

Farmer's Preference towards Social Forestry Land of Kiluan Bay Dolphin Ecotourism in Lampung Province

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Abstract- *The existence of ecotourism around the farming land as the promising alternative source of income for the farmers, on the other hand can distract the interest and the attention for the main use of it. Farming management, can be the source of income as well as the life cantilever and can give advantage for the continuance the life of living creature on the earth including the balance of ecosystem. The aim of the study is to know the farmer's preference toward the farming land by developing the dolphin's nature ecotourism around it. The finding of the research shows that the farmers' preference to manage the farming land was influenced by various factors such as ethnic/socio-culture, modal availability, education, farming product, cultivated commodity price and time trends. The farmer who mostly involved in the ecotourism, though have the domination of large farming land, were not maximal in managing the land because their focus was distracted as they prioritize managing the ecotourism. While, by managing it well, the result of the B/C ratio and NPV analysis shows that clove, cacao and banana in the Kiluan Bay social forestry area give benefit financially.*

Index Terms- *farmers' preference, ecotourism, farming*

I. INTRODUCTION

The existence of private forests has been considered one of the alternatives to solve the problem of poverty (Mapongmetsem, 2011; Malla, 2000; Tsartas, 2003). Several studies have shown that the community forest have been able to participate in forest and land rehabilitation, supply of timber stocks and into family savings (Darusman, 1995). The challenge is when a community forest management alongside with the development of ecotourism activities. Ecotourism is travel to natural areas in order to conserve the environment and livelihood of local residents (TIES 1991, Donohoe and Needham 2006). In some areas, which have the potential for developing eco-tourism, eco-tourism a boon existence so that it gets fairly good appreciation of the local population as the main actors (Scheyvens, 1999). The development of the tourism sector can be regarded as a process of transformation that is unusual that may affect employment and income, especially forest communities (Stone, M. and G. Wall, 2004). The role of ecotourism in the local economy helps keenly felt when the climate change that affect the pattern of tree crop production, resulting in a lowering of production (Morton, 2007). At that time the public can not rely proceeds from the garden you have, the tourism sector into a reliable source of income for subsistence use.

Alternative revenue sources are certainly a boon if properly managed, if not actually backfire for the lives of citizens. Weaver (2002), said that the management of ecotourism services face the consequences of selection or implementation of environmental impact. Previous studies of various local impact prevalent is the depletion of natural resources, pollution and physical in the form of a decrease in ecosystem function (Nugroho, 2011). Ecotourism is also faced with economic potential self-destructive, if not managed carefully. Shifting business priorities is the impact that it had never been suspected. The transformation process is too far, like two sides of the blade, on the one hand the existence of ecotourism would be a promising potential income for farmers, but on the other hand the existence of ecotourism can ignore owned forestry land. The economic benefits to the region that have the potential of ecotourism true not only measured by the market approach, efforts to empower local people to calculate their cultural roles and in the conservation of the environment has a direct impact for survival (Nugroho, 2011). Ideally, ecotourism can be used as a source of additional income without leaving the farming activities on land owned by the social forestry. Management of farmland in the area of social forestry, other than as a source of income (Dwivedi, 2007), when viewed from the aspect of sustainability, crop production farm actually functions as a life support can also provide benefits for the survival of humans and other living things on earth, even including the balance of the ecosystem.

The ideal condition is in fact very difficult to do, in some areas that management has not been well integrated ecotourism. Farmers prefer to leave forest land with all its problems and priority to managing travel that are considered capable of giving cash money. Farmland has various constraints; weather, medium-infrastructure, capital and delay results; easier for abandoned by the farmers, when faced with businesses that can directly make money without working too hard. The purpose of this study was to determine the preference of farmers to forestry land owned by the development of ecotourism wild dolphins in the bay area owned forestry people Kiluan District. Tanggamus Lampung Province.

II. RESEARCH METHODS

Farmers will be in a difficult choice when confronted their various business opportunities that can provide additional income. In the area of coastal resources, farmers have a lot of business opportunities if it is able to use it will give a blessing. Is generally carried out by residents of the coastal area is managing

the tourist beach or take marine fisheries. It was also done by farmers in the area of social forestry district Tanggamus. If you have only rely on sources of income derived from farming (gardens, fields and forests around). The presence of the dolphin community of concern to tourists, a source of revenue opportunities that were never imagined before, almost all of the resources devoted to the eco-tourism activities. When this phenomenon lasts a long time, and the absence of good management scheme, the farmers are forced to sacrifice one of them. Options for ecotourism more attractive to farmers, because the money they receive can be directly obtained, does not require substantial capital investment and easier to do.

