

[Research]

Investigating the Economic, Social and Touristic Importance of Anzali wetland

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ABSTRACT

This research was conducted in order to study the importance of economic, social and touristic to the Anzali wetland, north of Iran. Data was collected through "field research" and "documentary research". Nominal scales, Likert and Guttman scales were used for the compilation of questionnaires. Findings of the present research indicate that the variation of population growth rate in the peripheral villages of Anzali wetland underwent a decline throughout the period between 1997 and 2007, falling to 1.2% comparing to the existing 3.3%. The suitability of ecological conditions in the peripheral rural communities of Anzali wetland draws a number of tourists to the region in summer. From the viewpoint of tourists, July, August and September – scored 11, 10 and 8 respectively – are ecologically the most appropriate months to visit Anzali wetland and surf its peripheral natural landscapes elaborately. Scoring 29, summer has obtained the best rank of tourism among the four seasons of the year with respect to the ecological appropriateness of travelling to Anzali wetland. The ratio of summer's tourism rank to spring, autumn and winter would be 2.07, 3.63 and 7.25 respectively. In order to attract more tourists and utilize the regional potentialities in an effective manner, technically dependable, environmentally, socially, touristically and financially, sustainable planning with the integrated participation and education of the inhabitants would be necessary.

Keywords: Anzali, Rural community, Social, Tourism, Wetland.

INTRODUCTION

Historically, human habitats have been subject to frequent transformation due to the ceaseless expansion and improvement of technology, population growth and reflective qualification of the humankind to the more complex social communities, cities etc (Motiei Langeroodi, 2004). The precedence of rural habitation in the world and Iran enjoys a historical background and the rural communities of Iran accommodate a large portion of the country population. Environmental diversity in Iran leads to the asymmetric distribution of population throughout the country. Different factors such as the ecological, edaphic and topographic conditions, the quantity of water and the way it's accessed, plant coverage, environment, wetlands and seas

have been effectual in the diffusion of population. Regions with higher potentialities and capabilities flourished with time and turned into cities with the attraction of population from the other regions. On the other hand, remote rural communities, which have been subject to some kind of geographical isolation, face a growing decline of the population (immigration) as a result of spatial development constraints (physical, social and economic) and begin to collapse (Motiei Langeroodi, 2004 and Estelajaji, 2003). The economic, social and touristic development of rural communities is considered to be an inseparable part of every country long-term agenda. Complex procedural development is multidimensional and demands the application of changes in social structures

and national institutions as well as the acceleration of economic growth, reduction of the inequality and eradication of poverty (Aysayesh, 1998). The development of rural communities may further improve the lifestyle of low-income population of the villages and help them realize self-sufficiency so that to contribute to the large-scale development of the country accordingly (Azkia, 2003 and Badrifar, 1996). There are approaches and strategies for the rural development which may be categorized as economic, cultural and touristic (Astalaje, 2003). Rural communities of Iran mainly exhibit suitable ecological conditions and beautiful landscapes, particularly in the northern coasts of the country (Saeedi, 1998). The findings of a study by Makerani and Ahmadian (2000) indicate that the formational pattern properties of rural communities may be affected by natural, social and economic factors. Nowadays, formational transformation without proper planning for the rural habitations is one of the main challenges that may occur on the country trajectory towards rural development. Over the past years, social, economic, natural and physical structures of the rural communities in Iran have changed asymmetrically and inharmoniously; consequently, the perspective of the villages also experienced a similar discordant transformation. Likewise, the peripheral villages of Anzali wetland underwent such transformations. Factors which affect these transformations include social, economic and natural dynamics. The investigation of these factors may provide experts and managers with the important information that are needed for the planning of Anzali wetland revitalization.

