

The Role of Ecotourism Potentials in Ecological and Environmental Sustainable Development of Miankaleh Protected Region

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Abstract

Protected areas are considered as suitable environments for tourism development where the performance of tourism, consumer, and economic activities consistent with each region based on total management plan provides the context for sustainable tourism development. Therefore, the aim of the present study¹ was to explore the role of ecotourism potentials in the environmental development of Miankaleh Protected Region using a descriptive, analytical, survey method. It also aimed to examine factors affecting sustainable tourism development in the region under study. The data were collected using documentation and library techniques, field methods, questionnaires, note taking, observation, and conducting interviews with people, tourists, and authorities in charge of ecotourism development. The research population included people living in Noushahr, of whom 384 families, 30 experts, and 100 tourists were selected as the respondents in the research sample using Cochran formula. The collected data were analyzed using descriptive and inferential statistics, and Spearman test through SPSS. The results of the study showed that there was a significant relationship between ecotourism potentials, environmental, economic and sociocultural development in the region under study.

Keywords

Ecological Development, Ecotourism, Sustainable Ecotourism Sustainable Development, Miankaleh Protected Region

1. Introduction

Nowadays, ecotourism as a concept based on environmental protection ideals

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and sustainable development is very popular worldwide. The term ecotourism was derived from ecological tourism and is a relatively new concept in the tourism industry and constitutes only a part of this industry [1]. Ecotourism refers to having travel to natural with a sense of responsibility and with the aim of improving the lives of indigenous people and preserving the environment [2]. Ecotourism as a concept based on environmental protection ideals and sustainable development is very popular worldwide [3]. It enables tourism activities in people's leisure time in the nature and is based on purposeful trips along with cultural and spiritual impressions, visiting and exploring natural attractions, and benefiting from diverse natural phenomena [4]. Ecotourism is not a marketing strategy but it serves as a means to achieve sustainable development [5]. Today, tourism and ecotourism as a good source of income generation have made many countries to invest heavily in tourism sector as economic and social benefits of ecotourism are very considerable. Unlike conventional tourists, eco-tourists are willing to pay more and have lower expectations [6]. The proper use of revenues from ecotourism paves the way for environmental protection and development of protected areas and facilitates sustainable development objectives [7]. Of course, it should be noted that the success of ecotourism is dependent upon the development of a comprehensive planning by the public and private sectors [8]. As environmental problems and the destruction of the nature have had an irreparable impact on the earth and human life, environmental protection organizations have been established to minimize such destructive effects. The main goal of these organizations is to protect the nature and also to define frameworks and regulations concerning the presence of humans in the nature and putting a limit on their influence and intervention in it in order to minimize exploiting the nature by humans [9]. Accordingly, protected areas have been formed to protect natural attractions and ecosystems, special economic, social, cultural, and historical conditions and values of natural areas and landscapes, and improve material and spiritual power of these natural landscapes by Nature and Natural Resources Protection Organization [10]. The impact of ecotourism is not limited to the participation of eco-tourists in leisure and recreational activities but they also reside in a region for a given time period and carry out their activities. They also need some facilities and equipment that affect the natural environment [11]. Ecotourism plays a significant role in income generation and employment. It is based on local economic development. Traditional economic development and local economic development are different from each other. The former focuses mainly on attracting and creating new jobs in the community and development strategies are led by external forces. However, the latter focuses on creating small green jobs; those jobs that are consistent with the nature and are socially concentrated [12]. Ecotourism has often caused some changes in the land use laws and is in conflict with many obligations concerning the distribution of resulting revenues. It also damages natural environments and causes many social problems. In fact, many have frequently argued that ecotourism is not only ecologically harmful but also it is not socially profitable [13]. Miankaleh Protected Re-

