TOURISTIC POTENTIAL, MANAGEMENT AND DEVELOPMENT IN THE RARĂU MASSIF

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Abstract

As a socio-economic activity, tourism is strongly influenced by numerous factors that determine the size and direction of tourist flows. Mountain tourism is no exception; the mountainous land relief, which generates this type of tourism, possesses a large array of factors which, by definition, represent true attractions for tourists (morphometric elements, types and landforms, oxygen-rich air, specific flora and fauna), but also several factors that may inhibit tourist activity proper (development capacity, climate, natural phenomena hazards).

In particular, with reference to the Rarău Massif, we shall emphasize its tourist potential, especially the geomorphologic one, but we shall also highlight the evolution and the present state of infrastructure (accommodation facilities, tourist paths). The cartographic analysis and representation were obtained using dedicated software, generically called Geographic Informatics Systems (GIS), and a social research method as well – the questionnaire. As such, our research features several maps that highlight the differentiated land relief potential as well as the potential resulted from the application of questionnaires, thus bringing into the foreground the areas with maximal morphologic attractiveness and implicitly potential for tourist activity. In order to make the most of the entire massif and to diversify tourist routes we propose new itineraries with a view to covering the entire area more effectively and offering new exploration variants for the massif. The applied questionnaire proves the connection between the tourist potential of land relief and tourists' perceptions of the tourist sights in the Rarău Massif.

Key-words: *The Rarău Massif, Tourist potential, Tourist infrastructure, Attractiveness.*

JEL Classification: *L83*

1. INTRODUCTION

The mountains have always been a source of attraction for human society ranging from casual admirers to temerarious pioneers who have endeavoured to conquer the highest summits and solve the numerous riddles that gravitated around them. Due to its varied and impressive morphology, to its ecologic character (fresh, oxygen-rich air), to different specific activities (winter sports, camping trips, mountain climbing) and to its spiritual symbolism (especially in past ages), mountain tourism ranges at the top of the tourist trade and is one of the most enjoyed pastimes (Iațu, 2003).

To analyze and assess the potential attractiveness of a mountain area, one has to take into account the physical-geographic characteristics of the environment (geologic features, land relief, hydrography, climate, vegetation, fauna, and nature reserves) and also the tourist infrastructure extant in the mountain area (ways of communication, accommodation facilities, tourist tracks, tourist sights and sites). These intrinsic aspects offer classification and characterization information for the mountain area which results into a direct influence upon potential tourist flows. In this respect the cartographic support is all the more suggestive; this is why in the present paper we primarily highlight the tourist infrastructure (as the physical-geographic aspects are generally dealt with in technical literature).

The objectives of our research are:

a. To determine and map the morphologic tourist potential;
b. To analyze the evolution and distribution of accommodation facilities in neighbouring and in-place areas of the massif by using statistical documents and also by direct research on the internet and by telephone confirmation of booking dates;
c. To identify and propose possible routes that improve and diversify the tourist track infrastructure with a view to enhancing tourist attractiveness, which eventually leads to an increase in the number of nights spent by tourists in accommodation facilities from the Rarău Massif and its neighbourhood;
d. To determine tourist attractiveness areas by combining social analysis – the questionnaire – which aims to establish a hierarchy of tourist sights, and the GIS analytical method which offers cartographic representations of the results.

The assessment of tourist attractiveness for natural environment was carried out using various methods by Hudman (1979, *quoted* in *The Mountain*, Iațu, 2003), Cazes, Languar and Raynouard (1980, *quoted* by Ciangă, Dezsi, 2010), Cocean P. (1984, *quoted* by Irimuş, 2010), Erdeli, Istrate (1996), Ciangă (1997).

Using GIS representations in various fields of geographic analysis (morphologic, climatic, hydrologic, human, economic – which involves tourist trade) facilitates the identification of practical solutions for enduring territory management and development. In this respect, we mention the application of GIS in:

- Planning durable tourist trade (Bahaire, Eliot-White, 1999);
- Defining recreational space and its spatial representation (Kliskey, 2000);
- Infrastructure and planning of durable tourist trade (Boers, Cottrell, 2007);
- Identifying new skiing slopes in the Muntele Mic – Țarcu area (Török-Oance et al, 2010).

2. LOCATING THE INTEREST AREA

The Rarău Massif, stretching ca. 160 square kilometers, located in the northern corner of the central group of the Oriental Carpathians (Figure 1), with its top height of only 1651m, guards to the north and south two important valleys which are also its physical-geographic limits: the Bistrița Valley and the Moldova Valley, respectively. The massif represents a very important tourist area in the Oriental Carpathians, individualized by the following features: variety of natural landscapes made up by land relief and vegetation and physical accessibility determined by the valley couloirs that border the two mountain massifs. North to the massif lies the newly established resort of national interest – Cîmpulung Moldovenesc, which is the point of departure for the main tourist flows, and the settlements of Sadova, Pojorîta, Gemenea, Slătioara and Chiril.

