

Potential Analysis and Development Correlation of Lindu Lake Agrotourism toward Economic Growth in Lindu Sub-District Sigi Regency Indonesia

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Abstract

The objective of this research was to examine the potential and development correlation of Lindu Lake agrotourism from Household Industry aspect, Ecology aspect and, Social / Cultural aspect toward economic growth in Lindu Sub-District Sigi Regency Indonesia. The research was conducted in Lindu Sub-District Sigi Regency Indonesia. Location was selected intentionally (purposive) with the consideration that Lindu Lake was the one and only lake which became a tourist attraction in that region. The number of subpopulations amounted 283 Household Heads (HH) that were consisted into 5 villages in Lindu Sub-district Sigi Regency, then the samples that were taken amounted 50% of the total subpopulations. Total samples were 142 HH. Sampling for each village was done randomly. Analysis of frequency distribution was used to find out the rank about respondents feedback toward the development potential of Lindu Lake agrotourism. Person correlation analysis was used to see its correlation toward economic growth in Lindu Sub-District Sigi Regency Indonesia. The results of research showed that agrotourism potential development in the region of Lindu Lake agrotourism in Indonesia consisted of: local rice of Kamba varieties, tomato, durian, orchid, ginger, coffee, pine, cow, buffalo, anoa, tilapia fish, and carp. There were positive and significant correlation between economic growth in Lindu Sub-District Sigi Regency Indonesia with household industry, ecology, and socio-cultural.

Keywords: Agrotourism, Household Industry, Ecology, Socio-Cultural, Economic Growth

1. Introduction

The progress benchmark of a country or region could be seen from the quality and quantity of its development success. Development in the broad sense involved all aspects, both physical and non-physical development. Physical development was related to the development that could be seen physically, such as the development of facilities and infrastructure, while the non-physical development namely; the increasing of Human Resources quality, which was related with the increasing of knowledge, skill and attitude of society in general.

Generally economic development aimed for the fulfillment of human needs and desires that were unlimited with the limited resources. Human needs and desires that were unlimited by the availability of limited resources, it was necessary to do various kind of efforts in the management. One of the efforts was by utilizing all potentials and resources (physical and non-physical) that supported the achievement of income maximally.

Ontology of economic development was a process of utilizing the various resources that were owned to increase social welfare. One of indicator that was always used in measuring the level of society welfare was quality of social life especially in fulfilling the basic needs that were essential as well, which included biological basic needs, human basic needs, and the freedom to choose the economic sector to be attempted.

The agricultural sector was one of the important pillar which became "ICON" in Sigi Regency. Achievement of the objective in the agricultural sector was very determined by the human resource ability of apparatus agricultural, and non-apparatus agricultural, especially the farmers as the main perpetrators of agricultural development. Beside the agricultural sector, the tourism sector also plays an important role in economic development nowadays. Tourism sector, if it was managed properly and professionally could increase the added value for perpetrator of tourism, society, and even could be an additional source for region income. By this decree, if the agricultural sector and the tourism sector could be synergized its management, then it would be a region strength to accelerate economic growth and lead the achievement of society welfare.

The vision and mission of Sigi Regency were still related with the phenomena that exist in Lindu Sub-District, then the involvement of the agricultural sector and the tourism sector were needed a synergy and a strong desire for doing the research. Lindu Lake was very suitable for doing the research which related with the development of agrotourism. Agrotourism was a form of tourism rural that involved agricultural activities and local residents as a tourist attraction in management plan of agrotourism region. Jolly and Reynolds (2005), agrotourism was a business that was done by the farmers who worked in agricultural sector that could create fun and education for visitors.

The principle of agrotourism development that sustainable was society participation in planning. Local society who lived in a tourist region became a key player in tourism, they would provide the attraction and determined the quality of tourism products (Damanik and Weber, 2006). Lindu Lake was an agrotourism region that had some advantages that were not available in the other regions, namely; comparative advantage and competitive advantage that be reviewed from ecology aspect of the environment, and the beauty of nature and lake, as well as social and cultural characteristic of society which still be preserved until now.

