

A Preference Survey for Determining Recreation Potential of Natural Landscape Elements in the Çoruh Basin of the Province of Artvin, Northeastern Part of Turkey: A Case Study

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Abstract: This study has two main parts. In the first part of the study, natural landscape elements and rural recreation activities have been defined and in the second part the relationship between the demands of people who take part in rural recreation activities and the landscape elements they prefer. For this reason, recreational areas as well as the general recreational tendencies of people in the study area have been determined. In the light of the data obtained from these preliminary research studies, interview surveys were done in 1994-1995 in both residential and temporary residential areas. The data obtained in the studies were analyzed statistically and the preference of natural landscape elements of people living in the area was carefully examined. The research reported here represents an empirical contribution to the field of landscape preference studies for recreation, especially in the developing countries.

Key words: recreation, demand for recreation, natural landscape elements, Çoruh watershed area

Introduction

The growth of leisure activities during the past twenty years has been attributed to many factors, including shorter working hours, longer holidays, higher incomes, more widespread car ownership and of course a growing population. These changes may explain the increase in leisure and personal mobility but they do not account for the spectacular growth of countryside recreation. If this growth continues and it seems very likely that it will do so-the relationship between recreation and other rural land uses, particularly agriculture, will become a major issue in recreation planning (Keenleyside, 1971).

The natural environment is crucial to the attractiveness of almost all travel destinations and recreation areas. Even a major city, visited for its cultural or commercial attractions, may have a significant portion of its character arising from its river, its harbor, a mountain backdrop, or surrounding agricultural countryside (Farrell and Runyan, 1991).

The activities of people in their leisure time have stimulated-at times demanded-a wider interest in the complexities of the rural environment and in the conflicts that exist there. Moreover, increasing leisure activity has brought people into the countryside not only with demands for new facilities and services, but with a growing awareness of the environment they

have sought (Davidson and Wibberley, 1977).

Recreation demand is the use of existing facilities and the desire to use facilities, either now (present demand) or in the future (future demand) (Kenyon, 1970). There are several components in existing demand either for recreation as a whole or for any particular activity. These consist of Effective Demand, which is present participation and what is sometimes termed Latent Demand which comprises Deferred Demand (those who would like to participate and have the means and time to do so but are unable to because of the lack of recreation facilities or the lack of knowledge of the existence of such facilities) and Potential Demand (those without the means or time to participate, but who could be converted into effective demand at a later date if their social / economic state changed) (Law, 1970).

Numerous demand studies for outdoor recreation have been conducted over the past few years (Clawson and Knetsch, 1966; Smith *et al.*, 1968; Hookway, 1970; Patmore, 1970; Coppock and Duffield, 1975; Gum and Martin, 1975; Burton and Wibberley, 1976; Gülez, 1979; Vining and Fishwick, 1991; Lier and Taylor, 1993). Many of these studies have directed to empirical study and Demand for and Value of Rural Outdoor Recreation. The purpose of this paper is to describe natural and cultural environments and to determine to recreation demand in relation to some natural landscape elements of choice for recreation.

Nowadays, it is well known that people tend to prefer outdoor recreation in natural surroundings rather than in a man-made environment. Landscape preference studies for recreation have been a much neglected topic in developing countries (Chokor and Mene, 1992).

This exploratory research is a continuation of a study by Gülez (1979) which was based on the usage of natural landscape elements at the Eastern Black Sea Coast of Turkey for recreational purposes.

The present study consists of two parts. One part deals with recreation activities and demands while the other part investigates the relationship between recreation demand and some natural landscape elements preferred in the study area.

The aim of this study is to determine recreation demands and some natural landscape elements of choice for recreation in the study area.

Materials and Methods

The northeastern part, which includes the study area, is one of the rapidly developing regions in Turkey (Fig. 1). The land around the province of Artvin in northeastern Anatolia is covered with steep and impassable mountains. The Çoruh river winds through this mountainous area until it reaches the Black Sea.

The Çoruh watershed area is placed in a rather underdeveloped region with regard to the tourism investments due to the fact that the country's previous development plans have not given high priority to tourism in the region. The factors that the area has such as Çoruh river, unique natural and visual beauty, rich and characteristic vegetation cover and local cultural richness give a different originality to the area from other places in our country (Afacan *et al.*, 1995).

