

# Potential of Local Ebony Wood Products Processing in Mantikulore District, Palu, Indonesia

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**Abstract:** This research aims to deepen knowledge and develop knowledge about ebony wood, as well as to provide solutions to the problems faced by the community in Mantikulore District, one of the centers of the ebony wood industry in Palu. The ebony wood industry has significant potential to create added value, create jobs, and improve community welfare by processing local products into various types of finished goods. This research employed an interactive, qualitative descriptive method, with data collection techniques including direct field measurements, interviews, participant observation, and Focus Group Discussions (FGDs). Secondary data were obtained from statistics, official documents, research reports, and relevant literature. The results indicate that ebony wood processing can increase added value and create new jobs for the community. The ebony wood craft industry also encourages independence by utilizing local creativity and skills. This research involved the Central Sulawesi Provincial Tourism Office, the Central Sulawesi Provincial Forestry Office, and MSME observers, and aimed to improve community welfare. The implications of this research are that it provides valuable input for the formulation and implementation of ebony wood industry development policies and contributes to the optimal utilization of resources and funds. The FGD results indicated that MSMEs hoped for training to broaden their knowledge and skills, while the Tourism Office hoped to increase the added value of ebony craft products. A possible solution for MSME observers is to include ebony craft MSMEs in the banking funding database as a form of government support and incentive.

**Keywords:** Ebony wood potential; Ebony wood utilization; Industrial management; Local product processing; Local wood industry

## Introduction

Ebony is a rare and infrequently found wood, making its price very high. This wood also boasts a very high level of resistance and strength to weather and high humidity. Ebony is a type of wood that grows in Central Sulawesi and is characterized by its blackish color (Karlinasari et al., 2020). Wood utilization can be maximized as stipulated in Law Number 23 of 2014 concerning Regional Government, which grants regional governments the broadest possible autonomy

to manage their own regions according to their potential. With ebony as a potential resource in Central Sulawesi, the government's role is needed to maximize Central Sulawesi's natural potential for local economic development, thereby realizing the primary goal of the local economy, namely the welfare of its people (Surya et al., 2020; Surya et al., 2021). Currently, the Palu City government is striving to establish Palu as an industrial center. Seeing the significant potential for the ebony industry, this opportunity presents a promising prospect for ebony wood development and processing.

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However, ebony trees are rare in Sulawesi's forests due to illegal logging, both organized and individual, which has had an impact on ebony craftsmen in Palu City (Pangau-Adam et al., 2021; Mujetahid et al., 2023).

CV. Rindu Order is a partner in this research and one of the few remaining active craft industries in the ebony wood craft industry center in Mantikulore District. Mr. Mahfud, the owner of CV. Rindu Order, has been operating his business for 12 years. He stated that currently, only six ebony craftsmen remain in the district. When the business first opened in 2011, products such as key chains, miniature pinisi ships, and wall clocks were highly sought after by consumers. Responding to market demand, Mr. Mahfud then expanded his product offerings by adding nameplates, graduation plaques, and various other crafts based on customer orders. The impact of the natural disaster that struck Palu City in 2018 and the COVID-19 outbreak has further decreased the market share of ebony wood craftsmen in the craft industry center in Mantikulore District. This of course has an impact on the income obtained. In 2022 to 2023, consumers who come directly to the industrial center location are only 2-3 people. Lack of capital and equipment used is no longer sufficient and the minimum workforce also affects, because the time for completing a craft will be hampered, in addition to the increasingly scarce raw materials (Shafi et al., 2020; Barreto Peixoto et al., 2023).

