ECSOFiM: Journal of Economic and Social of Fisheries and Marine. 2020. 07(02):184-196 e-ISSN: 2528-5939
Permalink/DOI: http://dx.doi.org/10.21776/ub.ecsofim.2020.007.02.05

SUSTAINABLE TOURISM STUDY ON BEE JAY BAKAU RESORT PROBOLINGGO, EAST JAVA: AN ANALYSIS OF RAPFISH-MDS

STUDI KEBERLANJUTAN WISATA BEE JAY BAKAU RESORT PROBOLINGGO, JAWA TIMUR: ANALISIS RAPFISH-MDS

Rita Parmawati*[1] and Rizha Hardyansah[2]

[1]Postgraduate, University of Brawijaya, Veteran Street, Malang, Indonesia
[2]Master Program of Environmental Sciences, University of Brawijaya, Veteran Street, Malang, Indonesia

Received: November 07, 2019 /Accepted: April 26, 2020

ABSTRACT

BJBR is a famous mangrove tourism object in Probolinggo, it elevates the role of surrounding society and resources. However, it is needed to understand BJBR sustainability aspects and innovations needed to achieve sustainable tourism. This study aims to understand BJBR sustainability through 3 dimensions: ecology, social, and economic-based on RAPFISH-MDS analysis. Interviews and questionnaires were distributed to 47 respondents based on the PRA Approach and Snowball Sampling. The results show that the ecological dimension has the highest sustainability index is 78.81 (good/sustainable), followed by the economic dimension is 64.45 (quite sustainable), and the social dimension is 50.27 (quite sustainable). Sensitive attribute as a supportive indicator of sustainability in ecological dimension is the diversity of tree species outside the mangrove area to be a very (Leverage= 4.41), the economic dimension is a production of cultivated species on mangroves area (Leverage= 7.79), and social dimension is the practice of local culture within mangroves area (Leverage= 7.79). Strategies that can be applied to achieve BJBR tourism sustainability are to continue to carry out conservation that is packaged in responsible tourism, increasing economic growth by encouraging entrepreneurship, and forming networks between tourist sites and the surrounding area to encourage development.

Keywords: BJBR, RAPFISH-MDS, sustainability.

ABSTRAK

BJBR adalah objek wisata mangrove yang terkenal di Probolinggo Jawa Timur, dan objek wisata ini mampu mengembangkan masyarakat dan sumber daya di sekitarnya. Namun, diperlukan pemahaman mengenai aspek keberlanjutan dan inovasi BJBR yang diperlukan untuk mencapai pariwisata berkelanjutan. Penelitian ini bertujuan untuk memahami keberlanjutan BJBR melalui 3 dimensi: ekologi, sosial, dan ekonomi berdasarkan analisis RAPFISH-MDS. Wawancara dan kuesioner dibagikan kepada 47 responden berdasarkan pendekatan PRA dan *Snowball Sampling*. Hasil penelitian menunjukkan bahwa dimensi ekologi memiliki indeks keberlanjutan tertinggi dengan 78,81 (baik / berkelanjutan), diikuti oleh dimensi ekonomi dengan 64,45 (cukup berkelanjutan), dan dimensi sosial dengan 50,27 (cukup berkelanjutan). Atribut sensitif sebagai indikator pendukung keberlanjutan dalam dimensi ekologis adalah keanekaragaman spesies pohon di luar kawasan mangrove (Leverage = 4,41), pada dimensi ekonomi adalah produksi spesies yang dibudidayakan di kawasan mangrove (Leverage = 7,79), dan pada dimensi sosial adalah praktik budaya lokal di dalam kawasan mangrove (Leverage = 7.79). Strategi yang dapat diterapkan untuk menuju keberlanjutan wisata BJBR adalah dengan terus melakukan konservasi yang dikemas dalam pariwisata yang bertanggungjawab, meningkatkan pertumbuhan ekonomi dengan mendorong adanya wirausaha, dan membentuk jaringan antar lokasi wisata dan dengan wilayah sekitarnya untuk mendorong pada perkembangan.

Kata kunci: BJBR, RAPFISH-MDS, keberlanjutan.

* *Corresponding author: Rita Parmawati, rita_parmawati@ub.ac.id*
Graduate School of Environmental Sciences, Brawijaya University, Veteran Street, Malang

INTRODUCTION

Bee Jay Bakau Resort Probolinggo (BJBR) is a famous tourism area in Probolinggo, East Java. This location provides tourism products related to the natural scenery of the sea and mangroves. Several piers are built to take visitors around the mangrove area with a total area of 5 hectares. Besides, BJBR is equipped with bungalows, meeting hall, restaurant, various games field, environmental studies service, and boats to surround this mangrove area from the sea (Bee Jay Bakau Resort, 2018). The potential of this tourism site can still be developed with the approach of science, which has been planned for physical development, promotion, improvement of relationship with private and government, and strengthening cooperation with the micro-business unit (Wati et al., 2016).

More than 90% of workers in BJBR are local people recruited by cooperation between private and governance developers. This natural-based tourist area is also projected to have more impact and value on the socio-economic side, as its development is aimed at lifting the lives of the surrounding community (Dressler, 1999). It will indirectly provide learning about the sustainable use of nature. Communities are required to continuously develop their regional potentials in the form of nature-based tourism, as well as improve their social and economic status, either directly through tourism activities, or indirectly such as fisheries and trade.

