



Ecotourism Development Strategy in Hormoz Island Using SWOT Model

Homa Zakeri ¹, Farah Habib ²

¹ Department of Urban Planning and Design, Kish International Campus, University of Tehran, Kish Island, Iran

² Department of Art and Architecture, Science and Research branch, Islamic Azad University, Tehran, Iran
Zakeri.homa@yahoo.com

Abstract: Ecotourism which is based on environmental capabilities and natural resources is able to provide the field for economic, social and cultural development of local communities by attracting tourists. It can also provide a solution for the optimal use during the conservation of areas under the management if it is combined with the careful planning and regions feasibility in terms of demand, and the opinions of people (visitors and locals). Hormoz land, located on the Persian Gulf, is selected as the subject of this paper due to its long coast line and taking the advantage of cultural and historical heritage (Portuguese fort) and environmental attractions. In this regard, this paper uses the analytical-descriptive method and introduces the values of Hormoz Island in line with the Ecotourism development on the island. Then it used the analysis based on SWOT model and provides strategies for ecotourism development on the island. It also concluded that an integrated management is needed in the coastal areas to balance the fields of architecture, planning and environment, so that the ecotourism development may arise.

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Keywords: Ecotourism, Hormoz Island, SWOT, Development Strategy, species richness; beta-diversity; taxonomic diversity; forest

1. Introduction

Hormoz Island is located at the mouth of the Persian Gulf and has many military, political, social, historical, economic and environmental values and opportunities. The presence of more than 5,700 inhabitants on the island, the beautiful landscape around the island, other mine, coral reefs, rocky shores, sea caves, various shape and material of coastal banks, native vegetation, resident wildlife on the island, and some cultural and historical monuments linked with local life are the features that attract the tourists. Besides the natural potential capacities of Hormoz Island, the variety of historical and cultural features affects the richness of tourist activities on the island and can complete the ecotourism.

Through environmental protection, ecotourism has become a kind of tourism that asks participants that with regard to the conservation objectives, pay attention to managing the protected areas. Ecotourism is generally easier to define on the islands rather than the mainland. Because limiting the number of tourists and control their work is done more easily rather than the mainland. Also, the natural environment of the isolated islands should be preserved in terms of biodiversity. Therefore, ecotourism may play an important role in economic planning, development and environmental protection for many islands

(Ichiki, 2003).

This paper introduces a set of Hormoz Island ecotourism capabilities, and by analysis of Ecotourism category, suggests that Hormoz Island become an ecotourism island, concept that requires law enforcement which is respected by local people, tourists and relevant institutions. Accordingly, the main research question is: using SWOT what strategy for ecotourism development of Hormoz Island model can be represented?

The underlying assumption in this paper is that regarding the problems of tourism on the Hormoz Island, there is a need for integrated management of coastal areas to make balance in the field of architecture, urbanism and environmental issues.

1.1. Research Methods

Because this study has focused on ecotourism and urbanization categories that one of them relate to the field of Humanities and Social Sciences, and other one relates to architectural and urban areas. In this study, information and data to identify and analyze Hormoz Island is performed based on qualitative arguments and in descriptive – analytical type.

1.2. The research model

SWOT technique is a tool for identifying threats and opportunities in the external environment of system and a recognition of internal strengths and weaknesses in order to assess the situation and develop strategies to achieve development. Based on this model, an appropriate strategy maximizes the strengths and the opportunities and minimizes the weaknesses and threats to as little as possible. For this purpose, points of strength and weakness, and opportunities and threats are linked in four general states of SO, ST, WT, WO and strategies are selected from among them.

