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Identification and classification of nature-based tourism resources: western Lake Van basin, Turkey

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Abstract

Today, nature-based tourism is one of the important export items of tourism industry in many countries such as Australia, Kenya, Nepal, and New Zealand. However, the nature-based tourism resources of Turkey cannot be promoted since they have not been identified and classified yet. The aim of this paper is to identify and assess the natural resources having tourism potential to be developed in the western part of Lake Van basin. The increasing environmental awareness among consumers has lead tourism managers and planners to satisfy this type of tourists' needs by searching new tourism resources. First step for the effective planning is to systematically determine the resources and assess the values of them. The assessment criteria in this paper are attraction levels, infrastructure, level of environmental degradation, and accessibility. The 23 natural resources in the research area were classified based on Priskin's control list approach by applying several experts' opinions and making journey to the sites. The places of nature-based tourism attractions were determined with Global Positioning System and this information were evaluated in the Geographic Information System based program of Mapinfo and hundreds of pictures were taken from all perspectives in the research area. The findings of research revealed that the sites have middle and high levels of attraction and low level of infrastructure. In addition to that, the results show that accessibility is not a inhibitory factor for the tourists to reach the destination and the level of degradation is very low in the area. Therefore, a planned research approach is necessary to investigate the areas with high tourism development potential and relatively untouched.

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1. Introduction

Tourism requires a search for the extraordinary when compared to an individual's daily life and environment [1]. Thus, in contrast to mass tourism where the sun, sand and sea constitute the only tourism resource, ecotourism or nature-based tourism activities respond to people's desire to participate in tours with different aims such as relaxation, discovery, learning and escaping to nature, and getting away from the routine of everyday life. These activities also form the main axis of sustainable tourism. Being a sub-branch of sustainable tourism, ecotourism has

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been defined by Weaver [2] as “a type of nature-based tourism which provides opportunities to learn and appreciate the natural environment and its elements, and also strives to be ecological, sociocultural and economical”. Ecotourism involves a trip to explore and learn about the nature and wildlife [3]. The term ecotourism was born in the late 1980s as a reaction to global economic practices and in search of sustainable practices [4]. Being an extension or off-shoot of alternative tourism, ecotourism grew out of the dissatisfaction with traditional tourism which generally prefers a stricter profit-oriented approach over one that places humans at the center of the universe, and ignores the social and ecological aspects of visited areas. Today, nature-based tourism is main revenue in many countries where tourism is an important export industry. These countries include Australia, Kenya, Nepal, New Zealand, Tanzania, Costa Rica and Botswana [3].

Tourism and its direct use play an important role in the encouragement of conservation as it contributes to the tourism industry and the national tourism economy [5,6]. Ecotourism is an incentive for conservation in general [7,8,9] and the protection of nature and threatened species in developing countries in particular [10]. At the same time, it is an effective tool with its contribution to the economy and development of a region/country [7,11,12,13,14], the employment opportunities it creates [15] and its role in rural development [16]. Tyler and Dangerfield [17] also emphasize the role of ecotourism in sociocultural development. Presenting an opportunity for tourism to reach geographically untouched areas [18], ecotourism creates awareness between travelers and hosts at the destination, and stresses the necessity of appreciating the value of ecosystem and conservation [19].

Nature-based tourism is defined in relation to places far away from settlements, in relatively natural places [20]. However, as mentioned by Gunn [21], the physical characteristics of land become a resource only if they are described by the society. Therefore, travelers’ perceptions can show regional features that are a tourism resource. This is directly related to the fact that a piece of land needs to serve people’s needs in order to be known as a tourism resource. As stated by Ayoo [21], if the local community makes use of certain natural resources, they develop a strong instinct about protecting and using them sustainably.

The sustainable use of natural resources is the main strategy for nature conservation in a city [11]. As natural resources create direct economic benefits, nature conservation is the key element which contributes to the life quality of all communities within a city. Nature-based tourism is an important component of this general approach. The management and development of visitor facilities near conserved areas directly adds to the budget of nature conservation, and ensures participation and benefit to neighboring communities [11]. If the tourism industry cannot in principle continue to use natural resources for the good of local cultures, there is little possibility of sustainable practices in destinations or coastal resorts where these are secondary resources [17].

