



Research Article

Socio-Economic Factors and Mountaineers' Conservation Willingness: A Riparian Peri-Urban Forest Study

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Abstract

Introduction: Riparian peri-urban forests hold significant values in terms of providing recreational spaces, conserving water and soil resources, and supporting biodiversity. Sustainable management of these resources needs to engage urban communities in the management of these natural resources, comprehensively. This study aims to determine most important functions of riparian peri-urban forests and examine the factors influencing mountaineers' willingness to participate in forest conservation efforts with a specific focus on riparian forests close to hiking trails and mountainous areas. Additionally, the study seeks to explore the barriers and opportunities for mountaineers' active involvement in conservation initiatives.

Material and Methods: The sample size of 416 mountaineers in hiking trails in north of Tehran were considered as survey samples. Study data were gathered using questionnaire. Questionnaire consisted of several part to cover forest functions, potential fields and barriers of participation and socio-economic data o individuals. Data were analyzed using descriptive and inferential statistics.

Results: Recreational values, aesthetic values, water resource conservation, flood mitigation, biodiversity conservation, and soil resource protection were the most important functions of riparian forests perceived by mountaineers. The barriers to mountaineers' participation in riparian forest conservation programs were also identified, including the lack of participatory management plans, uncertainty about the impact of their participation, technical barriers, lack of time, and financial constraints. Regarding fields of participatio, mountaineers show a strong preference for tree planting programs and waste cleaning activities. The study findings indicate that household size, frequency of mountain climbing per year, number years of mountaineering experience, and occupation positively impact individuals' willingness to participate in riparian peri-urban forest management. Additionally, gender, marital status, participation in relevant training courses on urban forests, and experience of participation in social programs create significant differences in individuals' willingness to participate.

Conclusion: The findings underscore the importance of comprehensive community involvement and the need to address the growing demand for recreational spaces within urban environments. By identifying barriers and opportunities for mountaineers' participation, this study provides insights that can inform the development of effective participatory management approaches.

Keywords: Urban Forestry, Participatory Forest Management, Pro-environmental behavior, willingness to participate, participatory conservation.

1. Introduction

Peri-urban forests, which are classified as part of urban forests, refer to forests that are situated between the urban core and the natural areas surrounding cities which can either occur naturally or be intentionally planted (Salbitano et al., 2016; Tu et al., 2016). These forests hold significant value in terms of providing recreational spaces, conserving water and soil resources, and supporting biodiversity (Baumeister et al., 2020; Nghiem et al., 2021). Accordingly, these forests are considered an essential component for achieving urban sustainability (Hoshyari et al., 2020). The riparian forests are particular type of peri-urban forests, which offer a range of services to cities and their residents (Khezri et al., 2017; Peprah et al., 2022). The riparian forests are particularly important due to their ability to connect terrestrial and aquatic ecosystems and establish links between urban areas and the natural environment (Gundersen et al., 2010). These Forests with special protection functions serve a crucial role in safeguarding forest ecosystems, and provide cities with variety of function including a improving water quality, land and soil protection, flood mitigation, recreation and aesthetics options and climate regulation (Chivulescu et al., 2023; Tolkinen et al., 2021). With the current global urbanization trend, where 55% of the world's population already resides in cities (World Bank, 2021), a number projected to increase to 68% by 2050 (Urban Health, 2023), the pressure on urban and peri-urban forest resources is increasing. Therefore, it becomes crucial to engage urban communities comprehensively in the management of these natural resources. This involvement should encompass decision-making processes and implementation strategies to ensure successful management outcomes, citizen influence, and overall satisfaction (Sipilä & Tyrväinen, 2005).

In the process of participatory management, it is essential to evaluate the target community. Therefore, the different actors and stakeholders can analyze the constraints, opportunities, and various aspects of the initiative (Akbarizadeh et al., 2021; Khazaei et al., 2018). While individuals visit natural areas such as peri-urban forests for different purposes, it is crucial to assess their environmental attitude and behaviors in order to plan for sustainable management of these areas (Zarei et al., 2021). Isaac (2015) conducted a

study revealing that 52% of urban residents do not have an inclination to physically participate in urban forest conservation programs. Factors such as higher age, income, awareness of forest services and resources, previous participation experiences, membership in social institutions, and longer residency near forests contribute to an increased willingness to participate in the management of urban forests. Additionally, gender also plays a role, with men exhibiting higher levels of participation (Isaac, 2015). Furthermore, studies have indicated that in certain urban areas, 90% of individuals with higher education believe that the management of urban forests is a public matter requiring community participation (Birks et al., 2022). A positive attitude and interaction between people and nature can also be influential factors in individuals' willingness to engage in forest conservation efforts (Latifinia et al., 2022a; Mohammadi et al., 2024). In addition to socio-economic and demographic factors, individuals' understanding of ecosystem services and the characteristics of forests can encourage their involvement in conservation programs (Dehghani et al., 2019; Galati et al., 2023; Latifinia et al., 2022b). Identifying the obstacles to community participation in urban forests reveals that time constraints, lack of awareness about urban forests, motivation, and inadequate legal support are among the most significant hindrances (Azizipor et al., 2024). The promotion of urban forest benefits can enhance individuals' willingness to participate in conservation activities (Chiou et al., 2021). Other barriers to community participation in collaborative forest conservation can be contributed to absence of public organizations, lack of trust in participatory programs, and weak implementation capacity (Khedrizadeh et al., 2017).

