

ANALYSIS OF MARKETING OF INDEPENDENT FARMERS' FRUIT FRUIT IN DOLOK MERAWAN VILLAGE DOLOK MERAWAN DISTRICT, SERDANG BEDAGAI REGENCY

Winni Rachel Joys Situmeang ¹, Delyana R Pulungan ^{2*}, Tiffany Zia Aznur ³

Agribusiness Study Program, Faculty of Science and Technology, Indonesian Palm Oil Institute Field ^{1,2,3}

E-mail: joissitumeang87@gmail.com ¹, delpulungan@itsi.ac.id ², tifanyzia@itsi.ac.id ³

Received: 01/06/2026 | Revised : 11/06/2026 | Accepted: 20/06/2026 | Published :25/07/2026

Abstract

This study aims to analyze the institutions, functions, and efficiency of marketing of Fresh Fruit Bunches (FFB) of oil palm by independent smallholders in Dolok Merawan Village, Dolok Merawan District, Serdang Bedagai Regency. The study was conducted in 2026 using quantitative and qualitative descriptive methods. The sample consisted of 33 independent smallholders selected using the *simple random sampling method*, while the marketing institutions were determined using the snowball sampling technique. The analysis was carried out through the identification of marketing channels, marketing functions, marketing margins, *farmer's share*, and the ratio of profit to marketing costs. The results showed that there were two marketing channels, namely Channel I (Farmers–Wholesalers/RAM–PKS) used by 12.12% of farmers and Channel II (Farmers–Collectors–Wholesalers/RAM–PKS) used by 87.88% of farmers. The marketing institutions involved included collectors and wholesalers (RAM) who carry out exchange, physical, and facility functions. Channel I has a lower marketing margin (Rp350/kg) compared to Channel II (Rp615/kg), and a higher *farmer's share*, at 89.55% compared to 81.64%. The profit-to-market cost ratio in Channel I reaches 288.89%, while in Channel II it is 65.63% for collectors and 288.89% for wholesalers. Thus, Channel I is a more efficient marketing channel because it provides a larger share of the price to farmers.

Keywords: marketing efficiency, *farmer's share*, oil palm, marketing margin, FFB marketing

INTRODUCTION

The plantation subsector is a strategic sector in the Indonesian economy because it contributes to employment, the provision of industrial raw materials, increasing foreign exchange, and developing the rural economy through agribusiness and agro-industry activities (Tanjung, 2022). One of the leading commodities in this subsector is palm oil, which plays a vital role in increasing community income and driving regional economic growth. North Sumatra Province is one of the centers of smallholder oil palm production in Indonesia with a plantation area reaching 501,114.1 ha (BPS North Sumatra Province, 2024). One of the smallholder oil palm producing areas is Serdang Bedagai Regency, which has a smallholder plantation area of 13,882 ha with a production reaching 232,468.18 tons, thus ranking 11th as the largest smallholder oil palm producer in North Sumatra Province (BPS North Sumatra Province, 2021). At the sub-district level, Dolok Merawan Village has quite large development potential with a smallholder plantation area reaching 78 ha and a production of 358 tons (BPS Serdang Bedagai Regency, 2024).

The majority of farmers in the region are independent oil palm farmers who manage their farms independently, from providing production facilities to marketing fresh fruit bunches (FFB) (Putri, 2023). However, limited access to transportation, price information, and low bargaining power mean that farmers remain dependent on middlemen to distribute FFB to palm oil mills (PKS). This dependence creates a relatively long marketing channel, resulting in price differences at each marketing level and potentially reducing farmer income (Nasution, 2021). Marketing efficiency is a crucial indicator of the success of a plantation product distribution system. Longer marketing channels generally increase marketing costs and increase the margins received by marketing institutions, thus reducing *the farmer's share* received by farmers (Kusworo & Iswarini, 2021). Conversely, a marketing system

is considered efficient if it can distribute products to end consumers at a low cost and provide a more proportional price distribution for all marketing actors, especially farmers (Aulia et al., 2024).

