Marine Ecotourism Development Strategy Based on Creative Local Potential in Binasi Beach

Shofian Nanda Adiprayoga[1], Husnul Yaqin[2], Tirta Anugerah[3]

Abstract - **As a popular tourist attraction, the Binasi Beach ecotourism area is always busy receiving visits from domestic and foreign tourists when the holiday season arrives. However, the management of ecotourism objects is not optimal, sometimes this makes ecotourism not much visited on weekdays or on weekends. This has an impact on ecotourism activities that are not really felt by local people who depend on these ecotourism activities. The research was carried out from June to August 2023. The research used an exploratory qualitative approach. The data used uses primary data obtained through interviews with various elements and measurements of water quality and water ecology. Meanwhile, secondary data was collected from various related document sources. Data analysis was carried out using Willingness to Pay (WTP), Willingness to Accept (WTA), economic potential analysis, SWOT analysis, Reliability test and Validity test. The results of the study indicate that the development strategy can be pursued by adding supporting facilities such as providing information boards for tourists regarding directions, location of supporting facilities and the furthest water point that is safe for swimming. The addition of environmentally friendly play facilities is also highly anticipated by tourists. Creative local economic products that can be developed are Kepek Gadapang and Turtle Themed Crafts. Furthermore, the government can issue policies to provide routine guidance and access to capital for businesses run by local communities.**

Keywords— *Development Strategy, Marine Ecotourism, Binasi, Local Product.*

I. INTRODUCTION

One of the provinces in Indonesia that has many marine ecotourism locations is North Sumatra. Being in a position that is in direct contact with the Indian Ocean means that Central Tapanuli Regency has the potential for extraordinary natural wealth. Referring to data from the Central Tapanuli Regency Government in 2022 [1], it was stated that the potential for marine tourism in Central Tapanuli Regency consists of at least 25 beaches that stretch along the west coast of Central Tapanuli Regency. In this area you can also find at least 30 small islands with beautiful beaches and underwater areas.

Binasi Beach, which is in West Sorkam District, is attractive because at this location there is a turtle conservation object. This conservation object has been managed independently by the local community [2]. The lack of promotional efforts and the presence of local products as souvenirs means that the Binasi Beach tourist attraction is increasingly visited by fewer visitors. Tourists are looking forward to the existence of local creative products from Binasi Beach.

This research was conducted to identify the potential of the local creative economy at the research location. This strategy study was carried out by analyzing a sample of respondents from 4 (four) different clusters, namely tourists, local communities, tourism business actors and policy makers. There is still a lack of scientific data regarding the potential for developing Marine Ecotourism in Central Tapanuli Regency, so this research is important to carry out. The results of this identification will be able to produce an effective strategy in developing the Binasi Beach marine tourism object.

II. METHOD

A. Place and Time

This research was carried out from July to August 2023. This research was carried out at Binasi Beach, West Sorkam District, Central Tapanuli Regency. This research focuses on studying marine ecotourism development strategies and creative economy development strategies at research location. The research location was determined deliberately (purposive sampling) with the consideration that the area has great potential in developing Marine Ecotourism.

B. Research procedure

The research design uses an explanatory qualitative approach [3]. The data used in this study are primary data and secondary data. Primary data were obtained from direct interviews with respondents consisting of local communities, business actors, policy makers and tourists. Interviews were conducted using a questionnaire sorted by group of respondents.

The number of respondents was determined using the Slovin formula in Yamane [4] as follows:

$$n = \frac{N}{Nd^2 + 1}$$

Notes:
n = Number of samples
N = Total population
d = Set precision

Shofian Nanda Adiprayoga, Social Economic Fisheries Study Program, Matauli College for Fishery and Marine Science, Pandan, Central Tapanuli, 22538, Indonesia. E-mail: pra_yoga2305@yahoo.com / shofian_prayoga@stpkmatauli.ac.id

Husnul Yaqin name is Social Economic Fisheries Study Program, Matauli College for Fishery and Marine Science, Pandan, Central Tapanuli, 22538, Indonesia. E-mail: hrphusnulyaqin@gmail.com

Tirta Anugerah, Social Economic Fisheries Study Program, Matauli College for Fishery and Marine Science, Pandan, Central Tapanuli, 22538 Indonesia. E-mail: tirta.anugerah1993@gmail.com

In this study, researchers used an error tolerance of 10%. Based on the formula above, the sample calculation in this study is as follows:

$$n = \frac{500}{500 \times 0{,}1^2 + 1} = 83{,}3 = 85$$

Based on the calculation above, the 85 samples were then divided according to the number of respondents based on clusters of respondents.

