



A STUDY ON RIVER ECOTOURISM DEVELOPMENT: CASE STUDY: KARAJ RIVER

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ABSTRACT

Tourism industry considered as the largest and most diverse industry in the world. Many countries face this dynamic industry as the main source of income, local community Employment, infrastructure, and private sector development. One of the most popular branches of tourism is ecotourism referring as sustainable tourism, green tourism or responsible tourism, which is the most popular branch of tourism. In terms of geographical location, climate variability, and complexity of natural attractions, Iran is a unique country enjoying great tourism potentials that can create job, currency, and economic growth, particularly in deprived inaccessible areas. However, unfortunately, little attention paid to this tourism category yet. Iran's rivers are one of the most important ecotourism resources and have many capabilities for scientific planning. Given the high potentials of Karaj River such as sufficient width, river depth, and its suitable stream for rafting, local people's familiarity with rafting, access to roads, and other natural, historical and cultural attractions near Karaj River as well as the development of river ecotourism will be discussed in this study. Karaj River and its environment are programmable ecotourism attractions; and many planning projects offered to sustainably utilize this river for the purpose of employment, ecotourism sustainable development, conserving natural environment, cultural promotion, creating positive experiences between the host and guest society, creating fun and excitement among families, sport tourism development and promoting rafting. This research uses ecological McHurg Model, and library and field studies, including multiple river exploration, and rafting, and using GIS software. It is hoped that the present study used to promote tourism goals in the region and even international level.

Keywords: Ecotourism, Karaj river, GIS, Ecological McHurg model, Rafting, Sustainable development, River ecotourism.

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Contribution/ Originality

This study contributes in the existing literature for river ecotourism development. This document the important role of the rivers in sustainable development, ecotourism, conserving natural rivers and local community empowerment.

1. INTRODUCTION

The term travel is as old as history. Travel and movement dates back to creation of humankind. In addition, tourism industry, for many centuries, has passed through ups and downs, now became one of the biggest industries in the world. In many countries, tourism miraculously has led to economic growth and saved nations from poverty. Iran is a rich country in terms of tourist attractions as well as natural, cultural, and historical attractions. Geographically and strategically, this region is an outstanding position in the Middle East and the world.

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Considering Iran's high potentials and talents, growing different branches of tourism especially branches associated with nature, adventure activities, and proper planning seems necessary to exploit such rich tourist resources. The growth of tourism in Iran will bring many benefits some of which are as follows:

- Economic growth at the regional, national, and international level
- Cultural promotion and protection of cultural values
- Conserving Nature
- Better introducing the country at international level
- Local community Employment
- Proximity to different people in the world

As we know, air pollution, natural pollutions, and industrial lifestyle of noisy urban life have exhausted people. Moreover, young population in Iran lacks particular excitement places. Many young people evacuate their excitement in streets and public places through crazily and dangerously driving a car or riding a motorcycle. Such investigations in addition to local community Employment, protection of nature and raise of awareness of visitors, cause evacuation of excitement of the youth and satisfying families' adventure spirit, providing entertainment for families as well as many other benefits (Everard *et al.*, 2004). Since the beginning of human life, rivers played an indispensable role in life, progress, and recently in economic development. In past, rivers in addition to facilitating travel at near, and far distances, offered the possibility of trading and hunting for humans (Conway, 2002). Moreover, rivers significantly influenced industrial revolution and was one of the major natural resources to take industrialized population evasive from urban and industrial centers particularly to meet the leisure-recreational (Cooper and Pridaux, 2005). Direct relationships between tourism and the rivers were studied. The first feature of rivers is their aesthetic values and natural charm considered as a basis of forming tourism activity. The second characteristic is rivers role as transit and transportation corridors (Prideaux and Cooper, 2009). However, it is necessary to note here that river systems are complex ecosystems significantly influences many human activities including tourism and fun. In order to continually use of rivers, they require permanent monitoring and considering management plans. Protecting natural environment and cultural values for the current and future generations requires financial systems (Ehsani *et al.*, 2007).

As the eco-system of the eco-tourism zone is fragile, the setting of the eco-tourism projects should uphold the following principles: 1) causing least damage to the ecological environment; 2) enabling the tourists to participate in the experimental activities and easy to control and manage; and 3) returning to and understanding nature while strengthening the awareness to protect the environment (Jianxiong *et al.*, 2014).