Figure 1 - Location of the Rarău Massif in the Suceava County

Most studies dealing with the Rarău Massif have been carried out from the perspective of physical geography. Geomorphologic topics were approached in studies by Sîrcu I., Barbu N., Paulencu D. (1971), Popescu-Argeşel I, Iosep I. (1972), Sîrcu I., Barbu N., Paulencu D. (1972), Barbu N., Ionesi L. (1973), Barbu N. (1976). Vegetation-related aspects were researched by Raclaru P. (1967 and 1973), while studies addressing reserve areas were done by Ştefureac T. (1965) and Seghedin T. (1970 and 1983). General studies that contain information about the massif and/or its surroundings were drafted by Barbu N. (1976), Rusu C. (1997), Lesenciuc D. (2006). There are relatively few authors that tackled the tourist trade aspect: Popp N., Iosep I., Paulencu D. (1973), Bojoi I. et al (1979), Oancea C., Swizewscki C. (1983), Barbu N., Ionesi L. (1987), and more recently a vast study of the county's tourist trade - Hapenciuc V. (2003).

3. LAND RELIEF AND TOURIST POTENTIAL

The land relief represents the ensemble of dishevelments in the Earth's crust resulted from the active manifestations of internal and external modeling agents. The variety of morphologic forms (low and flat – the largely undulated or tabular plains – the proud and daring hills and plateaus – the orogenic areas) is perceived differently by human cognition from the standpoint of tourist activity. Mountain areas are by far the most generous with regard to landscape variety; this is why they tend to concentrate polarizing centres of tourist trade.

In this respect, the Rarău Massif displays certain uniqueness in the northern group of the Oriental Carpathians as it concentrates tectonic landforms (impressive abrupt structures), karstic

landforms – both endo- and exo-karstic, as well as landforms modeled periglacially. We can mention the northern abrupt formation of the Rarău, the Bats' Cave, several gorges: Zugreni, Moara Dracului, Izvorul Alb, Pojorîta, and also the great many rock formations resulted from periglacial morphology: Pietrele Doamnei, Colții Rarăului, Popchii Rarăului, etc.

The geomorphologic characteristics and the variety of spontaneous vegetation are the elements that determined the layout of several natural reserves within the massif's area: the Natural Reserve Aptychus Strata, the Natural Reserve *Cheile Moara Dracului (The Devil's Mill Gorge)*, the Natural Reserve *Pietrele Doamnei*, the Geologic-geomorphologic Reserve *Piatra Buhei*, the Geologic-geomorphologic Reserve *Piatra Şoimului,* the Secular Forest Reserve *Slătioara,* the Botanical Reserve *Todirescu.*

Beside landforms, the land relief is characterized by its morphometric elements which taken as a whole constitute an attractiveness factor. The altitude, the land relief's energy (the difference in altitude in proportion to the surface unit), the slope and the horizontal fragmentation are the indicators to be quantified in the partition of the morphologic potential of the Rarău Massif. Using the ArcGis 9.2 software, we vectorized the dataset required by this analysis with scanned and georeferenced topographic supports on a 1-25,000 scale. The morphometric modeling presupposed the drafting of several maps, each one for a specific morphometric indicator. The resulting raster (matrix) maps were reclassified in that we adopted a unit of measurement equivalent to each and any morphometric indicator. We established a class hierarchy in each indicator using incremental numerical units from 1 to *n*, where *n* stood for the highest value of the morphometric indicator (Figure 2). Thus we obtained a number of 11 units for hypsometry and energy, 7 units for slopes and 5 units for horizontal fragmentation, indexed from 1 to 5, 7, and 11. The map *The Zoning of the Tourist Potential of relief in Rarău Massif* (Figure 2) was obtained by summing up at pixel level (20/20m) of the reclassified morphometric maps. Theoretically, the matrix values could vary between a minimum of 4 units (low morphologic potential) and a maximum of 35 units (high morphologic potential). The resulting values entered the écart range of 4 to 29 units. To complete the region partitioning, the resulting distance error was divided into 5 value classes that express various potential stages, from very low (<5 units) to very high (>25 units).

