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[Short Communication]

Environmental and strategic assessment of ecotourism potential in Anzali Wetland using SWOT analysis

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ABSTRACT:
SWOT analysis is used extensively as an assessment and planning method, particularly in tourism planning. However, there are little documentations on application of SWOT analysis in ecotourism. An assessment on systematic use of SWOT analysis was carried out in the present study to highlight the applicability of the SWOT technique in detailed investigations. In this study, based on field surveys and questionnaires (on Anzali Wetland and the local population), matrix of internal and external factors (threats, opportunities, weaknesses and strength) influencing tourism development in Anzali Wetland were evaluated within the framework of SWOT analysis and SO, WO, ST and WT strategies were identified. Based on the obtained results, the total score of 3.22 in IFE matrix suggests good condition of the system and high internal strength of the tourism development related to internal factors and the final score of 2.93 in the EFE matrix represents poor condition related to the external factors which means external factors have not been utilized properly; Thus appropriate planning and organizational management practices are required to deal with these factors. The study further proposes solutions, operational priorities and strategic planning according to environmental and local conditions of Anzali Wetland. Since the tourism industry in Iran is still in its early stages, particularly in Anzali Wetland region, the findings could help decision makers to estimate better the weaknesses, strengths, threats and opportunities, and to develop tourism industry in the region.

Keywords: *Tourism, SWOT Analysis, Environmental Assessment, Anzali Wetland.*

INTRODUCTION

Ecotourism is environmentally responsible travel to natural areas, in order to enjoy and appreciate nature (and accompanying cultural features, both past and present) that promote conservation, have a low visitor impact, and provide for beneficially active socio-economic involvement of local people (IUCN, 1997). Also the sustainable tourism is developed on the ecotourism resources (such as ecological landscape, ecological environment, ecological culture, ecological technology, ecological industry, ecological products, etc.) for content, and based on ecological civilization (Jing and Fucai, 2010). Ecotourism provides local benefits environmentally, culturally and economically (Kara *et al.*, 2011). Compared

to any other country, Iran is one of the largest tourist resources due to its cultural, natural and historical sites, hence a leading country in the world in terms of potentials for attracting different types of tourists (Azimi, 2008). Anzali Wetland was listed under Ramsar Convention on Wetlands of International Importance in July 1975 (Ramsar Convention, 1975) and the Bird Life International Organization recognized this wetland as an important habitat for birds (Evans, 1994; Mansori, 1993; Khoshechin, 1993).   Anzali wetland characterized by a rich biodiversity (flora and fauna), habitats for migratory birds and a beautiful nature. It is also an economic blessing for the people living nearby. Notwithstanding enormous natural potential, the Wetland suffers from lack of tourism planning which has slowed down the development of tourism industry in the region.

In this paper the factors influencing the development of nature tourism in Anzali Wetland and the strengths, weaknesses, opportunities and threats involved in the Wetland were evaluated using the SWOT (strengths, weaknesses, opportunities, and threats) analysis. The SWOT analysis was adapted to provide a more comprehensive decision-support tool, through resolving the factors spatially and linking them to specific values and objectives.

SWOT analysis can provide a good basis for assessment and strategy formulation, even though it is often left only at the level of pinpointing the issues and describing them in general terms (Kangas *et al.*, 2003). SWOT matrix helps managers develop four types of strategies respectively: SO (strengths-opportunities) strategies, WO (weaknesses-opportunities) strategies, ST (strengths-threats) strategies, and WT (weaknesses-threats) strategies. SO strategies use a firm's internal strengths to take advantage of external opportunities. WO strategies overcome internal weaknesses by capitalizing on external opportunities. ST strategies use a firm's strengths to avoid or reduce the impact of external threats. WT strategies are defensive tactics directed at reducing internal weaknesses and avoiding environmental threats (Weihrich, 1982).There are eight steps involved in constructing a SWOT matrix: (1) list the firm's key external opportunities, (2) list the firm's key external threats, (3) list the firm's key internal strengths, (4) list the firm's key internal weaknesses, (5) match internal strengths with external opportunities and record the resultant SO strategies, (6) match internal weaknesses with external opportunities and record the resultant WO strategies, (7) match internal strengths with external threats and record the resultant ST strategies, and (8) match internal weaknesses with external threats and record the resultant WT strategies (David, 2007). SWOT analysis is used in different sectors and planning and development situations as a tool for organizing and interpreting information, including bioenergy production (Liu et al., 2011), maritime transportation industry (Kandakoglu et al., 2009), technology development (Ghazinoory *et al.,* 2009), food microbiology (Ferrer *et al.,* 2009), environmental impact assessment (Paliwa, 2006), and tourism management (Kajanus et al., 2004; Akca, 2006).

