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Utilization of Oil Palm Leaf Rib Waste (Elaeis guineensis) as Material for Making Handicrafts in Aek Batu Village

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Abstract
This community outreach activity was carried out with the aim of helping residents of Aek Batu Village, Torgamba District, South Labuhanbatu Regency, utilize palm oil (Elaeis guineensis) palm frond waste into innovative handicrafts that have sales value. The product from palm oil (Elaeis guineensis) palm frond waste is a handicraft in the form of a Peacock Replica "Bumer". The population in this study was the community in Aek Batu Village, which numbered 40 people. The community in the village still rarely utilizes palm oil frond waste as a potential local wisdom to be utilized into goods with economical selling prices. The use of palm oil fronds as a basic material for making furniture is one solution to reduce plantation waste while creating products with economic value. This study aims to describe the process and potential of palm oil fronds as furniture materials using qualitative descriptive methods. Data were collected through interviews with craftsmen and field observations, and supported by related literature studies. Research results show that oil palm fronds have good strength and flexibility, and are easily processed into various products such as fruit bowls, handicrafts such as "Bumer" peacock replicas, and other household items. However, challenges include a lack of modern processing techniques and limited market access. With the support of training, technology, and promotion, the use of oil palm fronds can be further developed as an environmentally friendly creative industry with the potential to improve community welfare.

Keywords: Creative Industry, Palm Oil Leaf Ribs, Plantation Waste, Furniture, Environmentally Friendly.

INTRODUCTION

Oil palm (Elaeis guineensis) is one of Indonesia's leading commodities, contributing significantly to the national economy, particularly in the plantation sector. However, despite the large amount of palm oil production, significant waste is generated, including palm fronds, which are often underutilized. These fronds are often left to pile up or burned, creating environmental problems.

In rural areas, coconut fronds are often used for roofing, commonly known as ijuk roofing. The ijuk roofing absorbs heat and can be used to cover other types of roofs. Coconut fronds are also often used as party decorations, as wrapping materials for ketupat (rice cakes), and as woven items. The leaf ribs can also be used to make brooms or cut into short pieces for satay skewers.

Coconut frond fronds are one of the parts of the coconut tree. Besides being used for brooms, coconut frond fronds can also be used for other household items, such as plates, fruit baskets, vases, and more. The ribs used as the primary ingredient in making rib plates must be flexible and approximately the same length for proper weaving. Selecting ribs with equal flexibility can be done by holding a handful of ribs at the end and lifting them. You will see

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which ribs fall due to gravity, while the stiffer ones don't fall (they lack the same flexibility as the others).

A rib plate is a type of plate made from finely processed coconut, palm, or oil palm ribs, then strung together to resemble a dinner plate. Most people today use rib plates as a substitute for glass or plastic plates. They are inexpensive and practical. They are also unbreakable, durable, and economical. Making a rib plate requires diligence, tenacity, and patience when weaving.

Aek Batu Village, Torgamba District, South Labuhanbatu Regency, is a major producer of oil palm (Elaeis guineensis) plantations. However, the utilization of coconut leaf sticks by the community is not optimal, most coconut leaf sticks are wasted in coconut plantations owned by farmers and become waste. In fact, besides being made into brooms, the sticks can also be used as handicraft materials that have a fairly high selling value in the community. In addition, as coconut farm laborers, the income of these women is uncertain because after the harvest is over they have no other promising jobs, some have switched to selling fried bananas, selling vegetables at the market in Aek Batu Village, while waiting for the next coconut harvest. Currently, coconut leaf plates are used by the community as food containers, as well as dinner plates. Changes in lifestyle/culture of the community who want something more practical, especially for party activities, if previously using plates made of glass, now they prefer to use plates made of coconut leaf sticks or rattan.

RESEARCH METHODS

This community service activity was conducted in September 2025 in Aek Batu Village, Torgamba District, South Labuhanbatu Regency. The research used a socialization method, providing material on the utilization of oil palm frond waste (Elaeis guineensis). This research employed a qualitative descriptive approach to understand and explain the phenomenon of utilizing oil palm fronds as a raw material for making handicrafts in the form of "Bumer" replicas. This method was chosen because it allows for an in-depth description of the process, potential, challenges, and opportunities for oil palm frond utilization through non-numerical data collection, such as interviews, observations, and literature studies. Qualitative research provides flexibility in exploring the perspectives of artisans and related parties in depth.

The research subjects were the residents of Aek Batu Village who use oil palm fronds as the main material in making handicrafts. Furthermore, this research also involved consumers and other stakeholders to gain a comprehensive view of oil palm frond products. The data collection techniques used in this study included: 1. In-depth interviews: Researchers conducted semi-structured interviews with oil palm frond artisans, consumers, and other relevant parties. The interview aims to gather information about the production process, economic benefits, obstacles faced, and market responses to Handicraft products from oil palm fronds. 2. Direct observation: Researchers conducted direct observations at the production site to learn the techniques of processing oil palm fronds into Handicrafts, as well as observing the working conditions of the craftsmen. This observation was also conducted to document the steps in making furniture, from collecting raw materials to finished products. 3. Literature study: This study also utilizes various literature sources such as journals, books, and relevant articles related to the use of oil palm fronds and the craft industry. This literature study is used to support field findings and provide a solid theoretical framework.

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RESULTS AND DISCUSSION

This study aims to describe the use of oil palm fronds as a raw material for making "Bumer" replica handicrafts, using a qualitative descriptive approach. Research data was obtained through community interviews and field observations in oil palm producing areas, specifically in Aek Batu Village, Torgamba District, South Labuhanbatu Regency. Secondary data, including literature and related research, also support this analysis.

A. Availability of Oil Palm Frond Raw Materials

Based on observations, oil palm fronds are abundant in oil palm plantation areas, particularly in Aek Batu Village, Torgamba District, South Labuhanbatu Regency. Fronds are the part of the oil palm frond that is usually left unused after pruning or after the leaves fall to the ground. Craftsmen typically collect these fronds from around the plantation at no additional cost, making them an inexpensive and readily available raw material. Several craftsmen stated that they prefer naturally dried fronds. These fronds are of better quality because they are more durable and less brittle. This confirms that the availability of raw materials significantly supports the production of household furniture made from palm fronds.

B. Palm Frond Rib Processing

Research results indicate that the process of processing palm fronds into handicraft products in the form of replicas of the "Bumer" painting is carried out in several simple steps. The following is a series of processes commonly carried out by craftsmen: collection and sorting: Palm fronds are collected from plantations, separated from their leaves, and then cleaned using a handicraft polisher made of aluminum, a steel polisher. After cleaning, the palm fronds, previously separated from their leaves and thoroughly scrubbed, are soaked for approximately 3-4 hours, and then dried until they can be shaped into the desired household furniture. Craftsmen acknowledge that the palm frond processing process is relatively easy and does not require sophisticated equipment. They use simple tools such as scissors, machetes, knives, and raffia rope to shape the fronds into furniture.

C. Products from Palm Ribs

Palm ribs can be made into a medium-sized replica of a peacock painting called "Bumer." This craft can be used as a room decoration with both aesthetic and economic value.

Figure 1. Process of Making a Handicraft Replica of "Bumer"

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Figure 2. Replica Handicraft Product "Bumer"

CONCLUSION

Utilizing oil palm fronds as a raw material for handicrafts is an innovative solution to reduce plantation waste while creating economically valuable products. This material is readily available, inexpensive, and environmentally friendly, giving it significant potential for development as a creative industry. While there are still some challenges in terms of production techniques and market access, with the right support, this business can grow rapidly and positively impact the community.

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