Research Article

Mangrove Tracking Ecotourism Feasibility in Marisa, Pohuwato Regency, Tomini Bay Area

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Abstract.
The mangrove environment is a distinctive sort of forest ecosystem that is primarily located in tidal areas along coastlines, including beaches and small islands. It possesses significant potential as a natural resource. The exploration of the potential of natural resources, particularly mangrove forest ecosystems, for the purpose of mangrove ecotourism is a topic of great interest. One of the areas in Gorontalo Province that has quite extensive mangrove resources is in Pohuwato Regency. In order to enhance mangrove tourism, a village in Pohuwato Regency has designated a specific area for mangrove tracking ecotourism. This area is situated in East Pohuwato Village, Marisa District. This study was conducted between December 2018 and April 2019, employing a random sample procedure. The collected data was subsequently subjected to quantitative analysis, using the Guidelines for Analysis of Areas of Operation of Natural Tourism Objects and Attractions (ADO-ODTWA). This study examines four variables: attractiveness, accessibility, accommodation, and facilities and infrastructure. The findings indicated that the mangrove tracking ecotourism area in Pohuwato Timur Village possesses the potential to be transformed into a nature tourism destination. The feasibility assessment was conducted based on the established criteria for each category, which demonstrated that each category met the required standards. Specifically, the power pull scored 960, accessibility scored 600, accommodation scored 150, and facilities and infrastructure scored 300, thereby affirming their suitability for their respective categories.

Keywords: ecotourism, tracking, mangrove, Pohuwato, Tomini Bay

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1. Introduction

Ecotourism is a type of tourism that involves the engagement in recreational activities while simultaneously promoting conservation efforts and enhancing the well-being of local communities via the sustainable utilisation of diverse natural resources (Nugroho, 2011) in (Azkia, 2013). The development of ecotourism operations in forest areas holds significant potential due to the distinctive characteristics of forests, encompassing its diverse landscapes and abundant biodiversity. One example pertains to the ecotourism of mangrove forests. The mangrove forest is a distinct and exceptional type of forest ecosystem that thrives in coastal regions, including tidal areas, beaches, and tiny

islands. It possesses significant potential as a valuable natural resource. Mangrove resources can be used sustainably as long as the level of utilisation does not exceed its production capacity (Sobari et al., 2006). According to Tanaya, et al (2014), Ecotourism can be defined as a type of sustainable tourism that centres around the exploration and education of natural environments. Its primary objective is to minimise negative effects on these environments, adopt non-consumptive practises, and prioritise local management, profitability, and scalability. Dirawan (2006) states that ecotourism can be an activity to enjoy the beauty of nature as well as an integrated effort to preserve it.

Mangrove ecosystems in Indonesia have the highest species diversity in the world, recorded 89 species consisting of 35 species of trees, 5 species of terna, 9 species of shrubs, 9 species of lianas, 29 species of epiphytes, and 2 species. Some types of mangrove trees found in coastal areas of Indonesia are Bakau (Rhizophora spp.), Api-api (Avicennia spp.), Pedada (Sonneratia spp.), Tancang (Bruguiera spp.), Tengar (Ceriops spp.), Nyirih (Xylocarpus spp.) and Buta-buta (Excoecaria spp.), (Haryanto, 2013).

East Pohuwato Village, Marisa District, is one of the areas in Gorontalo Province that has the potential to increase mangrove tourism. where East Pohuwato Village is divided into 3 hamlets, namely Siku hamlet, Wulungio hamlet, and Milango Hamlet. The Marisa mangrove tracking ecotourism area is located in Milango Hamlet, East Pohuwato Village, Marisa District. This mangrove tracking area has 2 separate paths. Where the yellow line has a tracking length of 420 metres, while the blue line has a tracking length of 560 metres. The development of tourism potential is closely related to the preservation of personality values and the development of national culture, by utilising all the potential beauty and natural wealth. The term “utilisation” does not imply a complete transformation, but rather refers to the management, utilisation, and preservation of all available resources, with the aim of consolidating them into a single tourist destination. In the event that the potential lies within a designated conservation area, it is imperative to formulate a development strategy that capitalises on this potential by incorporating ecotourism principles including the domains of environment, community, education and experience, sustainability, and management. The development of mangrove ecotourism is regarded as a strategic approach to effectively harness the natural services provided by coastal areas in a manner that ensures long-term sustainability. The practise of ecotourism in mangrove forests is perceived to have a mutually beneficial relationship with efforts aimed at conserving the actual forest environment (Mulyadi and Fitriani, 2012). This study aims to assess the potential and feasibility of ODTWA development of