Karaj River has large potentials for implementing river ecotourism project and, if planned correctly, it can become the hub of river tourism, creating economic growth and reaching to noble goals of tourism development in the area. With planning Karaj River ecotourism, as enjoying sustainable ecotourism principles, in addition to creating a positive experience for both tourism and host community, costs spent on improving residents' quality of life and protecting the natural environment; while, the need to spend a huge cost to protect natural areas was ignored.

1.1. Statement of the Problem and Significance of the Problem

Rivers are one of the complex ecosystems considerably influence human activities including tourism and recreation. Utilizing rivers for the purpose of tourism requires regular monitoring and managing to maintain cultural, natural values, and the river unique ecosystem to help future generations benefit from it as well. Ecotourism activities include activities like canoeing (rafting, kayaking, etc.), pristine natural sightseeing, and sailing, staying on river banks, swimming, walking, hiking, mountaineering, rock climbing, and various activities related to the river or its surroundings (Stuart, 2003). River ecotourism is running in many countries around the world and many tourists eager to experience such activities. Implementing such plans in country seems very

necessary. Ecotourism development in Karaj River is in line with the objectives of tourism-related organizations and nature such as Cultural Heritage, Department of Environment, Department of Natural Resources, Ministry of Energy, Water Management Organization, etc that directly or indirectly relate to corresponding organizational goals and have effective cooperation in this regard.

The present research tries to answer the following questions:

- Does Karaj River have the ability to attract tourists?
- Does Karaj River have river ecotourism?
- Does Karaj River have the capability of planning adventure tourism such as rafting and camping?

2. THEORETICAL BASICS

2.1. Ecotourism

According to International Ecotourism Society (TIES), ecotourism is a responsible travel to natural areas preserving the nature and improving the lives of local people (the host community).

Ecotourism is a component of sustainable tourism. In many ways, sustainable tourism exemplifies the relationship between ecotourism and sustainable development (Sâmbotin *et al.*, 2011).

Sustainable tourism will focus on three areas:

- Quality – valuable experience for visitors and increased life quality for host communities through cultural identity, poverty reduction and environmental quality;
- Continuity – exploitation is made at the optimum level that allows the preservation and regeneration of the natural resources;
- Balance between the needs of tourism industry, environmental protection, and local communities by an equitable distribution of benefits among stakeholders (Tuğba, 2013).

2.1.1. Purposes and Principles of Ecotourism

1. Directing tourism to the destination of nature

These places and destinations whether residential or non-residential have often been located in distant places and are usually protected under several national, international institutions or social groups (Khalil, 2003).

2.1.2. Minimizing Exposures and Damages to the Environment

Whether like it or not, most tourism branches damage environment. Ecotourism strives to minimize damaging effects of constructing hotels, railroads and other tourism related constructions harming the environment by replacing recyclable materials, using clean energies such as solar energy, applying local materials for constructions, etc. (World Conservation Union, 2002).

2.1.3. Raising Environmental Awareness

Ecotourism means training both tourist and local people visiting tourists. Therefore, the authorities and operators of tourism should educate tourists about culture, location, economy, environment, and residents of that location. This knowledge will help the tourists to know the people, environment, and tourist attractions as well as having more useful and less harmful visit (Zahedi Shams, 2000). Students should also be trained on tourist locations to more efficiently use the ideal provided conditions and strive in preaching their native culture in order to build a better relationship with tourists (Ballantyne and Parker, 2002).

In order to promote a standardized approach and to recognize the challenges of conservation and sustainable development in each of these environmentally sensitive areas, it is necessary to create a strong framework that both local stakeholders and governments can agree and comply to. (Kneza, 2013)

2.1.4. The Provision of Financial Resources for Environmental Protection

For a tourism area, the entrance fee is one of the ways to earn money to preserve that environment. The main part revenues of this branch of tourism must be spent to protect nature and the environment (Penny, 2006).

2.1.5. Preparation of Income and Financial Resources to Improve Local Environments for Tourists Attraction

National parks and other tourism environments will remain stable if local people are happy. Therefore, they require proper roads, clinics, schools, drinking water. Further, they must contribute in constructing and operating restaurants, shops and other facilities for tourists (Henley, 2005). This type of tourism must directly benefit local communities so that in addition to creating job; make the local people take action to protect the environment (Kellert, 2004).

