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Investigating the Role of Tourism in the Conservation and Sustainable Development of the Environment: A Geographic Approach

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Abstract. Tourism is always embracing economy, social and environmental impacts. For this reason, the policy of sustainable development of tourism is necessary. The general approach is that governments have paid attention to tourism ecologically in the long run. This is approved and financially self-sufficient, and from the perspective of social and moral for local communities is beneficial and promising. The aim of this study is to evaluate the effects of wetland ecosystem conservation and environmental sustainability of tourism in rural areas. The purpose of applied research and in terms of data collection is descriptive and analytical. The study population consists of 3 villages' khawmirabad rural district, Sarkol Zarivar which in the whole 93 villages of this area, a number of villages was selected. Sample households of the village and randomly classified and 12 villages were selected. Cochran formula used to determine the sample size and questionnaire to 330 randomly selected villages were selected among heads of households. The validity of the test Cronbach's alpha was 0.77 percent. For statistical analysis of data from one sample -t- test, chi-square test and ANOVA test in spss software is used. The results show that tourism in economic and socio-cultural aspects have a positive impact on the conservation and sustainable development of the environment.

Keywords: geographic approach, conservation, sustainable development of the environment, tourism.

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1. Introduction

In the present era of tourism and tourism economy is becoming one of the fastest growth industries in the world, a tool for the creation of national income and the main pillars of the global economy and also of concepts, forms of development considered (Rattanasuwongchai, 1998: 2). Natural tourism activity is a complex with other sectors of society and the economy, in common, has the effects and consequences of different which should be in the process of planning all its aspects considered the take up of negative factors and threat prevention and the effects of economic, social and environmental aspects related to the increase (Reinholde, 2000). Tourism and environment are mutually dependent. Thus, development and management of tourism so that the environment is a key factor in achieving sustainable development is taken into account

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(World Tourism Organization, 1379, 73). Tourists need to be part of the natural environment and cultural and human, to the balance between them to maintain (Husain and Altinay, 2005: 274) because the vast majority of recreational activities directly on natural resources in the destination depends (Leich and Dolnicar, 2008: 672). Negative environmental impact of tourism, including air pollution, soil pollution, water pollution, traffic congestion problems, poured spraying waste, damage to historical buildings, destruction of natural herbs, destruction of wildlife, etc. These are (Altinay and Husain, 2005: 277).

Wetlands are beautiful sights if the tourism industry to develop properly planned and managed, can be a creator or drive the development process to achieve sustainable development in their local communities and aquatic ecosystems and wetlands. Wetlands of inertia relative water have been developed, among many ecosystems production in the world, comparable to rain forests and coral reefs, which includes a variety of species of microorganisms, plants, insects, amphibians, reptiles, birds, fish and mammals (Danielle, 2006: 1). The regeneration of this natural ecosystems and restoring natural materials and rustic design of the most important research areas and many of the country's executive (Kirby, 2004). The aim of this study was to evaluate the effects of wetland ecosystem conservation and environmental sustainability of tourism in rural areas surrounding the Zarivar is located in the city of Marivan.

2. Theoretical Framework

2.1. Tourism

Today, tourism development and tourism, socio-cultural and environmental and economic impact on tourist areas creates (Zarabi, 2011: 39). Tourism as an important form of human activities has an important impact. The effects in the region where tourism destination with the local environment, economy, culture and society interact is very evident. Also in this context that a large part of the activities of tourism planning is done on the effects of tourism (Mason, 2003: 10). The effects of tourism development, the complex process of change and exchange between tourists and destination host settlements are included (Yoon, 2002: 14).

