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Stakeholders' Opinion on Geotourism Characteristics of Hummanaya Destination, Sri Lanka

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Abstract: Geotourism is a niche market that contributes to sustaining and even enhancing the geographical characteristics of a territory, including the abiotic, biotic, and cultural (ABC) attributes of destinations. It uplifts the living standards of local communities and provides opportunities for visitors to understand and appreciate the natural environment and the existing culture of the geosites. The aim of this research was to evaluate the geotourism characteristics of the Hummanaya tourism destination based on stakeholders' opinions and to investigate the extent to which stakeholders are committed to adhering to geotourism principles. Primary and secondary data sources were utilized to collect the necessary data for this study. For gathering primary data, key informant interviews and participatory observations were conducted in the field using a semi-structured questionnaire, with purposive sampling employed. Unpublished documents served as secondary data. Descriptive statistical analysis and narrative interpretation methods were used to analyze the collected data. The study was able to identify the extent to which geotourism stakeholders adhere to geotourism principles. Specifically, regarding the principles of integrity, community involvement, community benefits, and tourist satisfaction, the informants provided positive responses. The findings reveal that the destination is perceived by tourists as a fascinating and unique tourist attraction in Sri Lanka. Most tourists reported being very satisfied or satisfied with the tourist attractions, facilities, and services provided by local facilitators, indicating that the destination meets tourists' expectations. However, a significant issue is whether other stakeholders are satisfied with geotourism's contributions to protecting the destination's ABC attributes and improving the socio-economic status of local communities. Negative responses were noted concerning principles such as evolution, market selectivity, interactive interpretation, and market diversity. Therefore, necessary measures must be taken to conserve and develop the destination as a geosite and geotourism site.

Keywords: Blowhole; Geotourism Characteristics; Geotourism Principles; Opinion; Stakeholder.

1.0 Introduction

Geotourism is a niche market that contributes to sustaining and even enhancing the geographical characteristics of a place, such as its culture, environment, heritage, and the well-being of its residents. It encompasses broader geographical, socio-economic, and cultural contexts that fall under the umbrella of geographical tourism.

Dowling (2013) identified five characteristics of geotourism: First, geotourism should be based on the earth's geoheritage, including geological and geomorphological peculiarities. Second, it should contribute to sustainability. In other words, geotourism should be an activity that is economically viable and community-enhancing while fostering geo-conservation. It is worth mentioning that many geotourism destinations (geoparks or geosites) around the world are not nationally protected areas (Farsani et al., 2012). In Sri Lanka, some geomorphic features are protected under various rules and regulations. Third, geotourism should be an educational activity, meaning it should build awareness of the destination's geography, geology, geomorphology, and geodiversity. Fourth, geotourism should provide benefits to local communities, uplifting their socio-economic status and strengthening social harmony and integrity. To ensure the sustainability of geoheritage, local community participation is essential. To achieve local community participation, geotourism must provide economic benefits to local residents. Thus, UNESCO has identified geotourism as a new gateway to rural development (Farsani et al., 2012). Fifth, like other forms of tourism, geotourism should generate visitor satisfaction and meet tourists' expectations.

Geotourism principles can be defined as guidelines to be followed while planning and maintaining a geotourism destination to achieve the aforementioned characteristics. At the same time, these principles can serve as a set of criteria to assess the extent to which the stakeholders of a tourism destination adhere to the principles of geotourism and their commitment to it. Hummanaya (the blowhole) at Kudawella is one of the geotourism sites in Sri Lanka (Pathmasiri & Fernando, 2022) and is recognized as the second most well-developed blowhole in the world and the largest blowhole in Sri Lanka (Paranamana, 2003). The tourism destination attracts more than 100,000 local and foreign tourists annually, and a considerable number of community members in the area depend directly and indirectly on the blowhole for their livelihoods (Pathmasiri & Fernando, 2022; 2023). Despite the heritage and geotourism importance of the destination, it has not been protected as a national heritage site. Under these circumstances, it is essential to evaluate the geotourism characteristics of the destination based on geotourism principles to understand the conservation status of the site and manage it sustainably.

The main objective of this study is to evaluate the geotourism characteristics of the Hummanaya destination based on geotourism principles and to examine the extent to which stakeholders at the destination are committed to adopting these principles. Such understanding will help in sustainably managing the geotourism destination while uplifting the living standards of local communities and meeting the expectations of visitors. There is little research in the literature on the extent to which the Hummanaya geotourism destination adheres to geotourism principles. Hence, this study aims to fill the aforementioned intellectual gap.

2.0 Literature Review

2.1 Definition of Geotourism

In geotourism research literature, two distinct traditions are recognized: the geological tradition and the geographical tradition. The geological tradition focuses on geotourism as geological tourism, emphasizing visits to geological sites. According to Hose (1995), geotourism is "the provision of interpretative and service facilities to enable tourists to acquire knowledge and understanding of the geology and geomorphology of a site." The geographical tradition, on the other hand, takes a broader view, as noted by Dowling (2013), and considers the

allure of geotourism to encompass three key attributes of a destination: Abiotic, Biotic, and Cultural (ABC) properties (Dowling, 2010). National Geographic (2022) defines geotourism as “tourism that sustains or enhances the geographic character of a place – its environment, culture, aesthetics, heritage, and well-being of its residents.” Similarly, the International Congress of Geotourism defines it as tourism that sustains and enhances the identity of a territory by considering its geology, environment, culture, aesthetics, heritage, and the well-being of its residents (The International Congress of Geotourism, 2011; Dowling, 2013). Thus, geological tourism, ecotourism, and cultural tourism are considered integral elements of geotourism, which falls under the broader concept of sustainable tourism.

2.2 Characteristics of Geotourism

After the Rio Earth Summit in 1992, various international organizations, including the United Nations Environment Programme (UNEP), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Tourism Organization (UNWTO), and many researchers, began to develop principles to guide stakeholders in conducting tourism sustainably (Pathmasiri, 2019). A review of tourism literature reveals that different types or approaches to tourism—such as geotourism, sustainable tourism, and ecotourism—offer specific guiding principles for tourism activities. While there are differences among these principles, significant similarities also exist.

