

Feasibility of Ecotourism Development in Anzali Wetland: An Emphasis on Bird Watching Stations

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Abstract

The unique geographical location and diversity of natural phenomena have led Iran to be recognized as the fifth country with a natural diversity in the world. However, despite the abundance of natural attraction, Iran's ecotourism is faced with obstacles and challenges for attracting tourists. Among the various kinds of natural attractions, wetlands and preserved areas have a high potential for sustainable tourism development that can provide investment opportunities for public and private sector managers in tourism development and research programs. In this paper, attempts have been made to explore sustainable tourism development potential by identifying the ecosystem potentials of the Anzali Wetland, especially the presence of native and migratory birds in this area. The research uses a descriptive-analytical method that is based on library documents, the Internet websites, and a questionnaire. The SWOT model was used to analyze the hypotheses. It seems that the Anzali Wetland has the potential to attract tourists who come to visit migrating and local birds in most seasons. So, with proper planning and using the experience of developed countries, such as the Kushiro Wetland in Japan, we can develop ecotourism and also, we can make it a matter of culture to monitor and protect the environment as a shelter for local and migrating birds.

Keywords: bird watching, Anzali Wetland, ecotourism development

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Statement of the Problem

Existing tourism opportunities in Iran, natural attraction, untouched landscapes, and suitable weather strengthens the potential for ecotourism development more than other aspects of tourism attraction. Ecotourism refers to a kind of responsible tourism of human being in the natural environment that, in addition to material and non-material benefits, seeks to preserve the environment. So, it is a link between sustainability in different dimensions and ecotourism. Nature and ecotourism are two inseparable phenomena that are nowadays recognized as ecotourism in the world and tourism in Iran. Iran is among the 10 richest countries in terms of tourism resources (Rezvani, 2007, p. 13).

The Anzali Wetland also has a variety of animal and plant inhabitants and shelters for food, resting, reproduction, migration, and wintering for birds. But, these features have not achieved their share regarding the attraction of tourists to Guilan province or tourists mostly visit them only once. The Anzali Wetland hosts thousands of migratory waterfowl birds from the beginning of September to the end of June every year. Due to the tranquility of some parts of the wetland, some of these beautiful guests sometimes stay in this place in spring and summer to lay egg and oviposition and breed (Mansouri, 2010, p. 11).

Existing tourism opportunities in Iran have the potential to attract a lot of tourists to this region. This research aims to provide solutions for the development of ecotourism and to better identify the natural and environmental resources that are available in the region to tourists that could persuade tourists to enjoy the beauty and tranquility of the region and get away from the urban life to spend their leisure time in such a beautiful region. The present research aims to identify and adapt the needs with the facilities offered by the recreational and cultural facilities in line with the potential of the region. Also, we want to find out how to provide the appropriate services to attract tourists with the minimum negative impacts on the region. Therefore,

the current study aims to investigate the factors affecting the attraction of tourists to this wetland, despite the complexity of these attractions. Since natural attractions are unique, so when using these gifts, it should always be considered as the top priority to safeguard their conservation. Even small unscientific and irresponsible intervention can be a serious threat over time in the near future, and extensive destruction will eventually lead to irreparable damage. Although the present study explores the feasibility of ecotourism development with a focus on bird-watching activity in the Anzali Wetland, it has a balance view on how to exploit it in a responsible way and how to observe environmental requirements and at the same time, take care of the benefits of the main stakeholders. These God-given resources and hidden assets in the wetland should be maintained for next generations. In order to objectify these materials and to apply this research, the tourist village of Khazarvila, located in the village of Bashman, on the edge of the Anzali International Wetland is planned as a pilot for execution and construction of a bird-watching station.

The objectives of this research are to identify the existing potentials of the Anzali Wetland for the development of ecotourism and the determination of ecotourism for tourism development. It aims to formulate a development plan for bird-watching stations at the margins of the wetland by organizing tourist and recreational amenities around the new berth and its attractiveness to attract and develop wetland tourism.

The research hypothesizes that the margins of the Anzali Wetland have the potential to attract tourists to visit the migrating and local birds in most seasons of the year. It seems that there is a relation between equipping tourism infrastructure and planning ecotourism in the studied region.

Scope of the Research

The Anzali Wetland has an area of about 20 000 hectares and 380 000 hectares of the basin and is located 24 meters downstream free-flowing waters in the southwest of the Caspian Sea coast in Guilan province, Iran. This wetland includes eastern, western, central, Salkeh, Sorkhankel and Siyahkeshim areas that are limited to Pirbazar village from the east, to Kapourchal and Abkenar from the west, to Somesara and part of Rasht city from the south. The Anzali Wetland is a place

for spawning of important species of fish in the Caspian Sea and a place for wintering of migratory birds and natural reserve of many valuable plants such as wetland tulip and the lotus. The boundary of this wetland extends from the eastern part to the Delta of Sefidrud, from the southern and western parts to the Alborz Mountains and from the north to the Caspian Sea (the altitude of 28 meters) (General Office of Environment of Guilan province, 2016).