If tourism can improve the quality of life for residents with the support and acceptance of faces, but if the quality of life of residents through development of tourism more than just the fall, residents little support from the industry are not doing (Muzzo, 2013). Tourism as an important form of human activities has an important impact. The effects in the region where tourism destination with the local environment, economy, culture and society interact is very evident (Lyon, et al, 2017: 237). Also in this context that a large part of the activities of tourism planning is done on the effects of tourism (Mason, 2003: 10 ; Mohd Hafiz Hanafiah, et al ,2017 :408). The effects of tourism development, the complex process of change and exchange between tourists and destination hosts include Settlements ways (Yoon, 2002: 14 ; Mihalic, 2016: 464). The environmental dimension of tourism, one of the favorite areas of geographers is the reason for this lies in the nature of geography with a robust approach in the field of human relations and the environment (Murphy and Mitchell, 1991: 57). Analysis of tourism on the environment and resources, an area in which natural and



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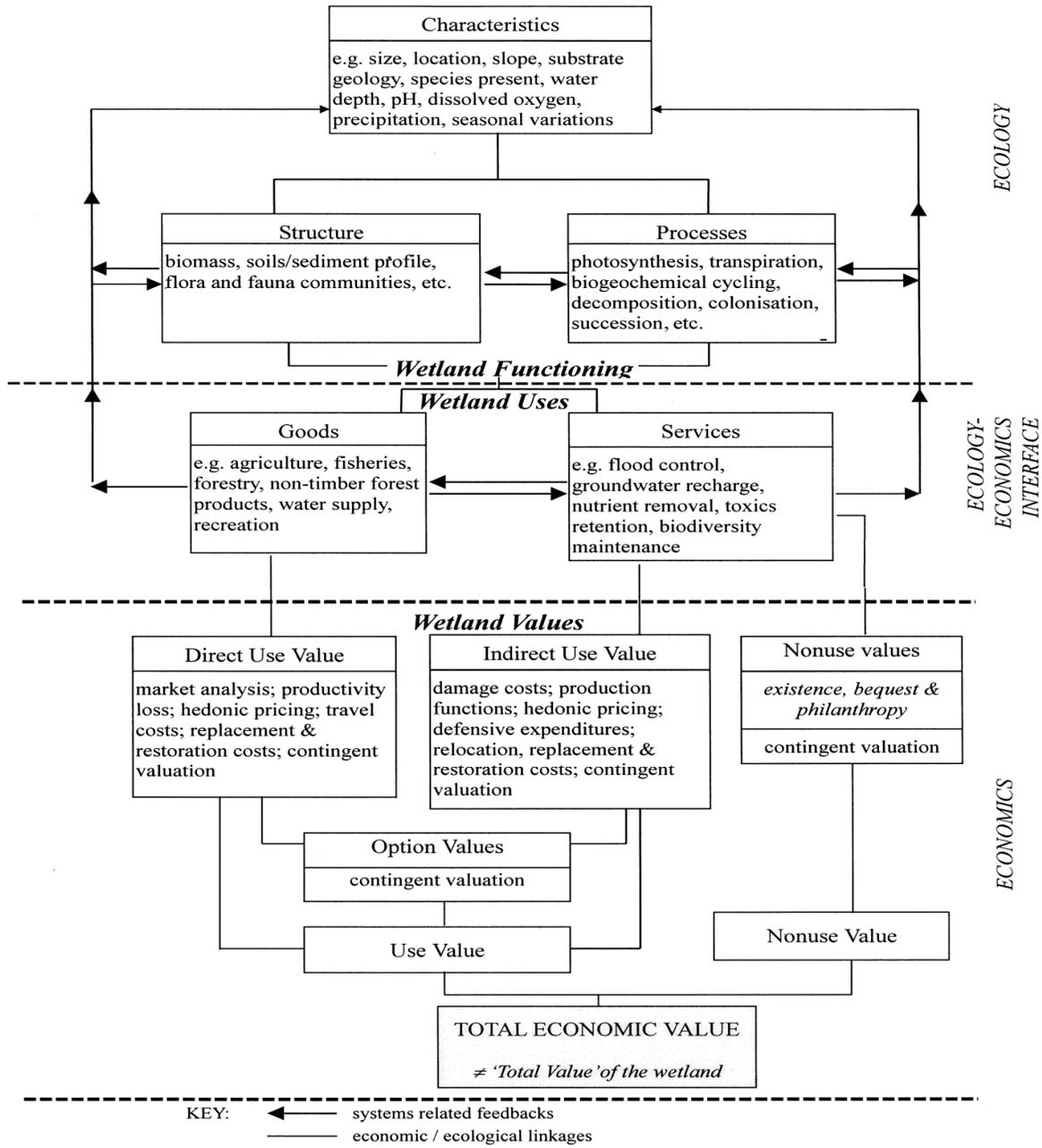
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human geographers study problems related to tourism, are the sharing. However, because of the importance of tourism to the natural environment for activities (Page and Hall, 2002: 1).

