



A RESEARCH ON ECOTOURISM IN TÜRKİYE: CASE OF OSMANIYE ZORKUN PLATEAU

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ABSTRACT: This study explores the ecotourism potential of the Zorkun Plateau, situated within the boundaries of Osmaniye Province, in Türkiye. As tourism continues to develop across the country, ecotourism has emerged as a significant alternative form of tourism, offering both economic opportunities and environmental benefits. This research examines the ecological, cultural, and recreational values of the Zorkun Plateau in the context of ecotourism, identifies the key challenges it faces, and evaluates strategies for its sustainable utilization. In this study, the ecotourism potential of the Zorkun Plateau was assessed through a combination of qualitative and quantitative research methods. For the quantitative component, participants were selected using a simple random sampling technique, and data were collected through a structured survey. A questionnaire including 25 questions was applied to a sample of 388 individuals. Based on the survey responses and interviews conducted with both local residents and visitors, the plateau's touristic appeal, existing infrastructure, and the level of awareness regarding ecotourism were evaluated. The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS 27.0.1). The findings indicate that the Zorkun Plateau possesses a significant potential for ecotourism and sustainable development; however, this potential remains underutilized due to deficiencies in infrastructure, limited transportation accessibility, and insufficient environmental awareness among participants.

Keywords: Ecotourism, Zorkun Plateau, chi-square, questionnaire technique.

TÜRKİYE'DE EKOTURİZM ÜZERİNE BİR ARAŞTIRMA: OSMANİYE ZORKUN YAYLASI ÖRNEĞİ

ÖZET: Bu çalışmada, Türkiye'nin Osmaniye ili sınırları içerisinde yer alan Zorkun Yaylası'nın ekoturizm potansiyeli araştırılmıştır. Ülke genelinde turizm gelişmeye devam ederken, ekoturizm hem ekonomik fırsatlar hem de çevresel faydalar sunan önemli bir alternatif turizm biçimi olarak ön plana çıkmaktadır. Bu araştırmanın amacı, Zorkun Yaylası'nın ekolojik, kültürel ve rekreasyonel değerlerini ekoturizm bağlamında incelemek, karşılaştığı temel zorlukları belirleyerek, sürdürülebilir kullanımına yönelik stratejileri değerlendirmektedir. Araştırma kapsamında nitel ve nicel yöntem kombinasyonları kullanılarak yaylanın ekoturizm potansiyeli analiz edilmiştir. Çalışmanın nicel değerlendirme aşamasında katılımcılar basit tesadüfî örnekleme yöntemiyle seçilmiş olup, anket tekniği uygulanmıştır. 25 sorudan oluşan bir anket, 388 kişi üzerinde uygulanmıştır. Hem yerel halk ve hem de ziyaretçilerle yapılan anket verilerine dayanarak, yaylanın turistik çekiciliği, mevcut altyapısı ve ekoturizmle ilgili farkındalık düzeyi değerlendirilmiştir. Toplanan veriler Sosyal Bilimler için İstatistik Paketi (SPSS 27.0.1) kullanılarak analiz edilmiştir. Bulgular, Zorkun Yaylası'nın ekoturizm ve sürdürülebilir kalkınma için önemli bir potansiyele sahip olduğunu göstermekle birlikte, bu potansiyelden altyapısal eksiklikler, sınırlı ulaşım olanakları ve katılımcılar arasındaki yetersiz çevre bilincinden dolayı istenilen düzeyde faydalanılamadığını ortaya koymaktadır.

Anahtar kelimeler: Ekoturizm, Zorkun Yaylası, ki-kare, anket tekniği

INTRODUCTION

Ecotourism, as defined by The Ecotourism Society, refers to “purposeful travel to natural areas to understand the culture and the natural history of the environment; taking care not to alter the integrity of the ecosystem; producing economic opportunities that make the conservation of the natural resources beneficial to the local people” (Epler Wood *et al.*, 1991; Rose & Wall, 1999).

Unlike conventional mass tourism, which typically focuses on heavily commercialized and high-traffic destinations, ecotourism emphasizes the exploration of unspoiled, often remote natural environments. Ecotourism explores to protect these areas from harmful impacts while fostering a deeper understanding and respect for the local ecosystems and cultural heritage (Greenfield, 2023).

The core principles of ecotourism encompass community involvement, environmental conservation, ethical travel practices, sustainability, and the provision of educational and interpretative experiences. Ecotourism holds considerable potential in advancing sustainable travel, safeguarding natural landscapes, and empowering local communities. When these principles are effectively implemented, participants can engage with natural environments in a responsible and ethical manner, contributing positively to both ecological preservation and socio-economic development (Greenfield, 2023).

