



## Albasia Wood Waste as An Environmental-Friendly Cutlery Materials

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### **Abstract.**

Albasia is a type of wood that is easily found in India, South China and Southeast Asia, especially in Indonesia. Albasia wood is a suitable wood to be used as raw material for making furniture or products that are large in size, causing a lot of residual waste. However, most of the albasia wood waste is used as firewood, so it only ends up as a burning residue that causes polluting smoke. Therefore, the purpose of this research is to make effective use of albasia wood waste material to be used as equipment that has a more sustainable function. With this research, albasia wood waste can be very useful for the community, especially in protecting the environment. This study will use a qualitative method by using a literature review from various relevant sources as the basis for processing the remaining unused material. The results of this study will be used as a basis for designing cutlery utensils made from albasia wood waste. Cutlery was chosen as the product to be made because cutlery is a relatively small product, so it can use albasia wood waste as its raw material. With this research, albasia wood waste can be very useful for the development of creative industries and for increasing environmental conservation efforts by reducing the remnants of waste materials that have the potential to pollute the environment.

**Keywords:** Wood Waste, Albasia, Cutlery, Eco-Friendly

## **INTRODUCTION**

Albasia is a type of soft wood that is commonly found in India, South China, and Southeast Asia. Albasia wood waste is often found in rural areas or in wood processing industries and is often left unused to become useful goods which are eventually only used as firewood by the surrounding community. The existence of this wood waste will be detrimental as well as beneficial depending on how the community responds to it. This wood waste will be of economic value if it is used and processed properly.

Utilization of wood waste is already available, but from an economic point of view, the understanding is still unknown so that the utilization of wood waste does not yet have a high economic value (Fachrurrozie, F. et al, 2021). The raw materials for wood and ceramics or clay are familiar in Indonesia, these two materials have been used by indigenous people since the time of their ancestors as raw materials for daily equipment. The daily equipment such as cooking utensils, tableware and farming utensils (Musfiroh, 2020).

The handicraft center in the Tasikmalaya Regency area seems to be a way out of the problem of albasia wood waste that is often found in today's society. According to Ubaidillah in 2022 regarding "Development of Handicraft Products from Industrial Wood Waste to Reduce Deforestation and Improve The Level Of The Economy Towards a Prosperous Indonesia", wood waste can help develop a creative economy that is beneficial and can improve the welfare of the surrounding community. With the existence of this craft center, the community can utilize albasia wood waste into a product that has economic value, one of which is the manufacture of cutlery (plates) made from wood waste.

Cutlery is an item that is often sought after by the public, both from the elderly and young people. Cutlery has been one of the most simple but very useful devices that has been created and used world over for consuming food (Patil & Sinhal, 2018). Moreover, in the Tasikmalaya area, there are many culinary places where the use of cutlery automatically increases. This can be a separate opportunity for marketing this cutlery product. According to Tri Mulya in 2019 regarding "Pengolahan Dan Penyajian Makanan Negara Jepang", Japan is one country that still maintains and maintains its cultural uniqueness. So, Japan still uses traditional tools such as cutlery made of wood, etc.

Cutlery is something that deserves attention, especially in environmental issues. Not many restaurants provide food in plastic containers or cutlery. Such as the use of styrofoam, plastic cutlery, and even plastic knives which are actually quite dangerous and difficult to decompose waste. According to Karuniastuti in 2013 regarding "Bahaya plastik terhadap kesehatan dan

lingkungan”, continuous and inappropriate use of plastic can cause various health problems, so that it can trigger cancer and tissue damage in the human body. Because this is an important study for us in making cutlery with materials that are more easily biodegradable and utilizing waste materials that can still be used. Also cutlery with wood waste material can be used continuously.

In response to the various issues that have been described, before continuing in the manufacture of this product, we previously conducted a literature study to identify the nature of this albasia wood material so that in the future we can determine how to process this wood waste so that it can be a product that is ready to be marketed. By utilizing current technological advances, namely by maximizing marketing through social media and also by trying out affiliate programs so that consumers are likely to get information directly and also through social media.

The purpose of this research is to make effective use of albasia wood waste material to be used as equipment that has a more sustainable function. Also take advantage of the presence of wood waste in the community as well as make new products with residual materials that have not been fully utilized.

## **METHODOLOGY**

This study uses literature study method by collecting data related to wood waste and its utilization. After getting the required data, then the data is analyzed and compiled according to needs. This literature study uses several sources from several journals that have been published and the truth has been proven (Hutasuhut, 2019).

