

Local Wisdom of Forest Business Community in Mallawa District, Maros Regency

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Abstract

The use of candlenut forest by the community has local wisdom that plays a role in the cultivation of forest candlenut by the community. This study aims to determine the role of local wisdom in the utilization of candlenut forest in Mallawa district. This research was conducted through direct observation and interviews with forest use actors regarding the types of timber harvested, timber sales transactions with harvest patterns, the wage system, the income of community forest workers and social institutions in community forest management. Data analysis was carried out quantitatively through income calculation and descriptive analysis to describe the role of local wisdom in the use of candlenut forest. The results showed that the community forest harvesting pattern, in which contractors buy wood at the price of tree stands to farmers who own community forest land, provides the highest income without cost to community forest owners. Local wisdom is manifested in various patterns of harvesting community forests, including: (1) the first harvest pattern: farmers who own community forests are assisted to rejuvenate the forest area, (2) the second harvest pattern: farmers can earn a lot of money quickly for urgent needs, (3) the third harvest pattern, which provides easier access for local entrepreneurs to harvest and market community forest products, (4) and the fourth harvest pattern, farmers have the option to sell trees/timber on a small scale (multiple trees). If necessary, small funds. Local wisdom contained in the people's candlenut harvest includes (1) makkampiri activities, namely during the main harvest for candlenut forest owners to collect candlenut fruit and play a role in minimizing candlenut theft to be played, (2) "Mabbali" This activity is the second period of candlenut collection for community forest owners who play a role in minimizing candlenuts that are not collected during Makkampiri. (3) Makkalice, is the expiration of picking pecans given to people in the forest who do not have land to gather pecans are not collected during Makkampiri and Mabbali.

Keywords

forest management, local wisdom; Mallawa District



I. Introduction

Since 1826 farmers The surrounding forest in Maros Regency, South Sulawesi, has managed and utilized the candlenut plant as the dominant plant in mixed gardens or in the form of community forest, even between 1960 and 1980 Maros Regency was known as the largest producer of candlenut with the best quality in Indonesia (Suprayitno, et al. ,2011). The candlenut forest in Maros Regency, South Sulawesi, was built independently by farmer

households and as community family groups since the Dutch era. cooperation / mutual cooperation clearing land, regulations, and local institutions as well as local wisdom in the people's candlenut forest management system. Economic factors that encourage people to build candlenut independently are the expectation of candlenut fruit as a source of family income and land ownership as family capital for the forest for generations (Supratman, 2006).

Local wisdom is synonymous with traditional knowledge. Zakaria (1994) and Widjono, (1998) suggest that local wisdom is local knowledge possessed by a particular community which includes a number of knowledge relating to models of sustainable natural resource management (Sarjono, 2004). The knowledge in question is the environmental image that is based on the religious system, patterned cosmismagis and view humans are part of the natural environment itself

By economic factors and social background of building hazelnut in Maros, it can be said that the forest of hazelnut was built largely determined by local wisdom of the community starting from land clearing, candlenut forest management, to the production and marketing process of candlenut products. Candlenut forest management for the community in Maros Regency, South Sulawesi is a knowledge that was developed and developed based on the past experience of managing candlenut forests from year to year. to exchange experiences which ultimately form knowledge in the context of this paper is called local wisdom.

How is the relationship between local wisdom of candlenut management and land ownership, and how local wisdom can support forest exploitation, regarding aspects of opening employment opportunities, ensuring the interests of the actors of the tenure system fairly, encouraging increased ownership of candlenut agricultural land and increasing the ecological productivity of people's candlenut forest land , is the main reason that this research was conducted.

Research Objectives

1. Management Community
2. Local wisdom contained in candlenut cultivation in Mallawa District
3. Knowledge of candlenut forest exploitation in Mallawa sub-districtKnowledge of local wisdom in candlenut forest exploitation in Mallawa District

II. Review of Literature

2.1 Forest

Forest exploitation is activities that include: production, product processing, marketing and institutional. It is known that community forests are currently being worked on by people in rural areas, so that the contribution of community forest benefits will have an impact on the village economy. The economic benefits of community forests can be directly felt by each of the actors' households and indirectly affect the village economy. Income from community forests for farmers is still a side income and is incidental in nature with a range of no more than 10% of the total income they receive. This is because forest exploitation is a type of sideline business. Community forest businesses are generally carried out by small farming families, usually a subsystem which is a common feature of Indonesian farmers (Hardjanto, 2000).

