Application of Integration Multi-Criteria Decision Making Method and GIS in Identification of Rural Regions with Ecotourism Potential
Case Study: River Valley Tourism in Tehran Providence

Abdolreza Roknoddin Eftekharī∗
Associated Prof. in Rural Development & Planning Staff in Tarbiat Modares University
Hamdollah Sojasi Qidari
Assistant Prof. in Geography Dep. in Ferdowsi University of Mashhad
Mehdi Purtaheri
Assistant Prof. in Rural Development & Planning Staff in Tarbiat Modares University
Adel Azar
Professor in Dep. of Management, Tarbiat Modares University

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Extended Abstract
Introduction
Although the concept of ecotourism as the ideal of Environmental Protection and Sustainable Development is based on the global current the role of human interference in the nature is more than that of natural conditions. Because of this, there is still a vulnerable stability condition. Other scholars including Carter and Caudal are in doubt about tourism and environmental sustainability; they believe that sustainable tourism, despite its obligations on environmental conditions, would not be achievable. However, some people like Butler believe that in spite of numerous investigations in this area, we must await the results and the related successful outcomes in the future. However, using the appropriate setting for the leisure environment, population is catchy. Ecotourism is able to use the increased powers of environmental cooperation, its economic impact, environmental protection, sustainable development and mobility and dynamism in the local and regional

∗ Responsible Author: Reftekhari_reza@yahoo.com
economy. Climatic and natural attractions along with different geographical heritage of human civilization and ethnic and racial diversity of the expensive-for-people stock in the field of economy has brought up the sustainable exploitation.

**Methodology**
Firstly, ecotourism planning, as a multi-criteria decision making problem is formulated using the TOPSIS technique. Criteria and indicators are evaluated using GIS, remote sensing techniques, coupled with field data and literature. All the scores are standardized because they are not non-commensurate. Preferences on the criteria and indicators are expressed as weights that are assigned by decision makers. Combining the weights and the indicator maps generates ecotourism priority maps of the decision makers. They are then integrated using compromise programming techniques where a separation distance is calculated. Potential ecotourism areas are generated using thresholds on the separation distance image for delineating potential new protected areas. Based on the rural portions in the case study the tourism plan is generated that contains the ecotourism areas and the recommended ecotourism actions.

**Results and Discussion**
Data in the maps are divided into 5 suitability classes for ecotourism, namely, very highly suitable, highly suitable, moderately suitable, marginally suitable, and not suitable. From the suitability map for ecotourism, it was found that the area of marginally suitable and not suitable are located in the central and south part of the province. The area of moderately suitable is in the eastern and western parts of the province. Only a few percentages of the area were classified as very highly suitable and highly suitable. With regard to the analysis of the results and ecotourism requirements, the typical sites recommended are summarized based on 3 classes. ‘Very highly suitable and highly suitable and ecotourism potential category involves the most sensitive area and development activities within this area which will lead to disaster and threaten the natural characteristic of the area. It could serve as main ecotourism attractions but with the use of certain limitations and guidelines. Example of guideline to be used to limit the number and duration of access to the area is the code of conduct. This area is suitable for tourism development category and includes the areas with
low sensitivity and available for exploitation. Still, development should be conducted in an appropriate manner with respect to minimizing development negative impact. Physical structures such as green hotels, lodge, restaurants and public convenience facilities are needed to support ecotourism in these areas. Activities suggested for these areas include education and research related activities, site seeing and trekking. ‘Moderately suitable or ecotourism potential category allows for mild development but with high consideration on construction work and detail assessment of environmental impact. These areas can still be considered for ecotourism attractions due to passive tourist activities such as camping, trekking, bird watching, site seeing and any activities with minimum development or inference to the site. Marginally suitable and not suitable area and currently not suitable category includes areas with several impacts of development and degraded environment. The development of ecotourism is further enhanced by geospatial approaches. This study is an integrated approach of ecotourism development by identifying ecotourism sites and constructing methodology to assess the ecotourism sustainability by matching the characteristics of an area with those attributes most appropriate for ecotourism.

Conclusion
Then by using of ecotourism function sample ecotourism villages were selected by implementing algorithm in several stages and overlapping layers. Results showed that 8 villages are selected as consistent with the four environmental areas and the selected villages have a high ability in the country's River valley eco-Tourism.

Keywords: Ecotourism, Ecotourism assessment model, Multi criteria analysis, Sample rural, Tehran, TOPSIS- GIS.

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