The determination of the number of respondents is considered to represent the research area. Secondary data was obtained from related agencies in Central Tapanuli Regency, namely the Tourism and Culture Service, Statistics Indonesia Agency, Marine Affairs and Fisheries Departement, Environment Departement, Industry and Trade Departement, Public Works and Public Housing Service and Region XI Forest

WTA describes the willingness of the community to change jobs at certain times to marine ecotourism [14]. This is because:

a. Income from marine ecotourism is equal to or greater than income from the replaced job.
b. WTA has outlined the operational value plus the desired profit value.
c. Marine ecotourism provides additional income value.
d. Other preferences (choices) that cannot be observed from one individual to another will vary in influencing the WTA value.

2. Willingness to Pay (WTP)
   WTP analysis was obtained through data received from respondents in the tourism cluster. WTP is the concept of assessing non-market resources by measuring the maximum amount a person is willing

TABLE 1.
RESPONDENT CLUSTER DISTRIBUTION

No	Respondent Cluster	Frequency
1	Tourist	40
2	Local Community	20
3	Businessmen	20
4	Stakeholder	5

Management Unit. Secondary data was also obtained through literature study from references related to the study topic. In the research, data was also collected about conditions by measuring and observing ecological conditions [5] at the research locus.

Researchers hope that the results of this study can be a source of information regarding the potential for marine ecotourism activities that can support sustainable regional development based on the potential that exists in both research locations. This research is also expected to be taken into consideration by relevant stakeholders in formulating policies regarding regional development [6], particularly the development of tourism objects in the future.

C. Data Analysis

Several analytical methods used in research use measurements of Willingness to Accept (WTA) [7], Willingness to Pay (WTP) [8], Analysis of the Economic Potential [9] of Marine Ecotourism, SWOT analysis [10], direct measurement/observation of water quality and aquatic ecology [11], validity [12] and reliability [13] tests. test. In detail the analysis methodology to be carried out is as follows:

1. Willingness to Accept (WTA)
   WTA analysis was carried out based on data received

to sacrifice goods and services to obtain other goods and services. This is done because:

a. WTP for marine ecotourism is the value of setting aside a portion of the tourism spending budget.
b. Fulfillment of use value or tourist satisfaction with ecotourism objects and activities.
c. Other preferences (choices) that cannot be observed between one individual and another will vary in influencing the WTP value.

3. Analysis of the Economic Potential of Marine Ecotourism
   Economic Potential (PE) analysis was carried out based on WTP data from the information received by the tourist respondent cluster.

$$PE = \text{Averages of WTP} \times W$$

Keterangan :
PE : Ecotourism economic potential
Averages of WTP : Average WTP value per individual tourist
W : The number of tourist visits at the research location in the year of visit

4. SWOT Analysis
   SWOT analysis is a technique used to identify

TABLE 2.
THE RESULTS OF WILLINGNESS TO PAY (WTP) ANALYSIS AND ECONOMIC POTENTIAL

No	Data Cluster	Total
1	Number of Visits	244
2	Total of WTP	Rp 21.498.000, -
3	Averages of WTP	Rp. 1.345.756,-
4	Economic Potential Value	Rp 60.559.000, -

from respondents in the cluster of Tourism Business Actors, Local Communities and Policy Stakeholders.

strengths, weaknesses, opportunities and threats in a particular project. In a development strategy

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formulation, SWOT analysis is widely used as a measuring tool. SWOT stands for strengths, weaknesses, opportunities and threats. Several factors can be combined to carry out a narrower analysis such as strengths against opportunities (SO), strengths against threats (ST), weaknesses against opportunities (WO), and weaknesses against threats (WT).