2.2. Wetland ecosystems

Lagoon refers to a place where water is the main factor for the environment, plants and animals, so all areas, river, lake, littoral, mangrove forest, Hatcheries, channels, etc. the maximum water depth of more than 3 meters during low tide are not applicable (Convection bureau, 2000). The need for environmental protection and utilization of natural resources, including sustainable development is necessity. Park managers, protected areas and wetlands are faced with the many decisions that need with detailed information of the status quo and causes it to adopt appropriate decision. Cover and dynamic monitoring of land use and landscape in protected areas and wetlands to understand how they Nagy effect on nature, the process of reconstruction and rehabilitation and to protect them in the long term is very important. Assessment of resource and ecological condition of these areas, managers need to make decisions helps (Jones, et al., 2009; Wang, et al: 2009).

Wetlands are among the most important ecosystems on Earth. Safe areas for wildlife in these areas are, however, several are threatened. Wetlands through water are biologically the most diverse ecosystems of the Earth. They have spread across the world and plays an important role in the water cycle, control the regional floods, prevent erosion, water treatment and recirculation of nutrients are caused. They also are transitional zones between land and water environments and as resources become attractive and chemicals, biotechnology and genetics have great value (Mitsch and Gosselink, 1993). Negative human activities greatly affect the wetland ecosystem (Mitsch and Gosselink, 2000; Kent, 2001). Human impacts on wetlands can include physical changes, such as deposition and changes in water flow can also including general biological changes such as loss of biodiversity, the introduction of invasive species and changes in the structure of society (Richardson, 1997; Johnston et al., 2001; Freeland and Richardson, 1997). Wetland habitats are often the first to get the direct impact of physical, biological and chemical activity are common (Holland et al., 1995; Finlayson and Rea, 1999). The major changes by humans to prevent the creation of a healthy habitat for a wide variety of organisms can be. The importance and value of wetlands can be in three parts, including the value of wetlands as wildlife habitat and aquatic plants, the value of wetlands as improving the quality of the environment, socio-economic value of wetlands summarized (Turner, et al., 2000).



Source: (Turner, 2000).

Fig. 1. Connections among wetland functions, uses and values.



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Table 1- International studies in the field of research

The writer Or writers	The subject	Result
Hailun, Wu & Dong	Lake Wetland Management System Case Study wetland ecotourism compatibility with Jin Yan	Wetland ecotourism sustainable development must rely on the support of local community residents and community involvement of local communities is an important part of the wetland ecotourism management. It must be said that in addition to evaluating the ecological natural phenomenon, the conditions of local communities in all aspects, including capacity development of eco-tourism, financial strength, attitude and understanding of local communities, can contribute a prerequisite for the successful implementation of ecotourism is.
SONGet al..	The effects on tourism and sustainable development of regional wetland Ning Guy	As a unique wetland ecosystem and enjoyment of rich biodiversity, functioning and values of environmental, economic and social lot. Cultural specificity / cultural heritage and biodiversity of wetland ecosystems has added value. Wetlands having unique natural and cultural landscape, are appropriate for ecotourism development.
Dong	Check the status of the development of tourism and protection of wetland resources in Dongting lake	In summary, managing wetland tourism can realize economic development, tourism, and yet can support wetland ecological conservation.
Lili& PAN	A preliminary study on tourist behavior in a pond	The kinds of wetland ecosystem services, tourism and science education is very important functions, and wetland ecotourism and tourism training both new exploitation of wetland resources are applicable.
¹ Liu &Zili	Case study analyzes the effects of ecotourism on Sustainable Development Lagoon Jin Yan	Lagoon wetland ecotourism is based on natural resources. In fact, ecotourism wetlands, including wetland ecological culture, which is ethical and responsible ecotourism characteristics of wetlands, wetland protection into account and sustainable development of wetlands protection.
Wang	Study the development of tourism and wetland ecosystems	Because of its wetlands rich in biodiversity and cultural diversity, value and function of environmental education tourism is responsible travel to natural environments that protect the environment and the economy helps Aboriginal people. Especially in sensitive and protected areas to reduce the negative environmental effects caused by the operation will be balanced environment.

