

LOCAL COMMUNITY'S ACCEPTANCE OF MANGROVE FOREST AS A SUSTAINABLE TOURISM PRODUCT: A PRELIMINARY FINDINGS

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ABSTRACT

The study was conducted to examine the local community's acceptance towards mangrove forest as a sustainable tourism product in Kampung Rampayan Laut and Kampung Nanamun, Kota Belud, Sabah, Malaysia. In addition to the above, it is also to determine the level of knowledge of the local community on the importance of mangrove forests as well as to determine the level of willingness of the local community to participate in mangrove forest management. These two specific sites were selected due to the increasing tourists influx in the area for mangrove forest river-cruise and fireflies watching. Purposive sampling technique was used which involved distribution of questionnaires to 150 respondents from both Kampung Rampayan Laut and Kampung Nanamun, which is about 10% from the actual population size. Likert scale was used in the questionnaire form, ranging from one which represents strongly disagree to five which represents strongly agree for each item to measure respondents' level of acceptance, knowledge, and willingness to participate in mangrove forest management. The study found that the level of local communities acceptance is high which supports the efforts to make mangrove forest as a sustainable tourism product. This study also found that local communities have the basic knowledge on the importance of mangrove forests to the ecosystems and are willing to be involved in mangrove management. This study has identified the community's acceptance towards mangrove forest as a sustainable tourism product through their perception of benefits acquired through mangrove forest tourism which could be used as a baseline data for wetland resource management to ensure sustainability.

Keywords: Mangrove Forest, Sustainable Tourism Product, Local Community Acceptance

1.0 INTRODUCTION

Mangrove forests are important in terms of environmental benefit, cultural and economic values (DSE, 2007). In terms of environmental benefit, mangrove forests play an important role in the protection of coastal areas and act as a natural water filter. In addition, mangrove forests are providing important habitat, nurseries, shelter and feeding areas for various species of terrestrial and marine flora and fauna in tropical climates. Furthermore, mangrove forest is an important element needed in urban and semi-urban areas as environmental security because they are able to withstand the effects of climate change such as tsunamis (Zhang & Lei, 2012). Mangrove forest is also

associated with the cultural ecosystem as a centre for recreation, aesthetics and education. In terms of direct economics value, mangrove forests provide resources to humans such as firewood, charcoal, medicines and dyes (Roy, 2016).

The main purpose of this study is to examine the acceptance of the local community for the mangrove forest area as a tourism product around Kampung Rampayan Laut and Kampung Nanamun, Kota Belud, Sabah. According to Zhang & Lei (2012), mangrove forest tourism can provide various benefits, depending on the relationship between the local community, natural resources, cultural conservation and tourism itself. There is a program under the World Tourism Organization (UNWTO) called 'Sustainable Tourism- Eliminating Poverty' (STEP) whose role is to find the socio-economic development and progress achieved through tourism by areas facing geographical pressures. The program also supports the reduction of poverty in rural areas through the establishment of small businesses managed by the local community itself, which can then supply products and services to tourists, as well as expose their culture. Furthermore, tourism activities also create the probability of generating employment opportunities, especially for women and young people, while maintaining the traditional economic sector there (UNWTO, 2012). A study by Du Toit (2002) states that the participation of local communities is important in determining the success or failure of natural resource conservation. Therefore, research to understand the views of the local community is a necessity. Their knowledge of the importance of mangrove forest, acceptance and willingness to be involved in mangrove forest management is an important factor in ensuring the effectiveness of mangrove forests as a sustainable tourism product.

2.0 METHODOLOGY

2.1 Study site

The study was conducted in Kampung Rampayan Laut and Kampung Nanamun, Kota Belud, which is located on the North-West of Sabah (Figure 1). Both villages are directly involved in tourism activities in the mangrove forest areas. Tourism packages offered are the mangrove forest river-cruise and fireflies watching, apart from sunset viewing and beach activities which have received increasing demand up until the pandemic hit. There were about 20 jetties operating along the Nanamun and Rampayan river which receive a good average total of 200 tourists per day on a normal day and could reach up to 1000 tourists per day on a peak or holiday season. The most popular tourism attractions have been the fireflies watching at night and the wildlife watching, specifically the Proboscis Monkey, during river-cruise session.