5. Water Quality Measurement

Several aspects needed to improve the analysis of research data are as follows:

A. Aspects of Water Quality Parameters :
1) Length and width of the beach
2) Beach slope
3) Beach depth
4) Water current
5) Beach water temperature
6) Beach water pH
7) Salinity
8) Visibility

B. Environmental and Ecological Aspects :
1) Protected animals
2) Animal or Vegetations of coastal ecosystems

6. Validity and Reliability Test

Validity test is a test of the accuracy or accuracy of an instrument in measurement. While the reliability test is used to determine the consistency of the measuring instrument, whether the measuring instrument used is reliable and remains consistent if repeated measurements are made. Research that has high validity means research that has results that match the nature, characteristics and real variations. Validity and Reliability Tests were carried out using IBM SPSS Version 22 Software.

[15]. West Sorkam District occupies an area of 44.58 km² consisting of 10 villages and 2 sub-districts.

West Sorkam District is one of the sub-districts in Central Tapanuli Regency where the majority of the population work as fishermen and some work in the government, private and trader sectors. West Sorkam District is also an area that borders directly on the sea, so West Sorkam District is classified as an area with a tropical climate. . There is an area that is a favorite destination for tourists, namely Binasi Beach.

B. Population

Based on secondary data obtained from BPS Central Tapanuli Regency, the characteristics of the population in West Sorkam District amount to 17.822 people with a density of 399,78 people per km2 and a population growth rate of 1.90%.

C. Facilities and infrastructure

Roads in West Sorkam Regency include national service roads, provincial roads and district service roads. The distance from West Sorkam District to Sibolga City is approximately 35 km.

Educational facilities in Sorkam Barat District for 2019/2020 and 2020/2021 include 7 kindergartens, 25 elementary schools, 8 junior high schools and 5 high schools.

D. Water Quality Measurement

Based on the results of water quality observations, various data were obtained between research loci which can be seen in Table 3 below:

Based on visual observations and explanations in the table above and based on measurement results at Binasi Beach, the beach width is around 51 m. While the vegetation on Binasi Beach consists of sea cypress trees, coconuts and mangroves and Binasi Beach has a slope of

TABLE 3.
THE RESULTS OF WATER QUALITY AND ECOLOGICAL ASPECT

Parameter	Result	
	Value	Unit
Deepness	140	cm
Brightness	64	cm
Declivity	5,5	0
Beach width	51	m
Temperature	31,6	0C
pH	7,8	-
Salinity	33,2	ppm
Water aroma	odorless	-
Water color	greenish blue	-
Total Dissolved Solid (TDS)	2,15	ppm
Vegetation	sea cypress, coconut trees dan mangroves	-

III. RESULTS AND DISCUSSION

A. General description of the research location

West Sorkam is a sub-district in Central Tapanuli Regency, North Sumatra Province. The capital of this sub-district is in Sorkam Kanan sub-district. Of the 12 sub-districts/villages in West Sorkam District, only 3 are directly adjacent to the sea, namely Binasi Village, Madani Village and Sorkam Market. The height of the Binasi beach area is 1 (masl) and the land contour is flat, located at coordinates 01° 88'97" N and 98° 55'69" E

5.50. All aspects of the water quality and ecology of the Binasi beach are still in accordance with the standard values of water quality according to its designation as a marine tourism object.

Based on the results of observations of chemical parameters such as measured pH, the value ranges from 7.8, still in accordance with the quality standard, namely pH 7-8.5. Likewise, the measured salinity is around 33.2 ppm, which is still in accordance with water quality standards which are around 31-37 ppm. The results of

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observations of water physical parameters also show that the average water quality value is still in accordance with the quality standards. This shows that the overall research locus is still very suitable for supporting tourism activities [16].

E. Respondent Characteristics

One of the things that needs to be considered in determining the quality of human resources is education [17]]. Business actors, policy makers, local communities and even tourists who have a high level of education will be able to utilize the natural resources around them optimally with better processing, because thoughts greatly influence the way of thinking while encouraging good and correct ways of thinking and processing capabilities [18].

respondents assessed that Binasi Beach had provided quite good service. There are several supporting facilities such as gazebos for resting and relaxing, as well as supporting facilities such as the availability of toilets and places of worship.

