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# *Developing Rural Ecotourism Strategies in Wetland Protected Areas. The Case Study of Helleh Wetland, Iran*

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*This paper focused on rural ecotourism development goal through evaluation of current condition of tourism in Helleh Wetland Protected Area (a region located in the south of Iran with an area of 48,940 ha). To plan and implement this, different management and decision making tools were utilized such as interviews, questionnaire surveys, and SWOT analysis. A series of interviews was conducted so as to recognize actions taken by governmental bodies responsible (e.g., Department of Environment). Furthermore, the visitors of the wetland were surveyed to evaluate the rate of fulfilment of sustainable tourism development in the wetland. Local residents were also taken into account by using a survey to reveal the problems and the attractions of the wetland. Results showed that the existing tourism activities in the wetland did not conform to sustainability requirements. Hence, a SWOT analysis was conducted to identify the required management strategies to enhance the tourism in the wetland and consequently promote socio-economic development of the community.*

*Keywords: Sustainability; Helleh Wetland; SWOT; Management; Ecotourism*

## 1. Introduction

*Protected areas as the most predominant regions in biodiversity often follow different goals such as local development, life-supporting activities, and conserving biodiversity (Rastogi et al. 2010) and wetland protected areas are productive and unique ecosystems which endow human with a myriad of services from purifying soil to generating income for local communities and this is the reason of attention which recently has been directed to preserve wetlands. In this sense, implementing sustainable strategies for wetland protected areas seems crucial.*

*According to Quebec declaration on ecotourism (2002), for recognizing the principles of sustainable ecotourism, the economic, social and environmental impacts of tourism should be considered (Das & Chatterjee, 2015). Ecotourism is defined as "environmentally responsible travel and visitation to relatively undisturbed natural areas in order to enjoy and appreciate nature (and any accompanying cultural features both past and present) that promotes conservation, has low negative visitor impacts, and provides for beneficially active socio-economic involvement of local people" (Ceballos-Lascurain, 1996; Jalani, 2012). Indeed, ecotourism is a substantial strategy to protect the environment and generate income for local communities if its principles be considered in a sustainable manner. In other word, ecotourism has profound effects on economic development and conservation of natural resources (Surendran & Sekhar, 2011) and it also is a rapidly growing niche market as well as one of the world's biggest industries (Blangy & Mehta, 2006; Das, 2011). Hence, due to the advantages of ecotourism activities, they are becoming more popular around the world and Iran is no exception. Iran is a country with diverse climate and remarkable biodiversity, rich culture and stunning natural wonders, however, major limitations such as lack of resolute regulations, educational plans and infrastructures, have contributed to slow the pace of development of ecotourism in the country (Sayyed, Mansoori, & Jaybhaye, 2013). Several researches have been conducted about development of ecotourism in Iran using SWOT (strengths, weaknesses, opportunities and threats) technique (Aghajani, 2014; Moosavi, Safania, & Gholami, 2013; Sayyed et al., 2013). Similarly, Samadzadeh, Bigdeli, and Fathi (2010) by using SWOT technique for analyzing the potential of ecotourism region in Hashtjin, concluded that the area has considerable tourism development potential and by designing satisfactory plans for tourism development of the region, the area would be conserved and the economic condition would be improved. Badri, Rahmani, Sjasy Kedari, and Hassanpour (2011) emphasized that a variety of strategies and policies ought to be considered for ecotourism sustainable development (ESD). According to the studies conducted by Taghvaei,*

*Taghizadeh, and Kiomarsi (2011) and Ebrahimzadeh and Agassizadeh (2009), using geographic information system (GIS) and SWOT models can assist us to address an appropriate strategy for ESD. Moosavi, Safania, and Gholami (2013) demonstrated that there is a scope for enhancing of the SWOT analysis in recognizing more alternatives for strategic management of sustainable ecotourism. Due to various natural attractions of Iran, many individuals are interested in visiting natural landscapes (such as wetlands) in different provinces of the country (such as Bushehr). The province of Bushehr is located in the South of Iran and Helleh Wetland is one of the most beautiful places in the province which has natural attractions along with the historical and cultural values, which can be considerably attractive for tourists, however, tourism has had a largely unplanned development in this wetland. Accordingly, it is necessary to control tourism development in Helleh Wetland. Although many studies have been done on wetlands in Iran in general and on Helleh Wetland in specific, it seems that the dominant drawback is lack of studies on sustainable tourism.*

