

## SOCIAL COMMUNITY AWARENESS ON FOREST HEALTH IN PROTECTED AREAS: INSIGHTS FROM DIVJAKË - KARAVASTA NATIONAL PARK, ALBANIA

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### ABSTRACT

Protected areas are indispensable for the preservation of biodiversity, the maintenance of ecosystem diversity, and the promotion of sustainable development. However, the effectiveness of conservation efforts is strongly influenced by the awareness and involvement of local communities. This study assesses the awareness levels and perceptions of the local community in the Divjakë – Karavasta National Park, with a specific focus on their understanding of the critical role of forest health within the protected area. Utilizing a survey-based methodology, the research explores the community’s perceptions and knowledge, regarding forest conservation in the Divjakë – Karavasta area aiming to understand the attitudes toward conservation efforts. The findings reveal a notable lack of awareness and understanding among community members about the significance of forest health and the overarching purpose of protected areas in maintaining ecosystem balance. This limited awareness highlights a pressing need for targeted educational initiatives and robust community engagement strategies designed to address knowledge gaps and foster a deeper appreciation for conservation efforts. By empowering local communities with knowledge and encouraging active participation, the strategies can build stronger support for sustainable management practices. The study emphasizes that enhancing community awareness is pivotal for sustaining long-term conservation initiatives and ensuring the resilience of forest ecosystems, not only in the Divjakë – Karavasta National Park but also in other protected areas facing similar challenges. Effective community integration into conservation efforts is a cornerstone for achieving ecological stability and safeguarding natural resources for future generations.

**Keywords:** forests, awareness, local community, conservation, Divjaka - Karavasta, Albania.

### INTRODUCTION

Divjaka-Karavasta National Park proclaimed a protected area in 2007, is located in the central part of the western coast in Albania. The park consists of a complex ecosystem such as lagoons, forests, agricultural lands, etc<sup>1</sup>. The

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<sup>1</sup> Parqet Kombetare te Shqiperise: *The National Parks of Albania*. Albas, 2018

park is located 90 kilometers away from the capital of Albania, Tirana and includes 14 settlements<sup>2</sup>. This park is considered a geographic area of special value for its nature and biodiversity.

An important place at the Divjaka-Karavasta National Park occupies the coastal relief where there are beaches, lined cordons, deltas and dunes. The park is part of the Mediterranean climate zone, the central subzone. The territory of this park is one of the richest in thermal energy, with up to 2840 hours of sunshine per year<sup>3</sup>. These climatic conditions, as well as characteristics of flora and fauna, play an important role in the creation of many habitats with high biodiversity. The park territory is rich in waters such as the sea, the lagoons, the Shkumbin river downstream, the Terbufi and Myzeqe canals, the streams, the aquifers, etc<sup>4</sup>. The Divjaka-Karavasta National Park is famous for its diverse flora and fauna, and many rare, threatened or extinct species, also is one of the most complex areas in Albania regarding its biodiversity. This area accommodates the largest concentration of winter waterbirds in Albania, where there are about 51 thousand individuals<sup>5</sup>.

**The Context.** The health of forests in protected areas is a key factor in preserving biodiversity and ensuring ecological sustainability, which is vital not only for local communities but also on a broader scale. Raising community awareness about the importance of forest health plays a significant role in promoting sustainable practices and preventing habitat degradation. In this context, Divjaka-Karavasta National Park, one of Albania's most stunning natural attractions, offers a unique opportunity to explore the interaction between local communities and the protected forest ecosystems. This national park is one of the most important geographic areas in Albania and the Mediterranean region. It is home to rare and endangered species, such as the Dalmatian Pelican (*Pelecanus crispus*), which represents 6.4% of the global population of this species<sup>6</sup>. This park also provides essential ecological services, such as the conservation of water resources, erosion control, and support for the livelihoods of local communities through tourism and agriculture<sup>7</sup>. However, pressures from human activities such as deforestation, urbanization, and pollution have raised concerns about the sustainability of these ecosystems. This study focuses on analyzing community awareness regarding forest health and their significance within a protected area like Divjaka-Karavasta National Park. Based on empirical data and in-depth analyses, the study aims to identify the perceptions, attitudes, and contributions of the local community to forest conservation and management. Additionally, it seeks to highlight potential pathways to address the challenges and opportunities associated with this issue. Through this analysis, the study provides recommendations that can help enhance awareness and improve management strategies to balance environmental protection and socio-economic development. This park faces various challenges, including anthropogenic pressures, illegal deforestation, pollution, and climate change, all of which threaten the health of its forests and its rare biodiversity. Numerous studies have emphasized the importance of community awareness in preserving protected areas. According to Mihali et al. (2019), environmental education and community involvement in decision-making processes can significantly improve attitudes and behaviors toward forest conservation. Similarly, Qirjo (2020) argues that public awareness programs are essential for reducing destructive activities and promoting sustainable practices. Moreover, as highlighted by UNEP, protected areas hold a critical role as biodiversity reservoirs. They act as safeguards for habitats and endangered species, ensuring the continuity of flora and fauna for future generations<sup>8</sup>. They also serve as natural water purifiers, carbon dioxide reducers, soil stabilizers, and pollination facilitators, all of which are essential for sustaining life on Earth<sup>9</sup>. Another essential role is their contribution to mitigating climate change. Forests and lagoons in protected areas act as carbon sinks, absorbing significant amounts of carbon dioxide from the atmosphere, thus playing a crucial role in reducing the impacts of climate change<sup>10</sup>. In the context of Divjaka-Karavasta National Park, several initiatives have been undertaken to raise community awareness. Non-governmental organizations and state institutions have organized educational campaigns, seminars, and joint activities with local residents to promote the importance of preserving forests and related ecosystems<sup>11</sup>. However, despite these efforts, an urgent need remains to intensify these initiatives and ensure that the local community is fully engaged and informed. Close collaboration between local authorities, environmental organizations, and the community is essential to address existing challenges and ensure the health of