Important natural resources, high market profile and high quality services are the three prerequisites for the successful use of the international tourism market [3]. Success in nature-based tourism lies in appropriate levels of consumer services [23], high environmental quality [24,3], conservation of environmental resources and cultural qualities as the tourism product [25]. In addition to these, transportation [26], accommodation, visitor facilities [20], effective interaction, power/authority and water infrastructure often need to be established in conserved areas where tourism is developing in order to increase the appeal of nature-based tourism [11]. A poorly-planned infrastructure stops future generations from benefiting from the resources, and damage to these resources has economic costs for the society. This also leads to failure in meeting tourist demands and a loss of opportunity for the future of tourism in the area [27]. Indeed, the findings of Hearne and Salinas [6] about visitors to Poas Volcano show that tourists prefer a developed infrastructure.

Even though Diamantis [4] states that ecotourism studies are still in their infancy stage, nature-based tourism has attracted the interest of academics and researchers in recent years. However, few studies in the literature have concerned themselves with the identification of tourism resources [28,29,30,20]. The present study aims to contribute to the filling of this niche in the literature. More precisely, the study aims to identify and grade the natural resources located in western Lake Van Basin, which has a potential for nature-based tourism development. Additionally, the study also aims to investigate whether graded natural resources are evaluated similarly by visitors, and reveal the distinguishing features of visited and unvisited natural resources.

2. Study Area

The study covers the area to the southwest, west and north of Lake Van, located in the Eastern Anatolian region of Turkey. Shaped fully by the country’s administrative boundaries, the study area covers the province of Bitlis and

the counties of Tatvan, Güroymak, Ahlat and Adilcevaz. The border made by these four counties is surrounded by Lake Van in the east and Muş Plain and other neighboring plains in the west. Covering an area of 3,734 km², the study area includes features from various morphogenetic regions. The major ones are current glaciers on top of Mount Süphan; lakes, lagoons, bays, coves and beaches on the shores of Lake Van; the high region to the south and east of Tatvan county center where cleavage is substantial and different examples of fluvial abrasion can be observed; the features caused by especially the summer winds in the loose structured areas on top of and around Mount Nemrut; the examples belonging to arid and semi-arid regional geomorphology; and Nemrut and Süphan volcanoes and the surrounding parasitic cones.

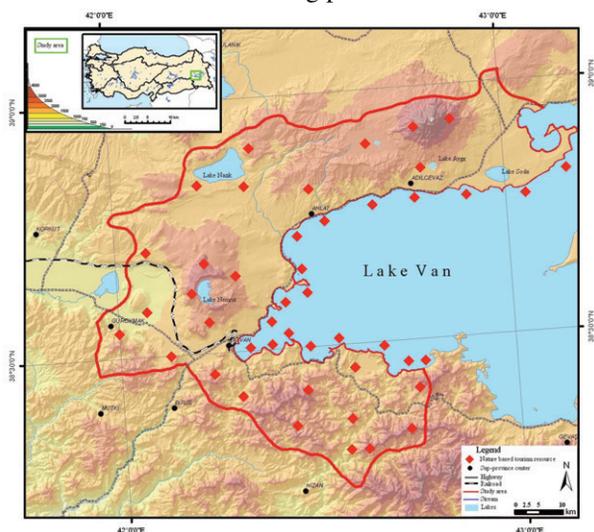


Fig. 1. Study area

The study area can be roughly divided into 4 different geomorphological units. The first is the area to the south and east of Tatvan, which includes Bitlis Metamorphytes. This area roughly covers the Bay of Tatvan, İncekaya Caldera, Polje Göllü, Küçüksu Valley, Güzel Dere Valley, Kavrak Strait and the southern shores of Lake Van. The second one contains Nemrut Volcano, the parasitic cones around it, canyon valleys, Rahva Plain and eastern Muş Plain. This area houses various volcanic plateaus, deep canyon valleys, parasitic cones around and to the west of Rahva Plain and around Nemrut. The third region covers limestone areas around Lake Nazik and Lake Batmış Basin and its surrounds. This area includes volcanic fluvial lacustrine deposits between Mounts Nemrut and Süphan as well as marine limestone. The area stretches between the shores of Lake Van to Lakes

Nazik and Batmış Basin. The fourth region includes the alluvial plains to the east of Süphan Volcano. This region covers the Süphan volcanic cone, the surrounding parasitic cones of different sizes, Lake Aygır, Lake Arin, the shores of Lake Van, Akçıra Peninsula and Akçıra Bay. The area to the west of Lake Van Basin makes up approximately 28% of the whole basin which measures 13,379 km². Data from the year 2008 show that the population of the study area is 191,345 [31]. With respect to nature-based tourism resources, the area is rich and can offer different features at one time. Tourism resources, led primarily by the Nemrut Crater Lake and the many endemic species, are scattered throughout the area. At the same time, the study area is surrounded by a largely undeveloped shoreline of 269 km long. Based on Local Tourism Office's Data, it is visited by an average of 4,300 foreign and 30,000 local tourists every year.