MATERIALS AND METHODS
Study Area

Anzali Wetland, also called Anzali Mordab (37° 26′–37° 35′ N and 49° 15′–49° 27′ E) located in Guilan province, is the largest freshwater reservoir of the southern Caspian Sea (Zubakov, 1993).

It has a surface area of approximately 160 km², which fluctuates widely with sea level change. Anzali Wetland consists of three main parts: the central part close to Bandar-e Anzali town, the western part and the southern part. The western and southern parts, called Siah-Keshim and Selke and Sorkhankol respectively, are

protected by the Department of Environment of Iran thus possessing well-protected flora and fauna. Fifteen small rivers and streams with a catchment of 3700 km² flow into the wetland. The outlet is 300 m wide which allows exchange of brackish seawater and fresh wetland water (Fig. 1).

Extensive field studies involving direct observation, interviews, questionnaires and document review (library documents, map and the computer database) have been used to carry out the study Methodology:

The internal environment (strengths and weaknesses) and external environment (opportunities and threats) were studied in the area. To complete the data set, Anzali

Wetland was visited and questionnaires were distributed among local people as the statistical sample for further analyses. Expert opinion was used to weigh items in the SWOT matrix. Finally, guidelines and strategies for tourism development in the Wetland were proposed. The sample comprised 180 local people living in 83 villages located at the riparian areas of the wetland (To determine the sample size for the distribution of questionnaires, Cochran (1997) statistical formula was used). Therefore, the questionnaires were prepared to assess the input of the sample including 150 normal villagers and 30 experts.
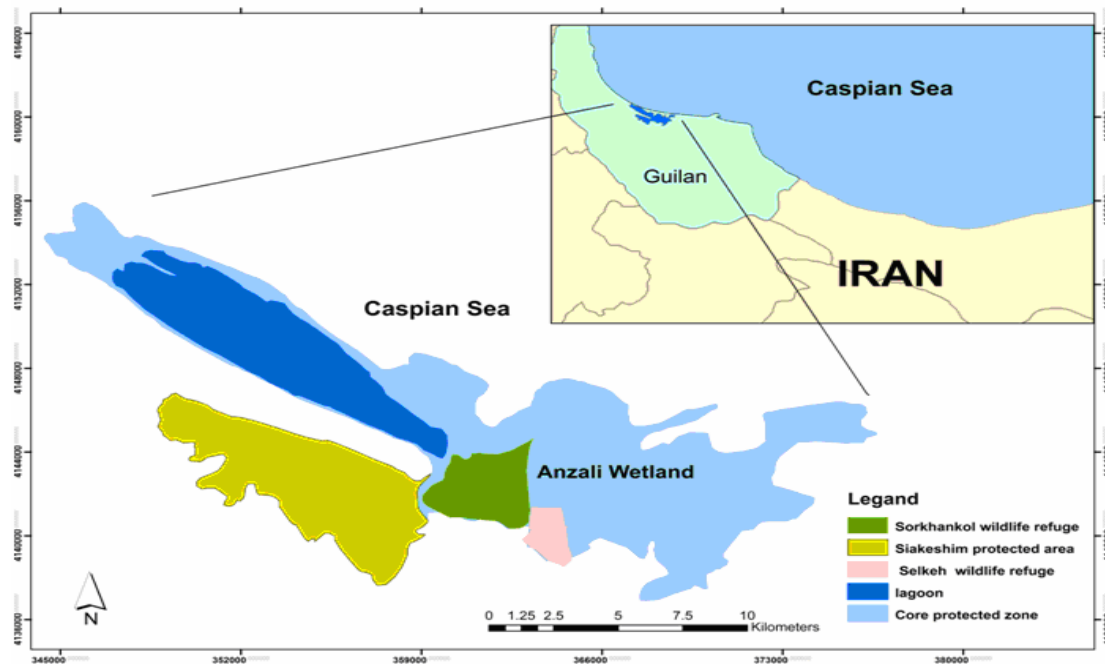

