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Determination of Recreation Potential with Using Gülez Method in Çankırı Kadınçayı Natural Park Example

Abstract

In recent years, the demand for national parks and natural parks has increased with the increasing interest in outdoor recreation activities. Today, natural park areas are visited by many people who come to engage in recreational activities. For this reason, recreational activities in natural parks gain importance and take an important place in tourism activities. In this study, the research of Kadınçayı Natural Park recreational potential which are located in the borders of Ilgaz district of Çankırı province are included. Within the scope of the research, literature studies were conducted on recreation, recreation potential and its measurement, and the recreational potential of the area was tried to be determined by performing field studies and on-site observations. As a result of the research, it has been determined that Kadınçayı Natural Park has a high recreational potential with 66.3%.

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INTRODUCTION

Landscapes are areas that are formed as perceived by people as a result of the interaction and action of human or natural factors (European Landscape Convention, 2000) and in this direction landscapes are divided into two parts as natural and cultural landscapes. Natural landscapes create an ecological balance together with land structure, soil structure, air, water, vegetation and wildlife community in a landscape that does not have any human influence. In other words, as well as living beings, non-living beings take place as a part of this whole. The changes in the ecological and biological balance of such areas are only revealed as a result of events such as earthquakes, volcano eruptions, severe sea and air currents, ebb&flow and erosion, which we call natural forces. Natural areas are divided into groups like mountain landscapes, sea landscapes, lake landscapes, desert landscapes in natural landscapes (Gül, 2000).

There are various types of natural areas. Although their classifications may differ from country to country, the classification made by the International Union for Conservation of Nature (IUCN), which is still being applied in many countries, collects natural areas under six main headings. These are "Absolute Natural Reserve and Wildlife Areas", "National Parks", "Natural Monuments", "Managed Habitat/Species Areas", "Protected Landscape Areas" and "Natural Resource Areas Protected by Sustainable Use" (IUCN, 2013).

In Turkey, Natural Parks are defined under the title of "Protected Areas". According to the Ministry of Forestry and Water Affairs, General Directorate of Nature Conservation and National Parks, protected areas are defined as; "It is a geographical area defined and managed by legislation in order to ensure the long-term protection and continuity of ecosystem services and cultural values with nature." Protected areas are divided into "National Parks", "Natural Parks", "Natural

Monuments", "Nature Conservation Areas" and "Wildlife Development Areas" (Mert and Kutluca, 2018).

Among the protected areas, Natural Park is a natural piece with vegetation and wildlife features, suitable for recreation and entertainment of the public in a landscape integrity. Unlike National Parks, natural parts have protection, recreation and tourism areas with only natural resource values that are rare nationally and internationally (Şahbaz and Altınay, 2015).

The meaning of the word regeneration recreation, recreation or reconstruction means is derived from the Latin word *recreation*. Recreation includes activities that the participant chooses voluntarily and uses their leisure time (Serarslan and Bakır, 1988). All activities for recreation, rest and relaxation are called recreational activities (Kılıçaslan, 2008). Recreational activities are planned activities that have positive effects on human health that people enjoy, active or passive, individually or as a group, other than daily compulsory activities (Nowaczek, 2003). Also recreational activities and determination of the time to spend these activities depend on the preferences of the individuals (Yazıcı and Temizel, 2020).

Recreation areas are places where recreational activities are performed. While these areas are planned and designed areas such as city parks, children's playgrounds; forest, sea, lake and even nature areas with protection status create recreational activity opportunities with their natural characteristics (Uzun, 2005).

One of the recreational area's attraction is the natural landscape characteristic of that area (climate, topography, flora and fauna, water resources), but the cultural opportunities provided from the area (the presence of infrastructure and superstructure, educational, sports, health, recreational opportunities, accommodation, communication, transportation facilities) also increase the attraction (Yılmaz, 2004). In this study, the sample of Kadınçayıri Natural Park, which is an important nature

protection area for Çankırı province Ilgaz district, in terms of recreation features, has been examined and the recreational potential of the area has tried to be determined. In this context, some informations have been given about the importance of the area and its recreational potential and facilities have been discussed.

MATERIALS and METHODS

Materials

Kadinçayırlı Natural Park has been selected as the research area and the main material of the study, is located in the Ilgaz

district, Kadınçayırlı site, between Çankırı and Kastamonu. The city of Çankırı is located in the north of Central Anatolia Region, in the transition area between Central Anatolia and Western Black Sea Region. Kadınçayırlı Natural Park is located in Yıldıztepe Culture and Tourism Protection and Development Zone and has an area of 422 hectares (Figure 1).

