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AN EXAMINATION OF THE EFFICIENCY OF CASSAVA MARKETING IN EAST LAMPUNG REGENCY, LAMPUNG PROVINCE, INDONESIA

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ABSTRACT

Cassava is a strategic commodity that has an influence on the stability of food security and drives industries from small to large scale and from upstream to downstream. Indonesia is the sixth cassava producer in the world. Lampung Province is the largest cassava producer in Indonesia. Despite the potential and opportunities for developing cassava commodities in Lampung Province, the problems and challenges, especially those related to cassava marketing, are still relatively large. The length of the marketing chain, the unfairness of the benefits obtained between institutions, and the lack of economic opportunities for farmers are probably still the main problems of marketing cassava, especially in Lampung Province. Therefore, this study was conducted to prove the problems and evaluate how effective the cassava trading chain is in Lampung Province. This research was conducted in Labuhan Ratu VI Village, Labuhan Ratu District, East Lampung Regency, Lampung Province in October 2020 - July 2021. The sampling method used was the snowball method. The snowball method is very appropriate to use in research on the topic of trade because it provides a complete description of the characteristics and conditions of marketing channels, the existing conditions of marketing institutions, and the effectiveness of existing trade channels. The research was conducted employing a survey method, and by simple random sampling involving 147 respondents of cassava farmers. Respondents from stalls and agents were taken by snowball sampling. Marketing efficiency analysis methods were quantitative

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and qualitative descriptive. The results revealed that cassava marketing consists of 2 channels. Farmer share channel I and II respectively 74% and 86%, while the marketing efficiency value (EP) marketing channel I and II respectively 13.04 % and 10.35%. These results show that marketing channel II is more efficient than marketing channel I because it has a high farmer share and marketing efficiency with a small percentage. This is because in marketing channel II farmers directly sell their cassava to the factory and marketing costs are low. Therefore, farmers are advised to market their products through marketing channel II.

Keyword: *Farmer Share, Marketing Channel, Quantitative Analysis*

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INTRODUCTION

In developing countries, market opportunities for large-scale profits are crucial for economic growth and livelihood improvement (Arunrat et al., 2021; Belete & Nigatu, 2023; Li, Ma, & Gong, 2023; Ullah et al., 2022). Market in the agricultural sector plays an important role in improving food security and nutrition in developing countries through the provision of food commodities (Mtunguja, 2019; Mwololo et al., 2022). To guarantee a sustained supply of food commodities, there must be greater access to direct markets, particularly in rural and urban areas (Donkor, 2018). Optimal market access can increase farmers' income. The efficiency of the marketing system will stimulate agricultural production (Anggraini et al., 2017; Indah et al., 2015; Miranda et al., 2023). The ability to maintain agricultural production will depend on marketing channels for agricultural products (Asmarantaka et al., 2018; Lifianthi et al., 2022; Pangemanan et al., 2023). The majority of smallholder farmers still find it difficult to market their agricultural products (Umberger, Wendy J., Thomas Reardon, Randy Stringer, 2015). Research (Adelakun, 2020; Tirra et al., 2019; Walter, 2018) shows that the marketing system for agricultural products, particularly cassava is characterized by poor coordination, information asymmetry, price fluctuations, and overexploitation of vulnerable producers. Cassava is one of the important industrial commodities in Indonesia. Lampung Province is the largest cassava producer in Indonesia with share of 33.93 percent with an average production of 7.74 million tons (Ministry of Agriculture, 2020). However, in the last 5 years there has been a trend towards a decline in cassava production and harvested area in Lampung Province (BPS, 2020). This decline can be attributed to persistent challenges in cassava agribusiness, such as pricing fluctuations, lack

of coordination, and high transaction costs, all contributing to the inefficiencies in cassava marketing.

Extreme price fluctuation factors can be anticipated with perfectly competitive market conditions/non-free trade, as well as weak coordination between participants in the cassava agribusiness. Integrated coordination will lead to efficiency in several aspects of marketing such as marketing costs and transaction costs. The transaction costs of cassava agribusiness are still quite high, increasing farmers' marketing costs (Nasir & Qori'ah, 2020). Some of these things certainly have a significant impact on the efficiency of cassava marketing. Efficient marketing will certainly provide fairness in profits and benefits for participants in the cassava agribusiness.

