

The study of development of marine eco-tourism as an alternative of livelihood of community of Tulamben and Amed of Karangasem Regency of Bali Province

I Gede Made Subagiana, Sagung Mas Suryaniadi, Ni Luh Made Wijayati
Email : ratihhostel@yahoo.com

Abstract. Developing marine eco-tourism as an alternative source of livelihood to accelerate poverty alleviation in Karangasem regency, where 6.88% of the population of 27,800 people are classified as poor (CBS of Bali, 2014), various efforts have been made by the Regional Government such as developing marine eco-tourism in Tulamben Village, Kubu Sub-district and Amed Village, Abang District of Karangasem Regency. Developing of marine eco-tourism resulted in a shift in livelihood patterns of the population from the agricultural sector to the tourism industry sector. The problem in this research is "Is Marine Eco-tourism Development feasible to be an alternative livelihood for Tulamben and Amed people of Karangasem Regency?" The research objectives are to assess whether marine eco-tourism development is a viable alternative livelihood for Tulamben and Amed communities. The method used is the Contingent Valuation Method: Willingness to Accept (WTA), Willingness to Pay (WTP) and Economic Potential Analysis and SWOT analysis (Klasen and Miller 2002). Result: the Contingent Valuation Method shows WTP value of Rp.176.500 higher than WTA value of Rp.154.500. Analysis of Economic Potential, from analysis of the economic potential of Marine Ecotourism, can create value Rp.4.728.964.500 from every tourist visit to an object. From the above two analyses, it can be concluded that Marine Ecotourism is very feasible as an alternative livelihood. To complement the analysis of marine eco-tourism development strategy with SWOT, it can be recommended as follows:• Improving cooperation with domestic and foreign travel agents• Providing an information center related to Marine Ecotourism activities.• Increasing safety insurance for tourists• Improving the quality of human resources, through on-going training.

Keywords: Marine Eco-tourism, alternative livelihood

INTRODUCTION

1.1. Background Karangasem

Regency is the eastern district of Bali Province whose topography in the western part is a hilly or mountainous area with steep slopes where the soil structure is dry land while in the North, East and South is a coastal area. Because the land is barren due to the vomit of Mount Agung volcano erupted in 1963. Karangasem has become the second poorest population in Bali Province after Kelungkung regency. The number of poor people in Bali Province in 2011 to 2013 can be seen in Table 1 as follows:

Table 1. The number of poor people in Bali Province

Regency / City		Number of poor population (000)			Percentage of the poor population		
		2011	2012	2013	2011	2012	2013
1	Jembrana	17,6	15,3	14,9	6,56	5,74	5,56
2	Tabanan	24,2	21	22,5	5,62	4,9	5,21
3	Badung	14,6	12,5	14,5	2,62	2,16	2,46
4	Gianyar	26	22,6	20,8	5,4	4,69	4,27
5	Klungkung	10,7	9,3	12,2	6,1	5,37	7,01
6	Bangli	11,4	9,9	12	5,16	4,52	5,45
7	Karangasem	26,1	22,7	27,8	6,43	5,63	6,88
8	Buleleng	37,9	33	40,3	5,93	5,19	6,31
9	Denpasar	14,5	12,7	17,6	1,79	1,52	2,07
Total		183,1	158,9	182,8	4,59	3,95	4,49

Source: Bali In Figures 2014 (based on the National Socioeconomic Survey - September)

The number and percentage of the poor in nine (9) regencies in Bali Province in 2013. Karangasem Regency was ranked into the second (2) after Kelungkung 7.01%. The percentage of poor level in Karangasem is 6.88% of the Karangasem population spread over eight (8) sub districts, consisting of 75 villages, including Tulamben village of Kubu Subdistrict and Amed of Abang Subdistrict, Karangasem Regency (Bali in Figure 2014). The population of Karangasem district is 480,700 inhabitants. For more details, it can be seen in Table 2 as follows:

Table 2 Population of Karangasem 2010—2015.
Male + Female (x1000)

District		2010	2011	2012	2013	2014	2015
1	Rendang	37,06	37,43	37,80	38,17	38,58	38,88
2	Sidemen	31,69	31,90	32,12	32,27	32,47	32,65
3	Manggis	44,17	44,37	44,58	44,79	44,99	45,20
4	Karangasem	82,95	83,61	84,30	84,85	85,57	86,21
5	Abang	61,18	61,36	61,53	61,75	61,98	62,15
6	Bebandem	45,31	45,43	45,53	45,67	45,76	45,94
7	Selat	38,22	38,43	38,61	38,81	39,03	39,19
8	Kubu	57,22	57,47	57,73	57,99	58,22	58,48
Total		397,80	400,00	402,20	404,30	406,60	408,70

