

Ecotourism Development Strategy of Kupang Bay Marine Nature Tourism Park

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Abstract: *Planning for ecotourism in the Marine Nature Tourism Park (TWAL) of Kupang Bay, needs to begin with an assessment of tourist attractions and development strategies. This research is to obtain the value of natural tourism attractiveness and the choice/alternatives? of ecotourism development strategies. The research method used is a descriptive survey, with the technique of observation and assessment of economic, social, and environmental components referring to the standard for assessing of natural tourism objects and attractions (Ministry of Forestry 2002). Further data analysis regarding the choice of development strategy is SWOT. The results showed that the TWAL of Kupang Bay is highly potential to be developed as an ecotourism area. This opportunity is very high as it is supported by the status of the area as a park for tourism, and the government's commitment to developing regional ecotourism, as one of the excellent destinations on Timor Island, East Nusa Tenggara Province. Based on the analysis of the development strategy for the tourism object, TWAL Kupang Bay is in Quadrant III, with this a highly favorable situation where the TWAL Kupang Bay has very high opportunities and few weaknesses. An alternative strategy for the TWAL of Kupang Bay that is more innovative, productive and integrated needs to be done by implementing the development strategy based on existing (internal and external) conditions. In order to improve the performance of ecotourism development in the park, several things need to be noted by the parties, namely the choice of tourism development is adaptive collaborative management, and provides opportunities for stakeholders to participate in the planning, implementation and evaluation of ecotourism development activities.*

Keywords: ecotourism, nature tourism park, development strategy, Kupang Bay

1. Introduction

Marine nature tourism park (TWAL) of Kupang Bay is one of fourteen of its kind in Indonesia (Ministry of Maritime Affairs and Fisheries, 2013), with an area of 50, 000 Ha. Based on administrative boundaries, TWAL of Kupang Bay is located in the East Nusa Tenggara Province, bordering Kupang City and Kupang Regency. Referring to Law No.5 Year 1990 on Biodiversity and Ecosystem, the Marine Nature Tourism Park of Kupang Bay is a nature conservation area where one of its functions is tourism. Regarding its function as tourist area or tourism sector development, the tourism concept which is very precisely chosen to be developed is sustainable ecotourism. This concept provides direction for the development of tourism that is responsible for human welfare and the preservation of the region's natural resources and environment (Gunn, 1994).

Furthermore, Sekartjajarini (2004) suggested the perspective of tourism activities based on two thoughts: (1) descriptive thinking that explains what tourists actually do, for example birdwatching and photography, (2) normative thinking which explains what tourists should do, for example the value approach adopted like following a code of ethics on a tour. Referring to the description of coastal areas and their functions, as well as ecotourism as a concept of organizing environmentally friendly tourism, the sustainability of planned tourism activities is one form of successful management of coastal areas in an integrated manner. The integration of coastal management and the shared goal of stakeholders is the key to successful management of coastal areas in an integrated manner.

It also accommodates the integration between preservation and improvement of people's welfare. At present, the declining conditions of sustainability and carrying capacity of Kupang Bay are becoming facts and challenges for the parties involved. Non-eco-friendly utilization is not the only factor that results in decreased environmental quality, but the role of various parties to even up perception about the management of TWAL of Kupang Bay is still low (Dewi et al., 2014). This needs to be anticipated given the nature of activity restrictions based on zoning system in TWAL of Kupang Bay provides an opportunity for conflicts of interest between stakeholders. Regional management policies by dividing the area into zones to regulate suggested and restricted activities in the region have been carried out (Bappeda NTT, 2005). Appropriately, this strategy is to become one of the studies for tourism development in the region. Rolinda et al (2011) said that the effectiveness of TWAL of Kupang Bay management was low. This is the basis for rearranging the regulations to increase TWAL of Kupang Bay's readiness to be developed into a tourist area with the concept of ecotourism.

