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An Assessment of Spatial Appropriateness for Ecotourism Development in the Region of Rudbar Ghasran and Lavasanat, Using OWA Criteria with Fuzzy Quantizers

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Extended Abstract

Introduction

Over the past few decades, ecotourism as one of the subcategories of the tourism industry has had a remarkable growth. It is evident from a responsible trip to a natural surrounding leading to the preservation of environment and the sustainable welfare of the locals. Developed and developing countries promote it as a strong tool for the growth and sustainable development. Iran can be the center of tourist attractions due to its particular geographical setting and having natural features in all four seasons. The development of this industry needs an exact identification of capabilities and infrastructure in each region. One of the fundamental stages of this process is the location of tourist-ready zones, especially ecotourism by applying modern technology. The selection of correct place not only saves time, expenses and resources but provides the maximum investment efficiency. As such, the expansion of ecotourism activities and the selection of ready zones necessitate more studies. Iran's Rudbar, Ghasran and

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Lavasanat region, surrounded by the Alborz mountain range, is a beautiful landscape with a pleasant climate. Abundant natural attractions of the region, equally with suitable tourism infrastructure as well as using existing capabilities, can help achieve the sustainable development of the tourism industry.

Materials and methods

In the current research, in order to identify the ecotourism potential of the region and present suitable ways, first effective criteria and indices were identified and extracted for developing ecotourism and then a multi-criteria evaluation AHP method was used to distinguish the importance of each of the effective parameters. Thereafter, data such as visibility, height, slope, distance from roads, landuse, distance to natural attractions, fault line, distance to educational centers and religious attractions as well as archeological sites were applied. Finally, the OWA method in GIS was used to identify a suitable region and combine layers based on various scenarios.

Discussion and Result

Through this method, seven scenarios including extreme pessimistic, very pessimistic, pessimistic, optimistic, very optimistic, extreme optimistic and natural were studied in relation to the potential to develop ecotourism. The acquired results are based on the normalized data with the interval of 0 to 1 as classified below: Very Low Proportion Low Proportion High Proportion Suitable Proportion 0-0.25 0.25-0.5 0.5-0.75 0.75-1 The results acquired from the above data through the OWA method will be presented later. The extreme pessimistic scenario was observed in 1022.8 sq. km of the proposed region with low proportion and 74.4 sq. km area with very low proportion. In the pessimistic scenario, a large part of Greater Lavasanat had very low proportion while another large part with low proportion. Based on extreme optimistic scenario, 1090.5 sq. km of the area were the most suitable and 6.75 sq. km with high proportion. In this scenario, the central core of Rudbar Ghasran and Lavasanat is located on a very suitable flank where conditions do not coincide with spatial and environmental realities. Based on natural scenario, 741.8 sq. km of the proposed study were related to an area with high proportion and 355.4 sq. km with low proportion. The central core, due to the location of two urban points of Lavasan and Feshm as well as their service and social facilities allocate the most area with high proportion.

Conclusion

Results from various scenarios indicate high proportion of the region for ecotourism development. The use of the OWA method gives managers and planners possibilities to study different scenarios in one region. The proposed model and the acquired results can be used by managers and planners as a decision-making backup structure in this domain and the extraction of suitable strategy toward ecotourism development.

Keywords: sustainable ecotourism; multi-criteria evaluation; AHP; GIS; OWA.

References

1. Alaeddinoglu, F., & Can, A. S. (2011). Identification and classification of nature-based tourismresources: Western Lake Van basin, Turkey, **Procedia-Social and Behavioral Sciences**, 19 (2011): 198-207.
2. Bali, A., Monavari, S., Riazi, B., Khorasani, N., ZARKESH, M., & KHEIRKHAH, M. (2015). A spatial decision support system for ecotourism development in Caspian Hyrcanian mixed forests ecoregion. **Boletim de Ciências Geodésicas**, 21(2): 340-353 .
3. Chen, J., & Zhu, Q. (2010). Uncertainty and decision strategy analysis of GIS-based ordered weighted averaging method. Paper presented at **2010 International Conference on Information, Networking and Automation (ICINA)**, Kunming, China 18-19 Oct. 2010.
4. Dashti, S., Monavari, S. M., Hosseini, S. M., Riazi, B., & Momeni, M. (2013). Application of GIS, AHP, Fuzzy and WLC in island ecotourism development (Case study of Qeshm Island, Iran), **Life Science Journal**, 10(1): 1274-1282 .
5. Delavar, B., Oladi, J., & Manoochehri, M. (2010). Evaluating the Ecotourism Potentials of Naharkhoran Area in Gorgan. International Archives of the Photogrammetry, **Remote Sensing and Spatial Information Science**, 38(8): 591-596 .
6. Dhami, I., Deng, J., Burns, R. C., & Pierskalla, C. (2014). Identifying and mapping forest-based ecotourism areas in West Virginia–Incorporating visitors' preferences, **Tourism Management**, 42(2014): 165-176 .