

# A dynamical model for assessing tourism market attractiveness of a geosite

---

Olga Hadžić<sup>1,2,3</sup>, Slobodan B. Marković<sup>1</sup>,  
Djordjije A. Vasiljević<sup>1</sup>, Milena Nedeljković<sup>1</sup>

<sup>1</sup> Department of Geography, Tourism and Hotel Management, Faculty of Science, University of Novi Sad, Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia

<sup>2</sup> Department of Mathematics and Informatics, Faculty of Science, University of Novi Sad, Serbia;

<sup>3</sup> Serbian Academy of Sciences and Arts

Tourists and visitors currently tend to consider environment and the purity of nature, education, culture and history, large- and small-scale events, and entertainment and fun as crucial issues. For certain specific target groups, these wishes and needs may be satisfied by a new form of tourism called “geotourism”, which is an multi-interest kind of tourism exploiting natural sites and landscapes containing interesting earth-science features in a didactic and entertaining way.

Relative to demand, a form of tourism based on imagination and emotion, favouring experience and sensations, and explaining the natural environment by playing with its temporal and spatial dimensions may provide opportunities of economic development. Different target groups (e.g. tourists, researches, schools) potentially interested in cultural and natural landscapes seem to constitute specific markets to consider.

Hence, tourism product of geotourism has to be more adapted to the visitors' expectations and a more original and striking way of communication has to be used. With sufficient planning and capital investment there is a chance that some of the natural sites could provide important additional tourist revenue.

As a starting point in the process of tourism marketing planning a model of tourism evaluation of a geosite has to be developed. This will not only generate inquisitiveness among the target groups selected, but also give a clear position to a destination, in order to distinguish itself from similar territories. Of course, product communication must complete this marketing strategy with the creation, promotion and sale of specific and original products. For instance, a mix of walking, wellness, "agro-tourism" and "geotourism" may be profitable for regional economic development.

We based our model on the following facts:

1. A geosite can associate several meanings as a collaboration of many elements such as: socio-cultural, historical, scenic, archeological, educational, scientific, fun, psychological and artistic (geosites and landscapes have always been source of inspiration of painters, sculptors, writers and musicians).
2. Geotourists have different profiles with respect to the motivation for the visit of a geosite: some are interested in specific fields of the Earth's sciences and possess excellent knowledge from these fields, others are motivated by a large socio-cultural or artistic interest. The sites with the best visible remains and high scientific values are not necessarily the best from the point of view of tourists which are interested very much in socio-cultural meanings of a geosite. Static displays of mining remains are unlikely to attract much more than academic interest. Visitors want to become actively involved during their visit and the fun factor must not be underestimated. Hence, the importance of some indicators in the model are strongly related to the specific need of a specific segment of geotourists. The structure and size of tourists segments are time variable. May be that in some period of the time visitors of a geosite are mostly interested in the scientific value of a geosite, but later on the large part of tourists can belong to a segment of tourists which are mostly interested in the socio-cultural meaning of a geosite. Hence, the market value of a geosite (esteemed by the number of visitors) depends of many variables (intrinsic-related to the geosite and extrinsic-related to the tourists motivations in a period of the time).
3. Despite the importance of the fun factor, the need for conservation and general education should also be considered. It is necessary to take into account principles of sustainable development of tourism i.e. the interest of local community and the preservation of natural heritage. Hence, the number of visitors of a fragile geosite is limited by the carrying capacity of the geosite.

In this paper we apply our model to the tourism market evaluation of the Petrovaradin fortress. The Fruška gora massif consists of various rock types originating from the times of Paleozoic, Mesozoic, Tertiary and Quaternary. Such complex geological structure is enriched by fossil flora and fauna preserved in deposits of the bottom of the ancient Pannonian sea. Thanks to numerous fossil remains, this

“Pannonian Island” is a distinctive reflection of the geological evolution. The Petrovaradin’s rock is the northernmost part of the Fruška Gora Mountain. During the last glacial period, in time of the first evidence of the human occupation, high rocky cliffs were ideal shelter for the Paleolithic people. Due to a unique strategic position area of the present Petrovaradin fortress was permanently occupied, which yielded the archaeological remains dating from different periods. The Petrovaradin fortress has a very rich history and a symbolic meaning not only for local community but also for tourists from Austria and Hungary. It is now world famous as a place on which many music festivals are organized.

## References

- H. du Cros (2001), A new model to assist in planning for sustainable cultural heritage tourism, *International Journal of Tourism Research*, 3, 165-170.
- J. P.Prolong, A method for assessing tourist potential and use of geomorphological sites, *Geomorphologie: relief, processus, environment*, 3, 189-196.
- E. Reynard, G. Fontana (2007), A method for assessing “scientific” and “additional values” of geomorphosites, *Geographica Helvetica*, Heft 3, 148-158.
- E. Reynard (2008), Scientific research and tourists promotion of geomorphological heritage, *Geogr. Fis.Dinam. Quart.*, 31. 225-235.