

A Multi-Stakeholder Approach for Ecotourism and Heritage Conservation in Socotra Island

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ABSTRACT

Socotra Island, a UNESCO World Heritage Site, faces unique challenges in balancing tourism development with conservation efforts. This research focuses on the conservation of Socotra through tourism development. It explores the concept of ecotourism and its significance in promoting sustainable practices. This paper addresses ecotourism development's social, economic, and environmental impacts and highlights its benefits for local communities. This study analyzes the status of tourism in Socotra and evaluates its effectiveness, considering the perspectives of the local community, tour guides, tourism companies, and tourists. Finally, this research highlights the potential for sustainable tourism development on Socotra Island. It addresses key challenges, including effective tourism management, coordination, waste disposal, and community involvement. This research contributes to the growing body of knowledge on sustainable tourism development in ecologically sensitive regions. By advocating for a collaborative approach, this research offers valuable insights for policymakers, conservation practitioners, and tourism stakeholders working in Socotra and similar destinations.

Keywords: *Environment; Ecotourism; Local Communities; Community-Driven; Tourism Infrastructure*

1. Introduction

Despite its importance, several challenges are associated with architectural and urban heritage conservation [1]. One major issue is funding; many cities need more resources to maintain their historic sites properly [2]. Additionally, there may be conflicts between those who wish to preserve the past and those who want to move forward with development projects that could damage or destroy these sites [3, 4]. Furthermore, legal issues related to ownership rights may also need to be addressed before work can begin on a site.

Ecotourism is becoming a headlight in the tourism environment worldwide [5], emphasizing a symbiotic relationship between the tourists and the preset environment as defined by the UNWTO in 2002 [6, 7]; ecotourism entails a travel type that involves the aspect of nature based on the concept of sustainable tourism [8]. Visitors come to ecotourism sites magnetically in a way that seeks to revive their connection to nature, as well as the opportunity to be part of the traditions of Indigenous people in an unspoiled natural world [5, 9]. At the heart of everything is ecotourism, the principle of education and interpretation, and understanding that leads to enlightenment concerning the environments one interacts with [5].

While the growing international tourism is a boon that contributes to economic development and helps the environment [10], it comes with many societal challenges like resource depletion, inflation, and a strain on the local culture, as noted by Moeurn, Khim, and Sovanny (2008, p. 18). Today, tourism is the most visible performance indicator for almost every nation globally [7]. This is accompanied by a strong understanding that sustainability should be very important in implementing tourism practices. This is when ecotourism comes in

as a big player, taking nearly 70 % of total tourism revenue in 2021 income. The growth of interest in ecotourism across the globe, as people go for tourist experiences related to wildlife safaris, national park visits, and even wildlife spotting, characterizes the appeal of ecotourism to most contemporary-thinking travelers [5, 7].

Perhaps, among all the natural area-oriented tourism destinations, there is Socotra Island, which distinguishes itself for its exceptional biological diversity and ecological value [11-13]. It is situated in the Arabian Sea, which is the home of a variety of rare species that are present in the world only here [14] Socotra has 37% of its plants, 90% of its reptiles, and 95% of its land snails that are considered endemic species, which means that they can only be found in the archipelago [14, 15]. Therefore, it is undoubtedly a global hotspot for biodiversity. It offers beautiful wildlife scenery characterized by colorful coral reefs, coastal fish, and amazing crustaceans [16, 17].

To ensure the ecological significance of Socotra is successfully protected, sustainable nature-based tourism is being upgraded to be sensitive to the island's different environment and cultural activities [16, 18]. The proposed management plan for Socotra recommends that community-based tourism, such as small-scale and community-driven development, should be a thrust in formulating tourism development [12]. The plan capitalizes on including the local communities in tourism activities, ensuring that tourism profits are equitably available to all the stakeholders and are favorable for the environment [15, 17].

Even though sustainable tourism development is imaginable for Socotra, the difficulties of educating people and spreading information about the island's opportunities still exist. According to Ahmed Abdullah Omer, Madhuri Sawant,

and Rajesh Ragde (2023), the findings on tourists' awareness of the products in the history and culture category of Socotra Island brands pointed to the negative side of the lack of tourists' awareness [11, 19]. On the other hand, the importance of nature-based tourism products was felt, indicating that it was a field of great potential.