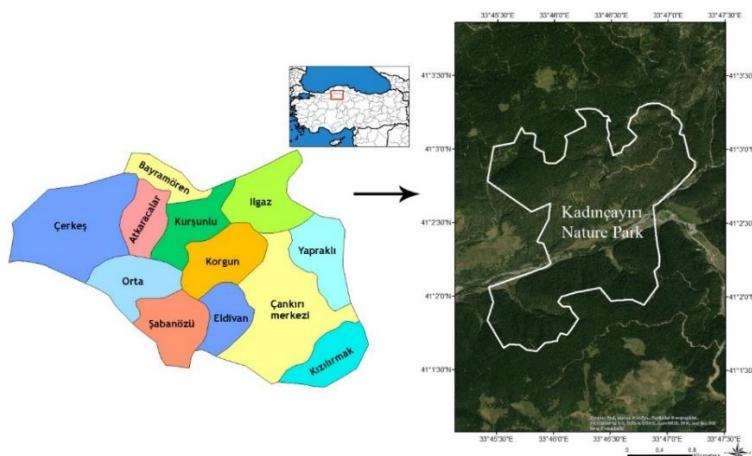


Figure 1. Location of research area

Methods

In the study, the method of "determining the recreational potential of open air and forestry areas", introduced by Kiemstedt (1967) and Leier (1979) and developed by Gülez (1990) was applied to determine the recreational potential of the Kadınçayırlı Natural Park. Investigations for the field were conducted on an expert group and the differences between the values found by different people in this group remain at a reasonable level. In order to determine the recreation potential of the Kadınçayırlı Natural Park, a total of 10 evaluations were made, including 2 experts from Çankırı Special Provincial Administration and 8 faculty members from Çankırı Karatekin University, Faculty of Forestry, Department of Landscape Architecture. After giving the necessary information about the study, the

experts were asked to evaluate the field in the light of the criteria in the questionnaire form.

Kiemstedt (1967) investigated the suitability degree of natural landscape elements for recreation and evaluated the forest and water coasts and the climate factor as well as various land uses. When all these values are put into place in the V-Value (Versatility Value) formula, it has obtained the value of suitability for recreation in a desired region (Gülez, 1979). The method developed by Gülez (1990), which aims to determine the actual open air potential of small area units with a simple mathematical formula, enables the determination of the recreational potential of the forest and open air area and provides a very practical calculation method as shown below.

$RP (\%) = P + I + U + RK + OSE$ (Equation 1)
 The meaning of the symbols that enter the formula with certain weights and the distribution of the highest (maximum) score (or weights) they can get are shown in Table 1. As seen in the chart, the total score will theoretically be at most 100, so the sum of

the scores that the items in the formula can get will give the outdoor recreation potential of an area as a percentage. According to Gülez (1990), the items in the formula get scores according to the following features.

Table 1. Formula items and the scores

Symbol	Meaning	Maximum Score (Item's Weight Score)
P	Landscape value	35
I	Climate value	25
U	Accessibility	20
RK	Recreational convenience	20
OSE	Negative factors	0 (Min. -10)
ARP	Recreational potential	100

Landscape value

The most important feature in evaluating the recreational potential of an area is the landscape potential of that place. For this

reason, the landscape value is in the first place of the evaluation with a weight of 35% (Table 2).

Table 2. Scores of landscape value

Landscape value	Maximum score
Size of Area	4
Flora	8
Water Resource Presence	8
Topographic Structure	5
Visual Quality	4
Other Features	6

Climate value

Considering that climate has a great impact on recreational activities, it was

deemed appropriate to include the climate effect with a weight of 25% in the assessment (Table 3).

Table 3. Scores of climate value

Climate value	Maximum score
Temperature	10
Precipitation	8
Sunbathing	5
Windy	2

Accessibility

The recreational potential of a place becomes meaningful to the extent that it reaches that place. In other words, the more people benefit from a place and if those people do not encounter an important

transportation problem in order to reach there, the suitability of that place for recreation increases significantly. Therefore, the accessibility element has joined the recreation assessment method with a weight of 20% (Table 4).

Table 4. Scores of accessibility

Accessibility	Maximum score
Tourist importance of the region where it is located	5
Having a population of at least 100,000 in the region where it is located	4
Time reached (from a nearby city with at least 5,000 inhabitants)	5
Transportation (except taxis and private cars)	3
Other conveniences in transportation	3

Recreational convenience

In determining the recreation potential, all the recreational facilities available in that place have a positive effect on the increase of the recreational potential. It is obvious that a tree-lined place with a beautiful view has facilities such as picnic tables, fountains

and recreational equipment and it will attract more and more continuous visitors, therefore, its recreational potential will increase. In this case, it has been deemed appropriate to evaluate the recreational facilities with a weight of 20% at most (Table 5).

