



Ecotourism sustainable development strategies using SWOT and QSPM model: A case study of Kaji Namakzar Wetland, South Khorasan Province, Iran



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ABSTRACT

Evaluating the current situation of ecotourism in Kaji Namakzar Wetland in South Khorasan Province, Iran and offering strategies for its sustainable development are the main objectives of this study. To this end, different decision making tools were used including questionnaires and interviews with experts, local residents and visitors of the wetland. Strengths, weaknesses, opportunities and threats (SWOT) and quantitative strategic planning matrix (QSPM) analysis techniques were conducted to identify the required management strategies. Results showed that the existing ecotourism activities within the wetland are not in line with the sustainability requirements. Although the result of the present study showed that KNW has an unsustainable situation with regard to its current management strategies, if authorities take its great opportunities and strengths more into consideration, it can have positive effects on developing sustainable strategies to increase ecotourism activities in the region and to reduce the adverse effects on the environment.

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1. Introduction

Ecotourism is defined as “environmentally responsible travel and visitation to relatively undisturbed natural areas in order to enjoy and appreciate nature (and any accompanying cultural features both past and present) that promotes conservation, has low negative visitor impacts, and provides for beneficially active socio-economic involvement of local people” (Ceballos-Lascurain, 1996; Jalani, 2012). Ecotourism is about uniting conservation, communities, and sustainable travel. This means that those who implement and participate in ecotourism activities should follow the following ecotourism principles: to minimize negative environmental impact; to build environmental and cultural awareness and respect; to provide positive experiences for both visitors and hosts; to provide direct financial benefits for conservation; provide financial benefits and empowerment for local people; and raise sensitivity to host countries' political, environmental, and social climate (Higham, 2007; Holden, 2007; Das & Chatterjee, 2015). According to Quebec declaration on ecotourism (2002), the economic, social and environmental impacts of tourism should be considered to recognize

the principles of sustainable ecotourism (Das & Chatterjee, 2015). There are many environmental problems such as increasing noise, air and water pollution, decreasing biodiversity, draining of wetlands, and destruction of coral reefs. Because of this, some organizations (like the International Union for Conservation of Nature) list ecotourism as one of the most important threats to natural landscapes. Due to increasing negativities of ecotourism, several authors reiterated tourism industry to grow carefully (Balmford et al., 2002; Tepelus & Cordobci, 2005).

Ecotourism is a noticeable strategy for protecting environment and creating income for local communities if its principles consider in a sustainable manner. It can deeply impact on economic development and conservation of natural resources (Surendran & Sekhar, 2011). Conservationists have identified ecotourism as a valuable tool of protection of natural resources and development of local communities (Stronza, 2007). Generally, ecotourism deals with living parts of the natural environments (Sadry, 2009) and mainly focuses on socially responsible travel, personal growth, and environmental sustainability. It typically involves travel to destinations where flora, fauna, and cultural heritage are the primary attractions. Ecotourism is intended to offer tourists insights into the impact of human beings on the environment, and to foster a greater appreciation of our natural habitats. It is one of the less destructive and more sustainable forms of tourism in rural

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and urban environments and with sustainable management and development it could put positive impacts on the urban and rural transformations (Agrawal, 2012). Ecotourism is a rapidly growing niche market within one of the world's biggest industries, i.e., tourism (Blangy & Mehta, 2006; Das, 2011). According to monthly and quarterly data for 2012 included in the UNWTO World Tourism Barometer, international tourist arrivals worldwide grew at a rate of 5% in the first four months of 2012, consolidating the growth trend that started in 2010. Ecotourism is an important subset of this global market and studies suggest its rapid expansion (Duffy, 2006; Telfer & Sharpley, 2007). Ecotourism activities are gradually becoming popular in a large number of countries such as Iran, the eighteenth largest country of the world situated in Southwest Asia. Sustainable ecotourism is one of the subjects that has not been fully considered in the country despite its importance and effects on human life and environmental management.

Iran has various natural attractions such as temperate forests in the north with high humidity and rainfall (1700 mm), deserts and salt lakes in the central part, high mountains (such as 5604 m-high Mount Damavand), glaciers and coastal areas (Ghadimi, 2014). Although Iran has a diverse climate and remarkable biodiversity, major limitations such as lack of conclusive regulations, educational programs and infrastructure, have contributed to the slowing of the development of ecotourism in the country (Sayyed, Mansoori, & Jaybhaye, 2013). Some prior studies have been conducted on the development of ecotourism in Iran using strengths, weaknesses, opportunities and threats (SWOT) technique (Aghajani, 2014; Moosavi, Safania, & Gholami, 2013; Sayyed et al., 2013). Similarly, Samadzadeh, Bigdeli, and Fathi (2010) analyzed the potential ecotourism areas in Hashtjin using SWOT technique. They concluded that the area has high potential for tourism development and with designing proper plans for tourism development of the region, the area would not only conserve from threats, but also improve the region's economic condition. Badri, Rahmani, Sjasj Kedari, and Hassanpour (2011) emphasized that a variety of strategies and policies need to be considered for ecotourism sustainable development (ESD). According to the studies conducted by Taghvaei, Taghizadeh, and Kiomarsi (2011) and Ebrahimzadeh and Agassizadeh (2009), using geographic information system (GIS) and SWOT models can help us to address an appropriate strategy for ESD. Moosavi, Safania, and Gholami (2013) showed that there is a scope for the improvement of the SWOT analysis in identifying more options for strategic management of sustainable ecotourism. Because of having the dry desert areas, great mountainous and natural landscapes, many people were attracted to visit natural landscapes (such as wetlands) in different provinces of Iran (such as South Khorasan).