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<sup>2</sup> The National Agency of Protected Areas. <https://akzm.gov.al>

<sup>3</sup> Annual Climate Bulletin of Albania, 2023 [https://www.geo.edu.al/Institute\\_of\\_GeoSciences/](https://www.geo.edu.al/Institute_of_GeoSciences/)

<sup>4</sup> Group of Authors, *Physical Geography of Albania, Volume II*, QSGJ, ASHSH, Tirana, 1991.

<sup>5</sup> The National Agency of Protected Areas. <https://akzm.gov.al>

<sup>6</sup> National Agency of Protected Areas, 2022. <https://akzm.gov.al>

<sup>7</sup> Group of Authors, *Physical Geography of Albania, Volume II*, QSGJ, ASHSH, Tirana, 1991.

<sup>8</sup> United Nations Environment Programme (UNEP)

<sup>9</sup> United Nations Environment Programme (UNEP). [www.unep.org](http://www.unep.org)

<sup>10</sup> Intergovernmental Panel on Climate Change (IPCC). [www.ipcc.ch](http://www.ipcc.ch)

<sup>11</sup> <https://www.birdingplaces.eu/en/birdingplaces/albania/divjake-karavasta-national-park>

the forests in Divjaka-Karavasta National Park. Results of the study. The data gathered from surveys revealed interesting insights into the perceptions of Divjakë municipality residents regarding their level of awareness, understanding of the importance, and the role of various actors in the protection and enhancement of the Divjakë-Karavasta Protected Area. The heterogeneity in the sample's age, educational background, and origin enabled various correlations and profiling of the residents concerning their views on what the protected area represents and their attitudes toward it.

## MATERIAL AND METHOD

### *Socio-demographic profile of the sample*

The participants who responded to the questionnaire represented a heterogeneous group from the local population. Age groups ranged from 20–30 years to over 65 years, with the largest segment (around 32%) being 20–30 years old. Regarding education, about 27% of respondents had basic education (mandatory 9 years), more than half (nearly 51%) had completed secondary education, and the remaining 22% had higher education. The sample also included a mix of residents based on their origin, with  $\frac{3}{4}$  being born in the Divjakë municipality and the remaining  $\frac{1}{4}$  comprising newcomers to the area.

### *Awareness of the local community about Divjaka-Karavasta status as a “National Park”*

The first question aimed to assess residents’ awareness of the area’s protection status: whether they knew that Divjakë-Karavasta is a protected area. Expectations were that the entire sample would possess this information. However, nearly 1 in 10 respondents (8.3%)—despite living in the area—were unaware of this fact. Highlighting this segment of the population, which lacks awareness despite being residents, is crucial. Efforts for awareness-raising and education need to focus particularly on this group, as they represent those most likely, even unintentionally, to engage in actions that could harm the protected area, either directly or indirectly.

