The sustainability factors of tourist village (case study: Ngadas Village, Poncokusumo District, Malang Regency)

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Abstract. Tourist village is a form of unit between attractions, accommodation and supporting facilities on a community structure that merges with the rules and traditions which apply and is packed in the form of a tourist village. The development of a tourist village as an activity to explore the potential of a village into a tourist attraction requires community involvement, especially in the development of supporting infrastructure. The sustainability of tourism village development is supported by many factors, both internal and external. The development of a tourist village involves various aspects that interact and influence each other. Ngadas Village is one of the tourist village in Poncokusumo District, Malang Regency which mostly inhabited by Tengger Tribe. Ngadas village is established by the government as a tourist village with a strategic village location, natural potential and the uniqueness of the tribe that live in it. As a form to maintain the tourism activities, it is necessary to identify the sustainability factors of tourist village. The result can be use as an input to direct Ngadas Village as a sustainable tourist village.

1. Introduction

Rural development is rural-based development with the emphasis on the importance of local wisdom, including demographic structure, socio-cultural characteristics, physical characteristics/geography, agricultural business patterns, urban-village economic patterns, institutional sectors, and settlement characteristics (Zaini, 2014). Poverty factors that occur in rural communities tend to be more structural than cultural. This backwardness is caused by rural societies that are difficult to accept the culture of modernization, difficult to accept the new technology, are lazy and do not have a strong motivation, feeling quite satisfied with the fulfillment of basic needs of the most basic and shared the culture of poverty together. One form of rural economic development is to form tourism activities in the rural environment. In the concept of community-based tourism, it embodies the concept of community empowerment, the effort in the community empowerment is essentially related to the characteristics of the target as a community which has their own feature or characteristics, background, and community empowerment, the most important thing is that starting with how to create the conditions of atmosphere or climate that allows the community to grow (Sastrayuda, 2010).

The tourist village is a form of integration between attractions, accommodation and supporting facilities presented in a community life structure that blends with the prevailing rules and traditions (Nuryanti, 1993). The development of a tourist village requires various development factors in order to form a sustainable tourist village. Criteria for the development of tourist villages include the availability of tourist attractions, distance traveled, the size of the village, the system of trust and community, and the availability of infrastructure. In addition, the criteria for sustainable tourism village development include sustainability on the aspects of environmental sustainability, social sustainability, culture, and economic sustainability.

Ngadas Village is one of Tengger Tribe Village in Poncokusumo District, Malang Regency which has superior value as one of the tourist village. Ngadas village is located within the Bromo Tengger Semeru
National Park (TNBTS). Ngadas village is an enclave of TNBTS and is located at an altitude of 2200 mdpl with an area of about 395 ha with hilly topography. Being at an altitude of more than 2000 mdpl resulting the air temperatures in Ngadas tend to be cold with temperatures ranging from 0°C to 20°C.

To maintain the sustainability of the activities in Ngadas village many factors are maintained and developed. This research is intended to identify the relationship between the factors of tourist village sustainability and determine the dominant factors that become the key in sustainability of the development of Ngadas Tourist Village. In this case, it can be said to be sustainable if there is a balance in development in the economic, social and environmental sectors.

Research in Ngadas Village is part of a study to determine the sustainability of rural tourism in the area of the Bromo Tengger Semeru. The chosen village is the village which are located as the entrance gate to the Bromo Tengger Semeru area from the side of Malang Regency and Ngadisari Village from the side of Probolinggo Regency. The analysis shows that the most dominant sustainability factor for Ngadisari Village is culture and followed by social and economic. Looking at the character of the two villages that are almost the same, it is likely that there will be similarities from the dominant sustainability factors. But the difference between the two may occur because each village has its own uniqueness.

2. Research Methods

This research uses descriptive and evaluative analysis to answer each formulation of the problem. The analysis tool used is CFA (Confirmatory Factor Analysis). The stages of the analysis process are as follows:

1. Evaluating the components of CBT (Community Based Tourism) owned by the Ngadas Village community, based on interview data, so that the condition of the population in the three hamlets can be evaluated using CBT variables, which are economic, social, cultural, political and environmental.

