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Development of environmental strategies for sustainable tourism in an Iranian national park

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ABSTRACT

In today's world, sustainable tourism as an important economic activity plays a critical role in management of protected areas. Strategic management and planning can help long-term plans of sustainable tourism in Iranian national parks. In the present study, SWOT method was used to develop appropriate strategies for sustainable tourism management in Golestan National Park, Iran. Using IFE and EFE matrices, 26 factors of strengths, weaknesses, opportunities, and threats were identified in sustainable tourism management system. The most important of factors were rich attractions of the park, national park and Biosphere Reserve laws, lack of a master plan, low level of public participation, scientific projects, low interdisciplinary cooperation, risk of natural disasters, and low budget. Using these factors, 17 strategies were developed in four groups called SO, ST, WO, and WT. The resulted strategies have a close relationship with each other and their efficiency should be assessed periodically. Obviously tourism trends in Golestan National Park will be changed in the future and it urges for development of new strategies for sustainable tourism in the next years.

Keywords: Sustainable tourism, Golestan National Park, strategic management, SWOT

INTRODUCTION

In recent years, sustainable tourism has been an important term in tourism industry and its concepts have been derived from concerns with sustainable development [1]. In IUCN categories of protected areas, they are usually considered as a main natural attraction for tourism all over the world, and some kind of recreation and tourism is likely to occur as a management objective in every category of protected areas, save category Ia [2]. An important area in such classification of protected areas is national park which one of its primary objective is tourism.

Iran as a country with different ecosystems and rich flora and fauna, has 26 national parks which many of them are considered as tourism destinations because of their natural and cultural attractions [3]. These popular national parks are faced with many problems especially those related to tourism management [4]. Actually there is no tourism master plan for national parks and protected areas of Iran and it is limited to some guidelines on definition of recreational zones, structure design or nature-based tourism activities [5]. Hence, management and planning of tourism in a sustainable manner has been neglected [6].

It is important when tourism takes place, management frameworks and strategies are put in place to ensure that it supports and maintains protected area natural and cultural values [2]. Since tourism activities have long-term and some unknown impacts on sensitive environment of national parks, planning and management of such activities should be a strategic and long-term process. Hence, strategic management with emphasis on environmental issues seems to be a necessary tool in sustainable tourism of national parks. Generally, strategic management can be seen

as a combination of strategy formulation, implementation and evaluation [7]. As first step in the process, strategy formulation is a critical step and leads to better understanding of problems [8]. Many methods have been used in strategic management and strategy formulation. Among them, SWOT analysis (which is acronym for Strengths, Weaknesses, Opportunities, and Threats) is a well-known method in such issues.

SWOT analysis, being simple to implement, is a technique commonly used to assist in identifying strategic direction for an organization or practice [9]. It is a strategic planning tool used to evaluate the strengths, weaknesses, opportunities, and threats involved in a project or in a business venture [10]. Each project and management plan has its own SWOT factors. Negative factors are grouped together with respect to development possibilities, i.e., weaknesses and threats. Positive factors are strengths and opportunities [11]. The former is called internal and the latter, external environment (or system).

As a simple technique, which helps to focus activities into areas of strengths and where the greatest opportunities lie [12], SWOT can be used in formulating strategies and policies for managers. It is not necessary to say, because of complex nature of tourism and environmental factors, strategy formulation in the tourism industry must be able to adapt to changes in the environment [13]. SWOT uses a matrix to assess both internal and external aspects of a system. Analysis of external opportunities and threats is mainly to evaluate whether an enterprise can seize the opportunities and avoid the threats when facing an uncontrollable external environment. Analysis on internal strengths and weaknesses is mainly to evaluate how an enterprise carries out its internal work [14]. This method is useful to defining internal and external factors, which affect organizational performance [8].