Location Research

The location of research in the area of social forestry are at ecotourism wild dolphins Kiluan Bay. Determining the location deliberately, because at this location dolphin develops the outdoors with the largest population of southeast asian region. Along the same majority of people who get involved in managing travel has farming in forest areas people started endangered.

Method of collecting data

Determination of the number of respondents was conducted by slovin, of 52 respondents and sampling carried out by quota sampling method, which is one of the types of Non-Probability Sampling (Sevilla, 2007). Respondents were selected are those that become goals / objectives of the research objectives. The data used in this study is a type of primary and secondary data. Primary data were collected by filling in questionnaires by respondents and secondary data obtained from various

documents related agencies. Data processing method performed by farmers preference factor multinomial logit model, the method is adopted to solve the case of a general model of utility maximization; where the individual is assumed to have a preference for an alternative set of businesses. To evaluate the farm that had been done by farmers, used methods benefit cost ratio (B / C Ratio), NPV and IRR.

III. RESULTS AND DISCUSSION

Preference Factors Farmers

The results showed that the farmer's decision to keep taking care of fields and are involved / not in the ecotourism management is influenced by various factors. Statistical analysis showed that the decision logit farmers to take care of farmland is influenced by many factors, including ethnic / social culture, the availability of capital, education, production gardens, cultivated commodity prices and the trend of the time (Table 1).

$$\text{Log} \left(\frac{P_i}{1-P_i} \right) = 12.715 + 1,162\text{Sa} + 0,066\text{Jr} + 0,3192\text{Pd} - 4,355\text{Md} + 0,023\text{Ls} + 0,001\text{Pr} + 3,440\text{Hr} - 5,198\text{Sk} - 0,177\text{Tr} + \mu_1$$

Table 1. Results Of The Estimation Factors Affecting Farmers' Decision To Take Care Of Farmland

No	Variable	Parameter	S.E	Wald	df	Sig	Exp (B)
1	Constant	12.715	8.279	2.358	1	0.125	332644,45
2	Sd	0.000	0.000	0.711	1	0.399	1.000
3	Jr	0.066	0.729	0.008	1	0.927	1.069
4	Pd	0.319	0.273	1.369	1	0.242	1.376
5	Md	0.000	0.000	3.631	1	0.057	¹ 1.000
6	Sk	-5,199	2.454	4.486		0.034	¹ 0.006
7	Pr	0.001	0.001	4.160	1	0.041	¹ 1.001
8	Tr	-177	0.138	1.649	1	0.199	0.837
9	Hr	0.000	0.000	3.520	1	0.061	² 1.000
10	Ls	0.204	0.257	0.631	1	0.427	1.226

Source: Primary Data is processed. 2014.

Note:

- 1 Significantly different from zero at $\alpha < 0:05$
- 2 significantly different from zero at $\alpha < 0:10$

Sd = Revenue

Jr = Distance the house to the garden

Pd = Number of years of education

Md = Availability of capital

Ls = area of land ownership

Pr = Production Gardens

Hr = The selling price of commodity crops

Sk = Interest / ethnicity (1: Bali, 2: Java, 3: Sunda, 4: Lampung)

Tr = Time

This study also shows that the higher the score ordinal an ethnic / social particular culture (1: Bali, 2: Java, 3: Sunda, 4: Lampung), the more influence the willingness of farmers to take care not farmland. Grouping based on race / ethnicity based on research conducted for Pasha (2012) tribes / ethnic groups also affect the behavior and habits of residents attitudes towards social forestry land owned. Ethnic / cultural social particular has a score of 4 is ethnic Lampung which is a local resident who owns land area of social forestry with an average of 2.27 ha owned for generations. Ethnic Lampung are ethnic indigenous populations have the customary flattering boy, the weakness of the culture, shaping the character of the 'bossy'. The condition affects an unwillingness to take care of the garden, when faced with the choice of business easier. While ethnic / sociocultural score 1-3 are migrants which consists of the Javanese, Sundanese, Balinese. They acquire land forestry of open land or buy with the natives, they came to this area only with a strong determination so that immigrants work hard and tenacious survival by the permanent care of the land owned and still trying to get involved in ecotourism activities. Limited capital, and production is not optimal also shows the significance of the real, that these factors be a strong reason to justify the inability to cultivate land farming, the implications for some farmers prefer to rely on ecotourism easier and less risk to do and in the end with the passage of time even more farmers leaving farming land that has been the foundation of a source of income. Limitations of capital owned by farmers, evenly encountered on each respondent, and this factor is always associated with low production yields that do not meet the needs of farmers.