2. Ecotourism

Ecotourism is responsible travel to natural areas, generally with an emphasis on protecting the environment and improving the quality of life that can also be called sustainable tourism. Today, ecotourism as a new part of tourism industry has increasingly developed and is considered as an important part of tourism and annual abundance revenues is given to the different countries. Due to its nature, this type of tourism takes place in third world countries. Because many of the richest biological

areas, are located in developing countries, the number of visitors travel to the mountains of Nepal, Madagascar, tropical forests of Costa Rica, Thailand, coast of Belize and Sri Lanka is growing every day. This will bring tourists and their money, create jobs and improve the livelihood of the people. According to official statistics of tourism organization, percent annual growth in ecotourism is 10 to 30 percent and ecotourists comprise 7% of the total number of passengers in the foreseeable future, so bright and prosperous future nature will result in significant benefits to the world. It results in cultures encounters and social adaptation, which in turn leads to cultural, social, economic and thinking about different nation's rehabilitation (Page, Dowling, & Page, 2001). The World Conservation Union's definition of ecotourism is: The environmentally responsible travel to relatively pristine areas to enjoy the natural environment will result in preserved and promoted environmental conservation. During this trip, tourists can spend the least negative impact on natural resources and indigenous people benefit from social and economic activities (Walter & Gillett, 1998).

According to this definition, ecotourism is created by four essential features listed in Figure 1:

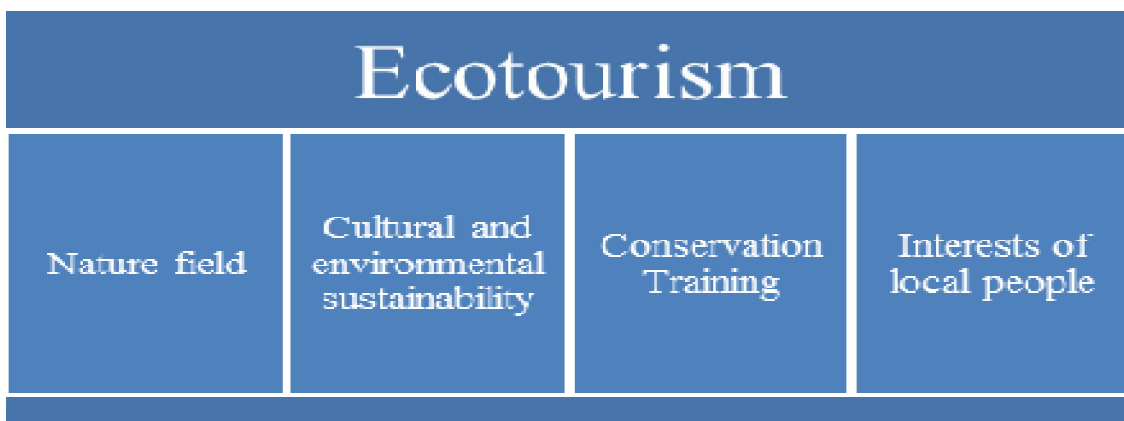


Figure 1, the main features of ecotourism, (Holden, 2003)

According to Figure 1, the development of the ecotourism features has useful consequences, which is reproduced in Table 1.

Table 1: Characteristics of Ecotourism development, (Holden, 2003)

Nature field	Cultural and environmental sustainability	Conservation Training	Interests of local people
1.Help to the preservation of biodiversity	1.uses the least amount of Nonrenewable resources	1. Includes Training programs 2. tourists have functional responsibility 3. Must be presented to the small groups of tourists by small business groups	1. provides facilities for the local people 2. must be based on the Participation, ownership and economic opportunity for local people

3. Ecotourism objectives

Ecotourism increase profits, and thus results in more environmental protection. Some part of revenues raised from ecotourism should be devoted to environmental conservation. Ecotourism does not just mean being green and protecting the natural environment. It must also have the lowest cultural disturbance.

Ecotourism projects must meet the following criteria:

1. be stable (note: needs to meet the needs of the present without compromising the ability of future)

2. Give the visitor a unique and an impressive experience.

3. To maintain environmental quality.

Holden offers a series of objectives that must be included in the ecotourism development process:

1. Sustainable Use
2. cultural revival and decolonization
3. Economic Development and Diversification
4. Improvement of Living and humanity
5. Have maximized benefits and minimized costs and effects
6. learning natural and environment culture (Holden, 2003)

According to the objectives listed, in the chart below the coordination should be done by various agencies to form a successful ecotourism is expressed.