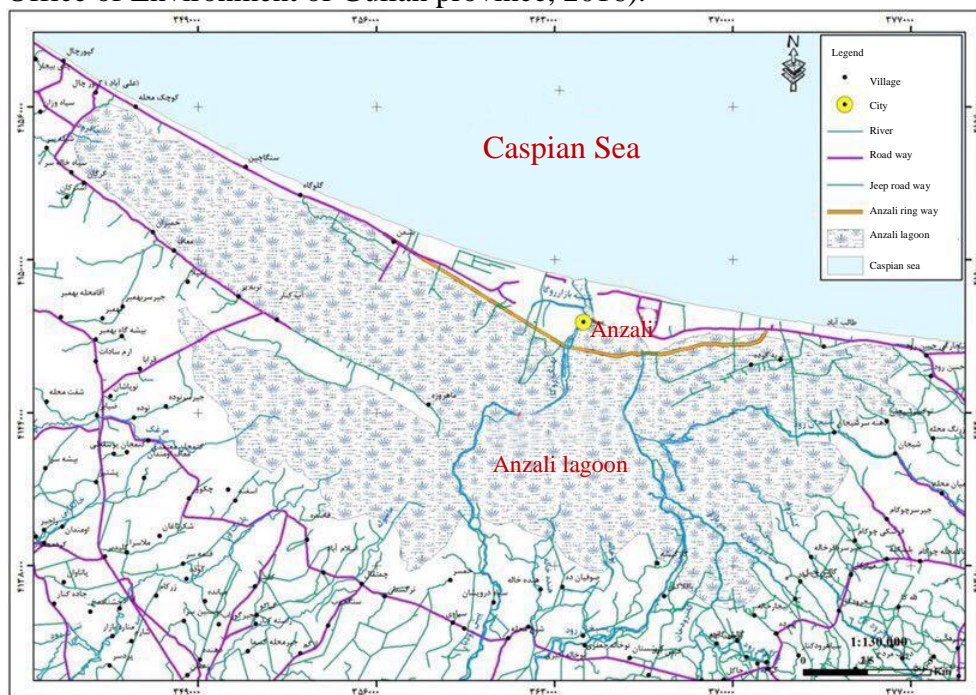


Figure 1. Location map and Anzali wetland range

Theoretical Principles and Review of Literature

Definition and principles of ecotourism

- Traveling to nature in a way to protect ecosystem services as well as their local communities.
- Ecotourism means traveling to almost untouched natural areas with the aim of learning, admiring and using natural landscapes, wildlife, as well as culture of the past and present native people.
- The Australian National Ecotourism Institute defines ecotourism as:

Nature-oriented tourism is associated with education and awareness of the natural environment and managed in a way that is ecologically sustainable.

- Ecotourism is a combination of adventure, education and recreation (Zahedi, 2006:89).

- The International Union for Conservation of Nature (IUCN) has defined ecotourism as follows:

“Ecotourism is the ability to travel responsibly to relatively recreational areas in order to enjoy nature in a way that has little negative impact on the level of economic participation of indigenous populations”.

- The International Ecotourism Society (IES) defines ecotourism as referring “to the responsible travel to natural areas that protects the environment and cares about the welfare of local people”

- Ecotourism is a responsible and sustainable journey to sustainable natural areas in order to utilize the spiritual and psychological needs in such a way that they are associated with the knowledge and awareness of the local people's value system and to help protect the natural areas and promote the welfare of the host community (Zahedi, 2006: 90)

Ecotourism in the world and Iran

Human and nature are in an intimate relationship with one another. For thousands of years, people have enjoyed the benefits of nature, and only in recent decades a limited number of researchers have concerned themselves with the assessment of the negative impacts of human beings on nature. Sensitivity to ecological issues related to nature and the connection between tourism and the environment began in the 1960s. Hetzer was the first to use the term *Ecotourism* in 1965 to describe the relationship between tourists, environment and native cultures. Hetzer points to four criteria in responsible tourism:

1. Lowest impact on the environment
2. The least impact on native cultures and the greatest respect for them
3. The most economic benefits for the host nation
4. Most satisfaction for tourists

Research on the effects of ecotourism flourished in 1980 and since then, it started to influence policies on tourism. Currently, institutions have been founded to develop ecotourism in the world. For example,

“Ecotourism Association” was established in 1990 as an international nonprofit organization to turn destructive tourism and consumption into means to protect the environment and sustainable tourism (Zahedi, 2006: 91).

Iran has a lot of areas to attract ecotourists, and with good planning as per the conditions and facilities available for their development, the country can benefit a lot because Iran has a special talent in terms of climate and environment so that it is a country where one can find all four seasons simultaneously. While the northwest of our country has freezing, snowy weather, the southern part enjoys sunshine and hot weather. Iran is confined to sea in the north and south and each one has its own application in different seasons. In other words, in winters when the northern part of Iran is very cold and the sea cannot be used for recreational activities like swimming and skiing, southern Iran enjoys hot weather and is in the best condition for swimming. On the contrary, in summer when the south is very hot, the north enjoys a temperate, pleasant weather and the Caspian Sea is used for recreational activities. There are four forest types (Hirkani, Arasbaran, semi-arid areas and Hara) and two large mountains of Alborz and Zagros with their beautiful landscape, which can be used in both warm and cold seasons. Springs, waterfalls and ponds, streams of rivers, numerous waterfalls, hot and cold mineral springs, beautiful mountainous and bay areas in the mountains of Iran, the presence of ornamental lake in Alisadr cave of Hamedan, southern isles of Iran, numerous lakes, important ecosystems such as the Golestan National Parks and Uremia lake, and two great deserts are all the unique perspectives that can motivate the development of ecotourism in Iran. Nonetheless, nature-based tourism in Iran is far from optimal state, and with the neglected and unpredictable things that have been seen, the prosperity of tourism and economic development are not as expected.

