A MULTI-CRITERIA APPROACH TO PLANNING THE HOTEL CONSTRUCTION IN THE OVČAR - KABLAR GORGE

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***Abstract**: The Ovčar-Kablar gorge has been a highly attractive touristic place in Serbia these days. Actually, the complete region of the mountain Ovčar, the mountain Kablar and the Ovčar-Kablar gorge was declared to be an area of outstanding features, by the Decree of the Government of the Republic Serbia, on 10th May 2000 (Službeni glasnik, 16)[9]. This region covers the area of 2250 hectares, 1700 hectares of which belong to the municipality of Čačak, and 550 hectares to the neighboring municipality Lučani. The Decree states that the Ovčar-Kablar gorge is a natural monument under national protection, and it is categorized as the monument of the second category which has been taken care of by the Čačak Tourist Organization. The Decree brought in 2000 was replaced by the new one in 2001, by which the area is extended to 4910.8 hectares (28.6 % public ownership, 55.7% in private property, 1.7% in ... and 12.09 % in the church property) (Službeni glasnik 77/2021)[10].*
***Keywords**: hotel construction, environmental protection, Serbia.*

INTRODUCTION

The Ovčar-Kablar gorge has been a highly attractive touristic place in Serbia these days. Actually, the complete region of the mountain Ovčar, the mountain Kablar and the Ovčar-Kablar gorge was declared to be an area of outstanding features, by the Decree of the Government of the Republic Serbia, on 10th May 2000 (Službeni glasnik, 16)[9]. This region covers the area of 2250 hectares, 1700 hectares of which belong to the municipality of Čačak, and 550 hectares to the neighboring municipality Lučani. The Decree states that the Ovčar-Kablar gorge is a natural monument under national protection, and it is categorized as the monument of the second category which has been taken care of by the Čačak Tourist Organization.

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It should be told that the Government of the Republic of Serbia in determining the space plan of a landscape of outstanding features "Ovčar-Kablar gorge" in 2019[11] included a part of the municipality of Požega. It is known that the West Morava River flows through the Ovčar-Kablar gorge and that the region contains three artificial lakes; the most prominent one accumulates water at the narrowest part of the gorge at the sea altitude of 278m, for the hydroelectric power plant Ovčar Banja in Ovčar Banja which accumulates about 3.000.000 m^3 of water; the second lake is the biggest, situated above the Međuvršje dam, for hydroelectric power plant accumulates about 12.000.000 m^3 of water and the lowest is formed in the framework of the irrigation system used for irrigation of the left side of the West Morava River, with the Parmenac dam, at the suburbs of Čačak, at the very exit of the river from the Ovčar-Kablar gorge, with the accumulation of 850.000 m^3 water, from which water is released into the 25-km-long irrigation canal. This irrigation system was constructed in 1960, and it is being reconstructed currently, as it was out of use for several years.

Ovčar Banja from above (left), meandering river trough Ovčar-Kablar gorge (right)

By flowing through the gorge, the river had several meanders, it was ''all over the place'', and today there is a lake of beautiful features. The name of the gorge itself suggests that it was formed between the mountains Ovčar on the right riverbank and Kablar on the left riverbank. The top of the Ovčar mountain is 985m above sea level, and the top of the Kablar is the 889m above sea level. These mountains, even though not that high, are

extremely interesting for mountain climbers as they have many hiking trails of different difficulties across the range of 720m i.e., 620 m of height difference from the river to the tops. From the opposite sides of the mountain tops, it can be accessed more simply, by car. On the top of the Kablar mountain, there is one of the most beautiful observation decks, with a fantastic view of the river (lakes), and there is a plan to construct a new observation deck with new visitor content.

The top of the Ovčar contains a TV tower construction – a TV signal transmitter – whose signal covers a bigger part of Serbia, and it is planned to construct a paraglider flight deck as this mountain top dominates the area in a radius of about 40 km. On the small land expansion below the narrowest part of the gorge (where the first dam for the hydroelectric power plant Ovčar Banja was erected), there is a town of Ovčar Banja with its springs of the hot thermo-mineral waters with a temperature of $35\text{-}37.5^0$ [4]. The town got its name after the spa of hot water. It is assumed that these springs were present in the ‘’spa town’’ since earlier times, although the evidence is lacking, due to the River west Morava common inundating this place [4].

Ancient written evidence of the utilization of these springs dates back to 1660 and is written by a Turkish travel writer Evlija Čelebija [5]. “In the neighboring places of Ovčar Banja there are spas. That’s a place to enjoy.” In [4] it is mentioned that the water is homeo-thermal and that by its chemical characteristic it is sulphur-iodine water that contains 0,42g/l of dry residue which is excellent for the treatment of rheumatic illnesses, nervous system conditions, skin diseases, bone recovery and tissue injuries recoveries. The same author concludes that the area of the town is very small, that is that “there is a lack of space to expand and the spa industry development”.