This shows that the management of the Binasi Beach ecotourism object is quite good [19]. However, some improvements still need to be made. In particular, respondents' opinions from the tourism aspect, they hope that there will be infographics installed around tourist locations and also the presence of typical souvenirs that can become a characteristic of Binasi Beach..
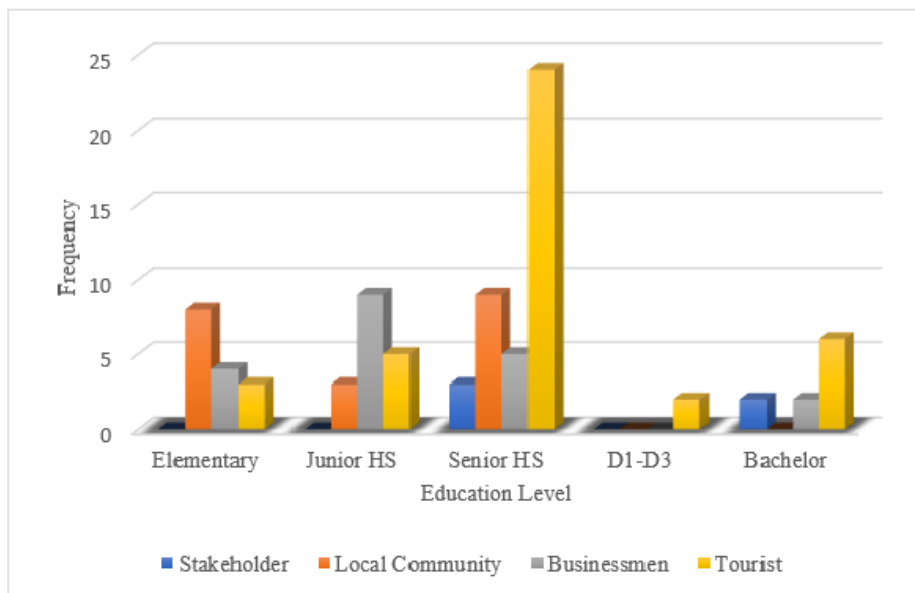

Figure 1. The Characteristics of Respondents Based on Education

The characteristics of the respondents taken based on the educational aspect of the stakeholder aspect stated that there were 2 respondents with bachelor's degrees and 3 respondents with high school education. The majority of respondents from the tourism aspect have a high school education. The same thing can also be seen in aspects of local communities and aspects of business actors, the majority of whom have high school education. In detail, the overall data on respondents' educational characteristics can be seen in Figure 1.

F. Respondent Perceptions About the Ecotourims Quality

After observations, overall the respondents' perception of the quality of marine ecotourism objects at Binasi Beach showed a very good value. On average,

G. Result of WTP and WTA Analysis

The economic value of an ecotourism object and activity can be seen from the WTA (Willingness to Accept) and WTP (Willingness to Pay) values obtained in a marine ecotourism study. The WTA value shows the community's willingness to accept the lowest reward for a marine ecotourism object or activity that they offer to tourists, while the WTP shows the willingness of tourists to pay the highest value for a marine ecotourism object or activity offered by the community (Table 4).

H. Strategy Review Based on SWOT Analysis

Based on the results of the SWOT analysis, the following strategy formulation can be identified:
1) Strategy based on Strength to Oppotunity (SO) [20]

TABLE 4.
RESPONDENTS' OPINIONS REGARDING MARINE ECOTOURISM OBJECTS AT BINASI BEACH

Range	Code	Notes	Frequency			
			Stakeholder	Local Community	Businessmen	Tourist
81 – 100	A	Very Good	5	16	15	24
61 – 80	B	Good	0	4	5	16
41 – 60	C	Not Good	0	0	0	0
< 41	D	Bad	0	0	0	0
Total			5	20	20	40

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The research locus at Binasi Beach has the attraction of natural beauty that is still preserved in its naturalness, such as white sand, rows of sea pine trees and the presence of several river estuaries that have beautiful views, which are the advantages of the area itself. . The friendliness of the people and the historical value at the three research loci are the

and can also reduce poverty, where the community can act as a provider of transportation, accommodation, souvenir sellers, and as a tour guide.