The natural forests along the riverbanks in the peri-urban of Tehran serve as important components of the urban forests, contributing to the enhancement of citizens' quality of life (Bemanian, 2008). Citizen participation can play a crucial role in improving the quality of these areas and, consequently, the well-being of the residents (Maleknia & ChamCham, 2024; Moazeni et al., 2020). These areas possess natural attractions, making them popular among tourists and outdoor enthusiasts. Nature-based sports tourism, including activities like mountain climbing, has shown considerable growth potential in the country (Alibeygi &

Sepidnameh, 2020). Interestingly, despite the decline observed in other tourism sectors during the post-pandemic period, this particular sector has experienced significant growth in different areas (Esfahani & Rahimi, 2022; Wang & Wang, 2022). Study showed that although citizens prefer nearby urban forests but, in their opinion, peri-urban forests have higher values compared to nearby forests, regardless of their frequency of use (Beckmann-Wübbelt et al., 2021). Consequently, the increase in mountaineering activities has created an opportunity to leverage this interest for participatory conservation programs in the forest resources of these areas. It is worth noting that the perception of citizens regarding barriers, motivations, and opportunities for participation in urban forests may not always align with the viewpoints of managers (Butt et al., 2021). Therefore, this study aims to examine the factors influencing mountaineers' willingness to participate in forest conservation efforts, with a specific focus on riparian forests close to hiking trails and mountainous areas of the Tehran. Additionally, the study seeks to explore the barriers and opportunities for their active involvement in conservation initiatives. By addressing these aspects, the research will provide a valuable foundation for the development of effective participatory conservation plans for these natural resources.

This study addresses a research gap by specifically examining the willingness of mountaineers to participate in conservation efforts in riparian peri-urban forests. While previous studies have explored community participation in urban forests, this research narrows the scope to mountaineers, who play a significant role in exploring and utilizing these natural areas. This study recognizes the necessity of comprehensive community involvement to ensure successful conservation outcomes and address the growing demand for recreational spaces within urban environments. Also, by identifying the barriers, motivations, and opportunities for mountaineers' participation in conservation initiatives, this research contributes to the development of effective participatory management approaches. Understanding these factors is essential for creating inclusive and impactful conservation plans that align with the perspectives and interests of mountaineers, thereby enhancing their active involvement in preserving riparian

peri-urban forests. Moreover, exploring mountaineers' willingness to participate in conservation efforts, the research sheds light on the intersection between recreational activities, tourism, and conservation, providing insights for sustainable development and management of these natural resources. Mountaineers were chosen for this study for reasons. Firstly, as outdoor enthusiasts, they have a strong connection to nature and are often motivated to engage in activities that promote conservation and sustainable practices. Secondly, mountaineers possess valuable knowledge and expertise in outdoor recreation and environmental stewardship, which can contribute to the development of effective conservation strategies in peri-urban forest areas. Lastly, understanding mountaineers' preferences and motivations can help tailor initiatives and programs that specifically cater to their needs and interests, increasing their engagement and overall impact on peri-urban forest management.

The research questions are formulated as follows:

1. According to the viewpoints of mountaineers, what are the most important functions of riparian peri-urban forests?
2. What are the key obstacles that hinder mountaineers' involvement in conservation programs aimed at protecting riparian peri-urban forests?
3. Which factors influence individuals' willingness to participate in conservation programs targeting these forests?
4. How does the willingness to engage in conservation programs for these forests differ among distinct groups of mountaineers?

2. Materials and Methods

2.1. Study Area

This research was conducted in the riparian peri-urban forests of Tehran, which encompass the popular hiking trails in the city (Fig.1). The presence of multiple rivers in this northern part of Tehran has led to the establishment of mountainous villages and numerous orchards. Additionally, extensive tree planting activities have resulted in the formation of forest cover specific to the river valleys. Darabad, Golabdareh, Darband, Velenjak, Darkkeh, and Kan are among the major river valleys in

Tehran, which, along with their vegetation cover consisting of orchards, rangelands, and forests, serve not only environmental functions such as protecting water and soil resources but also contribute to the historical and cultural heritage

of the city (Kaleji & Moslemi, 2015). These river valleys also have an impact on the climate of Tehran through their tree cover (Hamedani et al., 2021), making their conservation essential for the vitality of the city.

