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Ecotourism Village Feasibility Assessment Analysis: The Case of Bahoi Village, in North Minahasa Regency, Indonesia

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ABSTRACT

The purpose of this study was to assess the feasibility of Bahoi village as an ecotourism village. Bahoi village is on the coast which is a legal area of the sea. Bahoi is located in West Likupang Subdistrict, North Minahasa Regency, North Sulawesi Province. Currently, Bahoi Village has been designated as an ecotourism village by the local government and marine area protection managers, but to be designated as an ecotourism village, it is necessary to consider if the village is feasible to be an ecotourism village. The research method used was structured observation using the Research Instrument used in the assessment of eligibility criteria as well as feasibility Index, supported by interviews with community leaders and local government. The results show that the attraction of ecotourism in Bahoi Village is considered to have potential with the category of feasibility index as a tourism object of above 66.6%. This shows that the village of Bahoi deserves to be a village of Ecotourism.

Keywords: Assessment; Ecotourism Feasibility; Bahoi Village; North Minahasa Regency; Indonesia

Tujuan dari penelitian ini adalah untuk menilai kelayakan desa Bahoi sebagai desa ekowisata. Desa Bahoi berada di pesisir pantai yang merupakan kawasan perlindungan

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laut. Bahoi terletak di Kecamatan Likupang Barat Kabupaten Minahasa Utara, Provinsi Sulawesi Utara. Saat ini, Desa bahoi oleh pemerintah lokal dan pengelola daerah perlindungan laut sudah ditetapkan sebagai desa ekowisata, namun untuk penetapan sebagai desa ekowisata perlu dinilai apakah desa layak disebut sebagai desa ekowisata. Metode penelitian yang digunakan yaitu observasi terstruktur dengan menggunakan Instrumen Penelitian yang dipakai dalam penilaian kriteria kelayakan (Standar Penilaian Kriteria-Daya Tarik Objek dan Alam) serta Indeks Kelayakan, didukung dengan wawancara terhadap tokoh masyarakat dan pemerintah lokal. Hasil penelitian menunjukkan bahwa Daya Tarik Ekowisata Desa Bahoi dinilai memiliki potensi dengan kategori indeks kelayakan memiliki sebagai objek wisata diatas angka 66.6%. Hal ini menunjukkan bahwa Desa Bahoi layak dijadikan sebagai desa Ekowisata.

Keywords: Penilaian; Kelayakan Ekowisata; Desa Bahoi; Kabupaten Minahasa Utara; Indonesia

Introduction

Issue of empowerment of local communities in tourism has improved the image of rural tourism in Indonesia. Development of tourism model is the tourist village, or the ecotourism village. The general objectives of tourist village are to increase the community welfare and guarantee the preservation of the physical environment, and also develop socio-culture of local community. During this time the local community the in village has just been the object of tourism industry, and they do not get the opportunity to participate in it and enjoy the benefits of tourism, whereas the concept of sustainable tourism is that the participation of local communities is a prerequisite for sustainable tourism. The local community participation purposes are: strengthening the condition at the local level to be good in order that the local community can play a role in tourist activity, preparing and improving knowledge to enable them to take advantage of the opportunities and to get the support of social, political, networking, and so on (Pitana, 2006). Meanwhile, Ashley, et. al (2001) emphasized the need for some issues that tourism could contribute significantly to poverty alleviation, which is a commitment of tourism entrepreneurs to employ local residents, develop small business, improve infrastructure, security, communication, health and others, and make sure that tourism does not lead to environmental degradation, teach the local population to respect the native culture, improve in the condition, prevent the negative impact of tourism, as well as encourage community participation in planning and decision making processes.

Model village of ecotourism development in Indonesia is considered suitable by the condition of socio-cultural and natural environment, where the lifestyle of the people who rely on natural resources is an attempt to characterize the community of fishermen and farmers. Currently the number of registered villages in Indonesia which spread over 33 provinces is 74.754 villages. Besides, rural development has been

lagging far from urban. This is the consideration of Indonesian Government to set the tourism development starting from the village.

