Natural Capital, Social Capital, and Physical Capital in Improving the Performance of Ecotourism in Bunaken National Park, Indonesia

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ABSTRACT

This study aimed to examine the influence of Natural Capital, Social Capital and Physical Capital of the Bunaken Island ecotourism area in North Sulawesi Province in improving Ecotourism Performance and to achieve sustainable ecotourism development. The method of data analysis uses descriptive analysis and inferential statistics using Partial Least Square (PLS). The study population is tourists and people who come to Bunaken National Park. Based on this research, it can be concluded that: First result, Natural Capital (X1) influences the Ecotourism Performance (Y). The results for the model 1 Society, model 2 Tourist, and model 3 combined show that Natural Capital has a significant and positive effect on Ecotourism Performance. Second result, Social Capital (X2) Affects Ecotourism Performance (Y). The results for the model 1 Society, model 2 Tourist, and model 3 combined show that, the Social Capital has a positive significant effect on Ecotourism Performance. Third result, Physical Capital (X3) influences Ecotourism Performance (Y). The results of the analysis of model 1 Society, model 2 Tourist, and model 3 combined show that Physical Capital has a significant and positive effect on Ecotourism Performance.

Keywords: Ecotourism Performance, Natural Capital, Social Capital, Physical Capital

1. INTRODUCTION

Based on the Sustainability Livelihood Approach theory (Farrington, 1999), the success performance measurement factors used in this study are natural capital, social capital, and physical capital. Natural capital is the accessibility, availability, conditions and productivity of nature that support ecotourism activities. Physical capital is capital in the form of equipment and supplies, facilities and infrastructure to support ecotourism activities. Social capital is community capital community, exchange, trust, and support that play a role in ecotourism activities. Livelihood will be sustainable if the existing capacity of the region will make people / communities to face and recover from pressure and shocks, enable people / communities to manage and strengthen capabilities and ownership of assets (assets) for the welfare of people / society at this time (now) and life in the future, and does not reduce the quality of existing natural resources.

Indonesia as the largest archipelago country in the world and has approximately 17,506 islands, is blessed with a wealth of natural and biological resources which can be used as a large enough potential to support economic development. In natural resources there are environmental services that can be utilized, such as land, sea, air transportation, including tourism services.

One of the tourism typologies which become alternative tourism activities today is ecotourism activities that rely on natural authenticity that can provide economic, ecological and socio-cultural benefits (Bookbinder et al, 2000; Bjork 2000). Economically, the area used for ecotourism can directly receive income and income, and be able to produce goods and services on a sustainable basis is also profitable. Ecologically, natural resources can be maintained and not over-exploited so they do not experience degradation. Socio-cultural enhancing welfare, tangible benefits to the economy of the community so as to produce equality and justice that can reduce conflict and maintain cultural integrity for the local community (Fandeli 2000).

The carrying capacity of the park's ecotourism area is determined by the capacity of the beach for tourism activities. The capacity of the burrow beach is used as a limiting variable because the type of tourism activities in the park's ecotourism area is concentrated in the burrow beach and its waters. Considering that the natural conditions are very susceptible to every human activity, the business aimed at attracting tourists needs to be arranged wisely. At some stage, development still means human efforts to change the environment. This is of course contrary to the demand for genuine nature by tourists. Thus there needs to be a balance between the demand for tourists for the original nature and the demands to arrange or change the original conditions

of the environment to be used for the construction of tourism infrastructure.

Bunaken National Park has an area of 89,065 hectares and is the most famous marine park tourist location in the world. Based on the potential of the park's ecotourism area is quite large, it can be predicted that the level of tourist visits to this area will continue to increase. The result will affect the level of environmental degradation in the tourist area. Thus, if this is allowed to continue, then in the long run the tourism potential in the Bunaken region will be threatened with extinction. This will be followed by a decrease in the level of tourist arrivals, so that the level of community income and regional income from this sector will decline. Therefore, the development of the Bunaken Ecotourism Area must pay attention to the carrying capacity of the area in accordance with its designation.

There the North Sulawesi Economy in the first quarter of 2016 is better than the national economy both in terms of growth and magnitude. North Sulawesi's economy grew by 5.96% (yoy), higher than the fourth quarter of 2015 which grew by 5.57% (yoy). Meanwhile, national economic growth only grew by 4.92% (yoy) this quarter. Based on the production or supply side, North Sulawesi's economic growth is supported by the growth of the 3 main sectors of North Sulawesi, namely agriculture, processing and transportation. Meanwhile, the other two main sectors in North Sulawesi, namely the trade and construction sector, experienced a slowdown in growth. On the usage or demand side, the economic growth of North Sulawesi is supported by growth in household consumption and improvement in the performance of North Sulawesi's foreign trade. While government consumption, investment (PMTB) and trade between regions showed slowing performance.

