

## UTILIZATION OF MANGROVE PLANTS IN INCREASING THE INCOME OF TANJUNG REJO VILLAGE COMMUNITIES PERCUT SEI TUAN DISTRICT

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### ABSTRACT

The purpose of this study was to find out what types of mangroves are used as processed food in Tanjung Rejo Village, Percut Sei Tuan District, How much influence does the use of mangrove plants have on increasing the income of the Esa Tanjung Rejo community and what solutions are given to the obstacles faced by the Tanjung Rejo Village community. This research uses primary and secondary data with descriptive analysis method. The results of this study indicate that there are 3 mangrove ingredients which are processed food ingredients for Tanjung Rejo village, namely api-api fruit to make jam and syrup, berembeng fruit to make mangrove dodol and jeruju leaves to make jeruju sticks and jeruju chips. Researchers have conducted training seminars on administration, accounting, HRM, marketing and digital marketing using a public understanding questionnaire. The solution provided is the renewal of traditional tools into more modern tools so that the processing results are effective in terms of time and labor and output.

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### 1. INTRODUCTION

Tanjung Rejo is a village in Percut Sei Tuan District, Deli Serang Regency, North Sumatra, Indonesia. This village is a village located on the east coast of Sumatra. Its area is 19 km<sup>2</sup> with a population of 10,342 people. The majority of the population's livelihoods are as farmers and fishermen. Currently, the majority of the population in this village are Malay. Most of the Tanjung Rejo area is coastal and marine waters which have quite good potential in the fields of fisheries, tourism, mangrove forest areas and other natural resources. The mangrove forest of Tanjung Rejo Village, Percut Sei Tuan District, Deli Serdang Regency, with an area of around 602,181 ha, is a collection of biological and non-biological components that are functionally related to one another and interact with each other to form an ecosystem. Until now, the preservation of mangrove forests is still maintained, seeing that the people of Tanjung Rejo always pay attention to the preservation of mangrove forests. Indriyanto (2006) Mangrove forests are a type of ecosystem that is not affected by climate, but edaphic factors are very dominant in the formation of this ecosystem.

Mangrove plants are plants resulting from cultivation activities. Mangrove forest ecosystem is an important habitat for marine organisms. Mangrove plants can be used for several preparations which are used as cosmetic/pharmaceutical raw materials or textile additives. This plant has good benefits for the environment and has many benefits for health. Some of the most benefits of mangrove plants are that they are used as herbal medicines where these plants have been used for generations for various diseases such as fever, flu, vaginal

discharge, wounds, scabs, ulcers, ulcers, hypertension and so on. Apart from that, this plant can be made into several processed foods such as mangrove dodol, mangrove sticks, mangrove syrup, mangrove jam.

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According to Noor (2006) people in coastal areas or around mangrove forests use mangrove plants a lot as clothing, food and shelter. Likewise, Tanjung Rejo Village, the community relies a lot on mangrove plants as a livelihood, but the community has not maximized its processing. The current condition of Tanjung Rejo Village has abundant human resources, but the lack of public knowledge about mangrove plants means that mangroves have not been used as a source of clothing, food and food to the fullest. Not much information is available on mangrove plants that are used by the community, so it is necessary to conduct research on ethnobotanical studies in the mangrove area of Tanjung Rejo Village, Percut Sei Tuan District. Habibah (2013) Ethnobotany which has developed into an interdisciplinary science studies human relationships with the natural surroundings. Apart from that, the product innovation of Tanjung Rejo Village is still lacking, until now they only make five processed food products. All of this is famous because the production equipment is still very traditional.

This study aims to determine the types of mangrove plants used for food processing in Tanjung Rejo Village where the diversity of plant species in the mangrove area of Tanjung Rejo Village is quite high, but data and information about the richness of plant species and potential species is still very minimal. In addition, this study wants to know how much influence the use of processed mangrove plants has on increasing the income of the people of Tanjung Rejo Village. Knowing what solutions are good for Tanjung Rejo Village in product production.

