

Value Chain performance of the three developing Mangrove Ecotourism in East Java

Suluh Elman Swara^{1*} and Candra Adi Intyas²

¹*Industrial Engineering Department, Faculty of Engineering, University of Brawijaya*

²*Socio-Economy Fisheries and Marine Department, Faculty of Fisheries and Marine Science, University of Brawijaya*

(Received 17 February, 2021; accepted 6 July, 2021)

ABSTRACT

Mangrove ecotourism is a tourism development concept that utilizes nature by considering its physical, economic, and ecological functions to remain sustainable. Environment-oriented ecotourism prevents damage to the natural surroundings and increases the surrounding community's participation to protect the area while simultaneously utilizing its economic capacity. Mangrove Ecotourism is relatively developed in East Java province. The purpose of this study was to analyze the value chain performance in three popular mangrove ecotourism in East Java, namely Beejay Bakau Resort Probolinggo, Kampung Blekok Situbondo, and Pancer Cengkong Trenggalek. The data analysis employed the Yilmaz and Bititci analysis model. The study results ascertained that Beejay Bakau Resort managed professionally and had more complete facilities; however, their updated information and logistics delivery need to be improved. The CBT-based Kampung Blekok Situbondo, also offers exciting activities for visitors even though some activities need to be improved, especially adding tour packages options, improving accommodation and transportation facilities. Meanwhile, Pancer Cengkong Trenggalek, which is also based on CBT, is more left-behind and needs many improvements in all aspects and activities.

Key words : Ecotourism, Mangrove, Value chain

Introduction

The largest mangrove ecosystem area in the world with the highest biodiversity is in Indonesia. According to the Ministry of Environment and Forestry (2017), mangrove ecosystems disseminated in several provinces add up to around 3.4 million hectares, of which 1.8 million hectares are in a damaged condition. Mangrove ecosystems have significant benefits from physical, chemical, biological, and socio-economic aspects. From a physical aspect, mangroves function to protect the coastline, support the intrusion process, protect against erosion/abrasion and retain sediment. A mangrove is a place for photosynthesis to occur in the chemical aspect and a

processor for waste materials from industrial pollution and ships in the oceans. From a biological perspective, mangroves act as a producer of decomposers, as a spawning ground or nursery ground for shrimp, crabs, shellfish, shelter, nesting, and breeding of birds and other animals. For the socio-economic aspect, mangrove supports industrial raw materials, fuel, medicine, ecotourism, conservation, and research (Arief, 2003).

To date, the threat to the mangrove environment continues to increase due to human activities. Community high resource needs often do not pay attention to the environment around them. Some communities consider the mangrove ecosystem area to have no high value. Many people think that this man-

grove area is a waste of land, so that it becomes unproductive, which makes the mangrove area turned into land with more economic value, such as ponds, industrial areas, or taken as building materials. As a result of this damage to the mangrove ecosystem, all parties who care about the environment seek alternative ways to save the mangrove ecosystem from damage due to improper use. The tourism sector's current development has created the right alternative tourism concept to maintain socio-cultural conditions and sustainable natural resource use. The current concept of tourism focuses not only on objects and visitors but also on other vital aspects such as environmental preservation, community economy, and social culture. The development of this tourism concept is also known as ecotourism.

Ecotourism is a nature tourism activity responsible for education, learning purposes, and supporting natural resource conservation efforts, and increasing local community income in the region (Minister of Home Affairs Regulation No. 33/2009). Nugroho *et al.* (2015) define ecotourism as a tourism activity that applies educational elements that are managed professionally and part of the economic business sector, considering local cultural heritage, participation from stakeholders, including the welfare of the locals as an effort to protect and conserve natural resources and the environment. In its management, ecotourism could be managed professionally by individuals (businesses) or community-based. Denman (2001) delineates Community-Based Tourism (CBT) as a form of ecotourism, especially in resource development and management, that involves local communities. They take a hefty majority of the benefits, especially in a place inhabited by natives with communal land and resource rights.

Some developing mangrove ecotourism areas in East Java are Beejay Bakau Resort Probolinggo, managed by the private sector, Kampung Blekok Situbondo and Pancer Cengkong Trenggalek which are CBT-based (Intyas *et al.*, 2021). In this context, research objectives were formulated to analyze value chains' performance in these three locations' ecotourism activities.