This study aimed to examine the influence of Natural Capital, Social Capital and Physical Capital of the Bunaken Island ecotourism area in North Sulawesi Province in improving Ecotourism Performance and to achieve sustainable ecotourism development.

2. LITERATURE REVIEW

One of the marine ecotourism that is currently developing is the Bunaken National Marine Park (TNL). This tourist spot is representative of Indonesia's tropical waters ecosystem which consists of mangrove forests, seagrass beds, coral reefs, and terrestrial / coastal ecosystems. Marine parks are designated as National Parks based on the Decree of the Minister of Forestry No.730 / Kpts-II / 1991 managed through the zoning system. Ecotourism continues to experience rapid development. According to Iskandarsyah (2013), ecotourism is defined as a form of tourism activity that utilizes the authenticity of the natural environment, interactions occur between the natural environment and recreational, conservation and development activities.

But the understanding of the term ecotourism continues to develop along with the increasingly dynamic environmental conditions. Ecotourism activities are not only limited to recreational activities but are accompanied by forms of responsibility for the preservation of unspoiled areas, providing economic benefits, and maintaining culture for the surrounding community (Mulyadi et al, 2008).

Todays, the existing management model in Indonesia is based on ecosystem, species, community empowerment and the establishment of a National Park. The model has not been able to solve the problem optimally. The government must play an active and strategic role in making policies to develop natural attractions. The inability of an organization to anticipate changes appropriately is generally due to the organization not knowing its shortcomings and not knowing its environmental conditions. Based on the theory of Sustainability Livelihood Approach (Farrington, 1999), there are 3 capital / resources that measure performance success in this study, namely natural capital, social capital, and physical capital. Natural capital is the accessibility, availability, conditions and productivity of nature that support ecotourism activities. Physical capital is capital in the form of equipment and supplies, facilities and infrastructure to support ecotourism activities. Social capital is community capital community, exchange, trust, and support that play a role in ecotourism activities.

The table above shows the correlation values of all statement items on the questionnaire for all indicators and items valued above 0.3. Thus it can be concluded that all items meet validity. The table also shows the Cronbach Alpha values of the four research variables valued above 0.6. Based on the results of the analysis it can be concluded that the research instruments have met the validity and reliability test requirements.

3. METHODOLOGY

This research is an explanatory research and basicly quantitative research (Singarimun, 1995). The study population is tourists and people who come to Bunaken National Park. For the need for quantitative data the sample was selected using the proportional random sampling method, because the study population had members or elements that were not homogeneous and proportionally distributed. So that in this study using a minimum of 150 respondents (tourists and surrounding communities) Bunaken National Park as research subjects, so it takes 150 tourists, and 150 surrounding communities. This research was conducted in the ecotourism area of Bunaken, North Sulawesi precisely on Bunaken Island, which is located north of Sulawesi Island, Indonesia. This island is part of the city of Manado, the capital of North Sulawesi Province. The time needed in this study is approximately 3 months, during 2018. The analysis technique used is to use

descriptive statistics to produce the frequency value of each indicator (item) in question. The method of data analysis uses descriptive analysis and inferential statistics using Partial Least Square (PLS) using the help of the WarPLS package computer program (Solimun, 2007).

4. RESULTS AND DISCUSSION

A. Test Validity and Reliability Tests

Table 1 is the result of Pearson correlation testing. If the correlation value is greater than 0.3 then the instrument is declared valid and if the Cronbach alpha value is greater than 0.6 then the instrument is declared reliable.

B. Linearity Assumption Test

The third assumption test, namely linearity, was carried out using the Curve Fit method, calculated with the help of SPSS software. The reference used is the parsimony principle, namely when (1) the linear model is significant, (2) the non-significant linear model, but all the models may also be non-significant. Model specifications used as a basis for testing are linear, quadratic, cubic, inverse, logarithmic, power, compound, growth, and exponential models. The linearity test results of the relationships between variables are summarized in Table 1.

Based on table 1, all models between variables have a significant linear correlation, because the significance level is less than 0.05, so the linearity test is fulfilled.

C. Goodness of Fit Test

The results of testing the goodness of fit overall model in accordance with the results of SEM analysis to find out that the hypothetical model is supported by empirical data is presented in Table 1.