### *How does the local community understand the term “protected area”?*

Table 1. Understanding of the local population on the term “protected area”

Understanding/associations	Responses (%)
Protection by the state/institution/law”	31.9
Prohibition of certain activities	9.7
Protection from natural disasters and human-caused hazards	8.3
Protection under the Ramsar Convention	6.9
Preservation of biodiversity	5.6
Implementation of specific management practices	2.8
Protection of forests	2.8
Adherence to specific regulations	2.8
Designation as a National Park	1.8
Environmental conservation	1.8
Preservation of cleanliness	1.8
Protection from pollution	1.8
Designation as an untouchable area	1.8
Incorrect associations	4.2
Lack of knowledge to provide an answer	18.1
Total	100

Source: Survey results

As the collected data reveals, the majority of residents have a basic and superficial understanding of protected areas, with 31.9% primarily associating them with "protection by the state, institutions, or law." This reflects a strong emphasis on governance and legal frameworks in their perception. A smaller proportion of respondents (9.7%) linked the concept to the "prohibition of certain activities," suggesting limited awareness of specific restrictions commonly applied within protected areas. Only 8.3% associated protected areas with "protection from natural disasters and human-caused hazards," and even fewer recognized global frameworks such as the Ramsar Convention (6.9%) or the preservation of biodiversity (5.6%). Other significant aspects, such as specific management practices, forest protection, or adherence to regulations, were mentioned by only 2.8% of respondents each. Furthermore, less

than 2% associated protected areas with critical environmental objectives like conservation, pollution control, or cleanliness. Notably, 18.1% admitted to lacking sufficient knowledge to provide an answer, while 4.2% offered incorrect associations, highlighting gaps in understanding and instances of misinformation. These findings underscore the need for enhanced public awareness and education on the roles and objectives of protected areas, particularly in terms of biodiversity preservation, sustainable management, and environmental conservation.

***How often do the locals visit Divjaka-Karavasta protected area?***

The frequency with which the local population visits the Divjaka-Karavasta protected area is a key indicator of their relationship with it. By measuring this indicator, it is possible to understand how connected residents are to the area. On the other hand, studies show that the more connected and engaged the local population is with the protected area, the greater their contribution to its preservation. To assess this connection, surveyed residents were asked, among other things, how often they visit the area. The question also included respondents who stated they were unaware that Divjaka-Karavasta was a protected area. The results were as follows:

Table 2. The frequency the local population visits Divjaka-Karavasta protected area.

Frequency of visits	Responses (%)
Never	8.3
Approximately once a month	45.8
Approximately once a week	19.4
Several times a week	26.4
Total	100

*Source: Survey results*

The data shows that nearly 9 out of 10 residents visit the protected area relatively frequently, while for almost half of the residents, visiting the area is a part of their weekly activities. Such a level of frequency demonstrates that the Divjaka-Karavasta protected area serves as a significant point of reference for a considerable portion of the local population and that their ties to the area are substantial. With this category, which is more engaged and values the protected area highly, efforts can be focused on fostering a more contributory attitude towards its preservation—not only by refraining from harming it but also by actively participating in educational initiatives and events, as well as promoting the awareness of preserving the values of a protected area within their communities. On the other hand, the frequency of visits raises concerns about how responsible the behavior of frequent visitors is, as their presence may exert additional pressure on the area's values. Awareness in this regard is essential. Special attention should also be given to the category of individuals who never visit the Divjaka-Karavasta area. Correlations with other survey responses reveal that the majority (75%) of residents who do not frequent the area are precisely those who are unaware that it is a protected area. Increasing awareness about the area's status would likely lead to increased interest in visiting it and fostering a sense of belonging and responsibility toward its preservation.

***How important is considered by the local community the preservation of forests in Divjaka-Karavasta protected area?***

Collecting data on residents' perceptions of forest preservation is vital for understanding their awareness, engagement, and priorities. This information can help guide targeted conservation efforts and promote greater community involvement in safeguarding the area's natural resources. The surveyed sample was asked to assess the importance of preserving forests in the Divjaka-Karavasta protected area to them.

Table 3. Importance of the preservation of forests in Divjaka-Karavasta protected area.

Level of the perceived importance	Evaluation (%)
Not important at all	1.4
Slightly important	4.2
Moderately important	5.6
Very important	33.3
Extremely important	55.6
Mean score	4.38

*Source: Survey results*

The results indicate that a substantial majority of locals living near the protected area view conservation as highly important. Specifically, 55.6% of respondents consider it "Extremely important," while 33.3% consider it "Very important." Together, these groups represent 88.9% of the sample, suggesting a strong consensus on the necessity of conservation efforts in the area. The mean score of 4.38 suggests that the sentiment toward conservation is generally positive. This high level of concern for conservation may reflect an awareness of the ecological, social, or economic benefits that the protected area provides to the local community. On the other hand, only a small portion of respondents, 1.4%, feel that conservation is "Not important at all," while 4.2% view it as "Slightly important" and 5.6% consider it "Moderately important." These lower percentages may represent a minority of the population who might prioritize other issues over conservation or feel that current efforts are sufficient. However, their perspectives still highlight that a portion of the community may need more engagement or education about the importance of conservation.

