

## Desert Ecomuseum Positioning: Yazd Province, (IRAN)

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### ABSTRACT

Nowadays, deserts are becoming more and more popular tourism (especially geotourism) destinations. The wealth of their heritage, the people who inhabit them, the architecture compatible with desert regions environments, special events and customs make deserts very attractive areas for tourism. However, deserts are among the most fragile and sensitive ecosystems on our planet. Therefore, development of tourism in these areas should follow sustainability principals. The establishment of a desert ecomuseum as a framework for developing heritage tourism can be a strategy for implementing sustainable tourism. The ecomuseum will contribute to the activation of sustainability in these fragile regions. The major objective of this study is to identify conditions for establishing a desert ecomuseum in Yazd Province, Iran. Data for this study were collected through observation and a questionnaire and the data was analysed using analytic hierarchy process (AHP) method. On the basis of the results of this research, it can be concluded that Sadegh abad bafgh has a great potential for the creation of a desert ecomuseum and development of geotourism.

**Keywords:** Analytic hierarchy process, Desert, Desert tourism, Ecomuseum

### INTRODUCTION

Unfortunately, climate and desertification are increasing the rate of migration in desert rural areas on a day-to-day basis. However, deserts include a number of attractions (desert geological and geomorphological landscapes, desert sky, desert native shrubs, desert wildlife, desert dunes, palm trees, unique customs and special architecture, etc.) that offer visitors a number of activities. Nowadays, deserts or desert regions are being featured as new tourist destinations in packages offered by tour operators and travel agents. They attract customers who are eager for new discoveries. As a result, tourism, especially geotourism and ecotourism, is making a contribution to the development of the local economy of desert regions, not least through the creation of temporary jobs that have eased the poverty of desert inhabitants

(UNEP, 2006:3). These experiences indicate that the establishment of a geopark or ecomuseum in rural desert areas can be a strategy for attracting more tourists and for the development of sustainable tourism in these regions. The Ecomuseum of Khetaras, in the Tafilalet region, Morocco and Alxa Desert Geopark Alxa League, the west of Inner Mongolia Autonomous Region, China, constitute good examples. It is noteworthy that Iran, which comprises a land area of 1,648,195 km<sup>2</sup> is mountainous-desert country and located on the world desert belt. Two-thirds of the land area is covered by drylands. The formation of the huge desert in Iran started from the Neogene Period of Cenozoic era and developed to the Quaternary Period (Ahmadi, 2012). The central and eastern part of Iran consists mostly of desert basins such as the Dasht-e Kavir, Iran's largest desert, in the north-central portion of the

country, and the Dasht-e Lut, in the east, as well as some salt lakes. Hence, Iran has a great potential for desert tourism and the development of geotourism in deserts.

Yazd province, with an area of 131,551 km<sup>2</sup> is located at an oasis where the Dasht-e Kavir desert and the Dasht-e Lut desert meet. Yazd Province is a centre of Zoroastrian culture. Because of generations of adaptations to its desert surroundings, Yazd is an architecturally unique city and selected as a case study in this research.

In this study we discuss the positioning a desert ecomuseum. The research was conducted in Yazd Province, Iran.

Data was collected through a literature review, observation and the responses from a questionnaire filled in by experts. The evaluation of criteria and sub-criteria show that Sadeqh abad bafgh has a great potential for the establishment of a desert ecomuseum in Yazd province.

## LITERATURE REVIEW

### Ecomuseum

According to Maggi and Falletti (2000), the term ecomuseum is hard to define. An ecomuseum is a museum which places emphasis on the identity of a place, largely based on local involvement and aiming to enhance the welfare and development of local communities. The word Ecomuseums originated in France, and the concept was developed by Georges Henri Rivière and Hugues de Varine, who coined the term 'ecomusée' in 1971 (Bary et al., 1994).

It is noteworthy that the the ecomuseum paradigm was developed and fully considered by Davis (1999). The ecomuseum is different from a traditional museum, (Rivard 1984, 43-53; 1988, 123-4; Boylan 1992; Corsane 2006:404; Corsane et al.,2008 : 3) stating that the:

- *Traditional Museum = building + collections + expert staff + public visitors;*

and,

- *Ecomuseum = territory + heritage + memory + population.*

The formula demonstrated that ecomuseum is established in a territory not in a building, and therefore if the territory includes unique and interesting natural and cultural heritage sites, it is more attractive for visitors. Davis (2004) argued that an ecomuseum is a means of conserving traditional landscapes and ways of life, especially in rural areas.

