



PLANTING MANGROVES IN THE COASTAL AREA OF SEMARANG CITY: A FORM OF CARE FOR ACADEMICS

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Abstract

Mangunharjo Village, Tugu District, Semarang City is a village located on the coast. The location of the village is affected by seawater erosion, so this is the main problem for the village. So the solution given by the service team to this problem for the village is to plant mangroves. However, the activities carried out through several stages include: mediation with community members, observation, extracting information, analyzing the situation, developing alternative solutions, socializing mangrove forests and directing related to mangrove forest conservation. The positive impacts of this activity for Mangunharjo village, Tugu sub-district, Semarang city, include the return of the function of the mangrove forest in Mangunharjo village, fishermen are easy to get fish and do not need to look for fish to the middle of the sea, the land of Mangunharjo village is about 150 meters long and 600 meters wide. meters. Suggestions from this activity for future service providers are to collaborate with more stakeholders because of the importance of environmental conservation.

Keywords: mangrove, coastal, Semarang city.

I. INTRODUCTION

Tugu District is one of the districts in the city of Semarang. Geographically, Tugu sub-district is located between 110° 17' 13" to 110° 22' 5" east longitude and 6° 56' 14" to 6° 59' 10" south latitude. Administratively, the Tugu sub-district is directly adjacent to the Java Sea in the north, West Semarang sub-district in the east, Ngaliyan sub-district in the south and Kendal district in the west. Tugu sub-district, Semarang city consists of seven villages/kelurahan. The following is a list of villages/kelurahan in Tugu sub-district, Semarang city, namely: Jerakah village, Karanganyar village, Mangkang kulon village, Mangkang wetan village, Mangunharjo village, Rantu Garut village and Tugurejo village.

Mangunharjo village is one of the villages in the Tugu sub-district, Semarang city. The location of the village is on the coast, so the village is affected by sea water erosion. Worse, the erosion of sea water in the village is increasing day by day. However, the local people's lack of awareness of environmental conservation will actually increase environmental damage. Based on the available data, the education level of the local residents is majority high school graduates and the majority of the population are fishermen, laborers and traders. Therefore this is a problem that must be resolved in the village.



There are several devotees who state that planting mangroves can prevent abrasion on the coast (Sumar, 2021; Syah, 2020). Many mangrove plants are also known as mangrove forests. Mangrove forests are forests that grow in coastal areas that are always or regularly inundated with sea water and are affected by sea tides but not by climate (Nybakken, 1982).



Figure 1. Mangunharjo Village, Semarang City

Based on the explanation above, it shows that this phenomenon means that the importance of environmental conservation in Mangunharjo village, Tugu district, Semarang city. This is done based on the results of observations from the implementing team who found several problems that occurred in the village so that these problems must be resolved so that the benefits can be felt by the surrounding community.

PROBLEM SOLUTION

The main problem with this program is the severe erosion caused by sea water in the coastal area of Semarang city. In order to reduce the problem of environmental damage in Mangunharjo village, Tugu sub-district, Semarang city, after conducting observations and discussions with village officials and community members, the service team proposed several solutions. One of the solutions chosen is to plant mangroves in the Mangunharjo village area. This is done because one of the benefits of planting mangroves is to protect the environment from damage.

The benefits of mangrove plants according to Ana (2015) in Sumar (2021) for the surrounding environment where they grow, namely:

1. Providing nutrition, mangrove plants have good nutrition for the surrounding environment. Where the existence of this plant does not disturb the balance of the ecosystem on the coast. In addition, mangrove plants actually provide nutrients in the form of soil fertility around it, because the place where mangrove plants grow is between the plains and the ocean. At high tide, this plant will be seen in the sea.



Meanwhile, at low tide, this plant will be seen on the plains. The location of mangrove plants is influenced by the distance between the plains and the ocean.