These findings align with research by Aznur et al. (2024), which showed that the length of the marketing channel influences the marketing margin and *farmer's share* received by oil palm farmers. The longer the marketing channel, the greater the margin and the smaller the proportion of the price received by farmers. A similar situation was also found among independent farmers in Dolok Merawan Village, who currently do not know the most efficient FFB marketing channel.

Based on these conditions, this study aims to analyze the marketing channels of FFB for independent oil palm farmers in Dolok Merawan Village by identifying the marketing institutions involved, calculating marketing margins, *farmer's share*, cost-profit ratios, and marketing efficiency levels. The results of this study are expected to serve as a basis for determining alternative, more efficient marketing channels that can increase the income and welfare of independent oil palm farmers.

LITERATURE REVIEW

Oil Palm Plants

The oil palm (*Elaeis guineensis*) is a plantation crop originating from Guinea, West Africa, and widely cultivated in tropical regions, including Indonesia, one of the world's largest producers (Bakar, 2020). This plant grows optimally at temperatures of 24–32°C with high humidity and rainfall. In addition to its high productivity, oil palm is relatively easy to cultivate due to its resistance to pests and diseases and relatively low maintenance costs (Barokah et al., 2024; Tanjung, 2022).

Marketing of Fresh Fruit Bunches (FFB)

Agricultural marketing is a series of activities that connect producers with consumers through planning, transportation, storage, distribution, and product promotion to create added value and meet market needs (Djazuli et al., 2025). Marketing is not solely sales-oriented but also encompasses pricing, product development, distribution, and building long-term relationships with consumers (Saputri et al., 2023).

In marketing oil palm FFB, marketing functions include exchange functions (purchasing and selling), physical functions (transportation, storage, and processing), and facility functions such as standardization, financing, and risk management that support the smooth running of the marketing process (Manurung et al., 2024).

Marketing Channels

A marketing channel is a series of institutions that distribute products from producers to end consumers. In the marketing of oil palm FFB (fresh fruit bunches), the marketing channel can operate directly or through one or more intermediary institutions, such as collectors or wholesalers (Sirdawati, 2023). The longer the marketing channel, the greater the distribution costs and marketing margins, which can reduce the price received by farmers (Hermansyah, 2025; Samosir, 2020).

Marketing Margin

The marketing margin is the difference between the price paid by consumers or companies and the price received by farmers. This margin consists of marketing costs and the profits earned by each marketing agency, thus serving as an indicator of profit distribution within a marketing system (Yunus et al., 2022; Radiansyah et al., 2023).

Cost and Profit Ratio

The cost-to-profit ratio is used to measure the amount of profit earned by a marketing agency compared to the costs incurred during the marketing process. The more evenly distributed the profit ratio is across marketing agencies, the more efficient the marketing system is (Manurung, 2024; Kholif, 2025; Setiarini et al., 2019).

Farmer's Share

Farmer's share is the percentage of the price received by farmers compared to the price paid by end consumers or factories. This indicator indicates the level of farmer welfare within the marketing system. The higher the *farmer's share*, the greater the proportion of the price received by farmers. A marketing system is generally considered efficient if the *farmer's share* reaches at least 40% (Indriani & Imran, 2025; Sinulingga et al., 2025).

Marketing Efficiency

Marketing efficiency indicates the marketing system's ability to distribute products at low cost while providing optimal benefits to both producers and consumers (Afnan et al., 2022). Efficiency is influenced by marketing profits, prices received by farmers, marketing facilities, and the level of market competition (Tinambunan & Adab, 2024). According to Lubis (2021), a marketing channel is considered efficient if its marketing efficiency value is less than 50%.

METHOD

This study employed a descriptive approach with quantitative and qualitative methods. The descriptive approach was used to factually describe the marketing conditions of oil palm fresh fruit bunches (FFB) based on field data without any treatment of the research variables (Estuti et al., 2021). The study was conducted in Dolok Merawan Village, Dolok Merawan District, Serdang Bedagai Regency. The research location was purposively selected *because* it is one of the areas with a significant number of independent oil palm farmers with diverse FFB marketing characteristics, making it relevant for study.