Ecotourism in Türkiye is planned and managed by the General Directorate of Forestry and the General Directorate of Nature Conservation and National Parks. As in the rest of the world, ecotourism in Türkiye also includes activities that allow individuals to escape the stress of

urban life while engaging with nature and wildlife in a manner that avoids causing harm, thereby contributing positively to public well-being (Gedik *et al.*, 2023).

The term *plateau* refers to “a living area used for shelter and seasonal settlement during the summer months, functioning as a sub-village settlement for housing and feeding livestock, and occasionally for agricultural activities” (Sözer, 1990; Özden *et al.*, 2004; Gümüş Dönmez & Topaloğlu, 2018). Over time, plateau-related practices have evolved from being primarily pastoral to encompassing recreational and leisure-oriented activities. These changes have led to the emergence of *plateau tourism*, a subcategory of tourism characterized by visits to high-altitude regions for purposes such as relaxation, recreation, and nature appreciation (Doğanay, 2011). In this context, plateau tourism is defined as ‘a type of tourism resulting from the activities of individuals who enjoy living in nature and traveling to high-altitude areas, typically for day trips or short-term stays’ (Gündüz & Topaloğlu, 2016; Gümüş Dönmez & Topaloğlu, 2018). Similarly, Dalgıç & Birdir (2015) describe it as “a tourism activity undertaken by nature lovers in elevated terrains, usually for short-duration visits”. Plateau tourism differs significantly from conventional tourism, offering more specialized and unique experiences. Its attraction can be experienced in its diverse and nature-centric offerings, including mountainous landscapes, forests, rivers, caves, distinct climates, and opportunities for natural nutrition. Additional attractions such as hiking, skiing, swimming, cycling, hunting, nature sports, and local festivals further enhance the touristic value of plateau regions (Sezer & Kılıç, 2015; Tekin, 2016; Gümüş Dönmez & Topaloğlu, 2018).

This study aims to assess the extent to which the ecotourism characteristics and potential of the Zorkun Plateau, located within the borders of Osmaniye Province, are perceived by visitors. It examines the conditions under which ecotourism services are utilized, as well as the positive and negative dimensions of visitor experiences related to ecotourism activities. Additionally, the study seeks to identify strategies for enhancing the accessibility and usability of the plateau’s ecotourism resources and to propose methods for increasing public awareness of its ecological and touristic value, based on the findings obtained from survey data.

MATERIAL AND METHOD

Material

General Description of the Research Area

This study was conducted in Osmaniye Province, located in the Eastern Mediterranean Region of Türkiye. The Zorkun Plateau, which lies within the administrative boundaries of Osmaniye, is situated on the eastern flank of the Mediterranean region (Figure 1). Recognized for its ecological and recreational value, the Zorkun Plateau represents a significant area for ecotourism research (Hüseyinoğlu, 2016). Geographically, the plateau is bordered by Gaziantep to the east, Hatay to the south, Adana to the west, and Kahramanmaraş to the north. The region exhibits climatic variations influenced by its topography, transitioning from mountainous zones to lowland plains. However, it predominantly experiences a Mediterranean climate characterized by hot, dry summers and mild, rainy winters.