Sigi Regency government had determined its policy to develop Lindu Lake as a tourist destination by holding Festival activities of Lindu Lake that were held every year. These activities were held by Sigi Regency government as the efforts to introduce Lindu Lake became a tourist attraction. These activities were the efforts of government to succeed the vision and mission of Sigi Regency to welfare Sigi Regency society generally and Lindu Sub-District society particularly. So it was necessary to do research about correlation of potential development of Lindu Lake agrotourism toward economic growth in Lindu Sub-District Sigi Regency Indonesia. The research was about development of agrotourism had been mostly done in Indonesia, including by Andini (2013) and Kurnianto *et al.* (2013), for research outside Indonesia including by Chemnasiri (2013), Na Songkhla and Somboonsuke (2012), With *et al.* (2007), Yu *et al.* (2012), and Yang (2012). The objective of this research was to examined the potential and development correlation of Lindu Lake agrotourism from Household Industry aspect, Ecology aspect and, Social / Cultural aspect toward economic growth in Lindu Sub-District Sigi Regency Indonesia.

2. Research Methods

The research was conducted in Lindu Sub-District Sigi Regency Indonesia. Location was selected intentionally (purposive) with the consideration that Lindu Lake was the one and only lake which became a tourist attraction in that region. The number of subpopulations amounted 283 people that were consisted into 5 villages in Lindu Sub-district Sigi Regency, then the samples that were taken amounted 50% of the total subpopulations. The proportion of samples for each village were shown on Table 1.

Table 1. Samples proportion of each village

Number	Village	Population	Sample
1	Puro`o	44	21
2	Langko	14	22
3	Tomado	120	60
4	Anca	30	15
5	Ollu	47	24
Total		283	142

Table 1 showed the total samples amounted 142 people. Sampling for each village was done randomly. This research was conducted for 4 (four) months started from February to May 2014.

Analysis of frequency distribution was used to find out the rank about respondents feedback toward the development potential of Lindu Lake agrotourism. Person correlation analysis was used to see its correlation toward economic growth in Lindu Sub-District Sigi Regency Indonesia.

3. Results and Discussions

3.1 Development Potential Analysis of Lindu Lake Agrotourism in Indonesia

Analysis of frequency distribution was done to find out the rank about respondents feedback toward the development potential of Lindu Lake and its effect toward economic growth in Lindu Sub-District Sigi Regency Indonesia. The number of question items amounted 49 points that were tested on 142 people as respondents.

3.1.1 Variable Frequency Distribution of Household Industry (X1)

Respondents feedback toward each question that was proposed would determine the decision which taken for further analysis such as Household Industry, the variable indicators consisted of ; (1) Processed Food and Beverages Industry (X1.1), (2) Fibers Industry (X1.2), (3) Textile Industry (X1.3), (4) Processing of plantation products and non-food forestry (X1.4), (5) Carpentry / Hand tools Industry (X1.5), (6) Agricultural Hand Tools Industry (X1.6), (7) Made of clay goods Industry (X1.7), (8) Maintenance services and repair Industry (X1.8), (9) Region cultural treasures craft Industry (X1.9), (10) Trading with the small scale and informal enterprises (X1.10). Respondents feedback toward each indicator were shown on Table 2.

Table 2. Variable Frequency Distribution of Household Industry (X1)

Indicator	Respondents Feedback										Mean
	SS		S		R		TS		STS		
	\sum	%	\sum	%	\sum	%	\sum	%	\sum	%	
X1.1	55	38,7	39	27,5	30	21,1	18	12,7	0	0,0	3,92
X1.2	21	14,8	42	29,6	38	26,8	41	28,9	0	0,0	3,30
X1.3	32	22,5	29	20,4	44	31,0	37	26,1	0	0,0	3,39
X1.4	66	46,5	38	28,8	19	13,4	18	12,7	1	0,7	4,06
X1.5	28	19,7	27	19,0	61	43,0	25	17,6	1	0,7	3,39
X1.6	58	40,8	33	23,2	42	29,6	8	5,6	1	0,7	3,98
X1.7	46	32,4	24	16,9	48	33,8	24	16,9	0	0,0	3,65
X1.8	36	25,4	28	18,7	44	31,0	34	23,9	0	0,0	3,47
X1.9	53	37,3	34	23,9	36	25,4	19	13,4	0	0,0	3,85
X1.10	27	19,0	51	35,9	31	21,8	33	23,2	0	0,0	3,51
Total Average											3,65

Source: Primary Data after being processed

Table 2 showed that respondents feedback toward each variable indicator of Household Industry (X1), the total value of average (mean) were 3.65. Respondents feedback toward the highest indicator in this variable namely, processing of plantation products and non-food forestry (X1.4). Respondents that were surveyed found that processing of plantation products and non-food forestry was the biggest potential as one of the keys to success economic growth in agrotourism region in Lindu Lake.

