

Study of wood harvesting system in community forest

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Study of wood harvesting system in community forest

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Abstract. This research examines community forest timber harvesting systems in Maros. The results of this study are expected to be used as information material for the community to improve the wood harvesting system in community forests. This research uses descriptive analysis. The data collected consists of primary data through the direct collection in the field about felling techniques, techniques for trunking, sorting making techniques, skidding, and transportation techniques. As well as structured interviews about the costs, timber selling prices, and production relations between timber harvesting entrepreneurs and community forest owners. While secondary data obtained through various sources between research results, institutions, related institutions, and research reports related to the research objectives. The results showed that the harvesting activities carried out by landowners and timber entrepreneurs contained several photographs, ranging from mining activities, to trunks, making sorting using saws, as well as transportation activities using trucks. Workers in community forest timber harvesting activities are paid with a wage system that is provided from within and outside the family environment of landowners and entrepreneurs harvesting community forest timber. The production relationship between the landowner and the exploitative timber entrepreneur and the timber plantation owner trading system for the timber harvesting entrepreneur, who then sells it to industry.

1. Introduction

Community forests provide many benefits for their owners [1], including producing firewood, carpentry wood and for industrial raw materials for both household and market needs Management of community forests as an effort to utilize natural resources and has been carried out long ago in the land owned by the land which was originally used as a place to stay settled and in the end there was a desire to plant and maintain plants to use the results. The main production of community forests is timber, wood, industrial wood, fiber wood, and energy wood. In comparison, byproducts of community forests can be in the form of sap, sap, fruit, seeds, and so on. In subsequent developments, community forests have been used for generations for various purposes. Forest products obtained from forest stands consist of woody/cellulose materials which can be directly used or reprocessed to produce finished or ready-made materials containing the meaning of timber forest products [2].

Community forest management has so far been based on local knowledge, which is the accumulation of experience of local communities in interacting with forest resources [3], as well as



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the development of community needs for forest products is increasing. So that even though forests as natural resources are renewable resources, if the management does not pay attention to aspects of sustainability and technical aspects in harvesting forest products [4], it will have an impact in the form of a decrease in natural resources, such as critical land and ultimately reduce land production. At the same time, community forest farmers do not have other commodities that can be used to cover these needs. That is why community forests are valued as savings, where the results are to meet those urgent needs [5].

1.1. Objectives

The results of this study are expected to be useful as information material on patterns of timber harvesting in community forests that can be applied by the community

2. Methods

This research was conducted through direct observation and interviews. Direct observations in the field are intended to obtain information about wood harvesting activities in community forests by the people in Maros. The interviews were conducted using a list of questions that have been prepared to obtain information about the relationship between community forest owners and community forest timber harvesting entrepreneurs in the production process of community forest timber. The collected data is then analyzed descriptively with an analysis unit based on primary data and secondary data. For simplicity, the results of the analysis are then tabulated and classified according to the purpose of the study.

3. Results

3.1. Land area

The average head of the family has an area of land in community forests ranging from 2 to 5 ha of the entire community forest. But not all are in one area/village where they live. The only land that is inherited or acquired for generations is within the area/village where they live. Whereas the land that is obtained by buying from someone else is usually in another region/village. In general, community forests do not have certificates. But the people who as landowners only have a certificate of ownership of the community forest from the local village government.

3.2. Land use

People use land by planting forestry plants and estate crops on their land. Forestry plant species are dominated by teak (*Tectona grandis*), candlenut (*Aleurites moluccana*), and mahogany (*Swietenia mahagoni*). In comparison, plantation crops are dominated by Mango (*Mangifera indica*), Big Orange (*Citrus grandis*), Chocolate (*Theobroma cacao*), Jackfruit (*Artocarpus heterophyllus*) and Cashew (*Anacardium occidentale*). The function of plant forest like teak [6], candlenut [7], mahogany [8] is very usefull. The harvest is used as building material to build their own homes and other purposes. In comparison, the harvests from plantation crops by the community are used to meet the necessities of life, where some are for daily food, and some are sold to the market. As for the planting pattern following the alley cropping and fence pattern, this is in line with what was conveyed by Djuwadi (2002) in his research entitled Forest Exploitation.

3.3. Wood harvesting system

Timber harvesting activities in community forests include logging, distribution of logs, skidding, and transportation. Equipment commonly used by the community, both landowners and timber harvesting entrepreneurs, among others: chain saw, meter, miser, machete, and ax. Harvesting activities by landowners and timber harvesting entrepreneurs generally use their own equipment to harvest, but if there are more trees to be cut down, then the owner or businessman harvesting wood will rent a mechanical cutting tool or chain saw. The conventional tools such as machetes are used to open forest paths and clean small branches from fallen tree trunks. The ax is used to remove tree branches that are larger in diameter and that are of no economic value. The meter is used to measure the diameter of a tree before it is cut down and to measure the length of the fallen tree for the division of the trunk and the making of the sortimen. Miser to sharpen the chain saw chain used to cut trees and divide the

trunks from fallen trees into the sorting required. In logging activities carried out using chain saw (Figure 1),



Figure 1. Making notch fall by the operator

Logging teams usually use a chain saw with a long bar, which is 110 cm. Chain saws with long bars are more widely used by landowners and timber harvesting entrepreneurs because this chain saw is more practical, because it can cut down trees of various diameters as well as being a tool used for dividing the stalks and sorting.