2. Identifying the potential of the Ngadas Village community that can be developed using the components of CBT (Community Based Tourism), which are obtained based on the results of the CFA analysis (Confirmatory Factor Analysis) so that the level of the potential contribution of the Ngadas Village community can be determined.

3. Knowing the components of CBT (Community Based Tourism) which has a high potential to be developed as a tourism asset.

The function of this confirmatory factor analysis is to determine the value of the contribution of the Community Based Tourism (CBT) component in measuring the potential of each village in Ngadas Village, so that it can be seen as an illustration of the potential of the Ngadas Village community in developing the use of the Community Based Tourism (CBT) concept. The first step that must be done before looking for contribution value is to identify whether the data and components of the CBT are valid or not and the accuracy of the data is by looking at the convergent validity and construct reliability values. After knowing that CBT data and components are valid and accurate, the level of contribution of the Community Based Tourism (CBT) component can be determined to measure potential community in each village of Ngadas village.

2.1 Convergent validity

Convergent Validity aims to determine whether or not the indicator is valid in variable measurements. Convergent Validity of each indicator in measuring variables is indicated by the size of the loading factor. An indicator is said to be valid if the loading factor of an indicator is positive and greater than 0.5. Besides that the Convergent Validity uses the value of Critical Ratio (CR), with the criteria if the CR value is asterisk (*) or ≥ 96, 1,96 level of significance (alpha = α) then it can be stated that the indicator is able to measure the factor (latent variable) (Ghozali, 2003). After knowing the validity of a data, the next step is to identify the accuracy of a measuring instrument using the reliability construct.

2.2 Construct reliability

Construct reliability aims to determine the accuracy of a measuring instrument in a measurement procedure. Construct reliability testing is done using a measure of construct reliability (Cronbach's Alpha) or using the total number of variants in the indicator described by the latent construct (Average Variance Extracted (AVE)) or commonly called discriminant reliability. The test criteria if the Cronbach's Alpha value is greater than 0.70 and the discriminant reliability value is greater than 0.5 then it can be stated that the contract is reliable (Ghozali, 2003). After knowing that CBT data and components are valid and accurate, the level of
contribution of the Community Based Tourism (CBT) component can be determined in measuring potential seen from the value of loading factors.

2.3 Contribution of latent variabel measurement indicators

The dominant indicators in the results of the Confirmatory Factor Analysis are indicators that have the largest loading factor. The greater the value of the loading factor, the component is the most dominant in describing its latent variables, and so on until the value of the least loading factor. So that it can be determined the level of contribution of the Community Based Tourism (CBT) component in measuring the potential of the community in each village of Ngadas Village.

In this study, the application that will be used to conduct CFA analysis is the GeSCA application. GeSCA is a structural equation model (SEM) with latent variables, which are used for various research, business or empirical. This application is a website-based application created by Prof. Heunsun Hwang from McGill University in 2004. This GeSCA application can be accessed online through www.sem-gesca.org. The convenience obtained from using GeSCA includes the amount that does not have to be large (at least recommended ranges from 30 to 100 cases), and all calculations only require one running time. In addition, the GeSCA application is a powerful application, such as indicators with ordinal category scale, and intervals to ratios can be used on the same model in once running it also displays AVE and Alpha (Ekasari, 2012).

3. Results And Discussion

There are about 37 villages inhabited by Tenggerese traditional people in Bromo-Tengger-Semeru and Ngadas is one of them. In the scope of Malang Regency, Ngadas village is the only village inhabited by Tengger Tribe. Until now people still maintain the tradition or custom Tengger Tribe. Various custom ceremonies and rituals are still held every day, every month and every year. Ceremonies are believed to still have the power to provide prosperity, safety and order for eir lives. One of the uniqueness in Ngadas Village is the harmony between people with all of the religion that they profess. There are three religions that being adopted by the people, namely Hinduism, Buddhism and Islam. Buddhism has the most adherents, but these religious differences do not cause conflicts among the population because they are united by customary rules that are still highly preserved to this day. All religions try to adhere to the village tradition and has the mutual respect for the rights and obligations of each can even be found in a family of 2-3 adherents of different religions. Based on the uniqueness of traditions and natural conditions then the Government of Malang regency set Ngadas Village as Tourist Village since 2007. While at this time is in the process of filing a settlement to become a traditional village.