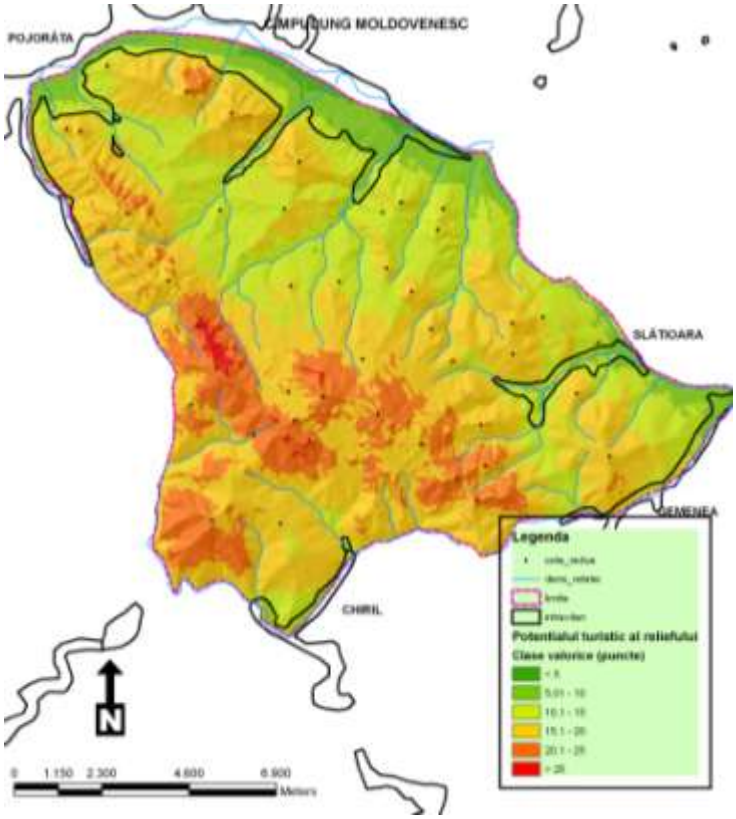


Figure 2 - ***The Zoning of the Tourist Potential of relief in Rarău Massif***

Very high values grouped around well-known geomorphologic tourist sights, such as the northern wall of Rarău, Pietrele Doamnei, Piatra Zimbrului and Piatra Şoimului and Colții Tihăriei. At first sight, we found it surprising that the highest potential is superimposed upon the narrow crest of Muncei. On this crest is marked the Cîmpulung – Rarău Hotel track, trailed with a blue strip; this track offers to the

west a panoramic view over the Giumalău Massif. The distinct morphology, the structural-lithologic crest resembling to a glacial-model acme, sharp and jagged on top, practically consolidate the theoretical results offered by mathematic modeling. The low values correspond to depressions and couloir areas.

4. CHARACTERISTICS OF ACCOMMODATION FACILITIES EVOLUTION

The positive dynamic of accommodation facilities is the basis of the increase in tourist flows by multiplying accommodation places while the competition thus created lowers the prices and enhances service quality.

The analysis of this component was carried out in two directions: the former, on the basis of the data collected from the *Tourist Directory of the Suceava County*, between 2005 and 2009, and the latter, by research on the internet, filled in with information confirmed by telephone interviews. The former situation provided numerical data concerning 4 indicators: accommodation facilities, accommodation places, number of tourists and number of overnights. All settlements neighbouring the mountain area were taken into consideration: Cîmpulung, Pojorîta, Sadova, Slătioara, Gemenea and Chiril. Neither the Directory nor our investigation could identify any commercially registered accommodation facilities in the last three localities, for the years 2009 and 2010 respectively.

As for the numbers in accommodation facilities and places (Table 1), there is a general growth tendency while the proportion between them reveals a decrease in the average of number of places per accommodation facility. Thus, for Cîmpulung, this proportion displays a decrease from ca. 63 places / facility to 46 places/facility, as a result of closing down one accommodation facility. For small settlements, such as Pojorîta and Sadova, this proportion is reversed from 14 to 17, respectively from 11.5 to 16.6, which can be explained by an increase in accommodation places in the already existing guesthouses.

Table 1 - Number of accommodation facilities and accommodation places in the neighbouring area of the Rarău Massif

Nº	Indicator	Accommodation facilities					Accommodation places				
	Locality/Year	*2005*	*2006*	*2007*	*2008*	*2009*	*2005*	*2006*	*2007*	*2008*	*2009*
1	Cîmpulung Moldovenesc	9	13		14	14	566	629		661	641
2	Pojorîta				6	7				83	121
3	Sadova	7	7		7	6	74	82		81	100
4	Slătiora										
5	Gemenea										
6	Chiril										