Source: Findings, 2017.



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3. Methodology

The purpose of this study and in terms of data collection is descriptive and analytical. Data collection in the theoretical part of the documentary and in the field of survey based on interviews and questionnaires were used. The aim of this study was to evaluate the effects of wetland ecosystem conservation and environmental sustainability of tourism in rural areas. The study population consists of villages 3 Khawmirabad rural district; Sarkol and Zarivar which of the 93 villages of this area, a number of villages were selected. Sample households of the village and randomly classified and 12 villages were selected. In field studies, to collect the required data, to prepare a questionnaire and were interviewed between the villages concerned, the most important part of field studies. In field studies, to collect the required data, to prepare a questionnaire and were interviewed between the villages concerned, the most important part of field studies. For this purpose, a questionnaire was designed which included household questionnaire. The questionnaire consisted of closed questions is the question. In designing questions, the Likert scale was used. The validity of the test Cronbach's alpha was 0.77 percent. For statistical analysis of data from one sample t test, chi-square test and ANOVA test in SPSS software is used.

Table 2- Sample villages and distributed questionnaires among them

Rural district	The name of the village	The number of households	Total population	The number of questionnaires
Zarivar	Kanikabod	41	181	7
	Siyanav	196	845	33
	KaniSanan	171	660	28
	Dara tefey	244	924	41
	Ney	656	2560	55
khawmirabad	Savjey	280	1152	44
	Anjiran	111	455	22
	Yangijeh	90	362	17
Sarkol	Balek	139	529	24
	Darziyan	112	451	21
	Sharani	113	472	23
	Marg	89	365	15
Total	12	41	8956	330

Source: Findings, 2017.

3.1. Research Area

Lagoon flows 3 km West Marivan in Kurdistan province and the tourist attractions of the province. Sweet pond water is boiling and is funded from a number of source floor. In winter the lake freezes completely. The wetlands in longitude '8° 46 latitude '32° 35 and the height of 1285 meters above sea level is located. During



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Zariwar Lake about 5 km and a width of about 1.6 km. The extent of wetlands because of changes in the volume of water in different seasons changing and the maximum depth of 5.5 meters.