2. As a food chain, the next function of mangrove plants is as a food chain, where these plants act as producers. Mangrove plants are favored by small fish and crabs. Not a few fish who depend on it for life by eating the leaves of this mangrove plant for their survival.
3. The water around becomes clear, the mangrove plants that grow around the shore will make the water clear. Try to compare the shoreline that has mangrove plants around it with those that don't have mangrove plants. There will definitely be a difference between the two, that the coastal water overgrown with mangroves is clearer than that which is not covered with mangroves. Therefore, there is a lot of promotion of socialization about the benefits of planting mangrove trees on the beach.
4. Protecting beaches, mangrove plants are also useful for protecting beaches from erosion. Mangrove plants that grow on the coast can protect the plains from direct waves. So that the waves do not directly hit the plains which will cause erosion and landslides, because they are protected by mangrove plants.
5. The ship's berth, not a few also make mangrove plants a place to anchor ships after sailing around the coast. The small boats are tethered to mangroves.
6. Can be used as firewood, the surrounding community who live on the beach overgrown with mangrove plants, many use mangrove plants as cooking fuel. They use wood from mangrove plants as firewood for cooking. Wood from mangrove plants can produce large and evenly distributed fires and does not produce a lot of smoke. That is, firewood from mangrove plants is environmentally friendly.

While the benefits of mangrove forests in general according to Ana (2015) in Sumar (2021), include:

1. Preventing coastal erosion, mangrove forests are one of the places that can protect the border between land and sea areas. Coastal erosion will continue to erode the earth's surface so that it threatens the human environment. Even a serious condition can turn into a major natural disaster. Mangrove forests are one of the most important means to save coastlines from sea waters.
2. Being a soil catalyst from sea water, soil can enter sea water continuously, because this part of the land is in direct contact with sea water. To prevent this, the ecological benefits of mangrove forests become a very clear source for protecting the land around the sea. The soil will become a denser layer with the presence of mangrove trees, so this will save the land from continuing to be eroded by sea water.
3. Fishery habitat, mangrove forest area is one of the most comfortable places for several types of living things and organisms. Several species such as shrimp, fish and crabs breed in the mangrove forest area. While humans need some of these living things as a source of nutrients and food ingredients that are important for health.
4. Providing a broad economic impact, many mangrove trees planted in mangrove forests can be harvested like other plant species. The benefits of mangrove debt for humans are useful for processing into various decorative objects or crafts. This effort is very important to improve the community's economy and improve economic standards in the area.



5. Source of animal feed, mangrove trees can also be used as an alternative to animal feed. Mangrove trees that have been crushed and ground into animal feed powder contain very good nutrients for the growth of livestock such as cattle, goats or poultry. Nutrients such as minerals, protein and calories will improve livestock development. In addition, mangrove trees also contain tannins and other natural ingredients.
6. Prevent global warming, global warming is indeed a very serious threat to nature and humans. One way to prevent or reduce the impact of global warming is to develop mangrove forest areas. Mangrove plants are one of the pillars of warming from sea waters. In addition, mangroves also play a role in overcoming the problem of flooding in coastal areas.
7. Source of income for coastal fishermen, people who live in coastal areas usually work a lot as fishermen. They look for fish and various resources to support the family economy. The benefits of the mangrove forest area are that it is the most suitable place for breeding fish, shrimp and various other potential marine habitats. Mangrove forest areas have helped maintain the availability of fish resources in the sea that will not run out. These resources can be used by fishermen as a source of livelihood.
8. Maintaining water and air quality, mangrove forest areas also help humans in getting clean water and fresh air. The mangrove forest area has a function to absorb all the dirt that comes from human waste and ships sailing in the sea. The benefit of mangrove forests for life is that it will absorb all types of harmful metals and make the water quality cleaner. In addition, mangroves also help nature in getting better and cleaner air quality.
9. Development of tourism areas, mangrove forest areas can be developed into a tourist attraction. In this way, the mangrove forest will become a tourist destination from various regions and abroad. Tourism will have a very good economic impact for the surrounding community and the country in particular.
10. Provide a source of firewood, mangrove forests are very useful for people living in areas around mangrove forests. Dry and rotting mangrove trees and wood can be used as firewood. In this way, it has indirectly reduced the need for gas or fuel for a country. In addition, the community around the mangrove forest can also use mangrove wood for building materials or house construction.
11. Development of science, mangrove forest is one of the places to develop various types of knowledge in the fields of marine, fisheries and chemistry. Many researchers need mangrove forests and are used as various research sources. Mangrove forests will increase the variety of discoveries that can be spread throughout the world. In fact, many foreign researchers do not have mangrove forests in their countries and have to come to Indonesia. Hope to find greater benefits from Mangrove forests can be done with this method.
12. Maintaining climate and weather, climate and weather changes can occur due to various factors, one of which is damage to natural systems. Mangrove forests are a very clear source for maintaining aquatic ecosystems between the sea, coast and land. In addition, the benefits of mangrove forests will also help humans in getting the most comfortable climate and weather to prevent natural disasters.