Tourism has become one of the most developed sectors in Indonesia and even in the world. So that tourism sector is often used as a tool to improve the economy of a country. The tourism sector in Indonesia is expected to become a sustainable sector so that it becomes a sustainable tourism destination. Sustainable tourism is a plan and development of destination that aims to reduce the negative effects of tourism on the environment, society and economy to achieve ecological (environmental) and social sustainability (Pan et al., 2018). In its development, sustainable tourism aims to continue to strive to increase tourist satisfaction based on the components of sustainable development (Sharpley, 2000).

RAPFISH Analysis of Multi-dimensional analysis the sustainability of a region by a multidisciplinary approach (Fauzi and Anna, 2002). In its history, this method developed by the University of British Columbia, Canada, to understand the sustainability of fisheries. This method based on ordination techniques on Multi-dimensional Scaling (MDS), which describes multi-dimensional transformations into other lower dimensions (Pitcher & Preikshot, 2001). Each dimension has indicators related to sustainability. In MDS, the tested point is mapped, so, object or point attempted to be close as original as possible. Conversely, unequal objects or points are depicted with distant points (Alder et al., 2000).

To achieve sustainable nature-based tourism, a developing region such as BJBR requires RAPFISH-MDS to understanding sustainability aspects (Alaeddinoglu & Can, 2011; Rahayuningsih et al., 2016). In the future, BJBR is expected not only to develop physical tourism but also to recognize the social character of the community and to recognize its natural wealth and economic potential. All of them become important to support the development and strengthening of sustainable

tourism object (Ashley et al., 2007; Diedrich & Aswani, 2016; Quaranta et al., 2016). This study aims to reveal the condition of BJBR sustainability observed through 3 dimensions: ecology, social, and economic-based on analysis of RAPFISH-MDS.

RESEARCH METHODS

This research was conducted in Bee Jay Bakau Resort (BJBR) Probolinggo, East Java from February to March 2019. The sample was determined by a purposive sampling method using the Participatory Rapid Appraisal (PRA) approach with 47 respondents that consisted of managers and visitors from BJBR. To further develop the distribution of respondents, the snowball sampling method was used. The data collection method by distributing questionnaires and interviews. The questionnaire distributed with a Likert scale for the answers, The Likert scale was used on five levels, which states the categories and ratings measured (Table 1).

Table 1. Likert Scale

Answer Choice	Score	Answer Meaning
A	5	Strongly agree
B	4	Agree
C	3	Neutral
D	2	Disagree
E	1	Strongly disagree

Source: (Joshi et al., 2015)

In this research, MDS is adapted to three main objectives: social/human, economic, and natural/ecological conditions. The MDS method will provide a regional development strategy through in-depth identification of the indicator objects. A preliminary study was conducted to determine the indicators for the sustainability dimensions of BJBR (Table 2).

Table 2. Dimensions and Indicators Variable

Variable	Good	Bad	Indicators
Environmental dimension	5	1	The boundary setting of the mangrove forest area (X1.1)
	5	1	The suitability of the mangrove forest allocation (X1.2)
	5	1	Vegetation cover in mangrove forest area (X1.3)
	5	1	Diversity of tree outside the mangrove forest (X1.4)
	5	1	Management of biodiversity (X1.5)
	5	1	Planting, caring, and protection activities in mangrove forest areas (X1.6)
	5	1	Seeds availability to support planting efforts in mangrove forest areas (X1.7)
	5	1	Protection of rare, threatened, and flagship species (X1.8)
Economic Dimension	5	1	BJBR income from self-management (X2.1)
	5	1	Job and business opportunities (X2.2)
	5	1	Product market (X2.3)
	5	1	The benefits from measured area (X2.4)
	5	1	The production of mangrove forest species that have been cultivated (X2.5)
	5	1	Income level of the community (X2.6)
Social Dimension	5	1	Effective conflict resolution mechanism (X3.1)
	5	1	The balance of rights and obligations in mangrove management (X3.2)
	5	1	Availability of procedures for mangrove utilization (X3.3)
	5	1	Community engagement in mangrove management (X3.4)
	5	1	Practice of local cultures in mangrove conservation (X3.5)

Descriptive analysis is used to determine the description of the respondents measured from several indicators in question. Interview results are descriptively analyzed and in-depth so that it can support the meaning of the results of research in quantitative (Sugiyono, 2008). Analysis of the sustainability of the development of the BJBR Area was carried out with a Multi Dimensional Scaling (MDS) approach called RAPFISH (Pitcher & Preikshot, 2001), then strengthened by the Monte Carlo test and then to find out the most influential attributes as a lever then Leverage analysis is performed. Each attribute that has been compiled and filled with the existing data condition is then analyzed using MDS, then the sustainability index of each dimension is obtained (Table 3).

Table 3. The Value of the Marine Tourism Sustainability Index is Based on RAPFISH Analysis

Index Score	Category
0 – 24.99	Bad/Unsustainable
25 – 49.99	Less Sustainable
50 – 74.99	Quite Sustainable
75 – 100	Good/Sustainable

Source: Thamrin (2008), Susilo (2003)

RESULT AND DISCUSSION

Analysis on Dimensions

Ecology Dimension

Generally, ecology dimension indicators are closer to the character of sustainability (good score, see Figure 1). The RAPFISH chart illustrates that the ecological dimension strongly supports the sustainability of the BJBR and its activities over the years and has great potential to support it in the future.

