ASSESSING THE GEOTOURISM POTENTIALS OF KAZEROON TOWN BY USE OF PRALONG METHOD: LESSON FOR BIMP-EAGA REGION

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ABSTRACT

One of the interdisciplinary research approaches appeared in recent years is where geomorphologic matters and tourism are interfered. In this manner, geomorphological sites are defined as geomorphologic landforms and processes that have acquired a scenic/aesthetic, scientific, cultural/historical and social/economic value due to human perception of geological, geomorphological, historical and social factors. Therefore, the main objective of this article is to identify Kazeroon geomorphosites and their ecotourism potentials by use of Pralong method which is an updated method used for the assessment of tourism potential of geomorphosites. The geomorphosites and their location are found via studying of topographic maps and satellite images and field surveys. Consequently, their features were set in a sheet of paper as geomorphosite identification sheet. Pralong method was then applied to determine the capabilities and functionality of any geomorphosite Land – Tourism. In this sense, the high value of the geomorphosites is mainly depended on their scientific values since the low values of studied geomorphosites are due to some reasons such as availability problems, distance to population centers, unidentified potentials, the people's view towards tourism and their special manner of passing their free time, and inattention towards ecotourism in its real concept. The results of the ranking of Geomorphosites shows that the Bishapour historical and natural complex is the most important geomorphosite of the study area due to having high historical and archaeological value and beautiful landscape. Eventually, the presentation of a new view to geomorphologic units and definition of these areas in the molding of ecotourism concept is the main finding of this article.

Keywords: Geomorphosite, Ecotourism, Pralong method, Kazeroon

1.0 INTRODUCTION

Scheming the connection between Geomorphologic issues to tourism have a long precedent when Leopold (1949) as one of the Geomorphology pioneers, stated land ethic as the base and principle to tourism services ethic. In current years, this connection has gained a lot of research interests in form of determining the morphologic systems performance related to ecotourism in another way (Serrano & Pope et al 2002, smith & Inbakaran, 2002; Jennings, 2004; Pralong, 2005; Brandolini et al, 2006). Touristic geomorphologic places or as prolong (2005) states "geomorphologic inheritances" are defined as geomorphological shapes and processes which are based on the human fathom as one of the effective factors of geology, geomorphologic, historic and social of these places, having aesthetic, scientific, cultural-historical or social-economical values (Quaranta, 1993).

Special natural attraction, important ecological processes or special herbal and animal societies which have gained a special reputation in recent years (Hall &Lew, 1998) obtained the tourists' interest so much. Geomorphic equipment study of protected areas and their protection can be scrutinized in three aspects: as a basement and principle of settlements and ecosystems, as a point of view, and as a part of inherent value of natural environment (Mokhtari, 2010). It seems that in Iran, the first point of view which introduces the geomorphologic events as a rewarding element for protection, identification and management is not considered as an important factor. About the second point of view, they do widespread attempts for presenting an identification from geomorphologic places based on cultural point of view, their interactions and the effects they leave. In the researches of Panizza (2001) and Panizza & Piacente (1993) have been tried to identify the environment, history and philosophy or culture role in evaluation of geomorphic sites. By considering geomorphologic shapes in tourism in recent years, there are many studies done on the field of geomorphologic shapes in developing tourism (Tourtellot, 2004), geomorphosites definition and their attractions (Reynard et al., 2006), geomorphologic events role on tourists welfare in mountainous areas (Connor et al., 2006), connection between geotourism and geomorphological events (Pellegrini et al., 2010) are some of these researches.

Kazeroon town having some shapes such as Shapour Cave, Chogan valley, Chenar valley, Amant Valley, Torkan valley and etc. is of high importance in Iran. This area involves all of the geomorphic karst cycle and karst phenomena have been developed in all of its edges in various shapes. Existence of big continual water and also remarkable underground water in this semi-arid area shows the effects of Qatar-Kazeroon fault in shaping the karst shapes. In this research, besides identifying geomorphologic shapes and their features, their ecotourism ability

related to the geomorphological shapes features have been evaluated based on Pralong method.

