

The Environmental Impacts of Tourism and Recreation Activities on Kaçkar Mountains National Park, Rize/Turkey

Metem Sezgim¹, Gülsün Yildirim²

¹Selçuk University, Turkey, ²Recep Tayyip Erdoğan University, Turkey

ABSTRACT

This study is an attempt to identify the environmental impact of tourism and recreation activities on Kaçkar Mountains National Park. After identifying the environmental impact levels, some suggestions were made for drawing current or future negative effects of tourism and recreation activities in Kaçkar Mountains National Park to acceptable levels. Data were collected from all the tourism operators working in Kaçkar Mountains National Park. In this study, respondents were asked to indicate the extent to which they agreed with the statement using a five-point Likert scale ranging from 1 (little impact) to 5 (much impact). SPSS was used for data analysis. As a result of the research, it was found that tourism and recreation activities in Kaçkar Mountains have some negative environmental impact on the national park and some urgent measures should be taken on this issue.

Keywords: Tourism, Recreation, Nature, Environmental Impact Level, Kaçkar Mountains, National Park, Sustainable Tourism

1. INTRODUCTION

Though national parks are valuable potentials for tourism, opening such areas to touristic activities is often accompanied by the effort to preserve environmental values. Development of tourism and recreational activities in these vulnerable areas¹ brings the risk of more destruction and pollution. On one hand, national parks are being opened to tourism and there is an ongoing work for supplying facilities (infrastructure-superstructure) while on the other hand, the destruction caused by tourism and recreation activities to parks are tried to be eliminated. Being different from any other destination, tourism and recreation activities in national parks require delicate attention. Otherwise, these special areas, which are under protection, will gradually lose their specialities due to destruction. Using while protecting is an issue which should be seriously dwelt upon for these areas. Therefore, this study aims at revealing environmental impact of tourism and recreation activities on Kaçkar Mountains National Park. Moreover, taking into account the views and suggestions of tourism operators, some recommendations were made to sustain the development of the national park by drawing the negative impact that is caused or may be caused on Kaçkar Mountains National Park by tourism and recreation activities, whose impact levels were revealed, to an acceptable level.

2. CONCEPTUAL FRAMEWORK

Both developed and developing countries aims at more economic development by utilizing current natural and cultural sources and drawing more visitors (Cohen, 1988; Munt, 1994). National parks are important places for tourism and recreational activities drawing visitors to a great extent. The main touristic product in such areas is highly-sensitive natural resources. Therefore, there is a constant challenge between protecting nature in national parks and increasing recreational access.

According to Europarc (2001), National parks are faced with the threat of being “loved to death” if they are not managed effectively. As a result of increasing numbers of tourists in the world, there are many national parks subjected to over-erosion (Murphy, 2014).

In order to reduce negative impacts of tourism on national parks and increase the potential advantages, tourism in national parks should be effectively planned and managed. In this sense, the impact of tourism and recreational activities on national parks should be monitored constantly and such areas should be used under control.

Kaçkar Mountains National Park, located in East Black Sea region of Turkey, covers an area of 55.550 hectares and there are 2500 plant taxa in this area. Of these plants, 160 are endemic to the region while 300 taxa are endemic to Turkey. Kaçkar Mountains are rich in fauna as well. There are animals such as wolf, bear, wild boar, fox, chevrotain, rupicapra rupicapra ornata, red deer, marten, coyote, badger, lutra lutra, lynx, roe deer, sparrow hawk, partridge, wild hen, and capercaillie in this region. In the rivers of this region, there is salmo trutta labrax (a kind of salmon trout with red dots on it). There are glaciers, glacial lakes, glacial valleys, cirques and moraines in the park area. There are 19 small sized lakes within the borders of the national park which have been formed as a result of glacial erosion and drift in the parts higher than 2400 meters (RDTMP, 2014).

People mainly hike, raft, observe wild life and endemic plant types and climb Kaçkar Summit in Kaçkar Mountains National Park. However, people also find the opportunity for heliskiing which is a particularly expensive recreational activity (Zaman and Birinci, 2009).

Kaçkar Mountains National Park hosts world-wide rare endangered species and habitats. Therefore, it draws more and more tourists with its unique nature every day (KDSOKKP, 2006). There were 150.000 people in total in 2014 who came and accommodated here for sightseeing. Visitors who did not accommodate in this area were 250.000 (RDTMP, 2014). Having various endemic plants and animal types in the area requires controlled expeditions for visitors. Smuggling endemic plant types out of the park and protecting visitors from harsh natural conditions (sudden mist and challenging land conditions) may be hard to prevent. There are field guides in the region even though some problems are encountered (Temizkan and Yıldırım, 2014).