***What are the three main benefits of forest preservation in Divjaka-Karavasta protected area according to the locals?***

Forest preservation is a critical topic, particularly in areas like the Divjaka-Karavasta Protected Area, where its benefits are deeply interconnected with the well-being of both the local community and the environment. Understanding local perceptions of these benefits is essential for creating policies and initiatives that align with community priorities and foster active participation in conservation efforts.

Table 4. Main benefits of forest preservation in Divjaka-Karavasta protected area according to the local population

Benefits	Citation frequency (%)
Better air quality and physical health	79.2
Tourism development	70.8
Increased employment opportunities	41.7
Increased psychological well-being	25.0
Protection from floods and erosion	25.0
Improvement of local climate	13.9
Preservation of biodiversity	13.9

Source: Survey results

According to the survey, the most frequently cited benefit of forest preservation is its positive impact on air quality and physical health, acknowledged by 79.2% of respondents. This finding underscores the community's recognition of forests as natural air purifiers, which contribute to a healthier environment. The role of preserved forests in boosting tourism development, cited by 70.8%, further emphasizes their economic importance, showcasing the area's potential as a sustainable tourism destination. This is complemented by the 41.7% of respondents who see increased employment opportunities, particularly in tourism and conservation-related industries, as a key advantage. Other benefits, while cited less frequently, illustrate the broader environmental and psychological significance of forest preservation. For instance, 25% of respondents value forests for protection against floods and erosion, as well as for enhancing psychological well-being, suggesting their role in disaster prevention and mental health. Similarly, 13.9% of the community acknowledges the importance of preserving biodiversity and improving the local climate, reflecting a growing awareness of ecological stability. These insights highlight the diverse ways forest conservation contributes to both human and environmental resilience in the studied area.

***How does the local community perceive its level of information on the situation of forests in Divjaka-Karavasta protected area?***

One of the questions asked to the local community was, "Which of the statements describes better your level of information on the situation of forests in Divjaka-Karavasta protected area?". The question was considered crucial because understanding the local community's awareness and knowledge of forest conditions is vital for designing effective conservation strategies. Local engagement is often linked to the level of information people have; thus, assessing their perception of being informed can help identify gaps in knowledge and opportunities for targeted awareness campaigns.

Table 5. Perceived level of information of the local community on the situation of forests in Divjaka-Karavasta protected area.

Statements	Responses (%)
“I am entirely informed on the situation of forests”	16.7
“I have some general information which I believe it is sufficient”	44.4
“I don’t have sufficient information and I am interested in knowing more”	30.6
I don’t have sufficient information, but I am not interested in knowing more”	4.2
I am completely indifferent regarding this issue	4.2
Total	100

*Source: Survey results*

The results indicate that a significant portion of the community feels adequately informed, with 16.7% stating they are "entirely informed" and 44.4% reporting they have "general information which I believe is sufficient." This majority suggests that many locals are at least moderately aware of the state of the forests, which could facilitate their active involvement in conservation efforts. However, the 30.6% who lack sufficient information but express interest in learning more highlights an important opportunity to engage and educate this group, potentially increasing the community's overall commitment to preservation activities. On the other hand, a small but notable minority, comprising 4.2% who are not interested in knowing more and another 4.2% who are indifferent to the issue, presents a challenge for outreach efforts. Addressing this group requires tailored communication strategies that emphasize the direct and tangible benefits of forest preservation to their lives. These data points to a relatively informed community with a considerable appetite for additional information, underscoring the importance of targeted educational programs to further enhance public understanding and engagement.

***What are the main sources of information of the local community on the forests of Divjaka-Karavasta protected area?***

This question helps to identify the channels through which locals acquire knowledge about the forest and the role these sources play in shaping their perceptions and attitudes. Understanding these sources allows policymakers and conservationists to refine their communication strategies, ensuring they reach the community effectively and promote informed engagement.

Table 6. Main sources of information on the forests of Divjaka-Karavasta protected area.