mangrove areas in East Pohuwato Village, Marisa District, Pohuwato Regency, Gorontalo Province, Tomini Bay Area. Assessment of the potential and perception of visitors to the new natural tourist attraction is very influential on the development of ecotourism.

2. Research Methodology

This research was conducted from December 2018 to April 2019, in East Pohuwato Village, Marisa District, Pohuwato Regency (Figure 1). The collected data consists of primary data acquired through direct interviews with respondents from the the people of Pohuwato district and tourists. Research data pertains to the attractiveness/uniqueness, accessibility, accommodation, facilities, and infrastructure of the area. Additionally, secondary data has been gathered indirectly, encompassing information on geography, the mangrove tracking area, and the area's status. Secondary data can be obtained from various related agencies or institutions from Pohuwato district tourism service and fisheries and marine services through previous research literature studies. Data collection is done through direct field observations to assess the score of the potential of ODTWA owned. Structured interviews were conducted with tourists and communities around Pohwato Timur Village. The sample selection of tourist respondents was determined using an incidental sampling method, specifically by conducting interviews with individuals who were discovered by chance and expressed their willingness to participate in the study. Nevertheless, the participants that were questioned were restricted to individuals aged seventeen and above. In order to ascertain the appropriate sample size, the Slovin formula is employed to estimate the number of respondents required, given that the observed number of tourists at the research site is 185 individuals.

Data collection techniques obtained include distributing questionnaires and conducting interviews with the manager. Ecotourism Feasibility Assessment Method with Assessment criteria according to the Guidelines for Analysis of Operational Areas of Natural Tourism Objects and Attractions (ADOODTWA) Director General of PHKA in 2003 in accordance with the predetermined value for each criterion. The components recorded and assessed are:

1. Types of flora and fauna found around the tourist attraction.

2. Attractiveness includes uniqueness, variety of activities, prominent natural resources, location cleanliness, safety, comfort.

3. Accessibility includes road conditions, distance, type of road and travelling time from the city.

4. Accommodation includes a number of accommodations.

5. Supporting facilities and infrastructure within a 5 km radius of the tourist location, including post offices, telephone networks, health centres, electricity networks, drinking water networks, restaurants, shopping centres/markets, banks, souvenir shops and others.