The results of the Goodness of Fit test shows on Table 2 which consist of Model 1 Society, Model 2 Tourists, and Model 3 the combined Q2 value is calculated based on the R2 value of the endogenous variable that is the measurement of endogenous variables Ecotourism Performance (Y), obtained R2 of 0.264 each or 26.4%, 0.436 or 43.6%, and 0.345 or 34.5%. This indicates 26.4%, 43.6%, and 34.5% Ecotourism Performance (Y) is influenced by Natural Capital, Social Capital, and Physical Capital. These results also indicate a high value, so that the model is worthy of being said to have a relevant predictive value. The figures also show that the three research variables can explain the ecotourism performance variable and the rest are influenced by other variables not included in this model or error.

Table 1. Linearity Assumption Test

Model	Relation	Test results	Description
Community	X1 $\Box$ Y	Model Linier Significant (Sig Linier 0.000 < 0.05)	Linier
	X2 $\Box$ Y	Model Linier Significant (Sig Linier 0.000 < 0.05)	Linier
	X3 $\Box$ Y	Model Linier Significant (Sig Linier 0.000 < 0.05)	Linier
Tourist	X1 $\Box$ Y	Model Linier Significant (Sig Linier 0.000 < 0.05)	Linier
	X2 $\Box$ Y	Model Linier Significant (Sig Linier 0.000 < 0.05)	Linier
	X3 $\Box$ Y	Model Linier Significant (Sig Linier 0.000 < 0.05)	Linier
Combination	X1 $\Box$ Y	Model Linier Significant (Sig Linier 0.000 < 0.05)	Linier
	X2 $\Box$ Y	Model Linier Significant (Sig Linier 0.000 < 0.05)	Linier
	X3 $\Box$ Y	Model Linier Significant (Sig Linier 0.000 < 0.05)	Linier

Table 2. Testing Results for the Goodness of Fit Model

Model	R^2	percentage %
Society	0.264	26.4%
Tourists	0.436	43.6%
Combined	0.345	34.5%

D. Outer Model Testing Results

In SEM Analysis there are two models namely the outer model and the Inner model. Outer loading values (for reflexive indicators) and outer weight (for formative indicators) indicate the weight of each indicator as a measure of each latent variable. The indicator with the largest outer loading or outer weight shows that the indicator is a measure of the strongest variable (dominant).

E. Inner Model Test Results

In SEM there are two influences namely direct effect, and indirect effect. The inner model test result of the analysis can be seen in the Table 5 for direct influence and Table 6 for both indirect and total effects.

The results conclusions of hypothesis testing on the direct influence of this study are summarized in Table 5. According to the empirical results, it can be concluded that in Model 1 Society, Model 2 Tourist, and Model 3 Combined there are three hypotheses that have significant influence and are proven empirically supported by the data. The three hypotheses are the influence of Natural Capital, Social Capital, and Physical Capital on Ecotourism Performance, thus it can be said that all three hypotheses are accepted. Then it can also be stated that of the three accepted hypotheses, all have positive effects. This means that the higher the Natural Capital, Social Capital, and Physical Capital, the higher the Ecotourism Performance will be.

D. Discussion
Effect of Natural Capital on Ecotourism Performance

This study found that Natural Capital (X1) influences the Ecotourism Performance (Y). The results for the model 1 Society, model 2 Tourist, and model 3 Combined show that Natural Capital has a significant and positive effect on Ecotourism Performance with a coefficient value of 0.332 and p-value <0.001 in the Community model; coefficient value of 0.268 and p-value <0.001 in the Tourist model; coefficient value of 0.316 and p-value <0.001 in the Combined model. This means that the higher the Natural Capital will lead to the higher the Ecotourism Performance.

Natural conditions that are processed into a tourist spot or referred to as a beautiful ecotourism and have a tourist attraction will affect socio-economic changes. Socio-economic changes are seen from the income of the tourism sector, basic and non-base income, employment opportunities, multiple livelihood patterns, and changes in livelihoods, which then affect the sustainability of ecotourism in an area. The sustainability of ecotourism is seen from the market potential where the shifting trend of the "back to nature" tourist market is growing rapidly, has the opportunity to improve the economy or the level of people's income. The existence of ecotourism results in interaction between the community and visitors so that the positive and negative impact on the community.

The Relationship Between Social Capital and Ecotourism Performance

This study found that Social Capital (X2) Affects Ecotourism Performance (Y). The results for the model 1 Society, model 2 Tourist, and model 3 Combined show that, the Social Capital has a positive significant effect on Ecotourism Performance with a coefficient value of 0.224 and p-value of 0.002 in the Community model; coefficient value of 0.228 and p-value 0.002 in the Traveler model; coefficient value of 0.230 and p-value <0.001 in the Combined model. This means that an increase in social capital will be followed by an increase in ecotourism performance.