The number of felling teams usually depends on the number of trees to be felled. The more trees that will be cut down, the number of loggers will increase. Each group has a chain saw operator and a helper; the rest are skidding and transporting personnel. The main task of the operator is to determine the direction of fall, make a notch fall, make a notch reply, and give direction to the helper. While the helper's job is to clean the location around the felling from things that can interfere with work, clean the branches, branches, and leaves and direct the felling of trees and carry a chain saw from one tree to another that will be cut down in the forest.

The logging activity carried out by the operator starts from the edge of the forest land that will be felled to move (scatter) to the final boundary of the logging area. Operators move in routes that better guarantee the safety of all workers. Logging begins with the making of felling notches using a chain saw. Considerations used to determine the direction of lodging include slope conditions, standing stands of value, and wind points. To lay down a tree, it is necessary to make a notch that is made from the opposite direction to the notch fall down.

The division of the trunk is done after the tree fell by using a chain saw. The felled tree is cut to a certain size according to the needs of the landowner or an order from a timber entrepreneur. The division of the stem begins by removing parts that are not of economic value such as branches or branches using axes or machetes. The next process is to divide the tree trunks that are free of branches into the size desired by the timber owner or entrepreneur, as shown in Figure 2.



Figure 2. Divide the fallen tree trunk

Making a bearing, board, or block sorting is done after dividing the trunk, removing the outer skin from the trunk first. The most-traded form of padding is 10 x 20 x 400 cm (Figure 3). For sorting in the form of a board with a size of 20 x 20 x 400 cm and in the form of a beam measuring 5 x 7 x 400 cm.



Figure 3. Making a sortimen

Skidding is done after the trees that have been cut are changed in the form of a sort. Although in the skidding system there are several ways regarding the type of power used, such as using human power (shouldered, overturned), with animal power (horses, cows, buffalo, elephants) and with tools (lorries, tractors, cable systems), but harvesters entrepreneurs wood generally prefers skidding using human labor (Figure 4), i.e., by carrying it over. This is due to the relatively heavy topography, the unavailability of mechanical equipment, and the perceived low cost.



Figure 4. Skidding Wood

Timber entrepreneurs in Maros generally use trucks as a means of transportation because they contain large amounts of wood, which are then transported and sold to the local market or Makassar. On the other hand, the people's wood business is still considered a business side or savings due to

long and calculated recycling of planting Low income [9]. Based on direct observations in the field and the results of structured interviews, it is known that the production relations that occur form community forest exploitation patterns (Figure 5.) Efficient timber harvesting in community forests can provide efficient use of forest resources and provide financial benefits for the community forest. [10]

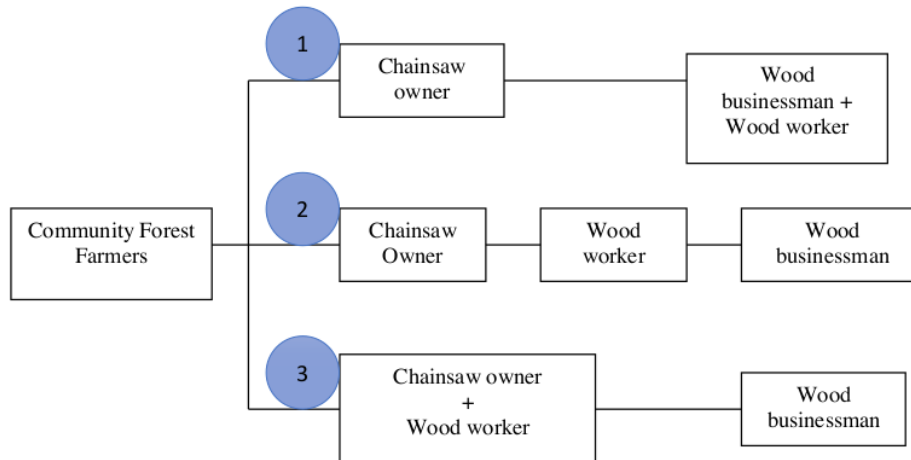


Figure 5. The patterns of exploitation of community forest timber harvesting that occurred in Maros

4. Conclusion

Community forest timber harvesting activities form patterns 1, 2, and 3, which are collecting systems in grouping the community timber trading system in Indonesia. Production relations that occur within the community, especially for community forest owners, chain saw owners, laborers, and timber entrepreneurs, are exploitative production relations and are a combination of two forms of social formation, namely commercial production methods and capitalist production methods.

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