Source: Population Projection, Central Bureau of Statistics of Karangasem

From Table 1 and 2 above it can be concluded that 6.88% of the population of Karangasem in 2013 were 27,800 people classified as poor. Seeing this reality Local Government has taken various policies to accelerate poverty alleviation in Karangasem Regency. The Local Government has designed various programs contained in the Regional Long Term Development Plan (RPJPD), one of which is

the Regional Ecotourism Development, it is based on the Minister of Home Affairs No.33 of 2009 on Guidance of Regional Ecotourism Development. Geographically Karangasem Regency is located at the eastern of Bali Island has coastal and mountainous areas with boundaries as follows:

- North: Bali Sea
- East: Lombok Strait
- South: Ocean Indonesia
- West: Regency of Klungkung, Bangli and Buleleng

Karangasem regency is in position 80 00'00" - 80 41'37,8 " south latitude and 115037'9,8 " - 115054'8,9 " east longitude. With an area of 839.54 km² or 14.90% of the total area of Bali Province 5,632.86 Km². Karangasem has a fairly long coastline (70 km) stretching from Tianyar to Padang Bai, it is a great hope for the local government to develop marine eco-tourism. Ecotourism is a natural tourism activity in an area by paying attention to elements of education, understanding, and support for natural resource conservation efforts, as well as increased incomes of local communities (Permen Dagri No.33 Th.2009, Regional Ecotourism Development). The types of Ecotourism developed in the area include: a. Marine Ecotourism b. Forest Ecotourism c. Mountain Ecotourism By taking into account the various potentials owned by the District Government of Karangasem with full confidence, establish Tulamben and Amed area became the center of the development of the Village of Marine Ecotourism in Karangasem Regency. It can be seen in Figure 1 as follows:



Figure 1 Village Position of Tulamben and Amed Ecotourism - Source: Wira Bali Tour, 2016

1.2 The Potential of Marine Ecotourism of Tulamben and Amed Two ecotourism villages Tulamben and Amed, already familiar to the divers and snorkeling from overseas. These two areas are indeed their favorite destination for diving. Tulamben and Amed are the most beautiful diving spots in Bali, this is because of the beauty of coral crumbs, as well as various colors of ornamental fish and other marine biotas. Tulamben is famous for its sea wrecks, wrecked American Liberty ship, which was torpedoed by Japanese soldiers during World War II in 1942 (Wira Bali Tour, 2016). The livelihoods of Tulamben and Amed residents are mostly as fishermen and dry land farmers because of their barren and arid lands especially during the dry season, rainy season much better conditions for farmers to grow corn, peanuts, cassava and yam, farmers also exist as traditional fishermen. Since this area is proclaimed as the Village of Ecotourism Bahari, Tulamben and Amed grows rapidly, many of the locals work in the field of tourism, especially as a diving and snorkeling tour guide.

The main actors of tourism services today are the investors who have large capital, although there are some people who form a tourism business group. But most of them still feel as spectators. There is a presumption that the tourism entrepreneur is only concerned with the benefits for himself and never involve the surrounding community. In addition, the community views the lack of local government's role in facilitating the development of community-based tourism, this raises the conflict of utilization of environmental services between tourism business actors and local communities. However, if the management of tourism is done well and precisely, is environmentally friendly and sustainable, with the involvement of local communities it will be able to supplement the income and encourage the community to keep the natural resources and the environment. This situation makes tourism beneficial for the improvement of people's economy and nature conservation. The form of tourism that can meet is eco-tourism activities. The right eco-tourism to be developed in Tulamben and Amed villages is a community-based Marine Ecotourism. In general, community-based ecotourism is an eco-tourism business that emphasizes the active role of the community. It is based on the fact that the community has knowledge about nature and culture that become potential and high selling point, (Depbudpar-WWF-Indonesia, 2009). As a coastal community, Marine Ecotourism based on the community is very potential to be developed. Recognizing this, in the development of community-based marine eco-tourism in Tulamben and Amed, it is necessary to pay attention to aspects of community capability, tourist interest, and environmental aspects. From the preliminary study results obtained the development of marine ecotourism in Tulamben and Amed villages, there are also many communities in both villages that are changing professions from dry land farmers and as fishermen move to the tourism industry sector. Based on the above background, the writer took the title of Marine Ecotourism Development Study as an Alternative Livelihood for Tulamben and Amed Community of Karangasem Regency of Bali Province. Our research is different from previous studies conducted by others before, where many researchers only observed about the environmental conservation and economic benefits of Marine Ecotourism but our research focuses on the feasibility of changing livelihoods from the agricultural sector to the Marine Ecotourism industry.