With increasing awareness of people about the benefits and positive effects of direct experience of nature, the importance of ecotourism increases. Ecotourists who travel to attractive natural areas in every year, bring millions of dollars to the host country and create jobs for many locals. If ecotourism earnings are used properly, the ground will be laid for the conservation of the environment and the expansion of

the protected areas, facilitating the realization of the sustainable development goals (Zahedi, 2006).

Sefidi Shirkoohi, (2004), in his master's thesis entitled "Anzali Wetland Ecotourism Review" with an emphasis on the capabilities of bird-watching in the Anzali wetland and its effect on development said that weather has the most significant impact on the attraction of ecotourism. The western part of the wetland is very attractive in terms of water recreation, the beginning part for fishing and regions of Chokam, Ghalam Godeh, Hossein Bekandeh, and Salakeh are favorable for watching wildlife and wetland tulip.

Sheikhi (2004) in his thesis entitled "Anzali Wetland Ecotourism with an Emphasis on Capabilities and Limitations" holds that the desirable tourism courses on the southern shores of the Caspian Sea are good enough to be used in favor of tourism activities.

Sefid Shirkoohi (2004) studied the Anzali Wetland ecotourism with an emphasis on abilities and capabilities and showed that rain and air temperature and humidity have the most important effects on attracting ecotourism and that the best month to travel to the wetland is May.

Jamalzadeh et al. (2004) evaluated the power of ecotourism in the margins of the major rivers of Guilan province. They divided the rivers of this province into four main basins (the Anzali Wetland, east of Guilan, Sefidroud, west of Guilan). After they introduced the important rivers of each basin and described their physical features, they addressed the role of rivers and their ecotourism attractions.

Booian et al. (2011) focused on the role of ecotourism in sustainable economic development of the economic zone of Malaysia's coastline and suggested appropriate strategies to reduce its weaknesses and strengthen its advantages by examining the ecotourism capabilities in the region.

Rayan et al. (2012) also investigated the role of the Rais-al-Khordabi Wetland in guiding urban tourists towards ecotourism-friendly environment. According to the visitors of this wetland, they preferred to watch flamingos in the markets and hotels.

In a book entitled "Planning Tourism at the National and Regional Level", Ranjbarian (2000) examined the importance and ways of planning ecotourism and drawing its process. He concluded that

adopting a coherent approach and maintaining a balance between economic, environmental, cultural, and social environment factors for planning tourism is an important step.

Masoumi (2007) in an article entitled “An overview of ecotourism tourism planning” emphasized that prediction and preparation of the facilities needed for tourists in Iran has a long history, but the present criteria and components do not cover the past.

The scientific method used in this research is descriptive-analytical and survey. It firstly described the characteristics and potentials of Bandar Anzali and then, with the study of infrastructure, the strategies of tourism development are expressed. The information needed for this research has been obtained through both documentary (library) and field studies. In the documentary method, the scientific and research papers and library documents were referred to in order to examine the sources related to the research topic. Therefore, to obtain some preliminary research information, the libraries of the Bandar Anzali Municipality and Islamic Azad University of Rasht were referred. Also, in order to complete the documentary information, field and survey methods were used. Therefore, the necessary information was collected by observing and photographing landscapes and interviewing experts and observers in the region. At this stage, after collecting data from documentary sources and field studies, the collected information was organized and classified for the use in the research in the form of tables, charts, and maps. According to the data and information collected, quantitative and qualitative analysis methods were used to evaluate the tourism situation in Bandar Anzali. In this regard, MS-Excel software was employed to analyze information and draw tables and charts. The statistical population of the study was composed of tourists visiting Bandar Anzali. According to the unlimited statistical population, sample size was calculated to be 384 participants using the standard Morgan table. As the hypotheses of this research, the margin of the Anzali Wetland seems to have the potential to attract tourists to watch native migratory birds in most seasons of the year. It also seems that there is a relationship between equipping tourism infrastructure and planning ecotourism in the study area.

Analytical method for evaluating through SWOT model

Strategic management reviews the internal environment to understand the strengths and weaknesses of the organization, which is also referred to as organizational analysis. In this phase, 10-20 factors are selected out of the strengths and weaknesses of the organization amounting to 10 strengths and 9 weaknesses.

In this model, after listing each of the strengths, weaknesses, opportunities, and threats and writing them in their cell in terms of retaliation for each of them, the strategies are achieved, so the matrix is equipped with four categories of strategy.

