

## A MULTICRITERIA ANALYSIS OF POSSIBLE TOURIST OFFERS IN TOPLICA DISTRICT

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***Abstract:** Some possibilities of making a new offer of the tourism services of the District of Toplica are indicated in the paper. The obtained order of alternative unexploited possibilities prioritizes the recovery of Kuršumlijska Banja spa in relation to all the other alternatives. Yet, it must be said that the other alternatives are also significant, and that they should also be exploited in the future so that this region might be present in the tourist offer of the Republic of Serbia to a greater extent.*

***Keywords:** multicriteria analysis, tourism, Toplica district*

### INTRODUCTION

Toplica District is an administrative district in Serbia, whose center is in Prokuplje. It is located eastwards from the Southern Morava River, i.e. it encompasses the basin of the Toplica River, a tributary of the Southern Morava, and a small part of the basin of the Rasina River, a tributary of the Western Morava. It surrounds the city of Prokuplje and the municipalities of Kuršumlija, Blace, and Žitorađa. The Toplica River's spring is in the mountain of Kopaonik, and it was named after the numerous warm springs in its valley. This river is characteristic for the *epigenia*, which is found in as many as two places near the city of Prokuplje (it runs in one direction, then in the same line, but in the opposite direction). Therefore, Toplica District consists of the Toplica River Valley and is surrounded by the mountains of Jastrebac, Kopaonik, Radan, Vidojevnica and Pasjača. The very name of the Toplica River suggests that its basin includes a lot of warm springs. The Serbian name *Toplica River* is translated into the English language as *The Warm River*. So, we speak about the places in which there naturally were and in which, today, there are conditions for bathing – spa places. There are archaeological pieces of evidence testifying to the fact that certain places were used as spa places, even in the times before the Romans, during the Romans and after them.

Today, there are two such known places in this district:

- Prolom Banja Spa
- Lukovska Banja Spa,

which record a large number of visits paid by tourists from Serbia itself and a considerable number of visits paid by foreign guests in recent years. These two spas do business within the Tourism Enterprise “Planika” from Kuršumlija.

### 1. Alternative Tourist Places

Apart from these tourist places which are visited by quite a lot of people today, there are also unexploited tourism possibilities in the District of Toplica. Some of these possibilities may even be more attractive than the mentioned ones and may more importantly contribute to the attractiveness of the other tourist places.

The following places will be analyzed in this paper as tourism possibilities (in a form of rating alternatives):

A<sub>1</sub>: Kuršumlijska Banja Spa

A<sub>2</sub>: Pločnik

A<sub>3</sub>: Kuršumlija Churches

A<sub>4</sub>: A Monument of Nature, Prebreza – Blace

A<sub>5</sub>: Hisar – Prokuplje

A<sub>1</sub>: Kuršumlijska Banja Spa

Short presentation of *Kuršumlijska Banja Spa* is given. Until recently, it has been a well-known tourism destination in the former state of the SFRY, with a developed tourist offer. Due to the badly performed privatization, the Spa discontinued its business operations, and a large quantity of warm water coming from the Spa's ten springs flows into the Banjska River, then into the Toplica River, today. The water temperatures in these springs range between 14 and 67 degrees. The springs are with:

- iron-rich waters,
- sulfur-rich waters,
- alkaline waters, and
- coal-acidic waters.

While the spa worked, in only one building (and there used to be several buildings) it capacitated 250 beds, inclusive of complete medical services. It was being recommended for its successful provision of treatment services for treating:

- neuralgia,
- rheumatism,

- metabolism diseases,
- posttraumatic conditions,
- immunity decline, and
- gynecological problems.

This spa has the best infrastructural connection – it is much closer from both Prolom Banja Spa and Lukovska Banja Spa. It lies 12.9 km away from Kuršumlja.

#### A<sub>2</sub>: Pločnik

*Pločnik* is a village between Prokuplje and Kuršumlja. The paper (Žižović, et al. 2016: 6) indicates the four reasons why this place can be an attractive location from the tourism point of view through a multicriteria analysis.



Photo 1: Roman bath in Pločnik

- The archaeological findings of the copper smelter from the time of the Culture of Vinča.
- Viča Spa in the village of Viča (2 km away from the previous site), where the pieces of evidence of the use of this Spa in the Neolithic have been discovered.