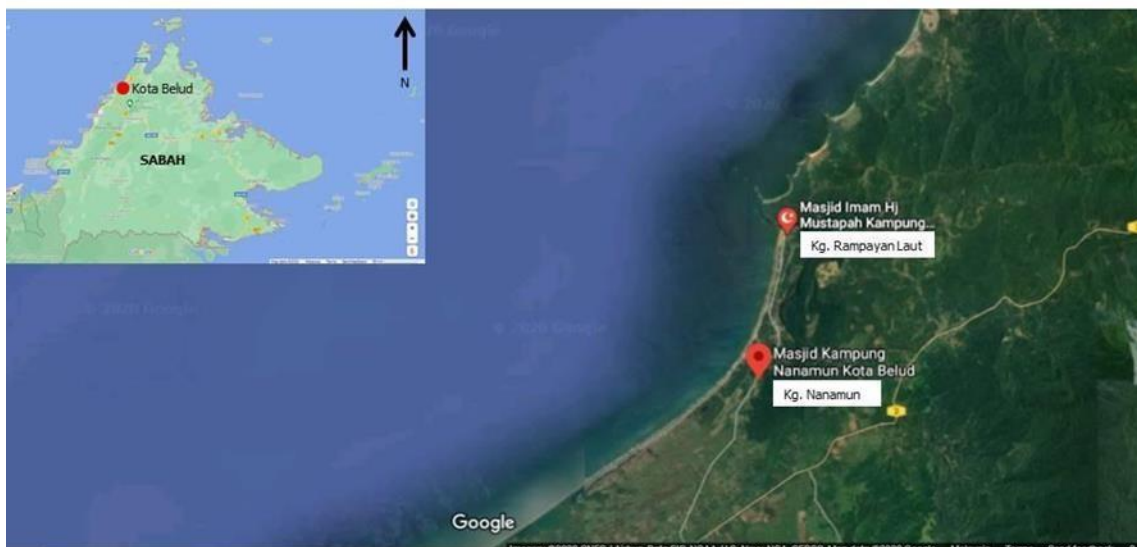


Figure 1. Study area map of Kampung Rampayan Laut and Kampung Nanamun

(marked in red) (Source: Google map)

2.2 Sample Collection

Purposive sampling technique was deployed which is based on 10% of the actual population size. Information on population size was obtained from Village Community Management Council (MPKK) Kampung Rampayan Laut and Kampung Nanamun with an estimated 1000 people for Kampung Rampayan Laut and 500 people for Kampung Nanamun. Convenient sampling technique was used in distributing the questionnaire forms to the respondents, where each resident in the study area has the potential to be selected as the respondent depending on their availability during the questionnaire distribution. Pilot survey was conducted from 14 to 16 August 2019 where discussion with District Officer, District Forest Officer, and community representatives as well as testing of data collecting instruments took place. The actual data collection was conducted from 2 to 9 September 2019, by setting up appointments to distribute questionnaires to the community of each village.

2.3 Data Collection Instruments and Analysis

The item constructs were adapted mainly from Eshliki & Kaboudi (2012), Roy (2016), and Zhang & Lei (2012), based on the theoretical framework incorporating the Social Exchange Theory (SET) (Homans, 1961) and the three pillars of sustainability (Dredge & Jenkins, 2008). The resulting questionnaire has four sections namely, the respondents' Demographic information (A); Acceptance (B); Knowledge (C); and Willingness to participate in mangrove forest management (D). A 5-point Likert scale was used to measure the respondents' responses where 1 represents strongly disagree, 2 represents disagree, 3 represents uncertain, 4 represents agree and 5 represents strongly agree. Reliability tests using Cronbach's Alpha were conducted on the actual data of 150 final respondents and the value of Cronbach's Alpha obtained for each section measuring the respondents' acceptance ($r=0.819$), knowledge ($r=0.876$) and willingness to participate ($r=0.917$) was each well above the minimum acceptable standard for reliability ($r = 0.6$) (Coakes and Steed, 2007).