The marketing system is said to be efficient if it is able to provide maximum satisfaction for producers, consumers, and marketers by using the lowest possible economic resources. Some of the main indicators that are often used in assessing marketing efficiency for the consumer market to farmers or producer markets are marketing margins. The price differential that producer farmers obtain is known as the marketing margin. Producer pricing and consumer prices diverge significantly when there are more marketing institutions engaged. The marketing institutions have the task of carrying out marketing and meeting consumer needs as closely possible (Lifianthi et al., 2022). In addition (Nazriah, 2020) explain that the marketing margin is the part that is paid and the income received by each link in the supply chain process.

Many empirical studies related to cassava marketing efficiency have been carried out (Adelakun, 2020; Kuwornu, 2018; Walter, 2018) that efficient marketing will increase farmers' profits. The marketing efficiency of dates in Iran shows that the price at the farm level and the margin of date harvest is one of the most influential factors on the overall marketing margin (Umberger et al. 2015; Walter 2018). The results of (Suryaningrat et al., 2015) research show that producers, marketers/traders, processors, and consumers are examples of marketing actors, whereas banks, other important service providers throughout the supply chain, and government and non-government organizations are examples of non-actors.

Cassava is the most important commodity for farmers in Labuhan Ratu VI Village, Labuhan Ratu District, East Lampung Regency, Indonesia. This is because cassava is the only food crop that can survive the conflicts between elephants and humans in the village, which continues to occur given the location of the village adjacent to the Way Kambas National Park. The problem of limited capital causes low productivity and quality of cassava and can affect farmers' interest in growing cassava because the income earned is not as expected (Negi & Saurav, 2019; Zakaria et al., 2019). The number of farmers who depend on cassava for their livelihoods makes activities that focus on solutions to problems of cassava marketing efficiency.

There are 10 tapioca factories in East Lampung Regency recorded by the (Ministry of Agriculture, 2020). The existence of this factory should be an opportunity for cassava farmers to market their cassava. However, in practice, cassava marketing also involves intermediaries and other marketing institutions. The long marketing chain causes high transaction costs (Donkor, 2018). In order for farmers to benefit, problems in cassava marketing must be addressed (Walter, 2018). There are unsolved problems in the marketing of cassava, which has been going on for a long time. Such as unfair profit in each marketing institution, irregular marketing routes (sometimes, trucks have to drive tens of kilometers for reach cassava sales, many rent seekers (middleman between farmers and factories) and also high transaction costs (Zakaria, et al., 2019). Research conducted by (Saputra & Fahrial, 2022) states that the shorter the channel, the more efficient and profitable marketing is. Farmers can be more efficient in selling their cassava and the factory also provides a relatively higher price. Producers' share in consumer price were improved, rural incomes and revenue generation for both producers and marketers were increased, and the cassava were significantly contributed to sustainable agricultural development when the marketing system of the cassava is efficient. This study provides a more comprehensive picture of the margins and marketing channels available to farmers, using a case study in Indonesia as an illustration. Given the importance of cassava to the livelihoods of farmers in East Lampung Regency, it is important to understand cassava marketing and map out the various actors in marketing.

RESEARCH METHOD

This research employed survey method. The research location was in Labuhan Ratu District, East Lampung Regency. The location of the research was determined purposively (deliberately) with the consideration that East Lampung Regency is the 3rd largest cassava producer in Lampung Province (BPS Provinsi Lampung, 2020) and there is a tapioca factory in Labuhan Ratu District. The research was carried out in October 2020 to July 2021. The research respondents consisted of farmer respondents and marketing institutions (agents). Farmer respondents were selected using the simple random sampling (Arikunto, 2006) as many as 147 people. Meanwhile, respondents from stalls and agents were chosen by following the cassava trade system in the research location *(snowball sampling method)*. The data collected with snowball sampling method. Interviews were conducted with several cassava farmers. The criteria for the farmers interviewed were landowners and monoculture cassava farmers. Farmers should be able to represent various marketing channels. After that, we interviewed the transporters/agents/stalls/factories where the farmers sold their cassava. Transportation services, agents, stalls, and factories were selected based on the farmers' sales destinations. Five transportation services (who are also agents), three stalls, and two factories were interviewed. Within the

