

[Research]

A framework for implementing sustainable tourism in national parks of Iran: development and use of sustainable tourism indicators in Boujagh National Park, Iran

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ABSTRACT

Despite the fact that national parks and other protected areas are mostly adopting the sustainable development process, it was found that sustainability has yet to be perceived pragmatically in these areas. Due to its process, this paper presents a monitoring framework approach to develop and implement indicators for sustainable tourism. To illustrate the application of the framework, a set of indicators were developed and used by way of an iterative Delphi survey conducted to seek expert opinions on the sustainability indicators to monitor tourism development in Boujagh National Park. This park was the subject of a case study, even though with lack of data. The results of this research confirmed in developing a set of 20 indicators, which emphasised on issues related to visitor satisfaction, economy, environment and society. It is the first step in a long-term process toward developing adapted indicators for national park monitoring and will allow decision-makers to enhance the sustainability of tourism development in Boujagh National Park.

Keywords: sustainable tourism indicator, monitoring, Boujagh National Park, Delphi

INTRODUCTION

In the past decade, there had been a great deal of interest in explaining the main issue on sustainability of tourism and the means by which indicators can assist in better decision making. The stimulus for sustainable tourism indicators comes from the perception that almost all destinations, particularly natural areas, have been at risk due to inadequate attention to the long-term sustainability of tourism destinations. It is planned to bring to the attention of those who are able to influence the future of tourism data on the present state of development and implementation of indicators. Developing and using indicators is progressively prospected as a fundamental part of overall destination planning and management, and an essential element in efforts to promote sustainable development of tourism (Sirakaya & Choi, 2006; Miller, 2001).

Since the 1992 Rio Conference, planners have been active in their efforts to develop and

implement indicators which focused on both the issues of impact and sustainability of tourism. Studies done by the World Tourism Organization (WTO) and many others have supported the conclusion that the planning and management of tourism in many destinations have occurred with insufficient information, particularly with regard to the impacts of tourism on destinations, the impacts of changes in the social and natural environment on tourism and the longer term maintenance of the key assets which make a destination attractive. It can be noted that the WTO's core indicators were generically grouped into economic, planning, social and ecological indicator types (Dymond, 2010).

The 11 core indicators proposed by WTO (WTO, 1997) are site protection, site stress, use intensity, social impacts, development control, waste management, planning process, critical ecosystem, consumer satisfaction, local satisfaction and tourism's contri-

bution to the local economy (Twining-Ward & Butler, 2002). However, despite the WTO's work providing a useful starting point, a closer analysis still reveals many difficulties such as lack of clear stakeholder participation, and absence of an appropriate monitoring framework to help translate these indicators into appropriate management actions. Accordingly, a growing number of academics involved in sustainable tourism research (Bui, 2000; McCool *et al.*, 2001; Twining-Ward & Butler, 2002; Dwyer & Kim, 2003; Emmelin, 2006; Mycoo, 2006) have recommended the need for sustainable tourism indicators. Twining-Ward & Butler (2002) mentioned that without indicators the concept of sustainable tourism is meaningless as indicators provide the means to assess the effectiveness of government policies and actions as well as draw attention to problematic areas in the tourism industry so that appropriate management responses are activated.

Although different states have generated their own indicators, they may all share some commonalities. For instance, environmental indicators refer to specific concerns about the natural and human environment; sustainable indicators represent sustainable practices such as waste treatment, savings, environmental measures; and institutional indicators revolve around issues of the performance and effectiveness of different government instruments (Sirakaya *et al.*, 2001). However, it is difficult to identify the gaps mentioned earlier between academic approaches and the work of governmental or international institutions (Buckley, 2003).

For tourism in national parks there are numerous lists of indicators that have not been implemented in practice. However, indicators that are both scientifically defensible and feasible and valuable in management are very rare (Buckley, 2003). Large scale indicators developed are insufficient for examining visitor impacts in national parks. It needs specific indicators that state the priority conservation values of the national parks concerned.

