

The Development Of Eco-Edutourism Village In Mangrove Tapak Forest Area, Tugurejo, Tugu Sub-District As A Community-Based Tourism

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Abstract— An area that has an extensive mangrove vegetation is located in Tapak, Tugurejo Village, Tugu Sub-District, Semarang City. Mangrove Tapak has provided enormous potentials and benefits for the Tapak community; one of which is tourism. The tourism that has been developed in Mangrove Tapak area is called eco-edutourism. It is a community-based tourism developed by Tapak community. Based on these conditions and potentials, Tapak, in Tugurejo Village has a great potential to be developed as an eco-edutourism village. However, to become an eco-edutourism village, Tapak still needs a lot of developments. This study aims to find out the potential development of the village for eco-edutourism in Tapak, the supporting and inhibiting factors, and the strategy to develop eco-edutourism village. The study was conducted by using descriptive methods with a qualitative approach through interviews, observation, and documentation. The analysis of the data was conducted by qualitative analysis with interaction method based on the theory of Miles and Huberman. Based on the research, the results showed that the potential of Tapak eco-edutourism village consists of: Tapak mangrove forest, mangrove forest tour using cruise boats, Tirang Island, edutourism and fishing in fish farms, culinary tours, edutourism mangrove parks, and mangrove processing edutourism. The factors supporting the development of the eco-tourism village include: the potential characteristics of eco-edutourism, local community participation, large market share, accessibility, and strategic tourist location. The inhibiting factors were: lack of financial support and low tourism infrastructure, inadequate quality of human resources, the threat of environmental sustainability and less clean tourism environment. Thus, the strategy in developing Tapak eco-edutourism village includes: making tour packages, improving the quality of human resources, strengthening organizations, institutional reform and improving infrastructure, and intensive and efficient tourism promotions.

Keywords—*Tapak, eco-edutourism, mangrove*

I. INTRODUCTION

Mangroves are vegetations found in coastal areas, precisely in estuary areas which are always or regularly

flooded and affected by tides (Martuti et al. 2016; Saputro et al. 2013). Mangroves are one of the rare ecosystems because they cover only 2% of the earth's surface area (Setyawan, 2006). Indonesia is a country with the largest mangrove area in the world. Giri et. al (2010) in Auliyani (2013), stated that the area of mangrove ecosystems in Indonesia is 3,112,989 m² or reaches 22.6% of the total mangrove area in the world. However, the extent of mangrove ecosystems in Indonesia has experienced severe degradation due to anthropogenic factors. Mangrove damage in Java reaches around 27,072.95 Ha and leaves only undamaged areas of 7,645.8 Ha, of which only 4,879.16 Ha are still in good condition (Hidayat et al. 2017). The amount of mangrove damage will certainly increase along with the increase in population accompanied by the increase in land use conversion, industry, and increased abrasion due to the global warming (Diarto et al. 2013; Martuti, 2013).

An area that has an extensive mangrove vegetation is located in Tapak, Tugurejo Village, Tugu Sub-District, Semarang City. Like some other beaches in Central Java, the northern coast of Semarang City has many mangrove ecosystems that still exist until today. However, the condition of the mangrove has experienced significant dynamics every time due to various external and internal factors (Diarto et al. 2013; Hidayat et al. 2017). Marine and Fisheries Department of Semarang City (2010) in Martuti (2013) stated that in the coastal city of Semarang, there had been a decline in the area of mangrove ecosystems from 52.4 hectares in 2002 to 28.74 hectares in 2007. However, thanks to the efforts and hard work of the stakeholders in rehabilitating the mangroves, it finally succeeded in increasing the vast back of the mangrove ecosystem in the coastal city of Semarang, which amounted to 32.85 Ha in 2010 to 68.13 Ha in 2015. This area is still relatively small because Semarang has a vast area of mangrove ecosystems in the period before 2000, until finally it suffered damage due to environmental degradation (Mangrove Working Group of Semarang City, 2015).

The dynamics of the Mangrove Forest Ecosystem also occurred in Tapak, Tugurejo Village, Tugu Sub-District. However, it was not extremely significant. Tugu Sub-District is the largest area of mangrove ecosystem in Semarang City, with 48.24 Ha of mangrove ecosystems in total (Semarang City Mangrove Working Group, 2015). Then, out of 48.24 Ha of the mangrove ecosystem in Tugu Sub-District, the mangrove in Tapak contributes to the largest area of mangrove ecosystem with an area of 19.27 Ha (Perdana, et al. 2016). Today, the mangrove ecosystem in Tapak is getting better thanks to the hard work of the stakeholders who are aware and concerned with the urgency of mangrove ecosystems for human's life (Diarso et al. 2012; Martuti et al. 2017).