Source: The Tourist Directory of the Suceava County

The important indicators – the number of tourists and of overnights (the ones that express the tourist potential and attractiveness of an area) – have undergone an interesting evolution lately. Thus, for the municipality of Cîmpulung Moldovenesc the proportion between the two indicators (number of overnights / tourists) for the documented years varies as follows: 1.22, 1.53, 1.55 and 1.99 respectively. We can notice that against the background of the economic crisis declared at the end of 2008 there has been an increase in this indicator as the number of overnights in 2009 dropped at the level of 2005. This can be explained by the increase in service quality and the lowering of prices, which are the elements that create the so-called psychological attractiveness. In the case of Pojorîta, the number of overnights per tourist dropped from 3.98 in 2008 to 2.09 in 2009. In Sadova, the indicator we determined had the following dynamic: 1.72, 2.75, 4.62 and 3.19 respectively. Thus, these two rural settlements experienced similar dropping tourist layouts in 2009, in comparison with Cîmpulung which experienced a growing tendency.

Table 2 - Number of tourists and overnights in the neighbouring area of the Rarău Massif

Nº	Indicator	Tourists arrived					Overnights				
	Locality/Year	*2005*	*2006*	*2007*	*2008*	*2009*	*2005*	*2006*	*2007*	*2008*	*2009*
1	Cîmpulung Moldovenesc	19424	21683		24050	11898	23793	33281		37441	23723
2	Pojorîta				347	427				1382	894
3	Sadova	987	667		492	350	1703	1834		2274	1115
4	Slătiora										
5	Gemenea										
6	Chiril										

Source: the Tourist Directory of the Suceava County

Parallel with the extraction of data from the Directory, we carried out our own research using the internet as a primary source with a view to accounting for the data obtained bibliographically. The data

merging showed a visible difference between the numbers specified in the directory and the numbers we collected. Likewise, by telephone calls, we obtained information about the opening year and the numerical evolution of accommodation places per individual facility. We gathered together the obtained data in the tables below (Table 3 and Table 4).

Table 3 - Numerical evolution of accommodation facilities in the studied area

Years	1989	1992	1993	1994	1997	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cîmpulung Moldovenesc	3	3	2	3	6	6	7	7	8	9	15	17	22	25	29	35
Pojorîta	0	1	1	1	1	2	2	3	3	3	3	5	6	12	13	15
Sadova	0	0	0	0	0	0	1	4	4	4	4	6	7	7	7	12

Source: The internet, confirmed by telephone call

The number of facilities identified for 2010 are: Cîmpulung – 35, Pojorîta – 15, Sadova – 12; Slătioara, Gemenea and Chiril do not file any accommodation facility. Comparing the data we obtained with the data extracted from the Tourist Directory of the Suceava County one can notice a blatant discrepancy (Table 1). For 2009, there is a difference of **15** accommodation facilities for Cîmpulung, **6** for Pojorîta and respectively **1** for Sadova. We can mention that the accommodation facilities we identified were located only in the mentioned settlements and not in the communes they belong with; otherwise, the difference may have been much bigger.

The number of accommodation places identified for 2010 in the neighbouring area and the accommodation facilities in the massif are presented in Table 4: Cîmpulung – 993, Pojorîta – 288, Sadova – 251, Zugreni Chalet – 100, Giumalău Chalet – 20, Pastorala Chalet – 10, Alpin Hotel Rarău – 120.

Table 4 - Numerical evolution of accommodation places in neighbouring and intra-mountain areas in the Rarău Massif

Year	Cîmpulung Moldovenesc	Pojorîta	Sadova	Zugreni Chalet	Rarău Chalet	Pastorala Chalet	Giumălau Chalet	Total
1989	280	0	0	20	100	30	30	460
1990	280	0	0	20	100	30	30	460
1991	280	0	0	20	100	30	30	460
1992	280	24	0	20	100	30	30	484
1993	280	24	0	20	100	30	30	484
1994	285	24	0	40	100	30	20	499
1995	285	24	0	40	100	30	20	499
1996	285	24	0	40	100	30	20	499
1997	345	24	0	40	100	30	20	559
1998	351	24	0	40	100	30	20	565
1999	351	24	0	40	100	30	20	565
2000	351	38	0	100	100	30	20	639
2001	391	38	12	100	100	30	20	691
2002	391	52	40	100	100	30	20	733
2003	409	52	40	100	100	30	20	751
2004	449	52	40	100	100	30	20	791
2005	598	52	50	100	100	30	20	950
2006	653	86	103	100	100	30	20	1092
2007	809	106	147	100	100	30	20	1312
2008	855	196	177	100	120	30	20	1498
2009	965	212	177	100	120	30	20	1624
2010	993	248	251	100	120	10	20	1742
2011	1013	288	251	100	120	10	20	1802

Source: the Internet, telephone interview and direct interview

By comparing the data we obtained with the data in the *Directory*, for 2009, one can notice contradictory results. Thus, for Cîmpulung we obtained a positive difference of 324 places, 167 for Pojorîta, and 151 places for Sadova. We can estimate that the number of accommodation places will grow in 2011 with ca. 60 places, only by the extension of some guesthouses (20 in Cîmpulung and 40 in Pojorîta), and on condition that no existing facility is closed down. This number could be higher because we didn't take into account the fact that new guest houses may have opened in 2010.

