

STUDY OF GREEN INNOVATIONS IN SUSTAINABLE TOURISM EMPHASIZING ON ECO-CAMPS (CASE STUDY: MATIN ABAD ECO-CAMP, ISFAHAN PROVINCE, IRAN)

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Abstract: Environmental concerns such as global warming, water shortage, waste, sewage, and renewable energy management have made human to consider sustainability. In fact, such increasing environmental concerns have made a leading driver for innovation in industries so that advent of green products and services and some measurements such as recycling and energy storage are some samples of the mentioned drivers. Eco-camps play a vital role in sustainable tourism based on its cultural and environmental potentials. Eco-camps encompass some spaces, in which green innovation is used not only to provide required services to tourists but also to minimize negative side effects of tourism on environment. Green innovations consist of all ideas and technologies that are environment friendly such as eco-architectures, sustainable designs, etc. The first objective of this study is to identify strengths and weaknesses of Matin Abad Eco-camp in Isfahan Province, Iran considering tourism potentials with emphasis on environmental sustainability; at next step, green innovations and their movement toward sustainable were studied in studied camp and then mechanisms affecting implementation of sustainable tourism sustainability in this camp. To identify strengths and weaknesses, SWOT analysis was used. The factors extracted by experts were scored and obtained results indicated that seasonal tourism was the major weakness of this camp and use of green technologies for energy saving is strength point of this camp. The camp is moving toward sustainability employing green technologies and trends so that it is required to consider governmental cooperation besides teaching tourists to protect environment.

Keywords: Sustainable tourism, green innovation, green economy, Matin Abad Eco-camp.

INTRODUCTION

Tourism means a specific concept in terms of sustainability. Creation of this concept in tourism literature is because of attempting to achieve sustainable development in all fields of development, especially after Earth Summit in Rio de Janeiro 1993. Hence, governments considered such development, in which the minimum harm is imposed on environment, so that the obtained agreements were chosen as agenda of session 21 (programs related to 21st century) (Saghaee, 2006). Some of points mentioned in this conference associated with tourism were as follows (Kazemi, 2001, P. 129):

- Tourism development should be based on sustainability criteria. Accordingly, ecological issues, economic problems, and required obligations should be followed considering social and ethical aspects in long term.

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- Nature of tourism sustainability needs natural, cultural, and human environments.
- Tourism should consider cultural, value aspects as well as traditional elements of local communities.

Development of tourism sustainability consists of three aspects including protection of environment and resources, cultural heritage of communities and local economic boom. Hence, sustainable tourism should be implemented based on a determined comprehensive policy in order to guarantee hopeful movement toward comprehensive development of geographical spaces (Mansoori, 2002, P. 37). Sustainable tourism has some principles associated with higher efficiency so that it can match goals and practical solutions.

Matin Abad Eco-camp is located in Badrood Region of Isfahan Province, Iran. Matin Abad Camp is located at 19Km distance from south of Natanz and is created based on fundamental principles of sustainable tourism. Some energy source such as solar and wind energies are used in this camp in order to improve instructions related to environment protection and replacement. About 22% of thermal energy of camp is supplied through solar energy. Consideration of tourism potentials existing in Isfahan Province and emphasis on movement toward environmental sustainability made the researcher to study strengths and weaknesses of this camp looking for environmental friendly innovations to strengthen and develop this region.

This Paper has an exploratory and analytical approach has not been used in tourism industry before. Increased environmental information is driving force of innovation in tourism industry. New green products and services have been emerged and combined with some actions such as recycling and energy saving. The logic of tourism industry is remaining in business and obtaining competitive advantage through innovative behavior (Ioannides, 2009).

Nowadays, living in environmental friendly eco-camps can meet a major part of mental entrainment, and even physical needs of tourists considering population density in cities of Iran as well as pollution caused by industrial activities of tourism (Khaledi et. al. 2012).

