

# Determination and Analysis of Manmade Attraction Infrastructure Using Centrality Index Model (A Case Study of Chabahar Free Zone)

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**ABSTRACT:** Chabahar is One of Iran's free zones that could help the development of regional tourism in the South East of the country. This area having numerous tourist attractions, located near the Persian Gulf states, a commercial-industrial free zone if properly managed and planned can become a major hub and one of the important tourist areas in the region. The purpose of this study was to determine and analyze the infrastructure for man-made attractions and offers an approach to tourism development in the region. In the present study research method is objective and application based on the method analysis which is centrality index. In order to explain the literature and history, library studies and field methods were used to collect data. And to determine tourism infrastructures centrality index is used. These results show that Chabahar free zone has high potentials to become a major industrial zone in the region but the main obstacles in the way are manmade infrastructures preventing the progress of this area.

**Keywords:** tourism, infrastructure, central index, Chabahar Free Zones.

## INTRODUCTION

The importance of tourism in modern times is most dependent on the economic cycle which is capable of high potential in the field of local and international progress of economy. Therefore tourism consumption, public and private investment in the tourism industry as well as exports grew around 9.5 percent in 2004 generating around 5.5 trillion dollars revenue (Chinang Lee, 2008). According to the future predictions of 2020 about one billion five hundred and sixty million people will travel and international tourism revenue will reach half a trillion dollars (Unwto, 2007). In fact tourism is one of the main sources of national and international trade and has proved its importance for the past 50 years. In 2007 there was a 10.3% and in 2009 about 10.9% of global GDP was allocated to tourism (UNWTO, 2010). According to the World Tourism Organization (WTO), number of tourists in the world in 2005 raised up to 808 million which compared to 2004 has 5.5 percent growth. However tourism growth rose up to 10% Africa, about 8.5% in America and 4.3% in Europe (WTO, 2006). Iran due to numerous tourist attraction especially historical sites is one of the 10 tourist attractive countries of the world and holds 1<sup>st</sup> position in its hospitability (Bek Maddah, 2008). Iran ranks second in the South Asia region for attracting tourists and tourism revenue generation after India (WTO, 2000). Remains of the Achaemenid, Sassanid and Islamic culture, museums, fine arts and traditional beliefs of the people, the scenery and spectacular landscapes, mountain and seaside resorts, hunting and fishing are the main tourist attractions (Chakraborty, 2007). Iran has predicted about twenty million tourists visiting the country at the end of its fifth development plan. Because of size and geographical diversity of the country it has numerous tourist attractions one of the most important of which is the city of Chabahar. Chabahar city has unique natural attraction such as safe beaches and calm sea, spectacular reefs and mangrove mud volcanoes, pristine cultural and traditional attractions, folk dances and crafts with an international reputation, free industrial trade zone etc. (Kazemi, 2008). Therefore it can become a major tourism destination in the province even on international level.

Cities throughout the ages and centuries have been given the power to decide, therefore, within its boundaries historical and cultural attractions have developed which are the main attractions of tourism. Practically free trade

zone areas with export, job production, investment opportunities and national and international tourism attraction play a vital role in countries economy, social and political aspects which can enhance the growth and development of tourism infrastructures in the region. In other words, although the basic nature of the development of these areas is based on economic components still investing in infrastructure and the use of powers to develop the tourism potential of the region is important (Qaderi, faraji rad and burojeni, 2011). It can be understood that tourism is one of the contemporary human activities along with the dramatic changes in the face of the earth, the political, economic, and cultural events that transforms lives. This category is also a very important factor in the cultural exchange and understanding other nations of multiple dimensional cultures (Sharplay, 2008). There are also various types of tourism impacts in general which can be divided as positive, negative impacts, consequences of economic, environmental and socio-cultural. Gunn (1994) believes that any form of development in tourism involves dual effects (Byrd, 2009). The effects depends on factors such as level of tourism and tourist activity, type and purpose of these activities, the host community involvement in tourism and tourism destinations capacity (Aykac, 2005). It can be said that tourism have various economic impacts such as foreign currency earnings, GDP increases, creating a source of income for the state and the nation, source of employment, improving social services etc (Das, 2009). Tourism department is the center of economic value of tourism clusters. This section consists of three levels that will support the tourism experience. These levels include: accommodation, restaurants and retail centers. The second level involves intermediaries between visitor and their destination, tour agencies and organizers, transport companies both land and air. The third level includes management, accounting, facilities, facility maintenance, networking and reservation marketing, credit cards and income, food service, hospitality and entertainment services, construction, materials, equipment and investment. Some researchers on the basis of underlying - economic factors also mention that human resources, innovation, financial systems, network infrastructure and information structure is vital and must be considered (Gollub, 2007). On the other hand, the criterion to determine tourism areas and infrastructure to adjust the disparities between regions is important. Little research in the areas of tourism level was conducted in the late 90s. But over the last few decades efforts have been made by researchers to determine and categorize tourism on national, international and regional level (Dennis R.Judd and Sasan S.Fainstein, 1990, Law Christopher, 2000). Today, with advances in statistical methods and computer geographical studies using different parameters, various criteria for developing tourist areas have been determined (Shamaei, Moses, Citizen, 2011). Chabahar is one of Iran's free trade zones with over two decades of establishment and operation have successfully achieved it economic goals. Because of its specific geographical location and climate diversity have great tourism potential and can play an important role in tourism development, turning it into a tourist destination zone. The purpose of this study is to assess the level of man-made tourist attractions infrastructure in Chabahar. Based on our research questions posed in this study include:

1. Among man-made tourist infrastructure attractions, which one attracted the most?

Consistent with the hypothesis that the research question is formulated to contain these words:

2. In terms of manmade tourist attraction infrastructure amusement parks has achieved highest response.

### ***Theoretical views:***

#### ***Tourism concept:***

On the basis of four decade research conducted by international bank tourism has been approved as a powerful lever in terms of development model in a view that theoretical foundations of the tourism industry directly influence the development of economy (Hawkins, 2006). Tourism phenomena and relationship is actually interaction of tourists, investors, governments and host communities, universities and NGOs in the process of absorption transport, catering to tourists and visitors (waver, 2000). Unfortunately it's been more than 200 years since the first book in the field of tourism under the title of tourist guide in 1778 entitled by the Thomas Nou (parsaie, 2005). Relatively new phenomenon in the tourism industry goes back to the early nineteenth century (Paply Yazdi and Saghaei, 2005). The World Tourism Organization named activities with the intention of leisure, recreation and shopping etc out of home town for less than a year time period as Tourism (Omide Najaff Abadi, 2006). Tourism is the act of displacement outside the community for recreation or everyday work but is defined as act of tourism. World tourist is a person who spent at least one night at visited site or place while a tourist doesn't requires spending the night at that location (Oh Chag Gay Arabs, Parsayyan, 2003). Urban tourism is more anticipated among tourists. According to experts of world tourism, first urban tourism was started and has been developed as a culture in the city. The functional role of urban spaces are in the form of public places which interpreted as a reflection of cities such as face to face relations, common site experience, Human relationship with the urban fabric, public and collective activities of leisure and recreation makes it proper and efficient (Anwari Arya and Nassaj Gharane 298:2007). Many governments around the world have considered the importance of tourism as a source of revenue and employment. As a result, many of them have developed suitable use of the comparative advantages of tourism industry. At present, the development

of multilateral and bilateral relations at the provincial, national or state level have strategic importance for the development of tourism, which aims to take advantage of the benefits of the tourism market (Reida, Simthb, Mccloskey, 2007). Accordingly, the World Tourism Organization in Manila declared tourism as the basic need in the Third Millennium (Samuel Seongseop Kima, Dallen J. Timothy, Hag-Chin Han, 2007). On the basis of four decades of research conducted by World Bank, tourism development is a powerful lever, which shows that tourism has a very effective role in the development of economy (Hawkins, 2002). In many countries tourism industry is not only considered as an engine of economic growth but also get a lot of support from government (Shapleya, 2006).

***There are two dominant perspectives on tourism:***

Cultural experience view: according to this view, the purpose of tourism is to gain social and cultural experience. Accordingly, most of the existing infrastructures for socio-cultural tourists are given special importance.

Economic benefit view: according to this view tourism is an economic system like any other system its main function is to generate profit. According to this view, the purpose of tourism is to generate economic profit. On the basis of this view infrastructure are vital (Dehestani, 2004).

Tourism boom provides appropriate conditions for geographic and residential regions: the destination (supplying facilities for tourism) and source (supplying tourist demands) (Sasanpoor, 2011).

***Literature:***

Research history of in the field of tourism as a scientific discipline is almost 200 years old. The first book by Thomas Nog with title "tourism guide" is almost two centuries old. Since then studies have been conducted in the field of tourism which are classified on three classes. First study, recognition and introduction of tourism sites, second examining the effects of tourism on system and finally, studies that specifically discusses the tourism sub-disciplines.