The low level of effectiveness in management is thought to be a result of how low the community involvement in planning of establishing the area as a marine nature tourism park. To note that the establishment of Kupang Bay as a marine nature tourism park is based on Minister of Forestry Decree Number 83/Kpts-II/1993 dated January 28, 1993, which is still in the top down paradigm. In this paradigm, the government establishes regional status based on scientific studies and has not accommodated the involvement of the community and other stakeholders. On the other hand (Dewi et al 2014) state that there are activities to use natural

resources in non-eco-friendly ways in TWAL of Kupang Bay. These activities have negative impacts in the form of decreased sustainability and carrying capacity of the region's environment. At later stage, environmental sustainability as one of the environmental objects and services for tourism development is declining and corrective efforts are needed as part of advanced tourism planning in Kupang Bay.

Assessments of the effectiveness of management, studies of resources and ecosystems, plans for the involvement of various parties, have been carried out before 2019, and produced number of notes for planning at later stage. This further planning needs to be done holistically and in an integrated way, one of which is reassessment of the readiness of TWAL of Kupang Bay as an ecotourism area (Dewi, 2006). The readiness of TWAL of Kupang Bay as a touristy area, in tourism ecology, is aimed at its ability to receive tourist arrivals (visitors), which is examined through its environmental carrying capacity (Muta'ali, 2013a). Kusumonagoro (1999) and Muta'ali, (2013b), explained that the carrying capacity of the tourism environment is determined by two factors, namely tourist destinations and biophysical factors of tourism locations. As a basis for the choice of strategies and action plans for strengthening tourism development, a series of regional assessment activities are needed, which are subsequently examined in the form of environmental carrying capacity. Referring to the conditions explained earlier, one very important effort is to assess the readiness of the TWAL of Kupang Bay to be developed as an ecotourism area, and the options of the right type of natural tourism according to the function based on the zoning system that had been built. The aim of this study is to

assess the components of ecotourism in TWAL of Kupang Bay, and analyze the options of development strategies.

2. Materials and Methods

The research was carried out in March-October 2020 in the TWAL of Kupang Bay. The research method used is survey, with observation technique. The assessment of economic, social and environmental components refers to the standard to assessing object and attraction of nature tourism (Ministry of Forestry 2002). Referring to the research variable as standard criteria (Table 1), the assessment of each parameter based on current condition is carried out to get a value or score on each of these variables. Data analysis is done based on Guidelines for Regional Analysis of Object Operations and Natural Tourism Attractions (ADO-ODTWA) by Director General of PHKA year 2003. Components assessed are (1) Attraction of tourism objects; (2) Accessibility; (3) Socio-economic environmental conditions; (4) Accommodation; (5) Supporting facilities and infrastructure; (6) Ease of access for clean water; (7) Security; and (8) Comfort. The equipment used in this study are location maps, distribution maps of coastal ecosystems, questionnaires and a list of questions for focus group discussion (FGD), cameras, computers and writing stationery. At the time of FGD implementation, FGD participants were the result of stakeholder identification.

For the assessment needs, TWAL of Kupang Bay is divided into four parts, and in each of these sections, an assessment based on selected standard criteria is applied. Visualization of the divisions is presented in Figure 1.



Figure 1: Assessment area division of the TWAL of Kupang Bay

Objects and attractions that have been assessed are then analyzed according to the ADO-ODTWA 2003 scoring criteria in accordance to the values specified for each criterias. The results of the assessment for each criteria of tourism objects are averaged so that the final results of the assessment of tourism development are obtained, then comparison with the classification of development elements based on weight values can be seen in Table 2. Referring to

the results of the assessment, a SWOT analysis is then carried out to obtain options of regional ecotourism development strategies.

Analysis of ecotourism development strategies in TWAL of Kupang Bay was carried out by analysis of an internal and external factor. Respondents for this study were chosen by accidental sampling technique, where every visitor who

came to the research site and coincidentally met with the researcher was made as a respondent, while the stakeholders were chosen based on the results of the identification of the stakeholders.

The number of respondents for visitors is set at 100 people. Of 100 respondents, 95 respondents were sampled to measure the attraction of the Kupang Bay tourism object, while respondents who were sampled for development strategies were 5 (five) respondents from the Fisheries and Maritime Agency of East Nusa Tenggara Province, BKSDA Region VIII, Tourism Agency of East Nusa Tenggara Province, and tourist representatives. The answers for questions used in the SWOT analysis are given values starting at 4 (outstanding) to 1 (poor). Based on the effect of these factors on the conditions of tourism sector development, positive variables (all variables that fall into the strength category) are rated from +1 to +4 (very good) by comparing it with industry averages or major competitors. Reciprocally, the comparison is made for negative variables (Rangkuty, 2010). Forms of internal and external factor scoring and weighting can be seen in Table 1.