The results of Desi Rombe Sometimes (2008) research in Mallawa District, Maros Regency, showed that Mallawa District has quite possible community forests. The plants developed are teak and candlenut which have different diversity. Most of the people in the Mallawa sub-district harvest wood from community forests as a livelihood. The harvested timber is then sold to both industry and timber traders. The sales proceeds are used to increase their income.

2.2 Local Wisdom

a. Understanding Local

Local wisdom in the discipline of anthropology is also known as local genius. Local genius is a term known by Quaritch Wales (Ayatrohaedi, 1986). Local wisdom is the wisdom or original knowledge of a community that comes from the noble value of cultural traditions to regulate the order of people's lives (Sembiring, 2019). Various local wisdoms that have been maintained by ethnic groups in Indonesia are learned from nature, and consider everything that is good and useful, which they also learn from nature (Pandapotan, 2019). women's empowerment can be a reference to provide solutions to the poverty situation that occurs. Women in the region have businesses that are very closely related to local wisdom (Sarlawat, 2019). Anthropologists discuss at length the notion of local genius. Among other things, Haryati Soebadio said that local genius is a cultural identity, identity/personality of the nation that causes the nation to be able to absorb and cultivate foreign cultures according to their own abilities and abilities (Ayatrohaedi, 1986).

The role of local wisdom in supporting sustainable development is to improve the welfare of the community by avoiding the exploitation of natural resources beyond their carrying capacity. carrying capacity of the environment and natural resources in the utilization of natural resources is very important, sovereign to maintain customary wisdom and practices of improving natural resource management that are proven to be able to support their life and safety as a community and at the same time support the function of natural ecological services for the needs of other creatures more broadly. (Mawardi, 2012).

b. Forms of Local Wisdom

According to Haryanto (2014:212) the forms of local wisdom are harmony of diversity in the form of social practices that are based on wisdom from culture. The forms of local wisdom in society can be in the form of culture (values, norms, ethics, beliefs, customs, customary laws, and special rules). The noble values related to local wisdom include love for God, the semester and its contents, responsibility, discipline, independence, honesty, respect and courtesy, compassion and care, confidence, creativity, hard work, and never give up, justice and leadership. , Kind and humble, tolerance, love of peace and unity Local wisdom can be tangible (textual, architectural, traditional art) and intangible (value system, kidung, advice) and in terms of the type of local wisdom consists of governance, value system, procedures, and special provisions such as sensitive areas and sacred areas/buildings (Rapanna, 2016). The following are forms of local wisdom:

c. The Local Wisdom

The role of local wisdom is, among others, for the conservation and preservation of natural resources, human resource development, cultural and scientific development, as well as instructions on advice, beliefs, literature, and taboos (Maridi, 2016). Thus the function of this local wisdom can choose, sort and control the community continuously and continuously develop and develop and civilization towards perfection. With the local wisdom approach, the natural resources that exist around the place of human life can be maintained and preserved. Humans who utilize these natural resources are developed and developed in managing existing natural resources in accordance with good cultural values and with the knowledge they have. Thus, local wisdom becomes advice that is passed down to generations to be used as the value of beliefs and taboos in preserving natural and human resources (Suhartini, 2009).

d. The Role of Local Wisdom on Forest Tenure

Mitchell et.al. (2007) stated that the local knowledge system is very powerful and has a very large role throughout the history of human life in maintaining the balance of the natural environment.

The practice of candlenut forest management carried out by farmers around the candlenut forest in Maros Regency is a form of local wisdom because it is based on knowledge, values and wisdom norms that apply in the local cultural system and have been passed down from generation to generation. The practice of managing candlenut forest in Maros Regency in the form of gardens has long been developed by residents in the form of candlenut plantations. Maros pecan forest management by the farmers around the forest has its own way and become part of their culture system.

III. Research Methods

3.1 Location and Time

Research was conducted in October 2021 in the district Mallawa, Maros, South Sulawesi province.

3.2 Population and Research Sample

The population in this study are farmers, community forest harvesting entrepreneurs, local government and wood processing industries located around the Mallawa District. The research sample was determined by purposive sampling, with a total sample of 30 people, which included:

1. 10 community forest farmers who were managing and exploiting community forests.
2. 10 workers for harvesting, skidding and/or transportation workers.
3. 5 people harvesting community forest.
4. 5 government staff (Village officials and forestry officials in Maros Regency).

