

Implications of Mangrove Planting For Ecotourism Prospects in Kartikajaya Village, Patebon District, Kendal Regency

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Abstract. *The community service program in Kartikajaya Village aims to utilize local economic potential by making mangrove planting a tourist attraction. The village has suitable geographical conditions for ecotourism development, but the lack of community awareness and understanding of the benefits of mangroves is a major challenge. The program involves the local community in mangrove planting and maintenance activities, as well as providing education on the importance of mangroves in maintaining the balance of coastal ecosystems and increasing the village's tourism attractiveness. The results of this program showed an increase in community awareness of the importance of environmental conservation, as well as an increase in the number of tourist visits to the village. Thus, mangrove planting not only serves as an environmental conservation effort, but can also make a positive contribution to the economy of the surrounding community through the development of river cruising ecotourism.*

Keywords: *Community Service, Mangrove Planting, Ecotourism, Kartikajaya Village, Local Economy, River Cruise.*

1. BACKGROUND

Kendal is one of the districts of Central Java which is geographically located at 100° 40' - 110° East Longitude and 6° 32' - 7° 24' South Latitude with boundaries located to the north; Java Sea, east; Semarang City, south; Semarang Regency and Temanggung Regency and west; Batang Regency. Kendal has a coastal area that spans 25 villages (Fadhila, 2015: 181).

Kartika Jaya is one of the villages of Patebon sub-district which is located on the coast with a size of 359 hectares. Administratively divided into 3 hamlets 13 RT. This village has a unique plant. Kartikajaya is one of the villages where the area is fertile enough to be planted with mangrove trees. This village has 70% mangrove plants and 30% have been eroded by sea water or can be called abrasion. Tiban Island is one of the major impacts of abrasion and until now Tiban Island which used to be a beach has now become a sea because of the erratic tides of the mass of water.

The flood experienced by Kartikajaya village at this time is a flood which is in the alert stage for local residents. Many village facilities and tourist attractions have become one of the losses for the village, namely the Elementary School (SD), Tiban Island, residents' houses, and now Tanjung Elok Beach has little left because the water has overflowed. This disaster, of course, cannot be predicted by humans, because natural disasters are events or

series of events caused by nature. Of course, sea tides have been scheduled by the relevant agencies to be able to anticipate if there will be a very large tidal flood. Of course, the village government has made every effort so that the community can still be safe from the tidal disaster (Damaywanti, 2013: 363).

The rob disaster or coastal flooding is certainly one of the obstacles of Kartika Jaya Village that will inevitably occur (Sulaiman, 2019: 46). The fact is that the north coast is a beach where the sea level is equal to the land. From the facts of the village, the result of the equality of water and land is coastal flooding or high tidal flooding which results in the rise of sea water to community settlements. The hamlets affected by the tidal floods are Ujung Jaya RW 02, Ujung Mulyo RW 02, and Tanjung Mulyo RW 03. At the time of the tidal flood, of course, those affected by the disaster were almost half the body of an adult. The village has anticipated by raising the road in some hamlets to stop the sea water from reaching the front of the village.

Mangrove is one of the forests that can live in water that mixes sea water and fresh water (brackish water) and is influenced by tides from sea water. This forest serves to precipitate mud on the coast that is used to hold the tide. Of course mangroves are not one of the walls of the barrier coming tide because mangroves only as greenery from the coast. As for how to be able to withstand the tide by installing breaking waves so that seawater breaks in the sea back and does not enter the land (Rini, 2019: 1).

Mangrove planting in Kartikajaya Village not only impacts the environment, but also has significant implications for the socio-economic aspects of the community. Coastal communities, which have been dependent on natural resources, have a strong attachment to mangrove ecosystems. A healthy mangrove forest is not only a habitat for a variety of flora and fauna, but also acts as an abrasion barrier, pollutant filter, and unique ecosystem builder. With mangrove forests, river water quality improves, biodiversity increases, and natural beauty is maintained. This makes the mangrove area a major attraction for tourists who want to enjoy the beauty of nature and learn about the importance of preserving the environment. In addition, mangrove forests can also be used as a base for the development of various tourism products, such as educational tourism, adventure tourism, and cultural tourism. Thus, mangrove planting is not only beneficial for the environment, but can also make a positive contribution to the economy of the surrounding community through the development of river cruising ecotourism.