3.0 LITERATURE REVIEW

UNEP (2003) and UNWTO (2015) define sustainability in tourism as "an effective approach for developing strategies and policies for more sustainable tourism, and the tools that would make the policies work on the ground". Along with the development of international and domestic tourism, there is strong evidence that, if tourism is well managed, it is able to make a significant contribution in addressing poverty and fostering development, especially in rural areas, where most are poor (Jonathan & Caroline, 2010). There are various aspects associated with the sustainability of a tourism such as aspects of the well-being of the host community, sustainability of cultural assets, community involvement in tourism, tourist satisfaction, health and safety, economic benefits from tourism and others (UNEP & UNWTO, 2005). The level of acceptance of the local community towards tourism and the benefits of tourism to the local community are two issues present under the aspect of the well-being of the host community. As such, this study is looking not only at the benefits of the natural resources which is the mangrove forest management and conservation but also looking at the host community well-being. By this, the research focus is contributing to two goals under the Sustainable Development Goals (SDG) 2030, specifically Goal 15 (Life on Land) and Goal 3 (Good Health and Well-being) (UN, 2015). Tourism benefits may come in the form of individuals and communities, economic, environmental and social, financial and non-financial as well as generating employment opportunities and direct income (Armstrong, 2012). Figure 2 presents the theoretical framework of this study which have incorporated the Social Exchange Theory (SET) by Homans, (1961), and community's perception of benefits

based on the three pillars of sustainability model from Dredge & Jenkins, (2008) and Eshliki & Kaboudi, (2012).

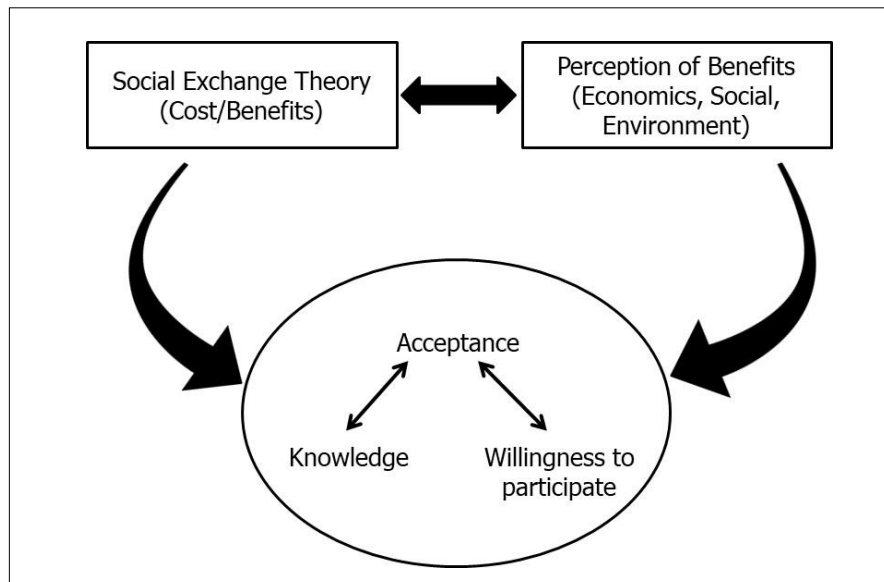


Figure 2. Research Theoretical Framework.