In North Sulawesi, provincial and district governments have attempted to promote rural tourism, and until now one of the villages has been claimed as ecotourism village, that is Bahoi village. This village is located on the coast and it is a conservation village on the coastal environment. Bahoi village is located in the sub-district of West Likupang , North Minahasa regency, North Sulawesi province. With an area of about 250 hectares or 27 km², Bahoi is a hilly village located along the coast in the North, with a height of 0-76 meters above sea level (asl).

Based on data of population in 2014 , the number of villagers of Bahoi was 493, comprising 134 families divided into three neighborhoods. Most of the Bahoi villagers are from the Sangihe Tribe, which are maritime tribe in the Northern part of the island of Sulawesi, thus Sangihe tribal culture and tradition are very strong in this village. This is evidenced by the existence of one of the annual traditional ceremonies often held at the end of the year, precisely in January. This traditional ceremony is "*Tulude*" (Reject), which means refusing to continue to rely on the past and prepare to meet the coming year. Tulude is essentially a thanksgiving ceremony to "*Mawu 'Ruata Ghenggona Langi*" (Almighty God) for His blessings to mankind for a year ago. Besides having tulude ceremony, Bahoi village community also has some cultures such as "*Ampa Wayer Dance*" and "*Masamper*", which are blended with music and dance for welcoming guests and welcoming the new year.

Before being designated as the village of ecotourism; Bahoi village was a protected area of Mangrove in 2000 and Marine Sanctuary in 2002. The village has a structure of complete coastal ecosystem consisting of mangrove forests, sea grass and coral reefs. This structure forms the chain of sea food security. Bahoi got the assistance of the World Conservation Society of North Sulawesi together with The National Community Empowerment Program Mandiri Rural Environment (*Program Nasional Pemberdayaan Masyarakat Lingkungan Mandiri Perdesaan PNMP-LMP*). The assistance was provided in the form of debriefing, training, capacity building and funding of several development programs of marine sanctuary. The purpose of Marine Sanctuary was to make Bahoi a future pilot village in North Minahasa Regency and North Sulawesi as a village that shows the existence of behavioral change on the environment. Behavioral change on the coastal environment shows changes in the catch of marine products, WCS survey results in 2010 prove the increase in catches in the last 5 years in terms of both the number and the diversity of results.

Ecotourism activities in the Bahoi village began in 2010 with the assistance of the National Program for Community Empowerment in Rural Environment Mandiri (PNPM-LMP) by the Directorate General of Community Development, Ministry of the Internal Affairs. In 2010, it was the initial set up and commencement of community-based ecotourism management group in Bahoi village. At that time the management structure of ecotourism activities was agreed by consensus of the village and had been selected three core committee of community members. The core committee is a team working in the governance of PNPM LMP program and is called the Bahoi Village ecotourism implementation team.

Furthermore, the implementation of ecotourism activities is regulated by Village Regulation No.2 of 2010 on Coastal and Marine Area Management of Bahoi Village and

Village Head Decree No.140 / 3 / 20:11 / VI-2010 on the Implementation of Coastal Area Management of Bahoi village. The decree stipulated that the area of coastal and marine areas that could be managed by a group of ecotourism as tourism-based community are: (1) Marine Sanctuary, (2) White Sand Area, (3) Mangrove Area and Coral Reefs, and (4) Coastal Protected Zone.

According to Manahampi et al. (2015), after Bahoi had been designated as ecotourism village, there was an increased level of well-being. It is seen from the changes in community settlements, where prior to this number of semi-permanent homes was 37.5% and permanent homes 62.5% and after the influx of ecotourism, semi-permanent percentage rose to 25% and permanent housing to 75%. Meanwhile Muliya et al. (2016), saw that ecotourism in Bahoi village has not yet increased to deserve an eco-tourism, the problems affecting the development potential of the region is the absence of maximum support from the local government.