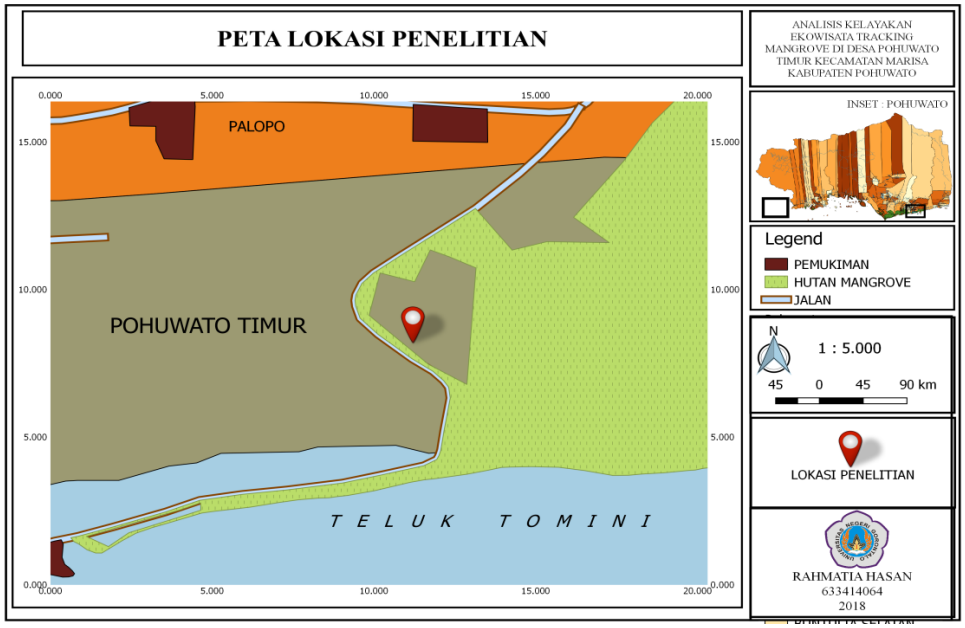

Figure 1: Research location.

According to Ginting et al. (2015) in Maharani (2016), the number of values for one ODTWA assessment criterion can be calculated by the formula:

S = N x B

Description

S = score/value of a criterion

N = number of values of elements in the criteria

B = value weight

The score obtained is then compared with the total score of a criterion. The score obtained from each variable will determine the level of eligibility using the interval formula, namely:

$$\text{Interval} = \frac{\text{Maximum score} - \text{Minimum Score}}{3}$$

The results of interviews with tourists and local communities were analysed descriptively. The weight value of each criterion is as follows:

1. Attractiveness with a weight value of 6

2. Accessibility with a weight value of 5

3. Socio-economic environmental conditions within a radius of 5 km from the nearest distance limit to the object with a weight value of 5.

4. Accommodation radius of 15 km from the object with a weight value of 3.

5. Infrastructure and supporting facilities radius of 10 km from the object with a weight value of 2

6. Assessment of clean water availability with a weight value of 4.

The eligibility class criteria refers to the level of eligibility for each class, which is determined based on the interval of each class. The declaration of feasibility for a tourist area is contingent upon the attainment of the maximum value for each criterion under the feasibility class criteria, and conversely, if the overall score falls below this threshold, the area is deemed unfeasible.

3. Research Result and Discussion

3.1. CHARACTERISTICS OF MANGROVE TRACKING ECOTOURISM TOURISTS

Based on the city of origin of tourists, there are 4 groups, namely Pohuwato Regency, Gorontalo Regency, Boalemo Regency and Gorontalo City. The majority came from Pohuwato Regency with 50 tourists. Boalemo district has 2 people, Gorontalo district 2 people, and Gorontalo city 5 people. The age of tourists visiting the Marisa mangrove tracking tourist attraction from 49-56 years old with 0 people is the smallest tourist age characteristic, followed by 41-48 years old with 2 tourists. While the age of 17-24 years with a total of 14 people is the age characteristic of the most tourists. With the highest frequency of visiting tourists, namely 17 people with 1-3 visits. And those who visited more than 3 times were 10 people.

The age distribution within the Siku Hamlet community reveals that the smallest age group consists of individuals between 33 and 40 years old, including only two individuals. Conversely, the age groups ranging from 25 to 32 years and 41 to 48 years exhibit the highest representation within the community, each consisting of six

individuals. The Wulungio Hamlet has a distinct age distribution among its residents. Specifically, those between the ages of 49 and 56 constitute the smallest age group, consisting of only one person. Conversely, the age groups of 17-24 years old and 41-48 years old are the most prevalent within the hamlet, each including a total of six individuals. The smallest age characteristic within the Milango Hamlet community is observed among individuals aged 49-56, with a total of two people. Conversely, the most prevalent age characteristics are found among individuals aged 25-32 and 41-48, each including six individuals. The typical age range for those employed by the Government falls between 25 and 32 years old. The table below displays the frequency of tourist visits or the number of visits made by tourists to the Marisa mangrove tracking area.

Table 1: Frequency of visiting tourists.

