ANALYZING THE EFFECTS OF URMIEH ECO-SYSTEM LAKE ON TOURISM IN IRAN (WITH EMPHASIS ON ECO-TOURISM)

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Abstract- Tourism industry has become one of the most important and effective industry due to the economic, social, cultural, political and environmental dimensions. Therefore countries with extensive tourism and ecotourism attractions can expand their performances in local and international affairs by short, medium and long-term planning. According to the statistics published by World Tourism Organization, Iran is considered as one of the world top ten countries both for the cultural / historical tourism and the ecotourism. Iran owns the ability to attract tourists because of the geographical conditions, special culture, historical aspects and also the appropriate weather and necessary natural potentials. This study analyzed the effects of Urmieh eco-system on tourism as one of the important potential in tourism industry of Iran. The needed information collected by library, descriptive and analytic forms. The purpose of this study is to promote the environmental eco-system of Urmieh Lake for the protection and stability of the tourism attraction and reduce the social and economical risks caused by drying the largest inland lake in Iran plateau.

Keywords- Urmieh Lake, Tourism, Eco-tourism, Iran.

I. INTRODUCTION

According to the importance of the tourism industry, in addition to the cultural, social and political effects, the environmental factors are very principal in promotion and attraction of tourism. Climate changes can affect the choice of destination of tourists. Urmieh Lake as one of the rare and uncommon global phenomenon has various potential to provide successful model for sustainable tourism. This paper is studied the effects of aqua ecosystem changes of the Urmieh Lake on the potentials of tourism in cities around the Lake and the ecotourism area. By understanding these capabilities and limitations, the tourism planning takes better processing and therefore causes to promotion of tourism and economic aspects directly or indirectly in Iran. The purpose of this study is the impact of the drying Lake as trance-regional attractions on the Iran's tourism industry and surrounding areas.

Eco-system, as a stable system, is homogeneous in terms of botanical, geology and zoology and contains natural resources for survival and life cycle. Urmieh Lake is the largest aqua eco-system and inland lake of Iran and furthermore, the second largest saltwater lake of the world. The situation of the Urmieh Lake exceeded from critical border. Insofar as we are waiting for the drought of this lake every day. The process of the drying of Urmieh Lake was beginning from the years of 1995 & 1996 , but because of the inappropriate management and administrative performances, the condition of this Lake has become more critical and the crises are more and more. In addition to the disturbances of the eco-system and climate of the area due to the destroying of the lake, the tourism attraction has effected and complicated. In the recent years, the volume of the Lake decreased 40% and 12 billion cubic meters is needed to reach to the standard ecologic volume. In fact, Urmieh Lake needs to double volume of water compared with the current situation in order to get the previous normal condition. According to these estimates the Urmieh Lake has regressed about 3000 Sq.km and in fact these parts of the lake have turned to dry and salty. Right now, approximately about 2000 Sq,km (25% of the lake) of the south part of the lake 's crises remain . In other words, this lake is not as a lake.
Reduced raining, increasing temperatures, the evaporation of surface water, non-ecological and disharmonic model, non-domestic management, human factors, Shahid Kalantary highway, inappropriate construction of dams, environmental right of water, water rivers, the springs feeding the lake, unauthorized exploitation of underground water resources and uncontrolled development of land under cultivation are considered as the most important factors of drying up the lake.

The destruction of the beautiful landscape of the lake and the impact of the salt marsh on weather, prevent the tourists to visit the world's second largest saline lake. This occurrence well reveals the connection between the environmental protection and tourism. Currently, 27 species of mammals, 212 bird species, 41 species of reptiles, 7 species of amphibians and 26 species of fish, make the wildlife of this lake. Certainly, this diversity, has a huge capacity to absorb all kinds of tourists , including bird watching ,nature tourism and ecotourism. The potential without any energy driving for the development of this country , is drying up and sterilized. The pond and lake tourism as one of the important branch of ecotourism, have many applicants in different countries. Some of the recent studies show that annually, eco-systems create at least 33 trillion dollar value of services,

which 4.9 trillion of it funded by ponds [1].Figure 1 shows the Lake position in 11, Oct,2015.