Birds in the Anzali Wetland

The Anzali Wetland includes a wide range of chicken birds, passers-by and winter walks. During 2012, about 186 different species of birds were recorded in the Anzali wetland. For example, we can point to extensive territory of dark marine swallow for spawning and 6 types of herons, a wide range of dark harbor porpoises, and the territory of six species of herons, the population of small indigenous peacocks can be found. Recently, several white-tailed eagles have been breeding on the trees around the Anzali Wetland. The wetland has a high population of wintering birds, an average of over 80,000 birds, including ducks and swans. The number of overwinter gray pelicans in the Anzali Wetland is increasing so that more than 1,200 pieces of gray pelican have been counted in this wetland in 2009. In this study, 243 bird species have been observed in the Anzali Wetland, including 112 species of aquatic and 131 species which live in dry lands. Sixty-six species (26 percent) were recorded in the wetland including the protected species in Iran, of which 16 species have been registered in the IUCN Red List (General Office of the Environment of Guilan Province, 2016) which come to the Anzali Wetland in winter. About 1300 gray pelicans spent the winter in the Anzali Wetland accounting for 5-10 percent of the total population of this bird in the world.

Bird watching stations in the Anzali Wetland are located in four protected areas including Salakeh Wildlife, Sarkhankol, protected areas of Siahkeshim, and Chokam bird oviposition centers and forbidden hunting centers. As shown in Figure 4, bird watching stations in the wetland are located in the southern part of the wetland because of the lack of access routes to the area. The availability of

access routes to the wetland and the creation of roads will impede the presence of birds in such spaces as birds tend to stay in safe and access-limited areas.

In recent years, the Environmental Directorate of Guilan Province has been conducting studies on spatial planning for the establishment of bird watching stations that are in harmony with the climate on the northern margin of the Anzali Wetland, which has been studied and not feasible since most access paths located on the north and west margin of the wetland, and the main and the secondary roads to the wetland are minimized in these areas, and there is no possibility of observing the birds due to the station deployment in the future. The map Figure 4 shows the location of the villages around the wetland (northern margin) and the main and secondary routes.

Table 1. Combined strategies

Internal factors	List of strength (S)	List of weaknesses (W)
External factors		
List of opportunities (O)	Strategies SO	strategies WO
Opportunities of threat (O)	Strategies ST	Strategies WT