Corsane (2006) introduced 21 indicators for ecomuseums of which local communities' involvement, public participation, the development of network activities, paying equal attention to immovable and movable tangible material culture, and to intangible heritage resources and sustainable development are the most important key components in the establishment of an ecomuseum. Murtas and Davis (2009: 150-186) suggest that the criteria for successful ecomuseum projects are: strong but sensitive leadership; a well-defined need or challenge; an inclusive process; an holistic approach to place; community-based with effective networking; recognition of the significance of intangible heritage; the conservation of cultural, natural and intangible heritage resources; the ability to link the past with the present, to discuss place now, to sustain local identity and aid regeneration; to be sustainable. Moreover, Hong Yi (2010) designed a necklace model for ecomuseum in which landscape, territory, sites, memories, nature, traditions, heritage and community are the beads of the necklace.

France, Italy, Spain and Poland are pioneers in the establishment of ecomuseums.

It is worth mentioning that the ecomuseum phenomenon has grown dramatically over the years, with no one ecomuseum model. Pressenda and Sturani (2007) believed that ecomuseums and open-air museums are tools for landscape management and conservation. Hong Yi

(2010) noted that the ecomuseum is a new form of open-air museum which is managed by the authority and agency of local communities. And he noted that in China ecomuseums have been constructed in a number of villages for conserving minority culture and assisting their future development. In addition, Habibizad (2010), in a book entitled "Ecomuseum: Human and Environment", put forward that ecomuseums can be a strategy for development of the local economy in rural areas in Iran. Regarding rural development, ecomuseums need a strong marketing model and it seems that websites and development of a smart ecomuseum app could be interesting tools to spread their identity and brand (Esposito, 2014; Bae & Lee, 2014).

## METHODOLOGY

The main objective of the study is to identify conditions for and introduce an

ecomuseum in the desert area of Yazd Province, Iran (Fig. 1). Furthermore, this study is a future research and an initial attempt to establish an ecomuseum in a rural area which is located in the desert and includes cultural, geological and geomorphological heritage.

To achieve these goals a research question was designed:

*Which territory has the greatest potential for the establishment of a desert ecomuseum in Yazd Province, Iran?*

In the first phase, three territories (Sadegh abad bafgh, Khavidak, Jafar abad rezvanshahr) were selected for ecomuseum creation (Fig. 1) according to study of geo-heritage sites, cultural and natural heritage (Fig. 2 and Tab. 1) and suggestions from experts familiar with the ecomuseum concept and who had visited the rural areas in Yazd Province at least once.