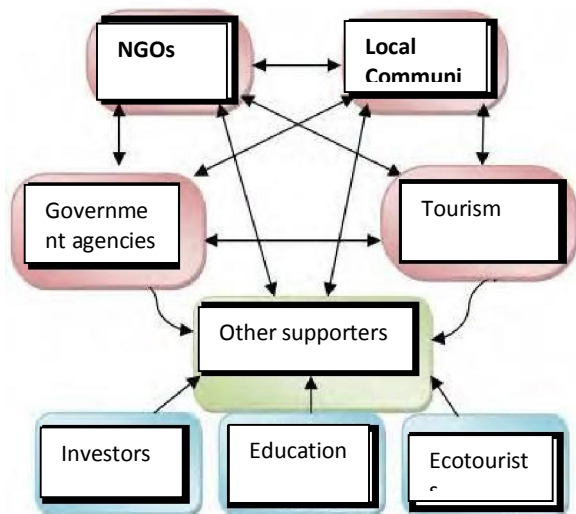


Figure 2, contributions that are required for successful ecotourism, (Holden, 2003)

4. The area of study

Hormoz Island is located at the mouth of the Strait of Hormoz in entrance to the Persian Gulf from the Gulf of Oman in the coordinates "10 '25 ° 56" 08 '30 ° 56 'east longitude and "07 '02 ° 27 to" 25 '06 ° 27 north latitude. Due to its geographical position of the island which is located adjacent to the Strait of Hormoz, it is called the key of Persian Gulf. This situations is what has made the island in strategic and commercial terms important.

Hormoz Island is limited to Bandar Abbas in the Northern West and to the Qeshm and Lark islands in southern West. Distance between Hormoz Island (from the port) and Bandar Abbas is 9.71 nautical miles (18 km) to Qeshm island (from Sarbandar) is also 9.71 miles (18 km) and to the Lark Island (until the dock) is also 9.71 miles (18 km). Distance to the nearest road to the island's main beach, is 2.9 miles (5/5 km).

Hormoz Island is an oval-shaped whose small diameter is 5/5 and Large diameter between is 7.5 to 9 km and its area is about 42 square kilometers. According to the latest divisions of the divisions of the Interior Ministry approved in 2002, Hormoz Island Qeshm Island is known as one of the parts of the city (Wolf, 1959).



Figure 3: Location of the Iranian islands of Hormoz

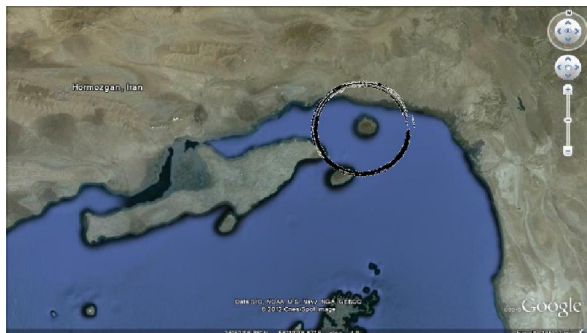


Figure 4: Location of Hormoz Island, Hormozgan Province

5. Recognizing the ecotourism Resources of the Hormoz Island

5.1. Coral reefs

Marine coral reefs are of the subsystems that are found in shallow waters of tropical and subtropical. These ecosystems mainly include calcareous rocks which have particularly difficult context in which they are dominant corals with small stones and sand isolated. The rich coral reefs, tropical forests biome world's second form (McCook, 1999). Coral reefs with 125 hectares are located in southeastern Hormoz Island in the geographical latitude of 03 30 56 17 03 27 E. This habitat is a good place for sea turtles nutrition and activity and a variety of seafood is high in it. The corals are out of the water at low tide and the Hormoz Island, one of the attractions for tourists is nature (Harger, ROSTSEA, & Thamrin, 1978).

