

***Quantitative assessment of salt geomorphosites in Semnan Province
using Brilha and Pralong methods with emphasis on west province
geosites***

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Extended Abstract

Introduction

Nowadays, along with other social and cultural attractions, the geomorphological and climate attractions have the special importance for economic studies and policy making. Geotourism is a new approach to explain the earth planet and its natural capital. In addition to educational and scientific roles, it can cause development of regional tourism and offer strategies for sustainable development in the geotourism sites. Geotourism is one of the new areas in tourism that follow tourism principles and in relation with the studies of geology, geomorphology, natural landscapes, landforms, stones and minerals with emphasis on the processes that create these shapes. This branch of tourism introduces the geology and geomorphology phenomena to tourists by observing the international rules and standards along with keeping the local identity and also arrangement and organization of this treasure observation and preventing from destroying by human mainly for developing region. Therefore, it emphasizes on a set of geographical, geology, bio-environmental, cultural and ancient heritage characterizations. It is necessary for geotourism development in each region to identify the various geotourist attractions such as desert, coastal, volcanic, and mountainous regions and its development need programming and cost spending that finally result in geotourism development of the region. This activity, not only has economical, ecological and cultural – social benefits but also provides the employment of extensive range of students in mine, bio-environment, geography, geology areas and etc. Geomorphotourism is an approach that emphasizes on the use of geomorphological and geological features and their ability with a focus on saving these features and forms and sustainable use of them. This approach also places an emphasis on maintaining the geographical

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identity and referring to the relationship between geotourism and historic - cultural signs and reminders and also interactions between geomorphology and tourism. That eventually would be related to human activities and the history of the human life. Thus, geomorphotourism is resulted from a combination of tourism goods, services, and foundations that are promoted in the specific region and related cultural elements. Geomorphosite assessment is an issue that most of the geographers are interested in. The various studies have been carried out in internal and world level about estimating the geomorphosites in two past decades and today they are doing with increasing trend. In this research, the capability of landforms resulted from salt diapirism have been estimated in development of tourism in Semnan. Semnan have been known as a salt tourism pole but unfortunately, there isn't any research about tourism result from the salt diapirism in this city and even Iran.

Materials and methods

Semnan province is located between 51° 51' 51" E and 57° 03' 00" E from prime meridian and 34° 13' 00" N and 37° 20' 00" from Equator. In this study, descriptive - analytical indicators and brilha method have been used to analyze the data. Salt Geomorphosites of Semnan Province have been identified with using the satellite image processing and combined with topographical and geological maps. Geomorphological properties of the sites had been studied based on Brilha method with the help of library and field studies. The instrument used in this study consists of Digital Elevation Model (DEM), ETM Satellite Images, IRS Images, and Topography Maps in scale of 1:50000 produced by Iran Geographical Organization of the Armed Forces and Geological Maps in the Scale of 1:150000. In the first step, 35 cases of the most important attractions of geo-tourism features in the Semnan province has been selected. Then, the value and criteria have been determined according to brilha method and then each geomorphosite was evaluated. Brilha method is a Quantitative technique for primary evaluation of geomorphosites from the view point of planning and sustainable management of natural heritage sites and turning them into tourist destinations. This method includes 4 criteria including Scientific, Educational, touristic and degradation risk and 37 indicators.

Results and discussion

Landform configuration is one of the tectonic effects of salty diapir in large and small scales. Geomorphological landform is a geomorphological event that has scientific, cultural – historical, geology and social- economical values according to human identification. In this research, salty capabilities of Semnan province are evaluated for geotourism development. From the salty landforms, finally 35 geomorphosite in the semnan province were selected for evaluation. In order to select these features, some criteria such as representativeness, rarity, integrity and Scientific Knowledge had been considered. The results show that in the Scientific and Educational Criteria, Geomorphosites of Salty dome in southern Semnan has the highest value (3.8, 3.73) and then is placed on the first order. In the touristic criteria, Geomorphosites of Kohdasht Kohan Salty dome get the highest value (3.63) and then is placed on the first order.

Conclusion

In this research, we tried to estimate the capability of salty domes geomorphosites in Semnan

Province from geological and geomorphological point of view according to Brilha model. The results have indicated that salty geomorphosites have high scientific, protective and aesthetic values but from the view point of tourism services and foundation they are faced with several problems and there aren't enough facilities in this field. High protection level in this area is not related to administrative and scientific protection but it is related to lack of awareness of these geomorphosites. This means that the authorities and planners performed weak in the field of introducing the desert geomorphosites of the Semnan province.

Keywords: *assessment, Brilha method, Geomorphotourism, Geosite, Semnan Province.*

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