2.1.6. Respecting Local Culture

Ecotourism tries to reduce distasteful, undesired interactions between tourism and environment and prevent damaging to the culture of both parties. This makes the responsibility of the operators of these journeys difficult (Malekian, 2003).

Educating and informing the tourists and local community are initial steps of ecotourism development. The guest and host community must respect each other (Niazman, 2003).

2.1.7. Supporting Human Rights

Ecotourism must concern human rights and international law. For example, slave-laboring or abusing children are prohibited in this area. Tourist authorities not only should reject violating human rights, but also should protest to those who behave so (Cameron and MacDougall, 2000).

2.2. Adventure Trips

Various explanations offered for adventure. To provide a correct definition of adventure and adventurous trips, first, it requires investigating components of this reality. These components include activity, motivation, risk, performance, and experience (Gill, 2006).

2.3. River Ecotourism

River various ecotourism activities include Nature therapy in the vicinity of rivers and streams, watching wildlife and biodiversity surrounding rivers and streams, staying and walking around river's calm nature, winter sports in river, mountainous sports in the mountains surrounding river, as well as exciting sports. However, in the meantime, popularity of many rivers in the world among tourism professionals is due to the possibility of adventure activities like river rafting at different wavelength and intensity, sport fishing, and excursions with ships and special boats. Considering that the present study deals with the development of river ecotourism in Karaj, rowing activities including rafting and kayaking are among the studied areas.

3. RAFTING

3.1. Rafting History

Raft is one of the oldest means of transportation used for human displacement, hunting, carrying food and equipment (Barry *et al.*, 2006). Early rafts were made of trunks and tree branches, bamboo sticks, straw or cloth. River trips in our country have a long history, Iranian tribes have been using raft since thousands of years ago for migration (Mehrabi, 2008). The first rafting adventure recorded in 1842 by the US Army, where rafts made by automobile tires and fabric. This field, from 1960s, began as a tourist - sport form in the United States in Grand

Canyon and many companies started working on. From the early 1980, as a branch of adventure, tourism and ecotourism spread across the world and attracted many fans (Agita, 2005). Rafting means boating or canoeing in White Water Rivers. This recreational-sporting activity is very interesting and exciting and is one of the best instances of adventure ecotourism travels. In this activity, passengers board on specific windy boats enjoying the thrill of passing rapid waves through river, in addition to passing through the fields, plains, mountains, jungles watching the sceneries that are invisible by any other tools (Everard *et al.*, 2004). Rapid parts of river referred as "White Water" as water will foam in rapid parts and turns out in white color (Mehrabi, 2008). Rafting is highly attractive; however, like other adventure activities it has some risks, too. For this reason, rafting organizers spend various training courses and use various specialized individual and group tools and equipment. Many dangerous river currents are apparently calm not detectable by ordinary people. In order to avoid putting people at risk, it is necessary to prevent abdicating these activities to amateur individuals (Hudson, 2003).

3.2. Rafting As a Tourist Activity

Rafting is an exciting adventure and recreational action inspired by nature. Therefore, it is a tourist activity covers a kind of adventure and sport tourism following all ecotourism principles. As we know, "ecotourism means a responsible travel at natural environments protecting and benefiting local communities."

In this field, the passengers respect ecotourism principles as follows: MNZ Consolidation (2011)

- All passengers must responsibly and consciously travel natural areas (environment of the river, beach, and riversides).
- They lead to protecting natural environment and not polluting it. This means that not only they respect environment avoiding its polluting, but also try to collect garbage training other tourists and local people how to protect environment (Based on, 2003).
- They cause employment and contribute in economic development of local community. Executive team including boating guides, paramedics, group procurement, cooks, etc. all consist of local community (the host community); and costs paid by passengers directly contribute in developing local economy and indirectly protect environment. It means that the local organizers will help protect the environment because of their job and income (Arlt and Feng, 2003). The locals reiterated their commitment to support sustainable tourism practices that is capable of meeting their community's needs with minimal damage to their environment (Sunday and Omotayo, 2013). One best way to measure ecotourism's positive effect on the economy is through the multiplier effect. The revenue received will be spent and resent, causing direct and indirect financial benefits to the community. Collective economic benefits also include improvement in human capital; source of income through tourist receipts and taxes; development of infrastructure and vital facilities like electricity, water, communication, health services, etc. Ultimately, the local residents will benefit from all these developments (Benjamin and Nerissa, 2013).
- They cause environmental and cultural awareness and respect (environmental issues) tourists with their presence in natural areas; and collecting garbage practically train environment protection against pollution, as well as respecting culture, beliefs, and attitudes of the host community. On the other hand, their awareness to lifestyle, cultural and religious beliefs will increase (Mehrabi, 2008).
- Tourists respect the culture, values, and beliefs, social and political sensitivities. It is evident that, in such trips, in addition to creating a positive experience for both tourists and the host community, the costs will be spent on improving the residents' quality of life, protecting natural environment; largely spending on protecting natural areas is not necessary. However, the various stakeholder must educate the people on the need for the local people to have direct contact with tourist, this can be done through providing incentive to rural families that would enhanced their invitation of tourists to their community and residents (Eja *et al.*, 2013).