This scoring or weighting is done to get the position of tourism development strategy of TWAL of Kupang Bay on the SWOT Analysis diagram. The SWOT diagram can be seen on the Grand Strategy Matrix in Figure 2.

Table 1: Scoring for internal and external factors

No.	Strength (S) /Opportunity (O)	Weight	Rating	Weight Value
1				
2				
etc				
Total Strength/Opportunity				
Total = S-W				
No.	Weakness (W) /Threat (T)	Weight	Rating	Weight Value
1				
2				
Etc				
Total Weakness/Threat				
Total = O-T				

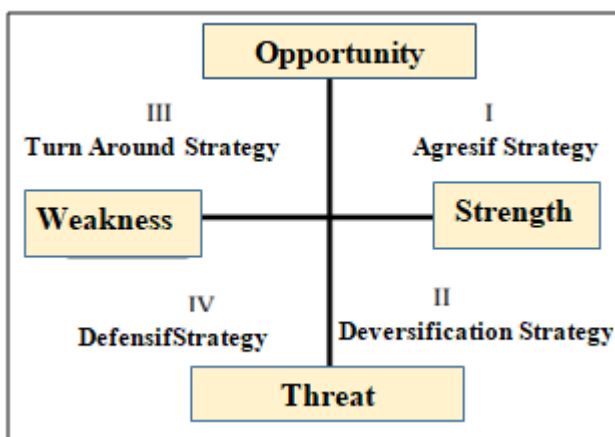


Figure 2: Grand Strategy Matrix

Description:

- 1) Quadrant I: This strategy is based on the company's way of thinking, which is to utilize all power to seize and take advantage of opportunities as much as possible.

- 2) Quadrant II: This is strategy using the power that companies have to overcome threats.
- 3) Quadrant III: This strategy is applied based on the utilization of existing opportunities by minimizing existing weaknesses.
- 4) Quadrant IV: This strategy is based on defensive activities and seeks to minimize existing weaknesses and avoid threats.

SWOT analysis can produce 4 (four) possible alternative strategies (Rangkuty, 2000) which can be seen in the SWOT analysis strategy formulation matrix in Table 2.

Table 2: SWOT Analysis Strategy Matrix

SWOT Analysis Matrix	Strength (S) Determining internal strength factor	Weakness (W) Determining internal weakness factor
Opportunity (O) Determining external opportunity factor	SO Strategy Create strategies that use strengths to take advantage of opportunities	WO Strategy Create strategies that minimize weaknesses to take advantage of opportunities
Threat (T) Determining external threat factor	ST Strategy Create strategies that use strengths to overcome threats	WT Strategy Create strategies that minimize weaknesses and avoid threats

Source: Rangkuty (2000)

3. Results and Discussion

General View of TWAL of Kupang Bay

Kupang Bay is the largest bay at the western end of Timor Island, East Nusa Tenggara Province, and is the most important shipping gateway for the Province. Kupang Bay is a marine nature tourism park area, and according to government administration, bordering the Districts of West Kupang, Semau, Central Kupang, East Kupang, Sulamu in Kupang Regency, and Districts of Alak, Kelapa Lima, Maulafa, Oebobo in Kupang City. According to the forestry administration, TWAL of Kupang Bay is in the jurisdiction of the Sub Section of KSDA West Timor, Sub Office of KSDA East Nusa Tenggara, BKSDA VII Kupang (Department of Forestry 1997).

Based on the geographical location, TWAL of Kupang Bay is located at 9.19°-10.57° S and 121, 30°-124, 11° E. Area of TWAL of Kupang Bay, based on Minister of Forestry Decree Number 18/KPTS-II/93 dated January 28, 1993, is 50, 000 ha, which runs along the coast of Kupang Bay, Bird Island, Ape Island, Rat Island, Goat Island, Tabui Island, and Semau Island. The topography of the area around the TWAL of Kupang Bay is generally flat to bumpy with the highest point reaching 250 meters above sea level (Ministry of Forestry 1997). Biodiversity, and community culture on land within the region and/or on land around the region are the basic capital of regional development.