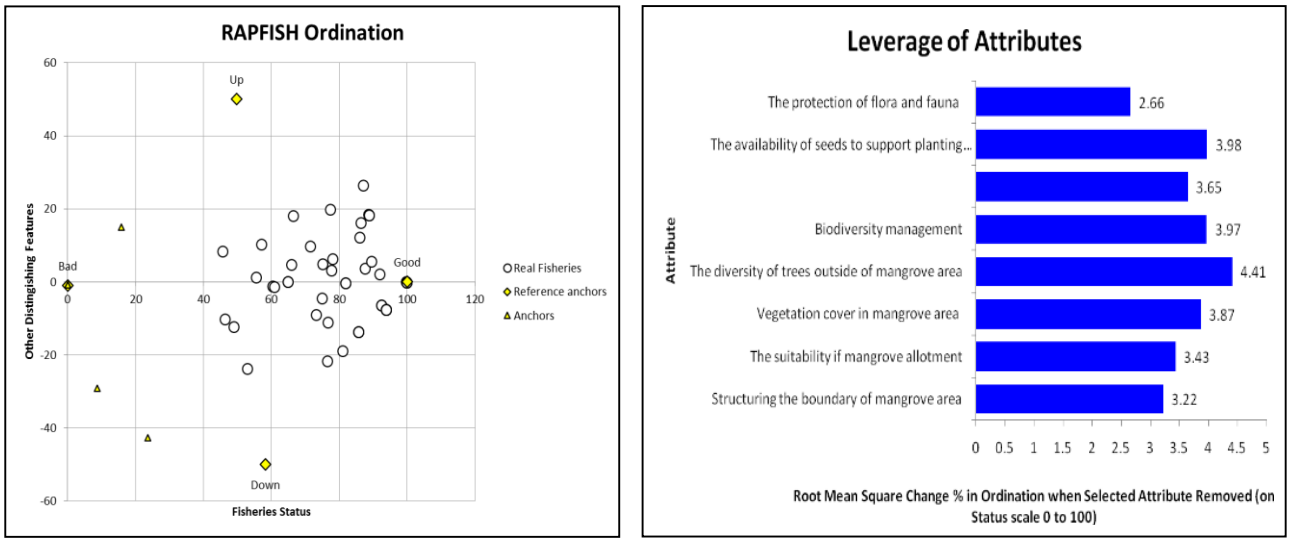

Figure 1. RAPFISH and Leverage Chart on Ecology Dimension

This research use eight indicators of ecological dimension that affect the level of BJBR sustainability and shown by a graph of leverage (Figure 1). Partially, the diversity of tree species outside the mangrove area to be a very supportive indicator of sustainability (Leverage = 4.41). Tourists consider that other than mangrove species are unique and shady. The management also increases its potential by adding benches and spot-artificial photographs to make visitors more

interested. Also, diversity has an ecological impact along with the BJBR entry and beach routes. The canopy section becomes a habitat for wild birds for foraging and nesting (Kurnianto et al., 2017) The complexity of the vegetation structure and the composition of flowering plants will increase the diversity of the niche in it, which in turn has an impact on the diversity of birds (Díaz, 2006; Gil-Tena et al., 2007).

Then, BJBR sustainability also appears on mangrove regeneration that technically well prepared. The availability of mangrove seeds becomes the second important thing (Leverage= 3.99) that supports BJBR's management activities as well as its sustainability process in the future. Fishermen obtain mangrove seeds in the collecting and storage process. However, the mangroves are also composed of species that can reproduce rapidly through its seeds that fall in the mud (Lundquist et al., 2017). The natural availability and artificial renewal process that took place throughout the year made the BJBR mangrove area expanded. Climate change, rising sea levels, and increased airborne carbon also have a positive effect on mangrove expansion (Armitage et al., 2015; Saintilan et al., 2014). Biodiversity management also becomes a significant part of BJBR sustainability (Leverage= 3.97). In every daily activity and development, BJBR management always oriented to the utilization of natural values, such as marine-based tourism, natural scenery, the use of mangrove in medicine, food.

Economy Dimension

In general, the economic dimension has scattered indicator results (Figure 2). Some real fisheries are more centered in the middle. It illustrates that the economic dimension supports BJBR stagnantly. More innovations are needed on indicators that are expected to get high-value (direct impact) scores, but the facts are not.