3.3. McHugh Model: Ecological Practices

Nature viewed as a process of interaction, sensitive to rules containing a value system that imposes restrictions on human use of opportunities (McHaurg, 2009). Economists view nature as a generally uniform commodity evaluated based on the length of time, and cost of land, construction and allocated based on population per unit area. However, nature is not a uniform commodity, it is varied and dynamic and its changes are a function of historical geology, climate, topography, soil, plant, and animal; and finally, it is a function of natural resources and land functions (McHaurg, 2009). A full study involves identifying the following:

Natural processes that work for humankind, those who create protection or are violent to man, those that are unique and have a special value and the values that are at risk (Pourjafar and Amirshakari, 2010). Learning physical and biological processes is an inevitable step in order to acquire the necessary knowledge for someone who wants to make a difference on land, but this does not suffice. Knowing the way the world works is a necessity. However, researchers found that animate creatures have self-regulation feature and create synthesis. Therefore, the stability of natural ecosystems is adequate evidence not necessary to know all the constituent processes. This is an important conclusion:

The laws of nature can be responded, even if they are partially understood (Pourjafar and Amirshakari, 2010). Considering the conducted studies, McHurg Ecological Approach placed principles of nature concerns on top of its goals as a process of interaction sensitive to rules containing a value system and believed that nature has made a context for human use providing opportunities and limitations. Hence, conserving nature has always been a concern, and future generations require regional planning and designing focusing on environment sustainment. Karaj River ecotourism project is a plan based on sustainable development and ecotourism respecting the following principles:

1. It is nature-dependent.
2. It is ecologically sustainable; in other words, it has the least damage and adverse effects on environment.
3. Its main elements are providing training.
4. Local and host communities participate in it.

Rafting is among the exciting, adventurous, recreational, and sporting activities occurring in nature. Therefore, it regarded as a tourist activity covering adventurous and sporting tourism and following all ecotourism principles. In addition, as described earlier, camps used in Karaj River established according to the principles of ecotourism and environmental protection.

4. RESEARCH BACKGROUND

4.1. River Ecotourism in the World

From the early 1980, River Tourism as a branch of adventure tourism and ecotourism was pervasive in the world and many rivers in developed countries such as America, Canada, England, New Zealand, and Australia were exploited for river tourism. Moreover, these countries have made much progress in this area. Then, this expertise transferred to Asia, Africa, South America, and partially Africa leading to development of these regions in the area of river tourism. One of the best examples for river ecotourism in rural areas is India, Nepal, etc (Nealy, 1986).

4.2. River Ecotourism in Iran

River ecotourism is a modern, newly arrived activity in Iran. In Year 2006, two projects entitled "river ecotourism in Iran" and "establishing rafting sport in Iran" were approved and presented to "Cultural Heritage Organization" and "Tourism and Handicrafts and Sailing Federation" (Mehrabi, 2008). The projects designed according to country's natural potentials and considering country's specific characteristics valuable purposes were determined. Unfortunately, due to managers and decision-makers' lack of awareness, despite the great potentials, the area was ignored by relevant organizations (Mehrabi, 2008). Since most rafting rivers of Iran located in remote

areas of Zagros Mountains, i.e., areas where employment is poor and economic development is very difficult, development of this branch of tourism in these areas can serve the government as a valuable way. In "Iran river ecotourism project ", rivers, and the surrounding environment considered as tourist attraction planned for sustainable exploitation.