The Objectives of Industrial Development refer to Law Number 3 of 2014 concerning Industry, which states that the main objective of industrial development is to lead to all efforts to realize an economic order (Liang et al., 2021; Elfaki et al., 2021), that favors the interests of the people and social justice, the welfare and prosperity of all society, not the interests of individuals, groups or certain groups, with a production process that involves everyone and the results can be enjoyed by all Indonesian citizens (Hosono, 2022; Haraguchi et al., 2017). The challenges faced by the ebony wood craft industries are of course the high level of competition and the need to increase the potential for processing ebony wood as a local product (Raya et al., 2021; Viganò et al., 2023), the development of the ebony wood craft industry in the community will be able to roll out the community's economy because the national economic strength appears and grows in the community (Nicholls & Bumgardner, 2018; Yuniarta & Purnamawati, 2023), the ebony wood craft industry is an opportunity to develop the independence of the ebony wood craft industry, an industry that originates from the use of creativity, skills and talents of individuals, to create prosperity and employment by producing and exploiting the creative power and inventiveness of individuals (Rodríguez-Insuasti et al., 2022; Awan & Sroufe, 2022; Williams et al., 2021). The research problem

formulation is: How can we increase the added value and utilization of local ebony wood in Mantikulore District to support the local economy and environmental conservation? This study explores the increased added value and utilization of local ebony wood in Mantikulore.

Despite challenges, local artisans continue to produce crafts based on demand to meet their daily needs (Deshmukh et al., 2024; Yang et al., 2018). This study will involve the government, community, and non-governmental organizations in developing the ebony wood industry and the potential of local products. The innovative approaches to the problem in this research include a sustainable approach, community empowerment, technology integration, multi-stakeholder collaboration, and product diversification. To solve the problem, this study uses the Local Economic Development (LED) theory, which is a strategic step in utilizing resources and funds, as well as the roles of various parties, to achieve the primary goal of improving welfare. The LED theory is used to analyze the wood industry's contribution to the regional economy, including job creation, increased income, and community empowerment. This approach is expected to advance the potential of ebony wood craft products into a sustainable and profitable creative economy for residents.

## Method

This research uses an interactive, qualitative descriptive approach to describe and analyze the potential for processing local ebony wood products in Mantikulore District, as well as the factors influencing it. This study uses ebony wood processing technology as the independent variable, and the potential for processing local ebony wood products as the dependent variable. This study uses a conceptual framework to describe the relationship between the research variables and to determine the focus and scope of the study (Snyder, 2019). The focus of the research is on the development of ebony wood processing technology into innovative, creative, and value-added local products. The scope of this research is in Talise Village, Mantikulore District, Palu City, Central Sulawesi Province. Data sources use primary and secondary data.

Primary data were collected through direct field measurements, in-depth interviews with craftsmen and ebony wood buyers, and participant observation of the ebony wood processing process. Secondary data were obtained from statistical data, official documents, research reports, and literature sources relevant to the research topic. The data analysis technique uses an interactive analysis model to analyze the data. This interactive analysis model consists of three stages: data

reduction, data presentation, and conclusion drawing. Data reduction includes the process of selecting, simplifying, abstracting, and transforming data from field notes. Data presentation includes the process of organizing and arranging the data in the form of tables, graphs, diagrams, or narratives.

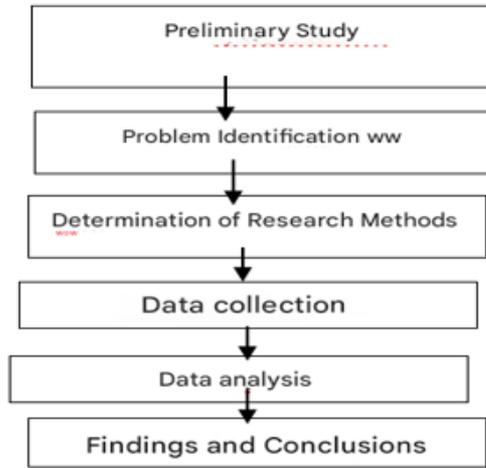


Figure 2. Research flowchart

**Preliminary Study:** This stage involves observation and literature review of journals, articles, and other sources to identify the problem to be researched. The targeted achievement indicator is the identification of problems relevant to the processing of local ebony wood products, and the lead researcher is responsible for this stage. **Problem Identification:** After the preliminary study, the researcher identifies problems related to the processing of local ebony wood products in the sub-district. **Achievement Indicator:** The more specific

problem to be researched is determined. The lead researcher is responsible for this stage. **Determination of Research Methods:** At this stage, the researcher selects the research method to be used, such as qualitative or quantitative methods. **Achievement Indicator:** Selection of a research method appropriate to the research objectives. **Data Collection:** The researcher collects data related to the potential for processing local ebony wood products, either through interviews, surveys, or field observations.