4) Strategy based on Weakness to Threat (WT)

Internal weaknesses at Binasi Beach need to be minimized to avoid external threats that come

Internal / External	Strengths (S) 1. Potential natural and beach tourism attractions 2. Hospitality of the local community 3. Beach naturalness 4. Historical value	Weaknesses (W) 1. Lack of information and promotion 2. Insufficient accessibility 3. Inadequate facilities
Opportunities (O) 1. There is a government policy to develop tourism 2. Improving the welfare of local communities	**Strengths to Opportunities (SO)** 1. Development of marine tourism with the concept of ecotourism 2. Creating jobs and preserving nature	**Weaknesses to Opportunities (WO)** 1. Increasing tourism promotion on a national and global scale 2. Development of facilities and infrastructure in supporting ecotourism
Threats (T) 1. Climate and Environmental Change 2. Competition with other regions	**Strengths to Threats (ST)** 1. Involving the community in monitoring and managing marine ecotourism activities 2. Utilization of natural resources does not exceed the carrying capacity	**Strengths to Threats (WT)** 1. Counseling about marine ecotourism and environmental preservation 2. Improving the quality of human resources, increasing promotion, improving road infrastructure and arranging facilities so that they are able to compete with other regional tourism objects.

Figure 2. Matrix of SWOT Analisys

strengths of Binasi Beach because of the comfort and safety of tourists in interacting with the local community, apart from that the historical value also adds to the tourist attraction.

2) Strategi Weakness to Opportunity (WO) [21]

The lack of information and promotion received by tourists is a very important weakness that needs to be corrected and inadequate accessibility and facilities are also factors in the lack of tourist interest in visiting Binasi Beach. If the potential for development, construction of road facilities and infrastructure is adequate, promotional activities can be carried out to attract national and international tourists. Tourism promotion can be done through internet social media, print media and can be done by placing banners regarding marine ecotourism on Binasi Beach at strategic points such as the city center.

3) Strategy based on Strength to Threat (ST)

The threats that exist at Binasi Beach are environmental changes and competition with other areas. The support of the local community is very much needed because the community is directly involved in managing marine ecotourism so that it always protects the environment from negative impacts. The impact of management involving the community is to create jobs for the local community

through establishing a Weakness to Threat (WT) strategy. Counseling about marine ecotourism needs to be carried out because ecotourism can have a positive impact on environmental sustainability and local indigenous culture which in turn is expected to be able to foster identity and a sense of pride in local residents which will grow as a result of increasing ecotourism activities.

I. Result of Validity and Reliability Test

After testing the validity and reliability of the data, it can be seen that all data can be declared valid and reliable.

J. Creative Economy Growth Strategy Concept

Central Tapanuli Regency in general seems to lack typical souvenirs. The availability of souvenirs was mostly dominated by Spicy Cassava Chips and Salted Fish [22]. As an area with extraordinary potential for tourist visits, the existence of souvenir products has a very important role. This is not only to increase tourists' interest in visiting, but also to improve the economy of the people who live and depend on locations close to tourist attractions.

Based on observations in the field, the same thing was also seen at Binasi Beach. Ecotourism objects that offer unique features, namely turtle conservation, seem to receive less serious attention and management. Even to get local products, visiting tourists can only enjoy processed fish such as grilled pcak culinary delights at tourist locations [23]. However, for souvenirs that can be taken home, tourists must go to the center of Pandan city or Sibolga city.

TABLE 5.
THE RESULTS OF VALIDITY DATA ANALISYS BASED ON TOURIST ASPECT

Item	r Data	r Table	Notes
1	0,612	0,312	Valid
2	0,429	0,312	Valid
3	0,485	0,312	Valid
4	0,604	0,312	Valid
5	0,373	0,312	Valid
6	0,464	0,312	Valid
7	0,456	0,312	Valid
8	0,597	0,312	Valid
9	0,671	0,312	Valid
10	0,425	0,312	Valid
11	0,528	0,312	Valid
12	0,488	0,312	Valid
13	0,383	0,312	Valid
14	0,385	0,312	Valid
15	0,460	0,312	Valid