ZIAI and Shojaie in an article in 1389 classified tourist destination as: Explore new concepts in spatial planning of tourism, identify tourism destination in the plan then describe some of the same concepts as the ability to distinguish them from different levels at a specified position. To make this concept systematic principles graded tourism destinations and eventually identified and necessity and importance of spatial planning for tourism is studied. (Ghaffari, 2011). They identified the tourist attraction areas on the outskirts and nearby villages of Boyer Ahmed. Their main aim was to find natural, historical and cultural well-spatial distribution and spatial distribution of tourist spots in this region. The results showed that the area under study comprises of natural, historical and cultural tourism attraction but development and infrastructures and services were diversely distributed with respect of each region.

ZIAI and Shojaie in 2010 in an article entitled graded tourist destination: a new conceptual analysis of the spatial planning of tourism, tourism plan in ranking different zones and described some concepts to distinguish them from each other and to determine the status of each region. In order to make this concept systematic, principles graded tourism destinations are eventually identified and the importance of tourism destination in spatial planning is studied.

Ghaffari in 2011. Examining the ability of the natural, historic and cultural and spatial distribution of tourist services in the rural area of Boyer Ahmed city proposed planning for future tourism schemes. The results showed that, the research domain of natural attractions, historical and cultural tourism development are numerous and diverse in the distribution with respect to services and facilities at the villages.

Shamaei and Moses Vand in 2011 in an article entitled graded city in the province on the basis of tourism infrastructure using TOPSIS and AHP model. The results indicates according to the criteria considered for city categorization, Isfahan and Kashan city through TOPSIS model on terms of tourism infrastructure are situated from level one to three. By combining these two models, such as the city of Isfahan and Kashan in the first and second sections gets most of the points. The correlation between infrastructure and the number of tourists is positive correlation and its relative coefficient indicates more than 98%.

Ebrahimzadeh and Agassi in an article in 1390 entitled as Chabahar Free Zone's impact on the development of the tourism and its influence was determined by Ttest regression model. The regression results of this study indicate that limited success in this area has been achieved. Water transport components, advertising and marketing, medical, recreation, cultural and medical facilities with coefficients of 87/0, 81/0, 78/0, 76/0 had highest negative impact on tourism. Factors such as gas and telephone infrastructure with coefficients of 34/0, 06/0, 061/0, have minimal impact on the failure rate of tourism in this area.

Saida Zarabad, Qazvin and Abdullah in 1392 in an article entitled as the evaluation factors in the development of tourism industry at Chabahar free trade zone, utilized network analysis process (ANP). The results shows that among different parameters studied, infrastructure tourism and economic power will play a major role in regional development of tourism in Chabahar. The findings indicate that this area despite having the capacity to become a regional tourism destination. Lack of infrastructure publicity is the main obstacles in the development of tourism.

There are also job opportunities, attractions, and sport-recreation and natural attractions as key features for attracting investors for the development of tourism infrastructure in this region.

Parizad and Yaghobei, in 1389 in an article entitled as the spatial layout of the target village tourism in Sistan and Baluchistan, concluded that these villages has geographical location, historical past, a natural potential, investment capacity. While on the other hand the results of the study indicate that villages such as Kojour, Vladyz and Nahvk lack any facilities.

### **The introduction of the study area:**

Chabahar Free Zone with an area of 14,000 hectares, is located South-East of Iran. From East it's located on Chabahar Bay and from South near the Gulf of Oman. Chabahar is located inside Sistan and Baluchistan province. Transportation network is via land and air which is connected to Central Asia, Afghanistan, the Indian Ocean and south of East Pakistan. Chabahar has been a major trade zone at the Oman seas bank and had and still have a vital role in Iran's economy. Direct access to the open sea, the bridge between Central Asian countries and other countries in the world, located off the Persian Gulf and the lack of vulnerability in the event of a crisis are the main reasons that make this region an important strategic zone (Institute of free trade zone- Chabahar, 1, 2007). This area is one of the few in country having a unique and historic attractions and favorable weather conditions for Tourism making it one of the most important tourist areas in Iran.



Figure 1. Chabahar city location in Sistan and Baluchestan province

### **Research:**

The general approach of research is quantitative while data collection was based on the library data, documents and field survey. In order to study level of man-made tourism attraction infrastructures specialized areas were used. On the following bases 5 index were identified in this area. In order to categorize man-made infrastructures centrality index model was used. The model is based on a standard benchmark index for any given location. The location for each benchmark number for each location was obtained.

## **RESULTS AND DISCUSSION**

In this study in order to classify man-made tourist infrastructure attractions in the city of Chabahar four tourist attraction categories (free amusement park, Azadegan park, Chabahar coastal beaches, fishing docks) on the basis of criteria (nutrition, health services, and entertainment facilities, parking services, transportation agencies) were created.