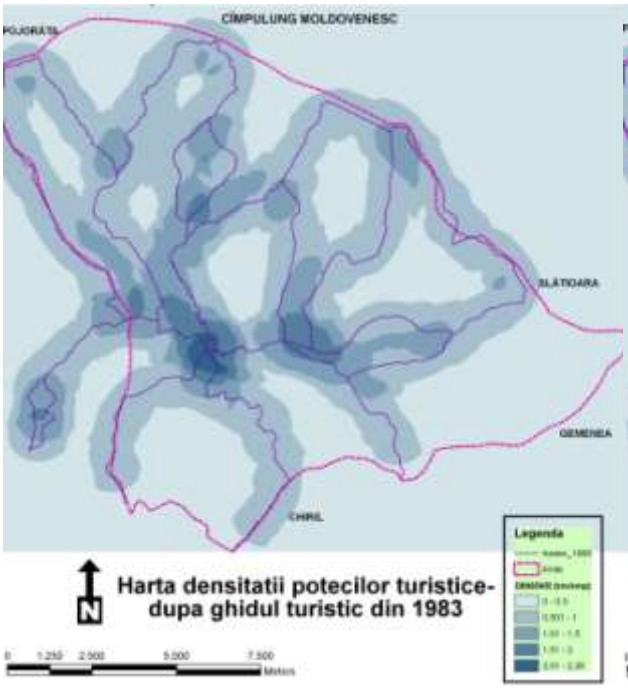
5. INFRASTRUCTURE OF TOURIST TRACKS

Mountain tourism in the Rarău Massif is made easy by an infrastructure of marked tracks which ensure the possibility of pedestrian access from any neighbouring locality. The main feature of mountain routes is that they converge toward a single point – Alpin Hotel Rarău. Other important junctions toward which converge at least three tourist routes are: the Fundu Colbului Saddle, the Ciobanului Saddle and the Sihastriei Clearing (Oancea and Swizewscki, 1983). The routes lie along with the access roads but also with uphill and downhill paths. The most important climbing point to Rarău is the city of Cîmpulung. From here six direct routes start toward Rarău Hotel and a two-variant indirect route through Slătioara as well. From Pojorîta start two routes, and from Chiril, Zugreni and Giumalău, one route per village.

Tourist routes in the Rarău are not very difficult; instead they take a long time and require good fettle. There are no technical sections and climbing equipment is necessary only if we intend to tackle rock-climbing routes that are plentiful in the massif. At present, ca. 100 climbing routes are marked, with varying difficulty. In alpine pedestrian tourism on the Rarău the difficulties are caused by extreme meteorological phenomena and during the cold season by the snow blanket which is thick, at least during the latter part of the season. The average density of tourist routes according to the map attached to the 1983 tourist guide (Oancea and Swizewscki, 1983) is of ca. 0.4km/square km, with extreme values ranging between 0 and 2.26km/square km (Figure 3).

After 1989, willing to diversify and also make tourism in the mountainous area more secure, the Salvamont service marked several new circuit-routes:

a. Pietrele Doamnei circuit, marked with a blue cross, ca. 1.5km long, ca. 1h 30m duration. The circuit starts at Rarău Hotel on the classic route that passes by the sports court.
b. Circuit-route to the Rarău Peak, marked with a blue point, ca. 2h 30m – 3h duration. The entrance to the route is common with the Pietrele Doamnei circuit, north-east of Piatra Mică; it passes by the weather base and ends on the Rarău peak (1651m). The return takes to the track that connects the relay to the road to the hotel. The route is ca. 4km long.
c. Other routes that were marked after 1989 and which are not featured on the map in the 1983 guide are:
d. The variant to route 12, blue point, that starts from the refurbished road Chiril – Rarău Hotel, at kilometer 8. The forest path originally reaches Izvorul Rece then the hotel. This variant is ca. 1.5km long, it takes 30 to 45 minutes to walk and it shortens the road route by 1.5km, blue point marking.
e. The path from Rarău Skete to the plateau. The route generally follows the power line to the junction with the routes that come from the east, off the Ciobanului Saddle. The route marked with a yellow triangle is ca. 3km long, while the climbing route starting in Chiril is ca. 9.5km long in all.