According to Knopf in 2006 regarding “Doing a Literature Review”, The literature study methodology is an attempt to summarize the state of existing knowledge about a subject in a study, to summarize the expected contribution of the proposed research to knowledge. In general, literature study methodology is divided into three contexts: it can be an end in itself, it can be an early stage in a larger research project, or it can be a component of a completed research report. In the context of this research, the literature study method is used to answer theoretical or practical questions. Literature study method is a research method carried out by searching for data and information related to research through information related to the research through books, journals and other sources in the library (Wulandari,2012).

## RESULTS AND DISCUSSION

### Results

This study found that albasia wood waste is very easy to find and easy to breed due to its relatively short planting time. Albasia has the ability to grow quickly, as well as the ability to grow naturally without seeding (Khairuzani,2022). Albasia wood is one of the softwoods that is easy to process and also has the strength and resistance that falls into group III. In addition, this albasia wood has an extractive substance that can prevent termites so that products made using this wood will be durable and resistant to termites. This wood also has a white color with brownish red skin like tropical wood in general. The color of albasia wood is very attractive so that in the manufacture of products it is possible to use natural colors from the wood itself. Some kinds of wood have fibers, colors and patterns that can be used as natural decorative materials (Bogoriani, 2010).

The sawmill industry produces waste by 40.48% by volume, consisting of *sebetan* (22.32%), wood chips (9.39%) and sawdust (8.77%). Meanwhile, plywood industrial waste is 54.81% volume with details of *dolok* pieces (3.69%), *dolok* peel residue (18.25%), wet veneer (8.50%), shrinkage (3.69%), veneer dry (9.60 %), thickness reduction (dry veneer) (1.90 %), plywood edge trim (3.90 %), sawdust (2.2%) and plywood dust (3.07 %). Utilization of these two types of waste includes fuel, block board core, block board, particle board, and core veneer joints, or plywood back veneers from the use of wooden cutlery. And the advantages of wood-based cutlery are as follows:

- 1) Natural non-conductor
- 2) Does not damage other cooking utensils
- 3) Natural and Non-reactive
- 4) Comfortable to use because of its round shape
- 5) Anti-rust and non-corrosive
- 6) Artistic
- 7) Durable
- 8) Anti-bacterial because wood has natural abilities to kill germs and bacteria
- 9) Environmentally friendly

From these advantages the author can draw the conclusion that this wooden cutlery is not only good for the body but also good for the environment because it is environmentally friendly and the material is easily decomposed by soil. According to Arfadiani & Larasati in 2013 regarding "Pemanfaatan limbah tempurung kelapa muda melalui pengembangan desain produk alat makan", seeing era after era and people's lifestyles are developing according to natural conditions, the

issue of a '*back to nature*' by utilizing products from natural materials with a continuous production system is increasingly popular and has good economic value.

### **Discussion**

The results showed that the internal bonding strength of mahogany and sengon particle boards still met the JIS A 5908 standard, even though they were made from particles that had undergone previous curing treatment. The highest resistance of mahogany and sengon particle board was obtained after particle treatment with liquid smoke preservative at a concentration of 5% where the termite mortality value was 87% on mahogany particle board and 58% on sengon particle board. Based on Prosiding Seminar Nasional Masyarakat Peneliti Kayu Indonesia in 2001 regarding "Ketahanan papan partikel limbah kayu mahoni dan sengon dengan perlakuan pengawetan asap cair terhadap serangan rayap kayu kering", the value of weight loss obtained was 0.565% on mahogany particle board and 0.856% on sengon particle board.

Following up on this wood waste, an initiative arose to make albasia wood waste a material in the manufacture of environmentally friendly cutlery. Because this albasia wood waste material is classified as softwood, in the production process this wood must be treated properly and correctly so that it will become a durable cutlery.

As a way out to make cutlery from this albasia wood waste material, the author has made an example of a cutlery design, namely a plate with wood waste material and also the color of this cutlery using the original color of the wood material used. In addition, the author also took the initiative to contact one of the wood craftsmen in the Tasikmalaya Regency area to find out how to continue the production of this cutlery in the future. The author has also planned a marketing technique that will later be used in the marketing of the product.

### **CONCLUSION**

The amount of albasia wood waste found in the village environment and also in the wood processing industry has become a problem that most of the surrounding community complains about because of its disturbing existence. The manufacture of environmentally friendly cutlery with albasia wood waste material is one solution to reduce wood waste in the community. Even though they often encounter difficulties in conducting surveys, the authors continue this research to find solutions to this wood waste problem. Until now, the author has not been able to find suitable wood craftsmen to work with in producing this cutlery. As a way out of this difficulty, the author will visit the craft center in Ciawi Rajapolah to find craftsmen who are ready to help make cutlery from

this albasia wood waste. The purpose of this study, apart from knowing about wooden cutlery, the author also aims to reduce the amount of albasia wood waste in the community so that innovations are created to make environmentally friendly cutlery with albasia wood waste material.

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