Problems

Based on the above description, then the main issues are: - Is the development of marine ecotourism appropriate for alternative livelihoods for Tulamben and Amed community of Karangasem Regency?

RESEARCH METHODOLOGY

Research Stages

This study uses a qualitative approach which will be studied various aspects under study by using data that is valid, reliable and accountable. Observation of the phenomena that occur in the field done carefully and carefully so that the data collected high accuracy.

This research is carried out in the following stages: Exploration of Potential, What can be done/offered by the community, What tourists want, Local Government Role, Conduct Willingness to Accept Analysis and Conduct Willingness to Pay Analysis. Then proceed with SWOT Analysis to determine the Strategy of marine Ecotourism development, then conduct a feasibility study to obtain the feasibility of Marine Ecotourism Development. Each activity can be formulated as follows:

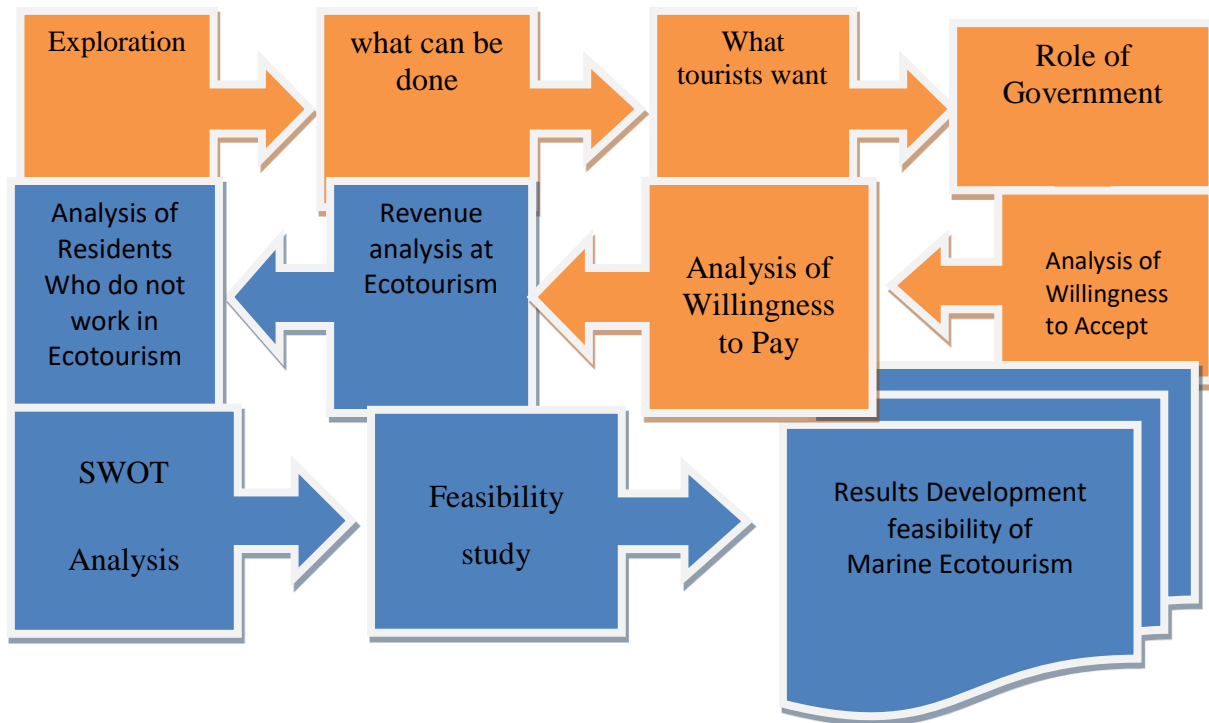


Figure 2 The Steps of the research

- Population and Sample

Population.