gion is a peninsular area in the far southeast of Caspian Sea, twelve kilometers away from the north of Noushahr with an area of more than sixty-eight thousand hectares and a height of 15 to 28 meters below the sea level. This region has been registered as a protected area since 1969 and now is protected by the environment protection agency as a refuge for wildlife, international wetlands and a natural biosphere reserve. Over 179 plant species and 204 species of native and migratory birds have been identified in this region which indicates its high biodiversity. It also contains many important plant and animal species and is registered as one of environmental reserves in the earth by UNESCO. In addition to its ecological values, Miankaleh Region has a high cultural and educational position as one of the biosphere reserves in the eight climates because of its cultural heritage, and historical and aesthetic structures and has been recognized by UNESCO as a residential ecology for humans. Because of its beautiful landscapes, Miankaleh has long been attended by many tourists. However, it is facing numerous challenges as there is no suitable model in the field of tourism and this has created some instability in many regions. The lack of proper plans on the part of responsible organization and tourists' unawareness of tourism potentials of the region and the private sector's unwillingness for making investments and the lack of facilities for tourists are among the main causes of the underdevelopment of the region. It is possible to help planners and facilitate the participation of the community members in reaching the sustainable development in the region by performing an environmental, economic, and sociocultural analysis. Therefore, investigating geographical conditions of the region and recognizing its environmental potentials and capabilities is inevitable for making constant use of resources with minimum destruction and damage to the environment. Accordingly, the compilation of a purposeful and effective plan to achieve sustainable development in the region under study will improve the tourism industry and attract tourists and encourage them to stay for a longer period in the region. However, the development of tourism activities and making changes in the tourist-attracting areas is insignificant and is followed without any regular planning. These issues have made the tourism industry in Miankaleh Region to encounter a number of social, economic, an environmental problems including environmental pollution, land speculation, land use changes, the imposition of economic pressures on families, the destruction of basic activities such as agriculture, young people's migration to big cities due to unemployment, the concentration of activities and services in urban areas, and unbalanced distribution of population across the region. However, it is possible to explain the role of ecotourism in sustainability by assessing ecotourism potentials. Besides, the environmental, economic, and sociocultural analysis will contribute the participation of planners and the community members to achieve sustainable development in the region. In this regard, many studies have addressed the role of ecotourism potentials in developing sustainable tourism. For instance, [13] conducted a study about ecotourism in rural and developing areas and potential sources of income for local communities in the absence of planning or the state

intervention in Costa Rica. The results showed that the lack of a formal planning would limit the maximization of profits from developing tourism. Therefore, there would be a need for improving awareness, information, and planning in the region. In another study, [14] explored tourism and ecotourism development planning for improving the economic growth. The results of the study showed that ecotourism planning and development has many aspects that need to be taken into account for making a balance between needs and different aspects of sustainable economic development planning and local ecotourism and tourism.

[15] studied a scientific model for evaluating and estimating recreational potentials of protective organizations and they used surface vegetation and ecological performance as standard indices of local and regional ecosystems. The data were collected using field methods and the model included eight variables. The results of this study has some implications for enhancing ecosystem planning using an ecological approach in natural parks located in Khazar Region in Iran. In another study, [15] explored the environmental potential for tourism development in Choghakhor Rural District. They showed that the region have considerable potentials and various environmental resources and natural and human phenomena that can attract tourism. It was also found that all parts of the region have high potentials for tourism development including extensive and intensive recreation activities.

[4] examined tourism and ecotourism development planning for economic growth as a case study of Iran's planning and suggested that tourism planning, ecotourism planning, and establishing stable capacities are the most important planning tools in Iran. [5], in a study entitled as Spatial Multi-Criteria Evaluation (SMCE): A tool for sustainable tourism management of wetland ecosystems and found that wetlands are highly dynamic ecosystems and are affected strongly by human activities and natural changes. Therefore, the management of these ecosystems cannot be stable and thus the zoning process should be changed accordingly and the management of wetland ecosystems must be adaptable to upcoming changes.

[2] explored the role of ecotourism attractions in developing tourism in Nahavand using SWOT analysis. They found that incorrect use of resources and managers' unawareness of environmental issues has made ecotourism attractions in the region highly vulnerable. To overcome these problems, current plans must be revised and appropriate solutions need to be proposed to minimize weaknesses and shortcomings and benefit from strengths and existing opportunities.

[3] examined the effect of ecotourism on biodiversity of plant species in Tandooreh National Park and found that there is a significant relationship between high and low pressure zones, biodiversity indexes, and dominance. However, there was no significant relationship among consistency indices. [5] examined opportunities and strategic factors of ecotourism industry in Jajrood Protected Region using IFE and EFE matrixes and found that ecotourism industry is not in good condition in this region and it needs the use of an integrated management

based on environmental, social, and economic elements.

[7] explored the role of ecotourism in sustainable rural and urban development in Qeshm Island. It was shown that the development of rural and urban regions in Qeshm is of special ecotourism importance in terms of ecological, economic, and political aspects.

[9] studied the role of ecotourism in sustainable and rural development in Torqabeh in Razavi Khorasan Province. The results suggested that the current trend of using nature despite some restrictive actions is beyond the capacity of the environment and there is risk of serious damages and the destruction of natural and economic potentials of the region.

[11] studied strategies for ecotourism development in Marivan using strategic participatory planning approach and it was shown that in order to strengthen and develop sustainable ecotourism in Marivan, a set of strategic guidelines for ecotourism management, planning, and policy-making should be taken into account. [8] studied ecotourism potentials of environmentally protected areas in line with sustainable development in Jahannama Protected Region in Gorgan. It was found that natural features of the region have a significant impact on motivating tourists to visit the region. In addition, the public familiarity with the region has increased tourists' motivation to visit the region and increase tourism revenues of indigenous residents.

