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Programs Presentation for Environmental Management of Maharloo Lake by SWOT Method

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ABSTRACT

This study performed to programs presentation for environmental management of Maharloo Lake by SWOT method. This lake with an area of 600 sq.km is located 27 km southeast of Shiraz. The lake water is used for extraction of normal salt. It is considered a suitable and valuable habitat for migratory birds and wild animals. Environmental management processes include 4 steps. In order to gather information about the area, some method employment included: the Department of the Environment of the province, indigenous publications, library, Internet and questionnaires. The main purpose of SWOT analysis is to identify those internal and external factors in achieving the goals and those are important. In this method, information divided in two categories, 1: Internal factors, including strengths and weaknesses, which can be identified by internal factors matrix. 2: external factors including Opportunities and threats for environment, those factors can be identified by the external factors matrix. According to SOWT strategies, we designed best strategies regional management of Maharloo Lake.

Introduction

This lake with an area of 600 sq.km is located 27 km southeast of Shiraz. The lake water is used for extraction of normal salt. It is considered a suitable and valuable habitat for migratory birds and wild animals. This is First Pink Lake In Iran, In 2008, 90 percent of Lake Maharloo was dried up, leading to a decline in the lake's flamingo population from 150,000 to only 5,000. Maharloo, in southeastern Shiraz, is a common gathering spot for various species of local and migrating birds. The attempt to improve the corporate strategy development process has fostered a range of approaches which have enjoyed different levels of support and popularity over time. One of the most popular is the SWOT analysis (Hill and Westbrook, 1997). Environmental analysis is a critical part of the strategic management planning process. The SWOT (Strengths, Weaknesses, Opportunities and Threats) framework is proposed by many as an analytical tool which should be used to categorize significant environmental factors both internal and external to the organization. SWOT analysis has been praised for its simplicity and practicality. As a framework it has been widely adopted but, generally, its use has been accepted uncritically. It is timely to reappraise its value as a strategic management tool (Jackson *et al*., 2003). If used simplistically, the SWOT framework is a 'naive' tool which may lead to strategic errors. More detailed analysis using complementary frameworks can overcome SWOT's inherent shortfalls. SWOT should not be viewed as a static analytical tool with emphasis solely on its output (Eslamipoor and Sepehriar, 2014). It should be used as a dynamic part of the management and business development process. SWOT analysis involves the collection and portrayal of information about internal and external factors which have, or may have, an impact on business. Stacey (1993) describes SWOT analysis as a list of an organization's strengths and weaknesses as indicated by an analysis of its resources and capabilities, plus a list of the threats and opportunities that an analysis of its environment (Xiang-lin). Strategic logic obviously requires that the future pattern of actions to be taken should match strengths with opportunities, ward off threats, and seek to overcome weaknesses. The aim of this study was Programs Presentation for Environmental Management of Maharloo Lake by SWOT Method

Material and methods

Environmental management processes include 4 steps. In order to gather information about the area, some method employment included: the Department of the Environment of the province, indigenous publications, library, Internet and questionnaires.

Table 1. Environmental management processes.

Step: I	Step: II	Step: III	Step: IV
Environmental evaluation	**Strategy formulation**	**Implementation of the strategy**	**Evaluation and Control**
Internal environment evaluation -Strength -Weakness External environment evaluation -Opportunities -Threats	Definition of Company missions Determination of Goals Development of strategy Select of strategy	Allocation of resources Institutionalization of goals	Calculation organizational performance Corrective actions

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Table 2 . Internal factors matrix.

	Internal Strategic Factors	Weight (0-1)	Score status quo	Weighted Score
A	Appropriate and varied vegetation cover	0.11	4	0.44
B	Hosts for 50 species of migratory birds (2-3 thousand pieces) per year	0.11	3	0.44
C	Income from ecotourism	0.07	3	0.21
D	Ecosystem diversity	0.14	3	0.42
E	Existence of rivers and springs in some seasons	0.04	3	0.16
	Sum of Strength			1.67
A	Agricultural Existence around the lake	0.14	2	0.28
B	Lack of amenities and services in recreation area	0.07	2	0.14
C	Rivers on the specific direction of the area	0.04	2	0.08
D	High traffic due to vehicles crossing of rural roads	0.11	1	0.11
	Sum of Weakness	0.36		0.61
	Sum internal factors			2.28