2. THEORETICAL STUDY

Mangrove forests are not only one of the barriers to the arrival of sea waves that hit the land directly and also as greenery from the coast. Mangrove forest is a form of sustainable tourism that utilizes the mangrove ecosystem as the main attraction. This activity involves traveling down a river surrounded by mangrove forests, either by traditional boat, kayak, or old-fashioned. According to Hadinoto (1996), ecotourism is a form of tourism that utilizes the authenticity of the natural environment, where there is interaction between the natural environment and recreational, conservation, and development activities, as well as between residents and tourism. From this definition, it can be concluded that ecotourism activities integrate tourism activities to improve the integrity of the local community, and help nature conservation activities, so that the local community can participate in utilizing the ecotourism through the development of their potential.

The area is directly adjacent to the sea, so it allows people to tend to have a livelihood to continue their lives as fishermen. Although Kartikajaya Village has many potential tourism resources, it has not been studied further from the aspects that support this area to be developed into a mangrove tourist attraction, so the data and information are still general. Meanwhile, for the development of tourism in an area, an in-depth study of various aspects is needed. Therefore, it is necessary to conduct research on mangrove tourism potential in Kartikajaya Village so that it can be developed into a tourist area that supports natural preservation and improves the welfare of the community.

3. RESEARCH METHODS

This activity was carried out by KKN UIN Walisongo Semarang MIT-18 Posko 132. Community service was carried out by eight teams who joined KKN in Patebon. This event involved all parts of the Kendal Environmental Agency, Field Supervisor Mrs. Hanik Rosyida, M.S.I., IMAKEN Organization (Kendal Student Association), Pancasila Youth (PP), FKPPPI (Communication Forum for the Sons and Daughters of TNI / Polri), Kartikajaya Village Youth Organization, and the local community in Kartikajaya Village.

The location of this activity is in Kartikajaya Village, Patebon District, Kendal Regency, and was carried out on August 3, 2024. Students carry out mangrove planting which is carried out in several stages, namely: 1. Observation stage, 2. Program cooperation stage, 3. Implementation stage, and 4. Program observation and evaluation stage.

Observation. Observations made showed a gap between the importance of mangrove ecosystems for the environment and the low interest of the community to be involved in mangrove planting activities in this area. The activities of the Kartikajaya Village Community are certainly not focused on the scope of each area in the Kartikajaya Village, the number of people who work outside the Kartikajaya village is a major obstacle in the growth of the tourism economy in the Kartikajaya village. This lack of forest empowerment makes reforestation in Kartikajaya Village very influential in reducing tidal flooding (coastal flooding). The potential tourist objects in Kartikajaya Village are very large opportunities, the existence of Tiban Island which is lost due to abrasion and Tanjung Elok Beach which has little left compared to 2021. The following mangrove reforestation places are urgently needed for Kartikajaya Village.

Program cooperation stage. This stage is the step where the students invited the parties, namely the Kendal City Environment Office, with the arrival of the head of the Kendal City Environment Office, Mr. Aris Irwanto, S.sos., M.Si., and his staff. We invited IMAKEN (Kendal Student Association), along with all elements of the community in Kartikajaya Village.

The planting technique used is spaced mangrove planting, spaced clump planting pattern is one method in mangrove planting that aims to ensure the most optimal growth and sustainability of mangroves. In this pattern, mangrove seedlings are planted in small groups with a certain distance between each clump. Each group or clump consists of several mangrove seedlings planted close to each other, in a triangular or square shape. This planting is of course planted 50 cm to 100 cm apart which is good enough to give each seedling enough space to grow without colliding with other seedlings in its growth.

The pattern used for this planting is that each mangrove seedling this time has a single spaced pattern that the length of the distance in the seedling is 5 cm per seedling. The planting of mangrove seedlings is planted which is not in accordance with the pattern drawn due to irregular soil contours. The number of mangrove plants along the 8 meters planted as many as 1000 mangrove seedlings.