3. Material

Maps and plans of various scales were used in this study. To begin with, 1:50.000 topographic picture maps obtained from the General Command of Mapping were scanned and fed into the Geographical Information System (GIS) to reconstruct previously identified layers. Layering and digitizing was performed for the memory map, which is a type of pictorial data. With these layers, the memory map was turned into an intelligent (operable, questionable) map, and these intelligent maps were produced for many different reasons. However, some of these are beyond the scope of this study. Periodic observations and the data obtained in the study area were compared with the natural and archeological heritage sites memory file declared by the Board of Protection of Cultural and Natural Resources. All physical attributes and land use were entered in the map in the form of polygons belonging to western Lake Van, and the flora, fauna, environmental destruction, infrastructure opportunities in these regions, expert opinion and statistical methods were used. While these were being implemented, the locations of nature-based tourism appeals were determined with the help of Global Positioning System (GPS) and this information was fed into Mapinfo, a GIS-based program, and the area was photographed hundreds of times from all angles. With the digitization of the map sections, tourism resources were graded according to their general characteristics.

4. Methods

Different methods are used in our day in the study of nature-based tourism. Many studies and methods exist in the identification and use of nature-based tourism resources. The first study in this field was conducted by Litton [30] in Scotland. He defined landscape as a physical entity and used expert views to develop visual preferences according to landscape attributes. He developed six categories based on relief and seven categories between wildlife and urban life. Leopold [29], on the other hand, developed 46 criteria to describe landscape attributes. Cocklin et al. [28] developed an activity-based resource assessment technique by combining tax value and landscape value for recreation and tourism in New Zealand. Priskin's [20] study covered a regional resource assessment framework for nature-based tourism; elements of tourism infrastructure, accessibility assessment and landscape assessment; and a classification of natural resources. On the other hand, according to Lim and McAleer [32], long-term ecological, social and economic sustainability of tourism projects relies on 5 types of environmental indicators and checklist: 1- biodiversity and fragility of the ecosystem, 2- waste disposal, 3- water consumption, 4- physical impact and intensity of land use, and 5- visual effects, noise level and the protection of the atmosphere.

This study first identified areas with a potential for being allocated as nature-based tourism resources. In addition to the experiences of the first author who previously implemented a similar project in the region and knows the area well, the views of other researchers who know the region were also used in the identification of such areas. As a result of field trips in the study region, 23 worthwhile areas were identified as having the potential for being a nature-based tourism resource. Within these 23 areas, the number of places that have spot attraction value was 44. As the checklist approach is mostly used in the evaluation of the resources in the literature [20,14] and this method is easy to use, the areas within the study area were classified by the qualitative approach, based on Priskin's [20] checklist approach and expert opinions. Areas with tourism development potential were evaluated under the categories of attraction levels, infrastructure supports, environmental destruction level and accessibility. Attraction levels were scored from 1 (very bad) to 10 (very good) in such a way as to include all characteristics of a place which may constitute a type of nature-based tourism, and evaluated in 10 sub-items. Infrastructure supports are needed for the long-term and sustainable development of a tourism area. This category had 8 sub-items and was evaluated as yes or no for the given areas over 1 point each. However, shaded areas and shelters were scored over 3 points. Environmental destruction level aimed to measure the natural damage to the area and/or damage done by humans, and this category was scored in 10 sub-items from 1 to 10 (1=too much, 10=very little). Accessibility includes factors such as the level of the difficulty experienced by the visitors by walking up or downhill [33] and the road and vehicle type needed to access the destination. This part was evaluated by using a 5-point Likert scale: 1=very unfavorable, 5=very favorable.