Table 3. External factors matrix

	External Strategic Factors	Weight (0-1)	Score status quo	Weighted Score
A	Roads	0.12	4	0.48
B	Topographic ideal situation	0.07	4	0.28
C	Availability	0.1	3	0.3
D	Vast plains around the lake	0.07	3	0.21
E	Archaeological surrounding villages	0.1	3	0.3
	Sum of Opportunities			1.57
A	There are local hunters	0.1	2	0.2
B	Grazing (cattle, sheep, goats) surrounding land	0.12	1	0.12
C	Drought in previous years	0.07	2	0.14
D	The decline of Durrës, bustard and Derna species	0.11	1	0.11
E	Insufficient knowledge	0.07	2	0.14
F	Improper using of agricultural pesticides in the surrounding land	0.12	1	0.12
	Sum of Threats			0.59
	Sum External Factors			2.16

Table 4. Strategies in SWOT model

Weakness(W)	Strength(S)	
Review Strategies(WO)	Offensive Strategies(SO)	Opportunities(O)
Defensive Strategies(WT)	Diversity Strategies(ST)	Threats(T)

Result and discussion

The main purpose of SWOT analysis is to identify those internal and external factors in achieving the goals and those are important. In this method, information divided in two categories, 1: Internal factors, including strengths and weaknesses, which can be identified by internal factors matrix. 2: external factors including Opportunities and threats for environment, those factors can be identified by the external factors matrix.

Internal Factors Evaluation Matrix (IFE): This matrix is tool for evaluation of internal factors, in fact, it review the strengths and weaknesses. These factors should be between 10 and 20 and includes the most important factors that those are the strengths and weaknesses. To the each of these factors, coefficient are given between zero (least important) to 1 (most important). Coefficient given to each factor reflects its relative importance, and the sum of the coefficients should be 1 (Table 2).

External Factors Evaluation Matrix (EFE): External tion ix (EFE) is tools for analyzing of this fact that managers how respond to the opportunities and threats by outside the organization. External factors evaluation matrix was determined by following process: 1-Factors listed according to threaten and the opportunities for lake. 2- Weight or coefficients were given to these factors between zero (unimportant) to 1 (very important), The important factor had the larger number in column, 3- rank of 1 to 4 given to the each of these factors that are successfully. 4, 2 and 1 weights were selected for excellent, average and minimum reactions, respectively (Table 3).

Analysis of strengths, weaknesses, opportunities and threats: According to investigations, there were 5 internal strengths and 4 internal weaknesses and 5 external threats and 6 external opportunities. Also result showed that "Appropriate and varied vegetation cover "and "Hosts for 50 species of migratory birds (2-3 thousand pieces) per year" had highest role as internal Strength. Between internal weaknesses, "Agricultural Existence around the lake" had highest ranking. Between external opportunities, "Road" was best opportunities for Maharloo Lake and between external threats "There are local hunters" had highest ranking.

Provide strategies and regional management

In SWOT model, there are 4 strategies (table 4). According to SOWT strategies, we designed best strategies regional management of Maharloo Lake.

Offensive Strategies

S_3O_1: Encourage of cultural heritage for the restoration of monuments in the region

S_1O_2: Encouraging the private sector to support for ecotourism courses

S_1O_3: Holding courses in encryption for birds with the participation of local communities during bird migration.

S_2O_3: Provide a suitable environment for migrating birds according to the region's potential
S_3O_3: Introducing in neighboring provinces
S_5O_2: Supporting research projects to better understand the region

Review Strategies (WO)

W_1O_3: Culturalization and training the region's indigenous people to prevent damages
W_2O_1: Improving services and prosperity of the region
W_2O_5: The establishment of welfare centers beside to road
$W_{3,4}O_3$: Prevent movement of agricultural implements

Diversity Strategies (ST)

S_1T_1: Peer reviewed using of agricultural pesticides
S_2T_4: Limiting hunting and loss of license
S_3T_1: Encourage people to do ecotourism and away from traditional agriculture
S_5T_2: Preventing overgrazing

Defensive Strategies (WT)

W_3T_1: Training people for the optimal using of agricultural pesticides
W_3T_2: Vehicle traffic at certain times of the year
W_3T_4: Purchase of agricultural land at risk to birds migrate
W_3T_6: Encourage people to do service work and abstain from hunting and traditional agriculture
W_5T_3: Protection of rivers, especially in times of drought

Resources

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