In Master Plan for Natural Tourism in Rize (2014), it is stated that ecological indicators have not warned against any significant danger yet. In this sense, this study aims at revealing impact levels of tourism and recreation activities on Kaçkar Mountains National Park in the light of Demir's (2001) study.

3. METHODOLOGY

Based on Demir's (2001) study revealing the environmental impact of recreational activities on national parks in Turkey, this study aims at:

- a. Revealing the environmental impact of tourism and recreational activities on Kaçkar Mountains National Park
- b. Making recommendations to sustain development of the national park taking into account the views and suggestions of Tourism Operators and drawing the negative impacts caused by or may be caused by tourism and recreational activities to an acceptable level after revealing the extent of them.

In order to realize the aforementioned purposes, details below were tried to be collected from tourism operators who are within the borders of the national park;

- c. Personal details of the participants (age, gender, educational background, service period)
- d. Environmental impact levels of tourism and recreation activities on Kaçkar Mountains National Park's flora, fauna, water and air
- e. Negative environmental impact levels in Kaçkar Mountains National Park that are caused or may be caused by 31 different tourism and recreation types which exist or should exist in national parks in Turkey.

The universe of the study covers all tourism operators within the borders of Kaçkar Mountains National Park (accommodation operators, travel agency authorities, thermal spring operators, restaurants, souvenir shop owners). There are 10 restaurants, 19 hotels, 18 bed and breakfasts and 1 bungalow type accommodation business within the borders of Kaçkar Mountains National Park. There is a certified thermal facility within the borders of the national park while there is no travel agency. The researchers tried to reach all the universe of the study.

Initially, a literature review was conducted for the study. The study was based on Demir's (2001) dissertation titled "Sustainability of tourism and recreation activities in national parks: a study on national parks in Turkey". The survey prepared by Demir (2001) was employed in this study.

4. FINDINGS OF THE STUDY AND EVALUATION

Percentages and frequency analysis were used to evaluate the answers of the survey respondents.

The first section of survey form deals with general information about business representatives. Considering the distribution of participants by gender, it was seen that majority of participants was male while there were only 11 female participants.

Considering educational backgrounds of the participants, it was seen that 22 were graduates of middle school, 4 held associate's degrees, 12 held bachelor degrees and 3 held Master of Arts degrees. This indicates that participants are from various educational backgrounds. Considering the distribution of participants by age, there were 15 participants whose ages ranged from 16 to 25, 8 participants whose ages ranged from 26 to 35, 13 participants whose ages ranged from 35 to 50, and 5 participants whose ages ranged from 51 to 65.

Considering the distribution of participants by their service periods, it was seen that 16 participants have been working for 11 years or longer in tourism sector. 14 participants have been working for 2 to 4 years. 7 participants have been working from 0 to 1 year and 4 participants have been working from 5 to 10 years. Considering the participants by their occupations, it was seen that there were 28 hotel managers, 10 restaurants managers, 2 souvenir shop owners and 1 parking lot attendant.

Second section of the study deals with environmental impact levels of tourism and recreation activities on Kaçkar Mountains National Park's air, water, flora, fauna and rivers banks as well as coasts.

Environmental impact of tourism and recreation activities on Kaçkar Mountains National Park from the highest to the lowest is as follows: river banks/coasts (3.92), air (3.74), water (3.59), flora (3.30) and fauna (3.13). Demir's (2001) study revealed that environmental impact level of tourism and recreation activities on national parks in Turkey was highest for river banks/coasts. This study supports Demir's (2001) study from this aspect. However, the same study revealed that the lowest environmental impact of tourism and recreational activities on national parks in Turkey was for air quality. This is not valid for Kaçkar Mountains National Park.

There are many glacial lakes, waterfalls and Fırtına River, which is one of the best rafting tracks in Turkey, within the borders of Kaçkar Mountains National Park. Moreover, there is an endemic type fish, *salmo trutta labrax*, in Fırtına River. In this section of the survey, participants were asked to evaluate the environmental impact of tourism and recreational activities on such water areas.