Tourism industry now plays such a vital role in economic-social development that it is called as “invisible export” by economists (Mohseni, 2009). Development of sustainable tourism is the only way to minimize negative effects of tourism and strengthen its positive effects (Torabi Farsani et. al. 2012). Sustainability provides communities with some opportunities that they invest in strengths of their quality of life and manage it in a manner in which, it remains as a long-term tool for economic development in framework that improves protection level of environmental resources and increases social capital of the region (Putnam, 2000; Putnam & Feldstein, 2003).

Governments should play the leader role in order to promote long-term goals of sustainability including three scopes of economic, environmental, and social-cultural subjects (World Tourism Organization (WTO), 2008).

The purpose of this study is to identify strengths and weaknesses of eco-camps regarding sustainable tourism, to identify mechanisms affecting implementation sustainable tourism in eco-camps, to study green innovations applied in camps emphasizing on Matin Abad Eco-camp.

RESEARCH LITERATURE

Ramezani Ghavam Abadi (2012) has analyzed sustainable development in framework of three different steps in relation with advent of sustainable development, reinforcement and continuity of sustainable development as well as evaluation of past, present, and future prospect of sustainable development against environmental challenges focusing on conference on our common future. Moreover, Mazaherian and Ziari (2013) conducted a study entitled “design of tourism-recreational camps” to study features of these camps besides feasibility and designing examinations. They express that the project of camps is based on a set of design plans and technical rules. Moreover, Ramezani Ghavam Abadi (2016) conducted a study entitled “a step toward realization of sustainable development in international law of environment” to examine legal aspect of green economy and its role in realization of sustainable development. In this research, not only actions done by international community toward environment protection but also green economy analysis and its role in sustainable development achievement have been mentioned.

Marc Heleven has introduced 21 methods for having a better world in Articles Collection of “7 ideas” in 2016. In the Article entitled “21 ways for green innovation”, a set of most important strategies and innovations all around the world have been introduced that consists of inspiring ideas for product and services, product development, innovation, creativity and innovation of government, innovation of business model and new business model. The title of ideas has been selected purposefully for this article; for instance, access is more important than ownership. This title considers the importance of accessibility of all generations to non-renewable resources and emphasizes that present generations are the owners of all existing resources. Some ideas considered in this article include standardization, importance of zero number (when emphasizing on making energy waste equal to zero), new business models, aquatic instrument, economic design, transportation, sharing, transparency, etc.; he emphasizes that use of these inspiring ideas contributes to a more sustainable, greener, and better world.

RESEARCH METHODOLOGY

Figure 1 depicts methodology of present study in frame of a diagram.