Figurre 3 - Density of tourist routes – 1983, apud. Oancea, Swizewscki, 1983

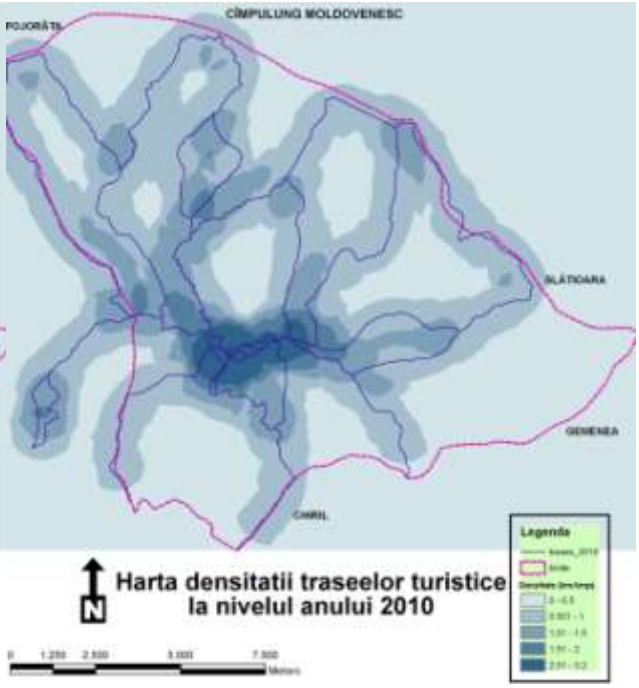


Figure 4 - Density of tourist routes after track markings by the Salvamont service – 2010

After the marking of these routes the density of tourist routes doesn't change significantly. The average increases from 0.4 to 0.42km/square km, while the maximum density value increases from 2.26 to 3.2km/square km. The maximal values are concentrated on the plateau area and are determined by the marking of the circuit-routes (Figure 4).

Analyzing the map of tourist track density (Figures 3 and 4), we can identify the areas lacking in tourist track coverage. We propose to reduce this density deficiency by better uniformization, coverage and representation of pedestrian tourist routes. We also recommend the visiting of several tourist sights and the valorization of the "primordial" landscape offered by the rock debris that border the Pietrele Doamnei and the Rarău mountain wall. We attempted to identify routes that valorize the northern abrupt formation of the Rarău which, to this date, is not accessible for tourists unless they take the risk of climbing unfamiliar paths. We also advance several linking routes that allow circuits to the Bîtcile Cîmpulungului (Figure 5).

Figure 5 - Location of proposed routes

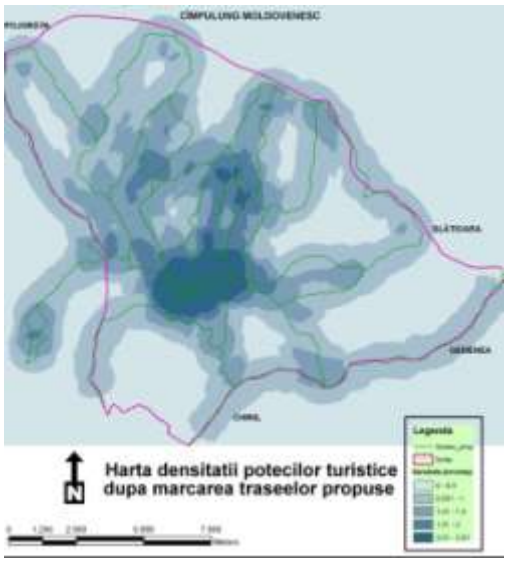


Figure 6 - Density of tourist tracks after the inclusion of proposed routes

Route 1. It can be used to access ***route 3*** (marked with blue strip). It is in fact a connecting route between the mentioned route and ***route 4 (marked with blue triangle)***. This variant shortens ***route 3*** by ca. 3km/1h.

Route 2. It is a variant of access to the plateau starting from the road that connects Cîmpulung with Rarău, at kilometer 4, slightly upstream from the confluence with the Chelari Brook. This route offers the advantage of shortening the classic climbing route by ca. 4km (the actual route is 10-11km) and the possibility to climb the western corner of Coada Peretelui.

Route 3. It is a route variant through the Limpedea Valley (yellow cross) which deviates to the right after ca. 1.4km from the route entrance following a variant that ascends to the interfluve and reaches the Limpedea limestone quarry. Although it is 500m longer, its advantage is the perspective over the northern abrupt formation and over the Limpedea Valley. The junction with the classic variant is located above the quarry.