Fig.1. Location maps: Location of Anzali Wetland and the Caspian Sea.

RESULTS

Internal Factor Evaluation (IFE) Matrix:
After reviewing the internal factors, the main factors in evaluation of this matrix were identified and recorded. Factors determining strengths and weaknesses are presented in Table 1. External Factor Evaluation (EFE) Matrix:

The main goal of this analysis is to determine external opportunities and threats of Anzali Wetland which may influence regional tourism. In fact, by evaluating the external environment, the opportunities and threats are identified to be economic, social, political and etc. Table

2 summarizes the opportunities and threats and their relative impact ratios.

Anzali Wetland

Strategies are general guidelines to identify specific ways to achieve the ultimate goals. Internal and external factors and relative weight and coefficients of each factor were compared together and appropriate and effective key strategies based on authors' experiences, field data and documents were studied and recorded (Table. 3). Any plan for tourism development depends upon detailed studies and understanding the region and availability of excellent model e.g. SWOT capability for planning analysis. The most important strategies for tourism development and strategic planning in Anzali Wetland are as follow:

SO Strategy

- Using tourism potentials of Anzali Wetland to attract tourists;
- Providing infrastructural facilities, including hotels, restaurants and local tourist guides, and taking advantage of biodiversity of the Wetland ecosystem.
- Conserving traditional architecture and cultural heritage of the village as sources of tourist attraction;

Using local potentials such as Environmental Training Center of Selke to promote environmental protection and to raise public awareness about environmental concerns;

Ecotourism Development Strategies in
ST Strategy

- Advertising seasonal tourism potentials of the region, including bird migrations in autumn and early winter and rejuvenation of nature in springtime;
- Informing tourists about the propaganda campaign against Iran;
- Recruiting local people for the new jobs created by tourism expansion, thereby reducing the influence of brokers on the prices of goods and services;

- Setting up affordable camps along the distances between cities and hotels;

WO Strategy

- Increasing financially supported health care facilities in the region;
- Introducing tourism attractions of the region in the form of maps, brochures and CDs.
- Inviting academic potentials of the province (Guilan) to carry out studies on how to introduce ecological diversity of the region to the public people in readily understandable ways. Anzali Wetland is a unique habitat which maintains significant gene bank in a relatively limited area. Thus the environmental experts and relevant organizations supporting basic and applied studies should bring the Wetland into focus to unveil unidentified tourist attractions of the Wetland.

WT Strategy

- Passing environmental laws to minimize environmental violations in the region;
- Removing the rigid bureaucracy to enable tourists to visit protected areas. Inefficiency and inadequacy of the current laws which are already outdated create problems for expanding tourism in the region. Therefore, there is a great call for revision of the Iranian Environmental Law.

With Regard to strategies, approaches and presented models to develop tourism in Anzali Wetland, it is possible to identify tourism in this area by planning and integrating new technology and tradition. In general, four types of tourism strategies have been identified for Anzali Wetland (presented by SWOT matrix) which can be applied to various economic, social and institutional sectors. One can expect the development of tourism in the wetland provided that different sectors coordinate their activities and that the government provides the financial support.