Rooted from the three pillars of sustainability, Dredge and Jenkins (2008) link the community's perception of benefits in three important aspects namely; the economics, social and environmental, together with the SET. SET identifies the interaction particularly between individuals or groups when there is an exchange of rewards and costs (Homans, 1961; Molm, 1991). The above framework posits that people are motivated by rewards or benefits after considering the cost involved and by incorporation with the three pillars of sustainability to assess the communities' perceptions of benefits, the communities' acceptance, knowledge and willingness to participate in natural resource management is identified. In this study, acceptance of local community towards mangrove forest in their adjacent areas as a tourism product was mainly measured through their perception of benefits for the local community (Eshliki & Kaboudi, 2012). The benefits for the local community are perceived in 3 aspects which served as pillars for sustainable tourism which are the economy, social and environment. These three pillars (economy, social, and environment) have become key components of sustainable tourism and represent sustainability in three intersecting circles (Purvis et al, 2018). Rooted in the concept of sustainable development, the three important components are key criteria of ecotourism as they are fundamental to sustainable development as they are interconnected (Chan, 2020), and as also pointed out by Yin (2016) that to ensure sustainable tourism development, the economy, social and environmental aspects are parameters to measure sustainable development. In addition to that, the community's knowledge on the importance of mangrove forest is also crucial as environmental knowledge fosters the attitude towards ecotourism (Zhang & Lei, 2012). The community's willingness to participate in mangrove forest management (Roy, 2016) is another crucial element to be investigated because their willingness to participate in the resource management is an important indicator for the resource sustainability (Barna, 2009).

The commitment of the local community is an important component in making mangrove forests a tourism product. These efforts also involve the conservation of mangrove forests, where the exploitation and dependence of local people on forest resources will be controlled and restricted to maintain the natural ecosystem of mangrove forests. Therefore, the cooperation of the local community is a benchmark to determine the

success of efforts to make mangrove forests as a sustainable tourism product (Roy, 2016). Successful conservation efforts require active involvement from the local community and without their support, all efforts undertaken will end in failure (Sawairnathan & Halimoon, 2017).

4.0 FINDING AND DISCUSSION

4.1 Respondent demographics

A total of 150 sets of questionnaires were distributed and completed by respondents from both Kampung Rampayan Laut and Kampung Nanamun community. One hundred sets were distributed in Kampung Rampayan Laut while 50 sets in Kampung Nanamun in proportion to the 10% of the approximate total population for both villages. Respondents' profile combining both villages is as shown in Table 1.

Table 1. Respondents' profiles

| Demographic | Categories | n | Percentage |
|---------------------|-------------------------------|----------|-------------------|
| Gender | Male | 89 | 59.3 |
| | Female | 61 | 40.7 |
| Age | 18-20 | 34 | 22.7 |
| | 21-30 | 30 | 20.0 |
| | 31-40 | 31 | 20.7 |
| | 41-50 | 27 | 18.0 |
| | 51-60 | 12 | 8.0 |
| | >61 | 16 | 10.7 |
| | Ethnic | Iranun | 120 |
| Bajau | | 16 | 10.7 |
| Dusun | | 6 | 4.0 |
| Malay | | 2 | 1.3 |
| Chinese | | 2 | 1.3 |
| Others | | 4 | 2.7 |
| Education Level | No formal education | 14 | 9.3 |
| | Primary Education | 14 | 9.3 |
| | Secondary Education | 90 | 60.0 |
| | Tertiary Education | 32 | 21.3 |
| Occupation | Self employed | 78 | 52.0 |
| | Civil servant/ Private sector | 30 | 20.0 |
| | Retirees | 6 | 4.0 |
| | Unemployed | 17 | 11.3 |
| | Student | 19 | 12.7 |
| Income | < RM500 | 75 | 50.0 |
| | RM500- RM999 | 42 | 28.0 |
| | RM 1000- RM1499 | 15 | 10.0 |
| | RM1500- RM1999 | 8 | 5.3 |
| | > RM2000 | 10 | 6.7 |
| English Proficiency | Yes | 61 | 40.7 |
| | No | 89 | 59.3 |

In terms of gender, male respondents dominated by almost 60%. The majority of the respondents are aged between 18-20 years old (22.7%). In terms of ethnic group, 80% are Iranun. More than half of the respondents (60%) have a level of education upto secondary school. This shows that the importance of education is emphasized by the local community. Those with tertiary education form the second largest group (21.3%) which

could indicate that the local community has started looking for initiatives and is interested in developing themselves to increase their knowledge. In terms of

occupation, the majority (52%) are self-employed, thus the probability of having a fixed amount of income is low. Majority of respondents stated that they were not proficient in English language (59.3%). They could however understand simple English.