5. RESEARCH METHODOLOGY

This descriptive research examined and identified tourism potentials of this region by using, geographical, natural, and anthropogenic situation of Karaj River as good as qualifications and the tourism potentials. The sample was analytically studied based on descriptive findings, possibilities, and limitations of the region. Due to the nature of the issue, research variables include factors contributing to the development of tourism industry in Karaj River. Furthermore, the influential factors on ecology in McHurg Approach such as environmental and natural conditions, economic factors, infrastructures, facilities and tourism services, attractions, and tourism resources of the region including material and non-material factors are identified and studied. The research methodology, according to the nature and subject of the research, is an observational and descriptive-analytical librarian survey; the data obtained from satellite images and GIS to represent the status quo. A comprehensive study was conducted by using library method regarding the basic concepts of tourism industry, eco-tourism, adventure tourism, region natural geography, regional tourism attractions, etc., according to Persian and Latin references; the findings were practically and academically analyzed and described. The second method is the field research. The area studied by taking photographs, maps and videos; the river was frequently visited, and a specialized sailing team identified the river. The third method used satellite maps and GIS software to map the region.

5.1. Models Extracted from Results

McHurg Method for determining recommended functions in developing Karaj river ecotourism extends in association with the proposed activities (rafting, camping). The following two models in developing river ecotourism in understudied area (Karaj River) were extracted from research results:

1. McHurg ecological model for studying Karaj River
2. Implementation plan model for developing river ecotourism in Karaj River.