Table 1. Internal Factor Evaluation (IFE) Matrix for tourism in Anzali Wetland

Strengths	Weight	Rating	Weighted Score
Several rivers	0.03	1	0.03
Plant species diversity	0.05	2	0.1
old and traditional villages	0.03	2	0.06
High diversity of mammals and birds	0.08	4	0.32
Protected areas, e.g. Environmental Education Center of Selke	0.1	5	0.5
Pristine nature with high diversity of natural environments	0.07	4	0.28
Sport attractions	0.04	2	0.08
People believing in job creation because of tourism expansion	0.02	2	0.04
Vast rice farms and eye-catching landscape	0.02	3	0/06
Appropriate (friendly) behavior of local people toward tourists	0.02	3	0.06
Potential area for tourism investment	0.02	3	0.06
Pleasant nature	0.02	4	0.16
Total	**0.55**	**35**	**1.75**

Weaknesses	Weight	Rating	Weighted Score
Lack of health care facilities in the region	0.04	2	0.08
Poor advertising (no maps available to tourists)	0.07	4	0.28
Limited recreational and sports facilities	0.02	2	0.04
Lack of waste removal facilities in wetland margins	0.02	2	0.04
Lack of support for the private sector	0.06	4	0.24
Inconsistency of management organizations	0.05	3	0.15
Lack of active tourist centers	0.06	3	0.18
Industrial, shipping and environmental pollution	0.03	2	0.06
Illegal hunting	0.02	2	0.04
Lack of clear legal measures and mechanisms in protected areas	0.08	5	0.04
Total	**0.45**	**31**	**1.47**

Table2. External Factor Evaluation (EFE) Matrix for tourism in Anzali Wetland

Opportunities	Weight	Rating	Weighted Score
Job creation and income generation	0.1	4	0.4
Increase in attention to tourism planning and investment by the government authorities	0.04	3	0.12
increase in private sectors' tendency towards investing in the region	0.05	3	0.15
Fish culture potential	0.03	1	0.03
Incentives to environmental protection	0.04	4	0.16
Uniqueness of the Wetland	0.03	2	0.06
Infrastructural development in neighboring villages	0.07	4	0.28
Increase in amenities	0.06	3	0.18
Social interactions	0.03	2	0.06
Total	**0.45**	**26**	**1.44**

Threats	Weight	Rating	Weighted Score
Threat to the local culture from tourists	0.03	2	0.06
Increase in violations in the region by the arrival of tourists	0.04	3	0.12
Regional overpopulation	0.03	1	0.03
Environmental pollution	0.06	3	0.18
Increase in added values of agricultural fields and residential areas	0.06	4	0.24
Inappropriate seasonal distribution of tourists	0.08	4	0.32
Increase in the prices of goods and services	0.07	3	0.21
Religious issues	0.03	1	0.03
Iran's foreign relations	0.1	5	0.1
Advertising and tourist tours	0.05	4	0.2
Total	**0.56**	**29**	**1.49**

DISCUSSION

As provided in Table 1, the maximum weight coefficient for the strength points belongs to the protected areas (especially Environmental Education Center of Selke), diversity of mammals and birds and pristine nature with high diversity of natural environments with 0.1, 0.08 and 0.07 respectively. As for weaknesses, lack of clear rules and mechanisms in protected areas for recreational use and poor advertisements (no maps available for tourists) are responsible for the minimum coefficient with 0.08 and 0.07 respectively, which call for greater consideration by the authorities. The total score obtained in the assessment of internal factors was 3.22. According to the SWOT techniques, this value suggests a high potential for internal development of tourism. With the implementation of proper strategies and attraction of investment in tourism in the area, this potential could be developed to the benefit of the region's economy and by extension that of the country.