The study population consisted of all 127 independent oil palm farmers in Dolok Merawan Village (Simargolang, 2023). The sample was determined using a *simple random sampling technique* with the Slovin formula at a 15% error rate, resulting in 33 respondents (Prasetia et al., 2022).

The variables analyzed include marketing channels, marketing functions, marketing margins, cost-profit ratios, *farmer's share*, and marketing efficiency. Marketing channels are identified based on the number of channels and marketing institutions involved, while marketing functions include exchange functions, physical functions, and facility functions (Sitorus, 2025; Djazuli et al., 2025). Marketing margins are measured through the difference in FFB prices at the mill and farmer levels (Sirdawati, 2023), cost-profit ratios are calculated based on the comparison of profits to marketing costs (Kholif, 2025), while *farmer's share* is measured as the percentage of prices received by farmers compared to prices paid by palm oil mills (Sihombing, 2024).

The data used consisted of primary and secondary data. Primary data was obtained through observation, direct interviews with farmers, and documentation regarding FFB marketing conditions, selling prices, marketing costs, and profits (Helpiastuti et al., 2025; Nasution, 2021). Secondary data was obtained from the Central Statistics Agency (BPS), the Dolok Merawan Village Government, and various literature relevant to the research (Rahman, 2021).

Data analysis was conducted using descriptive quantitative and qualitative methods. Descriptive analysis was used to identify marketing channels and functions, while quantitative analysis was used to calculate marketing margins, cost-profit ratios, *farmer's share*, and marketing efficiency. Marketing margins were calculated from the price difference between the factory and farmer levels, cost-profit ratios were calculated based on the comparison of profits with marketing costs, and *farmer's share* was calculated as the percentage of the price received by farmers compared to the price at the factory level. Marketing efficiency was analyzed using the ratio of total marketing costs to product value, with an efficiency value of less than 50% indicating an efficient marketing system (Lubis, 2021).

RESEARCH RESULT

Respondent Characteristics

Respondent characteristics provide a general overview of the background of the sample farmers in running their oil palm farming businesses. Respondents in this study consisted of 33 independent farmers in Dolok Merawan Village, Dolok Merawan District, Serdang Bedagai Regency. The characteristics of the sample farmers described include age, gender, education level, farming experience, number of dependents, land area, and income.

Age

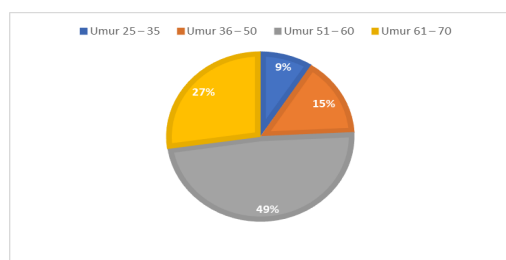


Figure 1. Respondent Characteristics Based on Age

group of sample farmers is in the range of 51-60 years, namely 16 people (48.48%), followed by the age group of 61-70 years as many as 9 people (27.27%), the age group of 36-50 years as many as 5 people (15.15%), and the age group of 25-35 years as many as 3 people (9.09%). Overall, as many as 33 farmers (100%) are included in the productive age group (15-64 years), except for a few who are above 64 years. This shows that farmers in Dolok Merawan Village are generally still classified as productive age which allows them to carry out oil palm farming activities optimally.

Gender

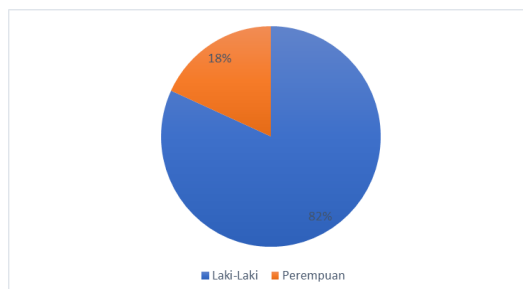


Figure 2. Respondent Characteristics Based on Gender

Male farmers predominate, with 27 (81.82%), while female farmers make up 6 (18.18%). This indicates that oil palm farming activities in Dolok Merawan Village are predominantly carried out by men. This is due to the heavy physical demands of oil palm cultivation, such as harvesting, fertilizing, and transporting fresh fruit bunches (FFB) from the plantation to the collection point. However, female farmers generally manage their plantations independently or with family members.