South Khorasan is one of the three provinces created after the division of Khorasan province in 2004. While at the beginning, the newly created "South Khorasan" included only Birjand county and some new counties detached from that county (i.e., Nehbandan, Darmian and Sarbisheh), in subsequent years all northern and western cities and territories of the old Qhistan (such as Qaen, Ferdows and Tabas) have been annexed into the South Khorasan. South Khorasan, with a wide range of tourism attractions, is like a jewel in desert. South Khorasan has many historical and natural attractions including Kaji Namakzar Wetland (KNW). A few researches have focused on KNW (Ramsar Convention, 2005). However, despite the importance of this region with regard to its ecotourism potentials, no effort has been made to present its current situation and to analyze ESD strategy and Quantitative Strategic Planning Matrix (QSPM) analysis in KNW. Therefore, this study focuses on the strengths and weaknesses (internal factors) as well as opportunities and threats (external factors) in this wetland using SWOT and QSPM analysis. Achieving sustainable tourism, defined as the one that is ecologically benign, economically feasible and socially acceptable, is thus contingent on environmental protection and reconciling tourism activities with local socio-economical values (Brown, Turner, Hameed, & Bateman, 1997). Therefore, herewith the implementation of sustainable tourism was examined through

questionnaire and interviews with experts, eco-tourists, local visitors and people. Accordingly, the following section provides the methodology of the paper. The analysis method focuses on the strengths and weaknesses (internal factors) as well as the opportunities and threats (external factors) in the study of wetland regarding sustainable tourism. Afterwards, the results are explained, following with a discussion on the research findings. Finally, a conclusion is drawn with regard to the main findings of this study.

2. Materials and methods

2.1. Study site

KNW is located in the north of the city of Nehbandan at a distance of 75 km. It is 1315 m below sea level and has an area of 22,765 ha. Its geographical coordinates are 59° 50'W to 60° 00'E and 31° 54'S to 31° 54'N (Fig. 1). KNW is a broad salt marsh and due to its low altitude compared to other surrounding regions, it has become a gathering point for the area's drainage. Since the soil salinity is high, Kaji Namakzar has become a salt lake. In the seasons of fall and winter, the level of water increases and the place becomes a sanctuary for waterfowl migratory birds. Indeed, it hosts a large number of migratory birds every year. Annually, over 5000 migratory birds land in this wetland. KNW lures a large number of tourists and this white salty lake is thriving in spite of consecutive drought conditions. Since the wetland has water, it is a secure place for waterfowls. The other strong points are the beauty of the landscape, great diversity of environments in a large territory, existence of valuable natural areas that may be further enhanced in terms of enjoyment in KNW (Ghorbani, Raufirad, & Jafarian, 2013).

2.2. Study sample

The population of this study comprised experts, local residents and the visitors of the KNW. According to Eq. (1), the sample size (235) was calculated based on the Cochran's formula, as follows:

$$n = \frac{N(ts)^2}{Nd^2 + (ts)^2} \quad (1)$$

Where:

- n is the sample size,
- N is the total number of experts, local residents and visitors in the selected area (77,128),
- T is the t student ($t = 1.96$; prob. = 0.95),
- s is the standard deviation of 30 respondents in the pilot study (0.94),
- d is the preferred likelihood accuracy (0.12). The expert recommendation was 10% (which is the common level for a desired precision in the country (Azadi, Samari, Zarafshani, Hosseininia, & Witlox, 2013) while a slightly more precision (12%) was considered.

In order to make a proper distribution of the sample among different groups (experts, local residents and visitors), the elicited sample was drawn on each group proportionally as shown in Eq. (2):

$$n_{E/LR/V} = N_{E/LR/V} \times n/N \quad (2)$$

Where, $n_{E/LR/V}$ is the sample size of each group (6 experts, 122 local residents and 107 visitors), $N_{E/LR/V}$ is the total number of each group (2100 experts, 40,000 local residents and 35,028 visitors), n is the total sample size (235) and N is the total number of experts, local residents and visitors (77,128).

Accordingly, study population (including experts, local residents and visitors) was selected through a multi-stage stratified random sampling method. All the interviews were conducted in Persian,

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