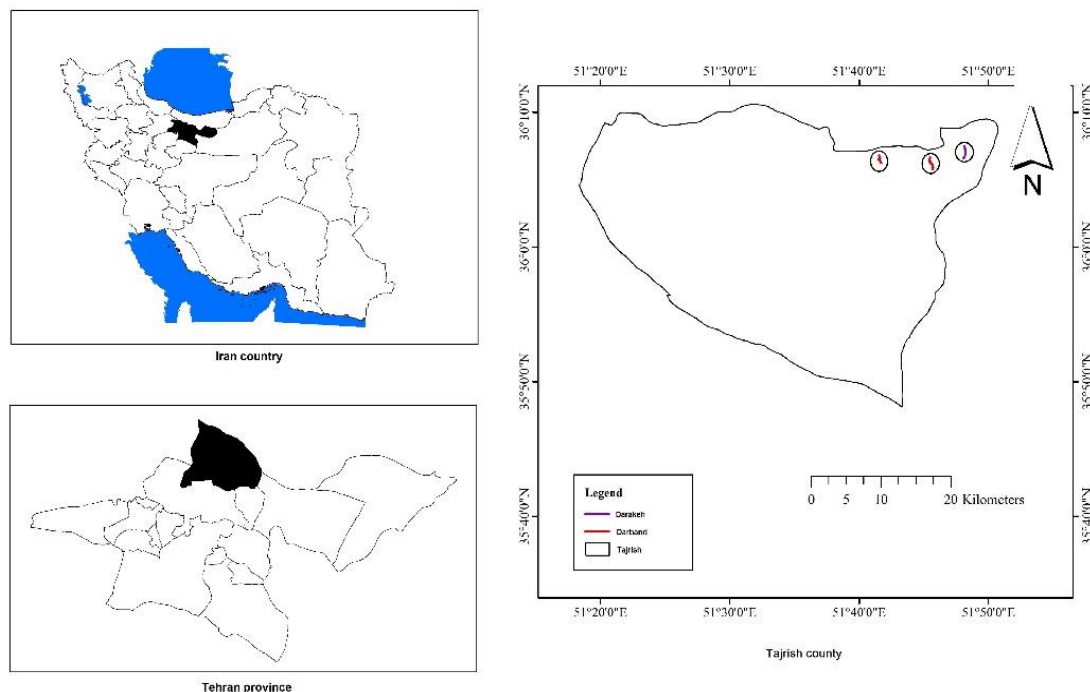


Figure 1. Study Area

2.2. Sample size and Sampling method

The study focused on mountaineers who do mountain climbing in the tree-covered river valleys surrounding Tehran. The required sample size for the research was determined 386 individuals using the Krejcie-Morgan table (Krejcie & Morgan, 1970). For greater accuracy, 416 questionnaires were considered for final analysis. The sampling was conducted using a stratified sampling method. Three river valleys, namely Darabad, Darband, and Darkhe, were selected for the study. In Darabad, 100 samples were taken, while in Darband and Darkheh, 150 and 166 samples were chosen, respectively. The samples in each area were selected randomly. The questionnaires were administered through face-to-face interviews. The purpose of the research was explained to each participant, assuring them that the collected information would be used solely for the purpose of the present study and data would not be disclosed elsewhere. This assurance instilled confidence in the participants to provide accurate personal

information and express their perspectives. Sufficient time was given to each individual to comprehend and respond to the questions.

2.3. Data Collection

For data collection, a researcher-developed questionnaire was employed. The questionnaire consisted of three distinct sections. The first part of questionnaire was an introduction to the questionnaire, which describe the goal of the study and teach individuals how to complete the questionnaire. The second section pertained to the respondents' personal characteristics, including gender, age, education, income, mountaineering experience, the frequency of mountaineering activities per year, and some other relevant information based on literature review and the research topic. The third part of the questionnaire addressed the participation background, barriers to participation in forests conservation in these areas, and the respondents' willingness to participate in the conservation of these forest resources.

2.4. Reliability and validity

To ensure the validity of the questionnaire used in the study, a comprehensive evaluation was conducted by an expert group consisting of professors specializing in agricultural extension and education, environmental sciences, forestry, social sciences, and urban sciences. This process involved reviewing the survey draft and questions before proceeding to the interview phase with target communities. The expert group's input and expertise helped ensure that the survey instruments were appropriate and relevant for measuring the intended constructs. Furthermore, the reliability of the questionnaire was assessed using Cronbach's alpha coefficient. A higher Cronbach's alpha value suggests greater reliability. Cronbach's alpha of the research questions was 0.89, which indicated the reliability of the used questionnaire. By employing these measures of reliability and validity, the study ensured that the questionnaire used in data collection was reliable and valid, providing confidence in the accuracy and consistency of the gathered data.

2.5. Data Analysis

The data were analyzed using SPSS24 and Excel softwares. Descriptive analysis of the data was performed using Excel, while the

inferential statistics section of SPSS was utilized for correlation analysis and conducting parametric and non-parametric mean comparison tests.