Labuhan Ratu sub-district, there are 2 tapioca factories that are the main destination for farmers' cassava sales. The use of the snowball method will increase the validity of answers, as well as facilitate the confirmation of answers between each participant. This was done systematically so all variations in the marketing channel were identified. The data used in this study are primary and secondary data. The data collection technique was by conducting interviews with respondents using a list of questions (questionnaires). Analysis of cassava marketing efficiency was carried out by analyzing market structure, market behavior, and market performance of cassava using the SCP (Structure, Conduct, and Performance) method. The SCP method Is used to analyze marketing efficiency comprehensively. Structure and conduct analysis is used to describe the existing structure and behavior of the cassava marketing channel. This analysis is able to capture if structure is too long or wide, also capture behavior of each marketing institution in the structure. The structure and conduct analysis was conducted using descriptive qualitative methods. The initial stage of this analysis is to identify the cassava marketing channel. After that, marketing functions performed by various levels of marketing institutions were identified. Performance analysis shows whether efficiency occurs in the marketing of cassava with an indication of fair prices and margins for all marketing institutions. That comprehensive study can only be done with SCP analysis. In this study, analysis of market structure in the form of involvement of marketing institutions, analysis of market behavior in the form of buying and selling processes, and analysis of market performance which includes marketing channels, costs and sales volume, marketing margins, farmer share, and profit margin ratio (RPM). Marketing margin (Abassian et al., 2010) is the difference between the price at the producer level (Pf) and the price at the consumer level (Pr).

Marketing margin is formulated as follows:

$$m_{ji} = P_{si} - P_{bi} \text{ or } m_{ji} = b_{ti} + i$$

and the total marketing margin is as follows:

$$M_{ji} = P_r - P_f$$

Where:

m_{ji} = Margin at the i-level marketing agency
M_{ji} = Total margin in one marketing channel
P_{si} = Selling price for the i-level marketing agency
Pbi = Purchase price for the i-level marketing agency
B_{ti} = Marketing costs for the i-level marketing agency
π_i = Profit of the i-level marketing agency
P_r = Price at the consumer level
P_f = Price at the producer (farmer) level

i = 1, 2, 3,…,… n

Ratio Profit Margin/ RPM is profit against marketing costs expressed in percent. RPM value, can show the spread of marketing margins from each marketing intermediary agency RPM is formulated as follows:

$$RPM = \frac{\pi_i}{b_{ti}}$$

The ratio of the price at the farm level to the price at the retail level is known as the farmer share (Hudson, 2007). The share of producers/ farmer's share is formulated as:

$$FS = \frac{Pf}{Pr} x\ 100\%$$

Where:
FS = Price of cassava received by farmers
Pf = Price of cassava at farmer level (IDR/Kg)
Pr = Price of cassava at consumer level (IDR/Kg)

A success metric for the trade system is its efficiency, which is measured by how much it costs and how many resources are used to get the desired outcomes (Soekartawi, 2002). The amount of marketing efficiency can be formulated as follows:

$$E_p = \frac{B_p}{N_p} \times 100\%$$

Where:
Ep = Marketing efficiency
BP = Marketing Cost
NP = Product value marketed

RESULT AND DISCUSSION

Characteristics of Respondents

The age characteristics of cassava farmer respondents in Labuhan Ratu VI Village are in the age range of 22-86 years. The majority of farmers are of productive age with an average age of 50 years. In the productive age, farmers generally still have higher stamina compared to the age group that is no longer productive. Older farmers may benefit from training and access to modern farming techniques to enhance productivity. Education and extension services could be targeted to improve farming practices and business management. Education level, the majority of respondents from cassava farmers in Labuhan Ratu VI Village, Labuhan Ratu District only attended elementary school (SD), as

many as 76 of 147 respondents (52%), while only 1 farmer with an education level up to a bachelor's degree (2%), then as many as 100 (68%) farmer respondents in Labuhan Ratu VI Village have farming experience for 15-35 years. Given the low education levels, efforts should focus on increasing agricultural literacy and providing better access to information and resources. Generally, cassava farming in Labuhan Ratu Village is a livelihood that has been passed down from generation to generation, but there are also farmers who switch to planting cassava after other crops such as rubber. The area of farmland affects the amount of production and the amount of income obtained by farmers. The wider the farming land owned by the farmers, the greater the cassava production will be, as well as the higher the income earned, as many as 66 people (45%) of the respondents of cassava farmers in Labuhan Ratu VI Village have a farming area under 1 hectare. This shows that the respondent farmers are classified as small land farmers. Most of the respondent farmers have family dependents of 3-4 people, as much as 60%. In another study (Yusmel et al., 2019), tested that partially age, education level, and income have a positive effect on the level of productivity of farmers. Findings in the field also show that farmers with older age (>50 years) tend to do simple farming with limited capital. This conditions have impact to lower productivity when compared to other farmers less than 50 years old. In terms of income, the average income of smallholders with a land area of <0.5 is smaller than the average income of other farmers with a land area of >0.5.