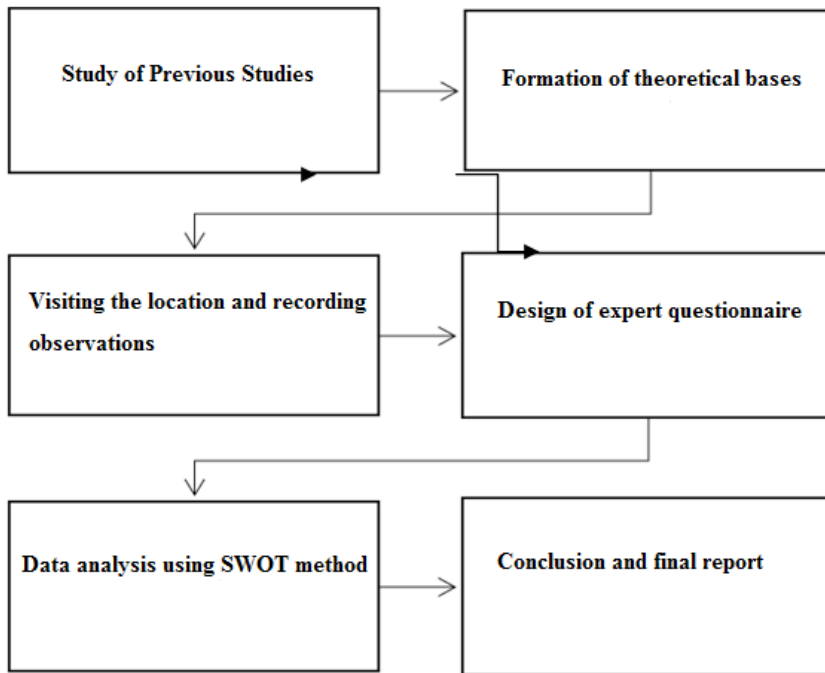


Figure 1

Library methods: to collect theoretical literature of study, library references including books, articles, dissertations, and internet resources have been used.

Field method: field methods of observation and questionnaire have been used in this research to collect relevant data. The observation and first questionnaire fulfilling were taken by researcher to study green innovations applied in studied camp. The second questionnaire was also designed and fulfilled by experts to answer research questions in order to identify strengths and weaknesses of studied camp.

RESEARCH FINDINGS

- According to the opinions of studied group, the most important strength point of Matin Abad Eco-camp is energy saving using modern energies such as solar energy and LED lamps with 1.34172-weight and weakness point was seasonal tourism of eco-camp with 0.493 weights.
- According to opinions of studied group members, the most significant opportunity is job creation and entrepreneurship for indigenous citizens

with 0.304568 weight-rates and the major threat is drought with 0.493772 weight-rates.

The scores related to strengths, weaknesses, opportunities, and threats: Total scores of strengths, weaknesses, opportunities, and threats are depicted in Figure 2. As can be seen in figure, skewness of diagram is toward right hand that is strengths and threats side; hence, various strategies are recommended to study studied area. It means that strength points should be used in this strategy to minimize threats against environment. In the following, a collection of proposed strategies for considered camp are extracted and introduced.

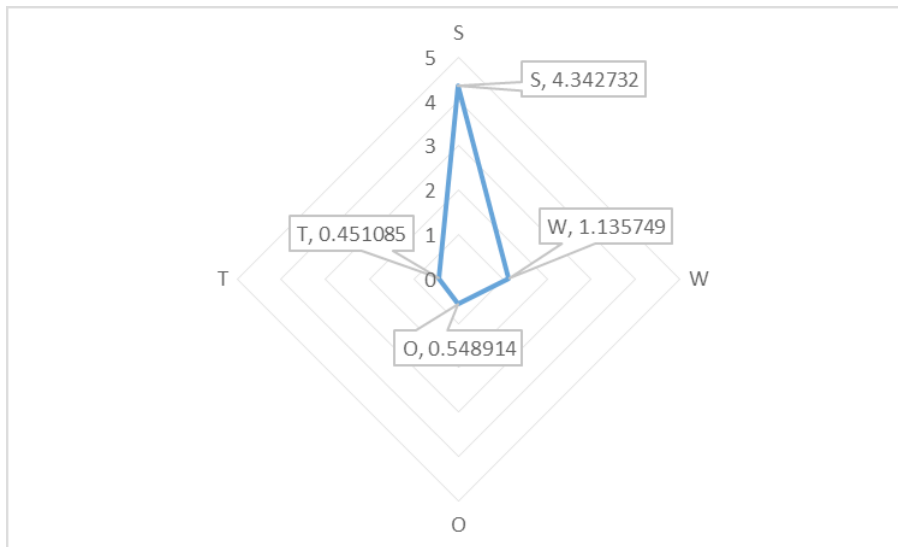


Figure 2

Summary of objectives and presenting final priorities of SWOT analysis: The following table was designed in accordance with results obtained from SWOT matrix so that priority and ranking of each of indexes extracted from objectives of groups participated in this research.