3. Results

Table 1 displays the socio-economic characteristics of the participants involved in this study. The female respondents constitute approximately 45% of the total sample, while males account for 55%. Unmarried respondents consist 50.5% of study population, whereas 49.5% of individuals are married. The age group ranging from 31 to 40 years old demonstrates the highest representation, with a total of 214 individuals falling within this category. Regarding educational level, the majority of participants hold a bachelor's degree (59%), followed by those with diploma (18%) and individuals with a master's degree or higher (12%). Among the income groups, individuals earning between 101 to 300 million Iranian rials per year exhibit the highest frequency. Furthermore, individuals engaged in permanent employment demonstrate the highest prevalence within the occupation categories, followed by part time job (20.2%), house wife (8.4%) and unemployed respondents (8.4%). Students consist 6.7% of participants of study.

Table 1. Demographic characteristics of the respondents.

Variables	Frequency	Percentage
Gender	Female	188
	Male	228
Marital Status	single	210
	married	206
Age	<20	21
	30 - 21	56
	40 - 31	214
	50 - 41	90
	>50	31
Educational Status	Illiterate	0
	Middle school	20
	Diploma	75
	Associate	25
	Bachelor	245
	Masters and higher	51
Income (million tomans)	<10	28
	11-100	144
	101-300	195
	301-500	21
	>500	28
Job	House wife	35
	Full-time	234
	Part-time	84
	Unemployed	35
	student	28

Table 2 illustrates the most significant functions of the riverine forests near urban areas, according to the opinions of mountaineers. Based on the data presented in this table, the six key functions of these forest resources, as perceived by the respondents, include recreational values, aesthetic values, water resources conservation, flood mitigation, biodiversity conservation, and soil resources protection. Among these ten functions, fruit production receives the lowest score.

Figure 2 depicts the potential fields for mountaineer participation in the management programs of the riparian forests surrounding Tehran. Each respondent had the opportunity to select multiple options in this regard. Among the participation programs based on mountaineers' preferences, participation in tree planting programs and waste cleaning activities

exhibit the highest frequency. On the other hand, tree maintenance operations and financial supports have the least potential for attracting mountaineers' participation.

Figure 3 illustrates the most significant barriers faced by mountaineers in participating in conservation programs for the riparian peri-urban forests. The lack of participatory management plans for these forests (40%) and uncertainty about the impact of their participation on the programs (25%) were identified as the primary obstacles to participation from the mountaineers' perspective. Following these two barriers, technical barriers (19%), lack of time to participate in these programs (8%), and financial constraints (7%) were identified as other barriers to participation.

Table 2. priority of forest functions based on mountaineers' opinion

Forest functions	Mean	standard deviation	Coefficient of variation	Rank
Recreational Value	4.44	0.854	0.212	1
Aesthetics Values	4.16	0.897	0.226	2
Water Conservation	4.02	0.991	0.258	3
Flood Prevention	3.95	1.005	0.266	4
Biodiversity conservation	3.80	1.035	0.270	5
Soil Conservation	3.75	1.128	0.375	6
Decreasing Air pollution	3.59	1.565	0.380	7
places for formal and informal interactions	3.41	1.621	0.386	8
Improvement of physical and mental health	3.33	1.632	0.397	9
Fruits production	3.12	1.658	0.412	10

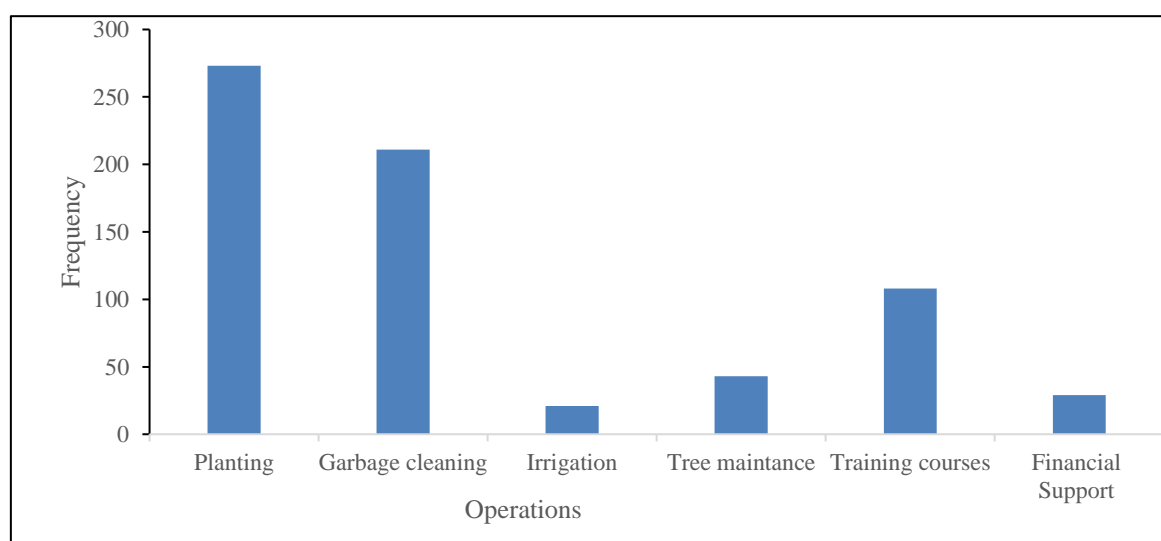


Figure 2. Potential fields for mountaineers participation in peri-urban forests conservation