3.3 Data Collection Methods and Data Types

This research was conducted through observation and interviews to obtain primary data on community timber exploitation activities using a list of questions that had been prepared and local wisdom contained in the concession. The community forest includes (1) the type of timber harvested, (2) the sale transaction of timber belonging to the community with traders, (3) the costs and income of farmers in various types of wood harvested, and (4) local wisdom contained in harvesting and managing community forests.

3.4 Analysis Data

Data Carried out with quantitative operations and qualitative operations through acceptance analysis was carried out to find out all the results obtained from harvesting activities from wood operations to wood sorting in certain sizes with

$$P_v = P Q$$

Where:

P_v = Acceptance at wood sorting certain types of wood (Rp/m³)

P = H price of wood sorting of certain types (Rp/m³)

Q = Quantity of sorting of wood for certain types of wood (m³)

Income analysis is carried out using the formula:

$$P_b = P \cdot Q - TC$$

Where:

- Pb = Net income for certain types of wood sorting (Rp/m³)
P = Price of certain types of wood sorting (Rp/m³)
Q = Number of wood sorties for certain types of wood (m³)
TC = Total Cost of sorting certain types of wood (Rp/m³)

While qualitative analysis is being carried out to describe local wisdom and its role in forest exploitation and community forest management

IV. Discussion

4.1 Labor Wage System in Community Forest Harvesting

a. Pattern of Community Forest Harvesting Activities in which the Land Owner is also a Timber Entrepreneur

Pattern 1 describes the relationship between land owners as well as timber (Figure 2). The timber owner acts as the owner of the capital who incurs all costs for renting the saw, seeks skilled labor in carrying out timber harvesting activities such as logging, skidding, trunk distribution and transportation of wood, paying administrative costs such as village and forestry certificates, travel expenses and expenses transportation and pay the wages of labor. Workers in community forest wood harvesting activities for landowners and wood harvesting entrepreneurs who come from and outside the family environment, namely relatives or outside communities in Batu Putih Village, Mallawa District. This land owner or timber harvester provides teak (*Tectona grandis*) and candlenut (wood *Aleurites moluccana*) by renting a chainsaw based on the cubic meter of the felled tree. The selling price of teak wood for the size (120 x 18 x 18) cm is Rp. 2.080.000/m³ while for candlenut wood the size (400 x 10 x 20) cm is Rp. 900,000/m³.

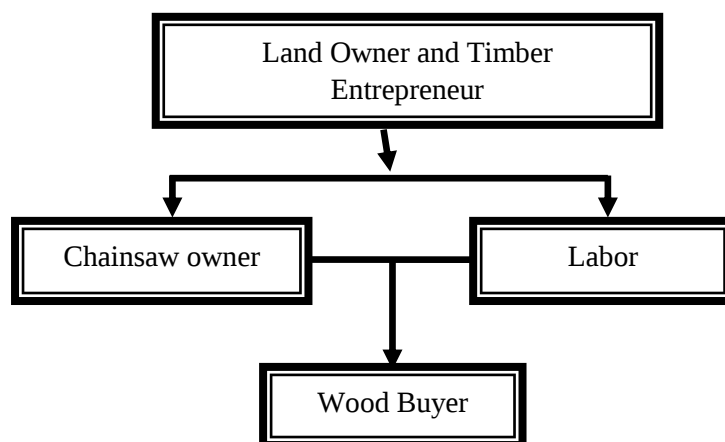


Figure 1. Pattern 1. Pattern of Community Forest Harvesting Activities in Batu Putih Village, Mallawa District

b. Pattern of Community Forest Harvesting Activities in which Entrepreneurs Buy Timber at a Price per Tree Figure

2 illustrates the relationship between timber entrepreneurs, land owners and timber buyers. The land owner sells the timber business land in the form of standing stands (trees), namely teak trees, the selling price of wood is determined based on the type of wood and the diameter of the wood because the larger the diameter of the wood, the higher the price to be sold so that it can produce wood in the form of a better bearing many. The selling price of teak wood for the size (120 x 18 x 18) cm is Rp. 2.240.000 / m³. In this pattern, timber harvesting activities such as recording, skidding, trunk distribution and timber transportation

are not carried out by the land owner or timber entrepreneur, so that the wage and labor system used by the entrepreneur determines and incurs all costs, but it is the timber businessmen who will immediately look for buyers of the wood.