Research findings

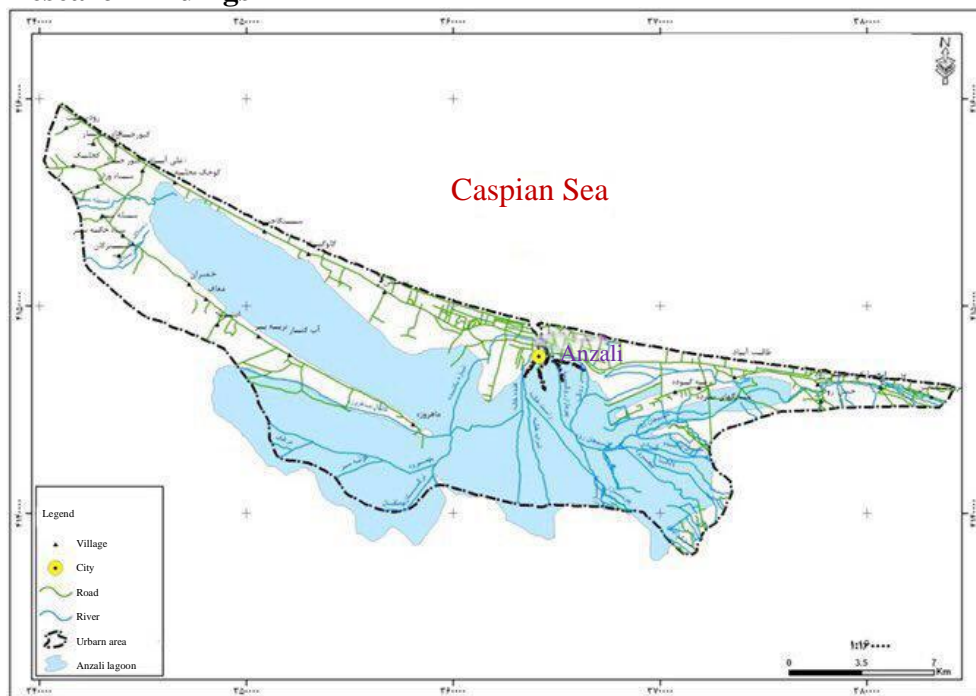


Figure 2. Topography map of Bandar Anzali city

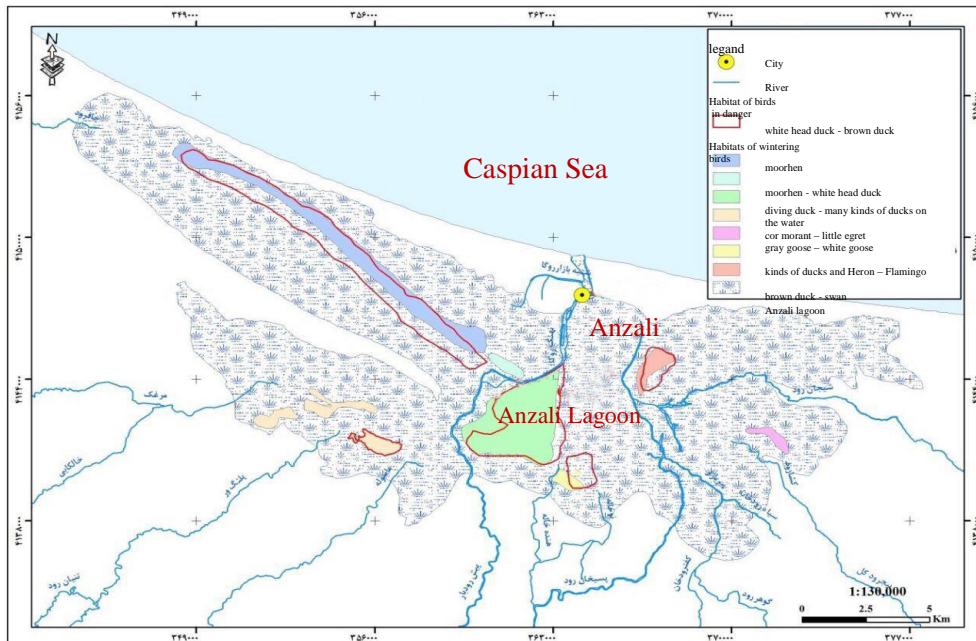


Figure 3. Habitat map of the Anzali Wetland's birds, Bird watching stations in the Anzali Wetland (Source: Author, 2017, According to the study of environmental organization of Guilan province)

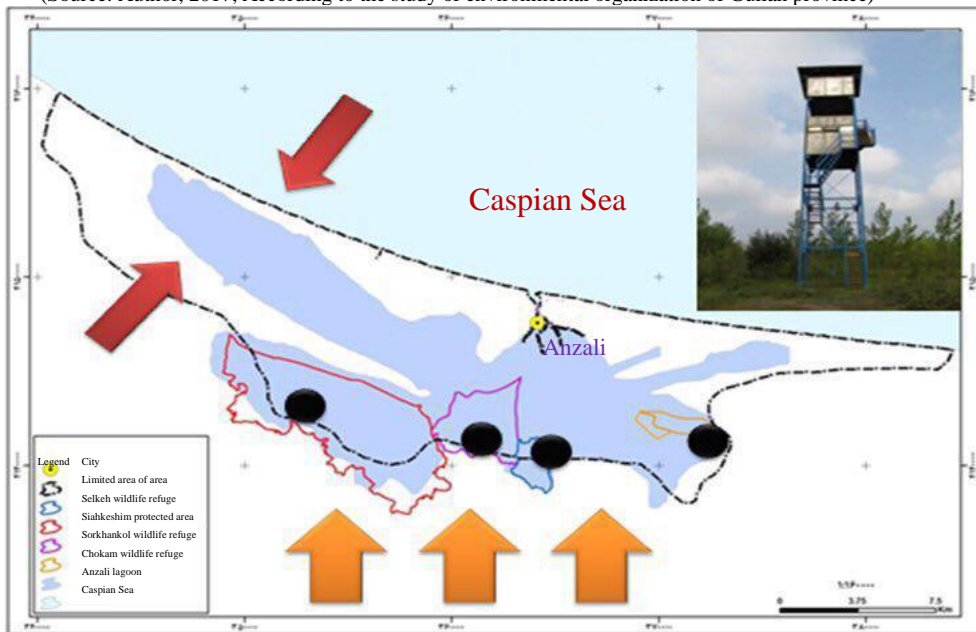


Figure 4. Environmental map of the Anzali Wetland

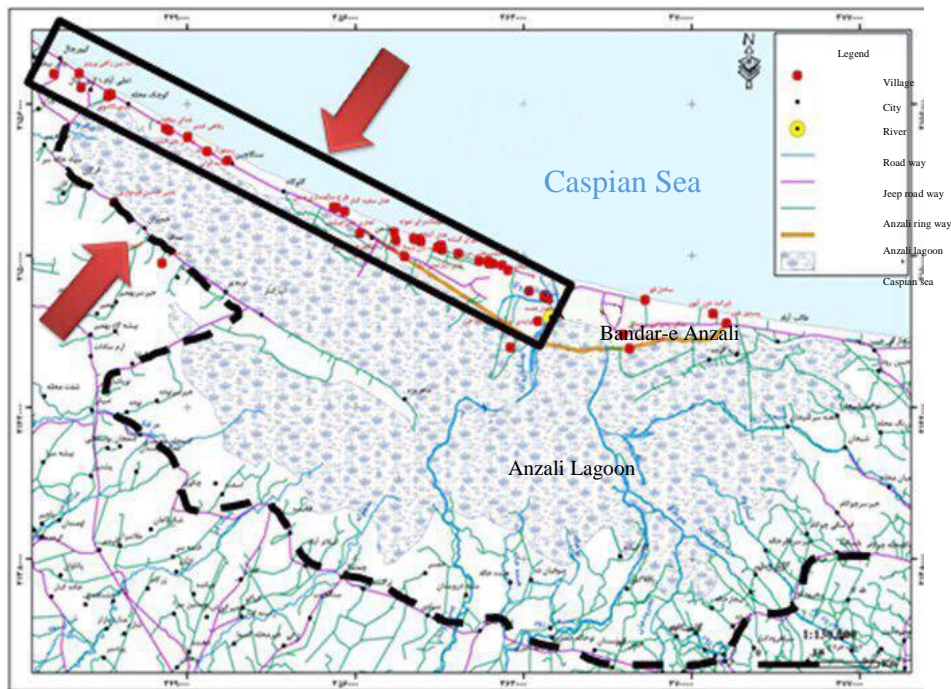


Figure 5. Location map of bird watching stations in the Anzali Wetland

Discussion and Conclusion

It seems that the margins of the Anzali wetland have the potential to attract tourists to watch native migratory birds in most seasons of the year.