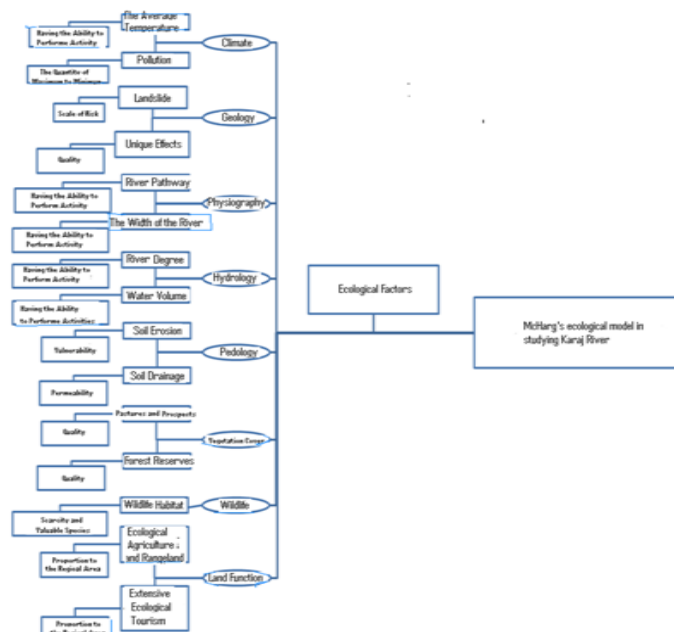


Figure-1. McHurg's Ecological Model in studying Karaj River

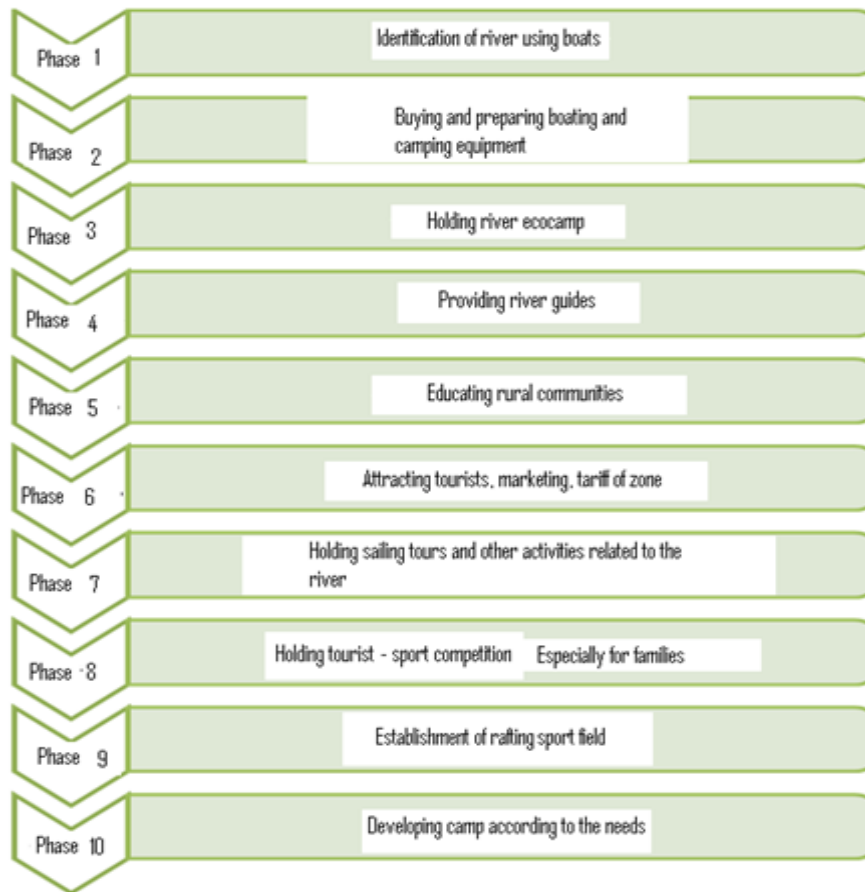


Figure-2. Implementing river ecotourism plan

6. RESEARCH FINDINGS

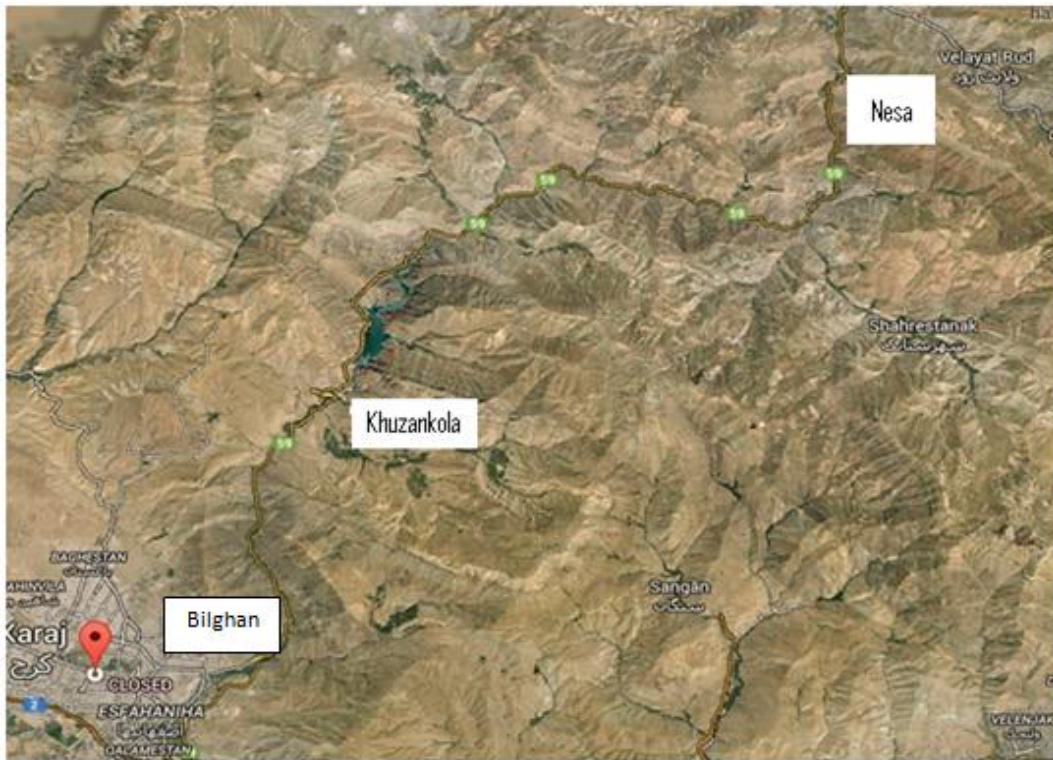
6.1. Ecotourism Plan in Karaj River

Three places including Nesa, Khuzankola, and Bylqan were evaluated to investigate river tourism proposed activities, i.e., rafting and camping. A collection of environmental factors generally classified in climatic, geologic, physiographic, hydrologic, soil, natural vegetation, wildlife habitat, and land function items. According to collected data, the three places rated using ecological McHurg Model (table 1).