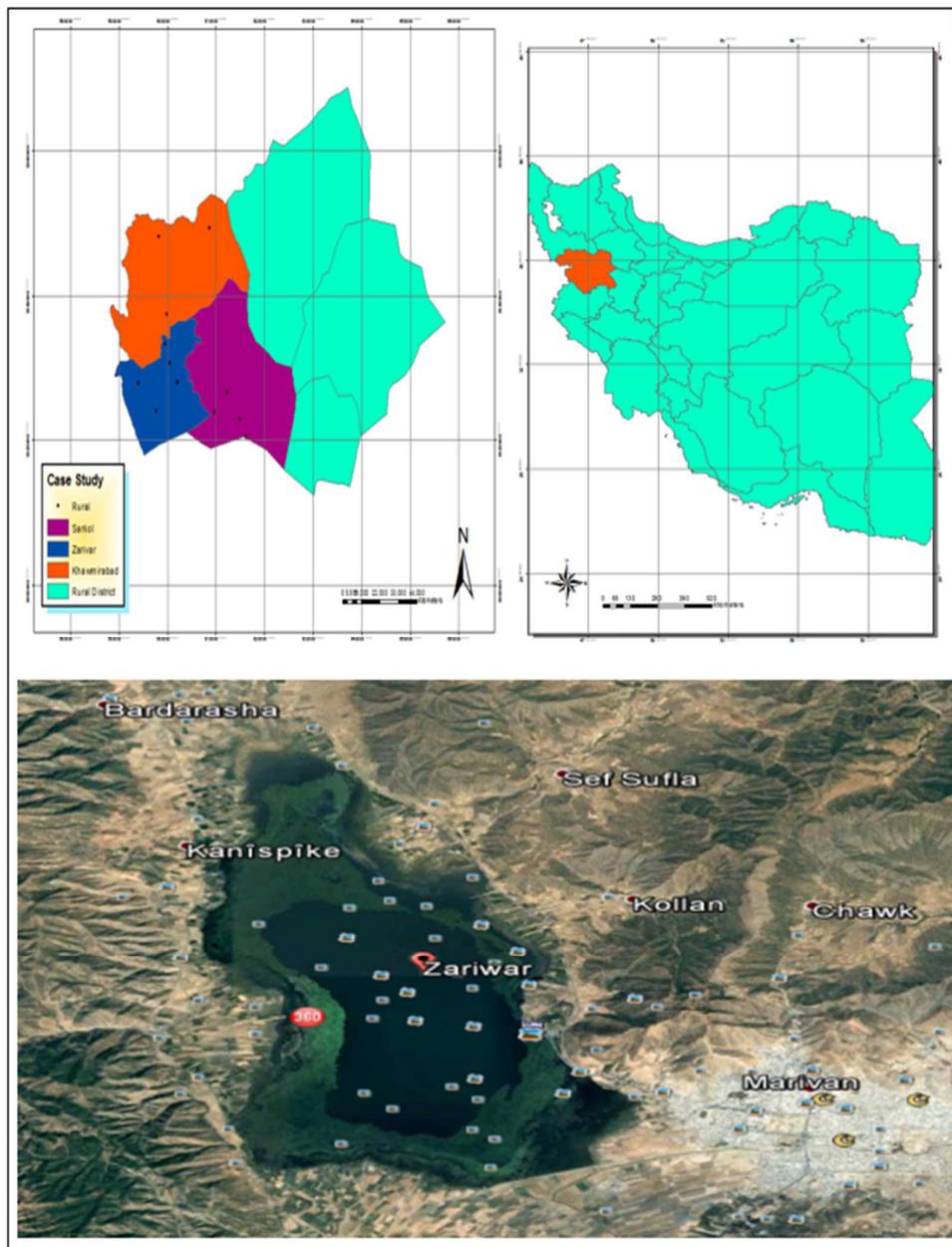


Fig. 2- Location of the study area



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The lagoon's largest and most beautiful fresh water lake west of Iran and one of the most unique freshwater lake in the world and all circumstances considered a wetland of international development. Approximate size pond water is about 30 million cubic meters. Wetland about 22, 5 km and the average rainfall is 786 mm per year. Relative humidity equal to 4/58 percent and average annual evaporation of 1900 mm has been reported (Environmental Protection Agency, 1393). Villages of 200 meters to 3 kilometers lagoon flows have been chosen.

The main activity is agriculture and horticulture villages and in some cases to activity in border markets are. Despite the economic situation and tourist lake in the villages around the wetlands have been affected.

4. Results

4.1. Descriptive Findings

Descriptive results are presented below:

Table 3- The individual characteristics of respondents in rural areas, border areas

Individual characteristics of respondents			
Index	Classification	Frequency	Percent
Age	15 - 25	1338	100
	25-35	0	0
	35-45	33	15.1
	45-55	73	33.5
	55 >	66	30.3
Level of Education	Illiterate	35	16.1
	Primary	11	5.0
	Guidance	4	1.8
	High school	45	20.6
	High school graduate or higher	63	28.9
Main job	Farmer	59	27.1
	Public services	47	21.6
	Government's employee	173	79.4
	Working	20	9.2
	Dehyaran	25	11.5
	Other	81	37.2
Job Satisfaction	Too much	44	20.2
	A lot	12	5.5
	So much for	31	14.2
	Little	49	22.5
	Very little	1338	100

Source: Findings, 2017.