However, there are two important challenges for the development and sustainability of bird watching in this wetland: first, in areas where there are more birds (southern and southeastern parts of the wetland), there is less accessibility, transportation, and comfort for tourists. Second, in areas where access and investment opportunities are more, there are fewer birds (northern and northwestern parts of the wetland). In order to overcome these challenges, two proposals are offered. One is to improve infrastructure facilities, access routes and investment. Second is to extend the protected area and do more cultural and planning activities to attract more birds to these areas. For example, in the pilot site, a wildlife island, a bird nest, and hunting-banned area were created.

To attract tourists, resources should be introduced that can be seen and felt. These resources in the river and wetlands range from a significant number of beautiful and migratory birds, significant species of abundant native fish in the river for hunting and watching beautiful flowers of the wetland, river and margin, canoeing and sailing, manual and motorized, swimming in the coastal strip and the river, skiing on the water. The arrival of tourists to the defined area can be a source of employment because unskilled and skilled workers such as sailors and local vendors are required to serve the tourists. The final result of the evaluation of the strengths and opportunities for the development of ecotourism on the margin of the wetland with the score of 6.6 versus the weaknesses and threats with the score of 8.28 indicates that although there is potential for ecotourism within the catchment and the rivers in the city, the weaknesses and existing threats outnumber the opportunities. Therefore, planning for the development of ecotourism should be done in such a way that less damage is inflicted to the environment. Based on the field findings from the distribution of the questionnaire, we evaluate the data obtained from the analytical findings by the SWOT model.

Table 2. Matrix of assessing internal factors (strength) affecting ecotourism of wetland

Strength	Coefficient	Rank	Score
S1 Existence of tourism attraction in borders of river, basin like vegetation, animal life, Anzali wetland's flowers and other beautiful viewpoint	0.26	4	1.04
S2 Talent of region for tourism planning	0.2	3	0.6
S3 Possibility of creating jobs for touristic services	0.2	3	0.6
S4 Existence of various tourist attraction (wetland viewpoint)	0.13	2	0.26
S5 Possibility of people's cooperation in tourism development	0.06	1	0.06
S6 Belief of authorities in tourism's potential for employment creation	0.13	2	0.26
Total	1	15	2.82

Source: Field studies, 2017

The steps in obtaining points in the following matrices are such that we first give them a score of 1 to 4 based on the indexes, in which score 4 has the highest and the best and score 1 has the lowest priority than the other points. For example, among the strengths of S1, the existence of abundant tourist attractions on the margins of rivers, ponds, such as vegetation, animal life, the Anzali Wetland mud and other beautiful landscapes obtained the top score of 4, and then the total rank is computed considering the number of units (in the total strength table of the numbers $4 + 3 + 3 + 2 + 1 + 2 = 15$), and in the next step, the total number is divided by the score of the each point to obtain the coefficient

of influence, for example, in $S1=15$ divided by 4 is equal to 0.26 and multiplies this number in the rank gives the final score.

Table 3. Matrix of assessing internal factors (weakness) affecting ecotourism of wetland

	Weakness	Coefficient	Rank	Score
W1	Lack of planning at ecotourism section of region	0.19	4	0.76
W2	Lack of private and public investment in this section	0.14	3	0.42
W3	Lack of residential and welfare facilities in the region	0.19	4	0.76
W4	Lack of hygiene facilities in studying area	0.19	4	0.76
W5	Lack of educated forces at ecotouristic section	0.09	2	0.18
W6	Lack of favorable access to some regions of wetland	0.09	2	0.18
W7	Lack of water in wetland in summer	0.09	2	0.18
Total		1	21	3.24

Source: Field studies, 2017

Table 4. Matrix of assessing external factors (opportunities) affecting ecotourism of wetland

	opportunities	Coefficient	Rank	Score
O1	Tendency of people of the region for tourist attraction	0.13	3	0.39
O2	Increasing job and income	0.13	3	0.39
O3	Increasing number of travels to the region	0.19	4	0.72
O4	High environmental thought	0.19	4	0.72
O5	Possibility of developing agriculture on the borders of the wetland	0.13	3	0.39
O6	Possibility of growing fish in wetland	0.13	3	0.39
O7	Possibility of recreational fishing in wetland	0.1	2	0.18
Total		1	22	3.18

Source: Field studies, 2017

Table 5. Matrix of assessing external factors (threat) affecting ecotourism of wetland

	Threats	Coefficient	Rank	Score
T1	Diminish of agriculture	0.16	4	0.64
T2	Land use change	0.16	4	0.64
T3	High price of land in the region	0.12	3	0.36
T4	Removing traditional and local culture	0.12	3	0.36
T5	Pollution of environment	0.16	4	0.64
T6	Promoting wrong social pattern through developing tourism	0.12	3	0.36
T7	Removing tourism attraction	0.16	4	0.64
Total		1	25	3.64

Source: Field studies, 2017

Table 6. Strategic analysis of ecotouristic power of borders of rivers and basins and the Anzali Wetland

Variety Strategy (ST)	Aggressive Strategy (SO)
ST1- varying ads at introducing attraction	So1- emphasis on ecotourism development due to existence of attraction and its variety
ST2- varying presentation of services and facilities of tourism	So2- using support of private and public section
St3- improving ways of region	So3- supplying a comprehensive plan for ecotourism development
Defensive Strategy (WT)	Reviewing Strategy (WO)
WT1- writing rules and regulation for decreasing environmental effects	Wo1- review at tourism supplied plan
WT2- using power of private section at ecotourism development	Wo2- touristic guidance education

Source: Field studies, 2017

There is a relation between equipping tourism infrastructure and ecotourism planning of the studied region.