The second questionnaire was designed to examine existing innovations and then was filled out by researcher after visiting the studied areas and interview with camp entrepreneurs. This questionnaire consists of a list of green innovations applied in eco-camps all around the world as well as modern technologies used to reduce environmental implications. The purpose of design of this questionnaire is to identify green innovations used in studied camp. Results obtained from researcher’s observation from Matin Abad Eco-camp are indicated in following table.

RANKING OF STRENGTHS, WEAKNESSES, OPPORTUNITIES, THREATS

<i>Strengths</i>	<i>Priority</i>	<i>Weaknesses</i>	<i>Priority</i>	<i>Opportunities</i>	<i>Priority</i>	<i>Threats</i>	<i>Priority</i>
S1. Increase in income level and welfare of local people	8	W1. Lack of proper accessibility	2	O1. Green brand and green logo and environmental advertisements	4	T1. Drought	2
S2. Presence of traditional rituals and native culture	5			O2. Use of modern technologies	13		
S3. Environment friendly architecture	9	W2. Willingness of residents to immigrate to megacities	5	O3. Electrical bike	15		
S4. Sustainable design (matched with ecological area)	7			O4. Recycling (glass, plastic, metal bottles, battery, and paper)	7		
S5. Reducing greenhouse gas emission emphasizing on use of bike, camel riding and horse riding instead of vehicles that use non-renewable energies	6			O5. Use of green cleaners	11		
S6. Organic agriculture and producing livestock products	2	W3. Lack of required advertisements and proper notification	3	O6. Network activities	5		
S7. Waste management (for instance, using remained food staff for poultry feed)	10			O7. Use of modern energies (solar, wind, etc)	3		
S8. Energy saving using modern energies such as solar energy and LED lamps	1			O8. Reuse of water for irrigation and rainwater collection	6		
S9. Involvement of indigenous people	3	W4. Seasonal tourism in eco-camps and nomadic camps	1	O9. Use of second-hand furniture and equipment	8		
S. 10 Local management	4			O10. Job creation and entrepreneurship for local people	1		

<i>Strengths</i>	<i>Priority</i>	<i>Weaknesses</i>	<i>Priority</i>	<i>Opportunities</i>	<i>Priority</i>	<i>Threats</i>	<i>Priority</i>
S.11 protecting cultural and natural heritage	11	W5. Lack of proper space creation	4	O11. Reducing immigration rate to cities	16		
				O12. Design of environment using non-recyclable or late-recyclable (glass, water bottle, machine tires, etc.)	10	T2. Immigration of young population due to lack of job	5
				O13. Promotion of continuous tourism (having visitors continuously over the year)	9	T3. Lack of attention of tourists to environment protection	1
				O14. Cooperation with NGOs	14	T4. Lack of proper training to produce minimum waste	3
				O15. Voluntary participation in environmental friendly activities	12		
				O16. Use of Iranian products such as tea and artificial industries to support domestic producers	2	T5. Lack of attention and governmental support	4

GREEN INNOVATIONS IN MATIN ABAD CAMP

<i>Green innovations</i>	<i>has it</i>	<i>does not have</i>
Employment of natives	*	
Protection and reinforcement of traditional rituals and native culture	*	
Environmental friendly architecture	*	
Sustainable design (matched with ecological area)	*	
Reducing greenhouse gas emission with emphasis on using bike, camel riding and horse riding instead of vehicles that use non-renewable energies	*	
Organic or vertical agriculture	*	
Waste management (for instance, remained food staff for poultry feed through compost)	*	
Energy saving using modern energies such solar energy and LED lamps	*	
Green brand, green logo, and environmental advertisements	*	
Use of modern and environmental friendly technologies	*	
Electrical bike		*
Recycling (glass, plastic, metal bottles, battery, and paper)	*	
Use of green cleaners and health materials (with lowest harm against environment)		*
Network activities (interaction between common activities and defining them)	*	
Use of modern renewable energies (wind, solar, etc)	*	
Reuse of water for irrigation, etc. and rainwater collection		*
Participation in voluntary environmental friendly activities	*	
Cooperation with NGOs	*	
Use of second-hand furniture and equipment		*