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Check the individual characteristics of the respondents indicate that all respondents were male, 15.1% of respondents aged 25-15 years in terms of age, 33.5% of respondents aged 35-25 years, 30.3% of respondents age 45-35 years, 16.1% of respondents aged 55-45 years and 5.0% in those aged over 55 years have been. In terms of education, 1.8 percent illiterate, 20.6% of subjects at the elementary level, 28.9 percent of people in the middle, 27.1 percent of high school and 21.6 percent of those in upper secondary level have been nearly 80 percent of people have their home at his residence. Job status among respondents, 37.2% of agricultural jobs, 20.2% of public service jobs (shops, taxi driver between rural-urban), 5.5% of government employees, 14.2% of self-employed workers and 22.5% of other work.

Table 4: Dimensions and indicators measured in this study

Dimension	Criteria
Ecological _ environmental	Diversity of flora and fauna, water resources management, management of wastewater agriculture, organic farming, water pollution lake, nature conservation and biodiversity, the pollution of the environment, increase public participation in protecting ecosystems, use of building materials suitable for harvesting allowed water from the wetland and watershed wetlands, lack of wastewater management alternatives, the harm to the animals wetlands) wildlife (land use changes as a result of tourism activities, shortage of farm and garden organ in the villages of the region, consuming large amounts of fertilizer and pesticides Chemicals in food production.
Economic	Transport facilities, access to weekly markets, poor access to employment opportunities in the area, lack of eco-cottage industries in rural areas, rural women's employment, increase the purchasing power of the local community.
Sociocultural	Recognition of the environment, the awareness of people about the connection between the village and the region, people's belief in wetland conservation as cultural heritage, lack of opportunities for public participation in decision-making and programs for the protection of wetlands, Development Education environmental learning, sense of cooperation in tourism development and maintenance of wetland ecosystems.

Source: Findings, 2017.



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Table 5: Evaluation of the effects of wetland ecosystem conservation and environmental sustainability of tourism in rural areas of the respondents

Dimension	Variables	Too much	Much	Somewhat	Little	Very little	Average	Chi-square	Sig
Ecological - environmental	Diversity of flora and fauna	18.70	14.00	12.50	24.00	30.80	2.32	36.555	.000
	water resource management	15.30	19.30	18.10	24.30	23.10	2.21	8.735	.000
	Agricultural waste management	21.80	14.00	16.50	23.70	24.00	2.10	12.941	.000
	Organic farming	31.80	15.90	23.40	5.60	23.40	3.51	61.850	.000
	Reducing water pollution in the lake	15.30	6.50	26.50	20.60	31.20	2.56	59.421	.000
	Conservation of Nature and Biodiversity	20.20	11.80	16.50	25.90	25.50	2.85	23.097	.000
	Reduce the pollution of the environment	12.10	4.00	18.70	27.70	37.40	2.73	109.078	.000
	Increase women's participation in the protection of ecosystems	20.60	29.90	17.80	19.60	12.10	3.27	26.523	.000
	The use of appropriate building materials	10.30	19.90	24.90	28.70	16.20	2.32	33.408	.000
	Allowed to withdraw water from the pond	39.60	32.40	11.80	6.20	10.00	3.82	143.377	.000
	Alternative Wastewater Management System	16.20	16.80	19.60	22.40	24.90	2.60	8.798	.000
	The damage to wetland animals	4.70	9.00	28.30	35.50	22.40	2.99	107.769	.000
	Land use change as a result of tourism activities	17.10	22.70	12.50	23.10	23.70	3.12	16.274	.000
	Organic farms and gardens in rural area	20.20	7.80	26.20	20.20	25.50	3.70	34.997	.008
Fertilizer and chemical pesticides in agriculture	19.60	26.50	22.40	17.40	14.00	3.86	14.498	.006	
Economic	Transport facilities	24.00	34.00	20.90	16.20	5.00	3.44	72.442	.001
	Weekly market access	23.10	30.20	18.40	18.10	10.30	3.48	104.218	.000
	Access to employment opportunities in the area	19.30	5.60	13.40	29.00	32.70	2.50	153.938	.000
	Eco cottage industries in villages	16.20	17.40	15.30	25.90	25.20	2.50	182.598	.000
	Employment for rural women	17.3	23.5	20.0	29.4	9.8	3.82	27.098	.000
	Increase the purchasing power of the local community	12.2	12.2						
	Recognizing the environmental area	11.8	38.4	33.3	3.25	113.843	.000		