International experience regarding the preservation of wetlands show that participatory management and planning can be applied to fulfill the three-dimensional goals of wetlands sustainable development (economic, social and ecological purposes); however, the aforementioned instruments have not been ever used to preserve the Anzali wetland (Rezaei, 2003). There are many ecologically rich expanses throughout Iran in general and the northern province of

Guilan in particular; Anzali wetland can be called the most important one thereof. 21 internationally remarkable wetlands in the Ramsar Convention belong to Iran and Anzali wetland is a significant one among them. Anzali wetland is the waterbed to one of the largest sources of fresh water with a large periphery of habitable villages (Tavakkoli, & Sabetraftar 2003). Around 70 years ago, Anzali wetland was a major waterway to the Caspian Sea and a connective channel to access the other shores and European coasts, as well (Ghahremani, & Attaar, 2003). Anzali wetland, one of the most beautiful and extensive living wetlands in the world, has been separated from the Caspian Sea by a streak of coastal sands during the interval between 12th and 15th century, while the Sea was sliding itself back from the foothills of southern coastal mountains; subsequently, the effusion of river waters into the broad source of fresh water made it one of the most beautiful wetlands in the world (Ghahremani, & Attaar, 2003). Unquestionably, the complexity of wetland environmental systems is mostly a result of fresh water intrusion into and mixture with the marine saline waters. The southern end of Anzali city leads to the wetland entirely. The enchanting coasts of Caspian Sea at the northern districts of the city and the attractive natural landscapes of the southern districts which end to the wetland have made the region one of the predominant hubs of tourism industry (Bahraini, & Khorasani, 2003). By providing the useful resources of water, soil, rich flora and fauna, Anzali wetland has underpinned the foundation of numerous villages in its surroundings. The wetland has also served as a natural obstacle, causing the geographical dispersion of villages due to its special shape, making the rural habitats scattered all over the cities of Anzali, Rasht and Someh sara.

MATTERS AND METHODS

a) Study area

Anzali wetland is geographically a temperate region with annual precipitation of 2000 mm and annual relative humidity of

70-75%, causing the incorporation of diverse species of flora and fauna in the region. As an aquatic ecosystem, the wetland holds the capacity to accommodate 150 species of birds, 43 species of fish, tens of mammals, amphibians, reptiles and more than 100 herbal species (Jaygaah, (2004, Pajooah, 1985). The average temperature of region is about 15°C and the variation between the averages of the coldest and hottest month is about 30°C which indicates the relative moderateness of the climate. The level of groundwater in the region is relatively high in a way that the depth of some 75% of the wetland area does not exceed 3 meters (Jamab, 1989). The unique feature of Anzali wetland is its being located between the salt and fresh waters. Such transition areas are called ecotone scientifically (Kardovani, 1998). Investigating the significance of Anzali wetland peripheral villages is a part of an all-encompassing plan to revitalize and guide the rural communities from environmental, economic, cultural, social and touristic viewpoints. The purposes of the present study include the supplementation of environmental services and the implementation of optimal planning to utilize the potential and actual capabilities of the wetland to serve the habitants' welfare.

Endorsing and introducing the wetland as a symbol of tourism in order to attract domestic and international visitors, realizing an economic renovation in the region as an ultimate goal, revitalizing the wetland as a great natural resource for the promotion of sustainable development for the next generations and emphasizing the geographic viewpoint with a systematic approach are all the matters of the present research. Anzali Wetland is one of the matchless and unique wetlands in Iran and the world with miscellaneous potential and actual capabilities.

With the approximate area of 150 km², it is located in the south-western end of Caspian Sea's southern coastline in the Guilan province. The wetland is located at 49 degrees 28 minutes East Latitude and 37 degrees 25 minutes North Longitude (Scott, 1995).

b) Methods

Data for the conduction of present research was collected through documentary research and field research. By referring to the documents available in the organizations, official reports, researches, academic papers and books, the relevant literature of the research was reviewed and the required information was collected with respect to the purpose of the study. The field data were collected using maps, interviews, questionnaires and field survey. Nominal scale, Likert scale and Gutman scale were all used for the compilation of questionnaires. Data analyzed based on qualitative and quantitative methods. The qualitative method was used for the contextual analysis of open-ended questions; therefore, the responses were categorized manually and the frequency of each category (f_i) was counted afterward. The percent of each category frequency (P_i) to the sum of categories (N) was calculated accordingly:

$$N = \sum_{i=1}^k f_i, P_i = \frac{f_i \times 100}{N}$$

Quantitative method was used for the analysis of close-ended questions; as a result, a single code would be allocated to each of the questions and then, each set of questions would be assigned a code. Subsequently, the assigned codes would be given to the SPSS 2000 so that the necessary calculations could be carried on.