The most important negative environmental impact of tourism and recreation activities on water quality stems from sewages of nearby accommodation facilities (4.07) and it is followed by visitor's wastes (3.85). The fact that the most important negative environmental impact of tourism and recreation activities on water quality stems from sewages of nearby accommodation facilities was revealed in the previous studies (Demir, 2001) as well. This study supports the previous study. Recreational activities such as diving, surfing, and water –skiing has no impact on water quality. This may stem from the fact that such recreational activities are rarely conducted on different water areas in Kaçkar Mountains National Park. Boating and fishing have moderate impacts on water quality.

The most important negative environmental impact on air quality caused by tourism and recreation activities in Kaçkar Mountains National Park stems from touristic housing (4.07) while the least important factor was exhaust fumes discharged from visitors' boats (1.93). These results support Demir's (2001) study. Exhaust fumes discharged from visitors' cars (3.73) and traffic on the dusty road (3.21) have important impacts on air quality in Kaçkar Mountains National Park. Camp fire (2.82) and forest fires caused by visitors have moderate impacts on air quality.

The most important negative environmental impact on flora caused by tourism and recreation activities in Kaçkar Mountains National Park stems from dropping litters outside (4.41) while the least important factor was using bicycles (1.13). These results support the findings of Demir's (2001) study. Construction works of touristic facilities and plucking plants are other important factors having negative impact on the national park's flora. Kaçkar Mountains National Park is quite rich in endemic plant types. Visitors are alleged to take such plant types out of the national park during their visits (Temizkan and Yıldırım, 2014). In this park, which hosts many endemic plants, the impact caused by plucking plants was found high which is a remarkable finding.

The other factors having considerable negative impact on Kaçkar Mountains National Park cover breaking the branches of trees to build a fire (3.85), reckless use of fire by visitors (3.52), using cars out of roads (3.51), and badly-organized camp sites (3.32).

The most important negative environmental impact on fauna caused by tourism and recreation activities in Kaçkar Mountains National Park stems from the litters dropped by visitors (4.39) while the least important factor was taking photographs of animals (1.51). Another factor having a considerable negative impact on fauna in Kaçkar Mountains National Park is poaching (4.27). Considering all the national parks in Turkey, the most important factor having a negative environmental impact on

fauna is poaching (Demir, 2001). Poaching in Kaçkar Mountains National Park is the leading factor having a negative impact on fauna. Noise in camping sites (3.52), building roads and paths (3.39) and collecting woods for fire have important negative impacts on the national park's fauna.

There are many glacial lakes, waterfalls and Firtina river, which is known for rafting sport, in Kaçkar Mountains National Park. Of tourism and recreation activities, the factor which has the highest negative impact on such water areas is visitors' wastes (4.34) while the least important factor is rafting-boat tours (1.77). Since Kaçkar Mountains National Park is not on the coast, marina construction factor was remained blank. The wastes produced by tourism industry in Kaçkar Mountains National Park is the most important factor having negative impact on river banks (4.18). Taking salmon *trutta labrax* out of water (3.90), disarrangement of accommodation and camping sites (3.78), destruction of zones (3.33) and angling (3.12) have negative environmental impacts on water areas in the national park. During the distribution of surveys in Kaçkar Mountains National Park within the scope of the study, it was observed that some parts of river banks were full of litters. Moreover, some participants stated that the litters accumulated in the river banks in the national park was caused by picnickers to a great extent.

In this section of the study, negative environmental impacts of 31 different tourism and recreation activities on Kaçkar Mountains National Park were tried to be revealed based on the observations of various tourism operators. Considering these activities, there were certain tourism and recreation activities which were not mentioned by tourism operators. These activities were tennis, speedboats, motorboat tours, boats, sailing, hot air balloons, yachting and coaches. Evaluations are made for the rest of the activities.

Based on the observations of various tourism operators working in Kaçkar Mountains National Park, the activity which has the highest negative impact on the national park is poaching (4.34) and it is followed by plucking plants (3.79). Findings indicated that some of the tourism and recreation activities have excessive negative impacts on the national park while the others have lower negative impacts. In addition to poaching and plucking plants, unguided trekking (3.37), picnicking (3.24), and helicopter tours (3.24) have considerable negative impact on Kaçkar Mountains National Park. Field guides are used in Kaçkar Mountains National Park for both the safety of visitors and protection of endemic plants and animals. However, previous studies also reported that visitors tour around the national park without guides (Temizkan and Yıldırım, 2014). This study also revealed that unguided trekking has a negative impact on the national park's nature, which is in line with the previous studies.