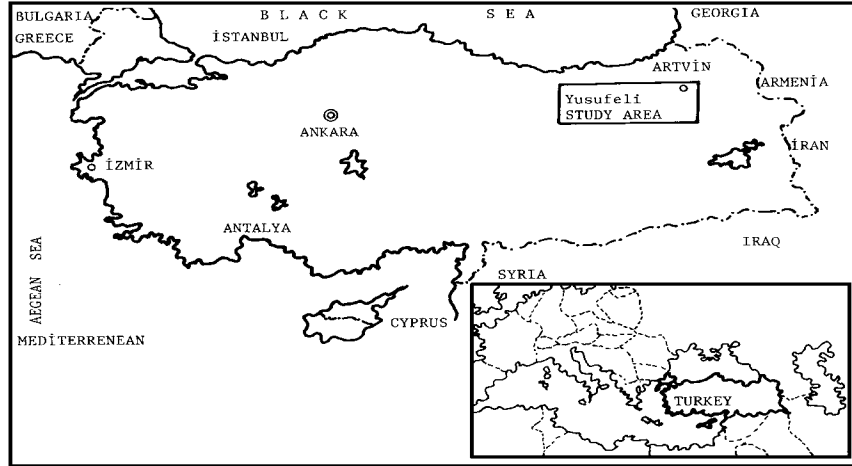


Fig. 1: Geographical location of the study area

The watershed area of Çoruh river with its untouched landscape values is one of the distinguished potential areas where recreational activities can be carried out.

Some research conducted in the study area (K.T.Ü., 1993) shows that people visiting Çoruh watershed area choose a vacation there because they are able to experience nature and this is an important unspoiled part of Turkey.

The natural and aesthetic landscape characteristic of the region can be summarized as follows.

- 1 Çoruh watershed area, the subject area of the study, is one of the rare places in Turkey with its exceptional natural beauty and climate, inhabiting untouched natural values open to recreation activities.
- 2 The settlement areas that surround the Çoruh river impress visitors with their authentic characteristic.
- 3 Çoruh River is one of the fastest flowing rivers in the world. The banks and environs of the river have become popular spots with tourists because of the opportunities they offer for a wide range of activities. Çoruh is already well-known for local and international rafting and canoeing and is visited by thousands of nature and sport lovers from many parts of the world.
- 4 The region also offers vast trekking opportunities in the Kaçkar mountains and has a rich recreational culture that is described below.
- 5 Besides having high mountainous regions and water streams that flow into the Çoruh river, Çoruh watershed area constitutes a passage between Eastern Blacksea and Eastern Anatolia and thus creates a suitable living environment for both mammals that can be hunted and fish, giving it an important state in regards to wildlife. Nestled among the crags surrounding the banks of the river live colonies of red vultures, a species which is at the verge of extinction. Also along the valley of Çoruh, brown-bears mountain goats with so-called hooked-horns, wild boars, wolves, jackals, foxes, badgers, sables, hares, partridges, wild cocks, woodcocks, wild ducks, wild pigeons, golden orioles, rock-doves and ring doves can be found.

- 6 While Çoruh river and connected streams provide opportunities of rod fishing at the land surrounding the river are suitable sites for picnic and camping.
- 7 As a result of the natural and cultural characteristic of the area it's possible to practice recreational activities four seasons of the year (e.g. rafting, canoeing, trekking, picnics, camping, rock and mountain climbing, hunting, sportive fishing, winter sports, historical sightseeing, valley festival etc.)

High plateau activities and festivities which have been carried out customarily through the years at the region are important recreational data. High plateau settlements, located among the rain clouds with their partly well protected houses and self motivated folklore explosions add rich motives to the trekking activities..

Today, the encroachment of modern life on the high plateaus is carefully monitored so that the essential character of this way of life is preserved. Time spent on the high plateau is particularly suitable for a recreational vacation and enjoying nature (Güleç, 1996).

The settlement period for the Eastern Black Sea high plateaus is the three months between the beginning of June and end of the August. Going up to the plateaus has been carried out as a two phase custom at the Çoruh region. At the beginning of June natives settle at Mezra (summer residences-wooden huts for temporary residences) which are located below the plateaus (summer residences located at a higher altitude than the Mezra's), stay there until the middle of July and proceed to the plateau when the weather gets warmer. Festivities are being held at the Mezra' s and High Plateau settlements at Çoruh region on different days of the year. These festivities customarily emerge on certain historical days self determined; people sing traditional songs, enjoy folk music, dance and recount jokes and long stories. One of the best known is the traditional and unique bull wrestling festival.

The Çoruh river is one of the important rivers in the world where rafting and canoeing are being done. The IV.th White water World Championship was held at the Dokumacılar Camp Site located on the Çoruh river. In the Championship, which hosted competitors from 30 different countries a conference with One World One River as a slogan and various sport and cultural activities also took place.

The evaluation method of the suitability of natural landscape elements for recreation was developed by Kiemstedt, (1967) and for the first time studied in Germany. This method has been further developed by Buchwald (1973) and applied to the Bodensee region in Germany. Then the method was applied to Turkey by Güleç (1979) in the Eastern Blacksea Coastal Region. The evaluation principle for the method was based on scoring the highest values to the landscape elements showing various land uses such as water surfaces, forests, riversides etc.