Table 1. SWOT applications in tourism and environmental issues

Researchers	Year	Country	Key issues	Comments
Buhalis [15]	2001	Greece	Tourism	-
Kajanus, Kangas, & Kurttila [16]	2004	Finland, Germany	Tourism	In combination with AHP (Analytic Hierarchy Process)
Akca [17]	2006	Turkey	Rural tourism	-
Eftekhari & Mahdavi [18]	2006	Iran	Rural tourism	-
Hiwasaki [19]	2006	Japan	Community-based tourism; Protected area	-
Mohammadi & Zangiabadi [20]	2008	Iran	Ecotourism	-
Ebrahimzadeh & Aghasizadeh [21]	2009	Iran	Coastal regional tourism	-
Esfahani, Goudarzi, & Assadi [22]	2009	Iran	Sport tourism	-
Neba [23]	2009	Cameroon	Ecotourism; Game Reserve	-
Neba [24]	2010	Cameroon	Rural tourism; Protected area	-
Hashemi [25]	2010	Iran	Ecotourism; Rural development	-
Monavari, Farshchi, & Ohadi [26]	2010	Iran	Nature tourism; Biosphere Reserve; Protected area	In combination with AHP
Sobhani [27]	2010	Iran	Tourism	-
Varesi, Taghvayi, & Parizadi [28]	2010	Iran	Tourism	-
Ataberk & Baykal [29]	2011	Turkey	Tourism	-
Iarca et al. [30]	2011	Romania	Tourism	-
Jozi et al. [31]	2011	Iran	Ecotourism	In combination with AHP and economic valuation
Mahmoudi, Haghsetan & Maleki [32]	2011	Iran	Rural tourism	-
Meshkini & Heidari [33]	2011	Iran	Urban tourism	-
Sariisik, Turkay, & Akova [34]	2011	Turkey	Tourism	-
Taghvaei, Taghizadeh, & Kioumarsi [35]	2011	Iran	Tourism	-
Sevкли et al. [36]	2012	Turkey	Tourism	In combination with ANP (Analytic Network Process)

Many researchers have used SWOT to analyze management issues in environmental science and tourism. The table 1 highlights the application of SWOT in sustainable tourism management (STM) in different areas of the world (especially developing countries) which can help managers of protected areas to protect the environment and achieve sustainable economy and community. There are a few studies on sustainable management of tourism, identification of strategic factors, and developing strategies in national parks of Iran. Many of researchers have used SWOT in mass tourism, urban or rural tourism. Since such processes are critical issues in planning and management of sustainable tourism, the aims of this study is the use of SWOT analysis and propose applied strategies of STM in a national park of Iran.

MATERIALS AND METHODS

1. Study area

With the area of 91895 hectares, Golestan National Park (GNP) is located in the east of Caspian Sea on a longitude of 55°, 43', 00" to 56°, 17', 45" E and a latitude of 37°, 16', 34" to 37°, 31', 00" N [37]. It is the first national park of Iran and one of the most famous natural attractions of the country which lies between three provinces of Golestan, North Khorasan, and Semnan. GNP with a very rich fauna and flora was designated as a UNESCO's Biosphere Reserve in 1976 [38]. For example, it has over 1400 plant species [39] including over 45 endemic, semi-endemic, rare, and endangered species [40]. Its fauna includes about 50 percent of Iranian mammals and one third of birds of the country [37]. Figure 1 shows the map of GNP.