In Iran, despite the presence of 235 protected areas covering some 16,676,734 hectares located in 31 provinces (DOE, 2014), reliable information on tourism development in national parks and other protected areas is generally absent due to inaccurate reporting and the extent of under-reporting. Most of

the national parks in Iran are under the combined pressures of inadequate management and economical priorities. However, Iran's Department of Environment (DOE) has introduced a number of policies designed to enhance environmental quality in general and, more specifically, to protected areas (DOE, 2001).

MATERIALS AND METHODS

A number of previously published documents regarding sustainable development framework, indicator theory, sustainable tourism management and sustainable tourism indicators were reviewed (WTO, 1996; EC, 2004; Gahin *et al.*, 2003; ISD, 2005). Whilst the literature review was not definitive, it provided a theoretical platform for the suggested approach in this study. The literature review considers the debates over the definition of sustainable tourism and the link between sustainable tourism and sustainable development. The literature highlighted the large number of existing indicator sets, but very few evaluations of their implementation. A review of these examples stressed the importance of creating a logical group as opposed to the ad hoc selection of individual indicators to ensure they provide a clear image of progress. The literature suggested that the process of implementing and using indicators is more important than seeking technically perfect individual indicators. It also highlighted the importance of stakeholders in the development of any set of indicators and their application.

Indicators for sustainable tourism in the Boujagh National Park (Fig. 1) are required to manage changes across the whole park in order to preserve its particular nature. Indicators should cover the main themes like environment, tourism, society and economy. Moreover, indicators have to measure the multiple aspects in a way that link together cause and effect.

Initially, a participatory group of stakeholders was formed to assist in the process of developing indicators. Based on the 'stakeholder analyses' by Hardy & Beeton (2001), in deciding the potential make-up of the group, it is important to identify what kind of skills would be required. In this study four stakeholder groups were recognized: Department of Environment (DOE); Cultural Heritage, Handcrafts and Tourism Organization (CHHTO); National Ecotourism Com-

mittee (NEC); and Consultants as the implementing monitoring system. A committee of experts was organized to meet on a regular basis to provide advice on their area of expertise and to ensure the indicators reflected the place and time specific issues facing sustainable tourism development in Boujagh National Park (NRC, 1999). The final committee included 12 members composed of experts in the areas related to environment, society, economy and tourism. The primary focus of the members was to identify the key issues of sustainable tourism in Boujagh. It was essential to define precisely what sustainable tourism development was, not only in the international context but in the place-specific context of Boujagh as well. Three main approaches were used in this effort: secondary sources on sustainable development and tourism materials on Boujagh National Park; a series of semi-structured interviews with key informants; and visitor and local resident surveys. Within any designed groups it can be expected that there will be one or more individuals who will be highly knowledgeable in particular areas and should consequently be given special attention in the research process (Ward *et al.*, 1999). The key informant interviews was designed to tap this important source of knowledge and provide an opportunity to stakeholders who were not members of the committee to be involved in the research to develop a practical picture of how tourism relates to the wide range of priorities facing sustainable development in Boujagh National Park. Key informants were selected using the snowball sampling process. This involved identifying one member of the population of interest, and then asking him/her to identify a second expert with similar characteristics (Clark *et al.*, 1998). In this way it was possible to identify a whole network of respondents who are key decision makers in a particular area.

During the survey 78 household interviews and 400 visitor questionnaire surveys were conducted. A pilot test was conducted to test the reliability of the questionnaire. The results from the surveys were sorted, analyzed and used to develop a set of objectives for sustainable tourism development, which became the key point of reference for this study. As the committee members had wide-ranging experiences, they also advised on the most appropriate method to be used

in the different stages. Fostering an interdisciplinary group meant taking into consideration and establishing the link between tourism development and the broader environmental, social/cultural and economic conditions facing Boujagh. Considerations which are time and place specific meant recognizing indicators that addressed current stakeholder priorities and concerns rather than simply international sustainable tourism development priorities. Based on these principles and after reviewing and utilizing the information in previous projects and studies on sustainable tourism indicators, a framework was developed for sustainable tourism development in Boujagh National Park (Fig. 2).