Structure Conduct and Performance

The market structure in Labuhan Ratu District can be seen by looking at the large number of sellers and buyers, knowing the nature of the cassava product from the buyer's point of view, knowing information about the price of cassava in the market, and barriers to entry and exit from the market. At the level of farmers and retailers, the market structure formed is an oligopsony market structure that leads to a perfectly competitive market (Asmarantaka et al., 2018). The shape of the market structure directly impacts commodity prices, which in turn impacts farmers' incomes. Imperfect/monopsonistic market structures have a tendency to depress prices at the farm level. The depressed prices usually tend to be low below the average market price. This will certainly have a significant impact on farmers' income.

Marketing actors of cassava in East Lampung Regency include farmers, transportation services, agents, stalls, and factories as final consumers. In the marketing channel, transportation services play an important role in the process of distributing cassava from the field to the factory. In terms of capital and access to factory, agents play an important role in both functions. There are two types of agents in Lampung Province, partnering-agents and non-partnering agent. Agents who partner with factories usually have a quota for selling cassava to one

factory, so to fulfill this quota the agent has a working area and fostered farmers. Non-partnering agents usually have access to several factories. Agents in cassava marketing are marketing institutions that have a very strategic and important role. In addition, there are also stalls. stalls act as a place to sell cassava. The difference between stalls and factories is that there is no processing of cassava at the stalls. The cassava that enters the stalls is only weighed and then sold back to the factory. Transport services and agents act as intermediaries between farmers and their consumers. Several cassava transportation services cooperate with agents in the form of operational cost loans provided by agents to transportation services. Instead, the transportation service sells cassava to processing factories on behalf of agents who have worked with them. Based on the results of the study, there are six agents that play a role. These agents contribute to supplying cassava to processing factories up to 86 percent of the total cassava production in the area.There are three cassava stalls in Labuhan Ratu District, East Lampung Regency. Each stall is located in Rajabasa Lama Village 1, Rajabasa Lama Village 2, and Labuhan Ratu VI Village. These three cassava stalls sell their cassava to three different tapioca factories, namely PT. Budi Acid Jaya (Labuhan Ratu VI Village), Scout Factory (Rajabasa Lama Village), and Factory in SP3 (Bandar Mataram, Central Lampung).

In Labuhan Ratu District, East Lampung Regency, there are two cassava processing factories operating. The factory is located in Rajabasa Lama Village 2 and the other factory is in Labuhan Ratu VI Village. The distribution channel of cassava in Labuhan Ratu District states that there are two marketing channels of cassava in East Lampung Regency as follows.

Marketing Channel I (Farmer-Stand-Factory). Farmers sell cassava to stalls using transportation services, then from stalls cassava is sold to factories. The advantages of this marketing channel include the fact that farmers can get funds faster (payment by the stalls is usually faster than by the factory). During the harvest season, the queues at the stalls are much shorter than at the factory, and transportation costs are usually lower because the stalls are much closer to the fields than the factory.

Marketing Channel II (Farmer-Agent-Factory). The farmer sells cassava to the factory with transportation services from the agent, then the incoming cassava is sold to the factory on behalf of the agent. The importance of marketing channels because they have functions such as collecting information about consumers, competitors, and the marketing environment; developing communications to stimulate purchases; find price agreements and other supporting components; providing order estimates, collect and moving products through marketing channels and monitoring actual sales of products or services to consumers and businesses (Lifianthi et al., 2022). Marketing channel II was chosen because agents have invested in farmers, so farmers are obliged to sell their cassava to agents. In addition, the factory get benefits from this channel

because the agent helps fulfill the factory's cassava needs. The agent benefits directly from the factory and not from the farmers.