Residential infrastructure at the Anzali Wetland area includes three guest houses, five hotels, three hotel apartments, seven restaurants, and 20 motels. Bandar Anzali has the potential to have diverse tourist attractions. Residential infrastructures such as affordable hotels and access to tourist spaces can be one of the most effective ways to attract tourists to the city. As the following tables indicate the number of tourism centers. Then, according to the questionnaire of residential infrastructure, the tourists were asked about the effect of inexpensive residential centers and inns and rental houses with standard amenities on the loyalty of the tourists. Since the respondents mostly used coastal areas and stated in temporary beach houses for about 2-10 hours, they assessed the residential infrastructure as to be intermediate and stated that the infrastructure can be effective in the visit and loyalty of the tourists.

Table 7. Hypothesis of the research

H ₀	There is not a relation between tourism infrastructure and ecotourism planning.
1	There is a relation between tourism infrastructure and ecotourism planning.

Independent variable in this part is ecotourism planning and dependent variable is tourism infrastructure. Spearman test is used for assessing the relationship of these two variables since significance of test is set at 0.73 hypothesis one or independence supposition of these two factors are confirmed and we conclude that these two factors have a significant relationship. In other words, the null hypothesis was rejected and we accept the first hypothesis whose degree of relationship is strong considering spearman coefficient of correlation (0.81).

Table 8. Correlation coefficient test of spearman for assessing two variables

Variables	Spearman correlation coefficient	Sig	Conclusion
Equipping tourism infrastructure and ecotourism planning	0.81	0.73	There is significant relation

Source: Research findings, 2017

Analyzing hypothesis and assimilation between equipping tourism infrastructure and ecotourism planning and the role of these two variables at tourism development is considerable from two aspects. In the first place, equipping infrastructures requires planning through

public agencies to lead to sustainable development of tourism in the region. In the view of research subject these two variables are interfering so that planning and infrastructure directly affect development of tourism. It is obvious that the relation between these two variables was direct and each had independent effect on tourism development.

Conclusion

The Anzali Wetland with its unique features has an extremely high ecotourism value because on the one hand it is charged with fresh water of the basin and on the other hand, it connects to the ecotourism of salt water of the Caspian Sea, which causes the emergence of a rare and special ecosystem which attracts various species, leading to the emergence of a rare ecosystem and attracts different species of fish, birds and plant biodiversity. Chapter 4 addressed the study of the natural areas of research site and introduced the most important potentials and limitations of the region. In the geological discussion, the development of Anzali and rivers and wetlands was pointed out that the studied area in different years of the progression and reclamation of the Caspian Sea water has been affected by this process on the amount of land added and deducted, and also the course of the river has changed. As a result, agricultural land and infrastructure facilities such as roads, hotels, guesthouses, etc. have been seriously damaged by tourists. But the increase and advancement of water in the rivers is important for tourism, and that is, the increase of river water level, wetland and water storage in different parts and increasing the range of water that can be the development of water sports, especially boating and rafting, is due to the recession of the Caspian Sea and the decline of river water. The bedding of these rivers, which pass through the valuable species of migratory and semi-migratory fish to the wetland, has lost its reproductive capacity as a result of fishing and recreational activities. Due to the lowering of rivers and their shallow water, the way of communication between the sea and the lagoon is blocked. Because of the rainfall, sediments transported by the rivers have led to a significant sedimentation and have increased vegetation. Extended vegetation cover of the wetland will result in higher rate of sedimentation, the death of the wetland, the change in the course of the rivers, and the transformation of ecotourism in this area. As this

valuable ecosystem disappears, most tourists and ecotourists who used to spend their leisure time in this region will stop coming here. As a result, the ecotourism of the region will be eliminated. In the topography section, it is noted that there are elevations in the south of the basin of the wetland and rivers with a gradient of 25% and a relatively large wetland, which is 28 m below the sea level. It causes the transfer of sediments of the lagoon and river into the shipping channel and Caspian Sea, and the carriage of sediments by rivers, especially in the monsoon season, is one of the main reasons for the shallow depths of the wetlands, rivers and canals.

Suggestions

- Establishment of tourist institutions and agencies in the Anzali Wetland.
- Recruiting and employing various experts in the field of natural sciences including ecologists, geologists, bird scientists, botanists and fishery engineers, geographers, management and planning experts to introduce the natural features of the wetland to ecotourism.
- Construction of infrastructure and facilities such as bird watching towers with equipped cameras, fish aquariums for visitors, rest rooms equipped with beds, air conditioning systems and sanitary facilities.
- The use of well-priced motorized boats, along with expert guides to help ecotourism in the Anzali Wetland and the construction of docks for boating in places for easy access of tourists to these areas.