At first, a list of 70 critical issues was determined with the assistance of group members. In this list were some issues that had little direct links to tourism such as political freedom and lifestyle diseases. Moreover, there were many similar issues which could be classified together in a group. As a result of screening by the committee, 5 key issues were identified for sustainable tourism development.

Developing and Screening Indicators

Having decided on the priority issues and objectives, the study focused on the development of indicators. As stated by the UN Commission for Sustainable Development, indicators need to be: understandable, realizable, conceptually well-founded, limited in number, broad in their coverage, and dependant on data that is easily available (Moldan & Billharz, 1997). Hardi (1997) added that indicators of sustainable development have to be long-term in vision and practical in focus, developed through wide participation and determined by organized capacity. Similar criteria were recommended by Manning *et al.*, (1996) in choosing indicators of sustainable tourism that address the requisites of data availability, credibility, simplicity and the capacity to show trends over time. Using these elements and WTO guidebook as a model, the committee members brainstormed in small groups to develop indicators. During the first meeting, members focused on evaluating the potential of indicators identified throughout the literature review. All the indicators were screened by the committee members for technical practicably. After the first brainstorming ses-

sion a total of 250 indicators were recognized and 70 were forwarded for screening. The screening of indicators took place at two levels. The indicators were first screened for their technical feasibility using the selection criteria of sustainable tourism indicators (Fig. 3). Based on the selected criteria, 10 sub-criteria were derived from a review of related literature on indicators. The first six criteria were called killer criteria, in which all indicators were required to meet or were immediately rejected. The last four criteria were termed as desirable criteria, where at least two of these must be met before being accepted as an indicator (Twining-Ward & Butler, 2002).

The indicators were then screened a second time to evaluate their user friendliness. Indicators going through this process were rejected step by step, and were replaced with new ones that were more suitable to the Boujagh situation. As Hart (1999) highlighted, indicators need to fit the circumstances of the designations and not just because someone else is using them. After the technical and user friendly screening process only 20 key indicators remained and were adopted by the committee members.

Tuning and Monitoring Indicators

Identifying indicators was only part of the process. Fine tuning and monitoring required a set of protocols, for example, definitions of all the issues and terms used, methods to collect information, and methods to interpret the indicator's results (Twining-Ward & Butler, 2002). Therefore, before starting data collection, further fine tuning was necessary and monitoring protocols were outlined. This session was essential to avoid the acquisition of unimportant data and information. It also helped ensure that if the indicator is to be used over a number of years, it must be understood in the same manner each time it is used (Twining-Ward & Butler, 2002). Fine-tuning included committee member meetings and discussions with key informants to help in the formulation of specific indicator definitions. Subsequently, data collection methods and sampling frames were established on a case-by-case basis, with the emphasis on establishing the most effective means of collecting data as an ongoing process. As a result of this stage, 4 of the 24 indicators retained in the previous steps were removed because they did not

meet the condition of measurability over time. All the indicators were measured in percentages. This significantly clarified the interpretation and presentation of the data (Tanguay *et al.*, 2011).

For each indicator it was necessary to clearly document the special means to be used to obtain the information. The focus of this step shifted to designing surveys to collect data. Three primary surveys were conducted in order to collect data for WTO's 11 core indicators of sustainable tourism (Table 2). These included visitor and local community surveys and key informant interviews.

RESULTS

Interpreting visitor and resident surveys and interviews with key informants

This section discusses the interpretation of the results from visitor and resident surveys and interviews with key informants. In the data analysis, time and place specific appeared to be the most difficult considerations. As most of the indicators were assessed for the first time, there was no scale or criteria to compare the results with. If the previous year's results had been available, trend analysis would be possible, but without a clear yardstick, it would be largely a matter for decision makers to determine whether the change should be interpreted as a deterioration or improvement of the situation (Twining-Ward & Butler, 2002). This problem became apparent particularly in the place and time specific approach. This was definitely a serious problem which needed to be resolved to assist in the interpretation of indicators results on a long term basis.