While low production yield is closely connected with the types of crops grown. Generally, farmers in the area of social forestry area located on the slope over 30 degrees, so that the plants as recommended by the government is a timber and MPTS. Most farmers are reluctant to plant these crops because of a large capital, while the first harvest can be enjoyed at the age of planting over 5 years. For some farmers who are ethnic immigrants, and have a high motivation to make a living, the land is still cultivated with phased and all work is done alone, there is no wage labor. While some farmers are mostly natives prefer to leave land scrubland by reason of lack of capital. Another factor affecting the willingness of farmers is the selling price. In line with the research Kasimin (2013), which showed that the selling price effect on revenues, this study also showed the selling price of agricultural commodities to give effect to the

interest of farmers to keep farming on land owned forestry. With a long waiting time of harvest, when prices received by farmers was not in accordance with the victim is given, then ecotourism will even become an alternative source of income is very promising for the selected.

Farmer Involvement In Ecotourism

This study also shows that farmers are involved in ecotourism, although it has a large area, not optimal in managing land owned because he prefers to manage ecotourism. This condition can be seen in Table 2. Involvement in ecotourism amounting to 52% of the total existing ethnic Lampung, with an area of 2.27 hectares of land tenure / kk, farmers only get a total production of 450 kg.

In contrast to the ethnic Balinese who are migrants, involvement of ecotourism by only 2% and control of an area of 2.08 hectares, but is capable of producing a total of 9460 kg. Interesting phenomenon that occurs in Javanese and Sundanese, although the farmers involved in ecotourism by 25% and 21% with a tenure of only 1.78 ha and 1.33 ha, farmers are able to obtain the respective production amounted to 1,086 kg and 798 kg .

Productivity different land, is heavily influenced by the treatment done, especially the activity of fertilization and weeding. If it is associated with the results of the logit analysis which showed the limitations of capital owned by a farmer, fertilizing and weeding activity can only be done by the farmers themselves without wage labor. The hard work is not all farmers are able to do so. From the results of ethnic groupings / parts can be seen the difference in the ability of farmers to manage their resources.

Options to manage ecotourism is very profitable for farmers because it can provide substantial direct income, compared with managing farming has a long waiting time. While needs can not wait. Activities by the farmers in managing ecotourism dolphin consists of various businesses. Starting from being a tour guide, rent a house, take visitors to spot the location of the dolphins in the ocean or just prepare various needs of visitors. But ecotourism management has not been done in a professional and planned, all still running naturally and what it is. These conditions still need to be nurtured and carried out the development strategy (Setyadi, 2012) that involve multiple stakeholders.

Table 2. Identification of Farmers Involvement in Ecotourism

Ethnicity / Category	Bali	Java	Sunda	Lampung	Etc
Land area (Ha)	2.08	1.78	1.33	2.27	4.5
Main commodities	Cocoa, Banana, Clove	Cocoa, Banana, Clove	Cocoa, Banana, Clove	Banana, Clove	Clove, Banana
Production (kg / one land)	9.460	1.086	798	450	1.226
Farm incomes (IRD)	29.559.600	10.341.000	7.220.790	4.511.963	8.882.222
Revenue Ecotourism (IRD)	166.667	5.888.889	2.270.833	5.404.167	-
Total income (IRD)	29.559.600	10.452.111	11.637.457	5.647.380	8.882.222
Involvement Ecotourism	2%	25%	21%	52%	0%

Sources: Primary data is processed, 2013.