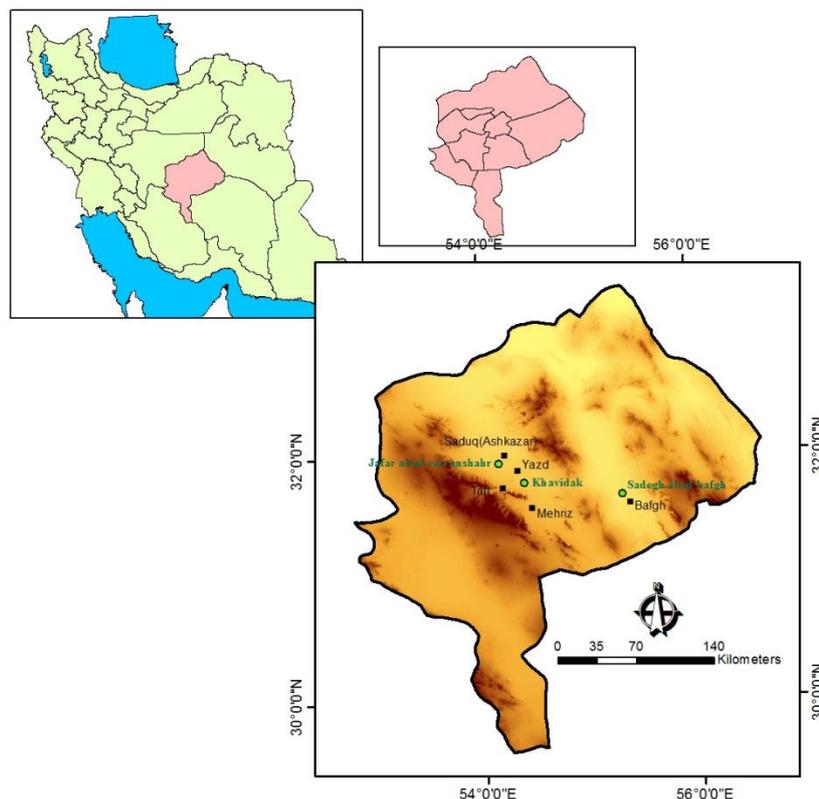


Fig. 1 Case studies location in Yazd Province, Iran

**Tab. 1** Cultural and geo-heritage sites in case studies, Yazd, Iran

Proposed territory	Natural and Geological and Geomorphological heritage	Cultural heritage
Sadegh abad bafgh	Ghord	<ul style="list-style-type: none"> <li>• Museum of Anthropology</li> <li>• Events</li> <li>• Local customs</li> <li>• Desert architecture</li> </ul>
	Ripple Mark	
	Salty Pan	
	Humid Zone	
Jafar abad rezvanshahr	Ripple Mark	<ul style="list-style-type: none"> <li>• A mosque which became buried under a sand dune (Rig mosques)</li> <li>• Events</li> <li>• Local customs</li> <li>• Desert architecture</li> </ul>
	Barchanoid Dune	
Khavidak	Seif	<ul style="list-style-type: none"> <li>• A historic mosque with unique architecture</li> <li>• Events</li> <li>• Local customs</li> <li>• Desert architecture</li> </ul>
	Ripple Mark	
	Silk Road	



**Fig. 2** Desert sand dune in Sadegh abad bafgh, Yazd, Iran ( Reference: Danakhabar)

In the second phase, a questionnaire was designed via which data for this study were gathered. Since the areas are located in the territories with natural, geological and cultural heritage sites, in the questionnaire the authors determined criteria and sub-criteria for the matrix according to 21 ecomuseum indicators (Corsane, 2006), a proposal form from the geoparks (form part

A) (GGN, 2010) and experts' suggestions. Then a sequential decision tree was constructed for the best treatment decision process (Fig. 3). Respondents (experts in desertification, tourism, geology, geography and cultural heritage areas) rated each item ranging from 1 (Equally Preferred) to 9 (Extremely Preferred), and their ratings indicated their preferences.