Route 4. It is a route that connects the above-mentioned route (the one that goes up the Limpedea Valley) and route 2 advanced by us. It can be an attractive route as it goes about the foot of the northern abrupt formation.

Route 5. It is a route that allows to include into the circuit the *Moara Dracului (The Devil's Mill) Gorge* reserve, starting near the Cîmpulung-East railway station. Thus it climbs the Cucoara High (944m) and advances atop until it reaches the clearing under Hîlga Peak (1093m). Here it follows the Moara Dracului track and tourists can now opt to go up or down. Walking atop offers the advantage of the panoramic view and also shortens the climb on the Moara Dracului route – it is true, at the cost of missing an important sight: the gorge.

Route 6. It is a linking route for the track that goes upstream the Limpedea Brook. It facilitates a circuit whose return is made on the road that follows the Izvorul Alb Brook.

Route 7. It is a variant that includes the Gemenea locality into the tourist circuit of the Rarău Massif. We intended to initiate a route that goes through the Gemenea Valley and the Hogea Brook (the border with the Stânișoara Mountains) to the Prislop Pass (Chiril). At this point the variant offers a climb atop on ***route 11 (marked with red strip)***, coming from the Stânișoara Ridge and going toward the Todirescu Peak and further on toward the plateau. Tourists can also walk toward the Chiril Valley which offers access to the Bistrița Valley – the ***proposed route 8***. The two proposed sections, 7 & 8, can also be used for mountain biking rides that go through forest

roads. These variants can access the top track that leads to the Rarău Peak.

Route 9. It is a circuit-route designed for the Pietrele Doamnei area drawn on their southern side advancing toward Izvorul Rece and then eastward to Piatra Zimbrului.

The marking of these routes and also of others contributes to a better coverage of the Massif and to better access to sights of interest from the high area of the Rarău. This practically increases the density of tourist routes from 0.42 to 0.54km/square km, while the maximum density reaches 3.9km/square km (Figure 6).

6. ATTRACTIVENESS OF THE PHYSICAL-GEOGRAPHIC SITES IN THE MASSIF

In our research, we also determined to obtain a database concerning the tourist perceptions and interests in various sights in the Rarău. Consequently, we drew a list of 17 sights and asked respondents to award hierarchical points from 1 to 10. The highest value is awarded to the most attractive tourist sight. Sixty persons took our poll but several questionnaires were annulled because they were filled in wrongly. Finally, we quantified the results into a graphic representation (Figure 7).

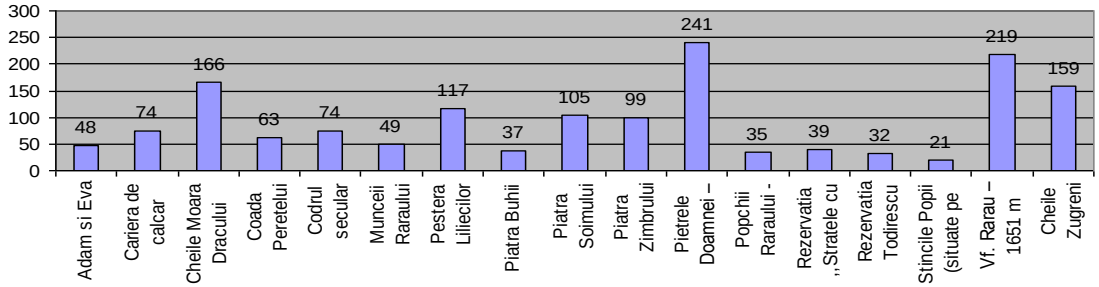


Fig. 7. Assessment graph of tourist perception of sights in the Rarău Massif

As it can be noticed, the highest scores are concentrated in the mountainous area – Pietrele Doamnei – 241 points, respectively the Rarău Peak – 219 points. This area of interest is complemented by the good scores obtained by Piatra Şoimului (105p.) şi Peştera Liliecilor (*The Bats' Cave*) (117p.), even though the last sight is no longer accessible to the public on account of its scientific reserve status. One can also notice two polarization areas: the Moara Dracului (the *Devil's Mill*) Gorge (166p.) and the Zugreni Gorge (159p.). The results of the poll were valorized in a cartographic representation (Figure 8) using the ArcGis 9.2 software, which helped to generate spatiality by interpolating values corresponding to each tourist sight.

We then resolved to draw a combined map depicting the land relief potential (Figure 1) and the results obtained from the questionnaires (Figure 8). This map, which we called the *Map of tourist attractiveness of the Rarău Massif*, actually combines a result obtained by statistic terrain analysis and one given by the perceptive-sentimental options of the poll respondents.