Ecotourism is often considered a sister discipline of geotourism (Sadry, 2009). According to Blamey (2001), Honey (2008), Mowforth and Munt (2016), Weaver (2001), and Farsani et al. (2012), the fundamental principles of ecotourism include:

- Travel to natural destinations,
- Minimizing negative impacts,
- Building socio-cultural and environmental awareness,
- Providing direct financial benefits for the conservation of nature and local culture,
- Offering financial benefits to local communities, and
- Respecting local culture and human rights.

Wood (2002) outlined the following ecotourism principles:

- Minimizing negative impacts on nature and culture,
- Educating tourists on the importance of conservation,
- Emphasizing responsible business practices,
- Contributing financially to the conservation and management of natural and protected areas,
- Advocating for regional tourism zoning and visitor management plans,
- Using environmental and social baseline studies to assess and mitigate impacts,
- Ensuring maximum economic benefits for host communities,
- Avoiding tourism development that exceeds the area's social and environmental carrying capacity,
- Relying on infrastructure that harmonizes with the environment, minimizes fossil fuel use, conserves biodiversity, and blends with natural and cultural surroundings.

Geotourism, a branch of sustainable tourism, follows sustainability principles and is considered part of the broader sustainable tourism framework (Sadry, 2021; Farsani et al., 2012). Geotourism emphasizes the application of sustainable tourism principles (Dowling, 2013). The Lanzarote Charter on Sustainable Tourism (Farshani et al., 2012) outlines 18 principles that any sustainable tourism approach should follow. Metsahallitus/Parks and Wildlife Finland (2016) defines six core principles for sustainably guiding tourism activities in national parks, nature sites, historical sites, and UNESCO World Heritage Sites in Finland:

- Assisting in preserving valuable site features and promoting their protection,
- Minimizing environmental impacts,
- Strengthening local aspects,
- Promoting destinations to enhance health and well-being,
- Supporting growth and job creation in the local economy,
- Communicating the values and services of the site.

National Geographic, which works to protect unique places worldwide through responsibly managed tourism, defines 13 principles that guide geotourism (National Geographic, 2016):

- Integrity of place: Develops and enhances a destination's geographical characteristics while preserving its uniqueness.
- International codes: Adheres to the Global Code of Ethics for Tourism by the UNWTO and the principles of the Cultural Tourism Charter.
- Community involvement: Encourages active participation of the local community in geotourism planning and facilitation.
- Community benefit: Helps local communities gain socio-economic benefits through micro- and medium-scale tourism businesses.
- Tourist satisfaction: Ensures the fulfillment of geotourists' expectations.
- Conservation of resources: Encourages businesses in the tourism sector to minimize environmental pollution.
- Protection and enhancement of destination appeal: Promotes sustainable management of abiotic, biotic, and cultural features that support tourism.
- Planning: Balances immediate economic needs with the heritage and potential of the destination.
- Land use: Utilizes planned development strategies to prevent overdevelopment and degradation.
- Market diversity: Develops infrastructure to maximize both short- and long-term resilience.
- Interactive interpretation: Educates tourists and locals about the uniqueness of the destination.
- Market selectivity: Fosters market sectors that focus on promoting and appreciating the area's heritage and uniqueness.
- Evaluation: Continuously assesses the status and characteristics of the destination.

In conclusion, the overarching objective of geotourism principles is to sustain the abiotic, biotic, and cultural (ABC) attributes of destinations while enhancing the living standards of local communities and providing visitors with opportunities to understand and appreciate geodiversity.

2.3 Geotourism stakeholders and opinion

The achievement of geotourism's ultimate objective relies on the responsible behavior of all stakeholders involved in tourism. In other words, it depends on stakeholders' commitment to adhering to geotourism principles. These principles aim to guide tourism activities toward formal, predictable, and purposeful goals.

Tourism research indicates that tourists, external facilitators (including travel agencies, entrepreneurs, accommodation providers, employers, tourism professionals, media, and NGOs), host communities, and public authorities are all engaged in geotourism activities (Handayani & Lazuardi, 2022; Sadry, 2021; Ginting et al., 2020; Pathmasiri, 2019). According to Ass et al. (2005), individuals or groups involved in or affected by geotourism, either positively or negatively, are considered geotourism stakeholders. Based on the expectation-disconfirmation theory and motivational theory in tourism, stakeholder opinions can be used to evaluate the tourism characteristics of a destination, tourists' demand for facilities or tourism packages, and to plan and manage tourism destinations for conserving and enhancing the ABC (abiotic, biotic, and cultural) properties of an area.

The literature emphasizes the importance of stakeholder perceptions in sustainably managing tourism destinations. Without addressing visitors' needs, achieving the multidimensional sustainability of a tourism destination becomes challenging. Understanding tourists' expectations requires considering their opinions and perceptions (Iddawala & Huang, 2022; Sadry, 2021). The key argument here is that tourists are the buyers of tourism products, and without them, the tourism business cannot thrive. Therefore, it is essential to consider tourists' opinions in tourism planning and management to create marketable products, help tourists meet their expectations, and generate sustainable economic benefits for local communities while protecting and enhancing the destination's characteristics.

In addition to visitors' opinions, the views of facilitators are crucial to the sustainability of a geotourism destination. Pathmasiri and Fernando (2023) highlight a strong correlation between geotourism sustainability and the involvement of local communities as programmers, facilitators, and gatekeepers. Community-based geotourism has a more significant impact on conserving geotourism attractions, as local communities benefit from socio-economic opportunities and improve their living standards (Johunis et al., 2021; Ginting et al., 2020). Pathmasiri (2024) suggests that local community participation in destination management can reduce conservation costs and foster more sustainable management practices, as indigenous knowledge is applied to managing destinations. Furthermore, as emphasized by motivational theory in tourism, it is essential to consider the values and expectations of stakeholders in tourism planning and development if tourism is to be sustainable (Olson, 2021).

In the context of Sri Lanka, stakeholder opinions have been studied to understand the tourism characteristics of various destinations. Several examples exist of conflicting interpretations and implementations of tourism principles, especially ecotourism principles. Some destinations have implemented ecotourism principles poorly (Perera & Vloskey, 2013; Arachchi et al., 2015a; Arachchi, 2015; Wickramasinghe, 2009; Pathmasiri, 2019; Pathmasiri & Bandara, 2020). However, there are a few exceptions, such as Meemure, located in the Knuckles mixed world heritage site, where many stakeholders adhere to ecotourism principles fully (Pathmasiri, 2019). Despite this, there is a lack of research on the role of stakeholder opinions in understanding the geotourism characteristics of Hummanaya. Addressing this research gap is crucial, as the Tangalle local council plans to introduce a new tourism development plan for the destination.