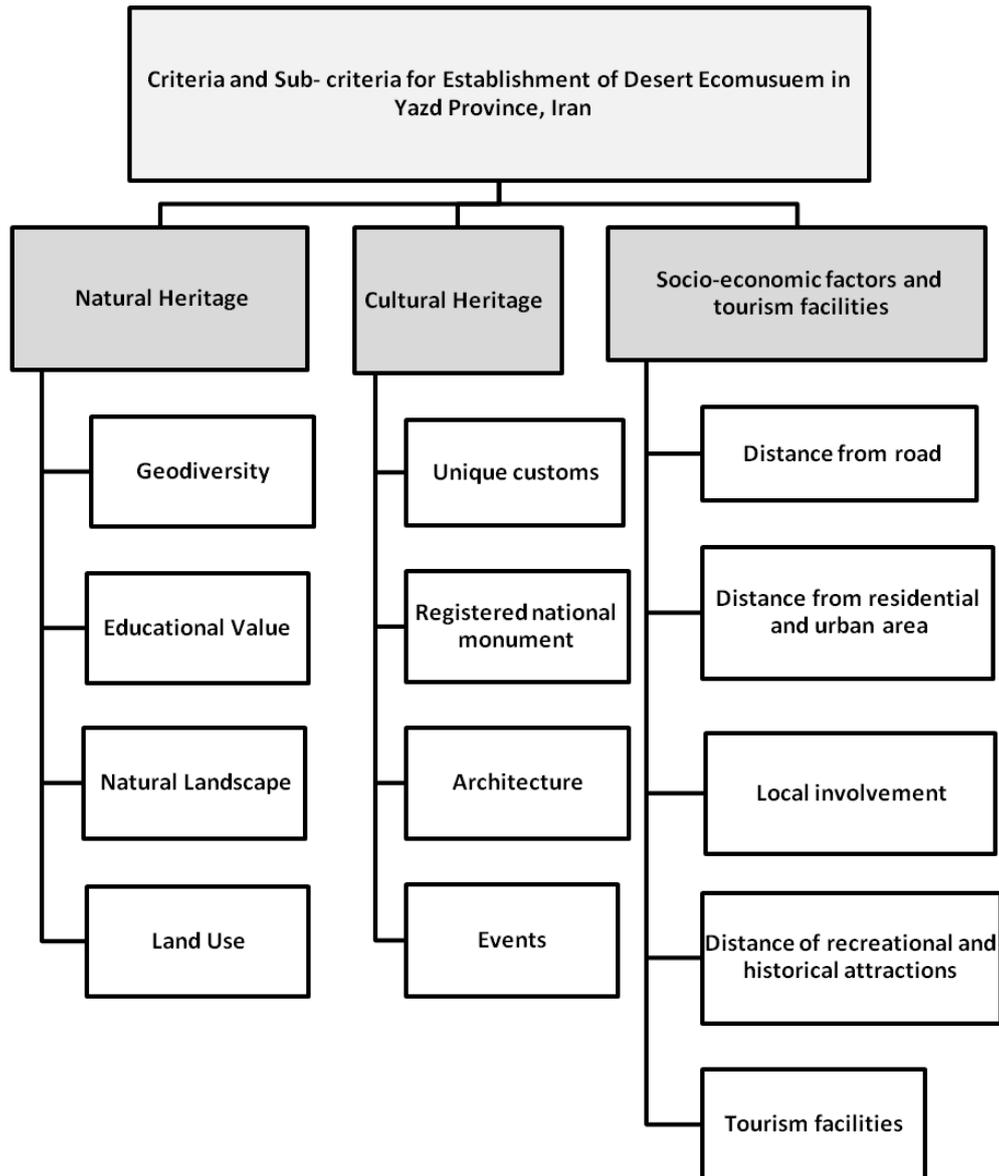


Fig. 3 A sequential decision tree for establishment of Desert Ecomuseum in Yazd, Iran

Lastly, analytic hierarchy process (AHP), which is a structured technique for organizing and analyzing complex decisions, was used and the data was analysed through Expert Choice, which is decision-making software.

## RESULTS

The paired comparison matrix method for obtaining weights (for criteria and sub-criteria) and values for evaluating and making the decision to select a territory

among three candidates (Sadegh abad bafgh, Khavidak, Jafar abad rezvanshahr) was used. The criteria can be compared and ranked against each other to determine their relative importance; in this study the use of a paired comparison matrix (Tab. 2) illustrated that for positioning of desert ecomuseum in Yazd, Iran, natural factors are the most highly rated (0.501). In addition, the results of numerical weight or priority which is derived for each element (sub-criteria) indicated that geodiversity (geological and geomorphological landscape variety) (0.445) is the most

**Tab. 2** Weights obtained from paired comparison matrix method (Expert Choice software) for criteria and sub-criteria of desert ecomuseum, Yazd, Iran

Criteria	weight	Sub criteria	weight
Natural heritage	0.501	Geodiversity	0.445
		Educational Value	0.230
		Natural Landscape	0.225
		Land Use	0.101
Socio-economic factors and tourism facilities	0.255	Distance of recreational and historical attractions	0.259
		Distance from road	0.245
		Local involvement	0.213
		Distance from residential and urban area	0.161
		Tourism facilities	0.122
Cultural heritage	0.243	Registered national monument	0.358
		Unique customs	0.328
		Architecture	0.200
		Events	0.114

important factor for selecting and positioning a desert ecomuseum in Yazd. After that, registered national monuments (0.358) and unique customs (0.328) which are classified as cultural factors, have a key role in positioning a desert ecomuseum in Yazd province (Tab. 2). The results clearly show that natural and cultural heritage are key components of the establishment an ecomuseum in a desert area.

Weights obtained from the paired comparison matrix method (Expert Choice software) for criteria indicate that (Fig. 4) Shadegh abad bafgh (0.478) has a great potential for the establishment of an ecomuseum.

Further analysis on the data of Sadegh abad bafgh illustrates that among the sub-criteria of natural heritage, geodiversity (0.514) and educational value (0.476) are the more important factors in this area for attracting tourists, development of desert tourism and the establishment of an ecomuseum. Moreover, our results also indicate that among the three territories, Sadegh abad bafgh has the highest weight (0.469) of

cultural heritage factors (criteria and sub-criteria) (Fig. 4). The clearest result of the investigation is that, in four cultural sub-criteria (unique customs (0.466), registered monuments (0.497), architecture (0.462) and events (0.417)) Sadegh abad bafgh is the pioneer.

Besides, measurements of weight in relation to socio-economic and tourism facilities factors (0.506) reveals that Sadegh abad bafgh, more than the other territory, is suitable for the establishment of an ecomuseum and development of desert tourism. Lastly, the sensitivity analysis chart (Fig. 5) allows us to conclude that Sadegh abad bafgh has a great potential for creation of a desert ecomuseum in Yazd, Iran.