*Consequently, in this study by focusing on the strengths and weaknesses (internal factors) as well as opportunities and threats (external factors) in the study area, and by applying SWOT analysis, we attempt to achieve sustainable tourism development strategies through questionnaires and interviews with experts, local visitors and people. Subsequently, the results are explained, following with a discussion on the research findings and at the end a conclusion is made with regard to the main findings of this study.*

## *2. Material*

### *2.1 Study site*

*Helleh protected area of 48,940 ha is located at geographic coordinates 50°38′24″ to 50°56′23″ eastern longitude and 29°03′24″ to 29°16′50″ northern latitude (Fig. 1). Helleh protected area, by official division, is located in Bushehr province, Iran. This area has two sections, watery and dry. In fact, it was a part of the Helleh delta at the end of the river with the same name. This area, in the south, ends with the Persian Gulf. Figure 1 demonstrates the local position of the Helleh protected area (Environmental Protection*

*Organization of Iran 2004). The Helleh protected area, the natural living sites, and plant as well as varied animals related to the same are threatened by natural hazards such as drought, flood, and dangers rising from human activities such as water supply for the Rayis-Ali- Delvari dam, conflagration in the forest, and unpermitted hunting of birds. Some of the districts of the area suffer from high potential damage ability due to ecological sensitivities (Environmental Protection Organization of Iran 2004).*

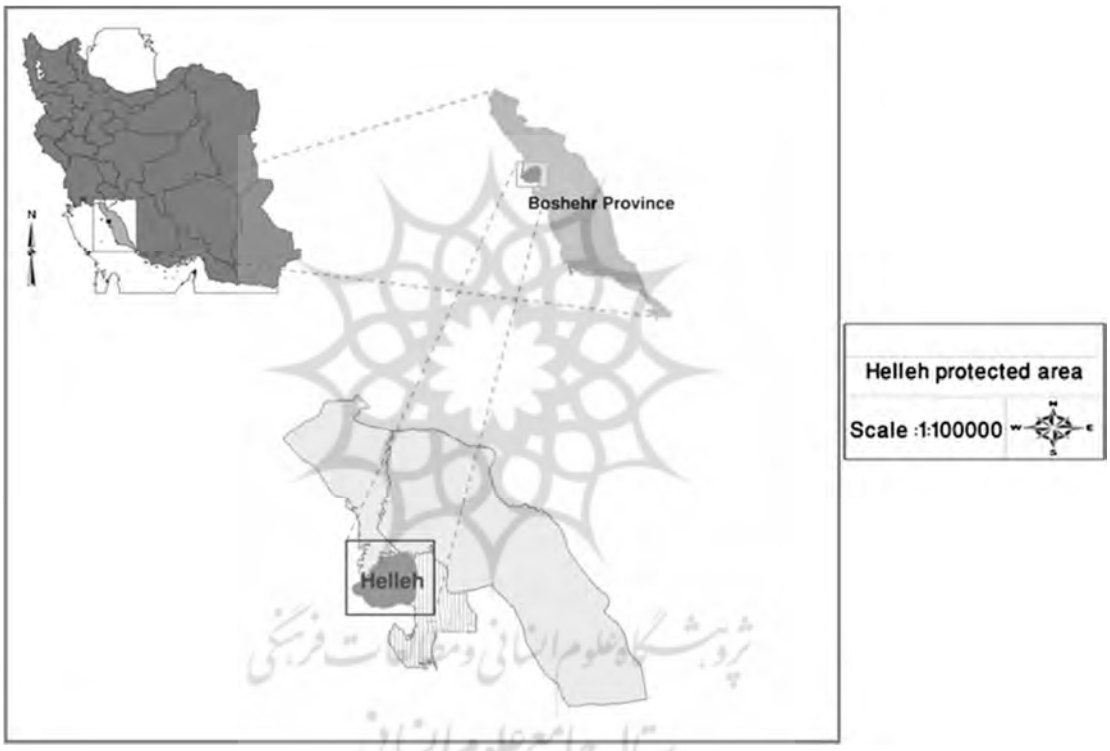


*Figure 1. The geographical location of the study area.*

### *2.2. Data collection*

*Primary data were collected using three questionnaire surveys, unstructured interviews, and observation of participants. There were three different surveys administered on three groups of stakeholders, i.e. visitors, staff, authorities active in the field of wetland management regarding conservation and tourism aspects as well as local residents. Due to the fact that this method is more costly, a direct face-to-face survey*