Level of education

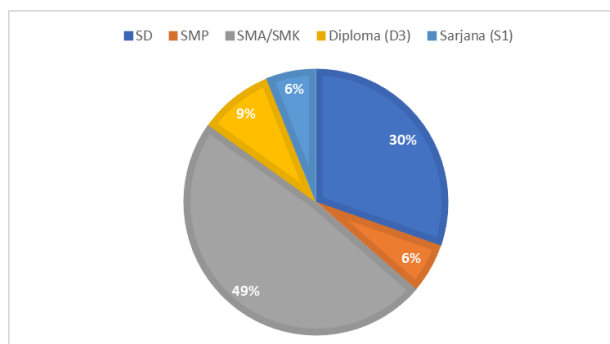


Figure 3. Respondent Characteristics Based on Education Level

Most of the sample farmers (16 people) had a high school/vocational high school education, namely 48.49%, followed by 10 elementary school graduates (30.30%), 3 diploma (D3) graduates (9.09%), 2 junior high school graduates (6.06%), and 2 bachelor's degree (S1) graduates (6.06%). The education level of farmers in Dolok Merawan Village can generally be said to be quite diverse, with the majority having a secondary education (high school/vocational high school). However, there are still a large number of farmers who have only completed basic education (elementary and junior high school) at 36.36%. The low level of education of farmers can affect their ability to access information on FFB prices, thus weakening their bargaining position in the negotiation process with marketing institutions.

Farming Experience

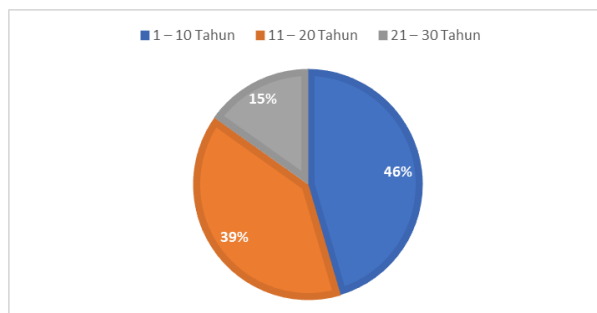


Figure 4. Respondent Characteristics Based on Farming Experience

Most of the sample farmers had between 1 and 10 years of farming experience (15 people (45.45%), followed by 13 people with 11 and 20 years of experience (39.39%), and 5 people with 21 and 30 years of experience (15.15%). The average farming experience of the sample farmers in Dolok Merawan Village was approximately 12.6 years. Farmers with more experience generally have a wider marketing network and a better understanding of FFB prices in the market, thus potentially obtaining more profitable prices.

Number of Family Dependents

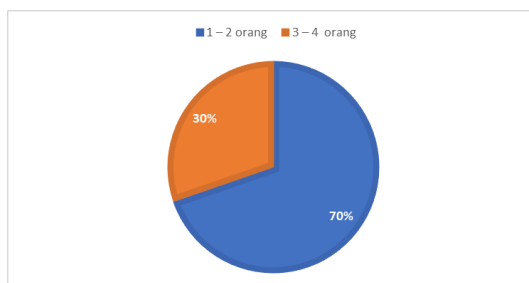


Figure 5. Respondent Characteristics Based on the Number of Family Dependents

Most of the sample farmers had 1-2 dependents (23 people) (69.70%), while 10 farmers had 3-4 dependents (30.30%). The average number of dependents in the sample farmers' families in Dolok Merawan Village was around 2. This relatively small number of dependents helped farmers allocate income from FFB sales to meet daily household needs while maintaining their oil palm plantations.