Mangrove Tapak has provided enormous potential and benefits for Tapak community, such as ecological benefits, physical benefits, social benefits, and economic benefits, including benefits in terms of tourism (Fitriyani, 2015; Martuti, et al. 2018). The tourism developed in Mangrove Tapak area is a tourism called eco-edutourism. Eco-edutourism is a blend of edutourism and ecotourism. Edutourism is an alternative form of serious tourism and voluntary tourism to realize sustainable ecotourism and tourism by involving local communities (Purnawan, 2012; Wearing, 2001 in Mahadewi, 2018). While ecotourism is the development of responsible tourism in unspoiled areas managed to enjoy and to appreciate nature by involving the elements of education and active social involvement of the local communities (Damayanti, et al. 2013; Rudiyanto, 2014). Ecotourism is chosen with the consideration that ecotourism will focus on the preservation of tourist ecosystems, economic benefits, community empowerment, appreciation of cultural values and local wisdom, and the value of education for tourists (Attar et al., 2013; Basyuni et al. (2016) With eco-edutourism, tourism activities will further enhance the sustainability of the mangrove Tapak forest because it used an environmentally friendly tourism approach.

Eco-edutourism in Tapak is a community-based tourism developed by Tapak community in Tugurejo Village, Tugu Sub-District. The community-based tourism is a tourism that is developed by maximizing the role of the community as the subject of tourism development or can be referred to as a tourism from the community, by the community, and for the community (Desiati, 2013; Hani'ah, 2017; Suryawan, 2016). Based on these conditions and potentials, Tapak, Tugurejo Village has a big potential to be developed as an eco-edutourism village. However, to become a developed eco-edutourism village, Tapak still needs a lot of developments. Strategies and supports are required in realizing the ecotourism village for the sake of the sustainability of the mangrove in Tapak and increasing the welfare of the Tapak community. Hence, the questions that arise in relation to the development of the eco-edutourism village are:

1) What is the potential of Tapak as an eco-edutourism village?

- 2) What are the supporting and inhibiting factors in developing eco-edutourism village in Tapak?
- 3) What is the strategy for developing eco-edutourism village in Tapak?

II. RESEARCH METHODS

A. Background and The Research Focus

The type of this research is a descriptive research method with a qualitative approach. This research was conducted in the mangrove forest area and the neighborhood of Tapak, Tugurejo Village, Tugu Sub-District, Semarang City. The focus of the research is to find out the potential of Tapak as an eco-edutourism, the strengths and weaknesses of Tapak to become an eco-edutourism village, and the strategy to develop Tapak to become an eco-edutourism village. The equipment used in this study is a questionnaire as a guideline for conducting interviews, stationery, recording devices, and cameras for documentation.

B. Population and Research Samples

The population of this study is the mangrove Tapak forest area, the environment around Tapak, Tapak community, the managers of ecotourism in mangrove Tapak areas, the visitors of mangrove Tapak ecotourism, and Tapak Government. The sampling technique for the mangrove in Tapak forest area and the surrounding environment of Tapak was done purposively, taking into account the central and urgent points, or points that have great potentials to be developed as tourist attractions. Then, the sampling technique for mangrove Tapak and Tapak Government ecotourism managers was done by purposive sampling, namely the technique of taking data sources with certain considerations. It is data sources that are considered to understand the best concerning what is expected, making it easier for the researchers to explore objects or social situations that concern in sampling. As for the Tapak communities and visitors, sampling techniques were carried out by using accidental sampling techniques where sampling was determined by chance, namely anyone who accidentally met with the researcher and was willing to be interviewed (Sugiyono, 2013).

C. Types and Source of Data

The types and sources of research data consist of primary data and secondary one. Primary data sources were obtained through the direct research in the field which included data on the conditions, characteristics, profiles, and the development of mangroves Tapak, conditions and the development of tourism activities in Tapak, accessibility, infrastructure support, identification of perceptions, participation, and aspirations of respondents to formulate these potentials can be an opportunity for the development of eco-edutourism village. In addition, the secondary one can be the data from the Central Bureau of Statistics, village monograph data, data from previous research journal articles, and other documents.

