

# Analyzing Vulnerability of Geotourism Attractions in Tourism Destinations

**Akbar Pourfaraj**<sup>1</sup>: Associate Professor, Department of Tourism Management, Faculty of Management & Accounting, Allameh Tabataba'i University, Tehran, Iran.

**Esmael Ghaderi**: Assistant Professor, Department of Tourism Management, Faculty of Management & Accounting, Allameh Tabataba'i University, Tehran, Iran.

**Mahmoud Jomehpour**: Professor, Department of Social, Urban and Regional Planning, Faculty of Social Sciences, Allameh Tabataba'i University, Tehran, Iran.

**Sajad Ferdowsi**: PhD Candidate in Tourism, Faculty of Management & Accounting, Allameh Tabataba'i University, Tehran, Iran.

Article History (Received: 12/09/2019

Accepted: 24/12/2019)

## Extended Abstract

### 1- Introduction

Today, geotourism phenomena and geological heritage are at risk of being destroyed by the changing lifestyles and industrialization of most countries. These changes are based on high rates of resource consumption, such as energy, materials, soil, as well as increased production of tailings and waste (Gray, 2004). In recent years, as the number of tourist's increases in geotourism sites, the risk of damage and destruction by visitors increases, given the fact that "geoheritage is considered as non-renewable resources of nature (Xun and Milly, 2002). Accordingly, World Heritage Committee has related three criteria out of ten criteria of cultural and natural heritage register to geological phenomenon especially to inanimate nature which indicates the importance of such natural phenomenon (UNESCO, 2019). Therefore, given the abundance of unique geological phenomena in Iran and their application for tourism development, the importance of conservation of such a valuable phenomenon against human and natural threats presents serious challenges to geoheritage in Iran. In this regard, awareness of the vulnerability of geotourism phenomena and geological heritage is a prerequisite for the conservation of these phenomena; Providing conservational guidelines to deal with threats relies on analyzing the vulnerability of geotourism phenomena. As a result, this research was done with the aim of developing a model of the vulnerability of geotourism attractions. Therefore, this research seeks to develop a model of the vulnerability of geotourism attractions which explains the causal conditions, process, and consequences of the vulnerability of geotourism attractions. The findings of this research provide the necessary tools for policy-making and decision-making for related managers and officials to conservation management of geotourism attractions.

### 2- Methodology

Due to the nature and purpose of this study which is analyzing the vulnerability of geotourism attractions in tourism destinations, the type of research is fundamental-applied and its approach is qualitative. The strategy used in this research is logical reasoning in order to define a proposed model for data analysis. The strategy of logical reasoning is more comprehensive than other research strategies as each model requires logical integrity. Moreover, the strategy of logical reasoning can help to codify extensive theoretic literature into a theoretical framework. Documents, theories and, scripts related to the subject are reviewed and investigated in order to answer the research question regarding the quality of a model of the vulnerability of geotourism attractions. An/The archival method is used to collect initial

<sup>1</sup> Corresponding Author: [a.pourfaraj@gmail.com](mailto:a.pourfaraj@gmail.com)

data. With respect to the nature of data in the present study, the theoretical texts are analyzed qualitatively. Finally, according to the experts' opinion, the model of research has validated.

### 3- Results

What is inferred by literature is that conservation of geotourism attractions gains importance with respect to their significance. In fact, significance is a fundamental concept to geoconservation" (Dixon, 1991). Conservation of geotourism attractions must be based on features leading to significance of that phenomenon. Consistent with literature, features indicating the significance of a phenomenon are introduced under the concept of "value". "Value is a representation of significance with is attributed to quality of places by people" (English Heritage, 2008). Conservation of geotourism attractions should be based on conserving their values so that finally it can lead to conservation of their significance. The set of values attributed to geotourism attractions can be defined in two groups of intrinsic and instrumental values. "Instrumental values are human-based values and intrinsic values are independent of human" (Alexander, 2013). Scientific values of a geotourism attraction are considered as its intrinsic values; other values such as ecological, aesthetic, cultural, educational and financial values are expressed as instrumental values as well. In legal framework, World Cultural and Natural Heritage Convention have considered geological valuable phenomena as natural heritage providing that they qualify as being "integrated". "Integrity is the scale of perfection of heritage" (Basiri *et al.* 2014). Integration influences how values of a phenomenon are expressed by the audience and secure the sustainability of its values. As the integrity of geotourism attraction is undermined, its values are threatened; integrity is undermined by human and natural threats which finally lead to a/the decline of geotourism attraction values; Declining values lead to a/the reduction of attractions' significance and make them the vulnerable following reduction of their significance. In the following, for confirming the validity of a proper model, it was done receiving experts' attitudes regarding this issue. In this regard, statistical mean for all questions is higher than the theoretical mean (3). The statistical mean for questions is as follows: model comprehensiveness 4.11, the cohesion of components in each dimension 3.98, uniqueness 3.88, briefness and related naming 4.21, timeliness 3.74, adaptability with environmental changes 4.02, fitting with model's title 4.44, fitting and clarity of graphic pattern 4.13. According to the results of the one-sample t-test, given the error level of 0.05 and significance level of 0.000, obtained value for t is higher than 1.96 for all questions which indicates the statement that "the model is acceptable" is confirmed by experts.

### 4- Discussion & Conclusions

Generally, conservation of geoheritage is essential because geosites are exposed to several kinds of threats such as an/the illegal collection of minerals and fossils from geosites, destruction by visitors, wrongful application, incorrect mining, and legislation. It should be noted that developing geotourism activities without conservation measures can lead to the gradual destruction of attractions and setting the ground for erosive factors, degradation of soil texture due to traffic and hence susceptibility to erosion which can create a critical condition in geotourism regions and threaten the environmental sustainability of the region. Considering that awareness of the vulnerability of geotourism phenomena and geological heritage is a prerequisite for the conservation of these phenomena, this research was done with the aim of developing a model of the vulnerability of geotourism attractions. According to the research proposed model, the significance of attraction is indicated by intrinsic and instrumental values; meanwhile, the integrity of geotourism attractions is itself an effective factor in attributing instrumental and essential values to attractions. If the integrity of geotourism attractions is weakened by natural and human threats, naturally it leads to reduced values; Declining values

lead to the reduction of attractions' significance and make them the vulnerable following the reduction of their significance.

**Keywords: Vulnerability, Threats, Geotourism Attractions, Conservation, Geological Heritage.**