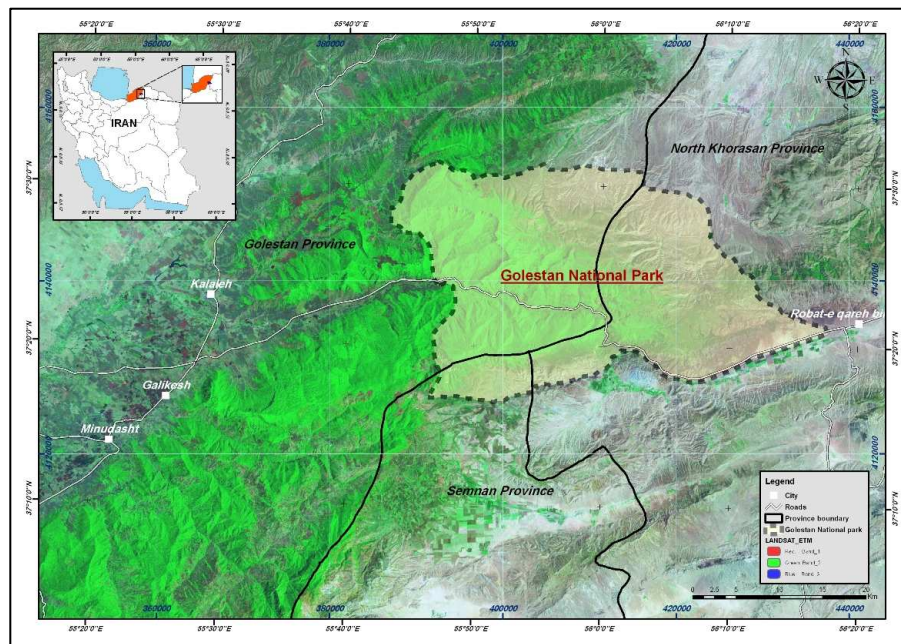


Fig 1: Map of Golestan National Park

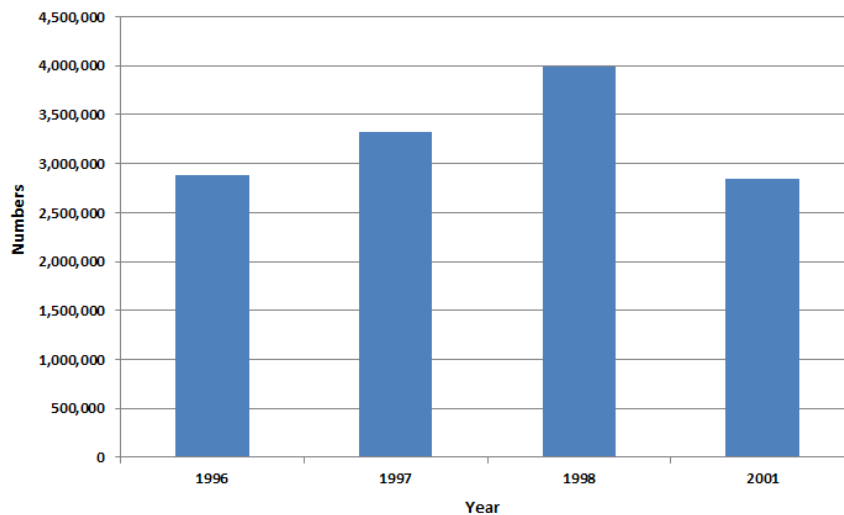


Fig 2: Visitor numbers in GNP, based on [41]

GNP is a well-known tourist attraction in Iran because its characteristics such as beautiful landscapes, pleasant climate, and easy access make it as a national destination of nature tourism. Moreover, it is a main access to eastern parts of Iran and people from all over the country especially residents of local and regional provinces, visit the park. There are many villages adjacent to the park which in addition to their local economy (such as farming), provide a few recreational facilities for the visitors. Department of the Environment (DOE) of Golestan province is

responsible for management of the park and deals with many environmental and social problems such as poaching, heavy traffic, and intensive visitor use. Figure 2 shows the visitor numbers of GNP.

Despite the fact that there are some good guidelines for public use measurement and reporting at parks and protected areas (for example see [42]), the data of visitor use in GNP is not very reliable. In most situations, the lack of data on visitor use of Iranian national parks and protected areas is a major problem in tourism management, and it is difficult to understand the scale of tourism use in such areas. Most researches on tourism in GNP show that current tourism activities are important threats to environmental quality of the park. For example see [41] and [43].