According to Table 2, creation of job opportunities and income generation, infrastructural development in neighboring villages of the wetland and increase in amenities were scored 0.1, 0.07 and 0.06 respectively, constituting the most important items of the external environment opportunities. Foreign relations of Iran, inappropriate distribution of seasonal visitors and increase in prices of goods and services with scores of 0.1, 0.08 and 0.07 respectively, suggest the highest weight coefficient among threat factors. The total scores of foreign factors 2.93 shows that the score of external factors for the development of tourism in Anzali Wetland is lower than that of internal factors, meaning that we have not been able to efficiently utilize external factors (effective use of available opportunities to reduce threats) which requires planning and appropriate organizational management practices. Tourism industry has long proved its capabilities in economic (income creation and employment), social and cultural considerations to be an important developmental strategy. However, this industry requires suitable planning in order to demonstrate its capabilities. Strategies for development of tourism industry, due to its multi-disciplinary nature, are very diverse. Therefore, a strategic planning with inter-sectorial coordination is essential for tourism development. This study showed that SWOT analysis is an effective way to identify strengths, weaknesses, opportunities and threats and that the model can be applied systematically to environmental planning and tourism development. SWOT technique has been used in studies evaluating the conditions of yacht management tourism (Sariisik et al, 2010). Akca (2006), for example, used this method to evaluate rural tourism, suggesting that Turkey can be one of the most important rural tourism centers among the Mediterranean countries. Also, Paliwa (2006) and Geneletti et al. (2007) used the SWOT technique to evaluate EIA practice in India to evaluate the strategic assessment of environmental land use plans, respectively. SWOT model is one of the strategic tools to match the points of strengths and weaknesses in the inner system with the opportunities and threats to the outer system. According to this model, an appropriate strategy maximizes the strengths and opportunities and minimizes the weaknesses and threats (Nikolaou et al, 2010). In conclusion, the findings of this study offer effective strategies for managing environmental ecotourism in Anzali Wetland.

Further Studies Need To Address The Following Issues:
- Every single factor of SWOT matrix (external and internal matrixes)
- Socio- economic problems of tourists
- Ways to develop administrative regulations to coordinate the activities of organizations including cultural heritage, Department of Environmental (DOE), natural resources, provincial and municipal funding as to support and expand tourism in different parts of Anzali Wetland.
- The role of media in tourism development in Anzali Wetland.

- The use of public institutions, and nongovernmental organizations (NGOs) to advertise (festivals, seminars, etc.) tourist facilities of the Anzali Wetland

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REFERENCES

Akca, H. (2006) Assessment of Rural tourism in Turkey using SWOT Analysis. *Journal of Applied sciences* 6(13): 2837-2839.

Azimi, N. and Hajipour, A.H. (2008) Planning the Cultural Tourism and Ecotourism Industry for Economic Development: A Case Study of Iran. *Environmental science* 6(1): 53-64.

Cochran, W. G. (1977). *Sampling techniques (3rd ed.).* New York: John Wiley & Sons.

David, F. R. (2007). *Strategic management concepts and cases (11th Ed.).* New York: Prentice Hall.

Evans, M.I. (1994*). Important Bird Areas in the Middle East,* Birdlife International Cambridge, UK.

Ferrer, J., Prats, C., Lopez, D., Vives-Rego, J. (2009) Mathematical modeling methodologies in predictive food microbiology: A SWOT analysis. International *Journal of Food Microbiology* 134: 2–8

Geneletti, D., Bagli, S., Napolitano, P., Pistocchi, A., (2007). Spatial decision support for strategic environmental assessment of land use plans. A case study in southern Italy, *Environmental Impact Assessment Review* 27: 408–423.

Ghazinoory, S., Divsalar, A., Soofi, A.S. (2009) A new definition and framework for the development of a national technology strategy: The case of nanotechnology for Iran. *Technological Forecasting & Social Change* 76: 835–848.

IUCN (World Conservation Union) (1997) Chapter 4.22 Ecotourism." In Beyond Fences: *Seeking Social Sustainability in Conservation.* Gland: IUCN. (Retrieved from http://nature.org/aboutus/travel/ecotourism/).

Jing, Y., Fucai, H., (2010). Research on Management of Ecotourism Based on Economic Models. *Energy Procedia* 5: 1563–1567.

Kajanus, M., Kangas, J., Kurttila, M., (2004) The use of value focused thinking and the SWOT hybrid method in tourismmanagement. *Tourism Management* 25: 499–506.

Kandakoglu, A., Celik, M., Akgun, I., (2009). A multi-methodological approach for shipping registry selection in maritime transportation industry. *Mathematical and Computer Modeling* 49: 586-597.

Kangas J, Kurttila M, Kajanus M, Kangas A. (2003) evaluating the management strategies of a forestland estate -the S-O-Approach. *Journal* of *Environmental Management*; 69:349–58.