References

- Abbasi, Hooshang (2007). Ethnography of Bandar e Anzali city, Rasht.
- Abbasi, Hooshang (2010). Norouzbek of cultural heritage organization, handicraft and tourism at Guilan province, Rasht.
- Abdoli, Reza (2004). Reconstruction of environmental condition of Anzali wetland, Guilan University.
- Alizadeh, Asghar (1999). Bandar e Anzali over time, Varasteh publication, Rasht.
- Ali Shirkoohi, 2007, study of ecotourism of Anzali lagoon with uplifting abilities of lagoon department of geography presented in partial full fillment Islamic Azad University Rasht Branch
- Das vil, Raje (1999). Tourism management, principles of strategies and effects, translated by Seyyed Mohammad Erabi and Davood Izadi, Tehran: office of cultural research.
- Deputy of planning at Guilan province (2006). Atlas Guilan, unit GIS.

- Dinari, Ahmad (2005). Urban tourism in Iran and in the world, Mashahd: Ferdousi University.
- Erabi, Seyyed Mohammad (1999). Tourism at comprehensive view, Samt publication.
- Eslah Arabani, Ebrahim (1995). Guilan book, first edition, first volume, Tehran, group of researcher of Iran.
- General office of environment at Guilan province, 2016, unit GIS.
- General office of fishery at Guilan province (2004). Research center.
- Ghaffari, Hadi & Molaee, Mohammad Ali (2002). Tourism industry at Iran: challenges and strategies, journal of political and economic industry, 218-225.
- Hafeznia, Mohammadreza (2010). Introduction of research method at human science, Samt publication.
- Heidari, Rahim (2010). Principles of planning of tourism industry, Tehran: Samt publication.
- Jamalzadeh Fallah, Fariborz (2004). Assessing ecotourism power in border of important rivers in Guilan, deputy of planning, Rasht.
- Kazemi, Mehdi (2007). Tourism guide, Tehran: Samt publication.
- Keivani, Abdollah (2011). Tourism guide, Rangin Naghsh publication.
- Mahallati, Salah Aldin (2009). An inquiry at leisure time, volume 1: travel and tourism, publication of Shahid Beheshti University.
- Management and planning organization of Guilan province (2011). Statistical annual letter of Guilan province.
- Mansouri, Ali (2010). Tourism and constant development, Nei press, Tehran.
- Mobser, Fardi (2004). Guidance of birds of Iran, Alborz press, Tehran.
- Organization of cultural heritage of tourism and handicraft (2011). Plan of symbolizing attraction of tourism (ecotourism of Iran).
- Payli Yazdi, Mohhaamd Hossein (2006). Tourism of nature and concept, Tehran, Samt
- Rabino, H. (1988). Velezat Darolmarz of guilan, translation of Jafar khomamizadeh, Rasht.
- Report of tourism global organization (2013). National and regional planning of tourism, translated by Mahmood Abdollahzadeh, publication of office of cultural research.
- Rezvani, Ali Asghar (2010). Geography and tourism industry, Tehran: publication of Payam e noor university.
- Rezvani, Aliasghar (2007). Geography and tourism industry, Fifth edition, Tehran publication of Payam e Noor publication.

- Rooh Bakhsh, Esmail (2012). Component of rural residency of Guilan (architecture and view), fifteens national congress of health, Guilan, medical science university of Guilan.
- Sartip Pour, Jahangir (1972). Symbols from the past of Guilan and Mazandaran, Khorrami publication.
- Shafiei, Bizhan (2005). Tourism sociology, translated by Bizhan Shafiei, Rasht, Varasteh.
- Sheikhi Leyla, 2006, ecotourism of Anzali lagoon and it's mangment approaches Islamic Azad University Nour Branch
- Sotodeh, Manouchehr (1996). From Astara to Astar abad, second volume.
- Taghizadeh, Hassan (2004). Tourism in Iran, first edition, Tehran: publication of dynamic thought.
- Taghvaei, Masoud (2005). Process of tourism planning, set of papers of geography, tourism and constant development, Eslamshahr.
- Tolaei, Simin (2007). Review of tourism industry, Tehran: tarbiat Moalem University.
- Zahedi, Mohammad (2006). Tourism identification, seventh edition, Esfahan: Chahar Bach publication.
- Zaker, Ahmad (2011). Tourism and concept of development in Iran, international conference and green economy online, Babolsar: Research Company of Tarood Shomal.
- Zanganeh, Mehdi; Ghorbani, Ramin; Doroodinia, Abbas, & khodabandehlo, Hasan (2017). Analysis of situation of land use by using SWOT model (case study: second district of region 6 of Tehran city), fourth international conference of planning and management of environment, Tehran, faculty of environment of Tehran university.
- Zargham Brojeni, Hamid (2010). Planning tourism development, associate and constant approach, Tehran: Mahkameh publication.
- <http://touristy.blogfa.com/post>
- <http://masal-iran.blogfa.com/2011/11>
- <http://dashtak2.blogfa.com/cat-39.aspx>
- <http://www.shoeil.blogfa.com>
- <http://www.zespri.com>
- <http://www.gchto.ir/main/media/farhangi91/jangi.JPG>.