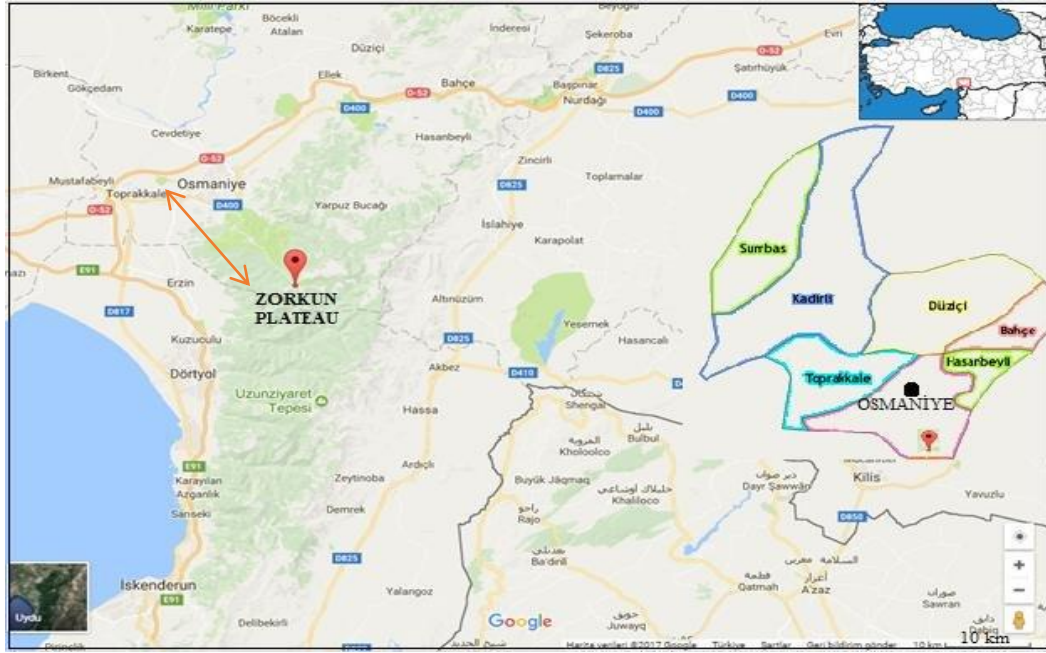


Figure 1. Map of Zorkun Plateau (Source: Osmaniye Municipality, <http://osmaniye.gov.tr>)

Zorkun Plateau is situated on the slopes of a valley formed by the Bahrat water source, which originates at an elevation of approximately 1590 meters on the northwestern slope of Keldaz Hill, which rises to 2108 meters in the Central Amanos Mountains. The average temperature in Osmaniye during summer is 26.7°C, while Zorkun experiences a cooler climate, with an average temperature of 18.2°C (Koca, 2001) (Figure, 2).



Figure 2. A View from Zorkun Plateau in Osmaniye.

Transhumance, a practice that began in the 13th century for animal husbandry, has persisted in Zorkun Plateau. This practice evolved alongside the development of villages and urban settlements in the Osmaniye region from the 16th and 17th centuries. After World War II, the population in the region saw a notable increase during the peak 2-3 month period of high plateau tourism (Koca, 2001).

Vegetation of Zorkun Plateau

The Zorkun Plateau has a diverse and rich vegetation due to the variety of ecosystems it comprises. The plateau hosts a wide range of tree species, including pine, cedar, fir, beech, black pine, red pine, hornbeam, boxwood, oak, and maquis. During the summer season, the

population of the plateau can increase to approximately 80,000 people. In terms of vegetation distribution, red pine, black pine, hornbeam, boxwood, oak, and maquis dominate at elevations up to 600 meters. Between 600 and 900 meters, red pine forests are prevalent, while a mixed population of red pine and black pine can be found at elevations ranging from 900 to 1100 meters. Hornbeam and boxwood are typically found along stream banks. Above 1300 meters, the red pine and black pine trees are gradually replaced by pine species more suited to higher altitudes. Between 1400 and 1800 meters, black pine becomes the dominant species. At elevations above 1800 meters, both beech and black pine trees are found. Additionally, pure populations of Taurus fir can be found between 1900 and 2000 meters (Sevgi, 1984; Gürçınar & Yüceer, 1995).

A notable plant species on the Zorkun Plateau is the *Sternbergia lutea* (L.) Ker-Gawl. ex Spreng., (Potenza *et al.*, 2022) commonly known as the ‘migration flower’ (Figure 3A). The blooming of this flower not only enhances the natural beauty of the plateau but also infuses the region with cultural and economic vibrancy. This seasonal phenomenon contributes to the plateau's appeal, further establishing Zorkun Plateau as a distinctive and attractive destination for both tourists and local communities. Additionally, a new plant species, *Centaurea ptosimopappa* var. *elegans* Güzel, was recently discovered in the Zorkun Plateau (Figure 3B). This species was observed at the coordinates 36°59'55.22"N; 36°18'33.03"E, within the Amanos Mountains (Güzel, 2022).