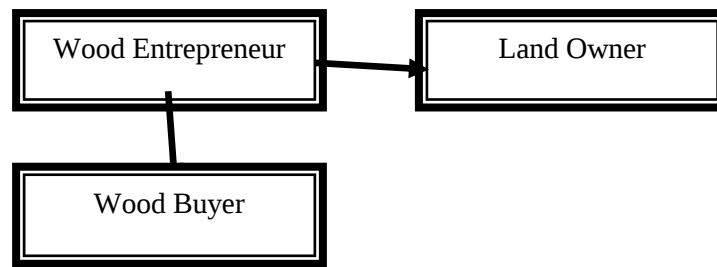


Figure 2. Pattern 2. Pattern of Community Forest Harvesting Activities in Batu Putih Village, Mallawa District

c. Pattern of Community Forest Harvesting Activities in which Entrepreneurs Buy Timber at a Price per sortiment to Community Forest Land Owners

Pattern 3 illustrates the relationship between timber entrepreneurs, land owners, saw owners, laborers workers and wood buyers (Figure 4). Timber entrepreneurs buy land from landowners in the form of sorties and incur all costs for renting chainsaws, wages for labor, administrative costs such as certificates from the village and letters to Forestry, travel and transportation costs as well as paying labor wages. The wood entrepreneur determines the selling price to the land owner, according to the size of the diameter of the wood. Meanwhile, land owners only get net income from timber entrepreneurs and usually get money after the timber is measured or after the timber is sold by the timber entrepreneur, so the land owner does not spend any capital. The wood cultivated is teak and candlenut. The selling price of teak wood for the size (120 x 18 x 18) cm is Rp. 2.080.000/m³ while for candlenut wood the size (400 x 10 x 20) cm is Rp. 500,000/m³.

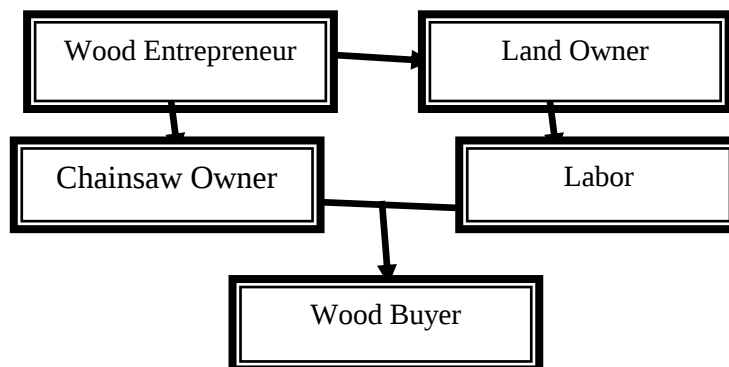


Figure 3. Pattern 3. Patterns of Community Forest Harvesting Activities in Batu Putih Village, Mallawa District

d. Pattern of Community Forest Harvesting Activities in which Timber Entrepreneurs are Collecting Traders who Swallow Wood from Houses

Pattern 4 illustrates the relationship between timber entrepreneurs as collectors, land owners, owners chainsaw and labor (Figure 5). Collectors buy wood from people's homes, where the community (the land owners of the Teak People's Forest) harvests the wood, starting from planting, skidding, distributing the trunks and transporting the wood to their front door by themselves and at their own expense. Collectors will come to people's homes to buy wood. This pattern is usually carried out by people who have small lands and the amount

of wood is small, but there are also people who have large enough lands but are hampered by the lack of capital to carry out harvesting activities. This method is more profitable for land owners because it does not incur large costs and earns higher income compared to timber entrepreneurs. The selling price of teak wood for the size (120 x 18 x 18) cm is Rp. 2,080,000 / m³.