Sources of information	Citation frequency (%)
The close relationship with the area (direct information)	65.3
Education	33.3
Internet	18.1
Work	11.1
Responsible institutions	11.1
Organizations / foundations	8.3
Academic publications (books, journals, etc.)	8.3

*Source: Survey results*

The results reveal that the primary source of information is the community's direct relationship with the area, cited by 65.3% of respondents. This highlights the strong connection locals have with their surrounding environment, suggesting that firsthand experiences significantly shape their understanding of forest issues. Education, mentioned by 33.3%, also plays a vital role, underscoring the importance of integrating forest-related topics into formal and informal learning settings to further raise awareness. Other sources, while cited less frequently, provide insights into additional avenues for communication. For instance, 18.1% of respondents rely on the internet, reflecting the growing relevance of digital platforms for information dissemination. Meanwhile, work-related experiences and information from responsible institutions, both at 11.1%, indicate the value of professional and institutional input. However, the relatively low mention of organizations (8.3%) and academic publications (8.3%) suggests that these channels may be underutilized, pointing to potential areas for improvement in outreach and knowledge-sharing initiatives. It is necessary, therefore, to strengthen both traditional and modern communication channels to enhance the local community's engagement with forest conservation.

**Which are the activities and events that damage the most the forests of Divjaka-Karavasta protected area?**

Another question of the survey was related to the primary threats perceived by locals regarding the forests of studied area. Understanding these threats through the eyes of the community provides valuable insights into the challenges faced by the protected area and highlights areas requiring immediate intervention.

Table 7. Most damaging activities and events for the forests of Divjaka-Karavasta protected area.

Activities/events	Citation frequency (%)
Fires	69.4
Deforestation	30.6
Increased human activity through new constructions and agriculture	29.2
Uncontrolled tourist activities	12.5
Other	8.4
No answer	2.8

Source: Survey results

The survey results show that fires are perceived as the most damaging activity, cited by 69.4% of respondents. This finding underscores the critical threat posed by fire incidents to the forest ecosystem, likely driven by natural causes or human negligence. Deforestation, mentioned by 30.6% of respondents, and increased human activity due to new constructions and agriculture, cited by 29.2%, represent significant human-induced pressures that contribute to habitat loss and ecosystem degradation. Uncontrolled tourist activities, identified by 12.5% of respondents, point to the challenges of balancing tourism development with conservation. This highlights the need for sustainable tourism practices to mitigate environmental impact. Other concerns, noted by 8.4% of respondents (lack of cleanliness, natural hazards, etc.), and the minimal percentage of those who provided no answer (2.8%) suggest there may be additional issues not fully captured in the survey. These results emphasize the need for targeted measures to address the leading causes of forest damage while engaging the local community in sustainable solutions to preserve the Divjaka-Karavasta protected area.

**What is the level of participation of the local community in activities aiming at the protection or reforestation of Divjaka-Karavasta protected area?**

One of the questions asked to the local community was, “What is the level of participation in activities aiming at the protection or reforestation of the Divjaka-Karavasta protected area?” This question is crucial because active community involvement is key to the success of conservation initiatives. By assessing prior participation, stakeholders can better understand the level of local engagement and identify barriers that may hinder more widespread involvement.

Table 8. Prior participation of the local community in activities aiming the protection and reforestation of Divjaka-Karavasta protected area.

Prior participation in activities	Responses (%)
Yes	37.5
No	62.5
Total	100

Source: Survey results

The survey results reveal that only 37.5% of respondents have participated in such activities, while the majority, 62.5%, have not been involved. This indicates a significant gap in local engagement, which could be attributed to various factors such as lack of awareness, insufficient opportunities, or logistical challenges. Despite this, the portion of the community that has participated represents a valuable foundation for building broader involvement through targeted outreach and capacity-building efforts. The results also suggest the need for strategies to motivate and enable the 62.5% who have not participated. Efforts could include raising awareness about the importance of forest protection, organizing accessible and inclusive activities, and fostering a sense of shared responsibility among the community. Enhancing participation rates is essential for ensuring the long-term sustainability of conservation efforts in the Divjaka-Karavasta protected area.

***What are the changes observed by the local community during the last years regarding the situation of the forests in Divjaka-Karavasta protected area ?***

One of the questions asked to the local community was, “What changes have you observed in the forests of the Divjaka-Karavasta protected area during the last years?” This question is essential to understand community perceptions of forest dynamics over time and to evaluate whether conservation efforts and environmental changes align with local observations. Such insights are essential for tailoring future strategies to address both the successes and challenges identified by the community.