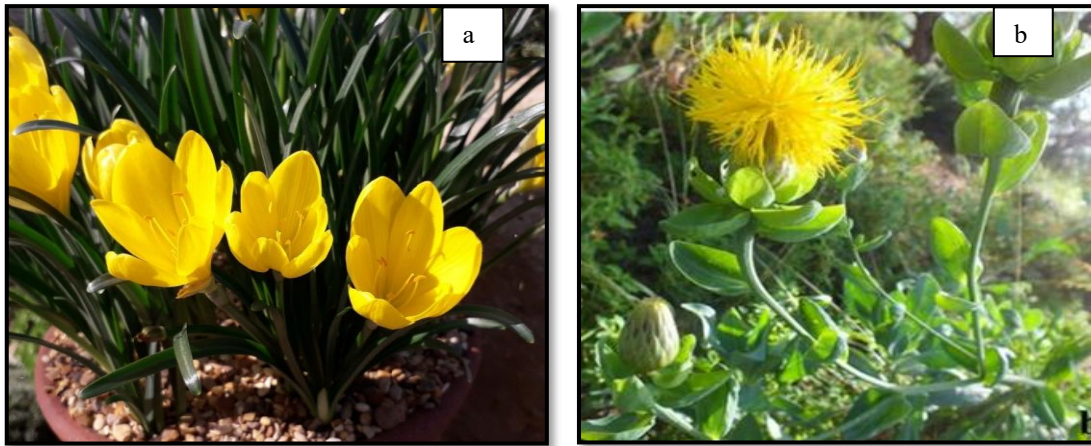


Figure 3. a) *Sternbergia lutea* (L.) Ker-Gawl. ex Spreng (<https://powo.science.kew.org/>)
b) *Centaurea ptosimopappa* var. *elegans* (Güzel, 2022).

Zorkun Plateau Wildlife Development Area

A forest area of 3,889.85 hectares within the Amanos Mountains has been designated as a breeding ground for roe deer, with a hunting ban imposed to protect the species. This area is owned by the General Directorate of Forestry. Furthermore, the area was officially declared the ‘Zorkun Plateau Wildlife Development Area’ through the Council of Ministers Decision No. 2005/9453, dated 07/09/2005, and published in the Official Gazette No. 25968 on 16/10/2005. This declaration was made in accordance with Article 4 of the Land Hunting Law No. 4915, which was enacted on 11 July 2003 (MEU, 2024) (Figure 4).



Figure 4. Zorkun Plateau Wildlife Development Area (GDNCNP, 2018)

The Zorkun Plateau Wildlife Development Area, located within the Amanos Mountains, has been hosting a diverse array of mammalian species. Species such as roe deer, wolf, wild boar, marten, fox, badger, hedgehog, and rabbit are observed in this region. Bird species like francolins and partridges, along with a variety of local birds depending on the season, are also frequently observed. These areas present excellent opportunities for nature enthusiasts and birdwatchers (GDNCNP, 2018).

Social and Cultural Activities of Zorkun Plateau

Zorkun Plateau has also a vital role in supporting the social and cultural fabric of the region through various annual events. Osmaniye Municipality organizes the "Zorkun Plateau Festival" each year on August 12, fostering social solidarity and cultural exchange within the region. Additionally, the Zorkun Plateau Children's Festival, held in mid-July, contributes to the social development of the younger generation and promotes family participation. These festivals significantly support the economic development of the plateau by increasing the income of local businesses and service providers while enhancing the region's touristic appeal. To ensure the sustainability of these events, it is crucial to improve proactive approaches in planning. In this regard, the events at Zorkun Plateau are of paramount importance not only for the local community but also for the region's economic and social growth (DOĞAKA, 2017).

Method

A mixed-methods approach was employed in this study to mitigate the limitations inherent in using a single research method. Creswell & Plano (2007) defines the mixed-methods approach as a research methodology in which both quantitative and qualitative approaches are used to gather and analyze data within the same study.

In the quantitative phase of the study, participants were selected using a simple random sampling method, and data were collected through a survey. A total of 388 individuals participated in the study, which was conducted in Zorkun Plateau, located in Osmaniye Province in the Çukurova region of the Mediterranean region. The survey consisted of 25 questions, covering personal, economic, and field-related aspects. The collected data were recorded to the SPSS (version 27.0.1) software for analysis. Descriptive statistics and Chi-Square tests were performed to analyze the participants responses using the SPSS program. For the qualitative dimension of the study, data were gathered through responses to open-ended questions. Open-ended questions were utilized as a data collection technique, allowing

participants to articulate their thoughts, feelings, and experiences in their own words. This approach enabled the researcher to obtain in-depth insights into participants' personal perceptions, experiences, and perspectives related to the research topic.