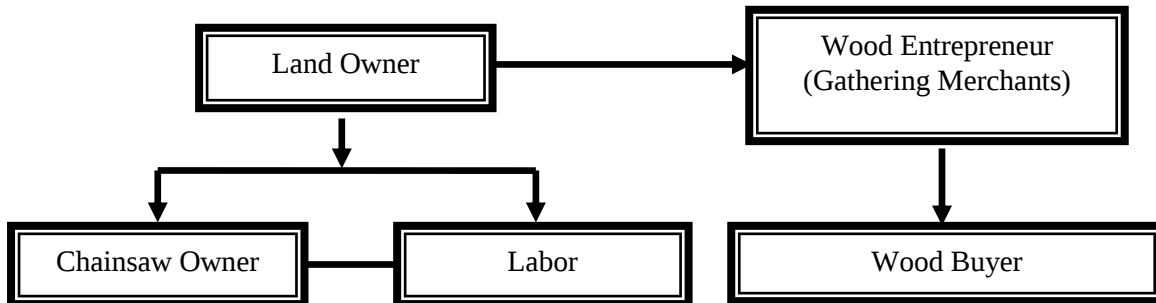


Figure 4. Pattern 4. Pattern of Community Forest Harvesting Activities in Batu Putih Village, Mallawa Subdistrict

Any wood produced by the community from their own gardens and the community who will carry out planting, skidding, trunk distribution and transportation activities , while the collectors will only buy wood directly from people's homes, where the purchase price for teak is IDR 1,052,000/m³ with a size of (120x18x18) cm. After the logs are collected, the collectors sell the wood to buyers at a price of IDR 2,080,000/m³. The wage system is used by the method of wage unit, with transport costs to be incurred by traders Rp 109 649 / m³ for one conveyance from Hamlet Pangensorang to Makassar. Workers in wood transportation activities, by renting trucks from the family environment and close to the land owner's house. The number of trucks that are usually used each time is one truck with two workers, namely the driver and the assistant.

Based on the various patterns of harvesting community forests in the Mallawa sub-district, it can be identified the local wisdom contained in the community forest harvesting, as shown in Table

Table 1. Local Wisdom found in various Harvesting Patterns of the People's Candlenut Forest in Mallawa District.

No.	Harvesting patterns	Local wisdom
1.	Pattern 1	1. Farmers who own community forest are facilitated in rejuvenating the candlenut community forest area.
2.	Pattern 2	2. Farmers can get cash for urgent needs from community forest stands.
3.	Pattern 3	1. Provide access for local entrepreneurs in harvesting and marketing.
4.	Pattern 4	Farmers have the opportunity to sell trees/timbers on a small scale if they need urgent funds.

4.2 Collection of Non-Timber Forest Products (Pecan Fruit)

The community in carrying out the candlenut harvest is divided into several stages, namely *makkampiri*, *mabbali* and *makkallice*. Harvesting candlenuts by means of *makkampiri* is a candlenut harvesting institution that is carried out by land owners or other people at the first harvesting stage. People who candlenuts are called *collectpakkampiri*. The *makkampiri* activities were initially carried out by mutual cooperation, but with the increase in the population, the value system shifted to a wage system.

The activity of increasing candlenut by "*mabbali*" is an institution for collecting candlenuts carried out by land owners or with other people after the first stage of collection (*makkampiri*). People who collect candlenut are called *pabbali*. After the activity is *mabba* carried out, the prohibition sign or *hompong iscollect* collected by the land owner so that the general public can freely go on the land. The implementation of the candlenut harvest using the *mabbali* method is in principle the same as the *makkampiri* method. The only difference is the time, namely *makkampiri* is the first harvest time, while *mabbali* is the second harvest time of the year.

The candlenut harvesting institution method uses *makkallice*, namely the kemini harvesting institution by giving people the right to collect candlenuts without having to ask permission from the land owner. People who collect candlenuts are called *pakkallice*, the results of the harvest of candlenuts that the *tin pakkallice* becomes the whole property without having to give some of it to the owner.

Table 2. Local wisdom contained in the collection of people's candlenut fruit in Mallawa District, Maros Regency

No	Activity ON Harvesting forest fruits pecan	Local Wisdom
1.	hazelnutHarvesting: - Makkampiri -	Harvest Time for Farmers Community forest for a review to minimize search hazelnut pecan
	- Mabbali	hazelnut minimize Yang NOT terpungut When makkampiri
	- Makkallice	Providing Opportunities shown to 'community forest Yang NOT Poor Neighborhoods Have Land for review picking candlenut fruit that was not picked up during makkampiri and ma'balicestands

4.3 Monoculture Teak

There are two systems of harvesting wood in monoculture teak stands, namely selective logging and clear cutting. The selective logging system was implemented, namely selective logging based on diameter due to differences in diameter and age class of teak forest stands. Logging is done when the age of teak is between 30 and 40 years with a diameter of over 40 cm.