Certainly the importance of inter-agency coordination will reinforce the success of ecotourism, thus local communities can benefit from ecotourism (Coria and Calfucura, 2012). While Pujaastwa et al. (2005); Towoliu and Takaendengan, (2014), mention the elements involved in ecotourism: indigenous people, study center (consultants), government, ecotourism entrepreneur and tourist. Tourist's role as a connoisseur of tourist sites at once gives benefits to the community by donations, quality of natural resources and also the hospitality of the local people strongly influence the sustainability of ecotourism management (Damanik and Weber, 2006; Towoliu and Takaendengan, 2015).

However, the present study proposed on the feasibility assessment of Bahoi village as the village of ecotourism, with the consideration that the village is managed as marine sanctuary. In addition, since 2010 the village has been designated as ecotourism village by both district government and provincial governments. The assessed feasibility elements are: the potential of tourist, infrastructure and accessibility.

Methods

The approach in this study is qualitative supported by quantitative data. The method used for data collection are interviews, systematic observation and documentation. Research tool used in researching is interview using interview guide. Interviews were conducted with 5 key informants, namely: the head and deputy head of the village committee of MPA managers, and community representatives. Systematic observation to observe the method used instruments check list. Data analysis method used was the standard assessment criteria of the object and nature (Regional Operations Analysis) (Forest Protection and Nature Conservation, Ministry of Forestry Bogor, 2002) in accordance with a predetermined value for each criterion. Total value for the assessment criteria of natural tourist attraction can be calculated with the following equation:

$$S = N * B$$

Where:

S = Value of criterion

N = Total value of elements on criteria

B = Score of value

Criteria of attractiveness value was 6, attractiveness is the main factor for someone to travel. Accessibility was given the value 5, as an important factor supporting the traveler to do tourist activities. Accommodation and facilities were given value 3 because they are merely a support in tourism activities. Scores obtained were then compared with the total score of a criterion if each sub-criterion has a strong value of 5. Results from the comparison of the value will give feasibility index expressed in percent (Karsudi et al. 2010). The following is an index feasibility of an ecotourism:

- (a) Feasibility level > 66.6% eligible to be developed, with the criteria of a tourist area that has potential, infrastructure is highly based on the parameters that have been established and supported by adequate accessibility.
- (b) Eligibility rate 33.3% - 66.6%: not yet eligible to be developed, with the criteria of a tourist area that has the potential, facilities and infrastructure based on the parameters that have been established and supported by adequate accessibility.
- (c) Feasibility level <33.3%: not eligible to be developed, with the criteria of a tourist area that has potential, infrastructure is low based on the parameters that have been established and the accessibility is inadequate.