Sample Size

To determine the appropriate sample size (n) for this study, the following Equation 1 was utilized (Yıldız, 2017). Eqs.(1).

$$\frac{Nt^2 pq}{d^2 (N-1) + t^2 pq} \quad (1)$$

n : Sample size

N : Population size

t : Theoretical value corresponding to a specific level of significance

p : Probability of occurrence of the event

q : Probability of non-occurrence of the event

d : Margin of error

In 2024, a total of 380,000 people visited Zorkun Plateau, which was used as the Main Population Size (N) for this study. Parameters that were applied in the sample size calculation can be explained as follows:

- t = Confidence coefficient ($t = 1.96$ for a 95% confidence level)
- p = Proportion of the population expected to exhibit the characteristic of interest (= 0.5). Since the reasons for visiting Zorkun Plateau may vary, and a preliminary estimate could not be made, p was set to 0.5 to maximize variability.
- q = Complement of p (i.e., $q = 1 - p$), so $q = 0.5$
- d = Margin of error (accepted at 5%)

Substituting these values into the sample size formula, the calculated sample size was found to be 384 participants.

RESULTS

The results obtained from the survey, which was applied to 388 participants with 25 questions, are presented below.

Findings of Demographic-Oriented Questions

According to the survey findings, 61.3% of the participants (238 individuals) were male, while 38.7% (150 individuals) were female. The distribution of participants among age groups is as follows: 31.2% (121 individuals) are between the ages of 25-34, 20.9% (81 individuals) are between the ages of 35-44, 21.2% (82 individuals) are between the ages of 18-24, 12.1% (47 individuals) are between the ages of 45-54, 6.7% (26 individuals) are between the ages of 55-64, 6.4% (25 individuals) are under 18, and 1.5% (6 individuals) are over 65 years old. These data indicate that the majority of participants is distributed within the 18-44 age range, with the highest concentration in the 25-34 age group. The relatively lower representation of both the

elderly (65 years and over) and the youngs (under 18) suggests that the research sample predominantly consists of young and middle-aged individuals.

Regarding the educational background of the survey participants, 41.2% held a bachelor's degree, 28.3% had completed high school, 16.4% held an associate degree, 7.2% had completed secondary education, 4.2% had a primary school education, and 2.7% possessed a master's degree. These findings indicate that the participant group is relatively well-educated, with a substantial majority having completed at least a high school education. This educational profile is significant in understanding the tourism preferences and behaviors of the participants. Individuals with higher education levels tend to be more aware of environmental issues and more interested in sustainable and responsible travel options, such as ecotourism. Therefore, the dominance of participants with bachelor's and associate degrees may reflect a greater level of awareness and appreciation for the ecological and cultural value of destinations like Zorkun Plateau. It can be inferred that educational attainment positively correlates with an interest in ecotourism activities and environmentally conscious travel behaviors.

Findings of Case Area and Participant Related Questions

According to the survey data, 84.5% of the participants (328 individuals) reported residing in Osmaniye, while 15.5% (60 individuals) indicated that they live outside the province. This distribution demonstrates that the majority of participants are local residents, suggesting a strong regional interest in Zorkun Plateau. The high proportion of local participants may also reflect a greater frequency of visits and a deeper familiarity with the area, which is valuable for assessing local perceptions of ecotourism potential and related challenges. Conversely, the insights provided by non-resident participants contribute to understanding the broader touristic appeal of the plateau beyond the immediate locality.

Reflecting a high level of familiarity with the destination, 79.2% of survey participants had previously spent time in Zorkun Plateau. The remaining 20.8% had no prior experience with the area. This finding suggests that a significant majority of the participants have had direct experience at the plateau, providing a valuable foundation for assessing visitor experiences and perceptions of ecotourism potential. The proportion of individuals who have not visited the area also presents an opportunity to explore barriers to visitation, such as limited awareness, transportation challenges, or insufficient promotional efforts.

Awareness of the Zorkun Plateau Beautification Association was reported by 12.6% (49 individuals), while 2.8% (11 individuals) were partially aware. A total of 74.8% (290 individuals) indicated that no information about the association had been obtained, and 9.8% (38 individuals) refrained from expressing an opinion.

Participation in ecotourism activities in Zorkun Plateau was not undertaken by 58.5% (227 individuals), while 24.2% (94 individuals) engaged in such activities, and 17.3% (67 individuals) stated partial involvement. The perception of travel to Zorkun Plateau as a costly

endeavor was held by 43.2% (168 individuals). An additional 32.4% (126 individuals) considered it partially costly, while 24.4% (94 individuals) did not regard it as expensive.

Regarding transportation methods, 53.9% (209 individuals) reported using private vehicles to reach Zorkun Plateau. Public transportation options such as taxis and minibuses were utilized by 29.4% (114 individuals), while 16.7% (65 individuals) indicated that no transportation options were available to them. Awareness of a specific event related to Zorkun Plateau was inadequate among 83.7% (325 individuals), whereas 5.4% (21 individuals) had attended the event, and 10.9% (42 individuals) had heard of it but had not attended. Gasoline prices were considered unsuitable for traveling to Zorkun Plateau by 71.1% (276 individuals), while 24.2% (94 individuals) found them partially suitable, and 4.7% (18 individuals) regarded them as appropriate.