- The Roman thermae in the village of Bace and a Roman villa in the village of Bace (about 300 m away from the first locality), the place where the Serbian Army successfully stopped the Turkish invasion (defeated the Turkish Army) in 1386.

### A<sub>3</sub>: Kuršumljia Churches

#### *Kuršumljia Churches*

In the very city of Kuršumljia, there are three churches today, and about 60 active churches and about 50 sites of former churches (where churches used to be once). It is significant that the existence of the two buildings that were being reconstructed during the time when Kuršumljia's name was *Bele Crkve (White Churches)* and was the capital of the originator of the Nemanjić Dynasty – Stefan Nemanja – should be examined, which is of an interest for tourism. These buildings are:

- the Monastery of St. Nicholas, erected before 852, now under reconstruction (Photo 2), and
- the Monastery of the Most Holy Mother of God, also under reconstruction, from the period of the rule of the Nemanjić Dynasty ([www.južnasrbija.info](http://www.južnasrbija.info): 4) (Photo 3).

It is important to highlight the fact that the reconstruction of these minsters is a priority for the Ministry of Culture of the Republic of Serbia.



Photo 2: The Monastery of St. Nicholas, Kuršumljia



Photo 3: The Monastery of the Most Holy Mother of God, Kuršumlija

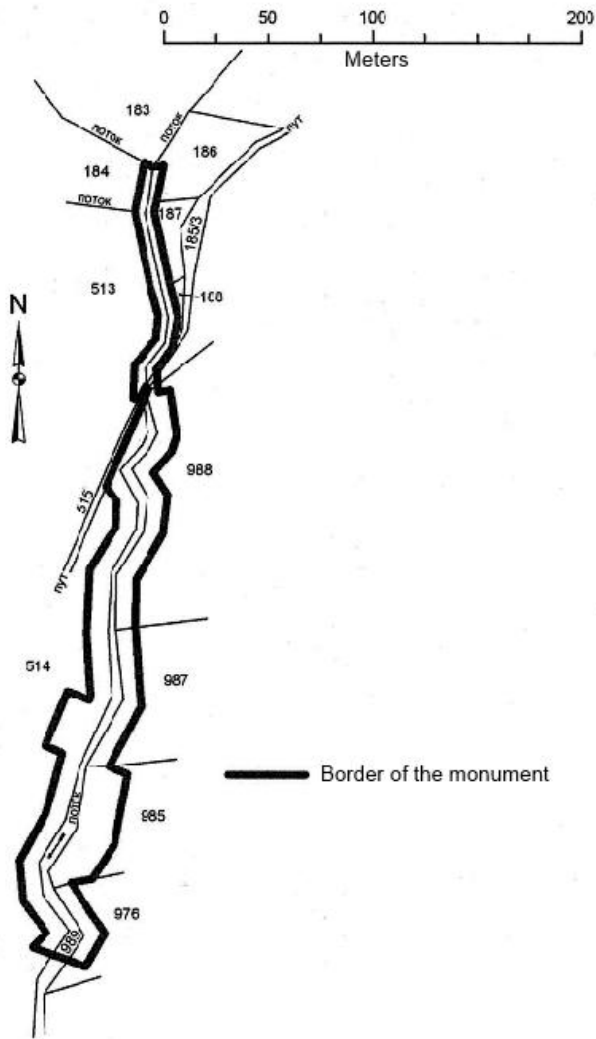
#### A<sub>4</sub>: A Monument of Nature, Prebreza – Blace

The paper (Turanjanin et al. 2004: 3) provides an analysis of a possibility of erecting a building to present the findings at the paleontological site **Prebreza near Blace** in Toplica District. The very place of these findings was declared a monument of nature by the Regulation of the Government of the RS (“Official Gazette” 2000: 2), and was put under protection as a natural good of the exceptional significance of the first category. What this is about best reflects in Article 2 of the mentioned Regulation. Here, it is envisaged that the locality should be relocated to Blace, because of the difficulties connected with the installations in the locality itself.