Population is a phenomenon consisting of objects / subjects that have certain characteristics set by researchers to be studied which then taken the conclusion (Sugiono, 2006: 72). The population in this study are those who are engaged in marine ecotourism, people who are not involved in Marine Ecotourism, Local Government and Tourists.

The sample is part of the population, where the determination of the sample in this case based on purposive random sampling. That is they are considered to know very well about the ins and outs of Marine Ecotourism Development. The sample size is selected: 30 tourists, 30 tourism actors respondents, people who are not involved in ecotourism 30 respondents and local governments as many as 10 respondents.

Data Sources, Data Collection Methods and Data Analysis

The research was conducted in Tulamben village, Kubu sub-district and Amed Abang Sub-district of Karang Asem Regency. The determination of informants based on Purposive sampling. Namely data collection techniques are done intentionally for certain purposes and considerations. In this case they are considered to understand about the Development of Marine Ecotourism. For this reason, reliable informant informants are needed and know deeply about the development of marine ecotourism. The informants chosen in this study are local community leaders who understand about the development of Marine Ecotourism.

As the main instrument in this study is the researcher himself, where researchers go directly to the field to make observations and interviews meet with respondents and informants. When conducting field observations, researchers always equip themselves with equipment such as tape recorders to record the course of the interview, a notebook containing a list of questions that should be asked and used to record the answers of the respondents.

Data collection technique

The data collection techniques used in this study are:

1. Observation, ie make direct observation to the object of research.
2. Interviews, ie conducting interviews with field extension workers from the Tourism office, tourism actors, fishermen and farmers in Tulamben and Amed villages.
3. Documentation, namely the way used by researchers who derived from theories on Marine Ecotourism Development.

Data obtained from observations, interviews and documentation are qualitative and quantitative data. The method used to analyze in this research is Conting Valuation Method: Willingness to Accept (WTA), Willingness to Pay (WTP). And Economic Potential Analysis and SWOT analysis (Klasen and Miller 2002). The results achieved:

1. Identification and Inventory

Based on direct observation in the field of tourism Tulamben and Amed there are 19 potential activities of Marine Ecotourism that can be used as alternative livelihood.

The potential activities include:

- Diving
- Snorkling
- Fishing
- Lodging (hotels, villas, homestays, bungalows, hostels etc.)
- Restaurant
- Scuba diving school
- Equipment rental
- Car rental, motorbike and bike scoop.
- Money changer
- Provision of internet services
- Diving workers
- Boat rental
- Tracking
- Spa, beauty salon, massage
- Tour guide
- Attractions of Balinese arts, kecak dance etc.
- Travellagent, selling tour packages
- Tourist mocks
- Culinary, cuisine typical of the local community.

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The results achieved :

1. Identification and Inventory

Based on direct observation in the field of tourism Tulamben and Amed there are 19 potential activities of Marine Ecotourism that can be used as the alternative livelihood.

The potential activities include:

$$PE = WTP \times W$$

$$PE = Rp.176.500,- \times 26.793$$

$$PE = Rp. 4.728.964.500,-$$

It means that the economic potential of every tourist visit is Rp.4.728.964.500,- in which :

PE = Potential of Tourism Economy

WTP Average = Average of WTP

W = Total number of tourist

Based on the above analysis it can be concluded that Marine Ecotourism is very appropriate to be used as an alternative livelihood for Tulamben and Amed Community of Karangasem Regency of Bali Province. Ecotourism Development Strategy Tulamben and Amed SWOT analysis details on SWOT Analysis Strength, Weaknesses, Opportunities and Threats how the potential of marine tourism of Tulamben and Amed. Strength Strength is the basis in determining the strategy of marine ecotourism development Tulamben and Amed to be developed as a Marine Ecotourism area. There are several strengths that Tulamben and Amed possession as follows:

Table 3 Strength in SWT analysis

No.	Strenght
S1	Nature attraction and beach
S2	Beauty of underwater
S3	The area is strategic and easy to reach
S4	Full support from the community and Government

Weakness In marine ecotourism development strategy needs to minimize all the weaknesses, in order to achieve a great opportunity in the future development. There are some disadvantages of Tulamben and Amed tourism as follows.