Evaluation Farming

The decision to dismiss the majority of farmers farming land in the area belongs to them, and chose to focus on ecotourism, in the long run be detrimental to the farmers. Owners of fields if managed properly it can provide financial benefits for farm households. Table 2've seen where some farmers are still focused on arable land and at the same time participate in managing ecotourism in the waiting time of harvest, even more benefit. It can be seen from the total revenue earned and contributed income from farming to the total revenue obtained.

The results of the analysis of B / C ratio and NPV were calculated based on the land area of arable farmers in the area, show the results of farming in the area of social forestry Kiluan Bay is financially beneficial. Nadeak research results (2013) on a forestry area with cropping patterns in cocoa, coconut and banana also show high profits with B / C of 7.39.

Results are still lower than the financial analyzes conducted in this study are shown in Table 3. The financial analysis is required in order to convince farmers that the land that had been neglected in fact have the potential to increase the financial revenue that its presence should be managed better.

Table 3. NPV and B / C Plants Brown, Clove and Bananas

Commodities	NPV	B/C
Cocoa,	16,175,243.54	8.66
Clove	26,802,994.23	9.30
Banana	25,220,756.04	6.90

Source: Primary Data is processed. 2013

With an interest rate of 18% (commercial bank lending rates). NPV analysis results showed that the plant cocoa, cloves and bananas in the region indicates a positive value, the highest NPV is the clove plant 26,802,994.23 IRD , -. and B / C ratio of 9.30 indicating that clove farming is feasible.

The downside of annual crops harvested only once a year can actually be its own advantages, because in his spare time before the harvest season, farmers can engage in ecotourism to meet daily needs. And when the clove harvest, farmers can get results from the garden. Plant cloves crop canopy is high in this area and not many farmers who grow these crops, due to early planting requires substantial capital, while the first harvest can only be done after 8 years.

Clove plant already exists in this area since long ago, and the plant is hereditary, even when the star clove plantations in Lampung Province, this region contributed the largest contributor. Cloves was destroyed and dormant for decades because of outbreaks of disease, but since 2005 is starting to show results back. One thing that is encouraging is that the disease 31 years ago, leaving a few sticks of clove it resistant to

disease that is still growing and the production well. Some stem clove plant a seed rod high earner for local cloves to the lowlands, which corresponds to Agroclimatology coastal.

Cocoa plant is a major crop in the region with NPV 16,175,243, IRD - and the B / C ratio of 8.67 of this plant. Despite having the B / C ratio is smaller than other crops, cocoa remains a favorite of farmers, is due to the cocoa plant had harvest pattern that can be done every day, and the sale can be done every week, so it can be relied upon to meet the daily needs such as shopping for groceries and school children pocket money. Cocoa also has a fairly stable selling prices. This factor also be the paramount consideration. Cocoa plants also need shade plants (Obiri, 2007) is higher, making it suitable when combined with high canopy crops such as cloves and wood. Learning from some farmers who cultivate cocoa plants despite ecotourism management, because although the pattern of the harvest is done every day, the harvest can be done in the afternoon after tourist activity. While care and cocoa fertilization can be done in the off-season tourist visitors.

Banana plants last few years is also a favorite for farmers in the region, the price is quite high, cropping patterns which are not depending on the season and evenly throughout the year as well as easy maintenance into consideration farmers to choose this plant. NPV for banana plants 25,220,756 IRD and B / C ratio 6.91 IRD, - which indicates the plant has favorable prospects for exploitation. The above analysis shows that the exploitation of cocoa, clove and banana advantageous to cultivate.

Financial analysis shows the feasibility of the economy also supported by land suitability analysis has been done by Nurlili (2008), shows that the clove and cocoa have land suitability level: very suitable (S2) to be developed in the region Kiluan Bay District. Tanggamus.

IV. CONCLUSION

1. Factors affecting the preference of farmers on farming land is owned ethnic differences social / cultural influence on attitudes and behavior, lack of capital to manage the farm, farm production and commodity prices are cultivated.
2. Farmers are still taking care of fields, getting a higher income compared to only rely on ecotourism activities. This is because commodities clove, cocoa and bananas that have been cultivated financially profitable and worth the effort.
3. Efforts to attract farmers to continue to manage farmland to be approached through persuasion through village elders or leaders. Besides the need for integrated farm management effort, planned, facilitated by local government and village officials.

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