Girsang (2012), the factor that played an important role was the tourism attraction that made tourists came to visit. The tourism attraction could be seen according to the kinds / types of agrotourism such as: scientific agrotourism, business agrotourism, recreation agrotourism, and culture agrotourism.

Yoeti (2008), added that the product as an agrotourism attraction could be categorized into three groups: (a) the permanent attractions which included historical land, agricultural fields, agricultural museums and processing facilities of field products; (b) the activity attractions which included conference, agricultural exhibition and various related festivals; and (c) the service attractions, which included accommodation, tour and recreation that were natural shades.

Utama (2011), recommended that as an agricultural country, the agricultural sector was the dominant sector and the backbone of Indonesian economy. Efforts in increasing and diversification of agriculture business continue to be increased intensively and planned, whether traditional or modern were a strong potential that could be developed as an attraction that could be enjoyed by archipelago and overseas tourists.

3.1.2 Variable Frequency Distribution of Ecology (X2)

Lindu Lore National Park, there were flora and endemic fauna of Sulawesi, such as the Black Orchid, Cuscus, Deer Pig, Anoa and others. Lindu Lore National Park also had uniqueness, namely, a lake called "Lindu". The lake was located in the foot of Nokilalaki Mount with a height of 2,355 meters above sea level. The Lindu word itself in Kaili language was an eel. Lindu Lake became a source of local society livelihood that worked as a freshwater fishermen.

Lindu Lore and surrounding were designated by Unesco became a biosphere reserve since 1977. Although this place had become a biosphere reserve, however, many hands that were not responsible which stole and traded

these historic stones as the collection items. Some times ago the Kompas daily had loaded news about the sale and purchase of Megalith stones from Lindu Lore.

Ecology was an important factor in agrotourism region, Ecology had its own attraction which related closely with agrotourism particularly or generally. Indicators of ecology variables : (1) Food Crops and vegetables (X2.1), (2) Fruit Plant (X2.2), (3) Ranch of Native Chicken (X2.3), (4) Ranch of Cow, Buffalo, Horse (X2. 4), (5) Caught Fishery (X2.5), (6) Aquaculture (X2.6), (7) Catching Ornamental Fish of Freshwater (X2.7), (8) Exploitation of Honey Bee Ranch (X2.8), (9) Forest Exploitation of Palm, Sago, Rattan, Pecan, Bamboo and Cinnamon (X2.9), (10) Exploitation of Swallow's Nest (X2.10), (11) Forest Exploitation of Society (X2.11) , (12) Forest Exploitation of Charcoal Producers (X2.12), (13) Forest Exploitation of Latex Producers (X2.13), (14) Forest Exploitation of Essential Oil Materials Producers (X2.14), (15) Mining of Society (X2.15). Respondents feedback toward each indicator were shown on Table 3.

Table 3. Variable Frequency Distribution of Ecology (X2)

