannot accommodate more than 20 vehicles at time.

The skiing infrastructure for both resorts is represented by just two ski-lifts whose ski area cannot receive more than 711 skiers at the Muntele Mic ski area and 533 skiers at Semenic ski area, which make the resorts unattractive considering the long time to queue for the lifts and as a result the little time actually allocated to ski. The accommodation infrastructure for the Muntele Mic ski area can insure the necessary number of places for the existing ski domain; on the other hand, the Semenic ski area has very few accommodation places of its own, having to rely on the close tourist villages to supply the rest of the places, which means additional time to get from this villages to the Semenic ski area.

Concluding the analysis, we mention that both resorts have major access issues that need to be resolved in the beginning of the future development plans; but on the other hand, we need to mention their great potential regarding the number of snow-covered days in the first place, than the terrain parameters that respond to the typology of the Romanian ski practitioners: beginners, medium and advanced; and also their relative short distance to potential markets which they can attract through proper marketing strategies.

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