Land area

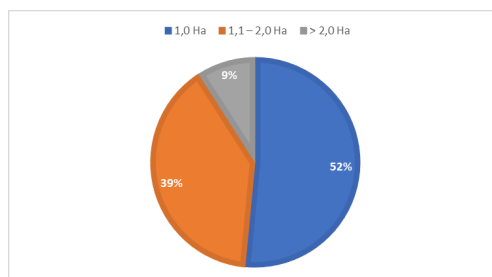


Figure 6. Respondent Characteristics Based on Land Area

Most of the sample farmers owned land of 1.0 ha, namely 17 people (51.52%), followed by farmers with land areas between 1.1 – 2.0 ha as many as 13 people (39.39%), and farmers with land areas of more than 2.0 ha as many as 3 people (9.09%). The average land area owned by sample farmers was 1.54 ha. From this data, it can be concluded that independent oil palm farmers in Dolok Merawan Village are generally farmers with small to medium land ownership scale, which is a common characteristic of independent farmers in Indonesia.

Income

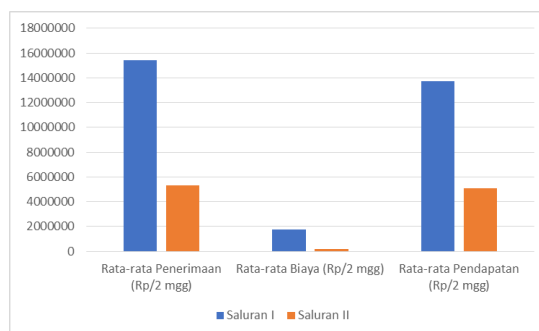


Figure 7. Respondent Characteristics Based on Income

Farmers in Channel I earned an average income of Rp 13,717,500 per two weeks, higher than farmers in Channel II who earned an average income of Rp 5,109,690 per two weeks. This difference in income is influenced by the different selling prices of FFB in each channel, where farmers in Channel I sell directly to Wholesalers at a price of Rp 3,000/kg, while farmers in Channel II sell to Collecting Traders at an average price of Rp 2,735/kg. In addition, differences in land area and productivity between the two groups of farmers also contribute to the difference in prices paid by PKS as the final consumer. In line with research conducted by Pakpahan *et al.*, (2025) the income of oil palm farming businesses has the opportunity for a positive trend even though it must set aside the not insignificant cultivation costs that must be managed because it will impact the selling price of FFB.

Analysis of Marketing Functions and Marketing Institutions

Marketing Agency

Marketing institutions are individuals or business entities that play a role in distributing products from producers to end consumers and carry out various marketing functions. In the marketing of oil palm FFB (Fruit Fruit Bunches), the existence of marketing institutions is necessary to overcome the constraints of distance, time, and information between farmers and Palm Oil Mills (PKS), thus forming marketing costs and margins (Sirdawati, 2023). According to Djazuli *et al.* (2025), marketing institutions include collectors, wholesalers, agents, and other parties involved in product distribution and obtain profits from the marketing functions carried out. In the oil palm agribusiness, marketing channels can be direct channels or through one to three intermediaries (Samosir, 2020; Panga *et al.*, 2025). The results of the study showed that the FFB marketing institutions in Dolok Merawan Village consist of independent farmers as producers, collectors, wholesalers (RAM), and Palm Oil Mills (PKS) as end consumers.

Marketing Channels

Marketing channels are the product distribution chain from producers to end consumers that involves one or more marketing institutions as intermediaries. (Sirdawati, 2023). In the marketing of fresh fruit bunches (FFB) of oil palm, marketing channels determine how much price is received by farmers as producers. Based on the results of research in Dolok Merawan Village, Dolok Merawan District, Serdang Bedagai Regency, two marketing channels for oil palm FFB were found to be used by independent farmers.