3.0 Materials and Methodology

3.1 Study Area

The study was conducted at the Hummanaya geotourism destination, which is located in the Kudawella (Southern) Grama Niladhari Division (GND), approximately 192 kilometers south of Colombo in the Tangalle Divisional Secretariat. The destination lies within longitudes 80^0 43' 30'' E – 80^0 45' 00'' E and latitudes 5^0 58' 00'' N – 5^0 59' 00'' N (see Figure 1).

Hummanaya (blowhole) in Kudawella is one of Sri Lanka's key geotourism sites. The destination's geo-heritage is shaped by the interplay of its Abiotic, Biotic, and Cultural (ABC) attributes, with geomorphological features being the most dominant (Pathmasiri & Fernando, 2022). Reputed as the second most well-developed non-igneous blowhole in the world and the largest of its kind in Sri Lanka (Paranamana, 2003) (Refer to Figure 2), its formation is widely attributed to shoreline erosion, Holocene and late-Holocene sea level changes, Precambrian sedimentary rock formations, fault or joint formations, and monsoon wind patterns (Pathmasiri & Fernando, 2022; Sumanapala et al., 2021; Katupotha & Ranasinghe, 2000). During the southwestern monsoon, strong winds cause a striking visual spectacle, with water shooting 25–30 meters into the air. Beyond its abiotic features, the Hummanaya blowhole vicinity (approximately 1.0724 hectares) is home to various flora and fauna species (Pathmasiri & Fernando, 2022; Tangalle Pradeshiya Sabha, 2021). The local community in Kudawella primarily depends on fishing, and visitors can enjoy Sri Lankan seafood while experiencing both traditional canoe fishing and modern fishing methods.

The unique ABC properties of the destination attract a range of tourists, including geo-tourists, eco-tourists, and mass tourists. However, formal tourism activities at the site have only been organized under government supervision since 2008. At that time, Katupotha et al. (2000) estimated annual tourist arrivals at around 375,000. According to financial audit reports from the Tangalle local council, 1,278,000 domestic tourists and 57,000 foreign tourists visited between 2015 and 2022 (Pathmasiri & Fernando, 2022; 2023). In an effort to boost tourism revenue, the Tangalle local council has proposed further development of the site, including the introduction of new tourism products (Tangalle Pradeshiya Sabha, 2021). In this context, it is crucial to evaluate the geotourism characteristics of Hummanaya to achieve geotourism objectives: raising awareness of the destination's ABC attributes, protecting and enhancing these features, supporting local communities in improving their socio-economic and cultural living standards, and ensuring visitor satisfaction.

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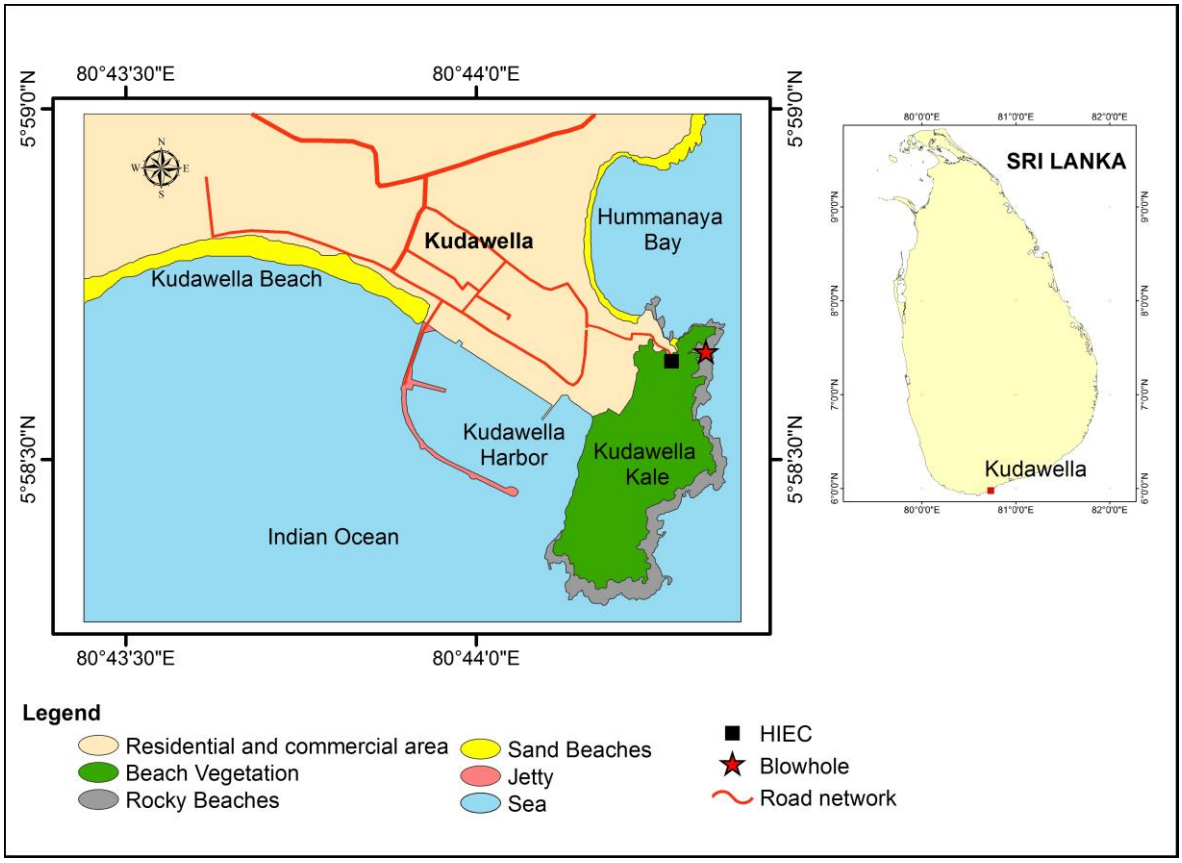

Figure 1: Geographical Location of the Study Area.