3.1. Cultural attraction

Tengger people who live in the Ngadas Village annually carry out religious ceremonies and traditional ceremonies in accordance with the Saka calendar. One of the traditions done is Petekan, the term ‘petekan’ is derived from the word ‘dipetek’ which has the meaning suppressed. The process of the tradition, indeed performed by a midwife (dukun bayi) who pressed the stomach of the participants of the petekan. The palpable part is between the navel and the genitals. In the medical world, the technique is called palpation. Usually performed by the tocologist (bidan) to detect the presence of the baby in the stomach. The midwife who is an expert, trusted to do the petekan. The midwife also can feel whether the unmarried participant is still a virgin or not. This unique tradition has one extraordinary purpose. The goal is to reduce the number of promiscuity and pregnancy outside the marriage. In the process, Petekan not only to test if the participant is still virgin or not, but also to give some punishment to those who are no longer virgin.

3.2. Natural attraction

In addition to the uniqueness of traditions, Ngadas Village has a variety of potential nature tourism which are very interesting, such as Coban Trisula, and Ranu Pane. Upon entering the Ngadas area, the vast expanse of plantations and green tapestries is one of the attractions it offers. As far as the eye looked towards the East there was a view of the rows of peaks of Mount Semeru which always smoke from its peak. The slopes of green hills and valleys with vegetable landscape shaped as terraces will also spoil the eyes of tourists.
3.3. Confirmatory factor analysis

The first step that must be done before looking for the contribution value is to identify whether the data and components of the CBT are valid or not and the accuracy of the data is by looking at the value of convergent validity and construct reliability. After knowing that data and component of CBT is valid and accurate hence can be determined contribution level of component of Community Based Tourism (CBT) in measuring potency of society in each village of Ngadas.

3.4. Testing convergent validity

Convergent Validity is intended to determine the validity of the question indicator in measuring the variable. Convergent Validity of each indicator in measuring variables is indicated by the size of loading factor. An indicator is said to be valid if the loading factor of an indicator is positive and greater than 0.5.

| Variable                        | Indicator | Loading Estimate | SE   | CR     |
|---------------------------------|-----------|------------------|------|--------|
| The potential of Ngadas Community | Culture   | 0.657            | 0.000| 90.1833* |
|                                 | Environment| 0.606            | 0.000| 33.436*  |
|                                 | Political | 0.603            | 0.000| 30.836  |
|                                 | Economy   | 0.563            | 0.005| 12.804  |

Based on the results of the measurement model analysis can be seen that all indicators of Community Based Tourism (CBT) from the potential variables of the community in the Ngadas village generate loading factor greater than 0.5. Thus the indicator can be declared valid or able to measure the variable corresponding to the indicator.

3.5. Testing construct reliability

The construct reliability test is carried out using a construct reliability measure (Cronbach’s Alpha) or using the total number of variants in the indicator described by the latent (AVV) construct or commonly called discriminant reliability. Testing criteria if the Cronbach’s Alpha value is greater than 0.50 and the discriminant reliability value is greater than 0.50 then it can be declared the contrast has been reliable.

| Variable                        | AVE | Alpha |
|---------------------------------|-----|-------|
| The potential of Ngadas Community | 0.561| 0.521 |

Based on Table 2, it can be seen that the value of discriminant reliability (AVE) for all variables is greater than the cut off value of 0.50. Therefore, based on the value of discriminant reliability of potential variables in the Ngadas community are considered reliable. Furthermore, the value of Cronbach’s Alpha for all variables is greater than the cut off value of 0.50. Therefore, based on the value of Cronbach’s Alpha, the potential variables of community in Ngadas are considered reliable.