RESULTS

Population change in the peripheral villages of Anzali wetland

There are 52 small and large villages within the observed boundaries of the present research all included and studied. According to the 2007 statistics of the Management and Planning Organization of the Guilan Province, the total number of households living in the peripheries of Anzali wetland in 1997 and 2007 has been 11015 and 12119 respectively. The changes of population growth rate over the 10-year period of 1997 to 2007 in the rural communities of Anzali wetland region is shown in Fig. 1.

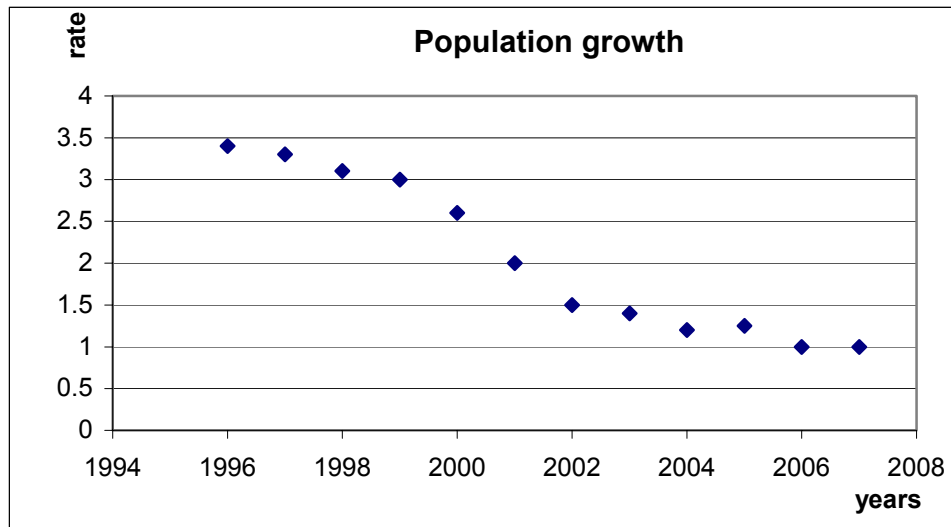


Fig. 1. Population growth rate in the rural communities of Anzali Wetland region

Fig. 1 shows that the course of population growth rate in the peripheral villages of Anzali Wetland has decreased with time. The total population of studied region was 42775 and the household dimension value stood at 3.33 that indicated a decrease in

both the population and family dimension value compared with the stats of 1997. The statistical situation of rural communities is shown in Table 1, calculated on the basis of population size and the type of habitations. (Guilan Statistical Review, 2007)

Table 1: classification of observed villages on the basis of population size
classification of Habitations on the basis of population size

Small township- 2000 to 4999		Large - 1000 to 1999		Medium - 500 to 999		Small - 250 to 499		Very small - less than 250	
Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
13.46	7	17.30	9	23.08	12	23.08	12	23.08	12
$\sum P_i$	P_5	No.	P_4	No.	P_3	No.	P_2	No.	P_1
%100	41.10	17584	26.87	11494	18.68	7994	9.48	4056	3.08

The observed villages have been ranked on the basis of population, and the results indicate that 16 villages (%31) should be classified as large villages and townships, 12 villages should be considered medium villages and 24 villages should be categorized as small and very small villages. The ranking of rural habitations is shown in the Fig. 2 accordingly. The population density of the studied region (with an area of 45.210 km²) was 95 people per km² in 2007. According to the 2007 information,

51% of the observed population was male, 49% was female and a total of 73% was literate. According to the field studies, 96% of the habitants in the wetland region's peripheral villages speak local Guilaki dialect and 4% use other dialects.

According to this investigation, 27 villages with concentrated type (52%), 23 villages with intermediate type (44%) and 2 villages with scattered type (4%) have been

identified. The predominant form of the villages is nuclear, linear and radial.