The sum of the numeric index reaching higher number indicates the importance of that place. The coefficient of performance of each location is obtained by dividing the total number of locations with 100. Hence the functionally important performance is not only dependent on number of activity in one location but also on the frequency of performance measurement in the optimum location and function of inverse proportion to their weight known as factors. This models main aim is to give importance to the provided services for tourists. So we can assume that the centrality index for a location is the sum of performances. The more the sum of performances the more importance of that location rises.

### **Step one:**

Determine the number of services per standard.

Table 1. Evaluation of each criterion

Criteria	Nutrition	Health services	Facilities and entertainment	Parking services	Travel agencies
Free amusement park	2	2	0	0	4
Free parks	2	2	0	0	2
Coastal beaches	4	4	2	0	1
Pier fishing	3	3	1	0	1

In this step using field data on tourist attraction sites, number of required services for each location was identified.

**Step two:**

collective performance of each criteria in tourism attraction.

Table 2. the sum of the standard tourist attractions

Criterion	Nutrition	Parking services	Facilities and entertainment	Health services	Travel agencies	Total performance
Free amusement parks	2	0	0	2	3	7
Free parks	2	0	0	2	2	6
Coastal beaches	4	0	2	1	1	8
Pier fishing	3	0	1	1	1	6
Collective performance	11	0	3	6	7	27

This stage provides the sum of all services in every major tourist attraction.

**Step three:**

coefficient correlation of each criteria in tourist attraction.

Table 3. Determining location of each criterion in all Attractions

Criterion	Nutrition	Parking services	Facilities and entertainment	Health services	Travel agencies	Total performance
Free amusement parks	2	0	0	2	3	7
Free parks	2	0	0	2	2	6
Coastal beaches	4	0	2	1	1	8
Pier fishing	3	0	1	1	1	6
Collective performance	11	0	3	6	7	27
Location factor	9.09	0	3.33	16.6	14.28	-----

In order to determine location Factor total number of each criterion was divided by 100 and the results were noted down in table.

**Step four:**

Centrality index

In order to determine Centrality index we use the following formula: Location factor \* the number of desired function/performances in particular place. In the end obtained figures are collected in a table. The attraction having more centrality index occurs in the highest position and hence vice versa.

Table 4. Determining Centrality index

Criterion	Nutrition	Health services	Facilities and entertainment	Parking services	Travel agencies	Collective performance	Ranking
Free Amusement Park	18.2	33.2	0	0	42.84	94.24	1
Free park	18.2	33.2	0	0	28.56	79.96	2
Coastal beaches	34.36	16.6	6.66	0	14.28	71.9	4
Pier fishing	27.27	16.6	3.33	0	28.14	75.34	3
Collect performance	100	100	100	100	100	500	---

Research finding, 2014

As observed in table (5) free amusement parks with average of 94/24 performance ration has secured first position. Similarly Azadegan park has the second highest ratio of 79/96, fishing pier with total performance of 75/34 third and coastal beach areas with 71/9 performance ration has secured fourth position in our table.

## CONCLUSION

In order to attract tourism in Chabahar free zone we must exploit the potential and functionality of this area. In fact, the process of tourism development in free trade zone areas has economic, social, cultural and environmental benefits and also can be a contributing factor in economic growth, poverty reduction, job creation, sustainable development and flourishing regional talent. Chabahar with natural beauty, sports and leisure facilities, investment opportunities, climate and numerous shopping centers has turned itself in a strategic location. This region with right amount of investment has the potential to become the country's most suitable tourism destination. In fact, strengthening tourism infrastructure is the most important factors in the development of tourism industry in Chabahar.

In this research we analyzed the required infrastructures to create a tourist destination zone. Our analysis results show that free amusement parks with average of 94/24 performance ration has secured first position. Similarly Azadegan park has the second highest ratio of 79/96, fishing pier with total performance of 75/34 third and coastal beach areas with 71/9 performance ration has secured fourth position. Finally on the basis of our results and in order to develop better tourism attraction zone, following options are proposed:

### **Proposals:**

- 1- Equip tourist attraction sites with health care, sanitary and parking services.
- 2- Provide financial resources and facilitate accommodation, hospitality and entertainment services.
- 3- Equip and strengthen transport infrastructures.
- 4- Introducing relative advantages of Chabahar on investment in the tourism sector.
- 5- Introducing tourist attraction areas of the region through publication brochure, documentaries etc.

Strengthen advertisement and eliminate inappropriate image of Chabahar region.

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