Provision of necessary facilities by government institutions to support ecotourism at Zorkun Plateau was acknowledged by 10.6% (41 individuals). Meanwhile, 40.7% (158 individuals) disagreed with this view, and 48.7% (189 individuals) believed that the support was only partially provided. Evaluation of the ecotourism potential of Zorkun Plateau by public and private institutions was considered partially adequate by 51.0% (198 individuals), inadequate by 29.6% (115 individuals), and fully adequate by 19.4% (75 individuals).

Willingness to stay at Zorkun Plateau during a planned visit were expressed by 43.5% (169 individuals), whereas 42.2% (164 individuals) had no enthusiasm of staying, and 14.3% (55 individuals) indicated that a decision would be made upon visiting the area. Camping was selected as the preferred accommodation option by 42.8% (166 individuals), followed by hotels located nearby (33.8%, 131 individuals), and rental homes (23.4%, 91 individuals). With regard to length of stay, 25.8% (100 individuals) preferred durations longer than 48 hours, 54.2% (210 individuals) opted for 24–48 hours, and 20.0% (78 individuals) intended to stay for less than 24 hours. The belief that high rental prices in Zorkun Plateau negatively impact ecotourism potential was held by 51.3% (199 individuals). Partial impact was noted by 27.6% (107 individuals), and 21.1% (82 individuals) did not perceive any negative effect. The lack of hotel accommodation was viewed as a barrier to ecotourism participation by 36.0% (140 individuals). A total of 32.8% (127 individuals) considered it partially influential, while 31.2% (121 individuals) believed it had no impact. Awareness of housing price and rent differences between Zorkun Plateau and Osmaniye was reported by 81.0% (314 individuals). A total of 17.5% (68 individuals) heard of such differences but did not consider them accurate, while 1.5% (6 individuals) were unaware of any disparity.

Satisfaction with transportation expenses was confirmed by 26.8% (104 individuals), while 48.1% (187 individuals) reported partial satisfaction, and 25.1% (97 individuals) stated that their expectations had not been met.

Just over half of the participants (53.1%) reported encountering informational materials such as books, magazines, newspaper articles, or brochures—related to ecotourism activities in

Zorkun Plateau. In contrast, 46.9% indicated they had not come across such resources, suggesting a potential gap in public outreach and promotional efforts.

Findings of Participant-Oriented Question

A substantial majority of participants (86.1%) indicated that the term *transhumance* held some meaning or association for them, whereas 13.9% reported no familiarity with the term. This suggests a relatively high level of awareness regarding traditional land use and cultural practices linked to the plateau. A total of 68.2% of the participants (264 individuals) indicated that knowledge about the term “ecotourism” was possessed, whereas 31.8% (124 individuals) reported a lack of familiarity with the term.

Financial attractiveness of ecotourism activities was affirmed by 8.2% (32 individuals), while 39.1% (152 individuals) found such activities financially unappealing. The remaining 52.7% (204 individuals) viewed them as only partially attractive in economic terms. Affordability of trekking equipment, using hiking shoes as an example, was assessed negatively by 58.0% (225 individuals). A total of 33.5% (130 individuals) found the prices partially affordable, while 8.5% (33 individuals) considered them affordable.

Findings of the Chi-Square Test

The Chi-Square Test of Independence is frequently utilized to assess whether a statistically significant association exists between two categorical variables or whether observed discrepancies between expected and actual frequency distributions can be attributed to chance (Kubat & Ayaşlıgil, 2004). In this section of the study, a series of relationships were examined using the chi-square method. While the first applied chi-square independence test is shown in table form (Table 1), the others are evaluated and interpreted as binary variables under subheadings.

Relationship Between Educational Level and Spending Time in Zorkun Plateau

The chi-square test conducted to examine the association between participants' education levels and their engagement with Zorkun Plateau revealed a statistically significant relationship at the 95% confidence level ($\chi^2 = 143.582a$, $p < 0.05$). Among the total 388 participants, 308 indicated that they had spent time in the plateau, whereas 80 had not. When cross-tabulated with education level, it was observed that a substantial portion of those who had spent time in the plateau held a bachelor's degree ($n = 123$), followed by high school graduates (Table 1). Among those who had not visited the area, bachelor's degree holders also comprised the majority ($n = 38$).