Study Methods

This research was conducted from February to August 2020 at three locations: Beejay Bakau Resort Probolinggo, Kampung Blekok Situbondo, and Pancer Cengkong Trenggalek. The method used for sampling at each location in this study using the

nonprobability sampling method with snowball sampling technique. Creswell (2013) defines snowball sampling as a term of deliberate sampling which often accompanies a study and is conducted when the researcher asks the participant to recommend sampling to other people. The initial sampling of this research was ecotourism managers and related agencies. They then recommended that the researchers interview the chieftain, the local communities around the area, and the tourists related to value chain activities. Unfortunately, during the COVID-19 pandemic, the data obtained was still not optimal, so data collection was assisted by providing online questionnaires to assess management performance in that three ecotourism.

The value chain analysis uses Performance Measurement by Yilmaz and Bititci (2006), starting from the visitors booking the order until experiencing the destination location. Some of the activities carried out by these visitors are divided into several activities at level 1, namely:

1. Win order is the first stage in the tourism industry by purchasing tourism products before visiting the tourism object.
2. Pre-delivery support is an activity carried out by visitors and travel agents in meeting their needs before taking a tour.
3. Delivery is the steps taken by visitors to enjoy the tourist destination.
4. Post-delivery support is the level measurement of visitor satisfaction with the entire chain experienced.

Subsequently, the value chain performance is measured based on three levels, viz:

1. Level 1, at the first level of the tourism value chain, the space for value chain operations is defined as the basis of the set competition performance targets. Performance attributes can be designed to focus on internal and visitor perspectives for the entire value chain.
2. Level 2, at the second level, each value chain process's performance measurement criteria are determined according to the attributes to achieve the targets set at the first level.
3. Level 3, the need for a third level arises because of the delivery stage's complex nature. The performance attributes and metrics can be developed according to Level 2 for accommodation, transport and incoming travel agents, and common suppliers in the tourism value chain.

Results and Discussion

Based on the analysis of value chain performance measurement by Yilmaz and Bititci (2006), the activities and value chain performance of the three ecotourism in East Java are discussed in each of the following sections.

Based on Table 1, the value chain performance activities are described as follows:

1. Win order

The win order activity is the first stage where tourist products' purchase is part of the entire trip. At this stage, the consumer has the right to choose the desired tour package. The consumer can also plan trips using travel or tour operators or trips personally (Yilmaz and Bititci, 2006).

Based on the study results, it was found that Beejay Bakau Resort Probolinggo ecotourism was more advanced in providing information and ordering results compared to Kampung Blekok Situbondo and Pancer Cengkong Trenggalek. Beejay Bakau Resort Probolinggo already has an official website and collaborates with online travel agents such as Traveloka so that the booking process can be done online through the website and travel agents and offline by visiting ecotourism locations. The main difference between the three ecotourism areas was that Kampung Blekok Situbondo and Pancer

Cengkong Trenggalek did not have official websites or in-house with online travel agents. However, Kampung Blekok Situbondo had collaborated with the local travel agent to provide information and reservations, while for the Pancer Cengkong Trenggalek, the promotion was still maintained by the manager via telephone or the visitors come to the location directly.

2. Pre-Delivery

Pre-delivery activities are staging that tourists must prepare before traveling, such as ticket requirements, visa/passport requirements, and travel agents' Information. At this stage, the activity that occurs is preparing consumers when they have selected a package (Yilmaz and Bititci, 2006).

This research showed that to get to the Beejay Bakau Resort ecotourism, Probolinggo can be by land and sea. Meanwhile, Kampung Blekok Situbondo and Pancer Cengkong Trenggalek are reached by land route. If visitors come from outside the province of East Java, they can go by air, followed by land routes. There is no limit to the quota of visits every day. In Beejay Bakau Resort Probolinggo ecotourism, the nearest air route is Surabaya Juanda Airport, which is continued by land using buses, trains, or cars while on the sea route, the landing can be done at Mayangan Harbor. In Kampung Blekok Situbondo ecotourism, the clos-

Table 1. Value Chain Activities in Ecotourism Areas

No	Activity	<i>Bee Jay Bakau Resort Probolinggo</i>	Kampung Blekok Situbondo	Pancer Cengkong Trenggalek
1	Win Order	Using travel agents / official websites, or visitors come to the location	Using travel agent/ Instagram official, or visitors come to the location	Managed by the manager or visitors come to the location
2	Pre delivery	<ul style="list-style-type: none"> - Can be accessed through land and sea routes - providing tour packages - providing tour packages 	<ul style="list-style-type: none"> - Can be accessed through land and sea routes - Can be accessed through land and sea routes. - No tour packages provided 	
3	Delivery	Natural and artificial attractions	Natural and artificial attractions	Natural and artificial attractions
4	Post Delivery	The questionnaire is available on all platforms for suggestions and complaints or accessed online via the official website.	Providing a suggestion box and Instagram official to communicate with consumers.	No promoting or official social media available.

est air route is Blimbingsari Banyuwangi Airport and the sea route through Jangkar Situbondo Harbor, which is continued by land. In Pancer Cengkong Trenggalek ecotourism, the closest air route is the Abdul Rachman Saleh airport and the PPN Prigi sea route, which is continued by land route.