This paper delves into the intricacies of Socotra's tourism landscape, exploring the intersection of ecotourism principles, biodiversity conservation, and community-based development. Furthermore, it aims to assess the current state of tourism infrastructure on Socotra and evaluate tourists' perceptions and awareness of the island's offerings. By understanding these dynamics, the paper seeks to inform strategies for sustainable tourism development that maximize the benefits for local communities while safeguarding Socotra's unique natural and cultural heritage.

2. Materials and Methods

This research seeks to comprehend the dynamic interaction among Socotra tourism, conservation, and local communities. It adopts a multifaceted methodology integrating diverse data collection techniques. The approach entails conducting qualitative interviews with experts, stakeholders, and tourists. Additionally, case studies are analyzed alongside the distribution of quantitative surveys to tourism agencies, tourists, and local communities.

First, local and international case studies were analyzed. A local case study examined a campsite in the Dehmiry site on Socotra Island. The study analyzed the design, materials, structure, and program of the campsite, with a focus on its impact on the community and environment. In addition to the local case study, analyses were conducted on case studies from the Maldives and Jordan. The

Maldives case study highlighted the potential negative impacts of prioritizing tourism over traditional industries, emphasizing adverse effects on both the economy and society [20, 21]. The emphasis on tourism over local needs and environmental conservation was seen as detrimental in the long term. Conversely, the Royal Society for the Conservation of Nature (RSCN) in Jordan serves as an example of conservation through tourism [22]. The RSCN aims to align conservation initiatives with socio-economic progress, fostering greater public support and engagement for safeguarding the natural environment in Jordan and neighboring nations [22].

2.1 Case Study Region

The Dehmriy campsites are a local case study built by the community and designed by an architect, eco-tourism, and landscape development expert for natural and cultural sites (Figure 1) [23-25].



Figure 1. Master plan of Dehmriy campsites.

Furthermore, online interviews were conducted with various specialists and experts, including eco-tourism and landscape development experts for natural and cultural sites and a tourism management specialist at Socotra University. These in-depth, semi-structured interviews delved into tourism dynamics on the island, covering its development, management, and sustainability practices. Additionally, interviews were conducted with local tour guides and tourism agencies to understand their range of programs, activities, and perceptions regarding the impact of tourists on the island.

Furthermore, deterministic surveys were sent online between October and December 2023 to estimate tourist destination viewpoints from diverse stakeholders. The poll created a sample of 65 participants in one month. Among the respondents, the major group, 38.5% or 25, were guides, the second major group, 24.6% or 16, were agents, and the minor group, 36.9% or 24, were tourists. Surveys were developed and pinned on tourists to check the level of satisfaction and the propensity to interact with locals of tourists who visited Socotra. The surveys aimed at exploring sustainable and authentic experiences. These surveys not only aimed at revealing the tourist's tendency to learn about the culture of the local communities on the island of Socotra; they also studied their gazing mood toward preserving the island's natural environment. Surveys were sent to arrive at the views of local tourism agencies about the degree to which the impact of the tourists in Socotra might alter the destination's attractiveness over time.

The surveys concerned the stakeholders' experiences, beliefs and imaginations as the tourism business participants. Besides that, questionnaires were provided to the local guides regarding their engagement with tourists whenever they are

around, the experience they get from being with tourists, and the perception of tourists regarding their traditions and daily lives. The study aimed to discover the benefit or harm tourism inflicts on its host community.

3. Results and Discussion

The discussion from the semi-structured interviews highlighted the challenges hotel owners face in Hadibu's capital due to fewer customers, as tourists are more drawn to the region's natural attractions. Diksam, a mountainous plateau central to Socotra, Yemen, stands out for its rare flora, particularly the Dragon's Blood Tree. The region, home to 20 tribes, features caves, valleys, and stunning landscapes with cool temperatures blanketed by clouds and mist. This picturesque destination attracts tourists visiting Socotra, with all tourists exploring its enchanting scenery. Diksam, with a population of approximately 5,327 people, supports essential infrastructure such as schools, healthcare facilities, and mosques, while residents primarily engage in livestock herding.