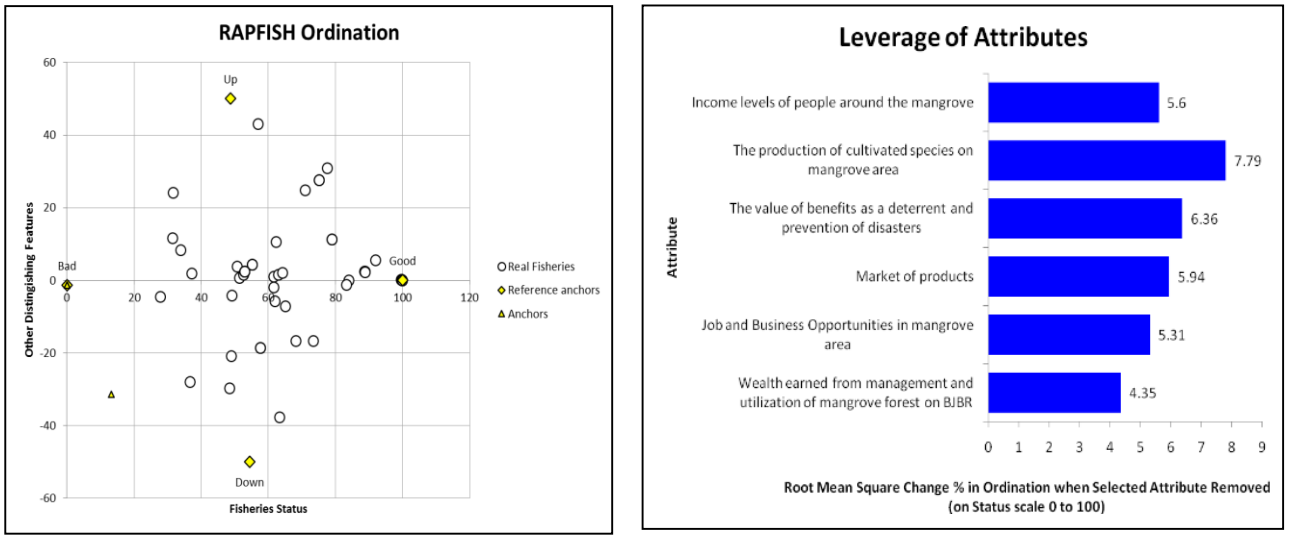

Figure 2. RAPFISH and Leverage Chart on The Economic Dimension

The most significant supporting factor of the economic dimension was obtained from the production of cultivated species on the mangroves area (Leverage = 7.79). There are several plants

planted around the mangroves area, where these plants have some properties as a health plant and the management of BJBR has given instructions on the types of plants, health benefits, and fruit produced (Permatasari, 2017). In addition, other attributes that are influential are the value of benefits as a deterrent and prevention of disaster (Leverage = 7.79), before the appearance of BJBR, people felt durable coastal abrasion occurred. Fishermen revealed that coastal abrasion had an impact on the destruction of docks and beach walls. Coastal abrasion has a severe impact on coastal tourism and economies (Suastika, 2014), reduced living space, and social life (Asmal et al., 2017). However, mangroves provide excellent abrasion and wave resistance, even better than artificial walls (Achiari et al., 2015; Bao, 2011; Horstman et al., 2014).

On the contrary, the direct economic benefits are lower, such as the income levels of people around the mangroves (Leverage = 5.6), Job and business opportunities in mangrove area (Leverage = 5.31), and wealth earned from management and utilization of mangroves forest on BJBR (Leverage = 4,35). The management of BJBR has opened jobs for the surrounding community, but not all surrounding communities have the competencies needed by management. Regarding the benefits, this has been adjusted to the vision and mission of BJBR which not only pursues profits but also seeks to conserve the surrounding environment.

Social Dimension

On the social dimension, qualitatively, it appears that the test indicator test spreads up and in the wrong direction (Figure 3). It illustrates that the social dimension has many weaknesses that must be fixed in the future. The recent BJBR progress is quite good, but it must be supported with more active optimization and innovation (Parmawati et al., 2018).

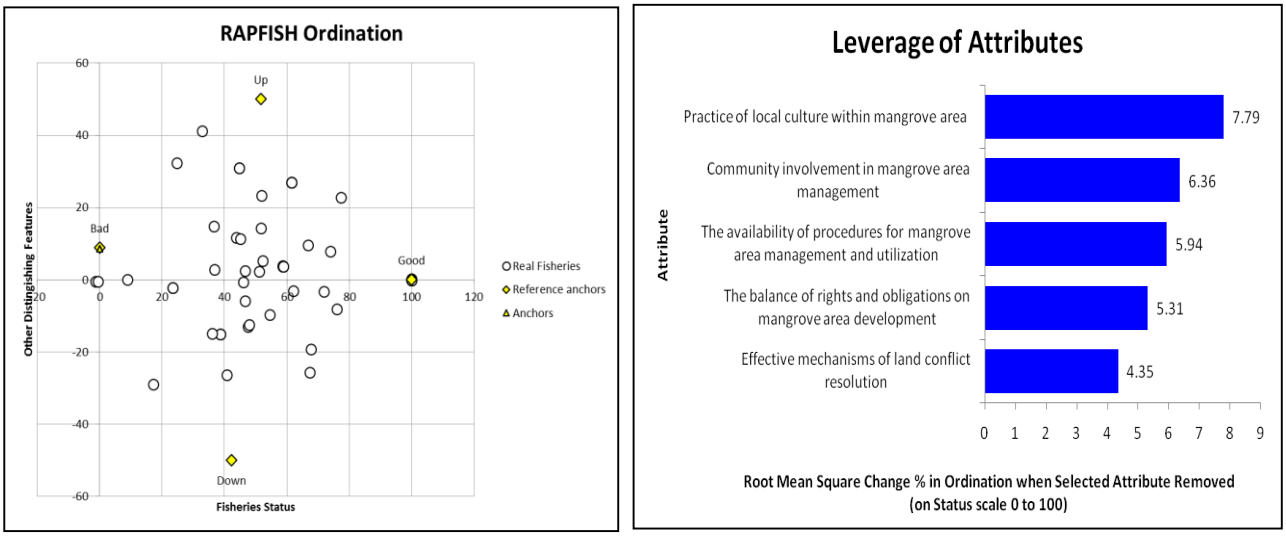

Figure 3. RAPFISH and Leverage Chart on The Social Dimension

In the social dimension, the most sensitive attribute is practice of local culture within mangroves area (Leverage = 7.79). The most of community in BJBR area are fishermen, and the people has a fishing tradition to expressing gratitude and hope to God. They usually did a tumpengan, syukuran, as well as the participation of BJBR employees and community in the independence parties on

August. The second sensitive attribute is prioritizing community involvement in the processes, such as preparation, planning, action, and innovation (Leverage = 6.36). Approximately 95% of all employees and operators are from local communities. This makes BJBR has a very high value in Probolinggo society.