2.0 STUDY AREA

Kazeroon plain is located in the west of Fars province and in the 160 kms of west of Shiraz. Kazeroon is led to the Shiraz from east, Nourabad mamasani from north, Farashband from south and Bushehr from west. The location of study area can be seen in Figure 1.

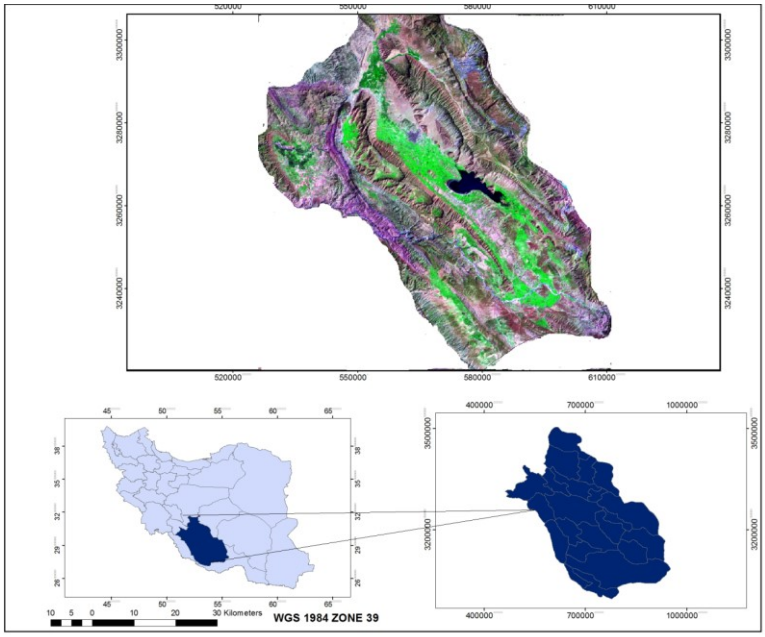

Figure 1: The location of study area

2.1 The geomorphosites of study area

In this research, primary and secondary data related to the subject has been gathered. Then by scrutinizing Kazeroon topography map and satellite pictures and field survey, geomorphosites and their location have been determined. 4 geomorphosites which involve a bunch of geomorphologic shapes, are determinable in study area which are; Parishan Lake, Bishapour natural- historic monument, Berm plain, Komaraj salt domes.

3.0 RESEARCH METHODOLOGY

In this research, primary data and documents related to the subjects were gathered. By scrutinizing Kazeroon topography maps and satellite pictures and field survey, geomorphosites, were determined and located. Then their features organized in papers called geomorphosite identification sheet.

After completing papers related to each geomorphosite for determining their potential of Land-tourism geomorphosite, the Pralong method (2005) was undertaken. Based on the Pralong method, the tourism potential of a geomorphosite can be scrutinized in 4 ways (aesthetics, scientific, cultural-historical and socio-economical. There are special aspects for considering value of every facet of tourism geomorphosite ability. In this condition the tourism potential of a geomorphosite contains four index mean values and they are depicted in what follows.

The Tourism value of a Geomorphosite = (scientific value + historical-cultural value + socio-economical value + aesthetic value)/4

Table 1: Aesthetic value evaluation criteria and scale for a geomorphosite (Pralong, 2005).

Score / Criteria	**0**	**0.25**	**0.5**	**0.75**	**1**
The number of attractions	-	1	2 or 3	4, 5, or 6	More than 6
The attraction survival	-	< 1 month	1< month >3	3< month >5	>5 month
People's knowledge level about the beauty of attraction	-	Local	Regional	National	international
Enjoyment	-	Little	moderate	Much	So much

In this relationship neither of these factors do not have more value than others since there is not a special reason for their low or high importance in considering geomorphosite tourism potential identification (Mokhtari, 1389). In this research, there are 6 questionnaires which have been represented as tables. A part of this questionnaire have been completed by library research and another part has been completed by Kazeroon's cultural heritage organization personnel. Aesthetic value: a geomorphosite aesthetic aspects is independent on the inherent visiting facets. This value can be measured by the following equation and table 1.