*method was conducted since it is more probable to extract higher response rates than mail surveys (Lee and Han, 2002). Some of the questioned staff took the questionnaire home and returned it to the author later. The major reason for which was that the staff were engaged during day time. In fact, they were at work during the day and it was not convenient to fill out the forms. In case of visitors and residents, the respondents were approached in two methods depend on their preference. Either they were interviewed or they filled out the questionnaires. There was an open question in three of the questionnaire surveys looking for any further comments which seem crucial to be mentioned.*

*In all three questionnaires, Likert scale was utilized to extract the effective factors in visitor's satisfaction and staff's and locals' opinions about the wetland attractions as well as problems. This scale includes a series of questions or statements related to attitude in question. The respondent is required to indicate the degree of agreement or disagreement with each of these statements. Responses are given a numerical score that will consistently reflect the direction of the individual's attitudes on each question or statement. The respondent's total score is calculated by summing the scores of all statements and the final measure depends on the percentage of each indicator (Kinnear & Taylor, 1995).*

### *2.3. SWOT analysis*

*A SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis is an efficient planning method for strategy planning by identifying the potentials and priorities of a project to accomplish the development strategy (Buta, 2007). SWOT analysis, also known as SWOT matrix, has often been used in field of business and extended to that of natural resource management so as to evaluate a given decision, project or policy directive in a systematic manner (Schmoldt, Kangas, Mendoza, & Pesonen, 2001). It has also been used in assessment of sustainable tourism (NOAA, 2011).*

*This method is based on two levels of analysis which are conducted separately:*

*1. First level is to analyse the internal factors (local analysis) which include a discussion on strengths and weaknesses according to the goal of the SWOT.*

*2. Second level is to analyse the external factors (global analysis) which include a discussion on relevant opportunities and threats (positive/negative framework conditions, potential chances and risks) (Harfst et al., 2010).*

*Examining the internal and external environmental factors is a vital part of a strategic planning procedure which in turn is a part of sustainable development. Such an analysis of the strategic environment is useful in the formulation and selection of a strategy. In this study, the SWOT analysis was conducted on Helleh Wetland to examine the sustainable tourism development. First, the internal environmental factors of the wetland were categorized as strengths (S) or weaknesses (W) and those external were categorized as opportunities (O) or threats (T). Accordingly, a list of Ss and Ws and a list of Os and Ts were drawn. The former was classified in the internal factor estimate matrix (IFEM) and the latter was classified in the external factor estimate matrix (EFEM). Afterward, these factors were weighed and scored by a panel of experts and the final score was calculated. The following section elaborates the scoring process for S and W:*

*1. The factors were given a coefficient between 0 and 1, standing for "not important" and "most-important", respectively. This coefficient represents the relative importance of the factor in success rate and is demonstrated by this term; weight in the IFEM. Although each factor is considered an internal strength or weakness, the more effective the factor in sustainable tourism development, the higher the allotted weight will be.*

*2. Each factor was scored between 1 and 4, 1 standing for fundamental weakness, 2 for minor weakness, 3 for strength and 4 for great strength. These scores were based on the activities taking place in the wetland, coefficients used in the above stage and wetland's status.*

*3. To determine each factor's final score, its weight was multiplied by its score.*

*4. Once each factor's total score was calculated, they were summed to calculate the total final score of IFEM.*

*5. If this value was less than 2.5, it meant that the strengths were less than weaknesses; if it was more than 2.5 strengths were more than weaknesses. These steps were repeated for EFEM as well. If this value was less than 2.5, it meant that the opportunities were less than threats; if it was more than 2.5, opportunities were more than threats (Monavari, Karbasi, & Mogooee, 2007).*

## *3. Results*

*After primary and secondary data collection, SWOT analysis was conducted to evaluate the feasibility of sustainable tourism in Helleh Wetland through analysing the results and determining the priorities.*