Table 1. Distribution of Sample Farmers Based on Marketing Channels for Oil Palm Fresh Fruit Bunches (FFB) in Dolok Merawan Village, Dolok Merawan District, Serdang Bedagai Regency in 2026

No	Marketing Channels	Number of people)	Percentage (%)
1	Channel I: Farmers → Wholesalers (RAM) → PKS	4	12.12
2	Channel II: Farmers → Collectors → Wholesalers (RAM) → PKS	29	87.88
	Total	33	100.00

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Based on the research results, there are two marketing channels for oil palm FFB in Dolok Merawan Village. Channel I is used by 4 farmers (12.12%) and involves one intermediary, namely a Wholesaler (RAM). Farmers in this channel generally have an average land area of 2.5 ha, produce around 2,250 kg per two weeks, and receive a price of Rp3,000/kg. Meanwhile, Channel II is used by 29 farmers (87.88%) and involves Collectors and Wholesalers (RAM). Collectors buy FFB from farmers at an average price of Rp2,735/kg, then sell it to RAM for Rp3,000/kg, and then RAM supplies FFB to PKS at Rp3,350/kg. These results indicate that FFB marketing in the research location involves two types of marketing institutions, namely collectors and wholesalers (RAM).

The scheme of the two marketing channels can be described as follows:

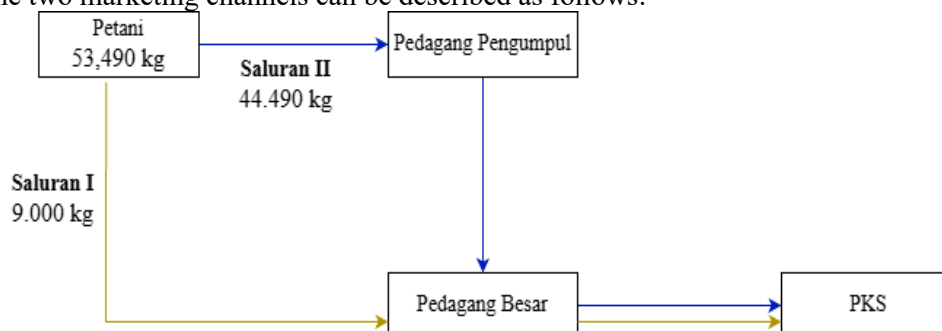


Figure 1. TBS Marketing Channel

Marketing Functions

The marketing function is the activity carried out by each marketing institution to facilitate the distribution of fresh fruit bunches (FFB) from farmers to palm oil mills (PKS). This function includes exchange, physical, and facility functions, the implementation of which will impact marketing costs and margins (Djazuli et al., 2025). The results of the identification of marketing functions at each marketing institution are presented in Table 1.

Table 1. Marketing Functions

No	Function Marketing	Farme r Sal. I	Farme r Sal. II	Collector Trader	Wholesaler (RAM)
1	Function Exchange				
	a. Purchase	–	–	✓	✓
	b. Sales	✓	✓	✓	✓
2	Function Physique				
	a. Transportation	✓	–	✓	✓
	b. Storage	–	–	–	–
	c. Harvesting	✓	✓	–	–
3	Function Facility				
	a. Financing	✓	✓	✓	✓
	b. Risk Management	✓	✓	✓	✓
	c. Information Market	–	–	✓	✓

In Channel I, farmers carry out the transportation function independently, thus bearing a transportation cost of IDR 100/kg. While in Channel II, farmers do not carry out transportation because the FFB is picked up directly by collectors. Collectors carry out the functions of purchasing, transporting, selling to wholesalers (RAM), and providing market information. There is no storage function in all marketing channels because FFB must be immediately sent to the Palm Oil Mill (PKS) within a maximum of 24 hours after harvest to maintain quality and prevent an increase in free fatty acid (FFA) levels (Panga et al., 2025). Meanwhile, wholesalers (RAM) carry out more comprehensive marketing functions, including purchasing, transporting to the PKS, selling, financing, risk management, and monitoring price information. Differences in marketing functions carried out by each institution result in differences in marketing costs in each channel.

Analysis of Marketing Margin, *Farmer's Share* and Cost to Profit Ratio in Dolok Merawan Village, Dolok Merawan District, Serdang Bedagai Regency

The price received by farmers is a percentage of the price paid by the mill, while the profit-to-cost ratio indicates the level of profit earned by each marketing agency. The lower the marketing margin and the higher *the farmer's share*, the more efficient the marketing system is considered.