The touristic importance of the region

According to the results of the present study and the documented information of the Guilan Meteorology Office, tourists prefer to travel to the region in early summer due to the suitability of the ecological conditions of the its peripheral rural communities in this season. The abundance of visitors usually reaches to its highest point in July and August. The main reasons behind the selection of July and August by the visitors include the suitability and healthiness of the weather, agreeability of the temperature, length of the sunny hours, properness of the water temperature, low relative humidity, beautiful plant coverage and the attraction of migratory birds around the peripheral Villages. The effective variables which contribute to the selection of a certain season by visitors are shown in Table 2. The results of this Table are elicited from the responses given by the tourists who have taken a visit of the region and filled out the questionnaires. According to this Table, July, August and September (scoring 11, 10 and 8 respectively) are ecologically the most appropriate months for traveling to Anzali wetland and surfing its natural landscapes. The ecological ranking of the seasons allots the scores of 29, 14, 8 and 4 to summer; spring, autumn and winter respectively. The importance of different seasons of the year from the point view of visitors is shown in Fig. 3. In the cold days of winter and in spite of the lengthy days of precipitation and cloudiness, the arrival of migratory

birds and even some rare species of the fowls, particularly in the protected areas of the wetland, creates some attractive sceneries of the wildlife for the visitors who choose the wintry weather to take a visit of the observed region. One of the fascinating masterpieces found in the environment of Anzali wetland is the potential and actual availability of the raw materials needed for the creation and production of artistic handicrafts and industrial goods. Handicrafts which are usually made by using the materials available at the peripheries of the wetland are not only important from the point view of their financial and economic profitability for the inhabitants and their livelihood, but also from that of attracted international and domestic visitors.

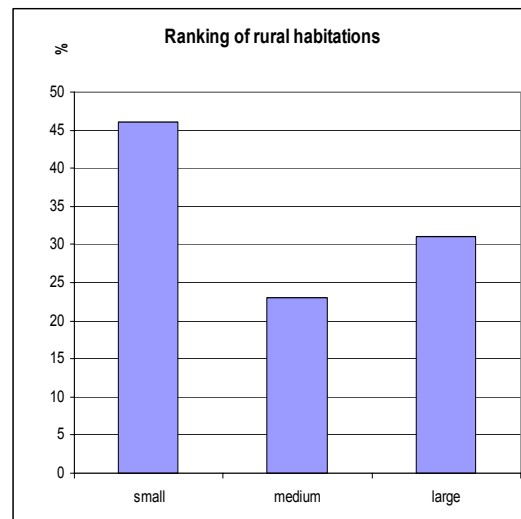


Fig. 2. Ranking of rural habitations of the Anzali Wetland region.

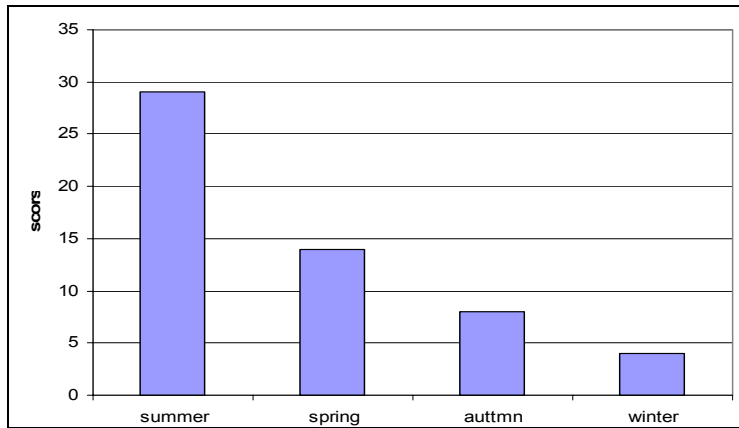


Fig. 3. Importance of different seasons of year in the view of visitors.