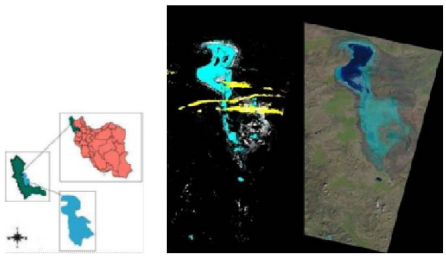


Figure 1, Land sat from Lake (11, Oct,2015)

In the left photo (1), the blue parts point to the low-water or wet and the black parts point to dry areas or the areas with water with greater depth. The height of the water level is 1231.11 meters above the sea level.

1.1.Previous Studies

Abou Eshagh Ebrahim Estakhry and Abolghasem Mohammad Ebn Hoghal Baghdadi, geographers of the early Islamic period and French Chardin described some explanations of Urmieh Lake in their books. About 110 years ago, the systematic review of the lake and biology of the Urmieh Lake performed and published by a biologist, R.T.Gunther , and the Geological Survey performed by the Geological Survey of Iran. Due to the decrease in the water level of the lake in recent years, treatment studies have been done by the related organs. some researchers have performed and published by the professors and researches about the impact of the lake on the tourism. Manizheh Jafary (2008)in her master's thesis studied the effect of atmospheric elements on the situation of the tourism in the Lake and Tahereh Jalali Ansoroody (2009) discussed about the zoning of regional tourist of the East Azerbaijan Province. Sayad Asghary , Tahereh Jalali Ansoroody and Batoul Zeinaly in their article in 2011have analyzed the situation of changing of the tourism condition of the area of Lake's around and raised the subject of the moving tourism priorities to the most southern part of the urban lake. Mehdy Saghaie and Abdollah Abdollahi also in their article with title tourism and attractions of the Urmieh Lake emphasized the necessity of the infrastructure and sustainable development of the tourist spices according to available capacity based on the society and interests of the residents. Seyed Ebrahim Gholizadeh and Hosein Aghakhani in an article in 2015 proposed the development of health tourism lake. Research studies on the Lake by Dr. Naser Aq (2015) has discussed about the lake geomorphologic changes and the adverse effects on restoration of the Lake and fluctuations in the level and salinity. Based on the results of this study all opportunities for integrated revival of the lake is not possible.

1.2. Tourism Concepts and its Models

Tourism in general is considered as a leisure travel. However, in recent years, it is including any travel that a person leave from his work or life because of it. Some sources mentioned that tourists are persons, their trip are less than 21 hours and not more than 1 year. A great number of tourists are interested in the climate, culture and nature of their destination more than anything else.. And these elements, along with other factors and intentions of people, developed the different models of tourism. According to the definition of the World Tourism Organization, Tourism includes activities that a person performs somewhere outside of his/her usual environment. This travel/ journey is more than 21 hours and less than one consecutive year, apart from trade and business goals(WTO , 1997).

Tourism is one of the most important economic activity and one of the world's major industries. Today, tourism is considered as a most important sources of income for a large number of countries (Servati & Kazazy, 2006). And it is also important as one of the important issue in displaying of the potential of a region and attracting foreign investment in the world (Ahrary, 2008).Economists, with regard to the importance of tourism in the economic cycle, believe that this industry in the 21st century will become "The largest employer," in the world. In general, because of the tourism development, due to its positive effects and significant economical, social, cultural, political and security elements and because of the numerous benefits that tourists and host regions enjoyed, it is undeniable important and can protect the strategic resources of the countries.

In Iran, in recent years significant steps have been taken to develop and promote the tourism industry, so that the number of incoming tourists are increasing in Iran. Due to the attractions and potential of this land, without a doubt, in the future, Iran will be raised as one of the main tourism destinations in the world. Having a Four Seasons, located on the Silk Road, many natural attractions and historical monuments along with young human resources and educated, creative and active people could be useful in the future of this industry, job creation and the development of the country .In order to achieve non-oil revenues , promoting and strengthening of friendly relations with other countries, Iran insists to promote the tourism sector.