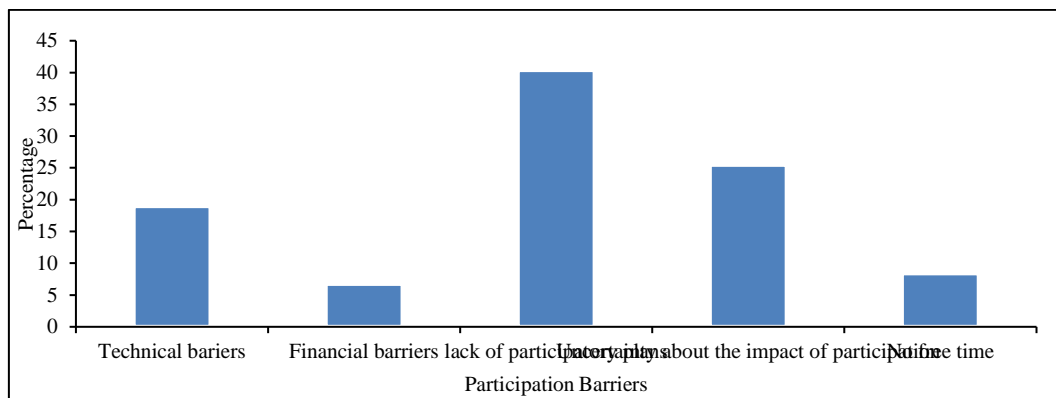


Figure 3. Barriers of participation in riparian peri-urban forests conservation

Table 3. correlation between mountaineers' willingness to participate with independent variables

Dependent Variable	Independent Variables	Test	r	Sig.
Willingness to participate in forest management	Age	Pearson	-0.015	0.766 ^{ns}
	Family size	Pearson	48.19	**0.003
	Income	Pearson	0.082	0.094 ^{ns}
	Number of mountain climbing per year	Pearson	0.144	**0.003
	Mountaineering history	Pearson	0.140	**0.004
	Education level	Kruskal-Wallis	3.763	0.584
	Job	Kruskal-Wallis	47.41	0.000**

The results of the statistical tests for the correlation between socio-economic variables and individuals' willingness to participate in forest management are presented in Table 3. The p-values indicate the level of significance of the correlation.

The correlation between age and willingness to participate in forest management was not found to be statistically significant ($p = 0.766$, $r = -0.015$). Similarly, income and family size did not show a significant correlation with individuals' willingness to participate ($p = 0.094$, $r = 0.082$ and $p = 0.584$, respectively). The variables of the number of mountain climbing per year ($p = 0.003$, $r = 0.144$) and mountaineering history ($p = 0.004$, $r = 0.140$) exhibited a significant positive correlation with willingness to participate in forest conservation. These results suggest that individuals who engage in more frequent mountain climbing and have a longer history of mountaineering are more likely to express a willingness to participate in forest conservation activities. The Kruskal-Wallis test showed education level have no significant ($p = 0.584$) and job have significant effect ($p < 0.001$) on willingness to participate in forest conservation activities.

The results of mean comparison are presented in Table 4, displaying the outcomes

of statistical analyses to examine the mean differences between various groups towards their willingness toward participation in riparian peri-urban forests conservation. For the variable gender, a statistically significant difference was observed between the mean values of the females ($M = 194.30$) and male ($M = 220.21$) groups ($p = 0.027$, $Z = -2.211$). Regarding the variable marital status, a significant difference was found between the mean values of the single ($M = 236.72$) and married ($M = 172.76$) groups ($p < 0.001$, $Z = -4.885$). The variable attending in training courses revealed a significant difference between the mean values of the participants in these courses ($M = 280.21$) and the group of individuals who did not participate in training courses ($M = 159.84$) groups ($p < 0.001$, $Z = -5.615$). No significant difference was found between group with relationship with relative authorities ($M = 205.14$) and group of individuals with no relationship with urban forests management authorities ($M = 212.86$) groups ($p = 0.511$, $Z = -0.657$). Results showed a significant difference for the people with experience of participating in social programs ($M = 245.22$) and group without experience ($M = 163.82$) groups ($p < 0.001$, $Z = -5.013$).

Table 4. Results of Mann-Whitney U test

Variables	Group	Number	Mean	Z	Sig.
Gender	Female	188	11.55	- 2.211	0.027*
	Male	228	10.22		
Marital status	Single	210	11.56	- 4.885	0.000**
	Married	206	9.84		
Attending in training courses	Yes	152	11.53	-5.615	0.000**
	No	264	19.81		
Relationship with relative authorities	Yes	245	10.59	- .657	0.511 ^{ns}
	No	171	10.86		
Experience of participating in social programs	Yes	147	11.87	- 5.013	0.000**
	No	269	10.11		

4. Discussion

This research investigated the mountaineers' willingness towards participation in riparian peri-urban forests conservation in Tehran, Iran. The study tried to discover most important functions of these forests, barriers to public participation and potential fields of participation based on opinions from mountaineers. The study offers useful insights and fills gaps in related research areas.