The Kupang Bay waters ecosystem also consists of sandy beaches, coral reefs and seagrass beds. But besides the three types of coastal waters of the Kupang Bay, in the waters of Kupang Bay there are also mangrove ecosystem, namely in the coastal waters of Timor Island and the coastal waters of Semau Island. In addition, in the waters of Kupang Bay there are also coral cays ecosystem and other small islands,

namely Goat Island and Tabui Island adjacent to Semau Island, as well as Rat Island and Bird Island adjacent to the Timor Mainland, specifically the Sulamu District.

Kupang Bay Tourism Object Attraction Assessment

Based on the results of assessment of the objects and attractions of land based tourism around the region, values were obtained at each observation station as presented in Table 5. In addition to land objects and attractions, assessment is also carried out on the objects and attractions of sea and coastal based tourism.

Based on the results of the assessment of objects and attractions of sea and coastal based tourism as presented in Table 3, stations 1, 3, and 4 have coastal and sea based tourist attractions that are very suitable for tourism, while station 2 has suitable characteristic based on similar assessment. The fundamental difference in the four observation stations lies in the seabed topography, which is relatively steep at stations 2 and 3, compared to stations 1 and 4.

Next assessment is for climate factor. Climate is an important component to tourism planning. The assessed climate characteristics refer to the description of climate in the previous discussion. The climate affecting the existence of the region, as previously described, is assessed according to existing assessment criteria standards (Table 4). The next component examined in this discussion is the socio-economic component of society (Table 5). Based on community readiness, the Kupang City community is very eager to support the development of regional ecotourism.

Table 3: Results of assessment of the objects and attractions of land based tourism in Kupang Bay Marine Nature Park

No.	Element/Sub Element	Observatory Station			
		1	2	3	4
1	Natural beauty	30	30	25	25
2	Uniqueness of natural resources	30	30	30	30
3	The potential amount of prominent natural resources	30	30	30	30
4	Integrity of natural resources	20	20	20	20
5	Natural resources sensitivity	30	30	30	30
6	Types of nature tourism activity	25	25	25	25
7	Air cleanliness and clean location without outside influence	30	30	25	30
8	Regional vulnerability (theft, deforestation, and fire)	30	30	30	30
Total		225 (A)	225 (A)	220 (A)	220 (A)

Source: Primary data processing (2020), A (very high potential for development)

Table 4: Results of assessment of the objects and attractions of coastal and sea based nature tourism in Kupang Bay Marine Nature Park

No.	Element/Sub Element	Observatory Station			
		1	2	3	4
1	Natural beauty	25	20	25	25
2	Coastal safety/security	25	15	15	25
3	Biodiversity	25	20	20	25
4	Uniqueness and beauty in the sea	15	10	10	15
5	Sand	25	25	25	25
6	Potential wholeness (%)	45	25	45	45
7	Water clarity up to a depth (m)	30	25	25	30

8	Amount of locations which have same depth	30	25	25	30
Total		230 (A)	225 (A)	225 (A)	230 (A)

Table 5: Results of assessment of climate conditions in TWAL of Kupang Bay

No.	Element	Information	Value
1	Effect of climate on visiting time	9 months	25
2	Air temperature in dry season (°C)	>30°	10
3	Average number of dry months per year	8 months	30
4	Average humidity per year	>65%	30
5	Wind acceleration in dry season	>7/<0, 3 knot	10
Total			105

Table 6: Results of assessment of socio-economic environmental conditions (1 km radius from the boundary of intensive use area or the nearest distance)

No.	Element	Information	Value
1	Object layout	Exist and in accordance	30
2	Land status	Owned land	15
3	Livelihood of inhabitants	Mostly farmers and fishermen	30
4	Unemployment rate	>40%	30
5	Moving space for visitors (ha)	41-50 ha	25
6	Education	Mostly didn't pass elementaries	15
7	Soil fertility rate	Medium	25
8	Mineral natural resources	Potential	30
9	Community perception of the development of nature tourism object	Very supportive, good, and profitable	30
Total			230 (A)

Based on the overall results, the valuation of the attraction of the tourist objects is assessed and then averaged to a value of 220. This value is compared with the classification of nature tourism development efforts, so that the Kupang Bay Marine Nature Park area has an assessment of potential attraction to be developed as an ecotourism area.