Based on the results of observations and interviews with respondent farmers, it is known that farmers choose marketing channels depending on the volume of cassava to be sold, the price of cassava, the amount of loans for farming capital and kinship relations or close social relations between farmers and collecting traders or agents. Some of these factors are certainly closely related to marketing efficiency. Farmers will choose marketing channels with better prices, because the farmer share will be greater. In addition, an equal profit margin ratio indicates fairness in the cassava marketing channel. If the volume of cassava to be sold is small (1 to 4 tonnes) then the farmer sells it to a collecting trader, if the volume of cassava to be sold is large (above 4 tonnes) then the farmer sells it to an agent. Farmers also consider the price they will receive when determining cassava marketing channels. If the farmer wants a high price, the farmer will sell his cassava through an agent who is able to pay the farmer a higher price than the collecting trader. This is because agents usually have cassava sales quotas from the tapioca factory management. The quota can reach 250 to 1,000 tons of cassava per agent depending on the capital and number of trucks the agent owns and the agent receives a premium price and fee from the tapioca factory management. The fee is IDR 25.00 to IDR 50.00 per kilogram of cassava. In addition, the amount and source of loans for cassava farming capital will also determine the channel chosen. If farmers need large enough farming capital, the farmer can borrow from an agent, then the farmer will choose marketing channels through that agent. However, if farmers need small amounts of farming capital, they contact collecting traders, so the cassava marketing channel they choose is through these collecting traders. The factor of social and kinship relations (social distance) between farmers and collecting traders or agents is also a consideration for farmers in choosing marketing channels. Close and strong social relationships determine the degree of trust farmers have in agents or collecting traders, especially if farmers sell cassava in large quantities (above 20 tons). Costs, farmer share, and marketing margins of cassava in Labuhan Ratu District, East Lampung Regency are presented in Table 1.

Table 1 shows that in channel I, the larger marketing costs are incurred by agent. These costs are operational costs which include refraction costs, depreciation costs, transportation costs, labor costs (driver, unloading and transportation), and queuing costs. As for marketing channel II, the costs incurred by the agent are in the form of communication costs and driver premiums.

Table 1. Cost, Share, and Marketing Margin of Cassava in Labuhan Ratu District, East Lampung Regency

No	Information	Unit	Marketing Channel I (Farmer-Stall-Factory)		Marketing Channel II (Farmer-Agent-Factory)	
			Value	Share (%)	Value	Share (%)
1	Farmer Selling Price	IDR/Kg	1000,00	74	1.159,00	86
	Marketing Cost	IDR/Kg	68,50		82,00	
2	Stall Buying Price	IDR/Kg	1000.00		-	
	Stall Selling Price	IDR/Kg	1.340,00		-	
	Marketing Margin	IDR/Kg	340,00		-	
	Marketing Cost	IDR/Kg	130,40		-	
	Profit Margin	IDR/Kg	209,60		-	
	Ratio profit margin		1,61		-	
3	Agent Buying Price	IDR/Kg	-	0	1.159,00	86
	Agent Selling Price	IDR/Kg	-		1.340,00	
	Marketing Margin	IDR/Kg	-		181,00	
	Marketing Cost	IDR/Kg	-		120,00	
	Profit Margin	IDR/Kg	-		61,00	
	Ratio Profit Margin		-		0,51	
4	Factory Buying Price	IDR/Kg	1.340,00		1.340,00	
	Total Marketing Cost		198,9		202,00	
	Total Profit		209,60		61,00	
	Total Margin		340,00		181,00	

Source: Primary Data, 2021

The results of Zakaria's research (2019) show that Refraction, or the factory-imposed price reduction, is what determines how much farmers earn in cassava share prices. The size of the fraction depends on the age of the cassava harvest and the level of dirt carried by the cassava tubers. If the cassava harvest is too young (less than 8 months) and there is a lot of soil and tubers carried by the cassava when weighing, the fraction charged is 25 to 30 percent. If the cassava harvest is 8 to 9 months old and little soil and cassava tubers are carried away, the fraction applied is 15 to 20 percent. In addition, the distance between the farmer's land and the factory location will determine the transportation costs. The longer the distance, the greater the cassava transportation costs, so the price received by farmers will be lower. The distance between farming land and the tapioca factory varies between 1 km to 20 km with poor road conditions, especially during the rainy season where roads which are generally made of dirt will experience heavy damage due to heavy rainfall and heavy truck transport loads reaching 8 tons to 20 tons of cassava per truck.