At the same time, whether these classified natural resources were being visited by the tourists experiencing the area was also investigated. In a different study by the same authors, which aimed to identify the characteristics of nature-based tourists in the area, the participants were also asked to specify 5 tourism resources they visited in the area. A total of 396 participants, 356 of whom were Turks (89.9%) and 40 of whom were foreigners (10.1%), agreed to complete the questionnaire in November and December 2009 and January 2010.

The analyses of the findings of the present study were conducted by using SPSS 15 for Windows. With the help of descriptive statistics such as mean and standard deviation values, attraction and environmental destruction levels for a tourism resource were evaluated over 100 points; infrastructure supports were evaluated over 10 points; and the category of accessibility was evaluated over 20 points. Therefore, the maximum points that each natural resource in the study area can obtain is 230. These were classified as areas with a low, medium and high level of nature-based tourism development potential. The statistical significance level was accepted as .05. The Cronbach Alpha test was used to establish reliability, and the checklist was accepted to be internally reliable as $\alpha=.751$ was close to the acceptability level of .80.

5. Results

Among the nature-based tourism resources in the study area, 5 were mountains (21.7%), 5 were areas with diverse views and recreational facilities (21.7%), 4 were valleys or areas with flora diversity (17.4%), 4 were lakes (17.4%), 3 were areas with geological features (caldera, polje and bays) (13.0%) and 2 were peninsulas and coastal areas (8.7%) (Table 1). One of these areas was a protected site.

Table 1. Characteristics of natural resources

Category	N	Percentage
Mountains	5	21.7
Areas with diverse views and recreational facilities	5	21.7
Areas with flora diversity	4	17.4
Areas with geological features	4	17.4
Lakes	3	13.0
Coasts and peninsulas	2	8.7
Total	23	100

The findings revealed that 52% of the places within the study area housed a moderate level of attractions, while 48% housed a high level (Table 2 and Fig. 2). On the other hand, there were no areas with a low level of attraction. Considering that the mean attraction level for all 23 areas was 65.96 and standard deviation was 13.894, it may be said that the attraction levels of areas should be among prioritized areas in tourism planning.

Table 2. Classification of nature-based tourism resources

	Attraction Levels		Env. Dgrdtn		Infrastructure		Accessibility	
	Value	%	Value	%	Value	%	Value	%
Low	0-33	0	0-33	0	0-3	57	0-7	39
Medium	34-66	52	34-66	17	4-7	26	8-14	22
High	67-100	48	67-100	83	8-10	17	15-20	39
Mean	65.96		77.74		4.52		11.13	
SD.	13.894		10.834		2.333		5.926	
Min.-Max.	41-96		52-92		2-9		4-20	

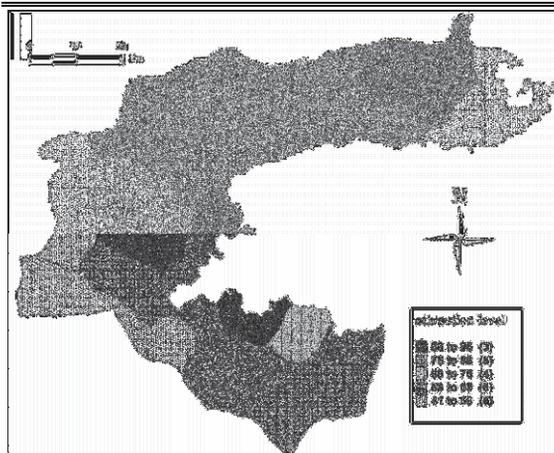


Fig. 2. Classification of attraction levels

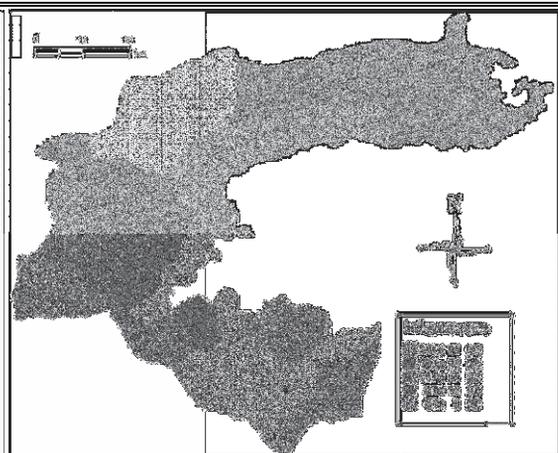


Fig. 3. Classification of infrastructure supports

Among the attraction level evaluation criteria, the most common indicators were the quality of the view, diversity of the view and recreational facilities with the mean values of 8.78, 8.70 and 8.52, respectively; while the least common attraction features were sandy/pebble coastline and rocky shores or cliffs with the mean values of 4.87 and 4.91 (Table 3).