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Sociocultural	Awareness of the linkage between the village and the region	20.90	25.20	22.10	18.40	13.40	3.86	12.660	.000
	People believed to protect the wetlands as cultural heritage	14.30	14.03	24.60	26.80	19.90	2.83	21.134	.000
	Public participation in decision-making and wetland conservation programs	29.30	37.40	13.70	11.20	8.40	3.68	102.629	.000
	Development of environmental education and learning	13.10	19.60	17.80	28.70	20.90	2.25	20.667	.000
	Sense of cooperation in tourism development and maintenance of wetland ecosystems	20.0	34.5	22.7	13.3	9.4	3.58	47.765	.000

Source: Findings, 2017.

In this study in the context of assessing the impact of tourism in maintaining wetland ecosystem and environmental sustainability in rural areas, 27 indicators defined and each of these indicators in SPSS studied and analyzed, which results in Table (6) it has been shown. In this table the consent of respondents to each indicator, average and chi-square is studied. In the field of ecological and environmental dimensions, 15 indicators (diversity of flora and fauna, water resources management, agricultural waste management, organic farming, water pollution lake, nature conservation and biodiversity, the pollution of the environment, increase women's participation in the protection of ecosystems use of construction materials good, picked allow water from the wetland and watershed wetlands, lack of wastewater management alternatives, the harm to the animals wetlands) wildlife (land use changes as a result of tourism activities) used according the optimal numerical test (3), the average on most parameters to measure the low post Favorable than assessed value and alpha level of 0.00 was significant.

One of the main factors in more evaluations performed on the development of tourism in local communities has been emphasized, the economic effects of tourism. Tourism in recent years as a very important economic factor is of great concern. As well as all the places where the tourism industry will need to develop appropriate tourism professionals and executive management. The economic dimension in the study 6 index (transport facilities, access to weekly markets, poor access to employment opportunities in the area, lack of rural industries compatible with the environment in rural areas, employment of rural women, increase the purchasing power of the local community) used according to the mean square of each indicator, tourism had a positive effect on the economic situation of the rural areas of wetland ecosystems. Programs for wetland protection, development of environmental education and learning, sense of cooperation in tourism development and maintenance of wetland ecosystems) have been used. According to the index mentioned that the social dimension of cultural tourism in rural areas of wetland ecosystems flows have a positive impact.



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Table 6. The test results T wetland ecosystem conservation and sustainable environment impact of tourism in rural areas

Index	Mean Difference	Standard deviation	Index T	Sig	95% Confidence Interval of the Difference	
					upper	Low
Ecological _ environmental	2.1169	1.209	0.007	46306	-.3000	-.1139
Economic	3.8131	4.374	.000	.89774	0.0106	0.0444
Sociocultural	3.2764	1.479-	0.003	31268	0.0326	0.0046

Source: Findings, 2017.

In one sample T-test number 3 as desirable numerical or theoretical middle test is intended. If the lower and upper limits are positive posts will be larger than the observed value and when both are negative numerical average calculated from the theoretical middle or utility of the test and show less favorable conditions is not. The analysis shows that the level of tourism in economic and socio-cultural aspects has a positive impact on the wetland ecosystem conservation and sustainable environment in rural areas. But after environmental ecological positive impact not only has negative effects on the environment are stable and wetland ecosystems.

Table 7. The analysis of the impact of wetland ecosystem conservation and environmental sustainability of tourism in rural areas

Index		Sum of Squares	df	Mean Square	F	Sig.
Ecological _ environmental	Between Groups	27.814	22	23.907	24.367	.000
	Within Groups	260.461	357	.730		
	Total	268.275	359			
Economic	Between Groups	15.517	2		10.318	.000
	Within Groups	244.865	357	7.759		
	Total	260.383	359	.686		
Sociocultural	Between Groups	.826	2		653.	.000
	Within Groups	277.507	357	.6.543		
	Total	278.333	359	.777		

Source: Findings, 2017.