TABLE 6.
THE RESULTS OF VALIDITY DATA ANALISYS BASED ON LOCAL COMMUNITY ASPECT

Item	r Data	r Table	Notes
1	0,680	0,444	Valid
2	0,486	0,444	Valid
3	0,822	0,444	Valid
4	0,775	0,444	Valid
5	0,677	0,444	Valid
6	0,493	0,444	Valid
7	0,625	0,444	Valid
8	0,638	0,444	Valid
9	0,810	0,444	Valid
10	0,683	0,444	Valid
11	0,781	0,444	Valid
12	0,553	0,444	Valid
13	0,534	0,444	Valid
14	0,775	0,444	Valid
15	0,736	0,444	Valid

TABLE 7.
THE RESULTS OF VALIDITY DATA ANALISYS BASED ON BUSINESSMEN ASPECT

Item	r Data	r Table	Notes
1	0,556	0,444	Valid
2	0,498	0,444	Valid
3	0,829	0,444	Valid
4	0,601	0,444	Valid
5	0,660	0,444	Valid
6	0,787	0,444	Valid
7	0,771	0,444	Valid
8	0,599	0,444	Valid
9	0,620	0,444	Valid
10	0,538	0,444	Valid
11	0,735	0,444	Valid
12	0,494	0,444	Valid
13	0,591	0,444	Valid
14	0,784	0,444	Valid
15	0,696	0,444	Valid

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TABLE 8.
THE RESULTS OF VALIDITY DATA ANALISYS BASED ON STAKEHOLDER ASPECT

Item	r Data	r Table	Notes
1	0,939	0,632	Valid
2	0,858	0,632	Valid
3	0,824	0,632	Valid
4	0,959	0,632	Valid
5	0,858	0,632	Valid
6	0,824	0,632	Valid
7	0,947	0,632	Valid
8	0,930	0,632	Valid
9	0,947	0,632	Valid
10	0,959	0,632	Valid
11	0,666	0,632	Valid
12	0,959	0,632	Valid
13	0,794	0,632	Valid
14	0,939	0,632	Valid
15	0,677	0,632	Valid

Binasi Beach marine ecotourism objects must have local products that can become a characteristic of the region. This can provide an additional impression for visiting tourists and can also increase people's income [24]. Based on the results of observations, several products that can be developed include the following :

a. Kepek Gadapang (Gadapang Fish Chips)

In mid-2021, the Post of Indonesia Navy Force (TNI AL) Sibolga Base (LANAL SIBOLGA) have conducted community development around Binasi Beach. The training was carried out by utilizing the locus. Sea turtles are protected animals that really need to be preserved.

The existence of a sea turtle breeding place on Binasi Beach has so far only been managed independently by conservation activists. In supporting Binasi Beach ecotourism activities, this sea turtle conservation object also really needs to be improved. One way that can be taken is to carry out more structured management and provide several turtle-themed souvenirs [25]. The form of structured management in question is the provision of

TABLE 9.
THE RESULTS OF RELIABILITY DATA ANALISYS

No	Aspect	r Data	r Table	Notes
1	Tourist	0,774	0,312	Reliabel
2	Local Community	0,905	0,444	Reliabel
3	Businessmen	0,898	0,444	Reliabel
4	Stakeholder	0,979	0,632	Reliabel

Gadapang Fish as processed chips. The abundant fish potential at that time was seen as an opportunity to present creative economic products. Kepek Gadapang was once a popular product because it became one of the typical souvenirs from Binasi Beach.

However, currently Kepek Gadapang is very difficult to find around the Binasi Beach ecotourism attraction. Based on observations in the field, the existence of Kepek Gadapang has started to disappear since the increase in Covid-19 cases which resulted in a decrease in the number of tourist visits. This caused Kepek Gadapang craftsmen to change professions and even decide to migrate.

Kepek Gadapang should be a promising source of income. The existence of Kepek Gadapang can be a special attraction which is one of the characteristics of the Binasi Beach ecotourism attraction. Therefore, it is necessary to carry out further guidance regarding production and marketing technical efforts which need to be promoted more intensively.

b. Sea Turtle Theme Craft

One of the objects that has become the main identity of the Binasi Beach ecotourism object is the presence of sea turtles. There are at least 4 types of turtles identified by conservation activists at Binasi Beach who were found to lay their eggs and stop at

information boards for tourists, clarity of entrance ticket rates, provision of directional signs, as well as improvements to other facilities and infrastructure.