Table 3. Descriptive statistics for attraction levels

	N	Min.	Max.	Mean	S.D.
1-Flora diversity	23	3	10	7.61	1.924
2-View diversity	23	6	10	8.70	1.259
3-Recreational facilities	23	5	10	8.52	1.238
4-Adventure facilities	23	2	9	5.78	2.110
5-Lakes or wetlands and protected beaches	23	0	10	5.26	3.957
6-Rocky shores or cliffs	23	1	10	4.91	2.678
7-Sandy/pebble beach or coastline	23	0	10	4.87	3.912
8-Quality of the view	23	6	10	8.78	1.204
9-Uniqueness of the area	23	2	10	6.09	2.021
10-Geological features in the area	23	1	10	5.43	2.212

The infrastructure facilities of more than half (57%) of the nature-based tourism resources in the study area were insufficient. Twenty-six per cent of the area had a moderate infrastructure level while 17% had a high level (Table 2 and Fig. 3). All of the areas had telephone or emergency aid facilities and fresh drinking water, and shaded areas were also generally sufficient. However, accessibility for the disabled, barbecue facilities and rubbish bins were the weakest infrastructure level indicators in the areas with 0%, 26.1% and 26.1% respectively (Table 4).

In the majority of the tourism resources, the level of environmental destruction was low. This implies the presence of respectively untouched tourism resources. While 83% of the areas were exposed to a low level of environmental destruction, 17% were exposed to a moderate level of environmental destruction. On the other hand, there is no area which had a high level of environmental destruction (Table 2 and Fig. 4). Table 5 presents the descriptive statistics about the environmental destruction level of natural resources. Accordingly, environmental destruction level indicators with the highest mean values were buildings, diseases/illnesses, fires, and the level of collapse or destruction in sand dunes. Mean values for these were 8.22, 8.22, 8.00 and 8.00, respectively. On the other hand, wild grass and erosion effect had the smallest mean value (7.17 and 7.30, respectively).

Table 4. Descriptive statistics for infrastructure facilities

	N	Yes	Percentage	No	Percentage	
1-WC facilities	23	8	34.8	15	65.2	
2-Picnic tables	23	7	30.4	16	69.6	
3-Barbecue facilities	23	6	26.1	17	73.9	
4-Rubbish bins	23	6	26.1	17	73.9	
5-Arrangments for the disabled	23	0	0	23	100	
6-Shaded areas or shelter	23	(Yes)	16	69.6	1	4.3
		(Good)	3	13.0		
		(Very good)	3	13.0		
7-First aid or telephone facilities	23	23	100	0	0	
8-Fresh drinking water	23	23	100	0	0	

Table 6 shows the descriptive statistics about the accessibility indicators of the natural resources in the study area. According to the table, accessing the destination with all types of transport has the mean value of 2.87 and is the highest accessibility indicator; while proximity to the city center is the lowest accessibility indicator with the mean value of 2.65. The frequency of the criteria shows that 43.4% of the areas were either close or very close to the city center; and 43.4% had a natural/historical tourism resource nearby or very close and thus is a part of a tour. Also, 43.4% had either good or very good roads.

Table 5. Descriptive statistics for the environmental destruction caused by natural resources

	N	Min	Max	Mean	S.D.
1-Existence of rubbish or litter	23	3	10	7.61	2.017
2-Level of wild grass	23	3	9	7.17	1.749
3-Level of disease/illness	23	5	9	8.22	1.043
4-Level of resisting fire	23	3	10	8.00	1.508
5-Erosion	23	4	9	7.30	1.295
6-Stepping on plants	23	5	10	7.70	1.329
7-Destruction of sand dunes	23	6	10	8.00	1.168
8-Land erosion	23	5	10	7.91	1.083
9-Tracks/Paths	23	5	10	7.61	1.438
10-Buildings	23	3	10	8.22	1.678