Table-1. Ranking ecological factors and location-seeking of proposed activities

Ecological factors	Ranking Criteria	Space Option 1	Space Option 2	Space Option 3	Proposed Activities	
					Rafting	CAMPING
Climate - Average temperature - Pollution	Ability to perform activities Ability to perform activities	Bilghan Nesa	Khuzankola Khuzankola	Nesa Bilghan	Khuzankola Bilghan	Khuzankola Bilghan
Geology - Landslide - Unique Effects	Risk Level Quality	Nesa Khuzankola	Bilghan Bilghan	Khuzankola Nesa	Khuzankola Khuzankola	Khuzankola Khuzankola
Physiographic - River Route - Form of River	Ability to perform activities Ability to perform activities	Nesa Khuzankola	Khuzankola Nesa	Bilghan Bilghan	Nesa Khuzankola	Bilghan Khuzankola
Hydrology - The degree of river - The volume of water	Ability to perform activities Ability to perform activities	Khuzankola Khuzankola	Nesa Nesa	Bilghan Bilghan	Khuzankola Khuzankola	Khuzankola Khuzankola
Geology - Erosion - Soil drainage	Vulnerability Permeability	Nesa Khuzankola	Khuzankola Nesa	Bilghan Bilghan	Bilghan Bilghan	Bilghan Bilghan
Vegetation - Pastures and Prospects - Jungle Reserve	Quality Quality	Nesa Nesa	Khuzankola Khuzankola	Bilghan Bilghan	Nesa Nesa	Khuzankola Khuzankola
Wildlife - Animal habitats	Scarcity and valuable species	Nesa	Khuzankola	Bilghan	Khuzankola	Khuzankola
Land Function - Ecological agriculture and rangeland - Extensive ecological tourism	Proportion to the area Proportion to the area	Khuzankola Khuzankola	Bilghan Bilghan	Nesa Nesa	Khuzankola Khuzankola	Nesa Nesa

It observed that Khuzankola option has the most points, according to 10 km distances for rafting and place activities for team camping.



Map-1. Satellite image of the study areas (Nesa, Khuzankola and Bilghan)

6.2. River Status in Terms of Boating

By rafting on River in addition to experiencing the thrill of crossing rapid waves, you can watch the beautiful and unique sceneries, peculiar to this region. This river is wide and deep enough for sailing. High-speeded parts of river start about 15 kilometers after Amirkabir dam, given a particular name by local rowers. Degree of hardness of different parts of this rapid river is between 2 to 3. The gap between rapid parts is such good that passengers experience a quiet part making them feels relax after high excitement of passing through a turbulent area. This is a positive feature of the river in terms of sailing. At the right beach of Khuzankola, there is a good place for launching boats along the way. There are places to get the boat out. The existence of proper harbor points is essential as, if required, transporting the injured (if any) to medical centers took less time. After Pamchal Restaurant and near the wooden bridge, there allocated some temporary or permanent camps. Since Karaj-Chalus road is along the river; thus, the possibility to implement the program and catering passengers has been provided that is one of the obvious advantages of the river in comparing many other rivers around country. Along Karaj River, rocks and vegetation is unique; the cool and delightful wind blowing takes the summer heat out. The sceneries are trees in landscapes, high rocks, fertile plains, and rice farms. Passing along the beautiful landscapes is attractions of sailing in river.

6.3. Limitations of Rafting on the River

Despite much potentials of rafting, some factors limit sailing trips on the river such as seasonal programs, etc.

6.4. Seasonality of Plans

In fall and winter, sailing is difficult due to cold weather. You can use special sailing clothes for cold water. However, it is difficult to afford them, as they are too expensive.

6.5. River Environmental Problems

Effluent discharges of industrial plants, domestic wastewaters, rural and urban wastes, pesticides and agricultural chemicals, nitrates and phosphates, various pesticides and abattoir wastes caused Karaj River natural ecosystems, that is one of the most important watersheds of Iran, facing serious changes. In addition to the risk of river destruction and distinct of various aquatic species, the economy, and the livelihoods of thousands of people living around is endangered, too. Waste discharge into river has caused river high pollution. As, on one hand, high winds churn the garbage into the river; and on the other hand, rainwater enters pollutions into the river water entering into drinking water and irrigation water.

6.6. Access Roads

In all areas of river passing, it accessed by paved roads.

6.7. Residential Facilities

Accommodation facilities hostels and campsites offered in Karaj, Taleghan, with access to health services; surrounding cities such as Tehran or Karaj, also provide suitable accommodations.