Indicator	Respondents Feedback										Mean
	SS		S		R		TS		STS		
	∑	%	∑	%	∑	%	∑	%	∑	%	
X _{2,1}	54	38,0	20	14,1	29	20,4	39	27,5	0	0,0	3,63
X _{2,2}	26	18,3	27	19,0	38	26,8	51	35,9	0	0,0	3,20
X _{2,3}	16	11,3	41	28,9	30	26,8	51	38,7	0	0,0	3,13
X _{2,4}	83	58,5	22	15,5	14	9,9	23	16,2	0	0,0	4,16
X _{2,5}	63	44,4	13	9,2	29	20,4	37	26,1	0	0,0	3,72
X _{2,6}	39	27,5	24	16,9	32	22,5	47	33,1	0	0,0	3,39
X _{2,7}	24	16,9	44	31,0	30	21,1	43	30,3	1	0,7	3,33
X _{2,8}	15	10,6	24	16,9	51	35,9	51	35,9	1	0,7	3,01
X _{2,9}	27	19,0	37	26,1	53	37,3	25	17,6	0	0,0	3,46
X _{2,10}	19	13,4	41	28,9	40	28,2	42	29,6	0	0,0	3,26
X _{2,11}	40	28,2	29	20,4	21	14,8	51	35,9	1	0,7	3,39
X _{2,12}	14	9,9	26	18,3	47	33,1	55	38,7	0	0,0	2,99
X _{2,13}	31	21,8	27	19,0	49	34,5	35	24,6	0	0,0	3,38
X _{2,14}	36	25,4	20	14,1	51	35,9	35	24,6	0	0,0	3,40
X _{2,15}	25	17,6	56	39,4	45	31,7	16	11,3	0	0,0	3,63
Total Average											3,41

Source: Primary data after being processed, 2014

Table 3 showed that respondents feedback toward each variable indicator of ecology with average value (mean) amounted 3.41. Respondents feedback with the highest value was on the indicator of major ranch of cow, buffalo, and horse (X2.4). Major ranch of cow, buffalo, and horse were an agrotourism potential in the region of Lindu Lake to accelerate the process of society economic growth. Based on the average value amounted 58.5%, was assumed that the value was amount of ecology contribution toward society economic growth.

3.1.3 Variables Frequency Distribution of Social / Cultural (X3)

As a tourist attraction, socio-cultural life of society in the region of Lindu Lake tended to have a positive impact on social economic life, because it could increase the society welfare and created new jobs. Its impact toward socio-cultural life tended to be negative because there had been a degradation of local culture.

The variable indicators were: (1) The decreasing of poor resident (X3.1), (2) The fulfillment of food sufficiency (X3.2), (3) The fulfillment of health services (X3.3), (4) The availability of education services (X3. 4), (5) The opening of job and business opportunities (X3.5), (6) The tolerance and increasing of religious services quality (X3.6), (7) The decreasing of unemployment rate (X3.7), (8) The ensuring of security and peace (X3.8), (9) The resident mobility (X3.9), (10) The original culture of region (X3.10), (11) Legal / original norm (X3.11), (12) Society organization (X3.12), (13) The government support (X3.13), (14) The social relations in society (X3.14),

(15) The cultural of mutual cooperation (X3.15). The details about the frequency distribution of social and cultural variables were shown on Table 4.

Table 4 showed that the highest value of respondents choice on this research indicator was the resident mobility (X3.9). Resident mobility gave positive signal toward society economic growth if social and cultural were attempted to be one of tourism part.

Social and cultural impact, according to Andi (2010), appeared because the tourism industry involved three things, namely tourist, local society and relation of tourist and society. Social and cultural impact appeared if there was interaction between the tourist and society when: (1) tourist needed the product and bought it from society that was accompanied by the demands according to his/her wishes, (2) tourism brought relation that was informal and tourism entrepreneurs changed the spontaneity attitude of society into a commercial transaction, and (3), tourist and society met face to face and exchanged information or idea, caused the appearance of new ideas.

Table 4. Variable Frequency Distribution of Social and Cultural (X3)