The study identified six key functions of the riparian forests near urban areas as perceived by the mountaineers including recreational values, aesthetic values, water resource conservation, flood mitigation, biodiversity conservation, and soil resource protection. These findings align with some previous research highlighting the multiple benefits provided by peri-urban forests and natural areas (Khosravi et al., 2016; Mansori et al., 2023; Purwestri et al., 2023). However, it is worth noting that fruit production received the lowest score, indicating that mountaineers may not prioritize this productive function as important as other ecological services which are provided by these forests. The findings of research about functions reveal the social and ecological values of the riparian peri-urban forests (Binyanya et al., 2022), and support the implementation of multi-purpose forestry programs in these valuable natural resources.

The study also identified barriers to mountaineers' participation in riparian forests conservation programs. The lack of participatory management plans and uncertainty about the impact of their participation were identified as primary obstacles. Technical barriers, lack of time, and financial constraints were also identified as barriers. Studies showed that some barriers including lack of technical skills, unsuccessful

past experiences, and lack of trust in authority organizations can be main barriers to public participation in forest programs (Dawes et al., 2018; Powlen & Jones, 2019). These findings highlight the importance of transparent and inclusive management approaches that address mountaineers' concerns and provide clear information about the outcomes of their involvement. Results of study also indicate the need for practical solutions and support mechanisms to overcome the lack of skills and trusts challenges. Responsible authorities including forests, rangelands and watershed organization and municipality should design plans to train volunteers and develop the mutual trust which can facilitate mountaineers' participation.

Regarding participation in management programs, mountaineers showed a strong preference for tree planting programs and waste cleaning activities. These findings align with the notion that mountaineers value hands-on, practical involvement in conservation efforts. Studies showed that citizens prefer to participate in urban forests management, physically (Fors et al., 2016; Zhao et al., 2018). The tree maintenance operations and financial supports were perceived as having lower potential for attracting mountaineers' participation. These results suggest that involving mountaineers in decision-making processes and offering tangible activities that align with their interests can enhance their willingness to participate in conservation initiatives.

The study findings indicate that household size, frequency of mountain climbing per year, year numbers of mountaineering experience, and occupation have a positive impact on individuals' willingness to participate in the conservation of riparian peri-urban forests.

Previous research has shown that satisfaction with recreational activities and a sense of attachment to the environment can increase the environmental behaviors of mountaineers (Huang et al., 2021; Sun et al., 2022). It can be argued that with an increase in mountaineering experience and the number of mountains climbing activities throughout the year, individuals develop a stronger sense of attachment and satisfaction, leading to a greater inclination to conserve these resources and participate in conservation programs. Results of study consistent with other research (Kazungu et al., 2021; Tadesse et al., 2017; Tatari et al., 2019), demonstrated that as household size grows, the willingness to participate in forest conservation programs also increases. This result can be interpreted as larger households having more free time for activities outside the family sphere, thus enabling their engagement in social programs such as forest conservation.

While some studies suggest a significant positive effect of age, income, and education on individuals' willingness to participate (Elton et al., 2023; Motamedi Barabadi et al., 2020), this research findings indicate no significant relationship between age, income, education level, and willingness to participate in riparian peri-urban forests. These divergent results can be attributed to specific regional conditions or the influence of hidden variables. To better understand this issue, further studies can explore visitors' intention and behavior using alternative methods such as theory of planned behavior. Such research can shed light on the role of factors like attitudes, norms, group influence, and individual significance in a person's willingness to participate. However, it can be argued that individuals with higher education levels possess a stronger understanding of the role of forests and the importance of social participation in their management, leading to a higher inclination to participate. Additionally, individuals in different age groups and income brackets may have varying willingness for participation due to factors such as attitudes or awareness regarding these forests. The majority of participants held a bachelor, master and higher degrees, indicating a relatively high level of education among the mountaineers. These characteristics suggest that mountaineers in this study have a certain level of knowledge

and stability that may influence their perspectives on conservation and willingness to participate in related activities.

The comparison of means revealed gender, marital status, participation in relevant training courses on urban forests, and experience in social participation programs create significant differences in individuals' willingness to participate in urban forest management. In this study, women showed less willingness to participate in urban forest management compared to men, which aligns with the findings of some other studies (Galati et al., 2023). However, there are also studies indicating that women have a higher inclination to participate in urban forest management (Birks et al., 2022; Sun et al., 2022). Women's willingness to participate can be influenced by various other variables including education level, marital status, employment, number of children, and their attitudes towards environmental issues. Therefore, it is necessary to examine the factors influencing women's inclination to participate in a study. Based on the research findings, unmarried individuals have a higher willingness to participate in the management of these forests compared to married individuals. Other research has shown that factors other than marital status, among others gender, education, or social responsibility, can be more influential than marital status (Mensah, 2012). Studies found marital status is among the household characteristics that influence participation in forest management (Mohammed et al., 2017; Zande & Mzuza, 2022). The study suggested married people were less likely to participate. It can be argued that the responsibilities and time commitments associated with marriage and family life may affect an individual's willingness to participate in forest management activities. Further research may be needed to explore the underlying reasons for this relationship.