Social capital owned by the community can encourage the acceleration of economic growth in the community around tourist attractions. People who are able to build and maintain social capital will have the ease of building and maintaining other capitals. Together with other resources, social capital can increase productivity and efficiency. Without social capital activities or economic development and also physical development such as the construction of eco-tourism facilities and infrastructure will be difficult to realize. Social capital has been relatively neglected for development purposes, even though the results of research conducted by Putnam (1993), Sabatini (2005) show that social capital contributes significantly to increasing household income, reducing poverty, increasing growth and economic development in a region. Social capital, especially the components of mutual trust and community participation, also play a role in achieving the level of success in implementing ecotourism development. Thus social capital can play a role to encourage the acceleration of community development.

Trust and cooperation certainly have implications for the existence of social capital. If the community can be relied upon to keep commitments, respectful norms of mutual help and avoid opportunistic behavior, various groups will form more quickly, and formed groups will be able to achieve goals together more efficiently (Fukuyama 1995).

Coleman (1999) defines social capital as the ability of people to work together, in order to achieve shared goals, in various groups and organizations. Putnam in Budi (2005) formulates that social capital (social

capital) refers to the characteristics of social organization in the form of horizontal networks in which contains norms that facilitate coordination, cooperation, and mutual control which benefits can be felt with members -organization member. The influence of social capital will have a positive impact in all fields and will provide a better attraction for everyone. (Bourdieu in Winter, 2000; Cohen and Prusak L, 2001) Social networks have a role for the business world in achieving its goals. Networks describe the tools used by entrepreneurs to reduce risk and transaction costs, as well as to improve access to business ideas, knowledge and capital (Aldrich & Zimmer, in Indarti, 2007; Bontis, 1998). Social capital has an important role for society in the challenge and also plays an important role in various fields of community life, because with social capital the community will be able to work together in realizing the objectives to be achieved. Social Capital Indicators In social capital, there are several indicators that can be used as guidelines to assess a business unit whether it has used social capital optimally.

The Relationship Between Physical Capital and Ecotourism Performance

This study found that Physical Capital (X3) influences Ecotourism Performance (Y). The results of the analysis of model 1 Society, model 2 Tourist, and model 3 Combined show that Physical Capital has a significant and positive effect on Ecotourism Performance with a coefficient value of 0.289 and p-value <0.001 in the Community model; coefficient value of 0.326 and p-value <0.001 in the Tourist model; coefficient value of 0.289 and p-value <0.001 in the Combined model. This means that the higher the Physical Capital will lead to the higher the Ecotourism Performance.

Parmawati, R. (2009) with her research entitled "Poverty Reduction Strategy with Sustainable Livelihood Approach (SLA) Approach in East Java Province" obtained the conclusion that Physical Capital does not significantly influence Poverty Levels both in sub urban areas, agricultural areas and regions the coast of Sitiarjo.

Firer and Williams (2003) investigated the effect between Value Added efficiency by using components of company resources (physical capital, human capital and structural capital) and the traditional three dimensions of firm performance. In this research, the measurement of company performance is profitability assessed using Return on Assets (ROA), productivity using Asset Turnover (ATO) and market valuation using Market-to-Book (MB) indicators. To see the effect of intellectual capital and traditional measurements on company performance, a correlation and linear multiple regression analysis was performed. This study indicates that physical capital has an effect on the three companies' performance. While intellectual capital tends not to affect company performance.

Rini Rubhyanti (2005) examines the influence between the efficiency of value creation with market valuation and financial performance of the company. The results of this study indicate that intellectual capital has a positive impact on financial performance now and in the future. In addition, this study indicates that R&D spending might show additional information about structural capital and have a positive influence on intellectual capital valuation.

5. CONCLUSION

This research concluded that: First, Natural Capital (X1) influences the Ecotourism Performance (Y). The results for the model 1 Society, model 2 Tourist, and model 3 Combined show that Natural Capital has a significant and positive effect on Ecotourism Performance. Second, Social Capital (X2) Affects Ecotourism Performance (Y). The results for the model 1 Society, model 2 Tourist, and model 3 Combined show that, the Social Capital has a positive significant effect on Ecotourism Performance. Third, Physical Capital (X3) influences Ecotourism Performance (Y). The results of the analysis of model 1 Society, model 2 Tourist, and model 3 Combined show that Physical Capital has a significant and positive effect on Ecotourism Performance.

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