Based on RAPFISH analysis using MDS ordination technique (Multi-Dimensional Scaling) and Monte Carlo Analysis (Table 4), BJBR grows continuously in three dimensions: ecology, economy, and social. This progress can be seen from the average value of the sustainability index: 64.51%. Generally, the observed dimensional condition shows a balance. However, the ecological dimension tends to support BJBR sustainability higher than others (Figure 4). This evidence analogous with the development of BJBR that always emphasizes the environmental side and the impact increasingly seen after the next five years.

Visitors expressed their interest through BJBR promotional media as a tourism destination that holds the vision and concepts of going green and pro-environment. Then, the economic benefits are a secondary concern that occupied by BJBR. Moreover, institutional and organizational programs strongly support BJBR's economic development.

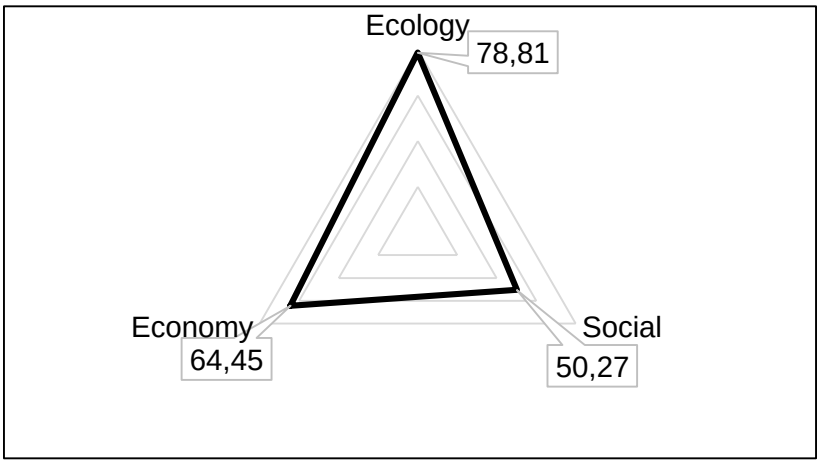

Figure 4. MDS Charts. The Line Preferences Illustrate The BJBR Tendency in The Sustainability Dimension

The sustainability value of the social dimension is small enough. It becomes a challenge for BJBR to manage and accompanied it with a very real impact on societies. In fact, direct observation illustrates the social condition of the surrounding community has not experienced any real change in the five years of opening. Fishermen community became a figure of the poor around BJBR has not yet described an improvement in this dimension. The absence of social dimension impact has several possibilities. First, the relatively young age of BJBR has not been able to prove its influence on the social condition that has been present. The second possibility, BJBR has not directed its main vision to the social dimension. The results of qualitative research and studies show that most social dimensions are the 'secondary goal' for policymakers. The presence of BJBR has a projection to lift the socio-economic conditions of the surrounding community through the utilization of nature as the main objective.

The stress score below 0.25 indicates a high degree of confidence in the assessment of measured dimensions. This score also shows very little error that occurs in data retrieval. The coefficient of determination (RSQ) has a range between 0.8 - 0.9. It shows the attributes in the research dimensions in MDS have explained ± 90% of the real conditions of the BJBR.

Table 4. Sustainability Index Dimensions and Values

Dimension	Dimension of Sustainability			The Value of Sustainability Index (%)		
	Stress	RSQ	Iterasi	Rapseico	Monte Carlo	Gap
Ecology	0.2	0,9	3	78.81	76.81	2
Economy	0.24	0,81	4	64.45	63.31	1.14
Social	0.22	0,83	3	50.27	49.99	0.28

The Gap value between Repseico (MDS value) and Monte Carlo illustrates the sustainability of BJBR. The Gap value <1 illustrates the sustainability process that occurs in BJBR has not much change. However, it can be illustrated that it occurs only in the social dimension (Table 3). It confirms that BJBR has minimal impact on the social conditions of the surrounding community (Figure 2).

The most significant impact is owned by the ecological dimension, which is indicated by a considerable gap value (Gap=2). It illustrates that BJBR has been moving according to its primary focus in achieving environmental sustainability. Besides, the economic dimension also has a significant impact (Gap=1.14). BJBR is also concerned with the presence of nature tourism that will lift the incomes of surrounding communities. Unfortunately, based on observation, economic impacts are only reaching some people, and other people cannot feel it. This evidence also warns the city government and BJBR policymaker. Development strategies need to more focus on strengthening the impact of social conditions.

Based on the results of the analysis of leverage that has been done from three existing attributes, namely ecological, social, and economic. There are attributes that are sensitive to the level of sustainability of this BJBR tourism area. The sensitive attributes of each attribute can be seen in Figure 5.