II. METHOD

Regarding the method of implementing this community service program, the following is a sequence of methods for the activities, namely:

1. Gathering and mediation activities with the people of Mangunharjo village, Tugu sub-district, Semarang city,
2. Observing the environment of Mangunharjo village, Tugu sub-district, Semarang city, digging information from local residents, analyzing the situation and compiling several alternative solutions to problem solving,
3. Planting mangrove seedlings in mutually agreed places,
4. Socialization of the existence of mangrove forests,
5. Directions related to mangrove forest conservation.

III. RESULT AND DISCUSSION

The first activity carried out by the service team in this program was to carry out friendship and mediation between the service team from universities and the community of Mangunharjo village, Tugu district, Semarang city. This activity is done by visiting village officials in the Mangunharjo sub-district and representatives from the local community. The service team explained the purpose of the activity, introduced the team, and conveyed the agenda for the activities to be carried out. After obtaining permission from the kelurahan apparatus and local residents, the service team conducted observations in the village. Apart from making observations, the service team also obtained information from the villagers. The results of observations and information extraction are finally recapitulated for analysis. After analyzing the situation, the service team compiled several alternative solutions to the village problems to be submitted to the local kelurahan officials and village residents. Alternative solutions to problems offered by the service team get input from village officials and village residents which can later be carried out on an activity agenda to be useful for villagers. An agreement between the service team and village officials and residents has been determined, with the next activity agenda being planting mangrove seedlings.

The activity of planting mangrove seedlings is carried out together, namely collaboration between lecturers, students in this case represented by students from the student activity unit (UKM) Aldakawanasetra, as well as residents of mangrove conservation activists in Mangunharjo village, Tugu district, Semarang city. On the appointed day, 4,000 mangrove seedlings were planted in Mangunharjo village. The positive impact felt by the community by planting mangrove seedlings is the return of the function of the mangrove forest in Mangunharjo village, fishermen are easy to get fish and do not need to look for fish to the middle of the sea, the land of Mangunharjo village is about 150 meters long and 600 meters wide.

After the mangrove seed planting activity was completed, the next activity agenda was to disseminate information to the residents of Mangunharjo village, Tugu sub-district, Semarang city. The socialization explained that the function of the mangrove forest had been preserved again. So that the next agenda is to provide direction to the residents of Mangunharjo village, Tugu sub-district, Semarang city to continue to take care and preserve the mangrove forest so that the sustainability of the forest can be achieved and its benefits can be felt by all members of the community. The following is a picture of the community service program activities that have been carried out:



Figure 2. Mangrove Planting Activities

IV. CONCLUSION

Conclusion

The importance of environmental conservation activities is carried out considering the many natural disasters that have befallen this earth. This community service program takes the theme of environmental conservation through mangrove planting activities in Mangunharjo village, Tugu district, Semarang city. The positive impact of this activity is the return of the function of the mangrove forest in Mangunharjo village, fishermen are easy to get fish and do not need to look for fish until the middle of the sea, the land of Mangunharjo village is about 150 meters long and 600 meters wide.

Suggestion



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This community service program provides suggestions for the next devotees, namely collaborating with other stakeholders because of the importance of this activity for environmental conservation, especially in areas that are eroded by seawater, precisely in the coastal areas of Semarang city so that all people can feel the benefits.

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