Table 9. Changes observed by the local community in the forests of Divjaka-Karavasta protected area during the last years

Observed changes	Responses (%)	Detailed responses (%)
Positive changes	59.7	Unspecified positive change 27.9
		Increase of the surface 25.6
		Increased protection 18.6
		Increased green area 11.6
		Increased investments 7.0
		Increased pollution 7.0
		Decreased constructions 2.3
Negative changes	15.3	Increased damage from human activity 45.5
		Deforestation 36.4
		Increased fire events 18.2
No significant changes	15.3	-
Irrelevant responses/no responses	9.7	-
	100	100

*Source: Survey results*

The survey results show that 59.7% of respondents observed positive changes in the forests, with specific mentions including an increase in surface area (25.6%), improved protection (18.6%), and expanded green areas (11.6%). These responses suggest that efforts to conserve and restore the forest are being noticed and appreciated by the community. Additionally, increased investments (7.0%) and decreased construction activities (2.3%) indicate a shift toward more sustainable practices in the region. However, the mention of increased pollution (7.0%) alongside these positive changes highlights the complexity of the situation and the need for continued vigilance. Conversely, 15.3% of respondents reported negative changes, such as increased damage from human activity (45.5%), deforestation (36.4%), and fire events (18.2%). These concerns highlight ongoing threats to the forest that require targeted interventions. Another 15.3% of respondents indicated no significant changes, and 9.7% provided irrelevant or no responses, suggesting varying levels of awareness and perception among the community. These findings emphasize the importance of addressing negative impacts while building on positive outcomes, ensuring the long-term health and resilience of the Divjaka-Karavasta protected area.

***What measures should be taken, according to the local community, to raise the awareness about the importance of forest protection in Divjaka-Karavasta protected area ?***

One of the questions asked to the local community was, “What measures should be taken to raise awareness about the importance of forest protection?” This question was crucial for identifying effective strategies to enhance community understanding and involvement in conservation efforts. By gathering local perspectives, stakeholders can develop initiatives that resonate with the community’s needs and priorities, fostering a stronger sense of collective responsibility.

Table 10. Measures to be taken to raise awareness of local community about the importance of forest protection in Divjaka-Karavasta protected area.

Measures	Citation frequency (%)
Higher engagement of the local community in activities for the protection/revitalisation of the forests	45.8
Increased work of responsible institutions/organization	31.9
Increased individual efforts to be better informed	27.8
Increased role of the school in informing and raising the awareness of the population	26.4
Total	100

*Source: Survey results*



The survey results indicate that 45.8% of respondents believe that greater engagement of the local community in protection and revitalization activities is the most effective measure. This highlights the importance of involving residents in hands-on efforts, such as reforestation projects and conservation campaigns, to build a sense of ownership and connection to the forest. Increased work by responsible institutions and organizations, cited by 31.9%, underscores the need for more robust institutional support and targeted initiatives to raise awareness and address environmental challenges. Other measures include promoting individual efforts to become better informed (27.8%) and enhancing the role of schools in educating and raising awareness among the population (26.4%). These responses reflect the value of both personal responsibility and structured educational programs in fostering long-term awareness. Together, these findings emphasize the need for a multi-faceted approach that combines community engagement, institutional action, personal initiative, and educational outreach to effectively raise awareness and promote the sustainable protection of the Divjaka-Karavasta forests.

***What measures would you consider more effective to improve the health of forests in Divjaka-Karavasta protected area?***

This question aimed to identify the strategies locals believe would have the greatest impact on preserving and enhancing the forest ecosystem. Understanding these perspectives is vital for aligning conservation actions with community expectations and priorities, ensuring sustainable and inclusive management of the protected area.

Table 11. Measures to be taken to improve the health of forests in Divjaka-Karavasta protected area

Measures	Citation frequency (%)
Increase of the forest surface	45.8
Better education of the community	38.9
Empowerment of legislation	37.5
Promotion of sustainable tourism	16.7
Total	100

Source: Survey results

The survey results indicate that the most frequently suggested measure, cited by 45.8% of respondents, is increasing the forest surface. This highlights the community's recognition of the need for expanding forested areas as a critical step toward restoring ecological balance and improving environmental health. Better education of the community, mentioned by 38.9%, underscores the importance of raising awareness and fostering environmental stewardship through targeted educational programs. 37.5% of respondents emphasize the empowerment of legislation, signaling the necessity for stronger legal frameworks and enforcement to protect the forest from harmful activities. The promotion of sustainable tourism, cited by 16.7%, reflects the community's awareness of the potential to balance ecological preservation with economic benefits. These findings collectively suggest that a combination of reforestation, education, robust legal measures, and sustainable development initiatives is essential for improving the health of the Divjaka-Karavasta forests.