## 2. METHOD

The research was conducted in Tanjung Rejo Village, Percut Sei Tuan District, North Sumatra. The objects in this study are the people and plants in the mangrove area of Tanjung Rejo Village. The data collected in this study are primary and secondary data. Primary data is data obtained from direct interviews with the community as respondents and Focus Group Discussions (FGD). Krueger: 1988) FGD is a qualitative data collection technique that is widely used, especially by decision makers or researchers because it is relatively faster to complete. Irwanto: 2007 FGDs are used to draw conclusions about inter-subjective meanings which are difficult to give separate meanings to researchers because they are hindered by the motivation of the researcher's subjectivity. While secondary data is in the form of data on the general condition of the research location and documented information about this village. Data processing and analysis was carried out using descriptive qualitative tabulation analysis techniques to present data on plant species, families, habitus, parts of plants used as well as their benefits and how to use them. Then Abdullah: 2012 This study describes the symptoms when the research obtained information about the process of making mangrove products at the time of observation.

## 3. RESULT AND DISCUSSION

### **Processed Food Products from Mangrove Basic Materials in Tanjung Rejo Village, Percut Sei Tuan District**

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Mangrove plant ecosystems are transitional between terrestrial and marine ecosystems which are known to have very large roles and functions. There are biotic and abiotic components in the mangrove forest ecosystem in Tanjung Rejo Village, Percut Sei Tuan District. First, the biotic component in which there are types of vegetation and types of fauna found in this village. The types of vegetation found in the mangrove forest ecosystem area in this village are true mangroves (true mangroves) which grow in tidal areas with salty muddy substrates that have high levels of salinity starting from close to the sea to land and the second is an association mangrove which is a type of plant that is able to adapt to salinity or is known as companion mangrove. Second, the abiotic components which are temperature, light, water, and soil. Abiotic components can affect biotics, and vice versa, so that the mangrove forests in Tanjung Rejo Village can live according to their habitat. According to research results (Ndruru : 2021)

Based on the results of interviews conducted in the Mangrove area of Tanjung Rejo Village, Percut Sei Tuan District. There are several species of mangrove plants that are used by the community for product management.

Table 1. Mangrove Plants Used as Food Processing by Tanjung Rejo Village

Name	Latin name	Characteristics	Type of Processing Used	Information
Orange Leaves	<i>Acanthus ilicifolius</i>	Plants with a slightly woody herbaceous form with a large reach of 2 meters. This type is generally growing behind the mangroves. Leaf margins are serrated or slightly flattened, and gradually narrow towards the base. The fruit almost resembles a starfruit, shiny green when young, 2.5-3 cm long	mangrove Sticks, Mangrove chips	Mangroves true
Bermebang fruit / mangrove apples	<i>Sonneritica caseolaris</i>	A perennial plant that has a trunk, branches and grows vertically until it reaches a height of 5-25 meters. Round green cherry-shaped fruit with a diameter of 5-7 cm and a length of 3-4 cm. The texture is oily and shiny when ripe and the seeds measure 7 mm (very fine)	Syrup, sele	Mangroves true
Fiery Fruit	<i>Avicennia lanata</i>	The plant is upright and spreading, can reach a height of 8 meters. The bark is dark, brown to black. The leaves are elliptical in shape with slightly pointed ends.	dodol	Mangroves true

The pictures of mangrove plants used by the community to process them into food are as follows:

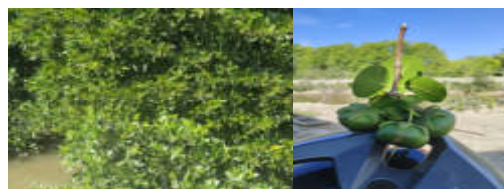




Figure 1. Mangrove Plants, Fruit and Mangrove Leaves in Tanjung Rejo Village

### **The Effect of Utilization of Mangrove Processed Plants on Increasing the Income of the Tanjung Rejo Village Community**

This research was assisted by several related parties, namely the research implementation team, companion team, Tanjung Rejo Village farmers and the community who wanted to know more details about the use of mangroves on people's income. The research team educated the public about how to choose good human resources, good financial management accounting education, and marketing strategies as well as digital marketing by presenting expert speakers in their fields. The enthusiasm and seriousness of the residents made this training and education easier and went well. The following is a picture of Administration, accounting, HRM, Marketing, and digital marketing training with speakers attended by residents.