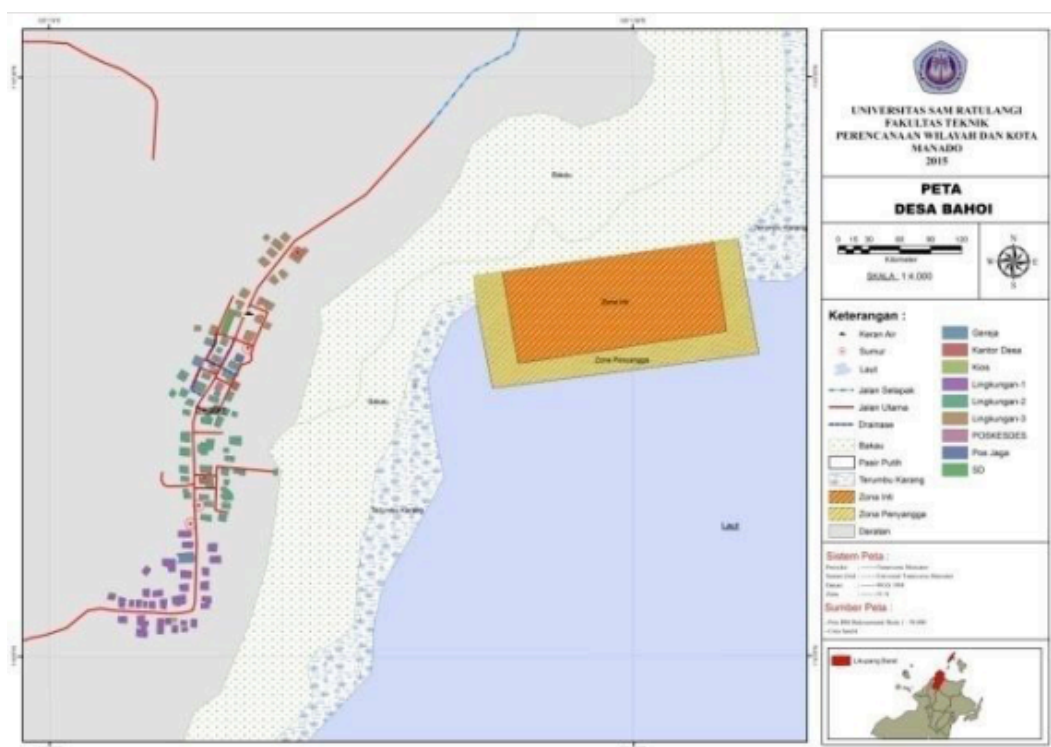


Figure 1: Map of Bahoi Village

Source: Mulya/Fak Tehnik Unsrat Mdo/2015.

Results

Observations of ecotourism potential was done by direct observation near Bahoi village including community settlements, coastal and marine protected areas. Components of the biological conditions assessed are the attractiveness of the region, accessibility and condition of facilities and infrastructure.

Table 1: Criteria for assessment and development of objects and natural tourist attraction. Assessment criteria of tourist attraction (score 6)

No	Element / Sub-elements	Grade				
		is 5	is 4	is 3	is 2	is 1
1.	Beauty					
	a. Variations of view of the island / mountain in the sea					
	b. Beauty of the beach					
	c. Shade of the beach	30	25	20	15	10
	d. The harmony views of the beach and surrounding areas					
	e. Uniqueness					
2.	Safety / security beach	is 5	is 4	is 3	is 2	is 1
	a. no backflow of dangerous sea					
	b. no steepness on the seabed					
	c. free from interference of dangerous sea	30	25	20	15	10
	d. No intrusive confidence					
	e. no human interference					
3.	Sand	Red sand	White sand	Black / Brown sand	Loam	No/slightly gritty
		30	25	20	15	10
4.	Variety of activities	more than 6	5 to 6	3 to 4	1 to 2	is 1
	a. sunbathing					
	b. surfing					

	c. swimming	30	25	20	15	10
	d. sight seeing					
	e. sporting					
	f. canoeing					
5	Cleanliness	more than 5	is 5	is 4	is 3	is 1 to 2
	a. no influence of port					
	b. no influence of settlement					
	c. no influence of river					
	d. no influence of fish waste factory	30	25	20	15	10
	e. no influence of others pollution					
	f. no influence of season					
6.	The width of the beach (measured at low tide and the minimal length is 1 km) in meters	> 150	126-150	76-125	50-75	<50
		30	25	20	15	10
7.	Comfort	Is 5	Is 4	Is 3	Is 2	Is 1
	a. no rubbish					
	b. no graffiti					
	c. no noise	30	25	20	15	10
	d. no many nuisance animals					
	e. annoying odor-free					

Source: Forest Protection of Nature Conservation / *Perlindungan Hutan Konservasi Alam* (PHKA ,2003)

1. Attractiveness

The appeal is a factor that makes people want to visit and see directly the places that have such appeal. The assessment component of this appeal aims to describe forms of recreational activities appropriate to the appeal and the resources available. According to Forest Protection of Nature Conservation / *Perlindungan Hutan Konservasi Alam*

(PHKA, 2003) the attraction is the main asset that allows the arrival of visitors. Elements assessed on the criteria of this attraction are the uniqueness, sensitivity, variety of activities, type of resource that stands out, object hygiene, safety, and comfort.