Frequency of Visit	Total
1-3 times	17
>3 times	10

Source : (Primary Data, 2019)

3.2. MANGROVE TRACKING TOURISM POTENTIAL

Mangroves represent a special and exceptional type of tropical forest ecosystem due to their characteristic convergence of terrestrial and marine habitats. The maintenance of various marine coastal ecosystems can be upheld (Nugroho, 2011; Purnobasuki, 2013). The ecological, economic, and educational significance of the mangrove ecosystem underscores the potential for utilising mangrove forests as tourist attractions, with the aim of promoting the conservation of these forests in Indonesia (Sari, 2015).

This mangrove tracking ecotourism area is supported by previously built tourist attractions, namely the Pohon Cinta Beach. The distance from Marisa city centre to Marisa mangrove tracking area is about 2 km. Access to this location is possible by means of a motor vehicle or car, with an approximate trip duration of 4 minutes from the city centre. The mangrove tracking area offers opportunities for nature tourism, encompassing activities like as photography, appreciating the scenic splendour of mangroves amidst refreshing breezes, observing several species of fish and birds, as well as engaging in fishing. Sports activities are frequently conducted within the vicinity

of the tracking area. Commonly practised physical activities include morning jogging and gymnastics.

The Marisa mangrove tracking path is home to several flora species, including different types of mangroves such as Rhizopora sp., Sonneratia sp., and Avicennia spThe fauna observed along the tracking path includes various species of fish (pisces), crabs (crustaceans), and birds (aves). Bird enthusiasts have the opportunity to further engage with their passion through the art of bird photography, which is closely associated with the activity of birdwatching. The primary objective of ecotourism projects is to impart knowledge and educate visitors, while simultaneously supporting conservation initiatives, land management, and the well-being of local communities (Queensland Government, 2016 in Agus Salim, 2020).

3.3. SOCIO-ECONOMIC ENVIRONMENTAL CONDITIONS

The primary source of revenue for the residents of East Pohuwato Village predominantly stems from marine resources, as the majority of the local populace is engaged in fishing activities. The residents of Pohuwato Village, predominantly engaged in fishing activities, are compelled to persistently engage in competition in order to enhance the socio-economic well-being of the local community. The local administration of Pohuwato Regency has implemented a strategy aimed at enhancing the economic conditions of fishing communities residing in Pohuwato Timur Village. This policy entails the provision of business capital loans and the facilitation of coastal community development initiatives. (3) The residents of Pohuwato Village exhibit a limited range of abilities, as they predominantly engage in traditional occupations. Consequently, this circumstance has a detrimental effect on the socio-economic status of the community.

3.4. ASSESSMENT OF TOURISM OBJECTS AND ATTRACTIONS

3.4.1. Attraction

Attraction is a determining factor that incites individuals to visit and experience a particular location firsthand, due to the presence of said attraction. The purpose of assessing the attraction component is to ascertain the characterization of various recreational activities based on their appeal and the resources they require. The elements evaluated within this criterion of appeal encompass uniqueness, sensitivity, diversity

of activities, prominent forms of resources, cleanliness of objects, safety, and comfort. Table 2 presents an evaluation of the attractiveness aspect of the Marisa mangrove tracking ecotourism area.

Table 2: Assessment results of the attractiveness component.

No.	Element/Sub-element	Weight	Score	Total Score*
1	Uniqueness of natural resources	6	20	120
2	Number of prominent natural resources	6	20	120
3	Nature tourism activities that can be done	6	30	180
4	Cleanliness of the tourist attraction location	6	30	180
5	Security of the area	6	30	180
6	Comfort	6	30	180
Total Score			**160**	**960**

*Notes: * The product of weight and value (Primary data, 2019)*

The Marisa mangrove tracking ecotourism region possesses a compelling allure that entices travellers to visit this particular destination. The allure of this region is evident through its abundant natural resources, including rivers, as well as diverse flora and wildlife. Furthermore, inside this region, visitors have the opportunity to engage in ecotourism endeavours, including the appreciation of the pristine mangrove ecosystems, observation of diverse flora and fauna, participation in research and educational activities, as well as engaging in physical exercise.