Kaçkar Mountains National Park is one of the national parks where heli-skiing sports is performed. Findings of this study revealed that this activity has a negative impact on the environment of the national park.

Sightseeing with cars, camping, angling, snow bikes and walking have moderate impact on the environment of the national park. Other activities have less negative impact on the environment of the national park. Many recreation activities except from certain ones have little or no negative impact on Kaçkar Mountains National Park. It would not be wrong to assert that this is because there are only a limited number of tourism and recreation activities in the national park. Being within the borders of Kaçkar Mountains National Park, Ayder (plateau) is a region where there are many tourists, and it has routes to other plateaus. To Sarı and Yıldırım (2015), majority of tourists accommodating in Ayder stay only for a short period of time. One of the most important underlying reason is that there are only a limited number of tourism and recreation activities for tourists to pass their time in full. This study supports the findings of the previous study.

5. CONCLUSION AND RECOMMENDATIONS

It is obvious that Kaçkar Mountains National Park is both a national and international centre drawing visitors. The number of people visiting the national park is increasing day by day. In order to reduce negative impact of tourism on national parks and increase potential advantages, tourism activities in national parks should be effectively planned and managed. In this sense, environmental impact of tourism and recreation activities on national parks, which are highly vulnerable, should be monitored constantly. Moreover, these areas should be used under control.

Kaçkar Mountains National Park area is one of the most important picnic and recreation destination of the region. However, it is seen that such activities are not conducted within a schedule or inspection considering literature. Such recreational activities are not properly organized especially in Galerüzü and Ayder. Not providing organized picnic areas to visitors results in day trippers having picnics on any spot they like which leads to risk of fire, disturbing wild life, and solid wastes. Furthermore, lack of warning signs and ineffective control mechanism due to deficiency of workforce add to this problem. Results of the present study support these observations.

Having various endemic plant and animals in Kaçkar Mountains National Park requires controlled tours for visitors. It is of particular importance that taking endemic plant types out of the park should be prevented. Challenging natural conditions (sudden mist and challenging land conditions) require field guides in order to prevent any harm to the visitors (Temizkan and Yildirim,2014). However, study results indicated that people coming to this area tour around without guides or without taking manuals which has negative impacts on the environment.

In the Master Plan for Natural Tourism in Rize (2014), it is stated that ecological indicators have not signed any threats yet in Kaçkar Mountains National Park. Though ecological indicators do not warn against any threats, this study revealed that certain tourism and recreation activities have considerable negative impact on the environment in the national park. Ecological indicators prepared for Kaçkar Mountains National Park reported that it is plants which are highly influenced by the increase in tourism. Study results also revealed that plants are highly influenced by tourism and recreation activities in the region.

Knowing the impact of tourism and recreation activities on the National Park's environment is quite important for sustainable tourism. Moreover, knowing the impact of tourism and recreation activities on the environment will give us a clue on how to develop the region without not damaging it.

Taking into account the study results, it is seen that visitor wastes (litter dropped by visitors) have considerable negative impact on the national park's flora, fauna, and water quality.

Based on the observations of various tourism operators in Kaçkar Mountains National Park, the factor which has the highest negative impact is poaching and it is followed by plucking plants, unguided trekking, picnicking and helicopter tours.

According to study results, some recommendations are given below so as to reduce negative impact of tourism and recreation activities:

- a. Unlicensed housing, which is an attempt to accommodate tourists whose number is increasing day by day thanks to tourism and recreation activities in Kaçkar Mountains National Park, should be prevented. To this end, current laws should be amended and sanctions should be imposed. Supply sources should be increased within a plan to meet the increasing demand. Various strategies can be adopted in this process to balance the demand (such as increasing the fee to be paid before entering the national park).
- b. As it is a general case in the national parks of Turkey, one of the most important problems of Kaçkar Mountains National Park is poaching. Inspections should be made more frequent and sanctions should be imposed. More creative solutions can be proposed by examining the national parks which are in the states that manage national parks more professionally.
- c. One of the most important problems of Kaçkar Mountains National Park is the litters dropped by visitors. In relation to this, visitors may be given litter bags before entering the national parks and asked to hand in those litters as stated by the participants. Picnickers are the group which drop litter most. Therefore, disarranged picnic areas in the national park can be restricted allowing picnickers only to a certain area. Moreover, they can be informed about keeping the environment clean.
- d. Another important problem of Kaçkar Mountains National Park is the limited number of tourist guides which are important for more controlled and satisfying tourism and recreation activities. Guides or manuals are vitally important to reduce the negative impact of tourism and recreation activities on vulnerable national parks. In this sense, field guides, which are assigned to work in the field but do not perform their duties properly, should be supported and encouraged to undertake their responsibilities properly. Legally, visitors have to have a field guide with themselves during their visits. However, it was revealed that visitors tour around the national park by themselves. Various practices should be developed concerning the practicability of the legal decisions. For instance, guides should be present at the entrance of the national park and visitors should be allowed in only when they take the guide with themselves.
- e. Visitor center in Kaçkar Mountains National Park, which is not active yet, should be urgently activated. In this visitor center, incoming visitors should be informed about parking. They should be able to have an access to relevant sources in relation to parking and the things they are going to need. This will play an important role in reducing the negative impacts of tourism and recreation activities on the national park.

Kaçkar Mountains National Park is a unique place with its natural beauty, endemic plants and animals. Such unique places should be used under the protection. Otherwise, they may disappear in time. Therefore, current problems should be resolved before it is too late. Planned and controlled development should be ensured as well.

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This study is an attempt to identify the environmental impact of tourism and recreation activities on KaÅškar Mountains National Park. After identifying the environmental impact levels, some suggestions were made for drawing current or future negative effects of tourism and recreation activities in KaÅškar Mountains National Park to acceptable levels. Data were collected from all the tourism operators working in KaÅškar Mountains National Park. In this study, respondents were asked to indicate the extent to which they agreed with the statement using a five-point Likert scale ranging from 1 (little impact) to 5 (much impact). SPSS was used for data analysis. The main environmental impacts of tourism are...Å The tourism industry also has many physical impacts on the environment. Ecosystems such as rain forests, wetlands, mangroves, coral reefs, sea grass beds and alpine regions are often threatened because they are attractive places to developers and tourists. Construction and infrastructure development can include extensive paving, sand mining, wetland draining, marine development and deforestation.Å Around the world there are many ecotourism activities and sustainable tourism businesses that keep environmental values at the heart of their business practices. Conventional tourism businesses on the other hand donâ€™t always consider natural resources, pollution and environmental degradation. Environmental Tourism, â€“ also referred to as Ecotourism, Sustainable Tourism and Responsible Tourism â€“ are terms rooted in the concept of development that â€œmeets the needs of the present without compromising the ability of future generations to meet their own needsâ€ (Bruntland Commission, 1987).Å Negative impacts from tourism occur when the level of visitor use is greater than the environmentâ€™s ability to cope with this use within the acceptable limits of change.Å These actions have caused habitat loss in the park and are accompanied by various forms of pollution including air pollution from automobile emissions; the Sierra Club has reported â€œsmog so thick that Yosemite Valley could not be seen from airplanesâ€ (Source: Trade and Environment Database). Tourism, in simple terms, is an activity that involves people visiting places of interest, both local and international, and exploring new different activities and experiences for leisure or business. Countries such as the Maldives, British Virgin Islands, China, and Seychelles including many others across the world, depend highly on the tourism sector as a source of income generation. The global tourism sector is the largest industry, contributing up to USD 2.9 Trillion to GDP; with France, the USA, Spain, China, and Italy being the worldâ€™s top destinations.Å This article particularly sheds light on both the positive and negative impacts of tourism on the environment. The positive impacts of tourism on the environment include:

Contents. Environmental Impact of Tourism. YILDIRIM, G., & sezgin, M., (2017). The Environmental Impacts of Tourism and Recreation Activities on KaÅškar Mountains National Park,Rize/ Turkey. Australasian Journal of Business, Social Science and Information Technology (AJBSSIT) , vol.3, 68-74. Kopyala. YILDIRIM, GÃœLSÃœN, And Mete sezgin. "The Environmental Impacts of Tourism and Recreation Activities on KaÅškar Mountains National Park,Rize/ Turkey," Australasian Journal of Business, Social Science and Information Technology (AJBSSIT) , vol.3, 68-74, 2017. Kopyala. YILDIRIM, GÃœLSÃœN And sezgin, Mete. "The Environmental Impacts of Tourism and Recreation Activities on KaÅškar Mountains National Park,Rize/ Turkey."