Here are the results of an assessment based on scoring of the potential of ecotourism in Bahoi Village which show:

1.1. The element of beauty got maximum value score of 180, because it has five sub elements, namely (1) variations in view of the island where the sea is adjacent to the mangrove islands near Sarawet Village, (2) the beauty of the beach. The village has a good beach shoreline with a combination of mangroves and white sand, (3) the shade of the beach; Bahoi has mangrove forests, (4) compatibility beach view shows the combination of mountains, white sand beaches and mangrove forests while (5) uniqueness, mangrove forests grow constituted by villagers who are aware of the potential of mangrove so their commitment with local communities is not to make catches around the area of marine protected areas.

1.2. Elements of the safety and security of the beach.

Especially for the condition of the coast safety / security , the resulting score was 120, where the condition of the beach is (1) uninterrupted by dangerous animals, (2) there is no intrusive confidence and (3) there is no human interference. But the condition of the coast is that there are dangerous currents and there is a basic steepness.

1.3. Sand condition.

The beach at Bahoi village has white sand and so the resulting score is 150. The white sand is in high demand by tourists because it is considered more beautiful than black sand which is encountered in other shores.

1.4. Tourist attractions

Scoring for attraction travel was 120, where the only activities allowed on the beach are (1) limited swimming in the area as it is a protected zone, (2) enjoying the view, (3) exercising by tracking around the beach and mangrove forests and (4) boating with a boat provided by residents in limited circumstances. Basking is in limited circumstances for a short coastline and surfing is thought to interfere with the protected area.

1.5. Cleanliness

Cleanliness of Bahoi beach got the score of 120 where the beach has no influence of the river, season, and fish auctions / factories and other kinds of pollution. While on the other hand the harbor beach is small although the port is located in the Sarawet village, adjacent to the location of human settlements.

1.6. Conditions of beach width

Score for the condition of beach width was 90 where the width is measured when beach is at low tide and the length is only about 50-75m, so the attractions of the suggested activities are limited in quantity.

1.7. Convenience

Especially for the comfort, the resulting score was 180 in which, the comfort of the beach is guaranteed (1) no scribbles, (2) noise-free, and (3) no much disturbance of animals. While the condition is not possible as(1) there is still garbage in the form of plastic bottles even though the operation is already well organized and (2) sometimes there is a smell that causes disrupt proximity to human settlements.

Table 2: Socio-economic environmental conditions (score: 5). (Radius of 1 km from the boundary area of intensive use or the shortest distance)

No	Element/sub elements				
1.	Special objects	existing and suitable	existing and not suitable	In the process of drafting	existing
		30	20	15	5
2.	The unemployment rate	>40%	25-40%	10-20%	<10%
		30	25	20	15
3.	Livelihoods	most of the people are farmers and fishermen	mostly small traders, small industries and craftsmen		Land owner/ship/civil services
		30	25	20	15
4.	Space for visitors (ha)	>50	41-50	31-40	<40
		30	25	20	10
5.	Education	The majority of high school graduates	most of the junior high school graduates	the majority of primary school graduates	most do not passed the primary school
		30	25	20	15
6.	Level of soil fertility	Infertile	Moderate	Fertile	Very fertile
		30	25	20	10
7.	Mineral resources	Not potential	Less potential	Potential	Very potential
		30	25	20	10
8.	Local community perception of the development of natural attractions	Is 5	Is 4	Is 3	Is 1-2
	a. weakly supporting				
	b. supporting				
	c. strongly supporting	30	25	20	10

- d. good
- e. profitable

Source: Forest Protection of Nature Conservation / *Perlindungan Hutan Konservasi Alam* (PHKA ,2003)

2. Socio-economic Environmental Conditions

There are several elements assessed based on the socio-economic conditions in Bahoi Village among which are:

2.1. The spatial object region

Especially for the development of the area as rural ecotourism, Bahoi village got the score of 150 in which the village has been included in the regional spatial attraction development.

2.2. The unemployment rate

Especially for unemployment, the resulting score was 75 where the people in the village on the average work in fishing and farming, so they are classified into the category of seasonal unemployment.

2.3. The livelihood of the population

The resulting score for the livelihood was 150 where their livelihoods are mostly fishing and farming. So people who live around the village are very dependent on the nature and circumstances.