2. SWOT analysis

For SWOT analysis, STM of GNP is considered as a system which has its own internal and external environment. All plans and projects outside of the system are considered as external factors, i.e. opportunities (O) and threats (T). These factors are identified using Internal Factor Evaluation Matrix (IFEM). Strengths (S) and weaknesses (W) are internal environment which include factors that are related to STM of GNP. External Factor Evaluation Matrix (EFEM) is used for identification of these types of factors. When SWOT factors of this system are identified, strategies are formulated and can be used as a feedback in future environmental planning and management of STM. For determination of internal and external (strategic) factors, an activity worksheet (as a questionnaire) was used (Table 2). Local experts on tourism and the environment including executive experts and researchers participated in the survey. Each questionnaire was emailed to them and gathered after a week for analyzing.

Table 2: Activity worksheet for SWOT analysis in GNP

System environment	Factors	Questions
Internal	Strengths	What strengths are there for STM?
	Weaknesses	Which internal factors prevent good STM?
External	Opportunities	Which external factors provide opportunities for STM?
	Threats	What threats are there for STM?
<i>Based on [44]</i>		

At the process, many factors are determined as strengths and weaknesses. They are weighted in a way that sum of the weighs is equal to one [45]. Since it is difficult to weight between 0 and one, it is easier to use another scoring system (e.g. one to 20, or 100). Hence, the resulted weighs should be normalized. At the next step, score of current status is allocated to each factor (Table 3). As a result, there are a weight and score for each factor. Afterwards, weights are multiplied by score that leads to weighted score. The total of weighted score is between 1 and 5 with average of 3. If sum of weighted score is above 3, strengths are over weaknesses. If it is below 3, then weaknesses are over strengths [8]. EFEM consists of opportunities and threats and its steps are similar to IFEM. Afterwards, matrix of SWOT analysis is used. In this matrix, internal and external factors are used from IFEM and EFEM. As a result, four categories of strategies are developed namely SW, ST, WO, and WT. For a detailed methodology, please see [8].

Table 3: Score of IFEM and EFEM

Score	Description
1	The status of factor (S, W, O, or T) is weak
2	This means the status of factor is below average
3	This indicates for average
4	This denotes above average
5	The status of factor shows very good
<i>Based on [8]</i>	

RESULTS AND DISCUSSION

As described before, SWOT factors were identified in four groups. Table 4 and 5 show the results of IFE and EFE. Please note that bold numbers show the highest score in each group. Figure 3 shows current status of STM in GNP based on the above matrices. According to methodology, SWOT strategies were developed which are presented in table 6.

Table 4: IFEM of STM in GNP

Internal strategic factor			Normalized weight	Score of current status	Weighted score
Strength	S1	Existence of park management office	0.04	3	0.12
	S2	Natural and cultural attractions of the park	0.05	4	0.2
	S3	Primary infrastructure in the park	0.04	3	0.12
	S4	Easy access to the park	0.04	3	0.12
	S5	National Park and Biosphere Reserve laws and related regulations	0.05	4	0.2
Weakness	W1	Little knowledge of the park personnel about park tourism or STM	0.04	2	0.08
	W2	Inappropriate management of environmental impacts of visitors in the park	0.04	2	0.08
	W3	Lack of reliable Master plan of the park	0.06	2	0.12
	W4	Policy and financial dependence of the park	0.04	2	0.08
	W5	Inappropriate management of park infrastructure and attractions	0.04	2	0.08
	W6	Environmental degradation and pollution of tourism	0.04	2	0.08
	W7	Low level of public participation in STM	0.04	3	0.12
Total			1		1.4