The clear-cutting system is carried out to convert the cut-down areas into fields for one year after planting. The reason for the farmers to record the clear-cutting system is because they want to replace the land that was previously planted with trees into a garden area. In addition, another reason is because of economic needs, so they build trees to sell and for housing needs. Teak trees that have been cut down are then divided into trunks and used as a reference using a *chainsaw*.

4.4 Standing Mixed Community Forest

Mixed stands in the community forest in Benteng Village, Camba District, consist of a combination of candlenut and teak and a combination of candlenut with white teak. The silvicultural system applied to mixed stands was a selective logging system based on the heterogeneous composition of the stand plant composition with differences in plant species from the plant stand.

The time of recording varies, candlenut is cut at the age of 20 to 30 years, teak is felled when the age reaches 30 to 40 years. While white teak is cut down at the age of eight years and over. The reason for planting is because they want to replace the land that was previously planted with trees into a garden area. The reason they visit teak and white teak is because of economic needs, so they cut down trees to sell and to build houses. This is in line with the statement by Adriyati (2008), that community forest farmers in Mallawa Sub-district use their harvests from forestry plants to build their own houses and those of their relatives.

After that, the process for the rods is then carried out and then continued by using a *chainsaw*. The bearings that have been formed are then skidded by carrying them out of the mixed stand area. The wood is carried by human power and then brought to a road that can be passed by cars that will transport wooden pads. The standard skid fee used is around Rp. 10,000, -/rod.

4.5 Silviculture and Forest Regeneration System

Agroforestry stands in the community forest in Benteng Village, Camba District are a combination of candlenut and cocoa plants and a combination of candlenut, cocoa and white teak. In some areas there is also a combination of teak, jackfruit and mango plants. The timber harvesting system in mixed stands is a selective logging system based on species due to the heterogeneous composition of the stand plants with different plant species from the stands.

The planting technique used in agroforestry stands is a selective logging system based on species. Commercial trees that have reached maturity are then cut down with due regard to the presence of plantation crops, by means of which the felled trees will not cause damage to the surrounding plantation crops. The trees that are cut down are candlenut and white teak, while the plants are allowed to grow so that their fruit can be harvested for economic needs. After the tree is cut down, the process is carried out for the trunk and then proceed with using a *chainsaw*.

After the bearing is formed, skidding is carried out by carrying it out of the stands of the agroforestry area. The wood is carried by human power and then onto a road that can be passed by the car that will transport the wood.

Table 3. Silviculture and Forest Regeneration System

No.	Forest Standing People	Silviculture System	Local Wisdom
1.	Forest MonoculturePecan	Clearfelling	Growers do with the pattern of natural regeneration landing which combines crops and seasonal crops staple foods as a strategy to maintain subsistence (availability) of household food.
2.	Mixed Stands	Selective logging with forest regeneration	Smallholders are able to diversify sources of income, in the form of seasonal and

			annual incomes by maintaining the productivity of the land forest ecosystem.
3.	Agroforestry	Selective logging with forest regeneration	Farmers are able to diversify sources of income, in the form of seasonal and annual income by maintaining the productivity of forest land ecosystems.

V. Conclusion

1. Local wisdom found in various harvesting patterns of community candlenut forest in Mallowa District includes harvesting pattern 1: farmers owning community forests are facilitated in rejuvenating community candlenut forest areas, harvesting pattern 2: farmers can get cash for urgent needs from community forest stands, harvesting pattern 3: providing access for local entrepreneurs in harvesting and marketing, and harvesting pattern: farmers have the opportunity to sell trees/timbers on a small scale if they need urgent funds.
2. Local wisdom contained in the collection of people's candlenuts in Mallowa District, Maros Regency includes activities 1. Makkampiri, where harvesting for candlenut community forest farmers to minimize the search for candlenuts, 2. Mabbali, which can minimize candlenut fruit that is not collected when makkampiri. 3. Makkalice, which can provide opportunities for poor communities around the forest who do not have land to collect candlenuts that are not picked up during makkampiri and mabbali.
3. Local wisdom contained in the silvicultural system and forest regeneration in community forests, namely as a strategy to diversify plants as well as to maintain food subsistence by maintaining the ecological and economic productivity of the land.

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