The study results indicated that individuals with a history of participation in social activities have a higher willingness to participate compared to non-members. Other studies have also shown that membership in social groups such as non-governmental organizations (NGO) can affect individuals' willingness towards participation in forest management, positively (Wang et al., 2020). Being a member of a NGO

of volunteer activity can affect people's willingness to participate in forest management. NGOs play a significant role in promoting sustainability in forestry and natural resource management, and their involvement can influence community participation in forest management programs (Mohammed et al., 2017). However, the effectiveness of NGOs in this context may be hindered by the attitudes of government officials. Despite these challenges, the participation of a wide range of forest-related stakeholders, including NGOs, is considered a key component of sustainable forest management. One interesting point arising from the results is that the relationship or lack of relationship with forest management authorities does not have any significant impact on individuals' willingness to participate in the management and conservation of riparian peri-urbans. Governmental organizations can significantly affect public willingness to participate in forest management through various policies and programs. A study examining public attitudes towards private forest management and governmental intervention in the Southeastern United States posited that the government bears a significant responsibility in promoting and comprehensively grasping forest conservation principles. Furthermore, it underscored the necessity for synergistic partnerships between governmental bodies and private forest proprietors to effectively advance the cause of forest conservation. (Floress et al., 2019). An investigation concerning households' willingness towards forest conservation and ecosystem services emphasized the pivotal role of various factors, including trust in governmental policies and the frequency of interactions with forestry bureaus and other governmental entities, particularly in the context of disputes. These elements were identified as influential in shaping public engagement and willingness to participate in forest management initiatives (Zhang, 2022). Additionally, a research article on public perceptions of county, state, and national forest management in Wisconsin, USA, emphasized that attitudes toward public forest management actions can be sources of conflict among public stakeholders and managers (Sin et al., 2022). Therefore, the relationship between the public and forest management, including trust, communication, and perceptions, can have a substantial impact

on the public's willingness to engage in forest conservation and management. The results of the study regarding the barriers to participation indicate that the absence of clear participation plans and individuals' lack of confidence in responsible organizations hinder people's engagement. It can be argued that the absence of clear plans and lack of trust negate the impact of the relationship or lack of relationship with these organizations on individuals' willingness to participate. Therefore, it is necessary for these organizations to develop participatory plans in order to gain the trust of various stakeholders (Moradvaisi et al., 2019; Soleymani et al., 2022), including mountaineers. With the current trends of deforestation (Delpasand et al., 2022; Parma et al., 2017), it is crucial to focus on engaging public participation in forest conservation. Building trust between the community and government organizations, along with the implementation of participatory programs, can contribute to improving conservation efforts and preventing deforestation.

Comparing these findings with previous studies on community participation in urban forests, it is evident that this research contributes to a more focused understanding of mountaineers' perspectives and preferences. Previous studies have explored broader community involvement, but this research narrows the scope to mountaineers specifically, recognizing their significant role in conserving and exploring these natural areas. By focusing on mountaineers, the study provides insights into the intersection between recreational activities, tourism, and conservation, which can have implications for sustainable development and management of natural resources.

5. Conclusions

This study addressed a research gap by examining mountaineers' willingness to participate in conservation efforts in riparian peri-urban forests. The findings highlight the importance of age, family size, history of climbing and number of climbing per year in individuals' willingness to participate in riparian peri-urban forest management. The barriers and potential fields for mountaineers participation were also determined. By identifying barriers, motivations, and opportunities for mountaineers' participation in conservation initiatives, the research contributes to the

development of effective participatory management approaches. The study emphasizes the necessity of creating inclusive and impactful conservation plans that align with the perspectives and interests of mountaineers, thereby enhancing their active involvement in conserving riparian peri-urban forests

6. Empirical Implications

The findings of this study have several implications for the management and conservation of riparian peri-urban forests. Firstly, the study underscores the importance of incorporating mountaineers' perspectives and preferences into conservation planning processes. By understanding their motivations and barriers, managers can develop strategies that effectively engage mountaineers in conservation activities and enhance their sense of ownership and responsibility. Secondly, the study highlights the need for participatory management plans that involve mountaineers in decision-making processes. This can be achieved through stakeholder engagement, public consultations, and collaboration with maintaining and outdoor recreation organizations. By involving mountaineers in the planning and implementation of conservation initiatives, managers can ensure that their voices are heard and their interests are considered, leading to more effective and sustainable outcomes. Thirdly, the results