The price of cassava at the farmer level in channel I is IDR. 1,000/kg and the selling price of cassava from the stall to the factory is IDR. 1,340/kg. profit margin received by the stall is IDR 209.60/kg; while in channel II the price

received by farmers is IDR. 1,159/kg. The selling price of cassava by agents to the factory is IDR. 1.340.00/kg. However, when viewed from the marketing margin and RPM, the two marketing channels have not been efficient. This is because the marketing margins received by each marketing agency are not evenly distributed. Farmer share is not always used for marketing efficiency. A high value of farmers share does not always indicate that a marketing channel is efficient, this happens if the trading institutions involved do not get satisfaction (Asmarantaka et al., 2018; Egwuma et al., 2020).

The sustainability of cassava farming is also based on efficiency of marketing channels. The more efficient the marketing channel, the higher the level of sustainability of cassava farming. Efficient marketing channels not only provide favorable prices for farmers but also provide buyer certainty. Buyer certainty is important because the best quality of cassava if it cannot be sold out, the farmer will bear the loss. Therefore, marketing efficiency is essential for the sustainability of cassava farming.

To determine the portion of prices that farmers who function as producers receive, farmer share analysis is utilized. Because there is a negative correlation between the farmer's share and the trade system margin, the larger the margin of trade, the smaller the farmer's portion of the price received (Herdhiansyah et al. 2021). In detail, farmer share in the cassava trade system in Labuhan Ratu VI Village, East Lampung Regency can be seen in Table 2.

Table 2. Farmer Share in the Cassava Trade System in Labuhan Ratu VI Village, East Lampung Regency

Channel	Price at Farmer Level (IDR/Kg)	Price at Final Consumer Level (IDR/Kg)	Marketing margin (IDR/Kg)	Farmer share (%)
Channel 1	1,000	1,340	340	74
Channel 2	1,159	1,340	181	86

Source: Primary Data, 2021

When viewed from the farmer share in channel I and channel II, there are significant differences. In channel I, the farmer share is 74%, while in channel II it is 86%, so that the more efficient marketing channel of cassava in East Lampung Regency is channel II, namely farmers and factories. A negative correlation has been observed between farmer share and marketing margin when viewed through the lens of this investigation. The farmer share that is received decreases as the marketing margin increases (Indhumathi et al., 2021; Mauki et al., 2023). The implication of the farmer share value is that farmers will be more profitable if they use marketing channel 2. The difference in farmer share between the two channels can result from differences in the marketing costs of each channel, the number of marketing institutions available, and differences in

the percentage of profit of marketing institutions. The profit margin ratio or the profit and cost ratio shows the value of the profits received compared to the trading costs incurred by each trading agency. The more spread the ratio of profits and costs, from an operational point of view the trading system can be said to be efficient. In detail, the profit and cost ratio for each cassava trading system in Labuhan Ratu VI Village can be seen in Table 3.

Table 3. Profit and Cost Ratio of Each Marketing

Marketing Agency	Marketing Channel	
Collector Merchant	I	II
Li	209.60	-
Ci	130.40	-
Ratio Li/Ci	1.60	-
Retailer		
Li	-	-
Ci	-	-
Ratio Li/Ci	-	-
Wholesalers		
Li	-	61
Ci	-	120
Ratio Li/Ci	-	0.51

Source: Primary Data Result, 2022 data
Description: Li=profit Ci=cost

Table 3. shows that the largest profit and cost ratio is found in the first trading system with a value of 1.60. This means that every Rp 1/kg cost incurred will generate a profit of Rp 1.60. Evenly distributed RPM values are able to describe the efficiency of a marketing, but in this study the value of the profit margin ratio is not evenly distributed, so it is said that marketing channels in East Lampung Regency are not yet efficient. Ineffective marketing practices have an effect on farmers' income contributions. Conversely, an effective marketing system guarantees farmers higher income levels by minimizing the number of intermediaries or commissions on marketing services and malpractices they use to market agricultural products. (Matin et al., 2017).