Table 5. Scores of recreational convenience

Recreational convenience	Maximum score
Picnic Facilities	4
Water Condition	3
Overnight Facilities	2
Toilets	2
Car park	2
Sales Units (Buffet etc.)	2
Watchmen and Attendants	2
Other Conveniences	3

Negative factors

In determining the recreational potential of a place, it is obvious that is necessary to consider the negative factors existing in that place. The best case is, of course, that there are no negative factors, so a place gets zero negative scores. In addition, it has been assumed that there may be negative factors

that can get a maximum of (-10) scores. The scores of the negative factors are taken as negative (-) in the evaluation, so they are subtracted from the total score (Table 6). The findings obtained as a result of applying the method mentioned above are classified as follows (Table 7).

Table 6. Scores of negative factors

Negative factors	Maximum score
Air pollution	-3
Insecure	-2
Water pollution	-1
Neglect	-1
Noise	-1
Other Negative Factors	-2

Table 7. Classification of landscape value and recreational potential according to the Gülez method

Very low	Below 30%
Low	30%-45%
Middle	46% -60%
High	61% -75%
Very high	Above 75%

RESULTS and DISCUSSION

Kadınçayırlı Natural Park was declared as a “Natural Park” with the approval of the Ministry dated September 5, 2012 (Figure 2). The Natural Park area is located in Çankırı Ilgaz Kadınçayırlı-Yıldıztepe Culture and Tourism Protection and Development Zone, and within this scope, it is very close to the Yıldıztepe site, which is under construction within the scope of the

1st Stage Zoning Plan designed to the east of the Natural Park area. Also, in the northwest of the Natural Park area is about 10 km away and located on one of Turkey's major ski resorts in the Ilgaz Mountain National Park, this is an area specifically developed for winter tourism (Nature Conservation and National Parks General Directorate, 2016).



Figure 2. Images from Kadınçayırlı Natural Park (Nature Conservation and National Parks General Directorate, 2016)

Kadınçayırlı Natural Park is located at the most important transition points between the Central Anatolian steppes and the Black Sea forest vegetation. Crossing points are the most ecologically valuable areas. These areas are considered to be the areas with the richest endemic species and biological diversity. Approximately 1400 m. of Gök Stream, which flows from the northeast to the southwest, flows from the Gökyar,

Büyük Hacet and Küçük Hacet Hills located in the east and northeast of the Natural Park area, passes through the Natural Park and joins Gök Stream near Çomar Village. Dividing the Natural Park area into north and south and being the most important stream of the area. Gök Stream maintains its flow throughout the year (Çankırı Province Environmental Status Report, 2019) (Figure 3).



Figure 3. Images of Gök Stream (Original, 2020; Nature Conservation and National Parks General Directorate, 2016)

The wide meadows on both sides of Gök Stream and in Yarpınar locality are suitable for recreational activities. Although there is no regular recreational activity within the boundaries of the Natural Park, the local people use the site for daily picnic activites (Çankırı Province Environmental Status Report, 2019).

Area size, vegetation cover, water resource, cultural values, wildlife and visual quality increase the recreational usability and attractiveness of the area. In addition, the climatic characteristics of the area should be taken into account in the planning and implementation of recreational activities.

Transportation is another important factor affecting participation in recreational activities. People can reach Kadınçayı Natural Park by private vehicles, but public transportation is not possible. The time spent on public transport in recreational areas is a situation that individuals who will perform the recreational activity will not want. In addition to providing ease of access to the area, providing access as soon as possible is also important in evaluating the recreational potential of that place (Surat, 2017).

According to the Gulez method, analysis created within the scope of revealing the relationship between the landscape value, climate value, accessibility, recreational facilities, negative factors and the recreational potential of the area and the characteristics of the landscape value and

the recreational potential of the area was carried out to experts and academicians. The value results as a result of the analysis made is 66.3%. Despite the value obtained, the landscape value of the research area has been determined as "high".

There is no tourism activity in the Kadınçayı Natural Park. In the area, passive recreational activities such as picnics, excursions, sitting, watching the scenery are carried out intensely, however, it also includes suitable active recreation points where photography, camping and nature sports can be done in some places. There are beautiful view points in terms of tourism and recreation where rich vegetation, water structure, wildlife diversity can be watched in the area. By creating viewing points in these areas, it will be possible to perform the scenic viewing activity in a controlled manner. In addition to being an important nature protection area with its natural and cultural landscape features in its immediate surroundings, the area should also be highlighted by supporting it with its recreational features.

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