These findings suggest that participants with a bachelor's degree or lower educational attainment were more likely to have visited the plateau, while the participation of those with postgraduate degrees was limited.

Table 1. Relationship Between Educational Level and Spending Time in Zorkun Plateau

Have you ever spent time on the Zorkun Plateau?				
Education Levels/Degrees	Yes		No	
	Observed	Expected	Observed	Expected
Primary education	16	12,6	0	3,3
Secondary education	24	22,1	4	5,8
High school	85	86,1	24	22,6
Foundation Degree	54	49,8	9	13,1
Bachelors Degree	123	126,4	38	33,2
Master Degree	6	7,9	4	2,1
Prefessional or Doctorate D.	0	0,8	1	0,2
Total	308		80	
Chi-Square Test				
	Value	Df	Asymp.Sig.(2-sided)	
Pearson Chi-Square	143,582	14	0,001	
Likelihood Ratio	26,925	14	0,020	

Relationship Between Living in Osmaniye and Spending Time in Zorkun Plateau

The results of the Chi-square test revealed a statistically significant association between participants' residency in Osmaniye and whether they had spent time in Zorkun Plateau ($\chi^2 = 216.062$, $p < 0.05$), confirming the presence of a meaningful relationship at the 95% confidence level. Among those who had spent time there, 286 resided in Osmaniye, indicating a strong local engagement with the area. Conversely, only 42 of the Osmaniye residents indicated no direct engagement with the plateau.

Relationship Between Spending Time in Zorkun Plateau and Awareness of the Zorkun Plateau Beautification Association

The Chi-square test also indicated a statistically significant relationship between participants' experiences in Zorkun Plateau and their awareness of the Zorkun Plateau Beautification Association ($\chi^2 = 106.823$, $p < 0.05$), reinforcing the presence of a correlation at the 95% confidence level. Of those surveyed, 223 individuals were unaware of the association, and the majority of these respondents had not spent time in the plateau. A closer examination suggests that engagement with the area fosters higher awareness of local organizations such as the Beautification Association.

Relationship Between Gender and Participation in Ecotourism Activities in Zorkun Plateau

Analysis of the relationship between gender and participation in ecotourism activities in Zorkun Plateau also yielded a statistically significant result ($\chi^2 = 41.984$, $p < 0.05$), as determined by the Chi-square test. Among the 388 participants, 238 were male and 150 were female. Participation rates indicated that 66 males engaged in ecotourism activities, compared to 29 females. Additionally, 134 males and 93 females stated that they had not participated in such activities, while partial participation was reported by 39 males and 29 females. These results indicate that male participants engaged more frequently in ecotourism activities than their female counterparts.

Relationship Between Education Level and Ecotourism Knowledge

According to the results of the Chi-square test conducted between the level of education and ecotourism knowledge, a statistically significant relationship was found between the groups with a confidence level of 95% (Chi-square calculation=59.365a, $p<0.05$). As a result of the test, the number of people who have knowledge about ecotourism was 266, and the number of people who do not have knowledge about the term ecotourism was 124. When the level of education was associated with those who have knowledge about the term ecotourism, it was determined that 116 people were undergraduate degrees. High school graduates followed this in second place with 71 people.

DISCUSSION

This study aimed to explore the relationships between various demographic factors and participation or awareness related to ecotourism and environmental activities in Zorkun Plateau through a Chi-square test of independence. The results revealed statistically significant associations across all variables tested, aligning with existing literature in the field of ecotourism and environmental behavior.

The finding that individuals with higher educational attainment—particularly bachelor's degree holders—were more likely to spend time in Zorkun Plateau corresponds with previous studies suggesting that education level is a key determinant in shaping environmental attitudes and recreational preferences (Cheng & Wu, 2015; Lee, 2011). Higher education levels often correlate with increased environmental awareness and a greater likelihood to seek out nature-based experiences, such as those offered in ecotourism destinations.

Similarly, a significant relationship was found between residence in Osmaniye and time spent in the plateau, supporting the idea that geographical proximity influences participation in ecotourism. Locals are more familiar with the region, its cultural significance, and seasonal activities, making them more likely to engage with the area regularly. This finding mirrors the observations of Mehmetoğlu (2007), who argued that proximity plays a critical role in ecotourism frequency due to lower travel costs and greater accessibility.