***What does the local community think about the role of the local government and organizations regarding the management and protection of Divjaka-Karavasta protected area?***

Regarding this open-ended question, the local community provided various insights into the role that local government and organizations should play in the management and protection of the Divjaka-Karavasta protected area. A recurring theme in the responses is the need for increased efforts in informing and educating the public about the importance of forest conservation. Many believe that awareness campaigns, including targeted activities and outreach programs, are essential for encouraging community participation and fostering a sense of responsibility. Suggestions include creating new activities that engage residents, especially youth, and organizing events to enhance awareness and collaboration. Another key point is the importance of maintaining and restoring the forests. They highlighted the need for replanting trees, particularly replacing damaged areas with saplings, and ensuring the cleanliness of the protected area. This includes stricter measures for the enforcement of rules, such as imposing fines on those who harm the environment and increasing the presence of monitoring personnel. The role of local government and organizations in promoting sustainable practices, investing in environmental projects, and implementing stricter legislation was also considered significant. Several responses pointed to the necessity of stronger collaboration between local institutions, organizations, and the community. This includes engaging the population directly in conservation activities and involving external agencies in providing resources and expertise. Some community members also called for improved infrastructure, such as better waste management, to address

ongoing issues and support long-term preservation efforts. Collectively, the feedback underscores the importance of an inclusive and multifaceted approach to forest management and protection in the Divjaka-Karavasta area.

***What does the local community think about the role of the local government and organizations regarding the management and protection of Divjaka-Karavasta protected area?***

Many envision a future where the forest is more densely covered, with an expanded tree population and healthier ecosystems. Suggestions include planting new trees, preserving existing greenery, and creating more recreational and tourist-friendly areas while ensuring sustainability. Maintaining cleanliness and reducing pollution are also emphasized, alongside the need for mosquito disinfection to enhance the experience for visitors. These measures would not only improve biodiversity but also create a thriving, well-maintained forest environment that future generations can enjoy.

Tourism development is another key focus, with calls for adding eco-friendly activities like gondola rides and expanding tourist services within the park. Sustainable tourism, coupled with environmental conservation, is seen as the path forward. Increased community awareness about protecting the forest and enhancing its beauty is essential to achieving these goals. By integrating these initiatives, Divjakë-Karavasta could become a model of harmonious coexistence between environmental preservation and responsible tourism.

***Discussions***

Numerous studies have demonstrated that forest ecosystems play an extraordinary role in maintaining ecological balance and provide significant benefits to both human society and the earth across multiple dimensions. These include regulating the global climate, preserving biodiversity, protecting soil, supplying forest products, promoting tourism, and offering educational, spiritual, cultural, and scientific research values. All these multidimensional benefits have drawn the attention of various local stakeholders and decision-makers to the importance of managing and preserving the entire forest ecosystem. However, despite these advantages, forest protection remains highly challenging due to overexploitation and the mistreatment of their habitats by human society. The most frequent threats to forest ecosystems stem from deforestation, driven by factors such as agricultural cultivation, urban expansion, pollution, soil degradation, and wildfires. These negative human behaviours toward forest systems largely result from the level of awareness among local populations living near forests as well as visitors to these geographic spaces. Consequently, to assess the degree of awareness within the local community regarding the importance of preserving forested areas, this scientific study focused on the analysis of the Divjakë-Karavasta National Park. The reason this study emphasizes the awareness and engagement of the local community lies in the fact that the perceptions and practices of the population play a crucial role in supporting the conservation of these protected areas.

Through data collected via surveys and interviews conducted both in person and online with local residents during the periods of September – November and November – December in the administrative units of Divjakë, Tërbuf, Rremas, Gradishtë, and Grabian, the local community was assessed on several key aspects, such as their involvement in the effective management of forested areas for the sustainable development of parks in protected zones; the level of awareness regarding forest protection; community participation in conservation and proper management initiatives of national assets; the identification of the role played by other stakeholders, in collaboration with the community, in preserving the National Park; the evaluation of the most effective conservation practices for the park as perceived by the community; and the community's perception of the future state of the forests. Overall, the results of the analysis express a satisfactory level of basic knowledge within the community regarding the importance of the Divjakë – Karavasta Park. In a 9 out of 10 report, residents are aware that the Divjakë – Karavasta area is a protected zone. However, the concept of protected areas is limited and primarily focuses on the identification that construction is prohibited in protected zones and that they must be protected from fires, without considering other aspects that should be reflected upon for Protected Areas. Apparently, this perception arises from the more frequent, visible, and “punishable” destructions that are apparent to the general public. Therefore, the greatest impact on whether forests are protected or not comes from human society and not from other external factors. This is also confirmed by the authors Alvaro and Ladle (2018) which state that the influx of people into previously isolated areas is frequently associated with increased fire damage, either intentionally to clear forest for pasture/crops, or as an unintentional consequence of human presence. On the other hand, the surveyed population testified that the primary source of information for the community about the status of the Protected Area of Divjakë – Karavasta Park comes primarily from direct connection with the area. All these indicators imply that there is a lack of in-depth education within the local community about the role of forests in protecting biodiversity, reducing floods, and improving local climate. From the collected data, it is also noticeable that the role of institutions and