Figure 2: Scenery of the Hummanaya Blowhole.

3.2 Mixed-method Analysis

The study was conducted using a mixed-method approach. The research process consists of five steps: introduction, literature survey, data collection, analysis, and presentation of the findings.

- Introduction: In this step, the research problem and significance of the study were identified, and the objectives were developed. The primary objective of the study was to evaluate the level of satisfaction of geotourism stakeholders at the Hummanaya destination and thereby understand the geotourism characteristics of the site. This understanding will help in sustainably managing the fragile tourism allure (Abiotic, Biotic, and Cultural properties) of the destination.
- Literature survey: The literature review focused on research articles related to geotourism characteristics, stakeholder views, the importance of considering stakeholder opinions for sustainable management of geotourism destinations, and specifically, stakeholder opinions on the geotourism characteristics of the Hummanaya destination.

- Data collection and study sampling: The study used both secondary and primary data. The main secondary data source was Google reviews on “Hummanaya Blow Hole,” available at this link. There were around 2,000 Google reviews on the site in 2022, and 613 of the most recent visitor comments were analyzed to assess tourist satisfaction with the destination's characteristics. Primary data were collected through key informant interviews. Based on preliminary study findings, 77 key informants were selected, including officials from relevant state-centered agencies (9), local community members of Kudawella (40), local tourists (20), and foreign tourists (8). Each informant participated in a key informant interview followed by a semi-structured questionnaire survey. Local and foreign tourists were selected randomly, while other informants were chosen purposively. During the key informant interviews, participants shared their views on geotourism characteristics at the destination. The semi-structured questionnaire used a Likert scale to evaluate geotourism facilities and conservation practices. The Likert scale ranged from 2 to -2, where 2 indicated "very satisfied," 1 "satisfied," 0 "neutral," -1 "dissatisfied," and -2 "very dissatisfied." Field data collection took place in September and October 2022.
- Analysis and presentation of the findings: The stakeholders of a tourism destination play a role in shaping tourism activities while being influenced by the behavior of other stakeholders. By analyzing stakeholders' opinions on tourism activities and characteristics, it is possible to gauge how well the destination has adapted to geotourism principles. Both qualitative and quantitative data analysis methods were employed in the study. Facilitator satisfaction was analyzed using descriptive statistics and presented in figures, while tourist satisfaction was evaluated manually and categorized into six groups: very satisfied, satisfied, neutral, dissatisfied, very dissatisfied, and no opinion. Qualitative information was analyzed using narrative interpretation techniques. Additionally, the geotourism principles introduced by National Geographic were used as a set of criteria to categorize both qualitative and quantitative data.

4.0 Results

This study evaluates the geotourism characteristics of the Hummanaya destination based on geotourism principles and examines the extent to which stakeholders are committed to adopting these principles.

4.1 The integrity of a place

It is evident from the literature that a blowhole-based tourism industry existed before the formal initiation of tourism in Hummanaya under the control of the Tangalle Local Council. However, it was not environmentally friendly, nor did it aim to educate tourists and residents about the geographic uniqueness of the area. It also failed to ensure the satisfaction of residents and visitors. Such irresponsible tourism activities led to the degradation of both the tangible and intangible attributes of the destination.

The re-establishment of tourism activities under the Tangalle Local Council has paved the way for geotourism operations to help conserve the area's geographical uniqueness, a fact confirmed by interviews with residents and information center officials. While the geographical uniqueness of the area is being marketed as a tourism product, geotourism is also being used as a strategy to protect the unique characteristics of the destination, particularly its geomorphological features. This was echoed in interviews with state-centered stakeholders, such as the following example:

“*We have taken several steps to protect Hummanaya through tourism. First, measures are underway to acquire the land where the blowhole is located and develop the area as a tourist destination. Land acquisition is a difficult task, and many legal issues remain unresolved. Second, we have implemented a mechanism to involve visitors in the conservation of the destination's tourism allure—every tourist now pays an entry fee. Although legal issues prevent us from directly using those funds for tourism development, progress is being made. Third, we (Tangalle Local Council) have assigned six officials to ensure the conservation of the blowhole and its surrounding environment, as well as to educate tourists. Future development plans are also in place*" (An official of HIEC, Male, 2022/09/18).

Thus, it can be said that geotourism activities at the destination have contributed to developing and enhancing the geographical characteristics of the area in a manner that aligns with its identity and preserves its uniqueness. Thousands of tourists visit the destination annually, driven by social media and mass media publicity about Hummanaya's geographical uniqueness, promoted by tourists, state-centric stakeholders, and others. Interviews revealed that residents appreciate the preservation of geographical uniqueness through Hummanaya-based geotourism and its role in local economic development. However, they also emphasized that geotourism should be organized in a way that protects socio-cultural stability and harmony. Residents believe that the integration of abiotic and biotic elements with tourism activities is insufficient, as shown in the following narrative:

“*Hummanaya-based tourism has existed for decades. Brohier even mentioned that tourists visited in the 1960s. Back then, the destination was freely accessible, and no institution existed to safeguard the site's tourism appeal. This land was not under government control until the Tangalle Local Council formally began tourism activities in 2008. Conservation regulations were not effectively enforced, leading to significant environmental destruction from tourism. Additionally, there were disputes between tourists and locals, and the area's social fabric deteriorated due to irresponsible tourism practices. This is why some older residents still oppose tourism development. However, there now seems to be a greater effort to protect the environment around Hummanaya. Government institutions should do more to preserve the physical attributes, local cultural practices, and biodiversity through tourism*” (A restaurant owner, Male, 2022/09/21).

4.2 International codes

Sri Lanka has been a member of the World Tourism Organization (WTO) since 1995 and has focused on adhering to many international ethics and codes related to tourism. Additionally, many principles of geotourism, ecotourism, and sustainable tourism are based on the Global Code of Ethics for Tourism and the principles of cultural tourism. However, there is no documented evidence to confirm that the

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Hummanaya destination specifically follows the Global Code of Ethics for Tourism introduced by the WTO or the principles outlined in the Cultural Tourism Charter. Despite this, approximately 175,000 tourists visit the site annually, contributing around 5 million rupees in average annual entrance fees (Tangalle Pradeshiya Sabha, 2022). This suggests that the destination aligns with the fundamental ethics and principles commonly applied in the tourism industry.