Based on the variety of tour packages, only Beejay Bakau Resort Probolinggo ecotourism has tour packages based on the visit's duration and the number of people per package. The package also offers options that visitors can take in groups of at least two people. Unlike the Cengkong Tranggalek Pancer, which only offers natural tourism, Kampung Blekok Situbondo offers tour packages based on its existing tourist attractions. Information on tour packages needed by visitors can be obtained from managers, travel agents, or news spread on social media.

3. Delivery

Delivery activity is a phase in which consumers use tourism products or travel as per tourism products purchased by consumers (Yilmaz and Bititci, 2006). The delivery stage consists of several points, namely:

a. Inbound Activity

Inbound activity is an activity where visitors accept the products offered by providing benefits for local conservation and the economy. The three ecotourism destinations offer natural tourism, namely mangrove tourism, by presenting various living flora and fauna inside them. The thing that distinguishes it is the artificial attractions provided. Beejay Bakau Resort Probolinggo's destination has various artificial attractions, such as Majengan Bakau Beach, Water Boom, Fantasy Island, Indraloka Garden, Kedai Digital, BJBR Ball Icon and I Love BJBR, Futsal and Beach Volleyball, Beach Canoe, Garbage Ball, Padlock Icon Love, Cycling Track, Jumbo Panda, and Jumbo Penguin, Kuda Cipta Wilaha, Saltwater Swimming Pool. Several attractions require additional tickets or fees to enjoy them, excluding the entrance tickets. In contrast, at Kampung Blekok Situbondo, the charged additional attractions are waterbird breeding, boats, craft education, R Hot bottle & Ecobricks education, mangrove and waterbird education, and botanical garden. For the Pancer Cengkong Trenggalek destination, the rides served are boat rides.

b. Accommodations

According to the Decree of the Minister of Tourism no 37 / PW.304 / MPT / 86, the accommodation is a place for staying that provides other services such as food and drink services. Regarding lodging, Bee Jay Bakau Resort Probolinggo provides resorts, bungalows, and *Beejay Sabha Samudera*. Kampung Blekok Situbondo provides guest houses belonging to the surrounding community in collaboration with the manager. Meanwhile, Pancer Cengkong Trenggalek does not provide lodging facilities, but several hotels/inns are close to the Prigi PPN.

For food and beverages, Bee Jay Bakau Resort Probolinggo provides several facilities such as restaurants, cafes, and minimarts that are in the area, and reservations can also be made through the manager. Meanwhile, Kampung Blekok Situbondo utilizes the surrounding community to provide food/drink stalls in one area with a 3000 Rupiahs/day rental fee. For Pancer Cengkong Trenggalek, the food/drink stall owner is a management member who also works to protect the ecotourism area.

c. Transportations

For the transportation aspect, establishing trail systems, simple marine transportation systems, airplane access, and tourism development infrastructure is crucial. The development of transportation facilities can increase consumer visits, but still need to consider the impact on the environment, save energy, be safe, and provide better information for consumers (UNEP, 2002).

The availability of transportation in these three areas is relatively easy. Unfortunately, they do not cooperate with the manager, so visitors are advised to use travel agents who usually facilitate transportation. Among the three areas, the route rarely used by public transportation is Pancer Cengkong Trenggalek, so it is advisable to use a private vehicle because no travel agent is available.

4. Post Delivery

Post-delivery support activity is where customer satisfaction is measured and the corrective action taken to ensure that the tourism value chain is managed continuously (Yilmaz and Bititci, 2006). In post-delivery activities, those evaluated at this stage are Bee Jay Bakau Resort Probolinggo and Kampung Blekok Situbondo, where both of them have also used social media as a means of communicating.

The three ecotourism's value chain performance is assessed by the percentage of visitor satisfaction, as shown in Table 2:

From Table 2 it can be described as follows:

1. In the win order activity, Pancer Cengkong Trenggalek got the lowest percentage of the ordering process. The information's speed and accuracy were still not satisfactory because there are still limited information sources, and the managers have not collaborated with travel agents and the local community. Beejay Bakau Resort also needs to pay attention to improve the speed and accuracy of the information. Even though social media has been maximized, the accuracy of visitors' information regarding ecotourism is different from the information provided.

2. The three ecotourism areas received a pretty good response on pre-delivery activities, although Pancer Cengkong Trenggalek received a little unsatisfied response (7%) but most answered excellence. It shows that the management has everything needed by visitors properly when they arrive at the ecotourism location.