5.2. Mangrove forests

Mangrove communities of Hormoz Island, is a planted community with an area of 16 hectares in status of 27 05 22 north latitude and 5628 48 east longitude and is located on a mud field, and is the habitat of around 1,000 pieces, of 20 bird species, aquatic birds and birds live near the water, including Eggert, the sea swallows, and Gull. The communities of plants are the only woody plants growing in tropical and semi-tropical coastal tidal zones (Safa et al.). Ability to cope with the salinity of sea water due to the different mechanisms of these plants is the exclusive properties. The mangrove habitat conditions favorable for large numbers of aquatic and marine birds are outstanding. Rich communities of mangrove waterways by returning organic matter and plant nutrients, foster high value aquatic species and therefore have an irreplaceable role in the marine food chain (Zahed, Ruhani, & Mohajeri, 2010)

5.3. Marine turtles

Marine turtle may be deemed to be the most innocent marine species which for unkind human behavior have found limited diversity of species and habitats. Among the five species of sea turtles detected in the Persian Gulf waters, two species of green sea turtles (*mydaschlonia*) and hook turtle (*Eretmuchelys imdricata*) eggs on the sandy beaches of soft sand with gently sloping areas on the Hormoz Island and coral and sea grasses and eligible mangrove forests. sandy habitats are considered a good place for marine turtles to lay eggs where is located at 2500 meters over the East Coast of Hormoz and their recent density is in the range of 60 pieces of turtle (Devin & Sadeghi, 2010). This turtle comes to the beaches to lay eggs from late winter to early spring each year, and about 50 days after coming out of the hatch, the baby turtles move to the sea side, what many tourists are really interested to view.

5.4. Water birds

The most appropriate locations for Birds and aquatic birds in Hormoz Island are mangrove forests and across the North East of mud, East and South-East side of island habitats of marine algae. Rocky substrates and protruding from the water and the rocky coast of West and North West Island which could be considered due to the abundance of food, shelter, safety and comfort (Behrouzi-Rada, 2013).

5.5. Algal communities

The main habitat of marine algae is rocky areas that are growing due to the need for constant support. The main habitats of algae are located in the tidal range. Many marine animals such as corals and mollusks, crustaceans, fish, sea turtles and marine mammals feed directly from the algae (Nabavi, Salari-Aliabadi, Shamoradi, Vazirizadeh, & Arebi, 2011), carpets of algae on rocky shores, especially when the tide of natural landscapes and is attractive in Hormoz Island. The effects of normal as can be seen in the South Island.

5.6. Geological attractions

Hormoz Island as the pearl of the Persian Gulf is known because of the different geology and mineralogy of the ore which are other attractions on the island geomorphology for people interested in science. Much of the island is the salt dome and this unit comprises about 69 percent of the total area and covers southern (semi-southern part) parts of the island. Salt rocks along with other rocks, is highly crystallized and has also undergone with metamorphism, so that in parts of the South Island, giant salt crystal grid is visible. Solubility and high

erodibility of rock salt and stone blocks with the photo resist, such as rhyolite, trachyte and basalt created a rough surface and erosion of Hormoz salt dome, and has created topography with high and sharp cuts and salt caves, especially in the central part of the West (Bruthans et al., 2006).

5.7. Area of tidal mud

The low slope of the southern coast during the day, affected by tidal water hydrologic system whose maximum amount is in excess of 4 meters, if are composed the elements of fine-grained soils are seen as mud lands. The range due to the low slope of the beach and sea remain immune from the turbulence and waves are often organic-rich sedimentary areas. Thus, it has usually desirable vegetation and minimum loss of population, which not only supports marine food chain but also provide optimum habitat to attract birds. Mud zones of Hormoz Island with area of 200 hectares are located in East and North East of Island (Bruthans et al., 2006)

5.8. Sandy beaches

These beaches are often beam with a width of about 20 to 30 meters in the southern and eastern parts of the island where the sea turtles are interested in for laying eggs, so it is considered as an important part of the island. Sandy and sandy beaches all year round can usually be found in a variety of sea birds. Such beaches enjoy from high recreational capabilities. This is the most suitable place of sea for swimming and water recreation and therefore is programmable.

5.9. Rocky shores

This type of shore is seen in areas where rocky heights or mountain are located near the shore, and is seen in southern and western parts of the island. These shores are seen as cliff with or without a small sand beam which when tide are out of the water or as the rocky and stony low areas in water. Usually the rocky coast near the south-west through the mountains to the sea-shore deep waters has been established. In these areas can often be seen in large marine mammal activity. Rocky shores benefit from coastal biodiversity particularly bivalve species and crabs. Most algae zones of the island can be seen in these areas. One of the attractions of these shores is caves in the South and South West coast of the island.