4.2 Local Community Perception of Mangrove Forest Tourism

Table 2 shows the descriptive analysis for the respondents' perception of mangrove forest tourism in shaping the way to benefit from tourism as a tool for mangrove conservation management as well as to enhance the communities' well-being. A total of 15 questions were used in this section. Questions concerning the economic, social and environmental benefits of tourism were asked to determine the level of acceptance of local communities for mangrove forest tourism.

Table 2. Respondents' Perception for Mangrove Forest as Tourism Product.

| Item (perceived benefit) | Aspect Category | n | Mean (Rank) |
|--|------------------------|----------|--------------------|
| Tourism activities increase employment opportunities for the local community. (econ.) | Economic | 150 | 4.35 (1) |
| Tourism activities can enhance the image of the village area around this mangrove forest. (soc.) | Social | 150 | 4.26 (2) |
| Tourism activities help increase the income of the local community. (econ.) | Economic | 150 | 4.26 (3) |
| Tourism activities can increase public awareness of the importance of mangrove forest. (env.) | Environment | 150 | 4.17 (4) |
| I support efforts to make mangrove forests a tourism product. (env.) | Environment | 150 | 4.10 (5) |
| Tourism activities help the development of the retail sectors in this village area. (econ.) | Economic | 150 | 4.09 (6) |
| Infrastructures and facilities in the village area increase with the existence of mangrove forest tourism activities. (soc.) | Social | 150 | 4.03 (7) |
| Residents' communication skills are improved with the presence of local and foreign tourists. (soc.) | Social | 150 | 3.97 (8) |
| Tourists maintain cleanliness while visiting mangrove forest. (soc.) | Social | 150 | 3.94 (9) |
| Tourist buses cause congestion in the village area. (soc. -ve) | Social | 150 | 3.41 (10) |
| The presence of tourists causes the increase in prices of goods, food and services. (econ. -ve) | Economic | 150 | 3.28 (11) |
| Noise pollution in mangrove forests is increasing and disturbs the local community as well as the animals there. (env. -ve) | Environment | 150 | 3.05 (12) |
| Tourists are disturbing the habitats of animals and plants in mangrove swamps. (env. -ve) | Environment | 150 | 2.84 (13) |
| Local young people are influenced by the style of foreign tourists. (soc. -ve) | Social | 150 | 2.83 (14) |
| The presence of tourists disrupts the daily life of the local community. (soc. -ve) | Social | 150 | 2.77 (15) |

This study found that the highest mean score attained was for item indicating economic benefits specifically, item "Tourism activities increase employment opportunities.." (mean score 4.35), followed by item "Tourism activities help increase the income.." (mean score

4.26). Respondents agreed that tourism helps increase their income as there are expectation of increased employment opportunities. Nurain & Choy (2013)

stated similar results where respondents agreed that tourism activities could increase employment opportunities. In contrast to the results, the study by Shah et al. (2016) and Elishki & Kaboudi (2012) stated that the respondents expressed a partial agreement on the statement of tourism activities increase their income. In this study, there is also a small percentage of respondents who disagree that tourism activities increase employment opportunities or their income. The reason for the disagreement might be that the employment opportunities are limited to lower level workers. In addition, most of the tourism jetties in both villages are monopolized by outside entrepreneurs who are only interested in gaining profit. Nevertheless, among the three aspects of the perceived benefits for the community which are the economic, social and environment, economic aspects rank the highest agreement despite it has the fewest item compared to the other two aspects.