One of the tourism management specialists at Socotra University acknowledges the tourism sector's challenges. Inadequate focus, experience, and coordination among local authorities, stakeholders, and tourism enthusiasts hinder effective tourism management on the island. They suggested that the Ministry of Interior should enhance its efforts and coordination to address these issues. Tourists rely heavily on tourism agencies and their resources due to the lack of available assistance and guidance.

Local communities and villages surrounding campsites impose taxes on tourism agencies and visitors for utilizing specific services and supporting environmental conservation initiatives. Nevertheless, certain tourism agencies evade these designated campsites, failing to contribute funds to local conservation projects

despite tourists' willingness to pay for comprehensive packages, including campsite stays. This avoidance, coupled with cleanliness and maintenance issues at the campsites, results in the proliferation of waste and pollution, depriving local communities of potential benefits. Such actions may lead to stakeholder conflicts and impede advantages for these communities and villages.

General information regarding the tourists shows that 24 respondents participated, with 54% between 26 and 45 years old and 58% female. Around 83% of the respondents stated that they stayed in Socotra for a week. Approximately 37.5% of them travelled with friends, 29% alone, and 20% with colleagues. About 70% visited Socotra for adventure purposes, while 28% travelled for work or research. During their visits to Socotra cities, 62.5% were very positively engaged with the community, nearly 30% were moderately positively engaged, and 8.3% were neutral.

In the tourist surveys, the activities they participated in the most were stargazing, guided nature hikes, and local food experiences. The least participated activities were cultural festivals and events, traditional dances or music, and storytelling sessions.

The highest percentage preferred camping in protected areas and wild camping. Around 29.2% stayed in hotels in the capital of Socotra, Hadibu. When asked about the type of accommodation they preferred, wild camping (58.3%), camping in protected areas (79.2%), and guest houses (29.2%) were the most popular choices.

The discussion section mentioned responses regarding reducing the impact on ecology, costs and being closer to nature or culture. Visitors emphasized the importance of preserving Socotra's natural aspect, avoiding overbuilding, and

supporting sustainable, eco-friendly options that align with local culture.

Feedback on the overall experience of wild camping on Socotra Island varied. Most respondents indicated they did not utilize local campsites in different island locations. Opinions on the overall tourism infrastructure were divided, with 36.8% considering it good, 31.6% poor, and 15.8% fair (Figure 2).

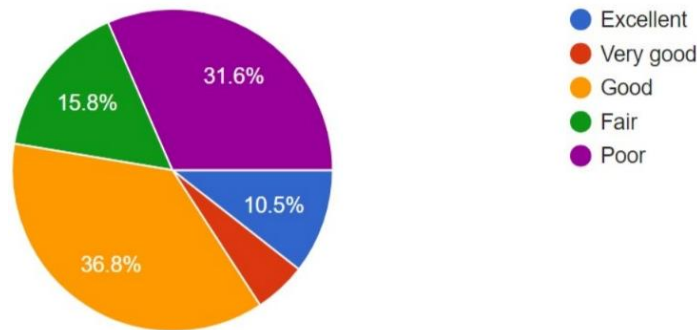


Figure 2. Users’ Response to the overall tourism infrastructure.

Responses to the idea of introducing ecolodges to Socotra as part of the tourism program were positive. This approach has the potential to achieve a balanced approach to managing tourism (Figure 3). Overall, there was a positive reaction to the concept of better tourism infrastructure.

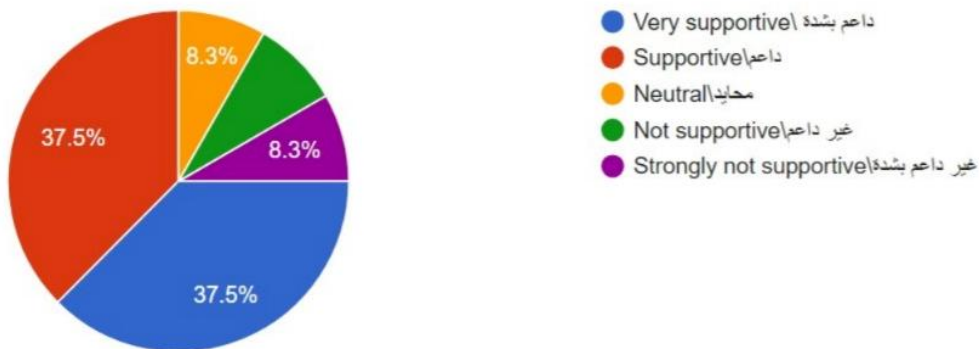


Figure 3. Users’ Response to the idea of introducing ecolodges to Socotra.