Various alternatives were considered such as benchmarks and thresholds but finally, based on the successful experience of the case studies of indicator development around the world, the Tourism Optimization Management Model (TOMM), used in the Kangaroo and Samoa Island projects, was used for interpreting the indicator results in BNP (WTO, 2004). TOMM was developed to tackle the challenges of balancing development and conservation for the benefit of both residents and visitors (Manidis Roberts, 1997). At the core of TOMM was a set of practical indicators to monitor the status of tourism. TOMM had been developed as a collaborative management and monitoring program, based upon a series of indicators covering environmental conservation, com-

munity satisfaction, economy promotion, and visitor satisfaction levels. Data was collected in relation to each of these indicators. Over time the identified indicators were refined as more data were gathered. Based upon these indicators, an 'acceptable range' was established to provide a practical measurement for each indicator based on the best data and information available at the time (Arnberger *et al.*, undated). These ranges presented a practical measurement for each indicator and helped the park on the way to reaching the optimal desired states. The acceptable ranges were identified based upon these indicators, which provided a practical measurement for each indicator based on the best information available at the time involving previous studies, observations and approximation from those with experience in the field and community. With the establishment of a range for each indicator, the interpretation of results and the process of assessing whether the results fell inside or outside the acceptable range was easier.

Reviewing and Improving the Monitoring System

The final phase before remonitoring indica

was to suggest essential improvements to the indicators. A review of the initial vision, definition and data collection techniques took place directly following the first phase of monitoring. The purpose of both phases highlighted that choosing indicators is just the beginning of the process to assess the performance of the individual indicators and discuss possible improvements to data collection techniques based on the key lessons from the work (Blackstock *et al.*, 2006).

The committee determined that checking the real indicators were clearly focused on current issues and that data collection methods were frequently improved. As a result, 13 of the indicators were approved without any changes, 3 of indicators were accepted with small changes, 2 were rejected, 3 were completely revised, and 4 new indicators were added. The 4 new indicators were 'the proportion of tourists that believed they experienced a worthwhile trip'; 'the proportion of visitors that believed Boujagh has a friendly local community and customer services'; 'the proportion of tourism development impact on local community'; and 'the proportion of key informants that agreed with the inclusion of indicators'