2. Materials and Methods

The present study is an applied research in terms of its objectives, a field research in terms of methods of data collection, and a survey research concerning the generalizability of its findings. The research population included people living in Noushahr with a total number of 46,126 families (Iran Statistical Center), of whom 384 families, 30 experts, and 100 tourists were selected through simple random sampling as the respondents in the research sample using Cochran formula. To assess ecotourism potentials of the region for environmental development of Miankaleh Protected Region, 20 components and 88 indicators were used. In addition, the questionnaire was developed based on a likert scale and the collected data were analyzed using descriptive and inferential statistics, and Spearman test through SPSS.

3. Results

The role of ecotourism potentials in the development of Miankaleh Protected Area

One of the main topics discussed by experts is the application approaches to environmental and sustainable development. Today, the close relationship between tourism and the environment and the importance of environmental planning and sustainable development planning have increased interests in such approaches. The effect of ecotourism on the environment is not limited to the participation of eco-tourists in leisure and recreational activities because if ecotourism is managed and developed effectively, it can bring about positive and signif-

icant environmental effects and stimulate further environmental developments including the following cases:

- 1) Helping to improve the environmental quality of the areas because tourists are willing to visit interesting, clean, and unpolluted areas.
- 2) Increasing local environmental awareness when the residents, especially the youth see how visitors are interested in protecting the environment. Then they begin to realize the importance of maintaining their own environments and neighborhoods.
- 3) Reducing water pollution caused by improper disposal of sewage and waste disposal systems and other facilities.
- 4) Reducing environmental risks and land use problems arising from improper planning, construction, and engineering of tourist attractions and facilities.

To study the effects of ecotourism potentials in sustainable tourism development from an environmental perspective, 5 components and 31 items were used. As it is evident in **Table 1**, the significance level is smaller than 0.05 ($P < 0.05$) and this means that there is a significant relationship between ecotourism potentials in sustainable tourism development of Miankaleh and land revenues. However, in the protection of natural heritage and attractions, environmental awareness about production and management of waste, sewerage systems, and non-renewable materials is of a high significance and provides the grounds for maintaining biodiversity and the environment, and sensitive ecosystems.

The role of ecotourism potentials in sociocultural development of Miankaleh Protected Area

Ecotourism development and expansion in one area would result in social and cultural changes in that area. Therefore, ecotourism development measures should be taken into account in order to prevent negative effects of these changes and reinforce their positive effects in the host community. To study the effects of ecotourism potentials in sustainable tourism development from a sociocultural perspective, 10 components and 37 items were used. As it is evident in **Table 2**, the significance level is smaller than 0.05 ($P < 0.05$) and this means that there is a significant relationship between ecotourism potentials and sustainable tourism development of Miankaleh in terms of tourist satisfaction, increased awareness of local community and tourists, culture and traditions, social welfare and security, local community's satisfaction with tourists. However, there is a significant relationship between ecotourism potentials and sustainable tourism development of Miankaleh in terms of the host community's satisfaction, local managers' satisfaction, the observance of human rights (women's rights, employment rights, the quality of employment, income level, the development of social services, and local infrastructures.

The role of ecotourism potentials in economic development of Miankaleh Protected Area

Ecotourism as a branch of the tourism industry has engaged some individuals to serve eco-tourists in different locations and plays an important role in generating income and workforce employment. Ecotourism is based on the devel-

Table 1. Effects of ecotourism dd in explaining the environmental components of the region under study.

Components	Spearman			
	Correlation	Sig. (Two-tailed)	N	Result
Land revenues	0.428	0.000	515	Significant
Protection of natural heritage and attractions	0.141	0.163	515	Not significant
Protection of environmental biodiversity and vulnerable ecosystems	0.169	0.093	515	Not significant
Environmental awareness	0.157	0.120	515	Not significant
Production and management of waste, sewerage systems, and non-renewable materials	0.183	0.069	515	Not significant

Table 2. Effects of ecotourism dd in explaining the social and cultural components of the region under study.

Components	Spearman test			
	Correlation	Sig. (Two-tailed)	N	Result
Increased awareness of local community and tourists	0.307	0.002	515	Significant
Tourists' satisfaction	0.478	0.000	515	Significant
Host community's satisfaction	0.071	0.486	515	Not significant
Local managers' satisfaction	0.011	0.912	515	Not significant
Culture and traditions	0.293	0.003	515	Significant
Social security and welfare	0.328	0.001	515	Significant
Observance of human rights (women's rights, employment rights, the quality of employment, income level)	0.067	0.505	515	Not significant
Development of social services and local infrastructures	0.076	0.449	515	Not significant
Development of facilities and services	0.294	0.003	515	Significant
Local community's satisfaction with tourists	0.594	0.000	515	Significant