## CONCLUSIONS

Nowadays, on one hand, ecomuseums can be a strategy for preserving cultural and natural heritage sites, while at the same time they are a tool for local development

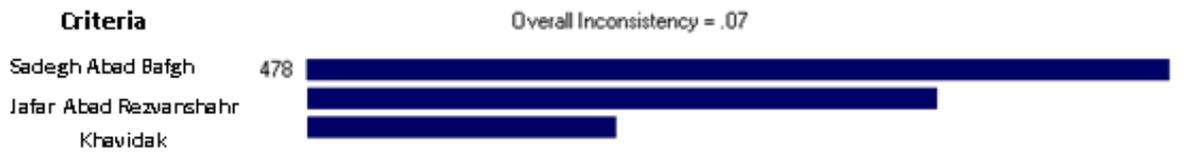


Fig. 4 Weights obtained for criteria (natural, cultural heritage and socio-economic factors and tourism facilities) through Expert Choice software

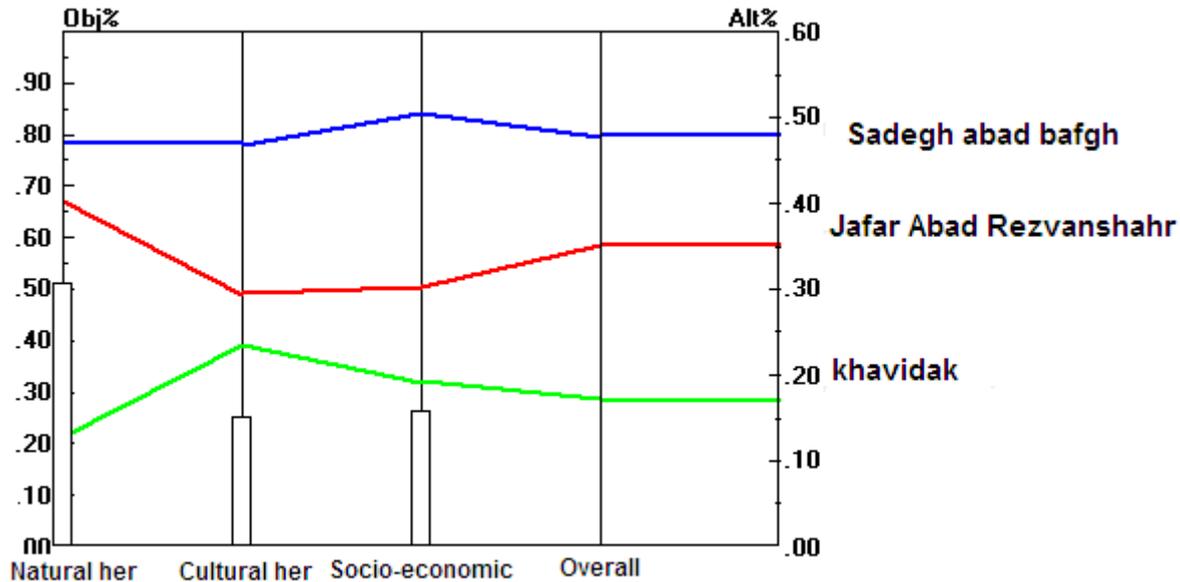


Fig. 5 Sensitivity analysis chart by Expert Choice software

and involvement. It is noteworthy that each territory which is a candidate for the establishment of an ecomuseum, authorities of that region should pay particular attention to 21 indicators (Corsane, 2006) proposed for ecomuseum creation. In addition, localization of global strategies, utilization of local knowledge and local experts are key components in positioning an ecomuseum.

Recently, since desert regions which include significant geological, geomorphological, cultural and natural heritage sites are becoming tourism (especially geotourism) destinations and are one of the best territories for the establishment of desert ecomuseums. Iran, with 32.5 million hectares of desert, has a high potential for desert tourism and the establishment of a desert ecomuseum. This paper presented a summary of work being carried out for positioning a desert

ecomuseum in Yazd (desert geomorphic province).

The results of this paper indicate that Sadegh abad bafgh has the highest weights for the establishment of the first desert ecomuseum in Yazd, Iran.

Since ecomuseums and geotourism are new concepts in Iran, it is obvious that along the way of implementing them there are some challenges. Thus the authors recommend the following steps before the implementation phase and any geotourism planning:

- Holding a workshop for locals regarding geotourism and ecomuseum concepts
- Study on implementation challenges
- Implementing this plan as a pilot in Sadegh abad bafgh and evaluating positive and negative socioeconomic impacts
- Establishment of a national ecomuseum network for exchange of knowledge

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