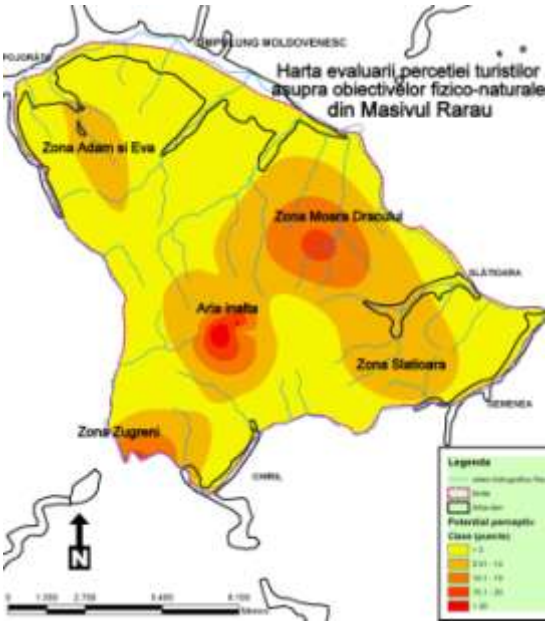


Figure 8 - Assessment map of tourist perception of sights in the Rarău Massif

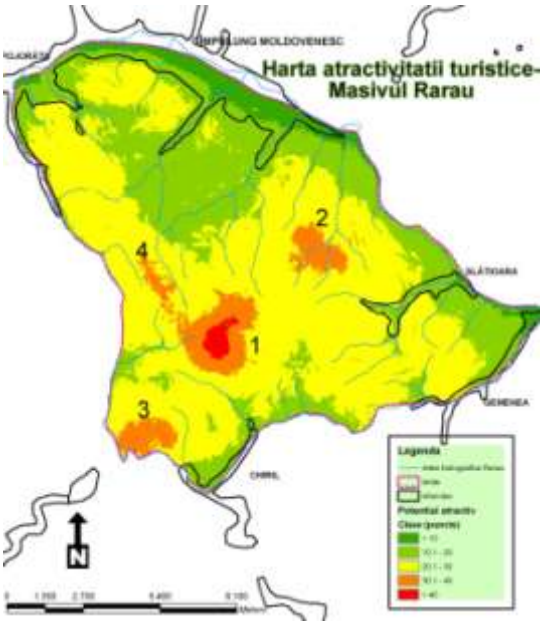


Figure 9 - Map of tourist attractiveness of the Rarău Massif

Thus, the cartographic material displayed above (Figure 9) reveals four main areas of attractiveness in the Rarău Massif, as follows:

- The Rarău Plateau, which gathers the following tourist sights: Pietrele Doamnei, the Rarău Peak – with its northern abrupt formation and the Coada Peretelui formation, Peştera Liliecilor (the *Bats' Cave*), Piatra Şoimului and Piatra Zimbrului;
- The area containing the Moara Dracului (the *Devil's Mill*) Gorge;
- The Zugreni Gorge of Bistriţa;
- The narrow ridge of the Rarău's Muncei.

7. CONCLUSIONS.

Although it covers a relatively small surface, the Rarău Massif possesses a significant tourist potential (land relief potential, as it were), accessible and frequented by tourists. With its highest peak of only 1651m, the Rarău may be the best endowed massif in the area in terms of tourist infrastructure and in proportion to its surface.

The morphometric analysis of land relief using the ArcGis 9.2 software emphasizes the areas with the highest morphologic potential within the massif, while the map we drew can function as a landmark in the layout, management and development of durable tourism. As a whole, our research brings to the foreground a certain discrepancy between the hierarchical tourist potential of land relief and the potential resulted from the poll we proposed in our questionnaire.

The above-mentioned analysis linked up with the questionnaire research of tourist perceptions of physical-geographic sights allowed us to make a general assessment of the attractiveness areas in the massif. By and large, these areas overlap with several nature reserves (Pietrele Doamnei, the Moara Dracului Gorge, and the Zugreni Gorge) but also with special morphologic areas - the Muncei Ridge.

There appeared a certain incongruity between the data provided by the *Tourist Directory of the Suceava County* and the terrain reality, as the number of accommodation facilities and accommodation places is much higher than stated in the directory. The general tendency manifested during the past few years was of quantitative growth of indicators - accommodation facilities, number of places, tourists and overnights, with the mention of a diminution in these indicators after 2008. Although the listed indicators showed a downward trend, the proportion between the number of overnights and the number of tourists is still high, which probably bespeaks an increase in service quality and a lowering of prices.

In order to enhance tourist attractiveness, we proposed to mark new linking and access routes that allow to make lengthier trips both in the neighbouring settlements and on the Rarău Plateau, which will valorize better its tourist potential.

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