4.3 Community involvement

According to Katupota (2000), the local community has actively participated in preparing the SAMP for Kudawella. Two types of stakeholders involved in tourism facilitation businesses were identified. The first category consists of state-centered stakeholders. The Tangalle Local Council has been involved in packaging, pricing, and marketing blowhole-based tourism activities at the Hummanaya site. None of the local community members are currently employed as permanent or casual workers at HIEC. Key informant interviews revealed that a few local community members previously had job opportunities at HIEC, but these have since been lost.

However, state-centered stakeholders do not engage in businesses related to accommodation, retail shops, or parking in the area. All these facilitation businesses are managed by local community members and some external tourism facilitators (see Table 1). Most tourism-related businesses are owned and operated as family businesses by local community members, with the exception of one restaurant owned by a foreigner; however, one local community member has a casual job at that restaurant. Therefore, it is clear that the local community is involved in the tourism business as programmers and facilitators of tourism activities at the destination.

Table 1: Local community engaged tourism facilitation businesses and average income per month (Sri Lanka Rupees).

Business type	Number	Average income per month (Rs.)
Accommodation	02	78000.00
Restaurant	09	150000.00
Souvenir shop	01	30000.00
Retail Shop	15	40000.00
Dried fish shops	10	41000.00
Vehicle parks	03	38200.00

Source: Semi structured Questionnaire survey, 2022

4.4. Community benefit

The geotourism activities at the Hummanaya destination have created economic opportunities for the local community. Community members have established restaurants, retail shops, and outlets for marketing local products. The average income of geotourism-related local businesses is indicated in Table 1. The following narrative illustrates how some local community members have become tourism facilitators and earned a significant income from tourism:

> *"On weekends and public holidays, typically 200 to 300 local tourists and around 50 foreign tourists purchase goods and services from my shop. On average, an adult domestic tourist spends Rs. 750, while a foreign tourist spends about Rs. 3,000. Based on my understanding, approximately two-thirds of the tourists who visit Hummanaya buy something from my shop. I run the shop with my wife and a relative. My wife handles most of the food preparation, while I manage the finances, maintain the shop, and provide waiter service. My aunt runs the parking business connected to my shop. A significant income can be generated from this business, but costs have risen due to the increasing prices of goods*" (A restaurant owner, Male, 2022/09/29).

Geotourism-related businesses are among the main economic activities for some villagers. While most villagers are engaged in fishing and related activities, some also participate in tourism-related businesses, depending on the seasonal and weekly patterns of tourist arrivals. Due to the significant fluctuations in income from tourism, it is more appropriate to refer to the tourism facilitators in this destination as part-time or temporary facilitators rather than full-time tourism facilitators.

> *"Tourist arrivals are quite high on weekends and public holidays. On average, three hundred tourists purchase goods from my shop on those days. Most visitors are local tourists. An adult tourist typically spends around 300 rupees. On busy days, I sell goods and services worth about Rs. 30,000, while on quieter days, the sales value drops to around 3,000 rupees. In addition to this business, I own a canoe. On days with fewer tourists, I go fishing, but I rent my boat to another fisherman when tourist traffic is higher, earning around 1,500 rupees per day"* (Owner of a retail shop, Male, 2022/10/11).

Beyond direct income opportunities, geotourism indirectly contributes to the economic development of residents. It has created a market, particularly generating extra demand for dried fish, Maldive fish, fried fish, tea, wild fruits, and more. It has been noted that nearly all dried fish shops are run by women, indicating that geotourism has economically empowered local women as well. This is confirmed by the following narrative:

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"*My mother and I run this shop. Our village also has shops that sell dried fish and Maldive fish in bulk, but we focus on retail sales. In addition to dried fish and Maldive fish, we rarely sell packets of cinnamon, pepper, and tea to tourists. We buy dried fish and Maldive fish from processing centers (Karawala Wadiya), cut them into pieces, pack them, and sell them. We invest about Rs. 200,000 per month in this business and make a profit of around Rs. 50,000*" (Owner of a Maldive & dried fish shop, Female, 2022/09/23).

The following narrative illustrates how the geotourism industry has contributed to the economic empowerment of local women, turning them into businesswomen and key figures in the local economic network. Additionally, it has strengthened the economy of many locals who are not directly involved in tourism.

"*I maintain a store of dried fish and Maldive fish worth about Rs. 200,000. I buy them in bulk from local producers for additional income. Producers supply their products to my Karawala Hut, and I pay them accordingly. The price of dried fish varies slightly depending on the species, but a kilo can be sold for between Rs. 1,200 and Rs. 1,800. I earn between Rs. 300 and Rs. 500 per kilo. I invest between Rs. 500,000 and Rs. 1,000,000 per month to purchase dried fish, Maldive fish, and other marketable items. I can earn about Rs. 100,000 per month from this. I usually run this shop alone on days with fewer tourists, but my husband helps on peak tourist days. Many local tourists buy dried fish from us because we sell them cleanly and at reasonable prices. No foreign tourists buy dried fish or Maldive fish from us; our customers are exclusively local tourists. In my opinion, these shops do not offer anything that would appeal to foreign tourists*" (A dried fish shop owner, Female, 2022/10/09).

At the same time, the study identified a tendency for the economic benefits generated by geotourism in the area to leak out. Some foreign investors have purchased land and businesses in the destination, establishing tourism enterprises that generate substantial income by selling accommodation services to foreign tourists online. Such tourism businesses, operating as affiliates of international tourism networks, do not contribute significantly to regional development, as explained in the following narrative:

"*This accommodation is owned by a Slovenian national but maintained by my wife and me. We are settled on this land. I can speak seven languages and hold a tour guide certificate as well. Only foreign tourists stay in this lodge, most of whom are European nationals. Accommodation must be booked online, with on-site bookings being very rare. Payments are made by credit card directly to the owner's account in Slovenia. The owner provides funds for employee wages and accommodation expenses. There are six rooms in this lodge. During peak tourist season, a tourist typically stays here for 7 to 14 days. The monthly maintenance cost of this lodge is around Rs. 200,000. My wife prepares food for tourists, and we also receive a substantial salary. A neighboring villager handles cleaning, for which Rs. 45,000 is paid per month during peak tourist season*" (Manager of a tourist lodge, Male, 2022/09/25).