Kara, B., Denis, B., Kilicaslan, C., Polat, Z., (2011). Evaluation of Koçarlı Adnan Menderes urban forest in terms of the ecotourism. Procardia *Social and Behavioral Sciences* 19: 145–149.

Khoshechin, M. (1993), monthly bio status of plant and birds of Guilan province wetlands, DOE (Department of Environment), Iran.

Liu, T.T., Conkey, B.G. Mc. Ma, Z.Y. and et al., (2011). Strengths, Weaknesses, Opportunities and Threats Analysis of Bioenergy Production on Marginal Land. *Energy Procardia* 5: 2378–2386.

Mansori, J. (1993) survey of population of Anzali Wetland birds. DOE (department of environment). Iran.

Nikolaou, I.E and Evangelinos K.I., (2010). A SWOT analysis of environmental management practices in Greek Mining and Mineral Industry. *Resources Policy* 35: 226–234.

Paliwal, R., (2006). EIA practice in India and its evaluation using SWOT analysis. *Environmental Impact Assessment Review* 26: 492–510.

Ramsar convention Bureau. (1975). Information sheet on Ramsar Wetlands, Ramsar, Iran.

Sariisik, M., Turkay, Oguz., Akovac, Orhan., (2011). How to manage yacht tourism in Turkey: A SWOT analysis and related strategies. *Procedia Social and Behavioral Sciences* 24: 1014–1025.

Weihrich, H. (1982). The TOWS matrix: Tool for situational analysis. *Long Range Planning,* 15(2): 54–66.

Zubakov, V.A.(1993). The Caspian Sea Level oscillations in the geological past and its forecast. *Russian Meteorology and Hydrology* (8): 65-70.

آمایش محیطی واستراتژیک پتانسیل گردشگری طبیعت در تالاب انزلی با استفاده از تحلیل SWOT

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چکیده

تجزیه و تحلیل SWOT به طور گسترده ای به عنوان روش ارزیابی و برنامه ریزی، از جمله برنامه ریزی توریسم مورد استفاده است ولی متاسفانه اسناد کمی در تجزیه و تحلیل SWOT در گردشگری طبیعت وجود دارد. در این پژوهش بررسی سیستماتیک SWOT بیشتر مورد استفاده قرار گرفت و نشان می دهد چگونه از تجزیه و تحلیل SWOT می توان در تحقیقات دقیق استفاده کرد. در این مقاله بر اساس مطالعات میدانی و پرسشنامه‌ای (در تالاب انزلی و جمعیت محلی) ماتریس عوامل IFEM و EFEM (نقاط ضعف، قوت و تهدیدات و فرصت‌ها) مؤثر بر توسعه گردشگری طبیعت در تالاب انزلی در قالب تحلیلSWOT ارزیابی و استراتژی‌های SO، WO، ST، WT تدوین شد. براساس نتایج حاصله، نمره نهایی3/22 در ماتریس IFE حاکی از وضعیت خوب سیستم و قوت بالای داخلی توسعه گردشگری نسبت به عوامل داخلی است و نمره نهایی 2/93 در ماتریس EFE نشان دهنده وضعیت ضعیف نسبت به عوامل خارجی می‌باشد و نتوانستیم از عوامل خارجی به درستی استفاده کنیم و نیازمند برنامه ریزی و اعمال مدیریت سازمانی در مقابل این عوامل هستیم. در ادامه تحقیق راه حل ها و اولویت های اجرایی و برنامه‌ریزی استراتژیک متناسب با شرایط محیطی و محلی تالاب انزلی مطرح شده است. با توجه به اینکه صنعت گردشگری مراحل ابتدایی خود را در ایران و بالاخص منطقه تالاب انزلی پیشرو دارد نتایج این آمایش محیطی می تواند تصمیم گیرندگان محلی را در برآورد نقاط ضعف، قوت و نقاط تهدید و فرصت‌ها یاری نموده و به رشد صنعت گردشگری در منطقه کمک شایان توجهی نماید.

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