Table 5: EFEM of STM in GNP

External strategic factor			Normalized weight	Score of current status	Weighted score
Opportunity	O1	Additional attraction and infrastructure adjacent to the park	0.04	3	0.12
	O2	Other tourism regulations related to the park (e.g. Nature Tourism National Document)	0.04	2	0.08
	O3	Independent institutions related to park tourism (e.g. NGOs, experts, village councils, and tour agencies)	0.04	1	0.04
	O4	High demand for visit the park	0.04	2	0.08
	O5	National and provincial budget for tourism projects	0.05	2	0.1
	O6	Scientific projects on park tourism (e.g. Academic theses)	0.04	3	0.12
	O7	Agreement between D.O.E and other tourism organisations	0.03	2	0.06
Threat	T1	Existence of a highway in the park	0.04	2	0.08
	T2	Low cooperation between national tourism authorities about park tourism	0.04	3	0.12
	T3	Risk of natural disasters in the park	0.04	3	0.12
	T4	Little awareness of local people of park tourism	0.04	2	0.08
	T5	Lack of investment of private sector in the park	0.04	2	0.08
	T6	Allocation of low budget to the park tourism from D.O.E	0.04	3	0.12
	T7	No updated regulations of park tourism	0.03	1	0.03
Total			1		1.23

As shown in tables 4 and 5, the best strength factor of GNP is its rich natural and cultural attractions (S2), and laws and regulations of national parks and Biosphere Reserves (S5), which both of these types of area is managed by DOE. Since a reliable master plan is not provided yet, W3 is one of the most important threats for STM. Another threat (W7) is low level of public participation in STM, both at local and national level. The best opportunities of STM are attractions and infrastructures adjacent to the park (O1), and scientific projects on park tourism such as academic theses at international, national and local level (O6). Low cooperation between nature tourism authorities is an important weakness (T2). These organizations include DOE, Forest, Range, and Watershed Management Organization (FRW), Iran Cultural Heritage, Handicrafts and Tourism Organization (ICHTO), and Iran National Committee of Ecotourism (INCE). Other threats are risk of natural disasters in the park such as floods and wildfires (T3), and allocation of low budget to the park tourism from D.O.E (T6).

The results show that total score of IFE is the below 3. It means that STM of GNP has not decreased and strengthened its weaknesses and strengths factors, respectively. In other words, it has a weak performance. EFE total score shows that STM of GNP has not a good performance to use opportunities and neutralize threats. In fact, these matrices show STM has more difficulty with internal factors rather than internal ones.

As shown in table 6, there are four categories of strategies:

-SO strategies: In this type of strategies which are also called Max-Max strategies, STM of GNP uses external opportunities by using the existing internal strengths of the system. For example, there are many natural and cultural attractions in the park which are unique in Iran. Utilization of such tourism potentials can appropriate national and provincial tourism budgets for the park (SO2 in table 6). In addition, it provides an incentive for other organizations such as ICHTO to participate in the park tourism.

-*ST strategies*: In such strategies, STM uses the internal system’s strengths to minimize the external threats (i.e. Max-Min strategy). For example, one of the oldest and important problems of park tourism in Iran is lack of clear laws and regulations. On the other hand, current laws are not updated regularly. This problem causes some difficulties for the park managers. In fact, the park office is the only organization which can assess the efficiency of laws and propose new approaches to update or change them. Hence, one of the strategies for GNP is the use of park management in updating regulations and laws, and proposes new ones (ST3 in table 6). It should be emphasized that in such cases, governmental organizations play a great role in decision making.

-*WO strategies*: In this category of strategies, STM tries to gain benefit from the external opportunities to reduce the internal weaknesses (it is called Min-Max strategy). Like other Iranian national parks, one of the weaknesses of STM in GNP is that the park staff has little information on park tourism. Utilization of technical capacity of governmental organizations (e.g. ICHTO), NGOs, local experts (e.g. academicians), and financial help of some national and provincial budgets such as Typical Tourism Areas of Iran (TTA) can help increase and update information of the park staff (WO1 in table 6).