Aesthetic value= (first criterion score + second criterion score + third criterion score + fourth criterion score)/4

Scientific value is measured by factors such as attraction uniqueness, educational condition, and ecological historic geography. This value can be measured by the following equation and based on the table 2.

Scientific value = (first criterion score + second criterion score + third criterion score + fourth criterion score + fifth criterion score)/5

Table 2: Scientific value evaluation criteria and scale for a geomorphosite (Pralong, 2005).

Score / Criteria	**0**	**0.25**	**0.5**	**0.75**	**1**
The Paleogeographic Appeal	-	Little	moderate	Much	So much
Visual Features	-	Few	moderate	Many	So many
Attraction Rareness (the number of similar sites)	>7	5<Number<7	3<Number<4	1<Number<2	Unique (0)
Attraction Condition	Fully destroyed	Destroyed	Half destroyed	Little destroyed	No change
Ecological Appeal	-	Little	moderate	Much	So much

Historical-Cultural value: in evaluation of historical-cultural value in artistic aspects, it is based on common cultural traditions in geomorphosite. The value is measured by the mentioned equation and based on the table 3.

Historical-Cultural value = (first criterion score + second criterion score + third criterion score + fourth criterion score + fifth criterion score + sixth criterion score)/6

Table 3: Historical-Cultural value evaluation criteria and scale for a geomorphosite (Pralong, 2005).

Score / Criteria	**0**	**0.25**	**0.5**	**0.75**	**1**
Historical-Cultural customs	No link	Weakly linked	Moderately linked	Strongly linked	Initiatory of customs
Archeological relevance	No vestige	Weak relevance	Medium relevance	High relevance	Very high relevance
Religious relevance	No relevance	Weak relevance	Medium relevance	High relevance	Very high relevance
Art and Cultural events	Never	-	Occasionally	-	At least once a year
Tourism positive impact on local culture and customs	No effect	Little effect	Moderate effect	Much effect	So much effect
Tourism negative impact on local culture and customs	No effect	Little effect	Moderate effect	Much effect	So much effect

Socio-economic value: in evaluation of socio-economical capabilities, the exploitable features and entrepreneurship in geomorphosite tourism are in focus point. Scores can be measured by the equation and based on the table 4.

Economic value = (first criterion score + second criterion score + third criterion score + fourth criterion score + fifth criterion score + sixth criterion score)/6

Table 4: Socio-economic value evaluation criteria and scale for a geomorphosite (Pralong, 2005).

Score / Criteria	**0**	**0.25**	**0.5**	**0.75**	**1**
Accessibility	>1 KM of track	<1 KM of track	By a local road	By a road of regional importance	By a road of national importance
Natural risks	Uncontrollable	Not controlled	Partially controlled	Controlled-residual	No risk
Annual number of visitors	<10000	10000<number<100000	Between 0.1 and 0.5 million	Between 0.5 and 1million	>1 million
Official level of protection	Complete	Limiting	-	Not limiting	No protection
attraction	-	local	Regional	national	International
Impact on local economy	-	Little	moderate	Much	So much

Exploitation value evaluation in geomorphosite

Exploitation value is measured from parameters such as tourism value. Two principles and measurement base evaluation of Exploitation value where one of them is the exploitation degree and the other one is the exploitation modality.

The degree of exploitation

The degree of exploitation shows the spatial and temporal usage of the geomorphosite, which is measured by this equation and based on the table 5.

The degree of exploitation value = (first criterion score+ second criterion score+ third criterion score+ fourth criterion score)/4

Table 5: The degree of exploitation value evaluation criteria and scale for a geomorphosite (Pralong, 2005).

Score / Criteria	0	0.25	0.5	0.75	1
Used surface (ha)	-	<1	1<surface<5	5<surface<10	More than 10
The number of infrastructure	-	1	2< number >5	6< number >10	More than 10
Seasonal occupancy (day)	-	1 to 90	91 to 180	181 to 270	271 to 360
Daily occupancy (hour)	-	<3	Between 3 and 6	Between 6 and 9	More than 9

The exploitation modality

The exploitation modality includes 4 elements of aesthetic value, scientific value, historical-cultural value and socio-economical value and is measured based on the following equation and table6.