3.4.2. Accessibility

Accessibility refers to the degree to which an object may be easily reached or accessed. The provision of accessibility is a crucial prerequisite for tourism attractions. The presence of a transit network is a prerequisite for an object to receive tourist visits. The tourist attraction serves as the culmination of the excursion and should possess convenient accessibility, while also being inherently straightforward to locate. Hence, it is imperative to ensure the presence of a thoroughfare leading to the designated tourist destination. The road serves as a means of reaching the object, and it is necessary for the access road to be linked to the existing public infrastructure. The accessibility of a tourist site is contingent upon the state of public roadways and access roads. Table 2 presents an evaluation of the accessibility to the Marisa mangrove tracking ecotourism area.

The aforementioned table presents the outcomes of the accessibility assessment, indicating a cumulative score of 600. The value is derived from the evaluation of

Table 3: Results of the assessment of accessibility components.

No.	Element/Sub-element	Weight	Score	Total Score*
1	Road Condition	5	30	150
2	Distance	5	30	150
3	Road type	5	30	150
4	Travel time from city centre	5	30	150
Total Score			**120**	**600**

*Notes: * The product of weight and value (Primary data, 2019)*

each sub-element, wherein the evaluation of road conditions leading to the Marisa mangrove tracking area indicates excellent road conditions, resulting in a value of 30. This is attributed to the presence of asphalt roads that are wider than 3 metres, further contributing to the assigned value of 30. Additionally, the proximity of the area to the city centre, approximately 2 km away, also contributes to the assigned value of 30. Furthermore, the duration of transit from the city centre to the Marisa mangrove tracking area is under 4 minutes, resulting in a value of 30. Based on the obtained findings, an analysis of the tourist destination's accessibility reveals a state characterised by a high degree of convenience in terms of reaching the place. This aligns with the assertion made by Ginting et al. (2015), wherein it is posited that two key determinants of an area's appeal to tourists are its proximity to an international airport or major tourist centre or city centre, as well as the ease and comfort of travel to the area, regardless of whether it requires minimal effort, is challenging, or poses potential risks.

3.4.3. Accommodation

The Marisa mangrove tracking ecotourism area does not offer on-site accommodation. Within the vicinity, there exists solely a designated region for tracking mangroves. Nevertheless, in the vicinity of this region, there exist infrastructural amenities that were previously erected during the development of the Love Tree Beach tourist destination. The mangrove eco lodge is among the hotels in close proximity to the Marisa mangrove monitoring area. Table 3 displays the evaluation of available lodging options in the vicinity of the Marisa mangrove tracking area.

Based on the evaluation conducted on lodging options within a 15 km radius of the specified location, it was found that there were approximately 20 inns and hotels. Furthermore, the evaluation revealed that these establishments typically offer more

Table 4: The assessment results of the accommodation component.

No.	Unsur/Sub unsur	Weight	Score	Total Score
1	Number of lodges	3	30	90
2	Number of rooms	3	20	60
Total Score			**50**	**150**

*Notes: * The product of weight and value (Primary data, 2019)*

than 10 rooms, resulting in a total count of 30. The table above presents the findings of the accommodation assessment, indicating a cumulative score of 150. The absence of housing facilities at the Marisa mangrove tourist attraction can be attributed to the current self-help management approach undertaken by the local community residing in the vicinity of the mangrove forest. The potential addition of accommodation facilities should also be considered by the local administration.

3.4.4. Supporting Facilities and Infrastructure

The availability and quality of facilities and infrastructure in the vicinity of a tourist destination are key determinants influencing the growth and progress of said tourist attraction. The assessment includes the supporting infrastructure and facilities located within a 10-kilometer radius of the object. The evaluated supporting infrastructure encompasses various essential components such as post offices, telephone networks, health centres, power networks, and drinking water networks. The evaluated supporting facilities include restaurants, shopping centers/markets, banks, souvenir stores, and public transportation. The tourism attractions encompass several supporting infrastructural components. Assessment of supporting facilities and infrastructure in the Marisa mangrove tracking area as one of the tourist destination areas can be seen in Table 4.