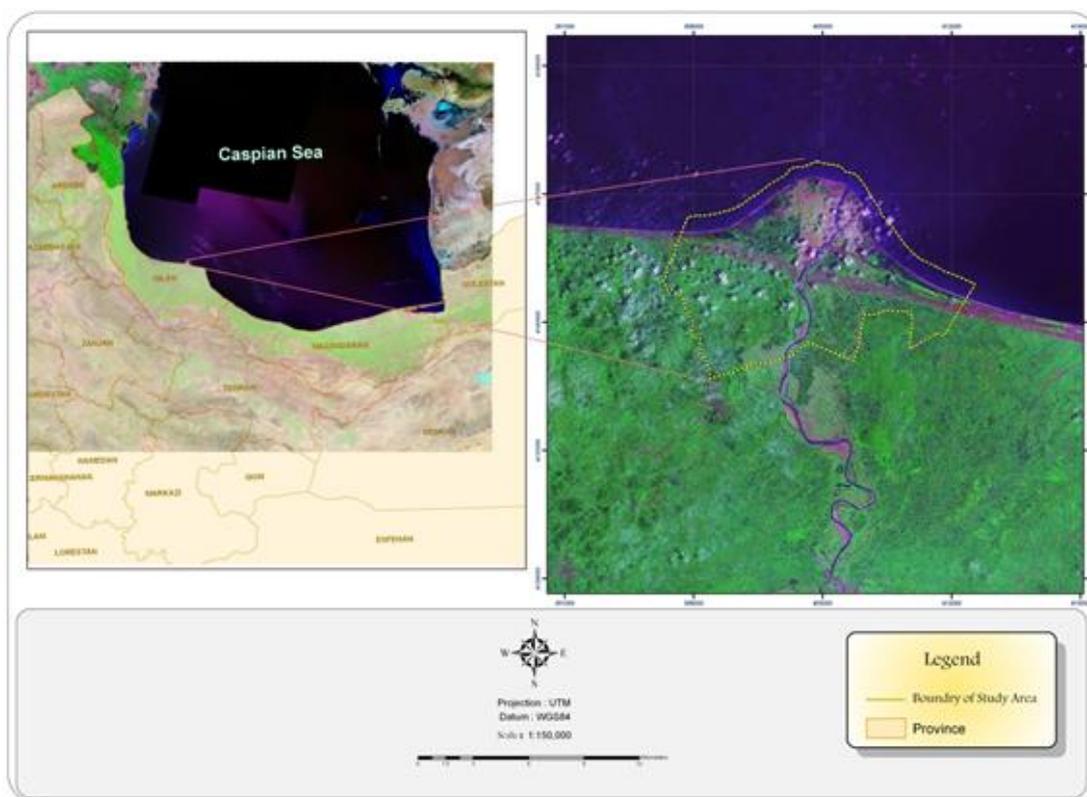


Fig. 1. The location of Boujagh National Park, Guilan, Iran.