**Achievement Indicator:** Data collection through interviews, surveys, or field observations. **Data Analysis:** The collected data is analyzed to identify opportunities and challenges in the processing of local ebony wood products. **Achievement Indicators:** Comprehensive and relevant data analysis, Findings and Conclusions: Based on the data analysis, researchers compiled findings and conclusions related to the potential for processing local ebony wood products in Mantikulore District. **Achievement Indicators:** Compilation of findings and conclusions based on the analysis results.

**Result and Discussion**

This study used an interactive, descriptive qualitative approach through Focus Group Discussions (FGDs). The aim of this study was to obtain information and input from the tourism office, forestry office, MSME observers, academics, and ebony MSMEs in Mantikulore District. Five open-ended questions were asked. Data are presented as conclusions from respondents' answers to each question item.

Table 1. FGD Results

Questions	Answer
What are the main challenges faced in ebony processing in Mantikulore?	According to Mahfud, an ebony MSME, what is needed is equipment (technology) that can support the process of making ebony souvenirs. Meanwhile, Bayu highlighted the need for creative human resources to develop ebony souvenir products. Yudi, a representative of the Central Sulawesi Provincial Tourism Office, stated that the main challenge is the lack of added value, so MSMEs need to conduct market research to create more product variety. Ahrir believes that funding or capital constraints are the main challenge in producing ebony souvenirs. Afief, an MSME observer, stated that marketing ebony products requires market segmentation.
How can we increase the added value of ebony products?	Mahfud, Bayu, and Ahrir emphasized the need for product innovation to attract more consumers with diverse choices. Therefore, training and human resource development are necessary to improve product quality. Meanwhile, Afif emphasized the need for mentoring and consultation for ebony MSMEs regarding marketing strategies and business management to create product innovation and target the right consumers. Yudi suggested that ebony products can be integrated into the tourism industry by selling souvenirs at tourist destinations. Eduardus, a representative from the Central Sulawesi Provincial Forestry Service, emphasized the need to develop ecotourism focused on the conservation and sustainable use of ebony wood. This can attract environmentally conscious tourists and, of course, increase the added value of products.

Questions	Answer
What is the most effective role of the government in supporting the ebony industry?	The government, through the tourism office, the forestry office, and MSMEs, plays a crucial role in supporting the ebony industry. The tourism office can assist in product promotion and integration into tourist destinations. The forestry office plays a role in conservation, regulation, and technological support. Meanwhile, MSMEs can provide mentoring, training, and market research to improve product innovation and quality.
How can we maintain the sustainability of ebony amidst increasing demand?	This collaboration between various parties can increase the added value of ebony wood products, support the local economy, and preserve the environment. Afif, an MSME observer, emphasized the need for greater focus on education and raising awareness about ebony wood conservation, providing mentoring in sustainable forest management practices, and promoting environmentally friendly products. Rosmaniar, an academic, emphasized the need to conduct research and develop effective cultivation and conservation methods, collaborate with government and industry to develop best policies, and publish research results to increase knowledge and awareness. Mirna, Dina Aulia, and Fadel Muhammad emphasized the need to organize social and environmental activities that support conservation, conduct field research to support conservation efforts, and advocate for policies that support conservation through student organizations. Meanwhile, Mahfud, Bayu, and Ahrir emphasized the need to adopt sustainable forest management practices, obtain product certification to demonstrate sourcing sustainability, and develop efficient products that reduce waste.
What forms of support and incentives can the government and non-governmental organizations provide?	Yudi, a representative from the Central Sulawesi Provincial Tourism Office, emphasized the need to hold marketing campaigns, exhibitions, and festivals to promote ebony wood products. Furthermore, ebony wood products should be integrated into tourist destinations by selling souvenirs and encouraging collaboration between tourism businesses and ebony wood micro, small, and medium enterprises (MSMEs) to create attractive and educational tour packages. Eduardus, a representative from the Central Sulawesi Provincial Forestry Office, emphasized the need to conserve and reforest ebony trees to ensure the sustainability of natural resources. Furthermore, it is necessary to monitor and regulate ebony logging to prevent overexploitation and illegal logging, and provide technological support to MSMEs to improve the efficiency and quality of ebony products. Afif, as an MSME observer, stated that it is necessary to provide mentoring and consultation to MSMEs regarding marketing strategies, business management, and product innovation. Furthermore, it is necessary to organize training to improve the skills and creativity of the workforce in processing ebony, and conduct market research to understand consumer needs and preferences.