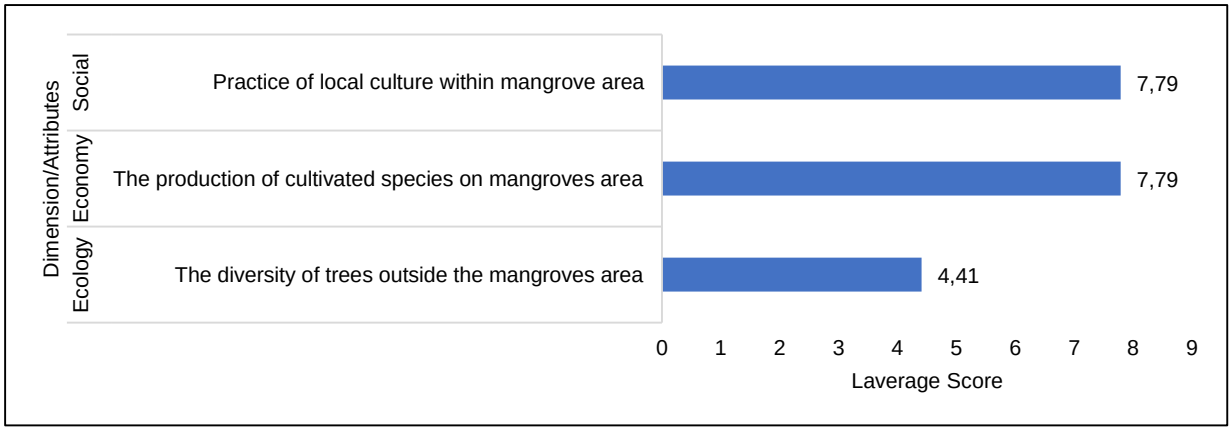

Figure 5. Sensitive Attributes of Each Dimension

Based on Figure 5 shows that in the ecological dimension of the diversity of tree species outside the mangrove area to be a very supportive indicator of sustainability (Leverage = 4.41), this is

because visitors consider that other plants besides mangroves are interesting things, so parties management is also trying to plant other plants and add photo objects so that it increases the attractiveness of the location. In the economic dimension, the most significant supporting factor of the economic dimension was obtained from the production of cultivated species on the mangroves area (Leverage = 7.79). plants around the BJBR area are plants that serve as a means of public education and tourists related to environmental conservation, especially environmental conservation in coastal areas. On the social dimension, the most sensitive attribute is the practice of local culture within the mangroves area (Leverage = 7.79). this is because each region has its own culture, which is a characteristic of the surrounding area, in general around the BJBR area the majority of people work as fishermen and have their own culture to show happiness to God.

Strategies towards BJBR sustainability

Based on the lowest leverage value, we identify the BJBR problems which should be fixed to lead the sustainable of the nature-based tourism area. Strategies are needed to resolve the problems based on the identification of another identical case.

Ecology Dimension: Conserving Wildlife Through Responsible Tourism

Some authors believe that natural resources should be kept away from tourists, and others believe those are the main object of tourism. The sustainability of a preserved area is highly dependent on the surrounding environment. Therefore, preserved areas are an attractive setting and resources for nature-based or wildlife tourism, as well as BJBR. However, the relationship between nature-based tourism and conservation or sustainability is not always been positive, but reduced (Blanc et al., 2006; Eagles et al., 2001; Higginbottom et al., 2001).

It is important to guide tourists to remain calm on a tour, reprimands, or information boards. In addition, the number of visitors in BJBR area needs to be limited in case of natural damage, such as vandalism, noise, and biodiversity harvesting. Then, education should be given to communities around the mangrove area to maintain the preservation of nature and wildlife as an asset in the future (Ranaweerage et al., 2015).

Economic Dimension: Assessing the economic development of the tourism entrepreneur

Nature-based tourism is known as an increased economic development opportunity in rural areas. As rural people seek a form of development that is in harmony with their nature, a question arises as part of the emerging nature of tourism. One of the ways to increase the visit to nature tourism is by giving rise to festivals or competitions in rural areas. A bird-watching festival was held in June 2004 in the countryside in central North Dakota. Most participants are visitors from outside the state. These visitors spent an average of 3 nights, with average spending of USD160 per person, which increased the village economy substantially (Hodur et al., 2005).

Besides, competitive tourism development is essential to increase the income of people who manage nature-based tourism. One of the best approaches is to develop a network of tourism and businesses that support each other. Tourism in Australia in 1996/97 has developed direct-related services businesses, such as rental of birding equipment, hotels, car rentals, and transportation access. Also, some tourist equipment sales need to be held by the community (Australian tourism commission, 2001). The entrepreneur's spirit needs to be owned by the community to develop their village. Business training needs to be held for the community to be more able to capture emerging business opportunities in their area (Ateljevic & Doorne, 2000).

Social Dimension: Networking in Tourism and Rural Development

It is essential to avoid sustainable development from polarization. The network between tourism and village life plays an essential role in being realized in BJBR (Petrou et al., 2007). A paradigm shift must be built, from 'single' ownership to 'community' assets. The introduction of more traditional models, which come from the community, could be presented through a local culinary presentation. Through local culinary, visitors can understand the reflection of local people's life. An analysis of the practice of village tourism in China shows how the social dimension can be successfully built through the relationship of village life to tourism, through culinary and local crafts sales (Ying et al., 2015).

A complimentary business establishment on the same geographic area can illustrate the relationship between the travel service provider and the local community. It will contribute to the emergence of new regional products. The emergence of networks and alliances among this business are based on exchange, sharing, and product development. They will promote non-polarized sustainable development (Inkpen & Tsang, 2005).