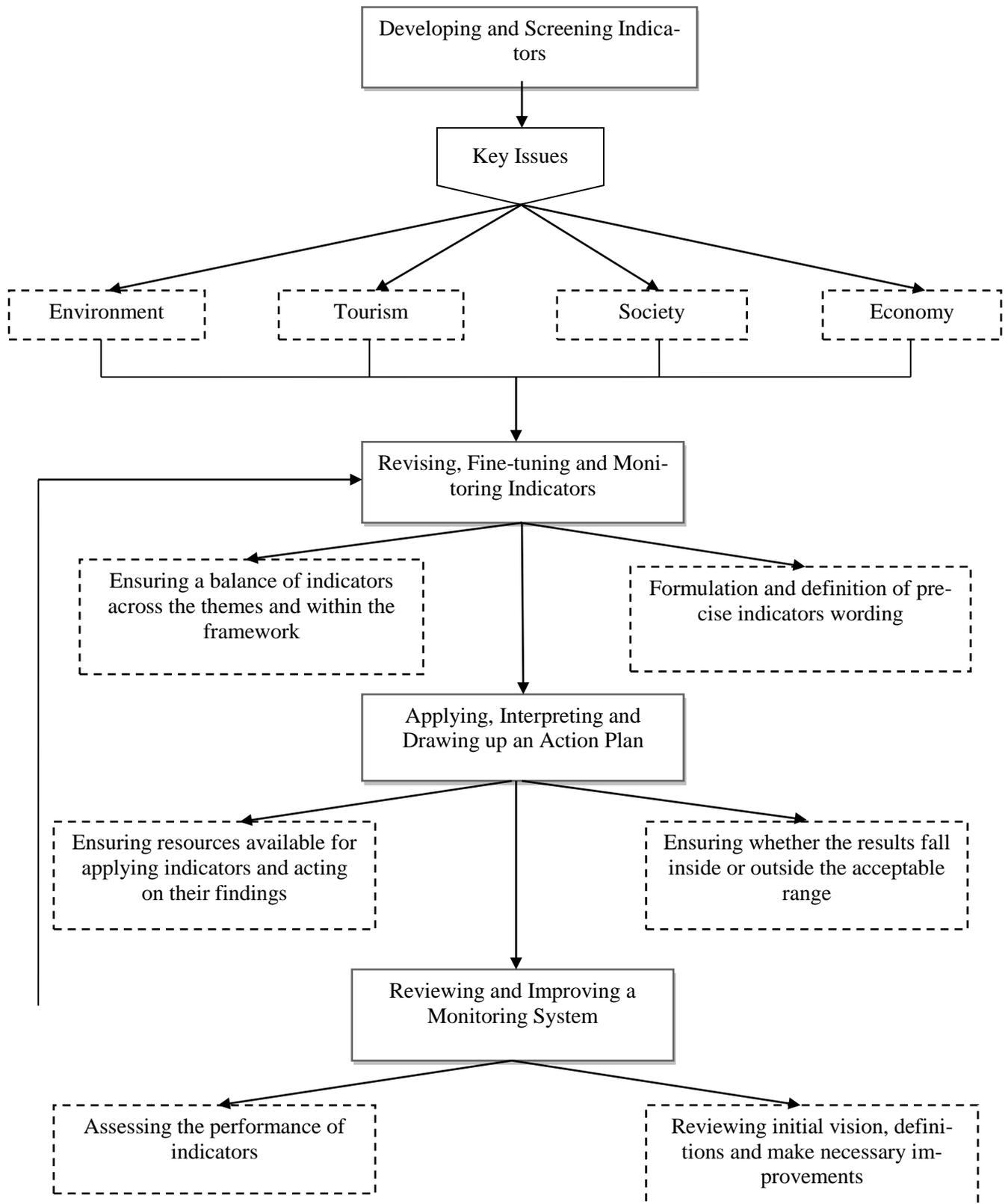


Fig. 2. A framework for implementation sustainable tourism development indicators in Boujagh National Park

Table 1. Boujagh National Park's sustainable tourism objectives and corresponding indicators

Issue	Indicator Focus	Objective	Indicators Utility
<i>Visitor satisfaction</i>	Visitor's satisfaction with their experiences	Improve the quality of visitor's experience through upgrading tourism facilities, services and activities	<ul style="list-style-type: none"> - Proportion of visitors who were very satisfied or satisfied with the quality and price of accommodation - Proportion of visitors who agreed Boujagh National Park is a hospitable destination that will relax your mind, refresh your spirit and make you feel totally alive to be close to the nature <ul style="list-style-type: none"> - Proportion of visitors who were satisfied with scenic variety experience - Proportion of tourists that believed they experienced an credible trip - Proportion of tourists that believed they viewed and researched in a national park - Proportion of visitors that experienced cultural heritage, produce and rural landscapes - Proportion of visitors that believed Boujagh has a friendly local community and customer services - Proportion of visitors who were satisfied with their overall experience on Boujagh National Park <ul style="list-style-type: none"> - Proportion of repeat visitation
<i>Economy</i>	Regional development	Tourism economic benefits for Boujagh National Park	<ul style="list-style-type: none"> - The annual average number of nights stayed - Proportion of visitors that would recommend Boujagh National Park to others to visit <ul style="list-style-type: none"> - Average tourist expenditure
<i>Environment</i>	Visitor's awareness	Visitor activity has minimal negative impacts on the natural environment	<ul style="list-style-type: none"> - Proportion of visitations to natural areas occurring on managed sites - Proportion of visitor awareness of conservation regulations prior to arriving in Boujagh National Park
<i>Society</i>	Local community awareness	The majority of local community who participated in conservation programmes	<ul style="list-style-type: none"> - Proportion of local community to the park conservation programmes - Proportion of local community involvement in tourism development <ul style="list-style-type: none"> - Proportion of tourism development impact on local community
<i>Management</i>	Local community participation in the planning process	The majority of local community participation in the tourism planning process	<ul style="list-style-type: none"> - Proportion of local community participation in the tourism planning process - Proportion of multiple stakeholders participation in the tourism planning process - Proportion of key informants that believed Boujagh National Park has sustainable tourism planning <ul style="list-style-type: none"> - Proportion of key informants that agreed with the inclusion of indicators