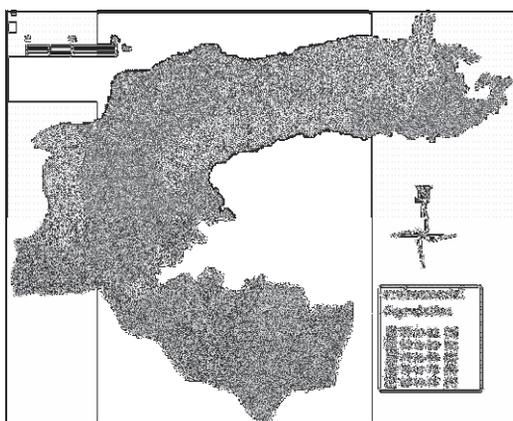


Fig. 4. Classification of the environmental destruction level

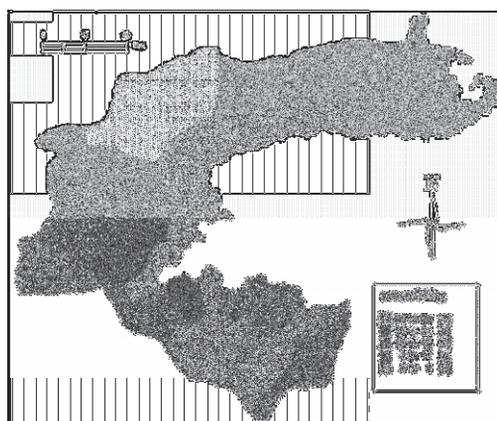


Fig. 5. Classification of accessibility degrees

Table 6. Descriptive statistics about the accessibility of natural resources

	N	Min.	Max.	Mean	S.D.
1-Proximity to the city center	23	1	5	2.65	1.584
2- Proximity to other natural or historical resources	23	1	5	2.83	1.466
3-Comfort level of the road	23	1	5	2.78	1.594
4-All transport types	23	1	5	2.87	1.632

Table 7. Total degrees of natural resources

	Value	Percentage
Low	0-77	0
Medium	78-154	43
High	155-230	57
Mean	159.35	
S.D.	18.416	
Min.-Max.	117-196	

It can be seen that 39% of the natural resources in the study area had low accessibility, 22% had moderate and 39% had high accessibility (Table 2 and Fig. 5). Table 7 presents the total scores of tourism resources. It can be seen that 57% of the resources had a high and 43% had moderate nature-based tourism development potential. There were no resources with a low potential. Considering that the mean value for all areas was 159.35 and the standard

deviation was 18.416, it can be said that the natural resources in the study area can constitute a nature-based tourism region in their current situation with some good planning. On the other hand, the 396 local and foreign tourists who visited the study area were asked which 5 areas they visited. The tourists stated that they had not visited 52.1% of the areas with nature-based tourism development potential, and that they experienced 47.9% of these areas. Mean values for areas that were not visited and those that were experienced by the tourists were 61.83 and 71.64 for attraction level; 80.42 and 76.27 for environmental destruction level; 3.25 and 5.91 for infrastructure support; and 9.58 and 12.64 for accessibility, respectively. Overall scores of the areas were 155.08 for areas not visited and 166.45 for those that were visited. These show that tourists tend to visit areas that have a relatively high attraction level, low environmental destruction, and high infrastructure and accessibility. The parallelism between the preferences of nature-based tourists and the classification of natural resources in this study contributed to consistent results.

6. Discussion

Attraction levels have a major role in the assessment of a place as a tourism resource. However, although this may have priority for tourism planners and managers, it is not sufficient on its own to ensure enough investment in the area. This is because tourists expect problems with infrastructure to be eliminated before they visit a certain area. At the same time, places where there is a lot of environmental destruction can only be improved up to a certain level. Further, areas that are relatively harder to access can be uninteresting for investors and, even though tourists may visit these areas, they may have low satisfaction due to time and energy loss. Also, proximity to other historical, cultural or natural tourism areas is an advantage as nearby places can become a part of tours or visits to these areas. These are needed to turn an area with tourism development potential into a tourist attraction.