So far, tourists who visit only come to see for a moment the existence of turtle hatchlings in captivity which are managed independently by conservation activists. The location of the breeding area is also not widely known to the public because it does not have clear directions. People who visit are also waiting for the souvenirs they will bring. Based on observations in the field, the turtle conservation management only provides souvenirs in the form of sea turtle-themed t-shirts.

In formulating a strategy to increase ecotourism objects in Binasi Beach based on the potential of the local creative economy, the procurement of sea turtle-themed handicrafts is seen as a sizable opportunity. Based on observations, the local community is less willing to support the realization of this concept. Limited capital and lack of information in processing these handicrafts are obstacles in themselves. Therefore, it is hoped that there will be training and guidance in making local products to get to know sea turtles. Some of the products that can be developed include making sea turtle-shaped key chains, sea turtle-themed hats, sea

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turtle-themed beach clothes, as well as various other accessories such as bracelets, necklaces and so on.

This concept will be easily realized if there is collaboration from several elements, namely from the government (Tourism Service government, Culture Service government, Maritime Affairs and Fisheries Service government), the private sector (Non-Governmental Organizations) and the involvement of local communities living around Binasi Beach. ecotourism object. If this concept can be realized, it is believed that the application of the Binasi Beach ecotourism object will increasingly exist and become one of the leading tourist attractions in Central Tapanuli Regency.

IV. CONCLUSION

The strategy for growing the creative economy will be easily realized with the collaboration of several elements, namely from the government (Tourism Service, Culture Office, Maritime Affairs and Fisheries Service), the private sector (Non-Governmental Organizations) and the involvement of the local community. live around coastal ecotourism objects. Bination. If this concept can be realized, it is certain that the implementation of the Binasi Beach ecotourism object will increasingly exist and become one of the leading tourist objects in Central Tapanuli Regency.