2.4. Latitude visitors

For the space for the visitors, the score was 100 where land is limited only 31-40 ha. Condition is very limited for tourist location that has a combination of mountainous topography, and the beach near the settlement which greatly limits the activities of visitors. Tourist activities are very limited so as not to exceed the carrying capacity of the location.

2.5. Education

Condition of level of education in Bahoi village got a score of 100, where the structure of public education in the village is that there are more graduates of Elementary School, compared to those of junior high school, senior high school and college graduates.

2.6. The level of soil fertility

State of land in the village got a score of 125 which means fertility conditions are at a moderate level. It is influenced by the combination of the hilly topography, the beach and proximity to human settlements.

2.7. Mineral resources

For mineral resources, the Bahoi Village unlike other villages in the region of North Minahasa which have good mineral resources, so that the resulting score was 150, not potential. This village is potential only for fishing and eco-tourism activities, so it is not complicated to administer.

2.8. The development of natural attractions lodging resulted in public perception score of 125, where the average community support the development of eco-tourism attraction, in their village, because people feel that there are kinds of additional income.

3. Accessibility

Accessibility is also very influential on tourists to travel, easy traveling distance, safe and fun travels that influence them to determine the destination as a priority to visit.

Table 3: Accessibility

1.	Conditions and distance of road	good	enough	fair	bad	
	<75km	80	60	40	20	
	76-150 km	60	40	25	15	
	151-225 km	40	20	15	5	
	>225 km	20	10	5	1	
2.	International airport / regional (in km) Manado / Medan	Until /150	151 - 300	301 -450	451-600	>600
		25	20	15	10	5
3.	travel time to the object (speed depends on PK, surf conditions and river)	1-2	2-3	3-4	4-5	>5
		30	25	20	15	10
4	Number of vehicles	>7500	5001-7500	2501-5000	2500-1000	<1000
		30	25	20	15	10
5	Deployment frequency of public transport from the city terminal to tourist attractions	>50	40-50	30-40	20-30	<20
		30	25	20	15	10
6	Seating capacity of public transport to tourist attractions	>2500	2000-2500	1500-2000	1000-1500	<1000
		30	25	20	15	10

Source: PHKA (2003)

Here are the results of the assessment of the accessibility to Bahoi Village:

3.1. Conditions and distance of road

Assessment of these conditions gave the score 300, where the condition and distance of roads are in good condition which is 76-150km.

3.2. The gate of international air / regional (in km)

Distance of international airport special assessment score was 75, for the distance up to 150km. This assessment category is considered good because the distance between the Sam Ratulangi Airport of Manado to Bahoi village in North Minahasa Regency is not too far and convenient to go.

3.3. Travel time to the object

For the travel time to the object by using the boat the score was 25 which is in bad category. The geography of the island and the distance to be reached by boat can be time consuming > 5 hours especially with regular boat.

3.4. Motor vehicles in urban districts.

Ratings for the number of motor vehicles resulted in the score of 150, where the estimated number of motor vehicles in North Minahasa Regency is in the range of > 7500 rating category is considered good. Based on statistical data in 2015 the number of two-wheel motor vehicles was 39.044 motors.

3.5. Frequency of public transport from the distribution center to the tourist attractions.

For this assessment, the score was 100 which is categorized quite good, the estimated number is only 20-30 / daily public transport to the location of the object

3.6. The seating capacity of vehicles to the attraction

Rating of seating capacity was at a score of 50, meaning that it is not good due to the number of commercial to the object is small.

4. Infrastructure and public facilities

Special assessment of public infrastructure and facilities rated as follows:

4.1. Infrastructure

Scores obtained in infrastructure assessment was 60 because it is within a radius of 20 km and can be easily reached from the location of the object. The infrastructure includes health center, cafe, TV networks, radio networks and newspapers.

4.2. Means of support

Assessment of other support facilities got the score of 50. Means of support provided are worship place and public toilets within a 20 km radius of the object.