Overall, to overcome challenges and increase the added value of ebony products, appropriate technology, creative human resources, in-depth market research, adequate funding, and effective marketing strategies are required. Collaboration between product innovation, human resource development, effective marketing strategies, integration with the tourism industry, and sustainable ecotourism development is crucial to increasing the added value and sustainability of ebony and ebony products. Furthermore, collaboration between the tourism office, the forestry office, and MSME stakeholders is crucial to increasing the added value of ebony products, supporting the local economy, and preserving the environment.

*Discussion*

This study aims to answer the question: How can we increase the added value and utilization of local ebony wood in Mantikulore District to support the local

economy and environmental preservation? Therefore, it is necessary to consider the perspectives of:

*The Central Sulawesi Provincial Tourism Office*

A strategy for promoting and integrating ebony wood products into tourist destinations is needed to increase added value, and the role of marketing campaigns, exhibitions, and festivals is crucial in supporting the ebony wood industry (Calvano et al., 2025; Bosworth et al., 2024).

*Central Sulawesi Provincial Forestry Service*

Ebony conservation and reforestation efforts are necessary to ensure the sustainability of natural resources (Rapiya et al., 2024; Cunningham et al., 2015). Supervision and regulation of ebony logging are needed to prevent overexploitation and illegal logging. Technological support is needed for MSMEs to improve efficiency and product quality (Wijaya et al., 2025; Probahudono et al., 2025).

### MSME Observers

Mentoring and consulting are needed to assist MSMEs in marketing strategies and business management (Audretsch et al., 2023). The types of training required should be reviewed to improve the skills and creativity of the workforce in processing ebony wood. Market research is needed to understand consumer needs and preferences.

### MSMEs:

Product innovation is needed to attract more consumers with diverse variations. Product certification is needed to demonstrate sourcing sustainability and increase added value (Oberlack et al., 2023; Nygaard, 2023). Sustainable forest management practices need to be implemented (Masudin et al., 2024; Osei et al., 2023).

### Academics

Research and development of effective cultivation and conservation methods are needed. Collaboration with government and industry is needed to develop the best policies for ebony wood management (Kampelmann, 2021; Djafar et al., 2023). Furthermore, publication of research results is crucial to increase knowledge and awareness about ebony wood conservation (Saxena et al., 2022; Cairney & Toomey, 2024).

### Students

Social and environmental activities need to be held to support ebony conservation, and field research is needed to support conservation efforts (Samal & Dash, 2023; Domínguez & Luoma, 2020). Policy advocacy through student organizations is needed to support ebony conservation (Esmail et al., 2023; Dietsch et al., 2025).

## Conclusion

This research provides a comprehensive solution to increase the added value and utilization of local ebony wood in Mantikulore District. The core of this strategy is a combination of promotion, conservation, and product innovation. Its implementation relies heavily on multi-stakeholder collaboration involving the tourism office, forestry office, academics, MSMEs, and other stakeholders. Through this synergy, the research findings are expected to not only support the local economy but also contribute to environmental conservation.

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### Author Contributions

Conceptualization; methodology; validation; formal analysis; R.; investigation; resources; data curation; R; writing—original draft preparation; writing—review and editing; A. S. A.; visualization: R. All authors have read and approved the published version of the manuscript.

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### Conflicts of Interest

The authors declare no conflict of interest.

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