4.5 Tourist satisfaction

Analyzing the Google reviews (613), it was found that approximately 18% of tourists reported being very satisfied with their visits and experiences at the attractions and facilities of this destination, while about 32% expressed a satisfactory level of satisfaction (Figure 3). About 22% of tourists were neutral, and approximately 5% were dissatisfied or very dissatisfied. Around 56% of tourists praised the Blowhole and the abiotic properties of the area, while about 14% appreciated the local products sold to tourists and the folklore they encountered. Additionally, approximately 18% of tourists enjoyed hiking and walking experiences. The comments cannot be extensively classified, as many tourists did not provide detailed information about their experiences. However, the overall comments in the Google reviews indicates that the majority of tourists are satisfied with their experience at the destination.

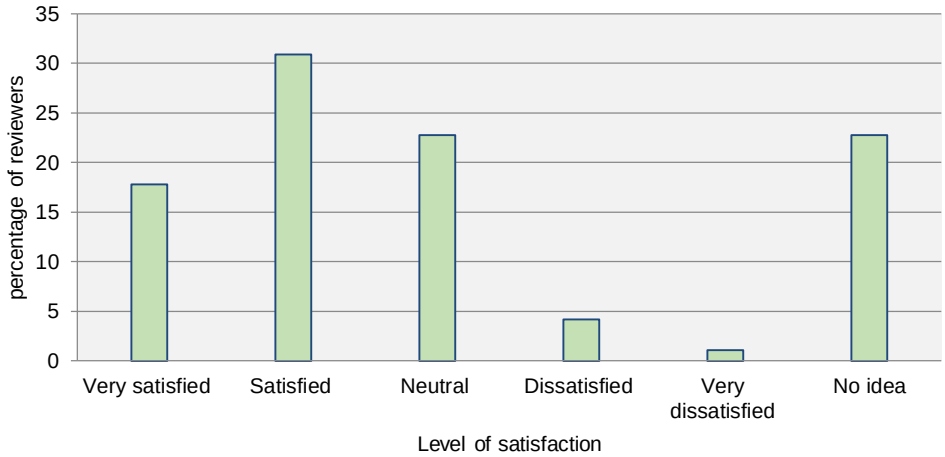

Figure 3: Level of tourists' satisfaction based on Google comments.

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In addition to tourists, the opinions of local tourism facilitators regarding the quality of tourism facilities in the destination were evaluated. As shown in Figure 4, only the dried fish-selling businesses were identified as facilities with which villagers are 'satisfied' or 'very satisfied.' Tourism facilitators expressed a neutral level of satisfaction with the quantity and quality of retail shops. However, they acknowledged that the destination is at an unsatisfactory level regarding all other facilities, particularly educational facilities, accommodation, adventure sailing, and tour guiding. Therefore, steps should be taken to address these deficiencies.

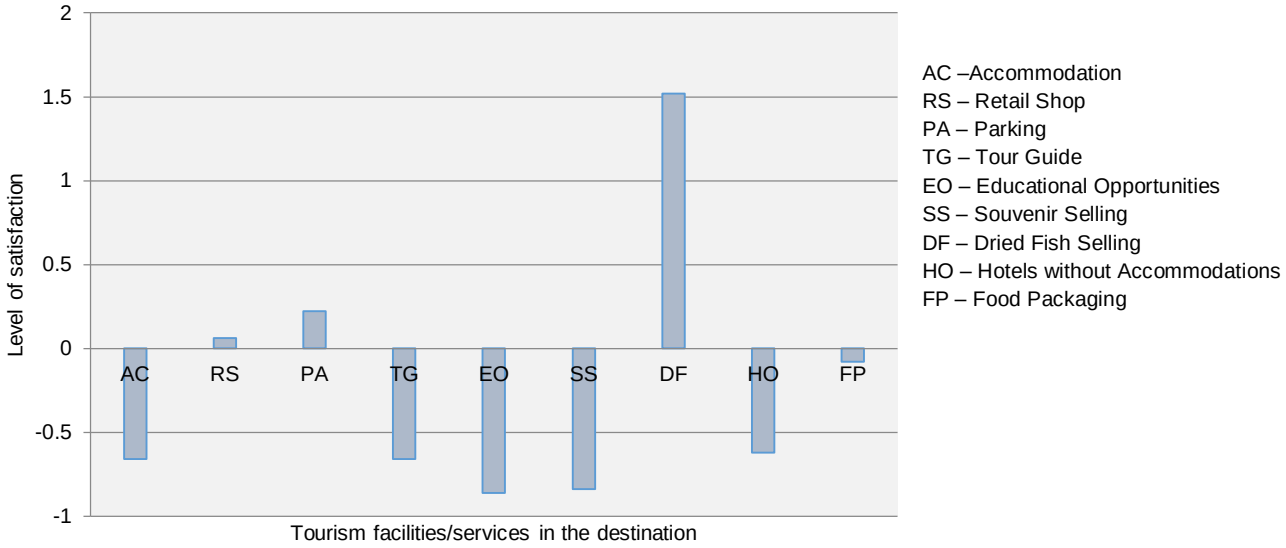

Figure 4: Average Level of Satisfaction of Local Tourism Facilitators Regarding Tourism Facilities/Services in the Area.
Source: Semi structured Questionnaire survey, 2022

4.6 Conservation of resources

To protect the geotourism attractions in the area, several rules and regulations have been enacted. Additionally, to reduce environmental pollution caused by tourists, signboards are constantly displayed near the blowhole to educate visitors. However, when investigating the opinions of tourism facilitators regarding the tourism industry's contribution to the conservation of abiotic, biotic, and cultural properties of the area, it was found that stakeholders do not make a significant commitment to conserving these properties (Figure 5). Although the local community expressed a neutral level of satisfaction regarding the motivation for conserving abiotic and biotic properties, they were dissatisfied with the lack of attention given to cultural elements. Nonetheless, they praised the contribution of tourism to economic development in the area.