To explain whether the environmental factors of ecological, economic, social and cultural tourism in the wetland ecosystem conservation and environmental sustainability in rural areas there is a significant difference or not, the one-way analysis of variance was used. According to the results table (8) and the significance level (0.000) can be said to amount F for the impact of tourism on wetland ecosystem conservation and environmental sustainability in rural areas has been significant. In other words, this value



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indicates that at least there is a significant difference between the two, to check the claim of pairwise comparisons (Tukey) was used in the table (9) refers to it.

Table 8- ANOVA multiple comparisons test

exam type	Index	Rural	Mean Difference (I-J)	Std. Error	.Sig	95%Confidence Interval	
						Upper Bound	Lower Bound
Tukey	Ecologica l _ environmental	Economic	.32389	.10066	.000	-.0770	-.5508
			.00526	.12733	.000	.2941	-.3052
		Sociocultural	-.32389	.10066	.001	.5508	.0770
			.33833	.13505	.001	.6262	-.0095
	Economic	Near	-.11944	.09760	.000	.3492	-.1103
			.58611	.12346	.000	.8767	.2955
		Middle	.11944	.09760	.001	.1103	-.3492
			.46667	.13095	.000	.7749	.1585
	Sociocultural	Near	-.10236	.10391	.000	.1390	-.3501
			-.06389	.13143	.001	.2454	-.3732
		Middle	.10236	.10391	.001	.3501	-.1390
			.04267	.13940	.001	.3698	-.2864

Source: Findings, 2017.

Meanwhile, the Kruskal-Wallis test results also show that the alpha level of 0.001 significant wetland ecosystem conservation and environmental impact of tourism in rural areas is sustainable. As the ratings show that an average rural flows to the highest allocated, that may be because it flows near the villages of the district wetland ecosystem in the region. Which impacts (positive and negative) tourism on the ecosystem in the villages.

Table 9-Effect relationship between the villages wetland ecosystem conservation and environmental sustainability of tourism in rural areas Kruskal-Wallis test

	Rural district	Count	Average ratings
Impact of tourism in wetland ecosystem conservation and sustainable environment	Khaw and Mirabad	83	163.46
	Zarivar	96	199.36
	Srkl	151	154.17
	Total	330	
	Df	2	
	Sig	0.001	

Source: Findings, 2017.



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5. Conclusion

Development of tourism in an area with tourist arrivals continue to change the landscape of human and natural, socio-cultural changes, economic and environmental ecology. Tourism to provide recreation areas for tourists and create jobs and income for residents of local communities without damaging the environment, local communities and natural ecosystems. One of the tourist areas, are wetland ecosystems that due to the wide range of ecological attractions and unique natural and cultural landscape is highly regarded. The results show that tourism in economic and socio-cultural aspects have a positive impact on the wetland ecosystem conservation and sustainable rural environment. But after environmental ecological positive impact not only has negative effects on the environment are stable and wetland ecosystems. The findings of the Kruskal-Wallis test show that tourism in villages near the wetland ecosystem Zarivar (Yangijeh, Daratefey, Siyanav, Kanikabod, KaniSanan and Ney) are the most affected by the economic dimension of the rural areas studied have had. Also, in the field of the environment (pollution of the lake water, lack of protection of nature and biodiversity, environment pollution, harm to animals, etc.) as well as the most negative impact on the region.

Suggestions

1. Breach planning and proper management to prevent water pollution and protect the environment and surrounding wetland ecosystem around the lake
2. Encourage people to protect nature and the ecosystem around the lagoon and also avoid harming wildlife wetland ecosystems
3. Provision of infrastructure and services needed by tourists and locals
4. Proper management of water resources and water are allowed harvesting of wetland for tourists and locals
5. Alternative wastewater management systems for rural areas, especially rural areas around the wetland ecosystem.
6. Avoid the use of fertilizers and chemical pesticides in agriculture and horticulture
7. Learning and teaching people to understand the environment and the protection of wetlands as cultural heritage.

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