D. Data Collection Techniques

For data on the potential development for eco-edutourism village, the technique of collecting data is by observing biophysical objects in the form of mangrove forest, socio-economic and cultural ecosystems that become potential tourism objects and attractions as well as resources for the development of eco-edutourism village. In addition to that, the data also collected through interviews with various sources, literature studies, documentation, and direct observation or field observations. Then, the technique of collecting data on the strengths and weaknesses in the development of eco-edutourism of Tapak village as well as the strategy of village eco-edutourism development were carried out by direct observation of the physical, socio-economic aspects, socio-cultural aspects, environmental aspects, management aspects, and institutional aspects. In addition, data was also obtained through interviews with community members, documentation, and literature studies.

E. Data Analysis Techniques

The method of data analysis was carried out by qualitative analysis by carrying out data interactions. According to Miles and Huberman (1994: 15-19) the data obtained from the report is qualitative data, and the data which are processed with an interactive model include data collection, data reduction, presentation of data (data display), data verification (conclusion drawing).

III. RESULTS AND DISCUSSION

A. The Potential Development of Eco-Edutourism Tapak Village

Tapak has an enormous potential to be developed into an eco-edutourism village. This potential includes a potential tourist attraction, accessibility, human resources, institutions, and other potentials. However, if we talk about the potential in developing eco-edutourism villages, then the main points are the matters related to the requirements of a tourism place, commonly known as 3A (Attractions, Accessibility and Amenities). Of the three conditions, the terms of tourist attraction play a central role in tourism development. In Tapak, there are various potential tourist attractions that can be something to see, something to do, or something to buy. This attraction is an attracting magnet for tourists to come and to visit the eco-edutourism Tapak Village and is a valuable capital in the development of Eco-edutourism of Tapak Village. These potentials include

1) Mangrove Tapak Forest

Mangrove Tapak forest is one of the best mangrove forests in Semarang City, which consists of various species and has a high thickness. This mangrove forest is the main potential in eco-tourism in Tapak. It offers a beautiful panorama and has beautiful and cool atmospheres. These mangroves are spread out, standing

tall between ponds, along the coast, and along the right and left of the river, so that it adds to the beauty of the panorama in this place. In this mangrove forest, various biotas can also be found in the form of typical mangrove species, for example various types of birds, fish, crabs, insects, and other biotas. The object of this mangrove forest can be used as a natural laboratory and interesting object of research for students and scientists, as well as learning media for tourists. In Tapak, the potential is also developed a wooden mangrove tracking that can be used by tourists to explore the mangrove forest without boat, so that tourists can enjoy the beautiful and cool mangrove and take pictures that are *instagramable*.

2) Mangrove Forest Tour by Using Boat Cruise

Then, the attraction offered in mangrove forest is the facility to tour mangrove Tapak forest by going along the Tapak River provided by the manager. This mangrove forest tour is carried out by small cruise boats that will start from the beginning of the mangrove forest, and end in the Java Sea. In the activities of the Tapak River, visitors will enjoy the cool atmosphere of the dense mangrove forest on the right and left side of the river and also the uniqueness of the mangroves, especially in the roots which have distinctive characteristics from other plants. Visitors can also learn about the ins and outs of mangroves. During the river flow, visitors will be accompanied by a tour guide who will explain various things about mangroves.

3) Tirang Island

After walking along the Tapak River, with the same boat, visitors can go to a small island, namely Tirang Island which is located in the north of the Mangrove Tapak Forest. The location of Tirang Island is about 200 meters north of the Coastal Site. On Tirang, Island, mangrove trees can be found that grow at several points, some are dense, some are rare, and some are bald. This Tirang Island offers extraordinary exoticism. On this island, visitors can feel the atmosphere of the ocean, swim, play water, and a very beautiful panorama

4) Eco-Edutourism and Fishing in Fishponds

In Tapak mangrove areas, large farms can be found and are managed by local communities. Fishponds here are widely used to cultivate various types of fish, especially milkfish, *mujahir*, shrimp, and other fish. These ponds can be optimized as useful edutourism objects. Visitors can learn how to cultivate fish and shrimp to enrich their knowledge. Visitors can do fish seed stocking, fish care, harvest fish, and process fish to become a typical culinary product. To become a quality eco-edutourism object, it needs competent tour guides, including the activities on river flow and mangrove flows. Currently, the ponds in the mangrove area are widely used as fishing areas for the community. Many people came from various regions in Semarang who came to fish. In addition to the ponds, they also fish a lot in the coastal area, precisely in cages made of bamboo.

5) Culinary Tourism

Mangrove Tapak mangrove forest is also potential to be developed as a culinary tour, especially by prioritizing sea food. This culinary tourism can take advantage of raw materials from the ponds and coastal areas of mangroves in this site. This culinary tourism can be developed in the form of floating food stalls, so that it will be better and more interesting. This floating stall can be placed on the river or on a pond located in the mangrove area.