Figure 2. Group photo of resource persons attended by residents Tanjung Rejo Village



Figure 3. Photo of the resource person with the research team and the head of the farmer group Tanjung Rejo Village



Figure 4. Training with Resource Persons Participated by the Tanjung Rejo Village Community

This research begins with a socialization of Administration, accounting, HRM, marketing and digital marketing. Then training was carried out and then measuring the level of understanding of the residents with a questionnaire so that the business continuity that was running after this would have better results than before. The achievement in the research that made the Tanjung Rejo community members is to improve the quality of food products and the maximum quantity by adding to the community's skills so that Tanjung Rejo Village can become an advanced village in terms of technology and especially financially.

#### **Solutions Provided by the Research Team to the Community of Tanjung Rejo Village in Product Production**

In this study, researchers tried to provide the best solution for survival and increase the selling value of mangrove products that the people of Tanjung Rejo Village could produce. The Research Team provides solutions for replacing equipment into modern equipment so as to create time efficiency and labor effectiveness and the output of the product. There are 22 types of equipment that are the solution to the problems of the Tanjung Rejo community in managing mangrove products. This research activity is a research funded by the DPRTM Ristek Dikti through the KOSABANGSA program so that this research is easier to do. The following is the equipment provided by the research team to the people of Tanjung Rejo as a solution to improve the quality of mangroves:

1. Furnace: a cooking utensil with a larger size compared to an ordinary gas stove
2. 12 kg gas cylinder: makes it easier to cook with a larger cylinder size
3. Mixing machine and dodol cooker: makes it easier to cook and stir so that time and output are efficient and effective
4. Large Iron Cauldron : makes it easier to cook with larger volumes
5. 20 liter boiler: makes it easier to cook with a larger volume
6. Ampia electricity: makes it easier to print chips and saves time without having to use a lot of human power
7. Onion chopper: makes chopping onions easier and saves time without having to use a lot of human power
8. Blender High speed: makes it easier to smooth ingredients and seasonings before cooking
9. Freezer Box: stores food ingredients so they last longer
10. Refrigerator: stores food ingredients so they last longer
11. Mixer: makes it easier to make the dough so that the dough can be more perfect
12. Food processor: able to grind/smooth hard ingredients and be able to knead the dough faster
13. Spinner: Slicer the oil to the maximum so that the oil content can be reduced and the food quality is not easy to eat
14. Large oven: food dryer so that it can reduce the water content contained in food so that the quality of food results is maximized

15. Penepung Machine: Grind dry mangrove material to produce good quality flour
16. Spice/meat grinding machine: grind meat and seasonings so that the results are maximized
17. Kneading Machine: kneading processed mangrove chips so that the quality of the dough is maximized
18. Vacuum Sealer: makes food ingredients free of oxygen so that the quality of food lasts longer
19. Coin Expired Date Machine: printing numbers, symbols and characters on plastic bags
20. Dispenser: heats water and heats drinks so that it makes it easier for HR to get water at work
21. 8500 watt generator: backup electricity when the power goes out or the power is not strong enough. considering the condition of Tanjung Rejo village, it often experiences power outages
22. Show Case: makes it easier for consumers to see the product inside without having to open the door.

The following is a picture of the provision of equipment to the Tanjung Rejo Village community by the Research Team, Implementation Team and the community.



Figure 5. Photo of the Research Team, Assistance Team and Head of Farmers Group and Head of Tanjung Rejo Village, Percut Sei Tuan District



Figure 6. Photo of the Research Team, Assistance Team with the community Tanjung Rejo Village, Percut Sei Tuan District



Figure 7. Photo of the Chief Researcher with the Head of the Tanjung Rejo Village Farmers Group Signing of Minutes of Equipment Handover

#### 4. CONCLUSION

This research was conducted to increase the selling value of mangroves in Tanjung Rejo Village both in quality and quantity. The ultimate goal of this research activity is to increase the income of the people of Tanjung Rejo Village by increasing the quality and quantity of processed mangrove products, community skills that will be of value in improving the village economy and

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people's economy. Income and skill improvement so that mangrove plants can become the hallmark of this village.

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