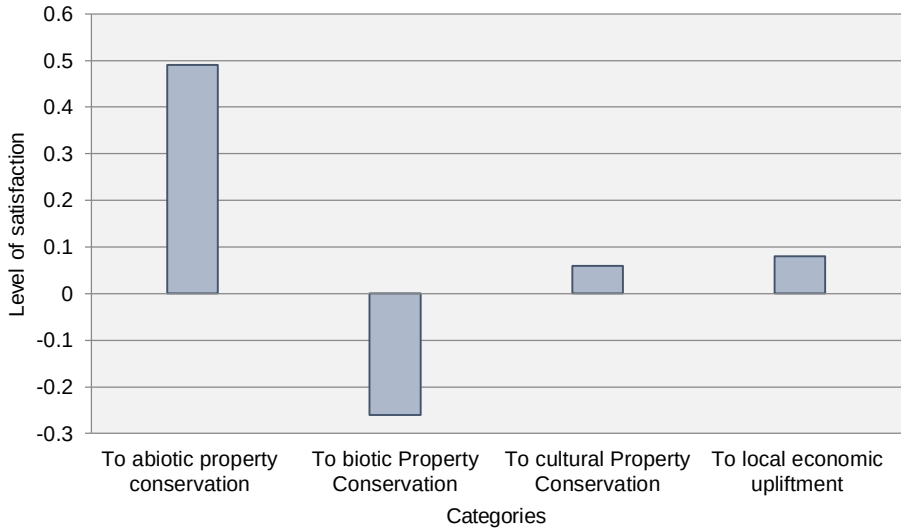

Figure 5: Level of Satisfaction of Local Tourism Facilitators Regarding the Contribution of Geotourism
Source: Semi-Structured Questionnaire Survey, 2022

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4.7 Protection and enhancement of destination appeal

Since 2008, geotourism at the Hummanaya destination has been managed by the Tangalle Local Council (TLC), which has made significant efforts to preserve the tourist attractions in the area. They have taken necessary steps to transfer land ownership of the blowholes to the government. Additionally, to preserve the environment of Hummanaya and to establish it as a polythene and plastic-free zone, garbage bins have been placed throughout the premises. Several community awareness boards have also been displayed to control the disposal of plastic and polythene waste in the area. However, based on the opinions of tourists and tourism facilitators, it was found that stakeholders, particularly the TLC, are not making a strong commitment to enhance the tourist appeal of the Hummanaya destination. This is confirmed by the following narratives:

> "*It is a piece of rock with a gorge where water splashes as the waves crash against the shore. The admission fee for foreigners is Rs. 250 and for locals, it is Rs. 20. I call this unfair discrimination. You can see signboards saying 'Do not carry plastic bottles, bags, etc.', but there are piles of waste everywhere. Plastic waste is practically everywhere in Sri Lanka without exception. The second worst issue is the burning of this waste anywhere and anytime*" (Foreign Tourist, Female, Switzerland, 2022/10/08).

> "*An amazing feature of the South Coast of Sri Lanka. However, when the sea is calm, you won't see much. My honest opinion is that the venue is poorly managed; they charge admission fees without purpose, and there are no facilities available at the destination*" (Local Tourist, Male, 2022/09/27).

4.8 Tourism planning and land use planning

Land use planning is essential for identifying and addressing immediate economic needs without sacrificing the heritage and potential of the destination. The SAMP (Katupotha & Ranasinghe, 2000) also highlights the need for a proper land use plan for the area. However, this study was unable to find any land use plan developed by the relevant authorities that adequately identifies and respects immediate economic needs while preserving the heritage of the destination.

The Tangalle Local Council has prepared a plan to enhance the tourist appeal of the area, but it has not been accompanied by a formal Environmental Impact Assessment (EIA). As identified in interviews with officials from the Tangalle Development Society (TDS), a formal EIA has not yet been conducted. However, during interviews with the officials of the Tangalle Local Council, it was stated that the project was approved by the Southern Provincial Tourism Board. They noted that if the COVID-19 pandemic and the country's economic crisis had not occurred, the project would have been implemented by now. Discussions with HIEC officials confirmed that "during the preparation of the landscape of the area under this plan, it was also proposed to cut and level the eroded land around the blowhole." Therefore, it can be concluded that the tourism activities at the Hummanaya destination have failed to accurately adhere to the principles of sustainable development.

4.9 Market diversity

Developing appropriate infrastructure is essential for maximizing both short- and long-term resilience in tourism at a geotourism destination. However, as mentioned above, there is a lack of accessible roads, accommodation, and other facilities needed to develop the geotourism market in the area.

4.10 Interactive interpretation

There are several types of stakeholders involved in the geotourism industry, and each of them must be aware of the area's uniqueness and fragile nature. For example, if all stakeholders in a destination except one adhere to geotourism principles, the lack of compliance from that one stakeholder can still lead to a decline in the geotourism attraction of the destination. Therefore, interactive interpretation is essential, and all stakeholders in Hummanaya should commit to this principle. However, neither the interviews with the villagers nor those with the state-centered stakeholders revealed that such an approach is being followed. This lack of engagement has resulted in residents showing less inclination toward environmental conservation. This is further evidenced by the fact that residents have acquired land in the protected zone under the Coastal Conservation Act around the blowhole, as well as their inability to acquire land to widen and develop the access road to Hummanaya. Additionally, the following narrative confirms that responsible agencies have failed to educate tourists:

> "*At the time when Hummanaya was reopened under the management of the Tangalle Local Council, there were many magazines, booklets, and leaflets available to inform tourists. Currently, there are no educational materials that can be given to tourists to take home from the Hummanaya Information and Educational Center*" (An official of HIEC, Male, 2022/10/03).

4.11 Market selectivity

Local communities and responsible agencies have not prioritized the development of the market sector related to disseminating and appreciating information about the heritage and uniqueness of the area. The entry ticket to Hummanaya can be considered the only item that symbolizes the blowhole, which a tourist can buy and take home from the destination. The HIEC has included an image of the blowhole on the entry ticket; however, there are no hats, t-shirts, souvenirs, booklets, postcards, or other items featuring images of the blowhole available for tourists to purchase at the destination.