*Table 1. External Factor Estimate Matrix (EFEM).*

| | Weight | Effectiveness score | Final score |
|---|---|---|---|
| *Opportunities* | | | |
| *1. Potential of community members' contribution to protect and preserve the wetland* | *0.05* | *3* | *0.15* |
| *2. Environmental conservation NGOs in the province and the country* | *0.06* | *3* | *0.18* |
| *3. Obtaining financial assistance from the national and international level* | *0.07* | *4* | *0.28* |
| *4. Development of tourist facilities as one of the strategies of ecotourism development* | *0.06* | *4* | *0.24* |
| *5. Job creation and revenue to regional and local people* | *0.06* | *3* | *0.18* |
| *6. High research and educational potential* | *0.05* | *4* | *0.2* |
| *7. Having unique cultural and natural landscapes and biodiversity comparing to similar tourist areas* | *0.06* | *4* | *0.24* |
| *8. Possible development of tourism activates such as hiking, biking and winter sports* | *0.06* | *4* | *0.24* |
| *9. Setting environmental taxes* | *0.06* | *4* | *0.24* |
| *10. Increased interest of local citizens in domestic tourism* | *0.04* | *3* | *0.12* |
| *Threats* | | | |
| *1. Environmental threats such as drought* | *0.05* | *3* | *0.15* |
| *2. Too much population increase in the area due to the incentive of generating income* | *0.05* | *3* | *0.15* |
| *3. Tensions and insecurity in Middle East and especially in neighboring countries like Afghanistan and Iraq, which causes the number of international tourists* | *0.05* | *4* | *0.2* |
| *4. Weakness of land ownership laws* | *0.07* | *5* | *0.35* |

| | | | |
|---|---|---|---|
| *5. Contamination increase due to waste disposal generated by local houses and industries* | *0.07* | *5* | *0.35* |
| *6. Exposed to land destruction and land use conversion* | *0.06* | *4* | *0.24* |
| *7. Existence of illegal hunters and risk of loss of species* | *0.05* | *2* | *0.1* |
| *8. The loss of native culture and effects of tourists' cultures on people* | *0.03* | *2* | *0.06* |
| *Total* | *1* | | *3.67* |

### *3.1. EFEM*

*There were 10 factors pertaining to opportunities. Obtaining financial assistance from the national and international level had the highest weight, while "Increased interest of local citizens in domestic tourism" had the lowest weight. The effectiveness score ranged between 3 and 4. In case of threats, 8 factors were recognized. The highest weight allocated to Contamination increase due to waste disposal generated by local houses and industries, and Exposed to land destruction and land use conversion and Loss of native culture and effects of tourists' cultures on people had the lowest weight. The effectiveness score ranged between 3 and 5. Ultimately, the final score was 3.67. Table 1 summarizes the process and the outcome of external factor analysis.*

*Table 2. Internal factor estimate matrix (IFEM).*

| | *Weight* | *Effectiveness score* | *Final score* |
|---|---|---|---|
| *Strengths* | | | |
| *1. Rich tourist attractions such as local foods, rituals, sports and clothes, traditions, architecture and etc.* | *0.05* | *4* | *0.2* |
| *2. Convenient access to the wetland* | *0.04* | *3* | *0.12* |
| *3. Unique traditional handicrafts* | *0.03* | *3* | *0.09* |
| *4. Positive attitude of government to promote tourism* | *0.03* | *2* | *0.06* |
| *5. Abundant young labor force supply* | *0.03* | *3* | *0.09* |

| | | | |
|---|---|---|---|
| 6. Local people are very hospitable and tourist friendly | 0.03 | 2 | 0.06 |
| 7. Wide existence of species like Typha latifolia which can be sold in markets as wetland products | 0.04 | 3 | 0.12 |
| 8. Airport existence in the province capital | 0.04 | 2 | 0.08 |
| 9. Unique ecosystems | 0.05 | 4 | 0.2 |
| 10. The region weather and climate | 0.03 | 3 | 0.09 |
| 11. Presence of a security checkpoint in the proximity of the wetland | 0.03 | 3 | 0.09 |
| 12. Existence of Management Plan for the wetland | 0.05 | 3 | 0.15 |
| Weaknesses | | | |
| 1. Absence of information to introduce the attractions | 0.05 | 4 | 0.2 |
| 2. Lack of research centers and studies compared to other protected areas | 0.05 | 3 | 0.15 |
| 3. Lack of assessment and evaluation of environmental impacts arising from the construction of recreational centers | 0.06 | 5 | 0.3 |
| 4. Tourism marketing and supply chain is not well developed | 0.04 | 4 | 0.16 |
| 5. Complicated investment procedures | 0.06 | 5 | 0.3 |
| 6. Lack of tourism management | 0.07 | 5 | 0.35 |
| 7. Lack of infrastructures such as online Monitoring Center in the wetland | 0.04 | 3 | 0.12 |
| 8. Lack of adequate funding | 0.06 | 3 | 0.18 |
| 9. Weak and old infrastructures | 0.07 | 3 | 0.21 |
| 10. Lack of trained experienced workforce | 0.05 | 3 | 0.15 |
| Total | 1 | | 3.47 |