The aim of the study is to survey 500 people in the area about their preferences toward different types of landscape. For this reason, in 1993 a pre-research was done at the area in order to find out about general tendencies and habits of native people about the recreational use of nature, to observe the intensity of visitors and to determine the problems at the area arising from recreational use. In the light of information gathered, questionnaires were prepared and then given to native people living in the villages, high plateau residences at the research

area during customary festivities. The questionnaires were applied during one to one question and answer format with the subjects and each were helped to fill in the questionnaires themselves. The questionnaire work was completed in 4 months during the summer of 1994-1995 (Demirel, 1997).

During the preparation of questionnaires, Davidson, (1970), Countryside Commission (1970,1973), Altan (1976) and Gülez (1979) studies were made use of. The interviewers were selected among forest engineers studying in the Directory of Forestry, in Yusufeli. All the interviewers were told about the background and purpose of the survey. Before the main survey, the interviewers practiced during a pilot survey. They were often supervised during the survey.

Six age groups were identified. As the retirement age is 65 in Turkey, this was considered to determine the last age group (65 and over). Seven income levels were determined according to monthly salaries in Turkey (may 1994 income levels). Eight occupation groups were taken into account: civil servant, worker, farmer, professional (businessman, shopkeeper, doctor, dentist, photographer, mechanic, etc.) retired, housewife, student.

The questionnaire consisted of a combination of 18 closed and open questions (mostly closed) in pre-coded items. The questionnaire was distributed to a random sample according to the population of village, high plateau, mezra (summer residence), high plateau festivities and temporary residential area-the meadows. Home interview surveys were carried out in all towns with populations over 1000 (3 in total) in the Çoruh watershed area.

Respondent were asked to indicate whether they participate in recreation activities and they were also to specify (through multiple-choice answers) some natural landscape elements preferred for recreation. Eight natural landscape elements were identified. These are as follows: river and riverside, lake and lakeside, in forest, adjacent to forest, mountain areas, pasture land, cropland and orchard.

It is important to realize that any one activity is based on choice rather than necessity and a result there are often a variety of substitutes for each recreation activity. Furthermore, people's choice of recreation depends on a variety of factors, including the amount of leisure time available, their age, marital status, social class, education and taste (Hookway, 1971).

Cross-classified tables of responses to four socio-economic variables, namely, age, income level, education level and occupation were designed. The data for each of these variables were then subjected to the chi-square test to determine the degree of significance of each. The chi-square test was done for those who preferred some natural landscape elements for recreation. The landscape elements that do not have significant relationships with some of the variables are not shown in the Tables.

Results and Discussion

Of the respondent, 88.8% participated in recreation activities. This is the effective demand. The rate of non participants who wished to participate if they had the opportunity (in time and money) was found to be 9.8%. The total recreation demand (effective and potential) is 98.6% in the study area (Table 1).

The distribution of recreation demand by the places that respondents prefer is presented

in Table 2. Participants prefer mainly Çoruh river and riversides for their recreation activities (61%). The rate of those who prefer high plateaus is low (39%). This is due to the fact that the village settlements are located at the banks of Çoruh river. However, those rates as potential demand slightly change 65 and 35%, respectively (Table 2).

Table 3 indicates that the respondent preferring the landscape element riverside (20.33%), pasture land (20.29%) and adjacent to forest (19.36%). A Chi-square test was applied in order to find out about the distribution of the preferences of participants about recreational sites according to their age, occupation, education and income (Table 4 and 7).

Table 4 shows us that there is no significance difference between the age groups about the preference of recreational natural landscape elements. Age groups of 16-25, 26-35, 36-45 and 46-55 mostly prefer areas near rivers and forests and pastures.

A similar situation can be observed in Table 5 showing the educational backgrounds of participants. It was seen that those who made most use of the landscape elements were primary school, high school and polytechnic graduates and that the preferred elements were likewise areas near rivers and forests and pastures. That these elements are preferred is because of the traditional recreation habits.

Table 1: Recreation demand in the study area

Total respondent	Recreation participants (effective demand)	Nonparticipants			Recreation demand (effective demand+potential demand)
		Total	Potential demand	No demand	
500	444 88.8%	56 11.2%	49 9.8%	7 1.4%	493 98.6%

Table 2: Distribution of recreation demand by places respondents prefer

	Çoruh river and riversides	High plateaus	Total
Those who participate in recreation activities (effective demand)	61% (54%) ^a (271)	39% (35%) ^a (173)	100% (500) (444)
Those who wish to participate in recreation activities if they have opportunities (potential demand)	65% (6%) (32)	35% (3%) (17)	100% (500) (49)
Total recreation demand (effective plus potential demand)	60% (54+6) (303)	(35+3) (190)	98.6% (500) (493)