Accessibility and Accommodation

Accessibility from the airport and port to the TWAL of Kupang Bay area is very close and is supported by good road facilities and can be traveled by four-wheeled vehicles (cars). All roads are in good quality, without holes. As such, access to the region is very high, and can be easily accessed using public transportation modes or private vehicles.

Tourists who travel and visit to enjoy the nature and socio-cultural community around TWAL of Kupang Bay, need accommodation. Eridiana (2012) states that accommodation is one of the important things among various things that tourists need when traveling. Regarding accommodation needs, there are at least 12 hotels with stars scattered within Kupang City. These hotels are well-deserved to be the accommodation of tourists visiting the city. Some of the famous hotels available include Aston, Sotis, Swiss Berlin, On the Rock, and Sasando. In addition to starred hotels, there are also accommodations in the status of lodgings or inns. Referring to the availability of hotels and inns, the value of accommodation for the development of ecotourism in TWAL of Kupang Bay is

very adequate, with the total rooms that can be used by tourists being 1, 275 rooms.

Clean Water Availability

Development of tourism requires clean water, like for bathing, washing and latrines. The estimated availability of clean water for the development of ecotourism in TWAL of Kupang Bay is based on clean water conditions in Kupang City. The same opinion about the need for clean water is compounded by Dwijayani and Hadi (2013), which states that water availability is important not only for the household sector, but for the tourism and industry sectors.

Communities in Kupang City obtain clean water from the local tap water company (PDAM) and/or from ready-to-drink bottled water and refill water depots in Kupang City. PDAM of Kupang City, in 2019, was able to serve 32, 157 customers with a total volume of water sold was 6, 747, 277 m³ (BPS of Kupang City, 2019). Based on field observations, as of 2019, there has been no reports of very serious clean water shortages in Kupang City even though the main clean water sources of the Kupang City community were only from the PDAM and drill wells that served the demands of the community when PDAM's clean water supply decreased in dry season. Thus it can be said that the availability of clean water in Kupang City can be categorized as quite available.

Sea, Land, and Air Transportation

Sea, land and air transportation facilities to and from the region are very potential for ecotourism development. Until 2020, 1 airport, 1 national harbor and 1 local harbor were recorded. El Tari airport and the harbors are the gates of East Nusa Tenggara Province. As such, sea, land and air transportation facilities are more than adequate for the development of ecotourism in the region. Harbor visualization is presented in Figure 3.



Figure 3: Visualization of the Tenau Port and the pioneering port between islands

Analysis of the Ecotourism Development Strategy of Kupang Bay

The chosen tourism development concept is ecotourism. This concept requires a development strategy such that tourism runs sustainably, and at the same time, the preservation of natural resources and environment, and the welfare of community are achieved. Analysis of regional ecotourism development strategies using SWOT analysis of tourism facilities and stakeholders involvement. As such, the performances of all components can be effectively maintained to meet the ecotourism development process. Thus, tourism planning is part of development or development in its entirety and can use natural resources, human capabilities, as well as financial sources as good as possible (Muljadi, 2009). Therefore, all parties involved such as the government, stakeholders and local communities must know what strengths and weaknesses the Kupang Bay Marine Nature Park have.

Analysis of Internal and External Factors

Based on the results of interviews with the community, visitors, the Tourism Agency, the Fisheries and Maritime Agency, and other stakeholders, internal and external factors that are subject to the development of the Kupang Bay Marine Nature Park have been identified. Internal factors are strengths and weaknesses and external factors are opportunities and threats. An internal and external factor considered in the development of ecotourism in the region is presented in Table 8.