The second highest aspect was for item indicating social benefits, "Tourism activities can enhance the image of the village.." (mean score 4.26) and followed by environmental benefits with item "Tourism activities can increase public awareness of the importance of mangrove.." (mean score 4.17). These findings signify the vital role of having an enhanced image for the village as it could indirectly mean more provisions for infrastructure as could be observed that infrastructure facilities such as paved roads along the village to facilitate access for visitors have been improved and added since the launch of tourism activities. Upon analysis of interviews with the respondents, their agreement for environmental benefits in terms of public awareness might have been caused by the experience of having observed the enjoyment of visitors or tourists during river cruise and fireflies watching.

Direct questions regarding their perception in terms of supporting efforts towards mangrove forest tourism scored fourth highest after all the three benefit categories (4.10). These findings could signify that while the respondents are willingly supporting the efforts to make the mangrove forests as a tourism product, their support might have been motivated by the hope of a better livelihood, which were shown in the higher mean scores. This finding is very consistent with the notion of SET, where people are very much motivated by the rewards or benefits that they consider they would be getting as well as the cost that they would have to bear (Homans, 1961; Molm 1991). This conception also reflects the respondents' perception of benefits that they could get from the tourism activities which could greatly enhance their well-being through enhancement of their economy, environment, and physical facilities. This subsequently is anticipated to support goal no.3 (local community well-being) of the SDG 2030 (UN, 2015).

The lowest mean score for this section was for perceived negative social impact (2.77) which indicates their disagreement that "the presence of tourists disrupts their daily life". In other words, the presence of tourists did not disrupt their daily life. Overall, it is apparent that all the perceived negative impacts (social, environment and economic) have scored lower than the positive statements, (between 2.77 to 3.28) which means the respondents disagree or are unsure of the negative impacts to be true in their situation. These findings provide strong support for their acceptance for mangrove forest tourism in their area that there are no negative impacts so far.

4.3 The level of understanding and knowledge of the local community on the importance of mangrove forests to the ecosystems.

The descriptive analysis of respondents' knowledge on the importance of mangrove forest to the ecosystem is shown in Table 3 below.

Table 3. Respondents’ Knowledge on Mangrove Forest

| Item | n | Mean (rank) |
|---|----------|--------------------|
| Mangrove forests are natural forests with muddy soils in tidal areas | 150 | 4.35 (1) |
| Mangrove forests are home to a wide variety of animals and plants | 150 | 4.25 (2) |
| Mangrove forests are important to protect beaches and river estuaries from erosion of waves and heavy river currents. | 150 | 4.21 (3) |
| Mangrove forests can protect nearby areas from major floods and flash floods | 150 | 4.14 (4) |
| Mangrove forests can control water quality by trapping waste and foreign matter before flowing into the sea. | 150 | 4.03 (5) |

The highest mean score for this section is 4.35 which is regarding the respondents’ basic understanding on what mangrove forests are. Based on the results and observation, respondents can see the diversity of plants and wildlife species and that they have the understanding of their growth in mangrove forests habitat. The reason for these might be that they have been there in the mangrove forest area their whole life. This is proven by Sawairnathan & Halimoon (2017) which stated that the closer the distance between a person’s home and the mangrove forest, the higher the level of knowledge and understanding of the functions and maintenance of mangrove forests.

While the lowest mean score (4.03) in this section was found to be regarding the important function of mangrove forest, it is still above 4.00 indicating good understanding and knowledge on mangrove forest importance to the ecosystem. These findings lend support for their acceptance towards making the mangrove forests a sustainable tourism product, as environmental knowledge fosters the attitude towards ecotourism (Zhang & Lei, 2012). The function of the mangrove forest is also recognized by the respondents as a fortress that protects the beaches and estuaries from wave erosion. This is demonstrated by their statements that floods never occur in Kampung Rampayan Laut and Kampung Nanamun.

4.4 The level of willingness of the local community to participate in mangrove forest management

Table 4 displays the descriptive analysis of respondents’ willingness to participate in mangrove forest management.