Indicator	Respondents Feedback										Mean
	SS		S		R		TS		STS		
	∑	%	∑	%	∑	%	∑	%	∑	%	
X _{3.1}	43	30,3	51	35,9	15	10,6	33	23,2	0	0,0	3,73
X _{3.2}	34	23,9	24	16,9	36	25,4	48	33,8	0	0,0	3,31
X _{3.3}	56	39,4	37	26,1	30	21,1	19	13,4	0	0,0	3,92
X _{3.4}	60	42,3	29	20,4	25	17,6	28	19,7	0	0,0	3,85
X _{3.5}	72	50,7	16	11,3	36	25,4	18	12,7	0	0,0	4,00
X _{3.6}	61	43,0	44	31,0	22	15,5	15	10,6	0	0,0	4,06
X _{3.7}	50	35,2	39	27,5	34	23,9	19	13,4	0	0,0	3,85
X _{3.8}	70	49,3	27	19,0	26	18,3	18	12,7	1	0,7	4,04
X _{3.9}	57	40,1	56	39,4	14	9,9	15	10,6	0	0,0	4,09
X _{3.10}	65	45,8	33	23,2	29	20,4	13	9,2	2	1,4	4,03
X _{3.11}	45	31,7	26	18,3	31	21,8	39	27,5	1	0,7	3,53
X _{3.12}	59	41,5	40	28,2	19	13,4	24	16,9	0	0,0	3,94
X _{3.13}	34	23,9	48	33,8	36	25,4	24	16,9	0	0,0	3,65
X _{3.14}	71	50	22	15,5	24	16,9	25	17,6	0	0,0	3,98
X _{3.15}	54	38,0	37	26,1	27	19,0	24	16,9	0	0,0	3,85
Total Average											3,86

Source: Primary data after being processed, 2014

The results of this research based on the perception of the highest respondent choice, namely; on the choice of resident mobility, gave a positive signal toward society economic growth if social and cultural were attempted to be one of tourism part. The more often the tourist traveled in tourist location the greater the economic opportunities that occurred due to each traveled by using motorcycle taxi vehicle as one of transportation facility that was available beside the boat.

3.2 Development Correlation of Agrotourism toward Economic Growth

Results of development correlation analysis of Lindu Lake Agrotourism toward economic growth in Sigi Regency Indonesia were shown on Table 5.

Table 5. Results of person correlation analysis

		Correlations			
		Household Industry (X1)	Ecology (X2)	Social dan Cultural (X3)	Economic Growth (Y)
Household Industry (X1)	Pearson Correlation	1	,465**	,456**	,613**
	Sig. (2-tailed)		,000	,000	,000
	N	142	142	142	142
Ecology (X2)	Pearson Correlation	,465**	1	,450**	,728**
	Sig. (2-tailed)	,000		,000	,000
	N	142	142	142	142
Social dan Cultural (X3)	Pearson Correlation	,456**	,450**	1	,585**
	Sig. (2-tailed)	,000	,000		,000
	N	142	142	142	142
Economic Growth (Y)	Pearson Correlation	,613**	,728**	,585**	1
	Sig. (2-tailed)	,000	,000	,000	
	N	142	142	142	142

** . Correlation is significant at the 0.01 level (2-tailed).

Table 5 showed there were positive and significant correlation between economic growth in Sigi Regency Indonesia with household industry, ecology, and socio-cultural. It showed the growth of household industry, ecology, and socio-cultural of Sigi Regency Indonesia could increase the rural society welfare.

The growth of household industry in rural region would affect the decreasing of unemployment. Economic growth in a region that was not matched with the efforts in decreasing unemployment, as the result it did not affect the poverty decreasing in that region. Ecology growth would increase the nature resources so that affected economic growth in a region. Social and cultural growth would affect tourism. The more often tourist traveled in tourist location the greater the economic opportunities that occurred, due to each traveled would use a boat vehicle or motorcycle as one of transportation facility in rural. This would affect on the unemployment rate.

The research result of Hikmat (1995), showed that economic growth in a region that was not matched with the efforts in decreasing unemployment, as the result it did not affect the poverty decreasing in that region. Economic growth in a region also was not real in affecting the infrastructure progress of a region, and even occurred the opposite. The high economic growth also had the high entrainment village. It showed that development which was oriented on the economic growth in a region, tended to push the case of poverty and social inequality became higher.

4. Conclusion

Agrotourism potential development in the region of Lindu Lake Agrotourism in Indonesia consisted of: local rice of Kamba varieties, tomato, durian, orchid, ginger, coffee, pine, cow, buffalo, anoa, tilapia fish, and carp. There were positive and significant correlation between economic growth in Sigi Regency Indonesia with household industry, ecology, and socio-cultural. It showed the growth of household industry, ecology, and socio-cultural of Sigi Regency Indonesia could increase the rural society welfare. The Indicator of successes and lack of successes in development were not only determined the indicators of economic activity progress but also needed to refer on the social indicators which were better reflected the welfare and life quality of residents.

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