The tourism agencies and tour guides surveyed were distributed the same online questionnaire to examine their perspectives on tourism, tourists, and their impact on culture and nature. Additionally, their views on eco-lodges and tourism infrastructure in aiding tourism management were explored.

Tourism agencies and tour guide surveys show that tourists are most involved in activities such as stargazing, guided nature hikes, and local food experiences. The least involved activities are traditional dances or music, cultural festivals and events, with a neutral response towards storytelling sessions. When asked about involving the local community and families in resort work, 81.3% responded positively, indicating readiness to cooperate to promote sustainable tourism. However, 93.8% believe the current quantity of hotels and resorts on Socotra is insufficient to accommodate tourists, suggesting that introducing resorts could alleviate pressure on tourism agency owners.

Various reasons were cited for introducing eco-lodges on Socotra as part of tourist programs (Table 1). Responses to preserving and celebrating Socotra's cultural heritage through tourism varied between positive and negative sentiments (Figure 4). In discussing how tourism benefits the local community, respondents expressed positivity regarding economic opportunities and support for small businesses.

In the discussion section, insights from foreign tour guides highlight concerns and suggestions. One tour guide suggested focusing on hotels near Socotra's capital and improving existing campsites rather than introducing eco-lodges. They cited challenges with basic facilities like toilets, even at current campsites, and expressed skepticism about the immediate feasibility of introducing eco-lodges.

Table 1. Introducing ecolodges to Socotra for tourists as a part of the tourist program.

	Very supportive	Supportive	Neutral	Not supportive	Strongly not supportive
Tourism Agencies	37.5%	12.5%	1%	31.3%	18.8%
Tour guide	24%	28%	32%	4%	12%

Another emphasized integrating facilities with the natural environment using local plants and building materials. A third tour guide pointed out the importance of architectural harmony with local housing styles, advocated for solar power over generators, and addressed sustainable waste management challenges currently lacking on the island. These perspectives underscore diverse opinions and practical considerations for sustainable tourism development on Socotra Island.

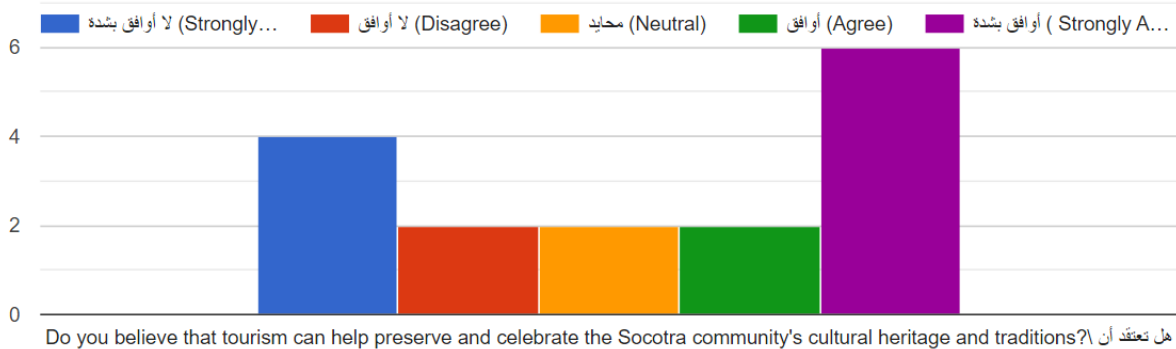


Figure 4. Users' responses to preserve and celebrate Socotra cultural heritage through tourism.

4. Conclusions

This research emphasizes the critical need for a balanced and sustainable approach to tourism on Socotra Island. The unique natural beauty of Diksam and

the potential for eco-lodges suggest promising avenues for development. Crucially, addressing challenges in tourism management, coordination, waste management, and community engagement while ensuring that architectural choices respect local vernacular architecture and the landscape is essential for ensuring Socotra's long-term success as a sustainable and authentic tourist destination. The research underscores the importance of learning from global case studies and adopting best practices to preserve Socotra's unique natural and cultural assets for future generations.

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