REFERENCES

[1] Statistics Indonesia. Sorkam Barat Subdistrict in Figures 2022. Catalog Number : 1102001.1204061.2022.
[2] Situngkir, F. P. Delianis, S. Sedjati. Determination of Bivalves and Gastropods Found on Binasi Beach, Sorkam, Central Tapanuli. Jurnal Moluska Indonesia, 2022, 6.2: 70-78.
[3] P. Liamputtong. Qualitative research methods. Oxford University Press. 2020. pp 33-38.
[4] S. Yamane, A. Ito. Flanged fixation: Yamane technique and its application. Current Opinion in Ophthalmology, 2021, 32.1: 19-24.
[5] A. Nurhayati, I. Aisah, A. K. Supriatna. Model Development of a synergistic sustainable marine ecotourism—a case study in Pangandaran region, west java province, Indonesia. Sustainability. 2019. 11.12: 3418.
[6] D. Tegar, R. O. S. Gurning. Development of Marine and Coastal Tourism Based on Blue Economy. International Journal of Marine Engineering Innovation and Research. 2018. Vol 2 (2).
[7] S. V. Hutabarat, I. S. Hutabarat, D. S. Lubis, H. Wardina, & Y. T. U. Panggabean. Study of the development of beach ecotourism based on sustainable local wisdom. Enrichment: Journal of Management, vol 12 (6). 2023. 4814-4819.
[8] N. D. Salpage, M. Aanesen, C. W. Armstrong. 2022. Willingness to pay for mangrove restoration to reduce the climate change impacts on ecotourism in Rekawa coastal wetland, Sri Lanka. 2022
[9] A. Wongnutpranont, S. Pengsakun, C. Ruengthong, S. Hamanee, M. Sutthacheep, & T. Yeemin. Assessing potential sites for marine ecotourism in Chumphon Province, Thailand. Ramkhamhaeng International Journal of Science and Technology, 2020. vol 3(3), 21-19.
[10] A. Rezagama, W. A. Setyati, T. W. Agustini, S. A. Devi, E. Deswanto, & I. M. Budiati. Approaching SWOT analysis to develop strategies of marine-ecotourism in Bedono Village, Sayung, Demak. In IOP Conference Series: Earth and Environmental Science. IOP Publishing. 2021. Vol. 750 (1)
[11] Anggoro, S., Purwanti, F., & Gunawan, B. I. Evaluating ecotourism development in Bontang: Water quality, compatibility, and carrying capacity. In IOP Conference Series: Earth and Environmental Science. IOP Publishing. 2019. vol. 370 (1), p. 012049.
[12] A. Setiabudi, M. Mulyadi, & H. Puspita. An analysis of validity and reliability of a teacher-made test. Journal of English Education and Teaching. 2019. vol 3(4), 522-532.
[13] L. Sürücü, & A. Maslakci. Validity and reliability in quantitative research. Business & Management Studies: An International Journal. 2020 vol 8(3), 2694-2726.
[14] F. Enseñat-Soberanis, R. Blanco-Gregory, J. Mondragón-Mejía, N. Simoes, E. Moreno-Acevedo, & I. Ortega. Crowding standards and willingness to pay at cenotes (sinkholes) of the Yucatan Peninsula: a comparative analysis of local, national and international visitors. Journal of Ecotourism. 2020. Vol 19(1), 1-22.
[15] Statistics Indonesia. Sorkam Barat Subdistrict in Figures 2022. Catalog Number : 1102001.1204061.2022.
[16] Y. F. Cantika. Potensi Kawasan Wisata Pantai Binasi di Desa Pasar Sorkam Kecamatan Sorkam Barat Kabupaten Tapanuli Tengah Sumatra Utara (Doctoral dissertation, Universitas Negeri Padang). 2023
[17] S. Rahman, & H. R. Singh. The potential for marine ecotourism in Mukim Tanjung Kupang, Johor, Malaysia through capacity building of local communities via environmental education. SAMUDERA-Journal of Maritime and Coastal Studies. 2019. vol 1(1), 60-74.
[18] W. Zhu, J. Tang, & Y. Tao. The Development of Marine Ecotourism from the Perspective of Interests and Resource Development. Journal of Coastal Research. 2020. vol 112(1), 187-190.
[19] C. C. Simatupang. Analisis Faktor-Faktor yang Mempengaruhi Kepuasan Wisatawan di Destinasi Pantai Binasi Kecamatan Sorkam. 2019. Repository Universitas HKBP Nommensen
[20] A. S. Marbun & D. S. P. S. Purba. Analisis Kepuasan Wisatawan Terhadap Objek Ekowisata Pantai Binasi Kecamatan Sorkam Barat Kabupaten Tapanuli Tengah. Jurnal AKMAMI (Akuntansi Manajemen Ekonomi). 2021. vol 2(1), 192-205.
[21] Anggoro, S., Purwanti, F., & Gunawan, B. I. Strategies for sustainable ecotourism development in the marine waters of Bontang City, Indonesia. Aquaculture, Aquarium, Conservation & Legislation. 2019. vol 12(5), 1779-1787.
[22] M. Y. Siregar. Analisis Pengaruh Total Quality Management Melalui Pendampingan Kualitas dan Model Pemasaran Produk Ukm Terhadap Loyalitas Konsumen di Objek Wisata Pantai Pandan Carita Kabupaten Tapanuli Tengah. Garuda. 2021. vol 13(1), 71-80.
[23] A. S. Panggabean. Strategi Pengembangan Wisata Pantai Kalangan di Kecamatan Pandan Kabupaten Tapanuli Tengah (Doctoral dissertation, UNIMED). 2021
[24] N. Azizah, P. S. Carolina & M. R. Alfaizi. Pengaruh Penentuan Strategi Komunikasi Pemasaran Terhadap Minat Beli Masyarakat Pada Produk Lokal. Jurnal Ilmiah Komunikasi Makna. 2020. vol 8(2), 87-98.
[25] V. M. Zahara, F. Sanusi, & S. C. Suci. (2020). Pengembangan Jejaring Bisnis Berbasis Produk Lokal Kota Cilegon. Jurnal Pengabdian dan Peningkatan Mutu Masyarakat. 2020. vol 1(2).