6) *Edutourism of Mangroves Planting*

Mangrove Tapak forest area can also be developed in the form of mangrove planting facilities. This facility provides learning and practice of mangrove planting, starting from nursery, planting, maintenance, harvesting, and mangrove rehabilitation. The tourism managers can provide mangrove seedlings for tourists who want to learn and practice planting mangroves here, both individually and collectively. In this case, the role of tour guides is very much needed, especially those who are experts in mangrove planting. This facility will be an attractive attraction, as well as a strategic way to improve the mangrove ecosystem in Tapak through the planting of mangroves by tourists.

7) *Edutourism of Mangrove Processing*

Currently, the Tapak communities, especially the women, are starting to develop mangrove into various products, for example mangrove batik, mangrove cakes, and snacks. This is an interesting potential for tourism because currently there are not many people who know that mangroves can be used as a variety of products. In Tapak, tourists can learn how to process mangroves to become a variety of products that are worth selling. These products are at the same time become special souvenirs for tourists visiting this Tapak Village.

B. *The Supporting and Inhibiting Factors of Tapak Eco-Edutourism Village Development*

The supporting factors of Tapak eco-edutourism village development include:

1) *The Potential Characteristics of Tapak Eco-Edutourism*

The potential of natural resources and social resources of Tapak is a supporting factor for the development of eco-edutourism village in Tapak. From a blend of nature and sustainable social conditions, it is appropriate to be maintained as a community-based village of eco-edutourism.

2) *The Participation of Local Community*

The high enthusiasm of Tapak community to participate directly in helping to prepare the potential of eco-edutourism managed by the community itself will make the implementation of eco-edutourism village development more intensive. This community contribution is reflected through the existence of four community groups that are active in fighting for the preservation of the mangrove Tapak. The community groups consist of: *Perkumpulan Pemuda Cinta Alam Tapak (Prenjak)*, *Kelompok Petani Tambak Sido*

Rukun, Kelompok Wanita Pesisir Tapak Puri Tirang, dan Kelompok Sadar Wisata (Pokdarwis) Bina Tapak Lestari.

3) *Large Market Share*

Currently, the tourism world trend has undergone a shift from artificial tourism to the nuances of tourism that is nuanced by nature and education (ecotourism and edutourism). In an era of technological advancement and modernization, people are more interested in visiting tourist objects that have natural nuances and education. Moreover, in Semarang City, tourism is dominated by an artificial tourism, so that the development of eco-edutourism village will be very potential.

4) *Accessibility and Strategic Tourism Location*

Accessibility is not an urgent issue in the development of eco-edutourism villages in Tapak because transportation facilities and infrastructure to get to this object are very easy. Then, Tapak also has a strategic location. Its location is in the city of Semarang and is located along the northern coast line which also a support the tourism in Tapak.

Additionally, the inhibiting factors of Tapak eco-edutourism village development include:

1) *Lack of Financial Support and Low Infrastructure*

The development of eco-edutourism in Tapak has been constrained by the lack of tourism supporting infrastructure. Infrastructure as a condition of amenities in tourism is still lacking, for example toilets, mosque, parking lots, gazebos, rest areas, and other infrastructures. This condition is influenced by the lack of financial support as the main capital for the procurement of infrastructure from the government.

2) *Inadequate Human Resources Quality*

The quality of human resources in the Tapak community is still inadequate and still needs to be improved in order to realize an advanced eco-edutourism village. The most urgent thing in the matter of human resources is related to the tour guide who guides the people. Then, there is still a lack of innovation from the community in developing tourist attraction, and so on.

3) *Threats of Environmental Sustainability and Less Clean Tourism Environment*

Threats to the sustainability of mangrove forests always shadow the Tapak community. This is due to the problem of land ownership around the mangrove forest. In accordance with Semarang City Regulation Number 14 of 2011 concerning Semarang City Spatial Planning for 2011-2031, Tugu Sub-District area, including Tapak, is a City Territory Section (BWK) X and is prioritized for industry, so that it has a high pollution level. This is coupled with the environment around the mangrove forest that has not been neat and clean.

C. *The Strategy of Tapak Eco-Edutourism Development*

1) *Tourism Package Making*

Based on many potentials and tourist attractions offered in Tapak, it would be great if tourism was packaged into a tour package. With the tour package, tourists will be more free and easier to explore all attractions that exist in the eco-edutourism village. With the presence of tour packages, it can also make tourism prices more economical, so that they are more attractive to tourists. This method can be done by arranging various tour packages that offer a variety of attractions with relevant prices. For example, mangrove tour packages and visiting Pulau Tirang, fishing tour packages and culinary tours, mangrove planting packages and processing of mangrove products, and other packages.