Table 5: Assessment results of supporting facilities and infrastructure components.

No.	Unsur/Sub unsur	Bobot	Nilai	Skor Total
1	Infrastructure	3	50	150
2	Facilities	3	50	150
Skor Total			**100**	**300**

*Notes: * The product of weight and value (Primary data, 2019)*

The aforementioned findings are derived from an evaluation conducted on the auxiliary amenities and infrastructure present in the vicinity of the Natural Tourism site, within a 10-kilometer radius of the tourist destination. In order to achieve a value of

50, it is essential to have a robust supporting infrastructure comprising post offices, health centres, telephone networks, as well as electricity and drinking water networks. Regarding the provision of supporting amenities, they are deemed highly satisfactory, encompassing a wide array of establishments like restaurants, shopping centres, banks, and souvenir stores. Consequently, the supporting facilities receive a commendable rating of 50. The facilities and infrastructure in the vicinity of the Marisa mangrove tracking area are deemed highly sufficient because to its close proximity to the city centre. The cumulative score amounts to 300.

3.5. FEASIBILITY OF OBJECTS AND ATTRACTIONS OF THE MARISA MANGROVE TRACKING ECOTOURISM AREA

The feasibility of Marisa mangrove tracking ecotourism area can be known after assessing the criteria of attractiveness, accessibility, accommodation, and supporting facilities and infrastructure that support the development of this location. The results of this assessment are then analysed for an assessment of whether the mangrove tracking ecotourism area is feasible, not feasible, or not feasible to develop. The results of the assessment of the components in the Marisa mangrove tracking ecotourism area (Table 5). According to Kadir (2003) in Maharani (2016), The feasibility analysis is a systematic procedure that examines and analyses the identified challenges in accordance with the ultimate goal to be achieved. Feasibility analysis is used to determine the likelihood of success of the proposed solution. This phase is valuable in verifying the feasibility of the suggested solution, considering the available resources and limits outlined in the challenge, as well as the potential influence on the surrounding environment.

Based on the calculation table above, it shows that the Marisa mangrove tracking ecotourism area is feasible to be used as a tourist destination, and feasible to be developed as an ecotourism area. Marisa mangrove tracking ecotourism area shows the magnitude of the opportunity for this area to be developed. The magnitude of the attractiveness of the area and the ease of access to the area, equipped with adequate supporting facilities and infrastructure as well as the availability of accommodation around the area makes this area very comfortable and strategic to develop.

The total score obtained is in accordance with the level of eligibility criteria determined for each class. The level of feasibility for each class varies depending on the interval of each class. It is evident that the criterion with the highest value for each

Table 6: Assessment results of Marisa mangrove tracking ecotourism object.

Variables	Max Score	Min Score	Interval*	Eligibility Criteria**	Total Score***	Description
Attractiveness	1080	360	240	Feasible: 840 - 1080 Not Feasible: 600 - 840 Not Feasible: < 600	960	Feasible
Accessibility	600	300	100	Feasible : 500 - 600 Not Feasible : 400 - 500 Not Feasible : < 400	600	Feasible
Accommodation	180	60	40	Feasible : 140 - 180 Not Feasible : 100 - 140 Not Feasible : < 100	150	Eligible
Facilities and Infrastructure	300	60	80	Feasible : 220 - 300 Not Feasible : 140 - 220 Not Feasible : < 140	300	Eligible

*Description: *Maximum score minus minimum score divided by three*
***Criteria of feasibility class based on interval*
****Total score of each criterion (Primary data, 2019)*

category is accessibility, which obtains a cumulative score of 600. Additionally, supporting facilities and infrastructure receive a total score of 300. This is influenced by the distance of the Marisa mangrove tracking area to the city centre of MarisaThe assessment of the attractiveness of the Marisa mangrove tracking area yielded a score of 960, indicating a high level of appeal that is likely to draw tourists to visit this destination. The area's aesthetic qualities, encompassing its diverse flora and fauna, cleanliness, safety, and overall comfort, contribute to the strong desire among tourists to revisit the Marisa mangrove tracking area. The accommodation assessment yields a score of 150, as it is seen that travellers in this vicinity encounter no difficulties in locating hotel establishments in close proximity to the Marisa mangrove tracking area.