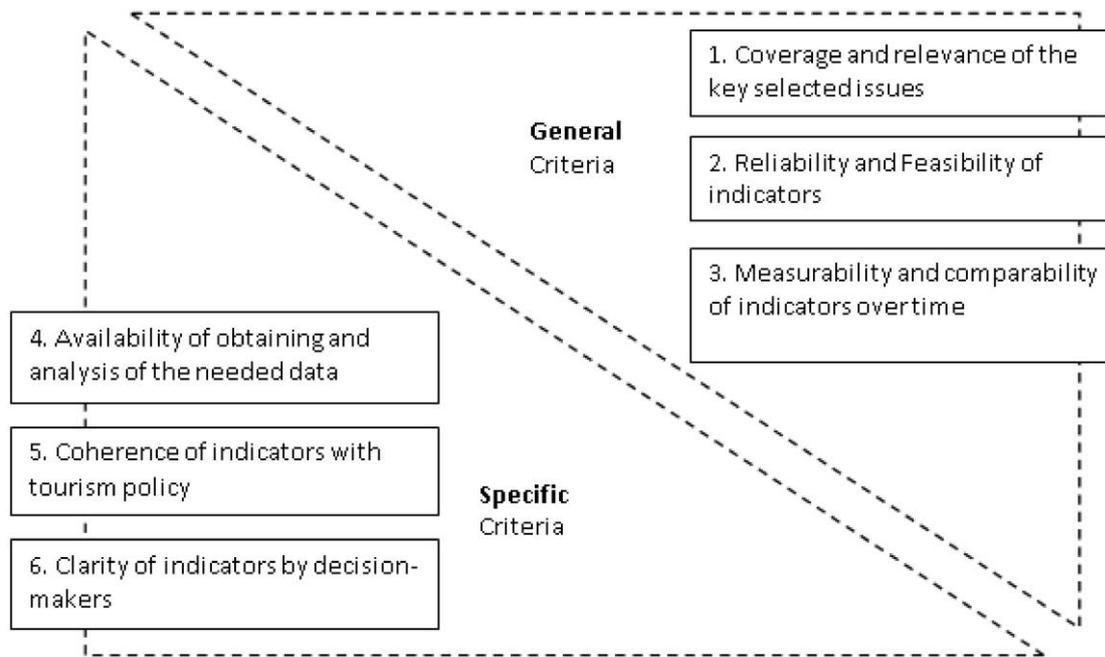


Fig. 3. Sustainable tourism indicators rating criteria

Table 2. Core indicators of sustainable tourism by WTO

Indicator	Indicator descriptor
1 Site protection	Category of site protection according to IUCN
2 Stress	Tourist numbers visiting a site (per annum/peak month)
3 Use intensity	Intensity of use in peak periods (persons per hectare)
4 Social impact	Ratio of tourists to locals (peak period and over time)
5 Development control	Existence of environmental review procedure or formal site controls
6 Waste management	Percentage of sewage from site receiving treatment
7 Planning process	Existence of organized regional plan for tourism
8 Critical ecosystems	Number of rare/endangered species
9 Consumer satisfaction	Level of satisfaction by visitors
10 Local satisfaction	Level of satisfaction by locals
11 Tourism contribution to local economy	Proportion of total economic activity generated by tourism

DISCUSSION

This paper designed a framework approach for selecting and implementing sustainable tourism indicators for Boujagh National Park. The framework was developed to support the park authority in its endeavour to move beyond principles of sustainable tourism to measuring changes. There is little by way of academic literature on tourism in Boujagh national park compared to the number of studies that have been made in fauna and flora (Kharazmi *et al.*, 2011).