organizations is minimal. The surveyed population expressed that state institutions, organizations, and associations have not had sufficient interaction with the community or the decision-makers in the area, which demonstrates the lack of a well-organized strategy for community awareness. Furthermore, only one-third of the respondents have participated in practical activities such as reforestation, indicating the need for organizing more initiatives that are actively involved. The respondents expressed that the interaction with the community and decision-makers is insufficient, which has impacted the low level of practical engagement. These elements highlight the immediate need for organizing more practical initiatives that actively involve the community, creating a shared culture of responsibility for forest protection. To further understand the level of awareness among the surveyed population regarding forest protection, but also in relation to the knowledge they possess, it was found that most of them believe they only have general knowledge about the state of the forests, yet they consider it sufficient. This perception creates a gap between reality and the assessment of the need for advanced knowledge, hindering greater community engagement in forest conservation. To address this challenge, it is essential that institutions and organizations promote environmental education and awareness to enhance the quality of knowledge and the community's participation in the sustainable management of this natural resource. The respondents conclude that the key factor that would influence the community's awareness would be the organization of more activities and increased efforts from the institutions. On the other hand, in the aspect of comparing age groups, it is observed that younger age groups, more involved in activities and with a higher level of education, exhibit a higher level of awareness. This highlights the importance of education and the engagement of the younger generation in forest conservation. In fact, as emphasized by Chiwaya et al. (2022) the level of education had a positive and statistically significant influence on the level of participation of people in forestry management. However, as evidenced by the results, only 1 in 3 respondents is involved in activities for the protection or reforestation of this area. While these data can be considered positive for higher involvement in practical activities by younger age groups, it is concerning that only one-third of respondents are engaged in initiatives for the protection or reforestation of the area. This indicates the need to expand and intensify these activities, encouraging the participation of more individuals and groups in forest conservation. In fact, based on the collected data, the surveyed population expressed that planting and reforestation are considered the healthiest and most effective solutions to improve forest health in this park. However, it seems that the community still does not feel empowered to take action on its own or undertake genuine initiatives without the support of the relevant institutions or other decision-making actors.

Although this scientific research was designed to address the level of awareness of the surveyed population in all its dimensions, the study includes several limitations related to the collected data and methodology, conceptual, institutional, and time-related constraints. In terms of data and methodological limitations, we can highlight the representation of the sample. The selected sample may not fully represent the entire local community, especially if it is limited to random respondents, as in this specific case study. Regarding conceptual limitations, we can identify the understanding of the concept of protected areas, as the community has a limited or incomplete understanding of the concept of protected areas and their ecological and economic roles, which impacts the final results of the questionnaire. This implies that if our questionnaire had a targeted group, such as decision-makers, public administration, educators, or institutions, the responses would not have been the same. In terms of institutional limitations, the impact of information sources is evident, highlighting the fact that while most of the information comes from direct connection with the area, the influence of institutions or local media remains weak. Finally, regarding time-related limitations, two main issues can be identified: studying the area at a specific moment in time without addressing long-term dynamics, and the lack of seasonal analysis, where residents' perceptions may change depending on the season (e.g., during the tourist season), as beach tourism also takes place in the studied area. Under these conditions, based on the aforementioned limitations, it is suggested that future studies on this topic should include larger and more diversified samples, use comparative analyses with other protected areas, examine changes in community awareness during the implementation of awareness campaigns or institutional interventions, or address the perceptions of other actors who utilize this space for tourism purposes or play a role in park management.

## CONCLUSIONS

- The study demonstrated a moderate level of awareness among the surveyed population regarding the fact that Divjaka - Karavasta National Park is a Protected Area. However, this concept does not present the full

spectrum of its implications, as it remains a limited concept primarily associated with the basic characteristics of a protected area.

- Education on the ecological and economic role of forests in protected areas needs to be intensified. This role should be led by institutions or non-profit organizations, which should create campaigns focused on raising awareness and sensitizing the public about the importance and dimensions of protected areas, while simultaneously highlighting the long-term benefits for the community.
- The organization of activities such as reforestation and monitoring the health of forests is essential for increasing awareness and active community involvement. Therefore, institutions must work more closely with the community and local stakeholders to create a sustainable model for forest management and conservation. Given that younger age groups are more aware, as a result of their education, greater involvement of young people should be promoted by harnessing their enthusiasm for innovation and forest conservation. It is crucial to establish sustainable forest protection, which can be achieved through an integrated approach that combines science, technology, and active community engagement.

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