6.8. Treatment Facilities

Due to the proximity of river to Asara and Adra and Khuzankola Villages, fortunately, it easily accesses to medical centers; however, the nearest equipped hospitals located in Karaj and Tehran Cities. In addition, there is a Red Crescent site along with river.

7. CONCLUSIONS

The studied area has much natural potentials for boating in the wild river. Geomorphologic features and presence of beautiful geologic features around river make boating activities in the area very attractive. In beginning of boating route, there are high mountains around the river observed on river path. The surrounding mountains, rocky walls, forest, fields, farms, etc. are also available. Land slope and river water is to the extent making River flows suitable for boating. Due to climatic characteristics and after examining the climate elements such as temperature, number of frost days, precipitation, cloudiness, and the number of hours of sunshine it was found that the spring and summer seasons are appropriate for boating; whereas, fall and winter limit this activity. This area has abundant natural, historical, cultural, and rural attractions. Thus, tourism activity here is not restricted only to rowing on the river and tourists can visit other attractions when sailing is not possible, for instance, in afternoons or in fall and cold winter days. Therefore, River Ecotourism Project and other attractions make it possible to utilize this region throughout the year; further, the project is not bounded to specific seasons. Karaj River from Khouzenkola to the wooden bridge is particularly suited for boating as its technical characteristics. It has sufficient width and depth with suitable flow for boating lacking any dangerous obstacles on the way; on the other hand, it has various rapid, high-speeded sections as characteristics of tourist sailing.

Existence of these fast-flow sections makes sailing more attractive; another good feature of the river is the distance of fast-flow sections so that making tourists relax after the excitement of facing the waves, and in case that a tourist fall into water in the rapid parts it is possible to pull him/her out to boat in the quiet parts. In the rivers with close, near fast-flow sections, it is difficult to save the passengers. Karaj River hardness is between 2 and 3. Rivers with higher hardness are not suitable for tourism due to their specific risks. Road proximity and the existence of medical centers, fire and police stations, and the existence of Karaj City near the river make the river susceptible to river ecotourism activities. In total, as the need of tourism and ecotourism development, great natural abilities of the region, existence of many attractions nearby river and the characteristics of the river in terms of

boating, river ecotourism project was made possible; moreover, establishing camps and setting this project, tourism development objectives achieve.

Table-2. Positive effects of river ecotourism projects on region

The positive environmental effects	-protecting river and the surrounding natural environment -preventing uncontrolled urban development and lands around
Positive effects of infrastructure	-Increasing accommodation capacity in the region -Increasing capacity to serve in the region
Positive social effects	-Employment -Preventing migration of local people -Creating entertainment -Recreational spaces capacity -Increasing the capacity of sport spaces
Positive cultural effects	-Maintaining culture, traditions, customs and local traditions -Establishing reputation and credibility in the region -Maintaining and developing local businesses and crafts -Creating a sense of pride in region
Positive economic effects	-Employment in the region -Currency making -Attracting savings for developing -Increased income of local people

According to conducted studies and in response to research questions it concluded that:

- The area has abundant natural attractions and ecotourism planning for tourism.
- Development of ecotourism will lead to job-creation in the region.
- The area has great potential for the development of ecotourism.
- The area has extensive capabilities for developing ecotourism.
- Launching of the river tourism branch and establishing river camp makes ecotourism development possible here.
- Local communities crucially play in implementing the proposed plan.
- Protecting ecotourism leads to protecting in the region.

7.1. Providing Strategies and Suggestions

- Diversification of the tourism centers of the region through the development of talented centers; Diversification of residential centers in Karaj Chalus Road in order to respond the tourists with different financial capabilities In this regard, establishing camps can be recommended;
- Creating diverse recreational centers to attract more tourists from Tehran;
- Training local people to protect local traditions and cultures without negative impact and contacting with tourists;
- Applying regulations regarding construction of parking (at road edges);
- Substantial planning to promote the level of environmental culture;
- Informing local people to the benefits of tourism in the region and the role that tourism plays in generating employment and income for rural residents;
- Training people to increase the knowledge and expertise of the natives that increases public employment and prevents migration to cities;
- Constructing a place to serve tourists and building parking areas to stop passing cars traveling to northern cities

It is better that responsible organizations consider aforementioned suggestions and establish required infrastructures to attract domestic and foreign tourists. Moreover, development of tourism industry also can benefit rural people.

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