Additionally, while several studies have discussed the fact that sustainability depends on the agendas of stakeholders, this study has added the notion that due to the considerable influence at the regional level, the adoption of sustainability is also linked to the concept of power. The assessment of

stakeholder responses stressed that there were two levels of influence within stakeholders. This study has found that the consultants have had a significant influence. Although, there is still much work to be done to move towards sustainable tourism development in Boujagh National Park, this study has provided the starting point for the development and monitoring of a framework, and the criteria to be used to select indicators. This study will be undertaken at a rate, and in ways that will assist in ensuring the conservation of the natural resources of the park; generate continuing economic benefits throughout society; contribute to the general improvement in the quality of life; and the sustainability of the tourism industry in Boujagh.

Table 3. A designed table for sustainable tourism indicator results in BNP

Indicator	Acceptable range (%)	Result
<i>Environmental</i>		
1 Proportion of visitations to natural areas occurring on managed sites	60-80%	Acceptable
2 Proportion of visitor awareness of conservation regulations prior to arriving in Boujagh National Park	70-100%	Acceptable
<i>Economic</i>		
3 The annual average number of nights stayed	2-4 nights	Poor
4 Proportion of visitors that would recommend Boujagh National Park to others to visit	70-80%	Acceptable
5 Average tourist expenditure	50-70%	Poor
<i>Visitor's Satisfaction</i>		
6 Proportion of visitors who were very satisfied or satisfied with the quality and price of accommodation	70-100%	Poor
7 Proportion of visitors who agreed that Boujagh National Park is a hospitable destination that will relax your mind, refresh your spirit and make you feel totally alive to be close to the nature	70-100%	Poor
Proportion of visitors who were satisfied with the scenic variety experience	70-100%	Acceptable
8 Proportion of tourists who believed they experienced a worthwhile trip	70-100%	Poor
9 Proportion of tourists who believed they viewed and researched in a national park	60-80%	Poor
10 Proportion of visitors that experienced cultural heritage, produce and rural landscapes	70-100%	Poor
11 Proportion of visitors that believed Boujagh has a friendly local community and customer services	70-100%	Poor
12 Proportion of visitors who were satisfied with their overall experience on Boujagh National Park	80-100%	Poor
13 Proportion of repeat visitation	30-50%	Good
<i>Social</i>		
14 Proportion of local community to the park conservation programmes	70-90%	Poor
15 Proportion of local community involvement in tourism development	70-100%	Poor
16 Proportion of tourism development impact on local community	70-100%	Poor
<i>Managerial</i>		
17 Proportion of local community participation in the tourism planning process	70-100%	Poor
18 Proportion of multiple stakeholders participation in the tourism planning process	70-100	Poor
19 Proportion of key informants that believed Boujagh National Park has a sustainable tourism planning	70-100%	Poor
20 Proportion of key informants that agreed with the inclusion of indicators	70-100%	Acceptable

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چکیده

به رغم اینکه پارکهای ملی و دیگر مناطق حفاظت شده اساساً در فرآیند توسعه پایدار قرار دارند، اما هنوز درک مناسبی از پایداری در این مناطق وجود ندارد. بر این اساس، مقاله حاضر یک چارچوب پایشی و نظارتی برای توسعه و به‌کارگیری شاخصهای توریسم پایدار برای گردشگری پایدار ارائه نموده است. به منظور ایجاد این ساختار با استفاده از روش دلفی و بهره از نقطه نظرات کارشناسان در رابطه با شاخصهای پایداری برای گردشگری پایدار در پارک ملی بوجاق، تعدادی شاخص شناسایی شد. این پارک به عنوان منطقه مورد مطالعه انتخاب شد، هرچند که اطلاعات زیادی در این زمینه وجود نداشته است. نتایج این تحقیق به ۲۰ شاخص دست یافته است که این شاخصها در رابطه با موضوعات میزان رضایت مندی بازدیدکنندگان، مسائل اقتصادی، زیست‌محیطی و اجتماعی است. این تحقیق اولین گام یک فرآیند طولانی مدت برای توسعه شاخصها به منظور پایش پارک ملی است که به تصمیم‌گیران برای دستیابی به گردشگری پایدار در پارک ملی بوجاق کمک می‌کند.

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