-*WT strategies*: WT is used for minimizing the effects of external threats by use of internal weaknesses. One of such strategies includes increase of organizational budgets to prepare park master plan, visitor impact management, and public participation plan (or Min-Min strategy). As mentioned before, an important problem of GNP is lack of an official master plan and tourism management. This is related to reduction of DOE budgets and problems in financial structures. Increase and allocation of appropriate budgets for master plan can ease the problems of tourism activities in the park (WT3 in table 6).

Table 6: SWOT strategies of STM in GNP

		Strengths		Weaknesses	
		<i>SO strategies</i>		<i>WO strategies</i>	
Opportunities	SO1	Use of all capacity of the park office in active management of tourism activities, infrastructures and attractions, and interaction with other organizations.	WO1	Utilization of financial and technical capacity of governmental organizations, freelance experts, and NGOs to update STM knowledge of the park staff.	
	SO2	Utilization of tourism potentials of the park in appropriation of national and provincial tourism budgets.	WO2	Utilization of research plans, financial and technical capacity of other organizations and experts to prepare park master plan, and visitor impact management.	
	SO3	Proposal of new applied projects on the study of park tourism by DOE.	WO3	Use of financial and legal help of governmental organizations, and national and provincial tourism budgets to cover national reduction in park budgets.	
	SO4	Utilization of geographical location and easy access to the park for attraction of environmentally-conscious tourists.			
	SO5	Update and application of related regulations and laws of STM in the park, especially interdisciplinary ones.			
		<i>ST strategies</i>		<i>WT strategies</i>	
Threats	ST1	Reduction of human-induced risks (e.g. highway) and natural disasters, for providing better tourism activities.	WT1	Set up a plan for private sector participation in education of the park staff, local communities and tourists.	
	ST2	Provide a good condition and help for attracting investment of private sector, provincial and national budgets in STM.	WT2	Application of regulations and laws of other organizations for a better STM, and reducing environmental pollution.	
	ST3	Use of all capacity of the park office in update of park tourism regulations and laws, and propose new ones.	WT3	Increase of organizational budgets to prepare park master plan, visitor impact management, and public participation.	
	ST4	Application of related regulations and laws to encourage interdisciplinary cooperation.	WT4	Set up a plan for gain the independence of park management, especially financial and policy making.	
	ST5	Use of all capacity of the park office in increasing environmental awareness of local communities and tourists.			

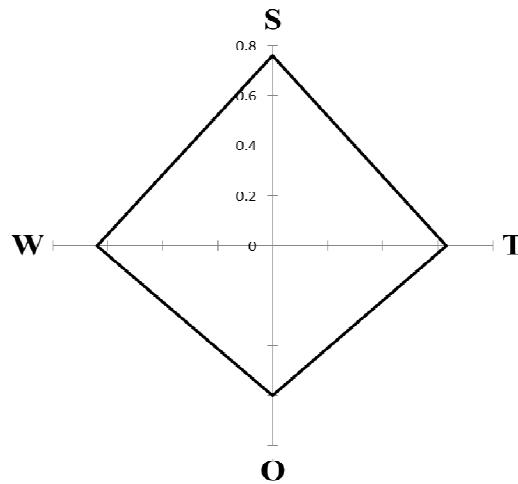


Fig 3: Current status of STM in GNP

CONCLUSION

This paper proposes strategies based on identification of strengths, opportunities, weaknesses, and threats of for STM in GNP. It is obvious that each strategy has a close relationship with others and their efficiency and applicability should be assessed periodically. It should be noted that priority of these strategies depends on the goals of sustainable park tourism, e.g. short or long-term.

Naturally tourism trends in the park will be changed in the future. Hence SWOT factors and consequently the resulted strategies can be applied for a certain time. This urges development of new strategies and re-assessment of the park tourism management. Interactions between the environment, tourism activities, and sustainability are dynamic subjects which lead to propose new applied strategies and approaches for STM in Iranian national parks especially environmentally sensitive areas such as GNP.

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