The results of the assessment of the Marisa mangrove tracking ecotourism area show the great opportunity for this area to be developed. According to Puspitawati (2015), the promotion of information through diverse media platforms is crucial in enhancing promotional efforts. This enables individuals to become more acquainted with a broader range of tourist attractions, thereby fostering a desire to visit and ultimately bolstering visitor numbers. Furthermore, the provision of sufficient supporting facilities and infrastructure, coupled with the availability of accommodation in the vicinity, renders this area highly conducive and strategically favourable for development. According to

Dimas (2017), effective collaboration between the community and local government is crucial for the successful management of natural tourism. This collaboration allows for active participation from both parties, enabling them to provide valuable input and support. Ultimately, this cooperative approach ensures that the management of natural tourism is both selective and integrated.

3.6. PERCEPTIONS OF TOURISTS AND COMMUNITIES AROUND MANGROVE TOURISM

The findings of the analysis pertaining to the attitudes of tourists and the local community are categorised into two distinct sections, specifically, perceptions held by tourists and those held by the people residing in the vicinity of Mangrove tourism. The anticipated outcome of mangrove ecotourism development is the enhancement of the local economy through the establishment of diverse enterprises, including accommodations, commerce, and ancillary services. Figure 2 displays the outcomes of the analysis conducted on the perceptions of both tourists and the local population regarding the proposed plan for the development of mangrove ecotourism.

Figure 2: Perceptions of (a) tourists and (b) the community on aspects of ecotourism development plans.

Based on Figure 2, it can be seen that most tourists (93%) and the community (91%), agreed with the mangrove ecotourism development efforts. This phenomenon indicates that there is comprehensive backing from the involved stakeholders towards the advancement of mangrove ecotourism. The last aspect to consider is how this support may impact the future interest and volume of tourist visits. The reason for the tourists is generally due to the position close to the surrounding tourist areas, so it is relatively easier to reach or visit. In addition, the positive perception of the surrounding

community can also be optimised in the form of community-based ecotourism development which really requires understanding and coordination between parties. This form of development is more sustainable and in line with the triple track strategy, namely pro-poor (poverty alleviation), pro-growth, pro-job (employment) and pro-environment (preserving the environment) (Salim and Purbani, 2015). The management of ecotourism development in mangrove forests necessitates the careful avoidance of environmental risks and negative impacts. This can be achieved by considering the suitability and carrying capacity of the ecosystem, as highlighted by Muhammad et al. (2012) and Kusaeri et al. (2015). According to Razak and Suprihardjo (2013), the strategic integration of ecotourism with diverse nearby sites can effectively enhance tourist routes. Additionally, this approach is expected to yield beneficial outcomes for regional economic expansion, as highlighted by Mukhlisi (2017).

4. Conclusion

Based on the findings of the feasibility assessment conducted on the potential for ecotourism, it can be inferred that the mangrove tracking ecotourism area in East Pohuwato Village, Marisa District, Pohuwato Regency possesses the necessary conditions to be developed into a natural tourism destination. The level of feasibility is determined based on the fulfilment of eligibility criteria for each category, which indicates that each category has been deemed feasible with respective scores: attractiveness (960), accessibility (600), accommodation (150), and facilities and infrastructure (300).

5. SUGGESTIONS

It is expected that that the local government will allocate greater focus towards the provision of lodging and associated infrastructure. Enhance the existing management system. It is hoped that the local government will manage this area better, repair the damage to the tracking bridge, so that later this area can generate or increase regional income and open up employment opportunities for the community around the Marisa mangrove tracking ecotourism area. The inclusion of amenities such as medical care and religious institutions is vital. In addition to their core responsibilities, managers are required to engage in collaborative efforts with a diverse range of stakeholders. There is an expectation that both the local community and visitors will persist in upholding

the sustainability of mangroves and the tourism opportunities offered by the Marisa mangrove tracking area.

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