Table 8: Internal and external factors of ecotourism development in the Kupang Bay Marine Nature Park

Strength	Weakness
1) Geographically it is located bordering the capital of the East Nusa Tenggara Province, and as a provincial gateway	1) The collaboration of the parties involved is still weak in planning and development of ecotourism
2) The beauty and attraction of coastal and sea tourism object is very potential to be developed	2) Lack of information known by the community about things that are allowed and prohibited from being done in nature conservation areas
3) Variety of tourism objects from seas to mountains with regional landscape in full view	3) Lack of interest by investors to invest in the region
4) There are lodgings in the form of hotels and inns with more than 1, 200 rooms	4) Limited ecotourism development budget
5) Status of the area as a marine nature tourism park	5) There are no adequate human resources available for ecotourism development
6) Cultural diversity with cultural outcomes that are attractive and distinctive, and not found in other areas	
7) Sea, land and air transportations are available and able to meet the needs of tourist movements	
Opportunity	Threat

1) Government support to promote East Nusa Tenggara Province as one of the tourist destinations in the eastern region of Indonesia	1) Competition for marine tourism is quite high, one of which is Komodo National Park in the same province
2) The demand for enjoying nature tourism increases with the development of information technology, and changes in people's mindset viewing tourism as one of life's needs	2) Conflicting space usage with stakeholders working in fisheries sector
3) High community interest in participating in the development of ecotourism	3) Pollution of the aquatic environment and decreased carrying capacity of the aquatic environment as a result of non-eco-friendly fishing
4) Nature tourism paradigm is unique and synergizes with culture	4) The sea is still seen as the final place for garbage disposal
5) Increased public interest in marine tourism as concept of ecotourism	5) Coastal reclamation and land clearing for fish farming and the like

Internal Factor Evaluation Matrix (IFE Matrix)

Based on identification of internal strategy factors for Kupang Bay Marine Nature Park tourism object, the strength and weakness factors were obtained. After

distributing the questionnaire containing the factors of strength and weakness to the respondent and weighting is done, the result of weighting process is obtained by the weight of each internal variable as described in Table 9.

Table 9: Internal Factor Evaluation Matrix

Internal Strategic Factor	Weight (W)	Rating (R)	Weight Value
A. Strength			
1) Geographically it is located bordering the capital of the East Nusa Tenggara Province, and as a provincial gateway	0.07	3	0.21
2) The beauty and attraction of coastal and sea tourism object is very potential to be developed	0.08	4	0.32
3) Variety of tourism objects from seas to mountains with regional landscape in full view	0.07	4	0.28
4) There are lodgings in the form of hotels and inns with more than 1, 200 rooms	0.06	3	0.18
5) Status of the area as a marine nature tourism park	0.07	3	0.21
6) Cultural diversity with cultural outcomes that are attractive and distinctive, and not found in other areas	0.06	3	0.18
7) Sea, land and air transportations are available and able to meet the needs of tourist movements	0.06	3	0.18
Total Strength			1.56
B. Weakness			
1) The collaboration of the parties involved is still weak in planning and development of ecotourism	0.15	4	0.60
2) Lack of information known by the community about things that are allowed and prohibited from being done in nature conservation areas	0.15	3	0.45
3) Lack of interest by investors to invest in the region	0.09	1	0.09
4) Limited ecotourism development budget	0.09	4	0.36
5) There are no adequate human resources available for ecotourism development	0.05	4	0.20
Total Weakness			1.7
S - W = 1.56 - 1.70 = -0.14			

Referring to Table 10, the development of the TWAL of Kupang Bay ecotourism is very likely to be based on strength of factors with a rating from the largest to the smallest as follows:

- 1) The beauty and attraction of coastal and sea tourism object is very potential to be developed,
- 2) Variety of tourism objects from seas to mountains with regional landscape in full view,
- 3) Geographically it is located bordering the capital of the East Nusa Tenggara Province, and as a provincial gateway,
- 4) Status of the area as a marine nature tourism park,
- 5) Cultural diversity with cultural outcomes that are attractive and distinctive, and not found in other areas,
- 6) Sea, land and air transportations are available and able to meet the needs of tourist movements, and
- 7) There are lodgings in the form of hotels and inns with more than 1, 200 rooms.