4.12 Evaluation

By continuously evaluating the tourism status and characteristics of the geotourism destination, it is possible to move toward multidimensional sustainability: environmental, socio-cultural, economic, and tourism sustainability. However, a detailed evaluation report on

the tourism activities at the destination could not be identified. As the facilitators have not analyzed tourists' opinions, they have failed to recognize that the irresponsibility of stakeholders adversely affects both the tourist attraction and the destination's image. The following narratives illustrate how this oversight has exacerbated existing problems at the tourist destination.

> "*In the past, this security fence was adequate. Now, the guardrail is dilapidated due to soil erosion. In my opinion, small children do not get any protection from this fence. Although a small fee is charged for local tourists to enter Hummanaya, hundreds of domestic tourists visit this place every day. Foreign tourists are charged a significantly higher entry fee compared to domestic tourists. However, the authorities have failed to control soil erosion around the blowhole, maintain the internal road system established at great cost, and properly maintain the safety fence designed to protect tourists visiting Hummanaya*" (A local tourist and school teacher, Female, 2022/09/28).

As a result of the negligence of officials at the Hummanaya Information and Educational Center (HIEC), some tourist attractions are deteriorating. The following narrative exemplifies this issue:

> "*At the Hummanaya Information and Educational Center, some bones of sea creatures are displayed for tourists. However, if one observes the backyard area of the information center, they can see the decomposing bones of animals like whales. Shouldn't we protect them? The main reason for this decay is the lack of follow-up and failure to identify and address the problems*" (Local Tourist, Male, 2022/10/13).

Evidence suggests that disputes between tourists and residents have decreased with the formal development of Hummanaya as a tourist destination, as expressed in the following two narratives:

> "*Disputes between villagers and tourists are not common now. Although one or two people who have been drinking behave badly, I believe that the majority of villagers are friendly toward tourists" (A restaurant owner, Male, 2022/10/04).*
> *"Sometimes we hear rumors about sexual relations between tourists and villagers. Whether they are true or false, we must recognize that tourism carries the risk of spreading sexually transmitted diseases. Therefore, it is very important to educate people to avoid such situations*" (A restaurant manager, Male, 2022/09/25).

However, residents have noted a tendency among the youth to become addicted to drugs alongside the growth of the tourism industry, as illustrated in the following narrative. It is essential to monitor tourism activities and address identified problems to develop plans for mitigating these conditions:

> "*I am not very fond of the liquor culture in the area. I worry that my children will also turn to alcohol, drugs, and smoking. We see a significant number of school-aged children addicted to alcohol and cigarettes. Despite regular police raids, there has been no decline in drug use. Some drugs are brought into the area by small and large boats. The authorities need to take more measures to control this*" (A restaurant owner, Male, 2022/10/13).

5.0 Discussion

This study explored the opinions of various stakeholders, namely local and foreign tourists, local community members, governmental agencies, and outsiders involved in geotourism activities at the Hummanaya geotourism destination in Sri Lanka. The study revealed the factors behind stakeholders' involvement in geotourism in the destination and, overall, their satisfaction levels regarding tourism characteristics created intentionally and unintentionally by all stakeholders.

According to both local and foreign tourists, the destination is a fascinating and unique tourist attraction in Sri Lanka. Most tourists are very satisfied or satisfied with the tourist attractions, facilities, and services provided by local facilitators, suggesting that the destination meets tourists' expectations. However, the main issue is whether other stakeholders are satisfied with the contribution of geotourism to protecting the destination's ABC attributes and improving the socio-economic status of local communities. The socio-economic benefits generated by geotourism at the destination are relatively low, as it serves primarily as a stopover point for most tourists. Local community members noted that tourism has created additional demand for their fish products, which has pleased the villagers. Both villagers and governmental agencies recognize that more venues need to be developed in the destination to encourage tourists to stay overnight. Furthermore, both local communities and tourists have identified a lack of commitment from stakeholders, including themselves, in preserving the tourist attractions of the destination.

According to the overall findings of the study, geotourism at Hummanaya integrates the ABC properties of the destination. The Tangalle Local Council has focused on adhering to international tourism codes. A few members of the local community benefit economically from geotourism; some villagers have become entrepreneurs, while others have secured job opportunities. However, these economic opportunities have not transformed the majority of villagers into tourism facilitators and guardians of the destination. Consequently, the destination management authorities have struggled to gain local community support in developing the destination by expanding the road network. Stakeholders' opinions and observations indicate that the destination management and planning authorities have shown very little commitment to providing interactive interpretation, diversifying the geotourism market, and evaluating tourism characteristics and stakeholder perceptions to enhance the destination.

The findings of the study emphasize the risk of transforming the destination into a subpar geotourism site if the authorities do not adequately address the demands and expectations of stakeholders. Respective agencies should periodically evaluate the geotourism characteristics of the destination and take necessary actions to adhere to all principles of geotourism, thereby meeting the expectations of all stakeholders—not just tourists or destination management authorities, but also local communities. In this regard, as noted by Ginting et al. (2020), local community perspectives are crucial.

6.0 Conclusions

The focus of the research was to evaluate the geotourism characteristics of the Hummanaya destination based on stakeholders' opinions and to identify their commitment to adhering to geotourism principles.

The study successfully identified the extent to which geotourism stakeholders adhere to these principles. Specifically, regarding integrity, community involvement, community benefits, and tourist satisfaction, the informants provided positive responses. Tourists expressed satisfaction with the tourism allure, facilities, and services at the destination to some extent. From the perspective of local communities engaged in tourism businesses, geotourism has generated economic opportunities; however, they are not satisfied with the extent of these opportunities.

Although good responses were received regarding integrity, a concerning situation regarding spatial integrity was observed in the area. Respondents expressed dissatisfaction with adherence to other principles, particularly concerning evolution, market selectivity, interactive interpretation, and market diversity. Stakeholder opinions and field observations revealed that while certain basic qualifications are required to classify the destination as a geotourism site, all stakeholders must pay closer attention to adhering to these principles. Geotourism activities need to be further structured according to geotourism principles.

The study concludes with the recommendation to regularly evaluate the destination's characteristics and to plan the geotourism destination to meet the expectations of many, if not all, stakeholders. Necessary measures should be taken to address stakeholders' expectations regarding the conservation and development of the destination. This would ensure the sustainability of the geotourism appeal of Hummanaya while uplifting the living standards of the local community and enhancing visitor satisfaction..

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