Future research needs to more focus on the impact of BJBR on the socio-economic conditions of the surrounding communities. Besides, issues related to managing change and transition need to consider several studies related to their impact both internally and externally. We recommend several studies related to the Sustainable Livelihood Approach that are combined with constraints and strategies for sustainability.

CONCLUSION AND SUGGESTION

The value of sustainability from the ecological dimension shows that, this dimension has influential attributes to be able to achieve sustainability. This is because the vision and mission of BJBR is to carry out conservation and education to tourists related to the surrounding environment, especially the coastal environment and this has been seen for five years after BJBR was founded. On another side, the economic dimension has scattered indicator results, and some real fisheries are more centered in the middle. It illustrates that the economic dimension supports BJBR stagnantly. On the social dimension, qualitatively, it appears the test indicator spreads up and in a bad direction. It illustrates that the social dimension has many weaknesses that must be fixed in the future.

The recent BJBR progress is quite good but must be supported with more dynamic optimization and innovation. In the ecology dimension, we suggest guiding tourists to remain calm on a tour, reprimands, or put some information boards. The number of visitors in the BJBR area needs to be limited in case of natural damage, such as vandalism, noise, and biodiversity harvesting. In the economic dimension, nature-based festivals or competitions in rural areas is a good example to optimize income. We also suggest introducing a local resource on visitors, such as culinary and local craft sales, for the social development role in BJBR tourism.

ACKNOWLEDGEMENT

Authors was grateful for the Probolinggo Government to give a research permission. Also, for the BJBR management that willingly to give an assistance during the research.

REFERENCES

Achiari, H., Wulandari, N., Yustiani, Y., & Harlan, D. (2015). *Study Erosion and Coastal Destruction at Pondok-Bali, North Coast-West Java of Indonesia*. International Journal of Management and Applied Science*,1*(9), 317-320.

Alaeddinoglu, F., & Can, A. S. (2011). Identification and classification of nature-based tourism resources: Western Lake Van basin, Turkey. *Procedia - Social and Behavioral Sciences*, *19*, 198–207.

Alder, J., Pitcher, T., Preikshot, D., Kaschner, K., & Ferriss, B. (2000). How Good is Good?: A Rapid Appraisal Technique for Evaluation of the Sustainability Status of Fisheries of the North Atlantic. In *Methods for Evaluating the Impacts of Fisheries on North Atlantic Ecosystems, 8*, 136–183.

Armitage, A. R., Highfield, W. E., Brody, S. D., & Louchouarn, P. (2015). The contribution of mangrove expansion to salt marsh loss on the Texas Gulf Coast. *PLoS ONE*, *10*(5), 1–17.

Ashley, C., Brine, P. De, Lehr, A., & Wilde, H. (2007). The Role of the Tourism Sector in Expanding Economic Opportunity. *The Role of the Tourism Sector in Expanding Economic Opportunity*, 11–15.

Asmal, I., Ali, M., & Amin, S. (2017). Coastal Environmental Degradation as Communal Space, Impact on Social Fishermen Community Life at North Galesong. *International Journal of Innovation and Research in Educational Sciences*, *2*(5Online), 2349–5219.

Ateljevic, I., & Doorne, S. (2000). 'Staying within the fence': Lifestyle entrepreneurship in tourism? *Journal of Sustainable Tourism*, *8*(5), 378–392.

Australian Tourism Commission. (2001). Tourism's Top Ten Facts. from http://atc.australia.com/newscenter.asp?art=658. [23/04/2019]

Bao, T. Q. (2011). Effect of mangrove forest structures on wave attenuation in coastal Vietnam. *Oceanologia*, *53*(3), 807–818.

Bee Jay Bakau Resort (BJBR). (2018). Beejay Bakau Resort Pantai Probolinggo. http://beejaybakauresort.com. [23/04/2019]

Blanc, R., Guillemain, M., Mouronval, J. B., Desmonts, D., & Fritz, H. (2006). Effects of non-consumptive leisure disturbance to wildlife. *Revue d'Ecologie (La Terre et La Vie)*, *61*(2), 117–133.

Díaz, L. (2006). Influences of forest type and forest structure on bird communities in oak and pine woodlands in Spain. *Forest Ecology and Management*, *223*(1–3), 54–65.

Diedrich, A., & Aswani, S. (2016). Exploring the potential impacts of tourism development on social and ecological change in the Solomon Islands. *Ambio*, *45*(7), 808–818.

Dressler, Wolfram.H. (1999). Nature-Based Tourism and Sustainability in The Beaufort-Delta Region, N.W.T: An Analysis of Stakeholder Perspectives. A Thesis: Natural Resources Institute, Winnipeg, Manitoba

Eagles, P. F. J., Bowman, M. E., & Tao, T. C.-H. (2001). *Guidelines for Tourism in Parks and Protected Areas of East Asia IUCN – The World Conservation Union*.

Fauzi, A., & Anna, S. (2002). Evaluasi Status Keberlanjutan Pembangunan Perikanan: Aplikasi Pendekatan RAPFISH. Indo*nesian Journal of Coastal and Marine Resources, 4*(3),43-55.

Gil-Tena, A., Saura, S., & Brotons, L. (2007). Effects of forest composition and structure on bird species richness in a Mediterranean context: Implications for forest ecosystem management. *Forest Ecology and Management*, *242*(2–3), 470–476.