The results of this study have shown that the attraction potential for trips to the area was at a satisfactory level, and that the area had a low destruction level, which is very important for nature-based tourists. The findings also suggest that tourism administrators and planners should take the issues of infrastructure and transport seriously. This is due to the results of the questionnaire, which was conducted to identify the places within the study area that the tourists visited and which showed that places with a high environmental destruction level did not receive tourists. Tourism decision-makers should work on the issues of non-tourism buildings that cause environmental destruction in the area and reducing the effects of fires. Concerning infrastructure supports, they should ensure easy access for the disabled, barbecue facilities and rubbish bins. At the same time, routes may be identified and maps prepared for nature tours in the area.

The natural resources in the study area with tourism development potential are relatively untouched and their existing natural beauty has the power to turn investments in the area into an increase in the number of tourists or tourism revenues. This is because more than half of the areas here have geological features such as mountains, lakes, caldera and polje, and there are largely uninhabited places with diverse flora. It was understood that even though activities to increase the number of tourists were initiated in the area, the current infrastructure would not be able to cope with this development. However, as infrastructure is not a natural formation but a man-made one, it can be easily developed with man-made tourism investments.

7. Conclusions

This study aimed to assess and categorize the tourism development potential of the nature-based resources in western Lake Van. It was also investigated whether this assessment overlapped with tourist preferences of places to visit. When tourism administrators and planners assess the tourism development potential of an area, they look at the number and quality of the natural resources and their current potential. This study showed that there are 23 natural resources in the study area which may concern nature-based tourism development. Priskin's [20] method was used as the assessment criteria owing to its ease of use in the selected area, and minor revisions were made in the checklist by considering the features of the places in the area.

The findings showed a low environmental destruction level in the majority of the selected area and an adequate attraction level to invite trips. Even though values about infrastructure support may have been low, this factor can be eliminated by investing in the area. Tourism decision-makers should work on the issues of non-tourism buildings that cause environmental destruction in the area and reducing the effects of fires. Concerning infrastructure supports, they should ensure easy access for the disabled, barbecue facilities and rubbish bins. Furthermore, tour routes should be

identified, maps should be drawn and signs should be used throughout walking tracks. It also looks inevitable that road maintenance work be undertaken to increase accessibility. Indeed, the tourists visiting the study area stated that they tended to visit places where attraction levels are relatively high, environmental destruction level is low, and infrastructure supports and transport facilities are adequate. These results confirm the classification of natural resources.

In general, the resources in the study area have moderate to high nature-based tourism development potential. Therefore, in order to create a nature-based tourism area within the study area with its high tourism development potential and relatively untouched areas, tourism decision-makers ought to follow a well-planned approach which ensures the collaboration of the public and private sectors and local participants.

Limitation

The limitation of the study was that the frequency of the visits was not considered in identifying the common features of the areas which were and were not experienced by the visitors.