Table 4. Value of Marketing Efficiency in Each Marketing Channel of Cassava in East Lampung

Marketing Channel	Total Cost	Margin (IDR)	Farmer Share (%)	Li/Ci (IDR/Kg)	EP (%)
Channel I	130.40	340	74	1.60	13.04
Channel II	120	181	86	0.51	10.35

Source: Primary Data, 2021

Table 4. shows that marketing efficiency can be calculated by comparing marketing costs with the value of cassava products so that the value of marketing efficiency in each trading system I and II is 13.04 % and 10.35%, respectively. According to Soekartawi (2002) which says that if the Ep value < 50%, the marketing channel is said to be efficient and if the Ep value is > 50%, the marketing channel is said to be less efficient. Improving marketing efficiency can be done in various ways, such as adding rules that can bind sellers and buyers so that they remain fair in trading, improving transportation infrastructure (bad roads increase transportation costs), and revitalizing farmer institutions. Efficient market conditions for agricultural products are very important for farmers to prosper (Mervin, 2023). According to research (Rosmawati, 2011) states that the rules of marketing decisions are said to be efficient if the EP value = 0-33%. The results of this study indicate that the calculation of the marketing efficiency of each marketing channel can be said to be efficient, because the EP obtained meets the rules of efficient marketing decisions. Based on the calculation, 10.35% is the marketing efficiency figure with the smallest percentage, according to the pattern II marketing channel's marketing efficiency calculation. So it can be concluded that the pattern II trade system channel is more efficient than the pattern I marketing channel because it prefers direct marketing. This finding is consistent with the findings (Donkor, 2018; Liao et al., 2017) and their claim that farmers are more dependent on direct marketing. The cassava marketing channel that has been formed has two patterns of marketing channels, the most efficient marketing channel of the two channels based on indicators of the value of trading margins, farmer share values, profit and cost ratios, and calculations using the marketing efficiency formula then the pattern II trade channel can be said to be a marketing channel, which is more efficient than the pattern I marketing channel.

Indeed, farmer prefer to sell cassava to the factory directly rather than using an agent. But, many farmers have debts to middlemen/agents. Therefore, the farmers have no choice but to sell their cassava through a stall/agent to pay off their debts. It is a fact that most of the farmers lend money to the agents rather than to the banks or the other financial institutions. Because, agents gives a loan without collateral. It is one of social behavior that give big impact for marketing channels. Farmers with land holdings and large capital tend to be free in choosing the marketing channels. Because, these farmers do not have debts to stalls/agents. They can sell cassava to the factory directly without any intermediaries. Even, they have queue priority to enter the factory and conduct price negotiations. Therefore, the selection of marketing channels is very important because it is directly related to the selling price of cassava. Some previous research has also shown the same thing as in the study of Arwan et al., (2023) the selection of marketing channels among different channels is a strategic

decision for farmers. Farmers can optimize their earnings and lower overall risk by participating in various marketing channels (Enesi et al., 2022).

CONCLUSION AND SUGGESTION

Conclusion

The selection of marketing channels is as important as production decisions for an agricultural business. The structure of the cassava market is oligopsonistic and there are two marketing channels for cassava in East Lampung Regency which involve five marketing institutions, namely farmers, transportation services, stalls, agents, and tapioca factories (end consumers). The marketing channel II (farmer-agent-factory) is more efficient than marketing channel I (farmer-stall-factory). Judging from the high marketing margin, *farmer's share* and profit margin ratio, cassava marketing system in East Lampung Regency is efficient. However, efficiency improvements need to be made, especially in terms of regulations, institutions, and improved distribution infrastructure.

Suggestion

Suggestions in this study are for the government to be able to make policies in terms of determining the marketing of cassava such as determining the minimum price of cassava and maximum fractionation at the factory so that it does not cause many losses in various parties, and it is necessary to improve the fractionation measurement system that is only based on visual observations so that using tools that are more measurable and in accordance with the objective conditions of cassava farmers. Although statistically the cassava marketing channel shows efficiency in the existing marketing channel, there is an opportunity for inefficiency to increase if the market formed is increasingly monopolistic. Therefore, efforts are needed by the government to encourage agreements between farmers and factories so that the market tends to be perfectly competitive. Cooperation between farmers and factories in various cases in Indonesia such as coffee, palm oil, and sugarcane farmers has provided benefits for both parties. The main benefit of this cooperation is the coordination and negotiation carried out by both parties to obtain the optimal quality of cooperation. Farmers will be motivated to apply GAP (Good Agricultural Practices) to produce quality output. On the other hand, the factory will increase its production and provide a fair price for quality raw materials.

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