According to the information obtained from table above, it can be stated that almost all of staffs in Matin Abad Eco-camp are native and this leads to reduction of immigration rate of young people to cities. Tents similar to nomadic tents are used to design space; rooms and ricks of camp are adapted to desert space. Few numbers of motor vehicles are used in this camp and a part of thermal energy is prepared using solar cells. Food staffs provided in Camp are prepared from organic farms existing in camp. Food waste is used as animal feed. Matin Abad Eco-camp was recognized as the 18th eco-camp of the world in 2014. Non-food items (paper, glass, plastic, etc.) are recycled by sheriffdom; also, tourists participate in collecting non-recyclable materials from desert. Eco-camp has a network activity and cooperation with tourism agencies. All equipment is new and first-hand so that second-hand

and late-recyclable materials are not used in this camp. Any environmental friendly technology, such as electrical bike, was not observed except for solar cells. Also, green cleaners were not used and managers used chemical cleaners.

CONCLUSION

According to the results obtained from SWOT analysis, it can be found that Matin Abad Region has provided a proper condition for development as the first tourism eco-camp of Iran. Moreover, the region has a clear future having numerous tourism and cultural opportunities. It should be noted that private management in region and serious manner of officials to expand tourism culture in region and Iran has contributed to improvement of region position. Some of the mentioned improvements are increasing environmental culture (Matin Abad is one of the cleanest villages of the region), relative success to attract tourists and making them familiar with the nature, proper handling of region, drawing attention of governmental officials to expand the area, create jobs, and use native forces. The other point is serious decision of managers of eco-camps to expand its space to 1000 hectare and establish a safari park in region and this not only requires financial supports but also needs matched governmental organizations and extensive studies. Such project can meet many protective needs of species and educations needs of environmental protection. In general, Matin Abad eco-camp benefits from cultural, social, and natural potentials also is able to meet many of protective and educational environment needs leading to tourism development sustainably.

Matin Abad Eco-camp is created using 6 billion toman (Iran's currency) governmental loans so that proper governmental support contributed to expansion of this project. One of problems of this camp is its accessibility that is not proper; however, a proper road construction can be seen around the camp. One of good properties of this camp is environment protection and respect for nature by tourists so that they always collect garbage in the camp. Matin Abad Eco-camp was recognized as 18th eco-camp in the world in 2014 and this eco-camp has the required international standards. One of other features of Matin Abad is use of local labor for employment and this encourages local people to remain in area (reverse immigration). About 80% of energy for water warming during winter is provided through solar batters and 100% of energy for water warming during summer is provided through solar batteries. Some facilities are considered for blind and handicapped people in Matin Abad Eco-camp and they enjoy specific discounts to visit the area.

Organic agriculture and animal husbandry are some of activities done in this eco-camp and most of products such as meat, eggplant, tomatoes, cucumbers, watermelons, melons, plums, pomegranates, vegetables, potatoes, etc. are produced in the region. However, drought is one of risky options making the location at risk. Camel riding and bike riding are some of entrainments of Matin Abad Eco-camp.

Nejat Pashaki and Jazini (2012) studied Matin Abad Eco-camp regarding sustainable tourism emphasizing on management performance of eco-camp and presented some solutions to change camp as great tourism region considering cultural, social, and ecological potentials of the region. In this research, strengths and weaknesses of Matin Abad Eco-camp were examined emphasizing on sustainable tourism and using green innovations. According to the observations from studied area and study of environmental position, the camp has a potential to be greener and some recommendation are presented as follows:

- Use eco-camps' positions to attract foreign tourists and introducing desert attractions of Iran
- Design of some equipment for naturally wildlife watching
- Expansion of Matin Abad Eco-camp and more use of natural desert attractions
- Teaching use of organic products and improvement of irrigation system

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