### *3.2. IFEM*

*Regarding strengths, 12 factors were identified. The weight allocate to Rich tourist attractions such as local foods, rituals, sports and clothes, traditions, architecture and etc., Unique ecosystems and Existence of Management Plan for the wetland were the highest and the effectiveness score ranged between 2 and 4. When considering weaknesses, 10 factors were detected. Lack of tourism management and Weak and old infrastructures had the highest weight. The lowest weight was allocated to Lack of infrastructures such as online Monitoring Centre in the wetland and Tourism marketing and supply chain is not well developed. The effectiveness score ranged between 3 and 5. Totally, the final score was 3.47. The results of this stage are shown in Table 2.*

*The value of external factors is 3.74; implying that opportunities were more than threats. The value of internal factors was 3.47, so the strengths were more than weaknesses as well. As mentioned earlier, sustainable tourism is the main pivot for wetland protected area development. To reach this, by pair wise matching SO, WO, ST, and WT, seventeen key strategies were determined for this protected wetland. The SWOT matrix is shown in table 3:*

*Table 3. Sustainable tourism development strategies in Helleh Wetland*

*1. S-O strategies presented opportunities that fit well with the wetland's strengths.*

*2. W-O strategies to overcome weaknesses to suggest opportunities.*

*3. S-T strategies to explore the ways that can be used to reduce vulnerability to the external threats.*

*4. W-T strategies to establish a defensive plan to prevent the wetland's weaknesses from making it highly vulnerable to the external threats*

*SO Strategies*

*SO1. Increasing advertisement and documentaries about Helleh wetland to encourage tourists to use the natural beauties and available facilities such as landscape, biodiversity, cultural attractions, hotels, restaurants and other tourists attractions including boats tours, bird watching and so on.*

*SO2. Establishing green taxes on cafes and restaurants adjacent to the wetland to increase the revenue for conservation purposes.*

*SO3. Using regional and Environmental NGOs potentials for conservation of the natural ecosystem*

*SO4. Developing tourist facilities like hotels for ecotourism in the region which will help to create more jobs to local people*

*SO5. Organizing educational and entertainment tours*

*ST Strategies*

*ST1. Conducting Environmental Impact Assessment in the case of any major development projects in the protected area*

*ST2. Devise a plan by considering lists like IUCN (2018) red list, so as to conserve and avoid adverse impacts of tourists on endangered biodiversity,"*

*ST3. Developing markets for wetland's products and services like medical herbs and other species such as Typha latifolia to increase the wetland's revenue*

*ST4. Law enforcement for the illegal hunters and users of the wetland and impose heavy financial penalties for not obeying them*

*WO Strategies*

*WO1. Allocating budget to establish new and modern infrastructure to attract more tourists*

*WO2. Simplifying investment processes*

*WO3. Providing professional education for workforce by assistance of regional experts*

*WO4. Increased research funding for scientific studies and research in the area*

*WT Strategies*

*WT1. Hiring professional and experienced managers*

*WT2. Developing informing activities in the media to reduce negative views about the insecurity of the region and ensure highest level of security to tourists*

*WT3. Law enforcement for the illegal hunters and users of the wetland and impose heavy financial penalties for not obeying them*

*WT4. Developing plans to obtain national and international financial supports so as to develop tourists facilities in the area*

## *4. Conclusions*

*This study examines the strengths, weaknesses, opportunities and threats of tourism development in Helleh Wetland. The main issues which influence tourism industry development in the wetland have been identified by SWOT analysis. The current and future situation of tourism in Helleh Wetland is criticized by means of quantified SWOT analysis. Accordingly, Helleh Wetland has a great potential for tourist attraction. The strong points are the Rich tourist attractions such as local foods, rituals, sports and clothes, traditions, architecture and etc. and Unique ecosystems and Existence of Management Plan for the wetland. However, Weak and old infrastructures and Lack of tourism management are main weaknesses in the study area. Therefore, Helleh Wetland is open to mass and unsustainable tourism activities. These results may help the wetland's managers to analyze the problem of tourism and determine the potential improvement actions. Consequently, this paper provides an important alternative for further research projects on implementation of sustainable tourism in Helleh Wetland.*

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