Without a doubt, Iran, from the perspective of UNESCO is known as the world's top 3 countries and has certain special conditions for tourism development and to better interpret it is the extract of the world. But did not receive its share of this industry up to now. Failure to proper and sustainable use of ancient attractions, historical and natural ecosystems and neglect to protect them, put the future of tourism and its development at risk and perhaps destroys the investment and created infrastructure. The number of incoming tourists around the world in the year 2011, were 983 million people, the largest share of Europe with %51/3 and Asia Pacific market

share of 22.1 percent and America's share of 11.4 percent. (UNWTO.2012)

1.3. Ecotourism in Iran

Nature-based tourism is travel for pleasure of natural and intact places and also near observation of the wildlife of the plants and animals. But in the other hand, eco-tourism is a normal travelling with a mild consequences in line with the stability of species and natural habitats, performs both directly, i.e. through participation in conservation activities and also through generating income for local communities and thus motivates them to protect the natural heritage [2]. Sustainable use of natural resources and tourism development in the cultural and Social capacity is of particular importance that considers the access to the benefits of tourism.[3] Ecotourism Society(TIES) expressed that at the end of 2011 , 50% of tourists belonged to the eco-tourism sector [1]. Eco-tourism could be included of nature researchers, academics, athletes, person who are interested in natural environment and adventurers with special leisure and accidental purpose. According to the forecasts by the World Tourism Organization (W.T.O), in the first decades of the twenty-first century, the growth will be 20 to 30%.

II. MATERIALS AND METHODS

2. 1. Geographical situation and characteristics of the study area

The tectonic Lake Urmieh with an area of over 5000 square kilometers (35150 km), is one of the large, shallow lake in the world, which the water is hyper saline[4]. This lake in the western part of the plateau of Iran, between latitudes of 73 ° and 4 minutes to 73 degrees and 13 minutes north and longitude of 45 degree and 6 minutes to 45 degree and 54 minutes east and its height from the sea level is about 1231 meters. The temperature varies in the area between 0 and 20 degrees below zero to 40 degrees above zero in the winter and in the summer and the average annual rainfall is between 200 to 300 mm [4]. This lake looks almost as a rectangular hole which is from north to south and has divided the Azerbaijan in two parts, East and West Figure 2 shows the geographical location of the lake.

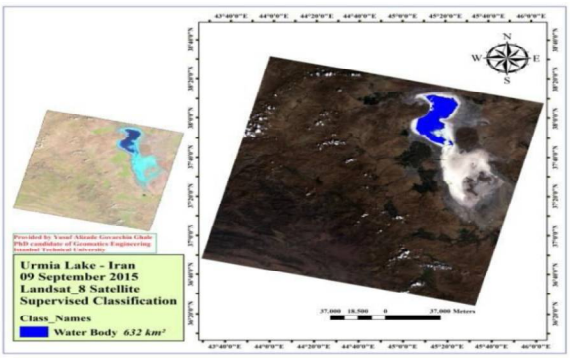


Figure 2: geographical location of the lake

Length of the lake is about 135 to 150 km and its width is from 15 to 50 km, the depth of the lake in the northern part is between 5 and 6 meters in the south and in the southwest from 4 to 16 meters. The Lake contains 220 to 280 grams of various salts per liter in solution form, is one of the most hyper saline lakes. The amount of salt in the time of dehydration is about 280 grams per liter and in the over hydration is 160 gram per liter [5].The lake's basin is about51, 876 kilometers. This basin is watered and drainaged by permanent and seasonal rivers. Zarineh and Ajay Tea are the main entrances to the lake. This area with a desert plain like Tabriz, Urmieh and ... is one of the main centers in agriculture and animal husbandry in Iran. Studies conducted in 2000 shows that the drought cycle that began in the late of 1995 and has continued up to now, had a great impact on the concentration of the above elements. the Lake level before this crisis was about 1277,69 and the current level is 1270,50 [5].The lake is geologically between two active fault systems of Tabriz in the north and Zarrineh in the south. From the viewpoint of plate tectonics, the lake, has the form of Geosynclinals and can be considered a tectonic lake which is surrounded by high mountains. This young lake is related to Peliyo-Quarternary period. About 35 to40 meters of soft sediment of a lake which are on hard rock lower Cretaceous limestone marl and Miocene (Qom formation), has the characteristics of lithology, determine the age of Lake about 30 to 40 thousand years. But according to the Lake terraces, the age of Lake estimates about 400 to 500 thousand years. This lake contains 102 islands and rock islands, all of them except the Islamic island are non-residential. Ghoyon Daghi (Kaboudan) is the largest of these islands . This Lake contains various ports because of being navigable, the most important ports are Sharafkhaneh and Gholmakhaneh, working in the field of passenger and freight transportation and warehousing activities.