^a: percentages in parentheses show the percent values within total (500)

Table 3: Respondent by natural landscape elements preferred for recreation

Natural landscape elements ^a	Percent (%)	Number ^b
River and riverside	20.33	296
Lakeside	6.86	100
In forest	12.98	189
Adjacent to forest	19.36	282
Mountain areas	9.34	136
Pasture land	20.29	295
Cropland	3.29	48
Orchard	7.55	110
Total	100.00	1456

^a: Arranged in order of decreasing percentage of preference, ^b: Includes more than once preference per person

Table 4: Natural landscape elements preferred by age group *

Natural landscape elements	Age group					
	16-25	26-35	36-45	46-55	56-65	66 +
River and riverside	55	62	74	63	36	6
Lakeside	17	26	24	17	12	4
In forest	37	42	46	38	20	8
Adjacent to forest	60	59	66	55	34	8
Mountain areas	22	36	26	26	18	8
Pasture land	60	63	70	59	33	10
Cropland	11	6	7	14	9	1
Orchard	22	19	27	25	16	1

*Includes more than one response per person, Chi-square test $\chi^2=23.98$ Chi-square test is not significant $df=35$ $p=0.05$

Table 5: Natural landscape elements preferred by education level *

Natural landscape elements	Education level				
	Non-educated	Primary school	Secondary school	High school	Higher education
River and riverside	31	106	46	83	30
Lakeside	7	42	12	29	10
In forest	17	73	27	52	20
Adjacent to forest	27	107	45	77	24
Mountain areas	11	55	21	38	11
Pasture land	32	117	42	77	27
Cropland	5	21	9	11	2
Orchard	10	43	20	28	9

* Includes more than one response per person, Chi-square test $\chi^2=8.77$ Chi-square test is not significant $df=28$ $p=0.05$

Table 6 : Natural landscape elements preferred by occupation*

Natural landscape elements	Occupation group				
	civil servant	worker	farmer	professional	others
River and riverside	65	18	45	96	72
Lakeside	12	8	11	46	23
In forest	34	13	24	74	44
Adjacent to forest	52	16	43	92	79
Mountain areas	21	12	18	53	32
Pasture land	45	25	42	102	81
Cropland	8	2	8	13	17
Orchard	19	9	13	29	40

* Includes more than one response per person, Chi-square test $\chi^2=31.38$ Chi-square test is not significant $df=28$ $p=0.05$

When the relationship between occupation and landscape elements is taken into account, it is obvious that those who are civil workers and those who work independently are more active in using the landscape elements for recreational purposes (Table 6). That people who work indoors (civil workers etc..) prefer to make use of landscape elements is natural.

Table 7: Natural landscape elements preferred by Income level *

Natural landscape elements	Income level					
	Very low	Low	Medium	Fairly high	High	Very high
River and riverside	27	75	98	45	39	7
Lakeside	11	25	25	17	14	5
In forest	15	47	53	29	35	7
Adjacent to forest	26	72	87	48	39	8
Mountain areas	8	36	37	30	19	3
Pasture land	27	78	97	49	30	11
Cropland	2	12	19	7	6	2
Orchard	7	28	37	17	15	6

* Includes more than one response per person, Chi-square test $\chi^2 = 22.04$ Chi-square test is not significant $df = 35$ $p = 0.05$

The natural areas which do not have enough recreational facilities (tools), are far from providing all that the users look for. Usage is not at the requested level at the area where such activities have just started gaining intensity. As a natural outcome of this situation, it is more likely for those with medium level income to take part in such activities. The relationship between income and usage of landscape elements shows that those with medium level income use the landscape elements more intensively. However, the common quality of the users is the elements that they prefer, areas near rivers and forests and pastures (Table 7).

The recreation demand of the study area has been found to be 97.8%, including potential demand. Çoruh river and the surroundings are located in an underdeveloped region of Turkey, it is remarkable in respect to the intensity of recreational activities. The region has a variety of recreational activities taking place at different seasons (plateau festivities, festivals, nature trekking, mountaineering, water sports, sport fishing, hunting, etc...) and the participation has been increasing through the recent years.

In the second part of the study, it is obvious that respondents prefer mostly river and riverside, adjacent to forest and pasture land for recreation activities among some natural landscape elements. It is important to note that the landscape elements river and riverside, adjacent to forest and pasture land were the first choice in all groups of each of the five variables, namely, age, education, income and occupation.

Kaçkar and Altıparmak mountains are located in the research area which has a rough landscape, provides opportunities of trekking, mountaineering and mountain climbing to the tourists. In addition the various lakes located on these mountains and their surroundings are important natural resource values. Mountainous regions were selected 5th from among 8 different landscape elements with a percentage of 9.34%. This is due to the fact that there are the altitude is 2000 m., causing a difficulty of transportation.

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