5.10. Land habitats

Sensitive habitats include the northeast, southeast and southwest of the island for the presence of birds, especially in rocky areas for the presence of habitat for fishermen eagle. Jabir, rabbit and Jirofti

habitat mostly comprises central to the southern part of the island which is sometimes extended to urban area. Habitat of Marine Turtles and their hatchery is located in the south and southeast, is important for the fact that they are placed in endangered species list and the IUCN Red List. Another area of sensitive Island habitats is extension of coral reefs in the southeast of the island which can be seen in the tidal zone. Benthic habitat area due to their importance in the food chain is another critical habitat area. The Iranian mesquite habitat in South and South-East of the island's land area is also a sensitive body in the island's land (Amrikazemi & Mehrpooya, 2006).

5.11. Ocher deposits

This deposit is located 14 km southwest of Hormoz. Its mineral material is ocher (red soil) whose average value is the 69.97 percent Type of ocher in this mine is first degree, its potential saving is around 50,000 tons, and minimum extraction per year is 2000 tons. This mine is detected as a large mine (Momenzadeh & Heidari, 1995).

Currently the mine is idle due to environmental problems. The waste material discharged into the sea cause pollution of coastal waters and during the investigations conducted by the Research Center for Marine Environment of Hormozgan, it is evident that this material has impact on the other macrobenthos of region and transparency and light penetration is reduced (Expert Report of Department of Environmental Protection Hormozgan), which indirectly affects the communities living in the area for a period of at least 5 years of normal resiliency (Report of the Environmental Protection Administration Bachelor in Hormozgan), in long term leads to heavy metals increase in the region (Amrikazemi & Mehrpooya, 2006; Yalgouz-Agaj, Ardebil, & Karimdoust, 2010).

5.12. Historic places and scenic sites

Historic places and scenic sites include the Portuguese fortress located in the city, which is constructed by Portuguese navigator Albuquerque after the conquest in 1507 AD (In 913 AD), during the reign of the Safavid Shah Ismail and in Hormoz Island. Pump House Park with area of 4000 square meters and Marine Environment Research Center, located about 8 km southeast of Hormoz, ruins of the old school house (dar-ul-elm), the ruins of the old Hormoz city in the north of the Hormoz Island, which is located close to the Portuguese fort. BibiGol Palace, the Saffron House, archer tower, bell tower, Khidr shrine, and tablets can be named (Imagawa, 2010).

5.13. Recreational activities

Due to the natural recreational resources of the Hormoz Island, different recreational activities in the

field of nature-based tourism can be provided in the island, which are listed in Table 2.

Table 2: Attractions and activities associated with it in the Hormoz Island

Position	Recreational attractions	Recreational activities
Surface water	Coral reefs	Observing Corals found in the tide, shallow diving, Viewing Fish in the ebb
	Blue Zones	Travelling by boat
Shore	Rocky shores	Viewing rock formations, caves and marine algal zone at low tide
		Landscape view on tide
	Sand seacoast	Observing sea turtles laying egg
		Watching seabirds
		Sunbathing, swimming and marine recreation
general area	Visiting the Mangrove Forest	
	Viewing the aquatic birds	
Scope of land	Structure of the Earth	Visiting the beautiful geological phenomena
	Terrestrial habitats	Visiting the plant habitat
		Viewing Island Wildlife

Also besides Hormoz Island potential of natural capacities, a variety of historical and cultural features has impact on enrichment of tourism activities in the island which can be considered as complementary to nature tourism. Among cultural and historical tourism resources of Hormoz Island, the Portuguese fort, BibiGol Palace, the Saffron House, archer tower, bell tower, Khidr shrine, and ruins of the old Hormoz city can be named. Also visiting the other mines of this island can be described as a memorable experience.

6. Looking at the physical, economic, functional, environmental, cultural, social and historical capabilities and capacities of Hormoz Island

In Table 3, the internal factors (strengths and weaknesses) and external factors (opportunities and threats) to achieve development strategies in Hormoz Island is listed.