suggest the importance of providing mountaineers with tangible and hands-on opportunities for participation. Activities such as tree planting and waste cleaning resonate well with mountaineers and can serve as entry points for their involvement. Managers should consider designing and promoting such activities to attract mountaineers and create meaningful experiences that contribute to conservation efforts. Lastly, the study emphasizes the significance of clear communication and information dissemination. Addressing mountaineers' concerns about the impact of their participation and providing them with transparent information about the outcomes of conservation programs can foster trust and confidence. Managers should ensure that mountaineers have access to accurate and up-to-date information, and that they are aware of the positive outcomes and benefits of their participation. It is important to note that while this study provides valuable insights into mountaineers' willingness to participate in conservation efforts in riparian peri-urban forests, further research is needed to explore the perspectives of other stakeholder groups, such as local communities, environmental organizations, and policymakers. Additionally, comparative studies across different regions and contexts can contribute to a more comprehensive understanding of public participation in conservation plans.

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فاکتورهای اجتماعی اقتصادی و تمایل حفاظتی کوهنوردان: مطالعه در جنگل‌های کران رودی اطراف شهر

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مقدمه: جنگل‌های کران رودی اطراف شهرها دارای ارزش‌های بالایی از نظر فراهم کردن فضای تفریحی برای شهروندان، حفاظت از منابع آب و خاک و تنوع زیستی هستند. مدیریت پایدار این منابع نیازمند مشارکت جامع جوامع شهری در مدیریت آنها است. هدف از این پژوهش تعیین مهمترین کارکردهای این جنگل‌ها و بررسی تاثیر فاکتورهای اجتماعی اقتصادی کوهنوردان بر تمایل آنان برای مشارکت در حفاظت از این جنگل‌ها است. همچنین پژوهش به دنبال تعیین موانع و فرصت‌های مشارکت فعال کوهنوردان در اقدامات حفاظتی در رابطه با جنگل‌های کران رودی اطراف شهرها است.

مواد و روش‌ها: جامعه آماری تحقیق شامل کوهنوردان مسیره‌های کوهنوردی شمال تهران بود. برای انجام پژوهش، یک نمونه متشکل از ۴۱۶ کوهنورد انتخاب و مورد مطالعه قرار گرفت. داده‌های با استفاده از یک پرسش‌نامه جمع‌آوری شدند. پرسش‌نامه شامل چند بخش در مورد اولویت بندی کارکردهای جنگل، زمینه‌های بالقوه و موانع مشارکت و داده‌های اجتماعی اقتصادی افراد بود. داده‌های جمع‌آوری شده با آزمون‌های توصیفی و استنباطی مورد بررسی قرار گرفتند.

نتایج: ارزش‌های تفریحی، زیباشناسی، حفاظت از منابع آب، کاهش خطر سیل، حفاظت از تنوع زیستی و حمایت از منابع خاک مهمترین کارکردهای این جنگل‌ها از دیدگاه کوهنوردان بودند. فقدان طرح‌های مشارکتی مدیریت، عدم اطمینان در مورد تاثیر مشارکت افراد بر حفاظت، عدم آشنایی با مسایل فنی حفاظت، فقدان زمان لازم برای اختصاص به مشارکت و موانع مالی، به ترتیب به عنوان مهمترین موانع برای مشارکت کوهنوردان در برنامه‌های حفاظتی این جنگل‌ها تعیین شد. بیشترین فراوانی در تمایل کوهنوردان به مشارکت به ترتیب شامل برنامه‌های نهالکاری و جمع‌آوری زباله مسیره‌های کوهنوردی بود. نتایج پژوهش نشان داد که اندازه خانوار، فراوانی دفعات کوهنوردی در سال، تعداد سال‌های سابقه کوهنوردی و شغل افراد بر میزان تمایل آنان به مشارکت در حفاظت از جنگل‌های کران رودی حاشیه شهر تاثیر معنی داری دارد. نتایج نشان داد که افراد بر اساس متغیرهای جنسیت، وضعیت تاهل، شرکت در دوره‌های آموزشی مرتبط با جنگل‌های شهری و سابقه مشارکت در فعالیت‌های اجتماعی دارای تمایل متفاوت معنی داری برای مشارکت در حفاظت از جنگل‌های کران رودی حاشیه شهر هستند.

نتیجه گیری: نتایج این تحقیق اهمیت مشارکت جامع گروه‌های مختلف جامعه و توجه به نیازهای روزافزون تفریحی در محیط‌های شهری را نشان داد. پژوهش حاضر با تعیین موانع و فرصت‌ها در رابطه با مشارکت کوهنوردان، حاوی نکات مهمی برای توسعه راهکارهای مدیریت مشارکتی موثر جنگل‌های کران رودی حاشیه شهرها است. برنامه‌ریزی برای مشارکت فعال کوهنوردان در حفاظت از جنگل‌های کران رودی در مسیره‌های کوهنوردی می‌تواند زمینه را برای حضور فعال این گروه فراهم کند.

واژه های کلیدی: جنگلداری شهری، مدیریت مشارکتی جنگل، رفتارهای محیط‌زیستی، تمایل به مشارکت، حفاظت مشارکتی.