Table 4 Weakness in SWOT analysis

No.	Weakness
W1	Lack of tourist information and promotion
W2	Weak human and legal resources
W3	Insufficient clean water facilities
W4	Weak creativity of local tourism business

Opportunities

In a marine ecotourism development there needs to be an opportunity indicator. In order to determine a successful marine tourism object. There are several opportunities that have Ecotourism Bahari Tulamben and Amed.

Table 5 *Oppertunities* in SWOT analysis

No.	<i>Oppertunities</i>
O1	The location is strategic
O2	Improving the welfare of local communities
O3	Increased domestic and foreign tourists

Threat

Every threat we need to be aware of in the Development of Marine Ecotourism:

Table 6 *Threat* in SWOT analysis

No	<i>Threat</i>
T1	The existence of environmental changes
T2	Damaging visitor activities such as littering at sea.
T3	Tour competition
T4	Threat of abrasion

Strategy Formulation

The formulation of marine eco-tourism development strategy in Tulamben and Amed can be explained by using matrix. From this matrix analysis, we can recommend to those who take the policy as follows:

1. Improving the ease of transportation to the Tulamben and Amed Regions.
2. Increase cooperation with the Travel Agent in the country / abroad
3. Providing counseling to the local community about the importance of maintaining the environment.
4. Reorganize banners/pamphlet / nameplate to make it more beautiful and interesting to look at.
5. Improving the quality of human resources, especially skills that are special in accordance with the field.
6. Increase security insurance for tourists.
7. The existence of Information Counters for tourists, related to tourism activities.

Table 7 The strategic alternative step of Marine Ecotourism Development

Internal	Strength (S)	Weakness (W)
	Opportunity (O) O1 Strategic location O2 Improve the welfare of local communities O3 Increased domestic and foreign tourists	S1 Natural attractions and beaches as well as underwater beauty S2 Potential of research and conservation S3 Leisure visitors S4 The naturalness and originality of the object area S5 Friendliness of the community S6 Adequate accommodations S-O Strategy 1. Optimizing with agents travel tour (Tour package) 2. Improving transportation facilities. 3. Make cooperation with colleges in the field of research and conservation 4. Provide counseling the role and function of the importance of maintaining the environment
Threat (T) T1 Potential environmental change T2 Destructive visitor activities such as dumping trash in the sea T3 Tour competition	S-T Strategy 1. Increase guarantee safety for travelers like insurance 2. Supervision and enforcement of regulations in protecting the environment	W-T Strategy 1. Include local people in tourism promotion and tourism marketing. 2. Regional designation.

Conclusion

Based on the results of the analysis from the previous chapter it can be concluded that: - Result of identification and inventory. There are 19 potential marine business activities that need to be prioritized to continue to be developed such as: diving, snorkeling, fishing, restaurants, lodging, diving, scuba diving school, car / motorbike / bike rental, money changer, internet service, diving boat, tracking, SPA, tour guide, Bali art and cultural performances, travel agent, tourist attraction, local cuisine cuisine. - Marine Ecotourism is potential to be used as a livelihood alternative, because the community has extensive local knowledge and detailed about environmental condition and coastal resources. - The value that tourists are willing to pay for any marine business activity is higher than the value offered by the tourist actors. Namely WTP = Rp.176.500 while WTA = Rp.154.500 so there is a margin of Rp.22.000 every tourist visits the spot.

- The role of local government in ecotourism development is very dominant especially in terms of Planning, Utilization and Control of Ecotourism.

- Economic Potential. Based on the calculation that Willingness to Pay value obtained is greater than Willingness to Accept value. Economic Potential created by marine ecotourism is very big that is equal to $\text{Rp.176.500} \times 26.793 = \text{Rp.4.728.964.500}$. It means that every tourist visit on an object will give economic potential equal to Rp.4.728.964.500.

Based on SWOT Analysis it can be recommended that marine eco-tourism is very feasible to be developed with the following strategies:

- Improving cooperation with domestic and foreign travel agents
- Providing an information center related to Marine Ecotourism activities.
- Increasing safety insurance for tourists
- Improving the quality of human resources, through on-going training. So based on all the above analysis it can be concluded that it is feasible to develop marine ecotourism serve as an alternative livelihood for society of Tulamben and Amed Regency of Karangasem Province of Bali. Suggestion In this case the researcher suggests to the policy maker in this case Regional Planning Board (Bapeda) of Karangasem, so that in the function of Planning, Utilization and Controlling of Marine Ecotourism is expected to involve local community, because they have wide and detailed local knowledge about coastal environment.

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