The highest mean score (4.25) is for item “support education and training programs..”, followed by “ready to spread awareness about the importance of mangrove forest..” and “ready to help those who want to conduct research..” with a mean score 4.17 respectively. This is subsequently followed closely by “interested to know and learn more..” with a mean score of 4.16. During the distribution of the questionnaire, there were also respondents who voiced out their opinion to make the mangrove forest in their area as a research centre. The Village Community Management Council (MPKK) has also expressed their interest in collaborating with educational institutions such as Universiti Malaysia Sabah (UMS). Efforts have also been made such as attending school visits which the community have conducted at Jetty Borneo Mataid several times. The community also have expressed their intention to attract more school students to visit their mangrove forests areas in the future for awareness programs.

The lowest mean score attained was for item “willing to contribute funds for forest

protection activities” (mean score 3.45) which indicates that they are unsure if they are willing to provide money for forest protection activities. While this section did not seek to evaluate the communities’ willingness to pay for conservation but only to identify if they are willing to participate in the resource management in terms of fund contribution, it is evident that they might be restricted by their financial constraints, where the income of the majority is still below RM500 per month. Nonetheless, they are willing to contribute their energy to help spread awareness of the importance of mangrove forests to the people around them. In this case, the local authority would need to find a way to get funds or sponsors from outside parties whether by the local government, the private sectors or non-governmental organizations (NGOs) to carry out any mangrove forest conservation activities.

Table 4. Respondents’ Willingness to Participate in Mangrove Forest Management

| Item | n | Mean (rank) |
|---|----------|--------------------|
| I support education and training programs in this forest area. | 150 | 4.25 (1) |
| I am ready to help those who want to conduct research in this mangrove forest area. | 150 | 4.17 (2) |
| I am ready to help spread awareness about the importance of mangrove forest. | 150 | 4.17 (3) |
| I am interested to know and learn more about mangrove forests. | 150 | 4.16 (4) |
| I am interested in learning about sustainable forest development practices. | 150 | 4.07 (5) |
| I am interested in learning about conservation and mangrove forest protection practices. | 150 | 4.05 (6) |
| I am willing to participate voluntarily in any forest protection and conservation program. | 150 | 3.97 (7) |
| I am willing to be involved in monitoring and managing mangrove forests as a tourism product. | 150 | 3.93 (8) |
| I am ready to be involved in developing the mangrove forest area as a tourism product. | 150 | 3.92 (9) |
| I am willing to contribute funds for forest protection activities. | 150 | 3.45 (10) |

The overall findings of this study lend credence to the Social Exchange Theory (SET) (Homans, 1961) that people are motivated by the reward or benefits. This is apparent in Table 2 where the economic benefits ranked the highest, followed by the social benefits and subsequently the environment benefits which signify the enhancement of overall community’s well-being as the sought-after benefits or rewards. Additionally, the findings for communities’ lower mean score for willingness to participate in the management of the mangrove forest specifically in terms of fund contribution, were justified by the “cost” involved and the “exchange” the respondents have to make considering their financial constraints. The incorporation of the three pillars of sustainability (economic, social, and environment) (Dredge & Jenkins, 2008) in the research theoretical framework have managed to gauge the communities’ acceptance for mangrove forest as a sustainable tourism product in terms of their perceived benefits, supported by their knowledge and willingness to participate in the conservation and management.

5.0 CONCLUSION

Previous researches have shown that mangrove forest tourism can provide various

benefits depending on the relationship between the local community, natural resources, cultural conservation and tourism itself. The main purpose of this study was to examine the acceptance of the local community towards the mangrove forest area as a tourism product around Kampung Rampayan Laut and Kampung Nanamun, Kota Belud, Sabah. This study has identified the community's acceptance for mangrove forest as a tourism product through their perception of benefits they could acquire, in specific firstly, the economic benefits (that tourism activities increase employment activities), secondly the social benefits (that tourism activities enhance the image of their village) and thirdly the environmental benefits (that tourism activities increase public awareness on the importance of mangrove forests). The study findings could be used as a baseline data for wetland, specifically the mangrove forest resource management and conservation to ensure the resources sustainability and at the same time help safeguard the local community's well-being through sustainable tourism benefits.

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