3.6. Contribution of variable indicators of potential community in Ngadas Village

The amount of charge or contribution of indicators in measuring the potential variables of the community in Ngadas can be known through the loading factor of each indicator. The amount of loading factor can be seen through the following explanation in Table 3.
Table 3. Contribution of variable indicators of potential community in Ngadas Village

| Variable               | Indicator | Loading Factor |
|------------------------|-----------|----------------|
| The potential of Ngadas Community | Culture   | 0.972          |
|                        | Environment| 0.899         |
|                        | Political  | 0.559          |
|                        | Economy    | 1.144          |

The model of measuring the potential variables of the community in Ngadas Village also informs the priority component of Community Based Tourism (CBT) in measuring the potential of the community in Ngadas region as in Table 4.

Table 4. The priority components of Community Based Tourism (CBT) in measuring the potential of communities in Ngadas Region

| Indicator   | Loading Factor | Priority |
|-------------|----------------|----------|
| Culture     | 0.972          | 2        |
| Environment | 0.899          | 3        |
| Political   | 0.559          | 4        |
| Economy     | 1.144          | 1        |

Based on Table 4, it can be seen that the economic component has the greatest loading value. This means that the economic component is the most dominant component in measuring the potential variable of the community in Ngadas Village. The second highest component that measures the variables of community potential in Ngadas Village is the cultural component. As for the components with the lowest priority is the political component.

Here is an explanation of the priority level of the Community Based Tourism component to measure the potential of the community in the Ngadas Village area:

1. Economy
The potential variable of Bromo tourism community that gives the biggest contribution in Ngadas Village is economic indicator, this is because most of respondents in Ngadas Village, Poncokusumo District, Malang Regency who have participated in this research have an average income more than Rp3,000,000. The highest revenue is derived from the agriculture and tourism sectors, especially during the holiday season.

2. Culture
The potential variable of the tourism community of Mount Bromo which gives the second largest contribution in Ngadas Village is the cultural indicator, this is because the community in Ngadas Village is a Tenggerese society that holds the traditions of tengger tribe. Ngadas Village community is able to introduce local culture well and based on the results of questionnaires people are able to open themselves to tourists who come, people socialize well to tourists who come, people respect other cultures brought by tourists and the public is not affected by the culture from outside.

3. Environment
The potential variable of the tourism community of Mount Bromo which gives the third largest contribution Ngadas Village is an environmental indicator. It can also be seen from the level of public awareness in protecting the environment, based on the public perception known that they assume normal to the activities to maintain the environment such as conservation and others.

4. Politics
The potential variable of the people of Gunung Bromo who contributed the last in Ngadas Village is a political indicator. The participation of residents in Ngadas Village in the management and development of tourism object of Mount Bromo is very high, this is because most of Ngadas villagers work in the tourism sector so that the people participate in the potential tourism community of Mount Bromo, such as providing homestay rental, jeep, horse and so on.
4. Conclusion

Based on the results of Confirmatory Factor Analysis, it can be seen that the economic component has the greatest potential in tourism mining in the Ngadas Village. The cultural component is also one of the important components used for the development of tourism activities in Ngadas Village. Both of these things cannot be separated from the interrelationship of environmental components that so far have not been very influential because the community still considers that the activities of maintaining the environment such as conservation is a normal activity or not too important. Furthermore, it is necessary to improve the understanding of the community in protecting the environment as the impact of the development of tourism activities. Meanwhile, the political component has not been very influential in the development of tourism seen from the results of the questionnaire which states that the public is still not too concerned about the powers in certain communities. It is also influenced by Tengger tribe habit that still keep mutual cooperation of each other.

This research only focused on knowing the components of CBT (Community-based Tourism) that effect and determine the priority level in tourism management and development. There is no specific explanation why the variables determined in highest or lowest level. In the case of Ngadas Village, the political variable is at the lowest level, but there are no specific reasons nor conditions that caused it. In addition, this research has restriction on the scope of the material that doesn't provide alternative strategies for the managing all of main components, including components that are in low level. The development of materials and methodologies are needed to improve component assessment so that it can provide benefits for tourism development, especially in rural areas.

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