The water of the Urmieh Lake is very salty and the salt solution is twice the oceans. For this reason, no fish except species of crustaceans (shrimps), diatoms and phytoplankton do not live in this lake and the water does not freeze. And the swimmers can float on water. 27 species of mammals, 212 species of birds, 41 species of reptiles, 7 species of amphibians and 26 species of fish and wildlife have formed the basin of the lake.

After Anzali Lagoon, Urmieh Lake National Park is considered as the most interesting and fascinating natural wildlife habitat and with an area of 462600 hectares is one of the 9 biosphere in Iran. Island of Tears, a small beautiful bird habitat, including fire chickens and common shelduck and stopping place for migratory birds, such as flamingos and pelicans,.....,which some Persian fallow deer and wild sheep (sheep) have also been moved there.

2.2. The Risks of drying Lake

Climate and weather are key factors in determining the destination of incoming tourists and by the dramatic climate changes, the demands of tourism are changed. The studies of experts have shown that the severe drought and climate changes affected the Middle East and North Africa and a large part of this area will be faced with drought and water scarcity. Although 10 years of the warmest years of the world have occurred only from 2000 up to know, but scientists have predicted global warming will continue. By passing each year the concerns about the damaging consequences of climate change and global warming and the destruction of aquatic ecosystems increases over the previous year. According to the assessment of scientists (IPCC Intergovernmental Panel on Climate Change of the United Nations),it is anticipated that the Middle East and the North Africa region are now becoming drier and hotter than ever. Rising temperatures and lack of rainfall and subsequent drought in the region has intensified and it is estimated that up to 2050, the number of 80 to 100 million people will be exposed to sever stress, because of water scarcity and groundwater resources will be confronted with a significant decrease. Moreover, creating a heat island in the region, due to the lack of water, hot winds and dropping air quality will impact on the public health and social welfare and living conditions for the residents of these areas will be difficult.

Experts have expressed that in the case of drying lake, the moderate weather has turned to tropical one with salty winds and the regional environment will change. In addition to salt, many contaminants including toxic heavy metals used in industry and toxic substances used in agriculture as wastewater penetrates to surface and subsurface of lake and in the case of the drying of Lake, many toxic substances will become aerobic and will bring the risks of respiratory diseases for ecosystems and people in the region. Due to the reduce of water level of the lake and salt because of recession, all land, farms and residential areas adjacent to the lake, even within a radius of 500 km are threatening and in the case of wind, the salt in the salt lands moves to villages, towns and forested areas of the Northern region and impacts on the climate, the economy, public health and will increase migration of people to other cities. Figure 3 shows the storm of salt in the lake.