Meanwhile, the development of regional ecotourism has a number of weaknesses that are ranked based on the highest to lowest values as follows:

- 1) The collaboration of the parties involved is still weak in planning and development of ecotourism,

- 2) Lack of information known by the community about things that are allowed and prohibited from being done in nature conservation areas,
- 3) Limited ecotourism development budget,
- 4) There are no adequate human resources available for ecotourism development, dan
- 5) Lack of interest by investors to invest in the region.

Referring to Table 10, the position of TWAL of Kupang Bay tourism object is on the X axis with a value of -0.14. This value indicates that the development of ecotourism in the region is at a negative point on the X axis. This shows that regional tourism objects have strengths that can be used as an initial foothold in development. However, seeing the existing strengths does not cover the possibility of existing weaknesses, it will be best if the existing strengths are better utilized by the regional management.

External Factor Evaluation Matrix (EFE Matrix)

Based on identification of external strategy factors of TWAL of Kupang Bay, opportunity and threat factors were obtained. After distributing the questionnaire containing the factors of opportunity and threat to the respondent and

weighting is done, result is obtained by the weight of each external variable as described in Table 10.

Table 10: External Factor Evaluation Matrix

External Strategic Factor	Weight (W)	Rating (R)	Weight Value
A. Opportunity			
1) Government support to promote East Nusa Tenggara Province as one of the tourist destinations in the eastern region of Indonesia	0.3	4	1.2
2) The demand for enjoying nature tourism increases with the development of information technology, and changes in people's mindset viewing tourism as one of life's needs	0.3	3	0.9
3) High community interest in participating in the development of ecotourism	0.2	2	0.4
4) Nature tourism paradigm is unique and synergizes with culture	0.1	2	0.2
5) Increased public interest in marine tourism as concept of ecotourism	0.1	2	0.2
Total Opportunity			2.9
B. Threat			
1) Competition for marine tourism is quite high, one of which is Komodo National Park in the same province	0.1	2	0.2
2) Conflicting space usage with stakeholders working in fisheries sector	0.1	2	0.2
3) Pollution of the aquatic environment and decreased carrying capacity of the aquatic environment as a result of non-eco-friendly fishing	0.1	2	0.2
1) The sea is still seen as the final place for garbage disposal	0.1	2	0.2
2) Coastal reclamation and land clearing for fish farming and the like	0.1	1	0.1
Total Threat			0.9
O - T = 2.9 - 0.9 = 2.0			

Referring to Table 11, the TWAL of Kupang Bay tourism object position on the Y axis is with a value of 2. Thus it can be concluded that the TWAL of Kupang Bay tourism object is at a positive point on the Y axis. This shows that the TWAL of Kupang Bay tourism object has external threats related to its development. However, seeing the opportunities available, the possibility of the threats being resolved is quite high if the available opportunities are best utilized by the TWAL of Kupang Bay manager.

Grand Strategy Analysis

Based on the analysis of the IFE and EFE matrix, a quadrant is obtained from SWOT which lies in the value X = -0.14 and the value Y = 2.0. Thus the position of the TWAL of Kupang Bay tourism object development strategy is in Quadrant III (W-O), i. e. the strategy of utilizing existing opportunities and minimizing existing weaknesses that can be seen in Figure 4.

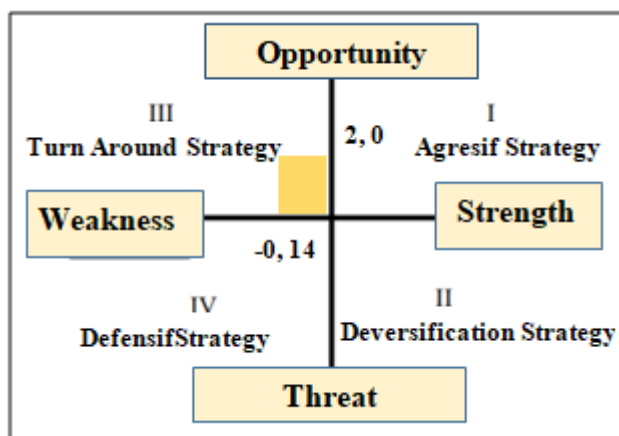


Figure 4: Position of TWAL of Kupang Bay tourism object in the SWOT analysis quadrant