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References

- [1] Urry J. *The Tourist Gaze*. London: Sage Publications; 2002.
- [2] Weaver DB. Ecotourism as mass tourism: Contradiction or reality?. *Cornell Hospitality Quarterly* 2001, **42**:104-12.
- [3] Eagles PFJ. International trends in park tourism: The emerging role of finance, *The George Wright Forum* 2003, **20**:25-57.
- [4] Diamantis D. The concept of ecotourism: Evolution and trends, *Current Issues in Tourism* 1999, **2**: 93-122.
- [5] Gosling S. Ecotourism: a means to safeguard biodiversity and ecosystem functions? *Ecological Economics* 1999, **29**:303-20.
- [6] Hearne RR and Salinas ZM. The use of choice experiments in the analysis of tourist preferences for ecotourism development in Costa Rica, *Journal of Environmental Management* 2002, **65**:153-63.
- [7] Ross S and Wall G. Ecotourism: towards congruence between theory and practice. *Tourism Management* 1999, **20**:123-32.
- [8] Stronza A and Gordillo J. Community views of ecotourism. *Annals of Tourism Research* 2008, **35**:448-68.
- [9] Valentine PS. (1992) Review: nature-based tourism. In: B.Weiler and C.M. Hall, editors. *Special interest tourism*, London: Belhaven Press; 1992, p.105-27.
- [10] Bookbinder MP, Dinerstein E, Rijal A, and Cauley H. Ecotourism's support of biodiversity conservation. *Conservation Biology* 1998, **12**:1399-1404.
- [11] Sandwith T. (2000). Nature-based tourism: a key strategy for sustaining biodiversity in KwaZulu-Natal, South Africa, In: L. Gunling, H. Korn, and R. Specht, editors. *International Workshop: Case Studies on Sustainable Tourism and Biological Diversity*, German Federal Agency for Nature Conservation, November 11-14; 1999, p.23-43.
- [12] Scheyvens, R. Ecotourism and the empowerment of local communities. *Tourism Management* 1999, **20**:245-249.
- [13] Stone, M. and Wall, G. Ecotourism and community development: Case studies from Hainan, China. *Environmental Management* 2004, **33**:12-24.
- [14] Tisdell C. Ecotourism, economics, and the environment: Observations from China, *Journal of Travel Research* 1996, **34**:11-9.
- [15] Viljoen JH. and Naicker, K. Nature-based tourism on communal land: the Mavhulani experience. *Development of Southern Africa* 2000, **17**: 135-48.
- [16] Gurung D. B. and Seeland, K. Ecotourism in Bhutan: Extending its benefits to rural communities. *Annals of Tourism Research* 2008, **35**: 489-508.
- [17] Tyler D. and Dangerfield, JM. Ecosystem tourism: A resource-based philosophy for ecotourism, *Journal of Sustainable Tourism* 1999, **7**:146-58.
- [18] Burton R. Maintaining the quality of ecotourism: Ecotour operators' responses to tourism growth. *Journal of Sustainable Tourism* 1998, **6**:117-42.
- [19] Page SJ. and Dowling, RK. *Ecotourism*. Harlow: Prentice Hall; 2002.
- [20] Priskin J. Assessment of natural resources for nature-based tourism: The case of the Central Coast Region of Western Australia. *Tourism Management* 2001, **22**:637-48.
- [21] Gunn CA. *Vacationscape-Designing Tourist Regions*. New York: Van Nostrand Reinhold; 1988.
- [22] Ayoo C. Community-based natural resource management in Kenya, *Management of Environmental Quality: An International Journal* 2007, **18**:531-41.
- [23] Komppula R. New-product development in tourism companies-case studies on nature-based activity operators. 10th Nordic Tourism Research Symposium, October 18-20, Vasa, Finland; 2001.

- [24] Bushell, B. Global Issues for Protected Areas and Nature-based tourism: Case studies of partnership in Australia addressing some of these issues. In: L. Gunling, H. Korn, and R. Specht, editors. *International workshop: Case studies on sustainable tourism and biological diversity*. German Federal Agency for Nature Conservation, November 11-14, 1999. 2000, p.93-114.
- [25] Greiner R. *Trade-offs in nature-based tourism management*. Australia, CSIRO Resource Futures; 1998.
- [26] Buckley R, Pickering, C. and Weaver, DB. *Nature-based tourism, environment and land management*, Oxon: CABI Publishing.; 2003
- [27] Graterol BM. Preserving biodiversity through environmental impact assessment on tourism infrastructure: The case of wildlife. In: L. Gunling, H. Korn, and R. Specht, editor. *International Workshop: Case Studies on Sustainable Tourism and Biological Diversity*, German Federal Agency for Nature Conservation, November 11-14, 1999, 2000, p.60-8.
- [28] Cocklin,C., Harte, M., and Hay, J. Resource assessment for recreation and tourism:a New Zealand example, *Landscape and Urban Planning* 1990, **19**:291–303.
- [29] Leopold LB. *Quantitative comparisons of some aesthetic factors among rivers*, U.S. Geological Survey Circular 620. Washington D.C.,U.S. Government Printing Office;1969.
- [30] Litton RB. *Forest landscape description and inventories: a basis for land planning and design*. U.S.D.A. Forest Service Research Paper PSW-49 Pacific Southwest Forest and Range Experiment Station, Berkley, CA.;1968.
- [31] Turkish Statistical Institute (TUIK) Demographics data. Available from <www.tuik.gov.tr>. Accessed on 16th December 2009.
- [32] Lim C. and McAleer M. Ecologically sustainable tourism management, *Environmental Modelling & Software* 2005, **20**: 1431-38.
- [33] Sayan S. and Ortacesme V. Recreational carrying capacity assessment in a Turkish National Park. In: D. Siegrist, C. Clivaz, M. Hunziker, and S. Iten, editors. *Exploring the nature of management. Proceedings of the Third International Conference on Monitoring and Management of Visitor Flows in Recreational and Protected Areas*, University of Applied Sciences Rapperswil, Switzerland, 13-17 September 2006, Rapperswil. 2006, p.211-6.