Figure 3: storm of salt in the lake

III. RESULTS AND DISCUSSION

Tourism capabilities of Urmieh Lake can be studied by the issues mentioned above. The most factors which can be considered by tourism and eco-tourism are such as geomorphology, landscape, vegetation and wildlife of the Lake. The Lake contains 102 islands and stone rocks , because of enjoyment of numerous valleys and water springs, diversity of plants and animal life and morphology , have created unique and beautiful landscape and scenery , which every year attracts nature enthusiasts to this region. Ghoyoon Daghy(Kaboodan), Ashk Daghy, Spear, Arezo(Mash Osman), Shahi(Eslami) with an area of 72,211 hectares are the most popular of these islands, and Kaboodan is the largest and only island with the fresh water during the year. The important issue of plants covering of islands, which the wildlife of National Park depends on them contains: softwoods (juniper), trees, deciduous broadleaf, herbaceous and wood species. The wildlife includes a variety of mammals, birds and reptiles, without a doubt the birds are the most important and most valuable signs of life in this area. The Lake with a large area, numerous island, Shallow and peaceful beaches, is one of the most important habitats for migratory birds such as flamingos, white storks, geese and ducks. And in terms of diversity and beauty is unmatched in Asia. The beautiful beaches of the Lake with fine weather, the sea breeze, sunshine and extensive water with blue and purple colors, created a combination of natural and stunning and specific sludge beach , is as a heal for the pain of rheumatic patients. The island "Osman fist", which from a long distance is similar to a closed fist , is one of the beautiful landscapes of the Lake. Figure 4 shows the island.

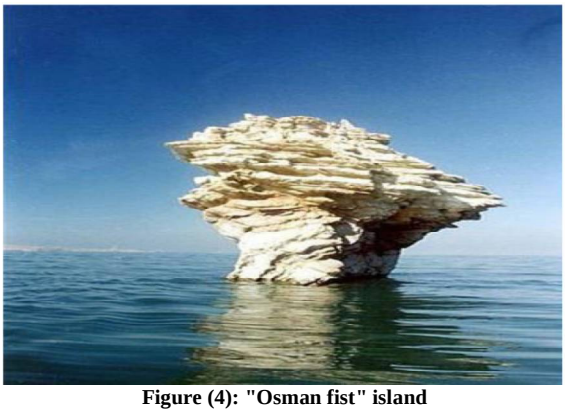


Figure (4): "Osman fist" island

According to the capabilities and various attractions of the Lake tourism, we can recognize the bed absorption of the tourist species , specially, based on nature and eco-tourism and the other kinds, such as rural tourism, marine tourism(With the connivance of some parameters), concerning to the extensive beaches and by capabilities of recreational activities like boating, swimming, etc..., in summer and health tourism and sludge treatment by mineral water, and

implement a strategic plan. Realization and benefit of all the advantages and evolution and creation of life cycle of tourism and its stability in this region in Iran is depended to the life and survival of the Urmieh Lake and durability of some protection activities of it. Outlining development strategies for achieving the goals of the tourism industry, with emphasis on the lake, regardless of all its aspects, special supply and demand and physical infrastructure needed, is nothing but destruction. The maintenance of capabilities and jobs and continuing the marketing of tourism, requires the quality protection of environment in relation to the human environment and nature with an emphasis on sustainable development guidelines.

CONCLUSION

Urmieh Lake by very high environmental performances, is able to be one of the important centers of domestic and international tourism in current time and will remain in the future. What is the most considerable in Lake Tourism with regard to the kinds of tourism, is to developing the eco-tourism which is able to attract the internal ecotourists and international tourists with business goal and increase foreign exchange and employment level. Preservation of natural and socio-cultural conditions of the lake and sustainable development of its community-based tourism on a smaller scale, and any investment in order to create installations and tourist facilities and new physical infrastructures such as marine parks, hotels and service units, mud bath centers, and activities for organizing tourists and tourism spaces requires to maintain the lake's ecosystem and reduce environmental loads imposed on the lake; oversight of this important issue endangers the life of people who live in the cities around the lake because of salt storms, destructs the environment in such cities, causes serious social, cultural and economic irreparable challenges and also is a serious threat for the forests in northern provinces such as Gilan and Mazandaran. The only way out of the challenges ahead is making correct decisions and preparing full scale and implementation plans. Government support, private sector participation and contribution of the inhabitants of the areas around the lake and adjacent provinces is necessary for such plans. The role of government in policy making and funding will be effective and significant for maintaining the ecosystem of the lake, changing its use in order to reduce adverse economic, social and environmental effects, and maintaining tourism flows specially ecotourism.

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