A strong association between spending time on the plateau and awareness of the Zorkun Plateau Beautification Association suggests that personal experience within the environment increases civic and organizational engagement. As stated by Ballantyne *et al.* (2011), direct interaction with natural sites often fosters a sense of responsibility and awareness of conservation initiatives. This could imply that increasing physical access and engagement with the plateau may also enhance public awareness of local environmental organizations.

Gender-based differences in ecotourism participation were also significant, with male participants showing higher levels of involvement in ecotourism activities. This contrasts with some prior studies suggesting that women are generally more environmentally conscious (Zelezny *et al.*, 2000) but aligns with research emphasizing activity-type preferences and cultural influences as moderators of gendered behavior in nature-based tourism (Biran *et al.*, 2008). The reasons behind these differences in the Zorkun context warrant further qualitative investigation.

Finally, the relationship between education level and knowledge of ecotourism confirms the role of education in environmental literacy. This supports findings by Tisdell and Wilson (2005), who emphasized that formal education significantly enhances individuals' understanding of sustainable tourism practices and their ecological consequences.

Together, these findings underscore the multifaceted nature of ecotourism participation, shaped by demographic, educational, geographic, and gender-related factors. They also highlight the importance of targeted environmental education and community outreach programs to increase awareness and involvement in conservation activities in Zorkun Plateau. Efforts to further promote ecotourism must consider these dimensions to foster a more inclusive and sustainable tourism model for the region.

CONCLUSION

This study has explored the ecotourism potential of Zorkun Plateau, situated within the administrative boundaries of Osmaniye province, through a comprehensive analysis of survey data obtained from 388 participants. Employing both descriptive statistics and chi-square tests of independence, the research examined the interplay between key demographic characteristics and participants' perceptions, experiences, and engagement with the region. The findings offer critical insights into the plateau's current touristic usage, underlying challenges, and opportunities for sustainable ecotourism development.

The data indicates that while a substantial proportion of respondents are familiar with and have visited Zorkun Plateau, its promotion remains predominantly localized, lacking broader national or international visibility. Visitor engagement tends to be passive, constrained by limited infrastructure and insufficient accommodation facilities. These limitations, echoed in participants' responses, are consistent with the concerns raised in prior academic studies (Kuter & Ünal, 2009; Karademir et al., 2013; Yılmaz, 2010; Koçan, 2012; Eker, 2015), highlighting the pressing need for enhanced administrative support and strategic investment. Specific deficiencies include ineffective use of traditional and digital media in promotional efforts, inadequacies in infrastructure, the seasonal concentration of ecotourism activities, and the absence of diverse recreational alternatives.

A notable contribution of this study lies in its identification of statistically significant associations between demographic factors—particularly education level, place of residence, and gender—and individuals' ecotourism awareness and participation. Participants with higher levels of education and those residing within Osmaniye exhibited greater familiarity with ecotourism concepts and a higher likelihood of engaging in related activities. Nevertheless, despite widespread recognition of the term "ecotourism," there persists a discernible gap between conceptual awareness and practical involvement, underscoring the necessity for more robust educational and awareness-raising initiatives.

Economic perceptions of ecotourism accessibility varied considerably, shaped by participants' income levels and travel habits. While a majority perceived visits to Zorkun Plateau as economically feasible, others regarded the experience particularly when involving overnight stays or family-oriented trips as financially burdensome. This disparity highlights the importance of expanding affordable and varied service options to ensure broader accessibility across different socioeconomic groups.

Moreover, respondents expressed a strong appreciation for group-oriented, nature-based activities and advocated for increased youth engagement. While events such as the Children's Festival were positively received in principle, their limited visibility due to weak promotional strategies suggests a critical need for more effective outreach, particularly through targeted social media and digital communication channels.

Importantly, the plateau's role as a freely accessible natural environment was frequently emphasized, reflecting its perceived value as a site for low-cost, nature-based recreation. This underscores the necessity of implementing sustainable management practices that preserve ecological integrity while fostering responsible tourism development. Such an approach aligns with the strategic principles articulated by the Ministry of Forestry and Water Affairs, which emphasizes the protection and prudent utilization of natural and cultural assets.

In sum, the findings affirm that Zorkun Plateau possesses considerable, yet underutilized, potential for ecotourism. Realizing this potential requires a multidimensional strategy encompassing infrastructural enhancement, expanded promotional efforts, improved economic inclusivity, and environmental education. By strengthening institutional coordination, diversifying ecotourism products, and fostering a culture of ecological stewardship, Zorkun Plateau can be positioned as a model for sustainable ecotourism development in the region.

AUTHOR CONTRIBUTIONS

All authors contributed equally to the article.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

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