Gulati, R. (1998). Alliances and Networks. *Strateg. Manag. J*, *19*, 293-317.

Higginbottom, K., Rann, K., Moscardo, G., Davis, D., & Muloin, S. (2001). Status assessment of wildlife tourism in Austrialia: An Overview. Part I: Descriptive overview of wildlife tourism. *Tourism*, *1*, 117.

Horstman, E. M., Dohmen-Janssen, C. M., Narra, P. M. F., van den Berg, N. J. F., Siemerink, M., & Hulscher, S. J. M. H. (2014). Wave attenuation in mangroves: A quantitative approach to field observations. *Coastal Engineering*, *94*, 47–62.

Inkpen, A. C., & Tsang, E. W. K. (2005). Social capital networks, and knowledge transfer. *Academy of Management Review*, *30*(1), 146–165.

Joshi, A., Kale, S., Chandel, S., & Pal, D. (2015). Likert Scale: Explored and Explained. *British Journal of Applied Science & Technology*, *7*(4), 396–403.

Lundquist, C., Carter, K., Hailes, S., & Bulmer, R. (2017). Guidelines for Managing Mangrove Expansion in New Zealand. NIWA Infromation Series No.85. National Institute of Water and Atmospheric Research. http://www.niwa.co.nz/managingmangroveguide [23/04/2019]

Kurnianto, A. S., Justinek, Ž., Purnomo, P., Batoro, J., & Kurniawan, N. (2017). Bird Assemblage and Preference to Tengger Sacred Trees: Conservation insights from Tengger Tribe, Indonesia. *Jurnal Pembangunan Dan Alam Lestari*, *8*(2), 61–66.

Pan, S. Y., Gao, M., Kim, H., Shah, K. J., Pei, S. L., & Chiang, P. C. (2018). Advances and challenges in sustainable tourism toward a green economy. *Science of the Total Environment*, *635*, 452–469.

Parmawati, R., Qur'ania, A., Riarmanto, A. K., Yakub, A., & Kurnianto, A. S. (2018). Journal of

Indonesian Tourism and Development Studies. *J. Ind. Tour. Dev. Std*, *17*(1).

Petrou, A., Pantziou, E. F., Dimara, E., & Skuras, D. (2007). Resources and activities complementarities: The role of business networks in the provision of integrated rural tourism. *Tourism Geographies*, *9*(4), 421–440.

Pitcher, T.J. (1999). *RAPFISH, A Rapid Appraisal Technique for Fisheries, and Its Application to The Code of Conduct for Responsible Fisher*ies. FAU Fisheries Circular No. 947. Rome: FAO.

Pitcher, T. J., & Preikshot, D. (2001). RAPFISH: A rapid appraisal technique to evaluate the sustainability status of fisheries. *Fisheries Research*, *49*(3), 255–270.

Quaranta, G., Citro, E., & Salvia, R. (2016). Economic and social sustainable synergies to promote innovations in rural tourism and local development. *Sustainability (Switzerland)*, *8*(7).

Rahayuningsih, T., Muntasib, E. K. S. H., & Prasetyo, L. B. (2016). Nature Based Tourism Resources Assessment Using Geographic Information System (GIS): Case Study in Bogor. *Procedia Environmental Sciences*, *33*(April), 365–375.

Ranaweerage, E., Ranjeewa, A. D. G., & Sugimoto, K. (2015). Tourism-induced disturbance of wildlife in protected areas: A case study of free ranging elephants in Sri Lanka. *Global Ecology and Conservation*, *4*, 625–631.

Saintilan, N., Wilson, N. C., Rogers, K., Rajkaran, A., & Krauss, K. W. (2014). Mangrove expansion and salt marsh decline at mangrove poleward limits. *Global Change Biology*, *20*(1), 147–157.

Semeniuk, V. (2013). Predicted Response of Coastal Wetlands to Climate Changes. A Western Australian Model. *Hydrobiologia, 708*(1), 23–43.

Sharpley, R. (2000). Tourism and sustainable development: Exploring the theoretical divide. *Journal of Sustainable Tourism*, *8*(1), 1–19.

Suastika, I. N. (2014). Beach Abrasion Reduction Efforts in Nature Conservation and Sector Development of Marine Tourism in Bali. *International Journal of Business, Economics and Law*, *4*(1), 18–21.

Susilo, B. (2003). Keberlanjutan Pembangunan Pulau-pulau Kecil: Studi Kasus Kelurahan Pulau Panggang dan Pulau Pari, Kepulauan Seribu, DKI Jakarta. Dissertation. Program Studi Pengelolaan Sumberdaya Pesisir dan Lautan. Program Pascasarjana. IPB. Bogor.

Thamrin., Sutjahjo, S., Herison, C., & Sabiham, S. (2007). Analisis Keberlanjutan Wilayah Perbatasan Kalimantan Barat-Malaysia Untuk Pengembangan Kawasan Agropolitan. Jurnal *Agro Ekonomi, 25*(2), 103-124.

Wati, N., Siswoyo, B., & Wardana, L. (2016). Development Strategy of Mangrove Conservation And Ecotourism BeejayBakau Resort. *IOSR Journal of Business and Management*, *18*(5), 116–122.

Ying, T., Jiang, J., & Zhou, Y. (2015). Networks, citizenship behaviours and destination effectiveness: a comparative study of two Chinese rural tourism destinations. *Journal of Sustainable Tourism*, *23*(8–9), 1318–1340.