Table 5: Feasibility index of ecotourism

Criteria	Score	Score max	Index	Description
Tourist attraction	960	1260	76.19	Feasible
Accessibility	900	1125	80.00	Feasible
Environmental & socio economic conditions	1072	1350	79.41	Feasible
Facilities and infrastructure	110	180	88.89	Feasible

Source: processed data

Note :

* Score = Total value of sub elements

** Score Max = Total Max Value of sub elements

*** Index = Score / Score Max*100%

The feasibility of an ecotourism index is obtained by comparing the existing scores with a maximum score of assessment (Karsudi, et al, 2010). The results of the assessment are as follows:

A. Level of eligibility > 66.6%: eligible to be developed, with the criteria of a tourist area that has potential, infrastructure is highly based on the parameters that have been established and supported by adequate accessibility.

B. The eligibility rate of 33.3% - 66.6%: not yet eligible to be developed, with the criteria of a tourist area that has the potential, the facilities and infrastructure that are based on the parameters that have been established and supported by adequate accessibility.

C. The level of feasibility <33.3%: not eligible to be developed, with the criteria of a tourist area that has potential, infrastructure is low based on the parameters that have been established and inadequate accessibility.

Discussion

The development of ecotourism in an area adjacent to the community settlements requires in-depth study, which requires proper planning in establishing a region to serve as ecotourism destination. The scoring result of the assessment was between 120-180 indicating that natural attraction in Bahoi village has the potential and is the main capital that enables visitors to come. Several previous studies have suggested that the diversity of species, vegetation of plants, and the beauty of the coast are attraction factors for tourists to visit. (Boyd et al., 1994); Oladi, J. (2012), Ginting, et.al (2013)

Socio-economic environment conditions, where the pattern of social-interaction, and livelihoods of people around the area can also be a major supporting factor in the diversification of ecotourism attractions. Oladi, J. (2012), Results of socio-economic

assessment in Bahoi village score assessment showed 75 -150. In addition, access is also very important in ecotourism planning. It is an important factor in choosing the appropriate areas for recreational purposes. Although the potential of ecotourism is good, without road access, ecotourism will not attract tourists to visit. (Mobaraki, et.al 2014). Access to Bahoi Village is considered good with the availability of transportation mode, roads and proximity to the international airport, whose score is 100-300. Special assessments of infrastructure and public facilities in bahoi village are considered sufficient to provide health center, cafe, TV networks, radio networks and newspapers. Worship places and public toilets are also available.

The assessment of the feasibility of Ecotourism in Bahoi Village, can strengthen the existence of Bahoi Village as a coastal ecotourism area, while also improving the various shortcomings by providing eco-tourism facilities by facilitating appropriate ecotourism infrastructure and services with controlled policies. In addition, the management of infrastructure as much as possible should be developed in accordance with local community and natural conditions. The development of ecotourism infrastructure should have minimal impact on the originality of nature and provide safe, reliable, sustainable and appropriate access to ecotourism attractions in and surrounding the natural areas.

Conclusion

The attractiveness is a factor that makes people want to visit the location of ecotourism. The assessment component of this appeal aims to describe forms of leisure activities in accordance with the attractiveness and the resources available. According to the assessment indicators of PHKA (2003a) attractiveness is the main asset that allows the arrival of visitors. Elements assessed on the criteria of this appeal are the uniqueness, sensitivity, variety of activities, types of resources that stand out, object hygiene, safety, and comfort. The results of feasibility index ratings show that Bahoi village highly deserves the title as the ecotourism village.

Bahoi Village has amazing sea view, mangrove forests, diversity of fauna and flora, a source of mineral water, supported by local people who still have strong tradition and cultures. The research findings indicate this village has potential as a tourist attraction with a significant level of feasibility that is above 66.6%. However, it is necessary to make improvements such as the addition of infrastructure and lodging facilities and management of ecotourism. The importance of promoting sustainability principles in order to prevent negative impacts on the quality of ecosystems. Finally, it can be concluded that the success of ecotourism management will not be achieved without the cooperation and support of the local community. In addition, local communities should be empowered and involved in making ecotourism project development decisions.

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