We will also mention the study [2] which emphasizes that the Ovčar Banja thermo-mineral spa capacity is up to 49,5 l/s, with a detailed chart of the chemical compound of water, type HCO_3-Ca, Mg with the value of pH-7,0. The water comes from the two possible springs; however, the exact source and its dominance is difficult to trace due to the complex geographical features of the terrain. It is important to emphasize that there are several smaller caves on the steep mountain slopes of both Ovčar and Kablar. Some of them are important as both religious monuments and places where Serbian people were killed by the Turks who occupied the region in the period from the 15^{th} to 19^{th} century. Before the 20^{th} century, the Ovčar-Kablar gorge used to be difficult to travel through and in some periods of time, it was completely impassable. At the beginning of the 20^{th} century, a rail for train traffic was built, and at the same time, the dam and the road

were built. The road became the main traffic connection that connects Central Serbia and part of Western Serbia with Montenegro and Bosnia and Herzegovina. Soon afterwards, this road was replaced by a highway that goes around the Ovčar-Kablar gorge. This impenetrable feature and inaccessibility of Ovčar-Kablar gorge ‘’was the reason why numerous monasteries were built here, in this place that uplifts us by its natural beauty and strength above the superficiality of earthly values and encourages us to take a spiritual feat of aspiring to God and eternity” [6].

In short, in this region of exceptional beauty, there are ten monasteries and two smaller churches, built after the Ottoman Empire occupied Serbia, so this region is famous for its common name ‘’Serbian mount Athos’’. These monasteries are one of the key reasons why this area is attractive to visitors. What makes this area attractive is also flora[11] – about 650 flora species many of which are:

- endemic
- rare
- endangered

and fauna[11], about 40 species of mammals

- 15 strictly protected
- 7 protected

The remaining are protected to be hunted is in the off season (can be hunted, based on the Hunting Law of the Republic of Serbia)

About 175 bird species

- 85% strictly protected
- 5% protected
- 10% protected to be hunted in the off season

11 reptile species
9 amphibian species

Out of insects, there are 95 species of day butterflies, 180 Orthoptera species, 310 species of night butterflies, 31 species of dragonflies, 165 species of bedbugs and 7 species of ants.

There are 34 fish species in the waters. The lakes contain sports fishing trails. It is important to mention that there is a possibility of maritime traffic in the lake Međuvršje, in the length of 10 km from Međuvršje to Ovčar Banja.

Touristic Infrastructure of the Ovčar-Kablar gorge

The Ovčar-Kablar gorge has a small potential for accommodations – only two mountain refuges and one small hotel. There are standpoints that it is not sufficient so that the hotel accommodation offer has to be richer.

Without getting further into the validity of this standpoint, here we analyze the hypothetical place where such a hotel would be built. Clearly, this is multicriteria analysis, but there is a remark we need to make, that it is not complete, because we have left out certain criteria on purpose, either due to assumptions that their effects are similar for all alternatives or due to the fact that it is difficult to determine differences in their effects, their influence would be small, as they would have small weighting coefficients if they were taken into account (this means that they could influence if they had similar alternatives).

We have considered three alternatives:

A_1: Ovčar Banja

A_2: Right below Ovčar-Kablar gorge nearby the highway exit "West-Čačak"

A_3: Left bank of Morava River below the Parmenac - Ljubić kej.

Alternatives were selected based on the possible places – for A1 the space is restricted, A_2 there are greater possibilities in terms of space, whereas A_3 is flexible with space and can fit into the City's plans for development and enlargement of the City to the left bank of the Morava River [8].

The following criteria for grading will be utilized here (see the scientific paper [3]).

C_1: Sustainability of the contents of the Ovčar-Kablar gorge

C_2: Price of space for the appropriate hotel infrastructure

C_3: Feasibility

C_4: Availability of the contents of the Ovčar-Kablar gorge.

C_5: Availability of the complementary facilities (jobs, entertainment, culture, sports, trade,…)

C_1	1.	Difficult to sustain-endangered 1
	2.	Difficult to sustain
	3.	Sustainable with care and effort
	4.	Sustainable with care
	5.	Easily sustainable

C_2	1.	Very expensive
	2.	Expensive
	3.	Expensive but acceptable
	4.	Acceptable
	5.	Easily acceptable

C_3	1.	Very difficult to access
	2.	Difficult to access
	3.	Accessible
	4.	Easily accessible
	5.	Easily and quickly accessible

C_4	1.	Difficult and slow to access
	2.	difficult to accomplish
	3.	Accessible
	4.	Easily accessible
	5.	Easily and quickly accessible

C_5	1.	Very difficult to accomplish
	2.	difficult to accomplish
	3.	Feasible with many problems
	4.	Feasible
	5.	Easily feasible

W_1=0,333, W_2=0,333, W_3=0,167, W_4=W_5=0,083

Weighting coefficients are determined based on the LBWA method [7]. The determinant of the matrix was calculated concerning the opinions of people who work in the tourism industry.

The final line of A_3-A_2-A_1 was determined by applying the method [1].

CONCLUSION

Determining criteria and their values is extremely important and we can conclude that it is the decisive stage of every multicriteria analysis. The same applies here. Sometimes, however, we need to provide an additional explanation why the problem has been approached in that way. Here, the first criterium is almost obvious, as we must respect the basic norms of each human action – we have borrowed nature and its merits from our offspring and we have to leave it as it is, or even in better condition. In the same way, we must respect those who dedicated their lives to monasteries and became monks-nuns, as they have lived in that manner for centuries now, based on strict monk rules. Too many people in one place could probably affect the natural balance and even endanger the monk piece. We have decided to use the second criterium due to the fact that there is a need to design an

infrastructure for hotel construction – it is basically always possible, but sometimes, due to space restrictions and potential negative impact on other people can be extremely expensive. The third criterium is connected to the previous one, so, basically, it relates to more expensive projects that are also difficult to accomplish. The fourth criterium is clear, as each user wishes to be closet to his goal – why he arrived somewhere to do something in the first place. The last criterium is also important (could be split into more parts which would probably increase its significance) because people almost always want to connect pleasure with other useful activities (or vice versa).

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