Table 11: SWOT Matrix of TWAL of Kupang Bay Tourism Development

SWOT ANALYSIS MATRIX	Strength (S)	Weakness (W)
	1) Geographically it is located bordering the capital of the East Nusa Tenggara Province, and as a provincial gateway 2) The beauty and attraction of coastal and	1) The collaboration of the parties involved is still weak in planning and development of ecotourism 2) Lack of information known by

	<p>sea tourism object is very potential to be developed</p> <ol style="list-style-type: none"> 3) Variety of tourism objects from seas to mountains with regional landscape in full view 4) There are lodgings in the form of hotels and inns with more than 1, 200 rooms 5) Status of the area as a marine nature tourism park 6) Cultural diversity with cultural outcomes that are attractive and distinctive, and not found in other areas 7) Sea, land and air transportations are available and able to meet the needs of tourist movements 	<p>the community about things that are allowed and prohibited from being done in nature conservation areas</p> <ol style="list-style-type: none"> 3) Lack of interest by investors to invest in the region 4) Limited ecotourism development budget 5) There are no adequate human resources available for ecotourism development
<p>Opportunity (O)</p> <ol style="list-style-type: none"> 1) Government support to promote East Nusa Tenggara Province as one of the tourist destinations in the eastern region of Indonesia 2) The demand for enjoying nature tourism increases with the development of information technology, and changes in people's mindset viewing tourism as one of life's needs 3) High community interest in participating in the development of ecotourism 4) Nature tourism paradigm is unique and synergizes with culture 5) Increased public interest in marine tourism as concept of ecotourism 	<p>SO Strategy</p> <ol style="list-style-type: none"> 1) Making TWAL of Kupang Bay one of the leading tourism destinations on Timor Island, Semau Island, and Monkey Island, 2) Community empowerment in supporting the development of regional ecotourism, 3) Community involvement in planning and determining ecotourism development efforts, 4) Training of interpreters and supervisory community groups, 5) Establishment of one regional entrance in accordance with the agreement of the parties involved and regional managers, 6) Coaching of tourism SMEs. 	<p>WO Strategy</p> <ol style="list-style-type: none"> 1) Increasing interest to visit and length of stay through printed and electronic promotional media based on industry 4.0, 2) Develop tourist attractions according to the region's oceanography, 3) Preparation of tour packages integrated with nature conservation areas on Timor mainland, 4) Policies that accommodate the role of stakeholders.
<p>Threat (T)</p> <ol style="list-style-type: none"> 1) Competition for marine tourism is quite high, one of which is Komodo National Park in the same province 2) Conflicting space usage with stakeholders working in fisheries sector 3) Pollution of the aquatic environment and decreased carrying capacity of the aquatic environment as a result of non-eco-friendly fishing 4) The sea is still seen as the final place for garbage disposal 5) Coastal reclamation and land clearing for fish farming and the like 	<p>ST Strategy</p> <ol style="list-style-type: none"> 1) Increasing the value of visits by creating inter-island tourist attractions within the region, 2) Socialization and implementation of regional functions through the zoning system, 3) Strict supervision of activities along the coast of TWAL of Kupang Bay, 4) Licensing policies that favor environmental sustainability for businesses and/or activities close to the region. 	<p>WT Strategy</p> <ol style="list-style-type: none"> 1) Integrated supervision to minimize environmental destruction and pollution, 2) Involve the community in collaborative supervision, 3) Policy on creating alternative livelihoods for people in protected zones in the region.

4. Conclusion

The TWAL of Kupang Bay area as a whole has an Attraction Object assessment with a category of very potential to be developed as an ecotourism area. These development opportunities, supported by government eagerness and the facilities and infrastructure of the region, make most possible ecotourism planning and development. Based on the analysis, the TWAL of Kupang Bay tourism object development strategy is in the III Quadrant. This is a very favorable situation where the TWAL of Kupang Bay area has enormous opportunities and small weaknesses. More innovative, productive and integrated alternatives for TWAL of Kupang Bay area development need to be made by implementing current internal and external condition-based development strategies.

Referring to the results of the study, several things are recommended as follows:

- 1) The choice of tourism development is adaptive collaborative management,

- 2) Provide opportunities for stakeholders to participate in the planning, implementation and evaluation process of regional ecotourism development activities,

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