3. On delivery activities, Beejay Bakau Resort received a response above the average in terms of the tour packages offered, followed by Kampung Blekok Situbondo and finally Pancer Cengkong Trenggalek. While in terms of security of facilities and attractions are quite good (satisfied and average). The Pancer Cengkong Trenggalek area also received a little unsatisfied response. Furthermore,

in terms of transportation, visitor satisfaction is quite varied where the Pancer Cengkong Trenggalek gets the lowest percentage. Even though the location is close to the main road, public transportation availability is still limited. In terms of accommodation, the highest score is obtained by Beejay Bakau Resort (excellent 67%). It can be seen from the accommodation facilities that are offered, Beejay Bakau Resort Probolinggo offers comfortable accommodation facilities integrated with the area. Blekok Situbondo Village gets the highest percentage in logistics because it provides various traditional food products at low prices.

4. In post-delivery activities, Pancer Cengkong Trenggalek receives a percentage where almost part of it is dissatisfied due to simple facilities, limited package tours, and unmanageable public transportations.

Conclusion and Suggestions

Conclusion

Among the three ecotourism areas, Beejay Bakau Resort is professionally managed and has more complete facilities, but there are still activities that need to be repaired. While CBT-based Kampung Blekok Situbondo also offers exciting and pleasant activities for visitors. Nevertheless, Pancer Cengkong Trenggalek, which is also CBT-based, is still fall behind and needs many improvements.

Table 2. Visitor Satisfaction Percentage in Ecotourism Area

No	Activity	Characteristic	Visitor Satisfaction Percentage (%)											
			Bee Jay Bakau Resort Probolinggo				Kampung Blekok Situbondo				Pancer Cengkong Trenggalek			
			E	S	A	U	E	S	A	U	E	S	A	U
1	Win order	Order processing	0	100	0	0	40	60	0	0	10	5	82,5	2,5
		The speed and accuracy of delivering information	7	53	37	3	60	40	0	0	0	5	55	40
2	Pre Delivery	Preparation level	7	83	10	0	34	54	12	0	55,8	37,2	0	7
3	Delivery	Tour packages	60	40	0	0	44	48	7	1	0	39,5	51,8	9,3
		The location and attractions safety	0	83	17	0	0	80	20	0	41,9	0	46,5	11,6
		Transportations	27	57	17	0	39	50	10	1	23	35	35	7
		Accomodations	67	27	0	0	24,5	63	11,5	1	0	39,5	46,5	14
4	Post Delivery	Logistics	3	70	27	0	35,5	51,5	13	0	34,9	32,6	27,9	4,7
		Visitor's Satisfaction	13	84	3	0	34	54	12	0	0	53,5	0	46,5

Note: E= excellence, S = Satisfied, A= Average, U= Unsatisfied

Suggestions

Beejay Bakau Resort Probolinggo ecotourism is advised to focus more on win-order activities, especially on the speed and accuracy of the information, and pay more attention to logistics delivery activities. While Kampung Blekok Situbondo ecotourism needs to consider delivery activities by adding the tour packages and improving accommodation and transportation facilities. Particular concern must be given to the ecotourism of Cengkong Trenggalek, as all activities need to be improved in order to increase the satisfaction of visitors.

References

- Arief, Arifin. 2003. *Hutan Mangrove, Fungsi and Manfaatnya*. Yogyakarta: Penerbit Kanisius.
- Denman, R. 2001. Guidelines for community-based ecotourism development. WWF International Gland, Switzerland.
- Kementrian Lingkungan Hidup and Kehutanan. 2017. *Miliki 23% Ekosistem Mangrove Dunia, Indonesia Tuan Rumah Konferensi Internasional Mangrove*. 2017. http://ppid.menlhk.go.id/siaran_pers/browse/561.
- Creswell, John W. 2013. *Qualitative inquiry and research design: Choosing among five approaches (3rd ed.)*. Thousand Oaks, CA: Sage.
- Nugroho, Iwan and Purnawan D. Negara. 2015. *Pengembangan Desa Melalui Ekowisata*. Solo: PT. Era Adicitra Intermedia.
- Intyas, C.A., Primyastanto, M., Tjahjono, A., Dewantara, R., Fahma, W. and Wahyuningtyas. 2021. Activities Mapping in the Three Mangrove Ecotourism in East Java. *Ecology, Environment and Conservation Journal*.
- UNEP, 2002. United Nations Environment Programme Division of Technology, Industry and Economics. 2002. United Nations Publication.
- Yilmaz, Y. and Bititci, U. 2006. Performance measurement in the value chain: manufacturing v. tourism. *International Journal of Productivity and Performance Management*. 55(5) : 371–389. <https://doi.org/10.1108/17410400610671417>.