The shape of the seedlings planted by all planters was in the form of mangroves (*Rhizophora Mucronata*) which had been covered by Polybags. By tearing the bottom of the Polybag, the plants can grow because their roots are exposed directly to the soil around the river. With the planting of 1000 seedlings in the river channel area (Yona, 2018: 68).

This mangrove planting activity carried out by KKN MIT 18 Posko 132 UIN Walisongo Semarang students together with the Environmental Agency (DLH),

Kartikajaya Village government, IMAKEN (Kendal Student Association) students, KKN students from other posts, and the Kartikajaya Village community is one of the concrete efforts in reducing the danger of abrasion disaster. The active participation of the local community shows a high awareness of the importance of preserving the environment.

Program Monitoring and Evaluation Phase. Intensive monitoring and evaluation, with a frequency of twice a week, showed satisfactory results. The passing rate of the plants increased. In addition, visual observations showed that the mangroves were generally in good condition. These monitoring results indicate that the mangrove planting program that has been implemented is running according to plan and is making a positive contribution to the preservation of coastal ecosystems. Of course, 20% of the mangrove seedlings withered because the seedlings were unpredictably exposed to water and the rain experienced during the Real Work Lecture (KKN) only occurred twice. The evaluation of mangrove planting in the service of the Real Work Lecture (KKN) of Walisongo State Islamic University Semarang is in planting which should be more spaced near the flowing stream. from the water flowing down the river in Kartikajaya village, it cannot be predicted when the tide and ebb. of course this project will benefit the village in economic growth where the mangrove forest river is used for the growth of Kartikajaya Village ecotourism.

4. RESULT AND DISCUSSION

Tourism potential is a variety of resources found in a particular area that can be developed into tourist attractions. That can be developed into tourist attractions. In other words, tourism potential is various resources owned by a place and can be developed into a tourist attraction that is utilized for economic purposes with the tourist attraction that is utilized for economic purposes while still paying attention to other aspects (Pendit, 2013).

Based on observations in the field, the tourism potential found in Kartikajaya Village is the potential of mangrove forests, water tourism, beaches, and local community culture of dance. Mangrove forests in Kartikajaya Village can be utilized as a means of river cruising using traditional boats and can be a means of learning research for students and students to get to know nature better and increase awareness of the environment.

The mangrove forest river cruise in Kartikajaya Village is one of the potential ecotourism attractions in Kartikajaya Village. The way to enjoy this river cruise is by boarding a boat that has been provided by the village government at a dock “Tanjung Elok” by going through a neatly planted mangrove forest. Sailing in the middle of the

mangrove forest can provide knowledge and experience about the types of mangroves planted and can observe the types of fauna found around along the mangrove debt such as water birds. This activity is expected to foster interest and awareness of the importance of mangrove ecosystems.



Image 1: Mangrove forest river walk

Source: researcher's personal source (2024)

The river has a wide estuary, with the banks and parts of the estuary overgrown with mangroves from the Rhizophoraceae family. At high tide, the estuary is submerged in seawater, increasing its depth, making it easy for boats sailing through the mangrove forest to navigate. However, at low tide, there is still quite a lot of water left, making it an ideal place for fishing. The beach at the end of the mangrove forest has a beautiful view of the open sea.



Image 2: Tanjung Elok Beach

Source: researcher's personal source (2024)

5. CONCLUSIONS AND SUGGESTIONS

From the conclusion that the existence of mangrove forests in Kartikajaya Village is an attraction for tourists visiting for a vacation to enjoy the existence of mangrove forest river cruises and beautiful cape beaches. River cruise through the mangrove forest by riding a boat that sails along the river visitors will gain experience and knowledge about the importance of caring for nature and environmental life.

Suggestions need to be completed supporting tourism facilities and infrastructure as well as widespread publication to develop the potential of mangrove forest river cruise tourism in Kartikajaya Village. And further research needs to be done on investment analysis and tourism design in Kartikajaya Village.

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