opment of the local economy. Traditional economic development and local economic development are different from each other. The former focuses mainly on attracting and creating new jobs in the community and development strategies are led by external forces. However, the latter focuses on creating small green jobs; those jobs that are consistent with the nature and are socially concentrated. Besides, it is attempted that consumers turn into producers, employees into employers, and workers into the owners of economic enterprises, so that the development process takes place without any dependence on external workforces. To explore the effects of ecotourism potentials in sustainable tourism development from an economic perspective, 4 components and 20 items were used. As it is evident in **Table 3**, the significance level is smaller than 0.05 ($P < 0.05$) and this means that there is no significant relationship between ecotourism potentials and sustainable tourism development of Miankaleh in terms of vulnerability. Nevertheless, there is a significant correlation between these two variables in terms of employment and activities, reinforcement of local economy, economic diversity, and employment income and its distribution.

Generally, as it is shown in **Table 4**, it can be concluded that there is a signifi-

Table 3. Effects of ecotourism dd in explaining the economic components of the region under study.

Components	Spearman test			
	Correlation	Sig. (Two-tailed)	N	Result
Employment and activities	0.287	0.000	515	Significant
Employment income and its distribution	0.181	0.007	515	Significant
Decreased vulnerability	0.181	0.071	515	Not significant
Reinforcing local economy and economic diversity	0.386	0.000	515	Significant
Investment	0.518	0.000	515	Significant

Table 4. Effects of ecotourism dd in developing the environmental, economic, and sociocultural aspects of the region under study.

Components	Spearman test			
	Correlation	Sig. (Two-tailed)	N	Result
Environmental	0.304	0.000	515	Not significant
Sociocultural	0.291	0.000	515	Not significant
Economic	0.278	0.000	515	Significant

cant relationship between ecotourism potentials of Miankaleh Protected Area and its environmental, economic, and sociocultural development.

4. Conclusions

Tourism development in the protected areas and especially ecotourism development is a means for facilitating the development and progress of ecotourism; if tourist regions are selected based on awareness and knowledge it can result in the full and sustainable ecotourism development. Ecotourism development is a valuable source of employment and income generation can be a significant tool for socioeconomic development of communities. In most countries, ecotourism is related to local policies and is used as a means to protect the environment and culture of the protected areas. Performing tourism activities which is associated with the creation of different jobs, as a part of economic activities leads to the socioeconomic prosperity and progress. Miankaleh Protected Area as a peninsular region with biosphere reserves and ecotourism outlook can be utilized for achieving sustainable development, which is in fact regarded as a relative opportunity and advantage for Behshahr Region. In addition, because of its abundant tourism diversities, Miankaleh can serve as an important tourism center in the country and can be used for macroeconomic purposes. As a result, the development of villages and cities in the region is of special significance in terms ecological, economic, and political aspects. The sustainable development of Miankaleh Protected Area as a peninsular region and the presence of special ecosystems alongside its disorganized development in the past and the ambition

development projects envisaged for the region must be taken into account with great care based on a full understanding of the present condition, tentative planning, and a continuous management. To explore the effect of ecotourism potentials of the region on its sustainable development, 6 components and 31 items dealing with sociocultural factors, 10 components and 37 items addressing economic aspects, and 4 components and 20 items in terms of environmental factors were analyzed. The results showed that there was a significant relationship between ecotourism potentials of Miankaleh Protected Area and its environmental, economic, and sociocultural development. Based on these findings, the following suggestions are offered:

- In order to accelerate implementing ecotourism projects in the region under study, prioritized projects must be introduced to the private sector as economic ecotourism packages with project specifications and details in all attractive regions so that the private sector investors are constantly informed of the potential opportunities for making ecotourism investments.
- The development of ecotourism as an industry or an economic sector must be planned aligned with environmental conditions (human and natural elements) with a focus on environmental vulnerability. Besides, protective considerations must be included in such detailed planning; otherwise environmental problems exceed the short-term benefits of socioeconomic development. Therefore, the ecotourism development will not be realized.
- In order to achieve desired results from ecotourism development in the region under study, sporadic ecotourism development plans and projects must be avoided and instead comprehensive and integrative plans must be defined for the region as a whole and implemented in various sectors. Such plans can include the followings:
 - Providing a list of available research topics and projects in the region and encouraging the participation of international organizations, agencies, public and private organizations within the country to implement ecotourism development projects in the region.
 - Defining a framework for environmental management, comprehensive plans, evaluation techniques, constant visitor monitoring and management, infrastructural projects, facilities, and informing different beneficial groups.
- In order to overcome existing problems and challenges, executive plans and policies must be revised and the employment of principles and strategies to deal with environmental, socio-cultural, and economic effects of ecotourism development in the region must be taken into account.

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