Table 2: Specification of best months for traveling to the Anzali Wetland

Effective factors in the selection of district to visit.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Proper range of temperature (15-25°C).					*	*	*	*	*	*		
Days with precipitation more than 1,5,10 mm.						*	*	*				
Precipitation less than 100 mm.				*	*	*	*					
Maximum daily precipitation of less than 100 mm.		*	*	*	*							
The number of days with little precipitation.						*	*	*				
Low humidity below 80%.						*	*	*				
More than 200 sunny hours in a month.						*	*	*				
Most days with clear sky.						*	*	*				
Least days with the field of vision less than 2 km.						*	*	*				
Low wind speed.			*	*	*	*	*	*	*			
Biochemical rest regions of Becker.				*	*	*	*		*	*	*	
Pleasant regions distant from humid weather.	*	*	*	*	*	*	*			*	*	*
Total score.	1	2	3	5	6	11	10	8	3	3	2	1

Conclusion and discussion

Wetlands are among the most beautiful, fragile and sensitive natural ecosystems in the world. The "wise use" of wetlands is emphasized in the Ramsar Convention conceptually and the pragmatic support of this notion has been actualized by the establishment of "International Workshop on Wise Use of Wetlands" in 1988 (Davis, 1994). The population changes in the peripheral villages of Anzali wetland indicate that the variation of population growth rate in this region has undergone a decline throughout the period between 1997 and 2007. Factors such as the population control policies set forth based on the economic development agenda of the government and the expansion of infrastructural services in the rural communities such as health centers have contributed to the occurrence of such a situation. If the population control policies or the expansion of infrastructural services are pursued more intensively, the positive effects on the environment would be evident. According to Fig. 1, if the population growth rate of the region remains on the value of 1-1.2%, the population of peripheral rural communities would increase and this will impose more extreme pressures to the environment, given the current shortages and deficiencies. Bahraini and Khorasani (2003) have reached to a similar conclusion. Several regional and international economic and social values can be enumerated for Anzali wetland. This wetland has been playing a significant role in the economic and residential transformation of its peripheral inhabitants since long ago. The inhabitants of wetland peripheries have chosen this region for residence in a conscious and deliberate way. Livelihood-related considerations and the premier importance of Anzali wetland in the reproduction of osteichthyes and its role as a suitable habitat for the hibernation of migratory birds and the growth of hunting and fishing industries in the region are of major importance. Another economic and social importance of the wetland is its contribution to the impediment of inundations and its role as a natural

laboratory for the conduction of scientific, academic and cultural studies. Different kinds of agricultural and horticultural activities which share an organic relation with the wetland and are being practiced in the peripheries of the wetland can be exploited wisely so as to boost the improvement of inhabitants' economic, social and environmental life. Rezaei (2003) concluded that the style of participatory management is the most effective way to preserve and revitalize the Anzali wetland. Anzali wetland and its peripheral rural communities benefit from a variety of touristic potentialities and capabilities. Aside from the city of Anzali and its wetland in which a number of unique touristic features can be found, the peripheral villages of Anzali wetland are also suitable for tourism and nature-surfing due to their formational, physical, ecological and climatic features. There are several rivers in the basin and peripheries of the wetland. Similar to the other natural phenomena, rivers are important because of their ecological features, their contribution to the supplementation of wetland water, their farming and agricultural significance, their natural perspectives and their effect on tourism industry in the region. The appropriateness of ecological conditions in the peripheral rural communities of Anzali wetland causes the majority of visitors to choose the early summer for traveling to the region. The abundance of visitors usually reaches its highest point in July and August. The main reasons behind the selection of July and August by the visitors include the suitability and healthiness of the weather, agreeability of the temperature, length of the sunny hours, properness of the water temperature, low relative humidity, beautiful plant coverage and the attraction of migratory birds around the peripheral villages.

According to Table 2, July, August and September (scoring 11, 10 and 8 respectively) are ecologically the most appropriate months for traveling to Anzali wetland and surfing its natural landscapes. Scoring 29, summer has achieved the highest rank of tourism among the other

seasons. The ratio of summer tourism rank to spring, autumn and winter, shown with φ_1 , φ_2 and φ_3 respectively, would be

$$\varphi_1 = \frac{29}{14} = 2.07, \quad \varphi_2 = \frac{29}{8} = 3.63,$$

$$\varphi_3 = \frac{29}{4} = 7.25.$$

Regular access to the roadways, marine paths and the essential infrastructural services are now available in the peripheral rural communities of Anzali wetland. Therefore, in order to attract more tourists and utilize the regional potentialities in an effective manner, technically dependable, environmentally, socially, touristically and financially sustainable planning with the integrated participation and education of the inhabitants would be necessary.

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