The exploitation modality value = (first criterion score+ second criterion score+ third criterion score+ fourth criterion score)/4

Table 6: The exploitation modality value evaluation criteria and scale for a geomorphosite (Pralong, 2005).

Score / Criteria	0	0.25	0.5	0.75	1
Use of Aesthetic value	No advertising optimization	1 support & 1 product	1 support & some products	Some means of support & 1 product	Some means of support & products
Use of Scientific value	No advertising optimization	1 support & 1 product	1 support & some products	Some means of support & 1 product	Some means of support & products
Use of Historical-cultural value	No advertising optimization	1 support & 1 product	1 support & some products	Some means of support & 1 product	Some means of support & products
Use of Socio-economic value (the number of visitors, person)	No visitor	<5000	5000<visitor< 20000	20000<visitor<100000	More than 100000

4.0 RESEARCH ANALYSIS

After determining geomorphosites of the study area, their features can be classified in papers called geomorphosite identification sheet. After completing each geomorphosite paper, the

Pralong (2005) method has been undertaken to identify the value of land-tourism potential of each geomorphosite. The results are presented in Table 7 and Table 8.

Table 7: Final evaluation of tourism value for each attraction

Attraction / Criteria	**Parishan Lake**	**Berm Plain**	**Bishapour natural –historical complex**	**Komarj salt domes**
Use of Aesthetic value	0.75	0.68	0.81	0.37
Use of Scientific value	0.75	0.70	0.85	0.62
Use of Historical-cultural value	0.62	0.50	0.83	0.41
Use of Socio-economic value (the number of visitors, person)	0.50	0.30	054	0.45
The mean of Tourism value	**0.65**	**0.54**	**0.75**	**0.45**

Table 8: Final evaluation of exploitation value

Attraction / Criteria	**Parishan Lake**	**Berm Plain**	**Shapoor Plain**	**Komarj Plain**
The degree of exploitation value	0.50	0.50	0.75	0.50
The exploitation modality value	0.37	0.18	0.56	0.25
The mean of exploitation value	**0.43**	**0.34**	**0.65**	**0.37**

Based on the measured values of tourism potential of geomorphosites of the study area, Bishapour complex gained the highest score (0.75) and it can be known as the most attractive geomorphosite in terms of geotourism site of the area. The reason that has increased the value of the geotourism importance of Shapour Plain is its location near the Bishapour historical town; additionally, this place has got a collection of karst shapes. Parishan Lake with 0.65, Berm Plain with 0.55, Komarj salt domes with 0.45 are rated next respectively. Evaluations show that the tourism value of geomorphosites in the study area is due to their high scientific value while low assays are gained generally from factors such as lacking of the promotion of area potentials, people's point of view towards tourism and the way that people spend their free time and finally lacking of attention towards the ecotourism in its real concept. From exploitation value point of view, Bishapour gained the highest and Berm Plain gained the least score.

5.0 CONCLUSION

In current study, tourists' point of view is more based on enjoyment gained from aesthetics aspects of natural attractions rather than to be from an ecotourism point of view, therefore, we can see inappropriate site planning and management in these places. Current research compared and scrutinized theoretical principles of subject as much as possible to identify the connection between ecotouristic aspects of study area and earth-environmental features in the form of geomorphosite in different areas of it. Evaluations have shown that study area has a great potential to be a geomorphologic touristic place and since all of these ecotourism attractions have connection with geomorphologic processes and almost in all aspects it is originated from these processes. Evaluations have represented the geomorphosites of the area, which are usually based on their high scientific value affecting other values of them. Finally, their low values are due to some reasons such as being far from the population centers of the province and the country, lack of the promotion of area potentials, people's point of view toward tourism and their type of spending free time and lastly, lacking of attention to the ecotourism in its real concept.

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