2) *Improving the Quality of Human Resources*

Human resources play a very important role in the development of Tapak Eco-edutourism Village. This is because human resources are the subject or actor which is responsible for the running of the tourist wheels in Tapak. The efforts to improve the quality of human resources can be done through community empowerment, especially by empowering community groups involved in Tapak mangrove forest conservation. However, improving the quality of human resources is not only limited to those who are members of these groups, but must also be directed to all members of the community outside the group. This is because responsibility in creating the "charms" of tourism is not only the responsibility of the community group, but also of all members of the community without exception.

There are a number of things that must be the main focus of its relation to improving human resources. The first is related to the people's insights about tourism, both related to public awareness of tourism potential, strategies and principles of management and the development of tourism potential, and also management of tourist destination objects. With this, it is expected that it will increase the creativity of the people, so that they can bring renewals in creating tourist attractions that are interesting for tourists. The second one is related to tour guides, there needs to be intensive training to increase the capacity of tour guides because in eco-edutourism village, tour guides play a very important role. There is a need to standardize the quality of tour guides, so that all tour guides are truly competent in guiding tourists. The third is to improve the quality of society from women. The capacity of women in Tapak must be improved, especially through training in making mangrove products. Making mangrove products is the potential of edutourism and also a source of souvenirs for tourists, so it is very important to increase the creativity of women in the field. In addition to the management of mangrove products, women must also have the capacity to make

various types of unique culinary as a culinary tourist attraction in Tapak.

3) *Organizational Strengthening*

The organizational strengthening is very important in relation to organizations or community groups that are stakeholders in the development of eco-edutourism village. Some strategies that can be carried out are through intensive coaching and mentoring of four community groups that fight for the sustainability of mangroves Tapak to become independent and creative groups. Then, there needs to be consolidation among the four existing community groups to equalize the vision in the development of the Tapak eco-edutourism village. There needs to be more intensive synergies and cooperative efforts among the four groups to jointly realize a tourism climate that supports the creation of Tapak eco-edutourism villages. In realizing the eco-edutourism village, they cannot walk on their own. In this case, the role of the village government is very much needed. A good regeneration within the organization is also needed to prepare the next generation and to ensure the sustainability of the organization and tourism. In addition, it is also necessary to establish relationships with other organizations outside the community that have a common vision with them, both from fellow citizens, the private sector, and the government.

4) *Institutional Reform and Infrastructure Improvement*

The improvement of Institutional capacity is very important. It is related to the government policies in supporting the sustainability of mangroves in Tapak. Then, the policies of the village government in preparing programs and budgets should be as much as possible to support the development of Tapak eco-edutourism village. The contribution of the village government regarding the procurement of tourism supporting infrastructure in Tapak is very necessary because currently the quality and quantity of tourism infrastructure in Tapak are still minimal, so financial support is needed.

5) *Intensive and Effective Tourism Promotion*

The tourism promotion is something that is very much required in tourism development because without tourism promotion, not many people know about existing tourism objects, and there will be fewer tourists coming to visit. There needs to be an effective tourism promotion strategy to introduce Tapak eco-edutourism villages to the entire community. Moreover, Semarang has a large population and of course the market share of natural tourism is so large, therefore, it must be maximized properly. A good tourism branding strategy is absolutely necessary in this tourism promotion business, so that the attractions of the Village Ecotourism can become increasingly known.

IV. CONCLUSION

Tapak has an enormous potential to be developed into eco-edutourism villages. This potential includes a potential tourist attraction, accessibility, human resources, institutions, and other potentials. The potential for tourist attraction includes aspects of something to see, something to do, and something to buy, consisting of: Tapak mangrove forest, mangrove forest tour using cruise boats, Tirang Island, edutourism and fishing in fish farms culinary tourism, mangrove park edutourism, and mangrove processing edutourism. The factors supporting the development of Tapak eco-edutourism village include: the characteristics of the potential of community-based eco-tourism, local community participation, large market share, strategic accessibility, and tourist locations. The inhibiting factors are the lack of financial support and low tourism infrastructure, inadequate quality of human resources, and the threat of environmental sustainability and less clean tourism environment. Thus, the strategy for developing Tapak eco-edutourism village includes making tour packages, improving the quality of human resources, strengthening organizations, institutional reform and improving infrastructure, and intensive and efficient tourism promotion.

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