Table 3. Investigating the weaknesses, strengths, opportunities and threats to the Hormoz Island

	Strengths	Weaknesses	Opportunity	Threat
Skeletal	High capability of Island in terms of city view and its skeletal advantages	Inappropriate view of houses on the costal parts of the island Shortage of appropriate skeletal infrastructures in the tourism section of the island Shortage of building materials and the difficulty of transporting it from other parts of the island	Recognition of indigenous architecture Using the indigenous architecture to make legibility and identity to the space in island development plans	Rapid erosion of buildings due to the high humidity and lack of high quality materials

Economic	Long Beach Shore strategic location and maritime trade	Lack of commercial use on the island Low-income	Opportunity to benefit from the economic and political power in order to create a fabric management Offshore commissioning activities (clubs, diving, boating, fishing) Creation of micro-economic activities of local tourists Increased economic ability of Local residents	Lack of appropriate services to users
Functional	Lack of accommodation for tourists staying overnight on the island of Hormoz The lack of space tourism services needs	Lands for service spaces, functional and performance	The space allocated for accommodation and rooms to suit the needs of tourists	Tourists not welcomed to stay a few days on the island, which in turn helps the local economy.
Environmental	More than 72 kinds of color variation in soil Island good beaches and rocky for tourists Island beach where turtles lay eggs sea creatures such as dolphins annual design of the largest sand carpet using a variety of soil color	Improper disposal of sewage and waste into the sea high altitudes on the island which make possible the large part of the island for development projects	Opportunity to transform the island into a place with an emphasis on natural ecotourism potential of the region	Environmental pollution and health hazards organisms Environmental impact and risk of damage to the monuments of tourists to the region
Historical - cultural	Historical and cultural richness of the island of Hormoz Having monuments such as the Portuguese fort and the remains of the ancient city of Hormoz particular craft	Lack of historical and cultural elements in the design of the island Cultural and educational disadvantage	Ability to use and historical identity elements Monuments As an indicator of urban ecotourism planning Planning to take advantage of historic and cultural resources in order to place and cultural identity.	Forgetting indigenous architecture and elements and historic districts
Social	Customs, local culture and traditions Religious and linguistic unity of the majority of residents Relatively high literacy rate in both men and women.	Lack of social base in the island Lack of community participation in The improvement of living conditions	Making the culture of region and the communication and interaction between the two sets familiar to the Passengers and visitors	Possible loss of traditional culture and indigenous people With the arrival of tourists

7. Conclusion

Using SWOT analytical models, some strategies for the development of ecotourism in the Hormoz Island were discussed. The presented strategies are based on four main strategies offensive strategy (SO), diversity strategy (ST), revise strategy (WO), and defensive strategy (WT). Table 4 presents some proposals for ecotourism development. Accordingly, given the problems that exist in the field of tourism in the Hormoz Island, an integrated management in coastal areas is required to make balance in the field of architecture, urbanism, tourism industry and environmental issues. Utilizing the principles of ecotourism is a good solution, especially for islands with the tourism capabilities which by creating appropriate residence for tourists based on the principles of sustainable development, such as the use of local materials, the appropriate locating of spaces which would be followed by the less transportation and minimum damage to the environment.

Table 4. Matrix of development strategies for ecotourism of Hormoz Island

External factors Internal factors	Opportunity External factors Internal factors	Threat
Strengths	enhancing the attention of government to planning and investing in the tourism section creating the plans to make the tourists familiar with the native culture and the natural factors in the island using the workshops and establishing the research centers enhancing the infrastructures and transportation in the tourism	enhancing the advertisement in the media about the internal and external tourism creating relationships between tourists and native people
Weaknesses	Creating service facilities to attract the tourists which include the daily and etc. creating a uniform management in the field of tourism	controlling the ecological acceptance capacity and the tourism rate in a special time limit preserving the sensitive settlements which are located on the island and tourists are placed there

Corresponding Author:

Homa Zakeri
Department of Urban Planning and Design, Kish International Campus, University of Tehran, Kish Island, Iran
Email: zakeri.homa@yahoo.com

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