Photo 4: Prebreza-Blace Paleontological Site

## Monument of nature PREBREZA



Map 1: Map of monument of nature PREBREZA

### A<sub>5</sub>: Hisar – Prokuplje

**Hisar Prokuplje** is a hill above the city of Prokuplje, the part around which the Toplica River flows from the three sides. It is also known as the fortress around which the city, today's Prokuplje, was built. There are a lot of archaeological findings connected with this place. It is a fact that, although practically a part of the city of Prokuplje, this place is

dilapidated and untidy. The existing buildings are insufficiently, i.e. poorly maintained and are not functional. There is almost no plan for the adequate use of this place. The condition in which this hill is and the role it has in this city may be best described in the paper (Kuzmanović-Cvetanović 2016: 6). A solution may not be an easy one to come to, but it is important that efforts should be made towards finding it not only because of the city itself and the tourist offer, but also for a better life in the city and the whole district as well (www.korzoportal.com: 5).

## 2. About the Rating Criteria

In order to rate the proposed alternatives and rank them accordingly, the following criteria will be used:

- C<sub>1</sub>: The Contractor's price
- C<sub>2</sub>: The employment of the local population
- C<sub>3</sub>: Meeting domestic tourists' needs
- C<sub>4</sub>: Meeting foreign tourists' needs
- C<sub>5</sub>: The attractiveness of the proposed alternative in relation to the existing possibilities

The proposed criteria are either of the maximization type (C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub>, and C<sub>5</sub>) or the minimization type (C<sub>1</sub>), but they will be rated here as the maximization criteria, which will be assigned the marks from 1 (hardly meets) to 10 (it is extraordinary).

The weight coefficients of the method given in the paper (Žižović 2019: 7) were determined for the criteria.

Based on the opinion obtained from the tourist visitors from the District, the final proposal of the weight coefficients (rounded to two decimals) is as follows:

- W<sub>1</sub> = 0.31 for Criterion C<sub>1</sub>
- W<sub>2</sub> = 0.25 for Criterion C<sub>2</sub>
- W<sub>3</sub> = 0.18 for Criterion C<sub>3</sub>
- W<sub>4</sub> = 0.08 for Criterion C<sub>4</sub>
- W<sub>5</sub> = 0.18 for Criterion C<sub>5</sub>

The criteria significance order is as follows: C<sub>1</sub> > C<sub>2</sub> > C<sub>5</sub> > C<sub>3</sub> > C<sub>4</sub>.

It is important to mention the fact that it is also possible to give other criteria for this rating, but in this case, the paper is aimed at improving the tourist offer of Toplica District, not only selecting new tourism destinations.

It is considered in the paper that putting any of these alternatives in function would raise the level of the existing offer.

### 3. A Multicriteria Analysis

inally, the decision-making matrix that was also formed based upon the opinions expressed by tourist visitors is presented in the already described manner.

	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>
A <sub>1</sub>	3	9	10	5	9
A <sub>2</sub>	2	6	7	6	7
A <sub>3</sub>	5	4	7	3	8
A <sub>4</sub>	5	3	7	7	7
A <sub>5</sub>	2	3	8	4	6

The calculation presented in the paper (Miljković 2017: 1) is such that the final order of the alternatives reads as follows:

$$A_1 > A_3 > A_4 > A_2 > A_5.$$

### 4. Conclusion

The order obtained by performing a multicriteria analysis indicates a possibility for this district to be a significant tourism area in Serbia in a foreseeable future. The construction of the infrastructure, i.e. an adequate road, is a condition for the promotion of Kuršumlija and Kuršumlijska Banja Spa as a significant tourist destination. The other alternatives amend and improve the offer of the following three destinations – Kuršumlijska Banja Spa, Prolom Banja Spa, and Lukovska Banja Spa.

### References

1. Miljković, B., Žižović, M., Petojević, A., Damljanović, N. *New Weighted Sum Model*, FILOMAT, Vol.31, pp 2991-2998. 2017
2. Službeni glasnik, br 37/2009
3. Turanjanin, D. et al., *Multi-criteria analysis of touristic offer in municipality Blace*, Prokuplje., UNITECH Gabrovo Bulgaria Vol I pp 252 – IV 255. 2015
4. www.južnasrbija.info, Accessed February 21
5. www.korzportal.com, Accessed February 29
6. Žižović, M.M., Kuzmanović Cvetanović, J., Turanjanin, D., Žižović M.R., Damljanović, N. *Multicriteria model of touristic potential in Pločnik*. Proceedings of UNITECH, Gabrovo Bulgaria, Vol IV. 2016
7. Žižović, M., Pamučar, D. *A New Model for Determining Weight Criteria; A level based Weight Assessment (LBWA). Model Decision Making; Application in Management and Engineering*, Vol 2, Issue 2.2019

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