Marketing Margin Analysis

The marketing margin is the difference between the price received by farmers and the price paid by the mill as the end consumer ($MP = Pr - Pf$). The smaller the marketing margin, the more efficient the marketing system. The results of the marketing margin analysis for each channel are presented in the following table.

Table 3. Marketing Margin of Fresh Fruit Bunches in Each Marketing Channel

Description	Channel I (Rp/Kg)	Channel II (Rp/Kg)
Farmer		
Selling Price (Pf)	3,000	2,735
Marketing Costs	340	200
Collector Trader		
Purchase Price from Farmers	—	2,735
Marketing Costs	—	160
Selling Price to Large Ped.	—	3,000
Profit	—	105
Margin	—	265
Wholesaler (RAM)		
Purchase price	3,000	3,000
Marketing Costs	90	90
Selling Price to PKS	3,350	3,350
Profit	260	260
Margin	350	350
Total Marketing Margin (Pr–Pf)	350	615

Based on the table above, the total marketing margin for Channel I is Rp350/kg, while for Channel II it is Rp615/kg. Channel I has a lower margin because it only involves one intermediary, the wholesaler, resulting in a smaller price difference between farmers and mills. Channel II has a higher margin due to the additional Rp265/kg margin from the collector. This demonstrates that the longer the marketing chain, the greater the total margin, and the smaller the share of the price received by farmers.

Farmer's Share Analysis

Farmer's share is the percentage of the price received by farmers from the price paid by the mill. The higher *the farmer's share*, the greater the profit received by farmers. *Farmer's share* is calculated using the formula $Fs = (Pf/Pr) \times 100\%$. The results of *the farmer's share calculation* for each marketing channel are presented in the following table.

Table 4. Farmer's Share in Each Fresh Fruit Bunch Marketing Channel

No	Marketing Channels	Pf (Rp/Kg)	Price (Rp/Kg)	Farmer's Share (%)
I	Farmers → Large Farmers → PKS	3,000	3,350	89.55
II	Farmer → Ped. Collector → Ped. Large → MCC	2,735	3,350	81.64

Based on the table above, *the farmer's share* in Channel I is 89.55%, higher than Channel II's 81.64%. Channel I provides a larger share of the price to farmers because it eliminates the involvement of collectors as additional intermediaries. Although *the farmer's share* in Channel II is lower, both are still above 80%, indicating that farmers continue to receive the largest share of the PKS price in both marketing channels.

Analysis of Cost and Profit Ratio in Dolok Merawan Village, Dolok Merawan District, Serdang Bedagai Regency

Profit-to-cost ratio analysis is used to determine the efficiency of a marketing channel. The profit-to-cost ratio indicates the value of the profits received compared to the marketing costs incurred by each marketing agency. The clearer the distribution of profit-to-cost ratios across marketing agencies, the more technically sound and efficient the marketing system is. The profit-to-cost ratio is calculated using the formula $\pi/C \times 100\%$.

Table 5. Profit to Cost Ratio for Each TBS Marketing Channel

No	Channel/Institution	Purchase Price (Rp/Kg)	Selling Price (Rp/Kg)	Margin (Rp/Kg)	Cost (Rp/Kg)	Ratio
A.	Channel I					
1	Farmer Channel I	—	3,000	—	240	—
2	Wholesaler (RAM)	3,000	3,350	350	90	2.8
B.	Channel II					
3	Farmer Channel II	—	2,735	—	100	—
4	Ped.Collector (average)	2,735	3,000	265	160	
5	Wholesaler (RAM)	3,000	3,350	350	90	1.4

Based on the analysis results, wholesalers in Channel I have a profit-to-cost ratio of 2.8, meaning that every Rp1 spent generates a profit of Rp2.8. Meanwhile, in Channel II, the profit-to-cost ratio for both collectors and wholesalers is 1.4, indicating a relatively unequal distribution of profits. In terms of marketing margins, *farmer's share*, and profit-to-cost ratio, Channel I is more efficient than Channel II because it has a lower marketing margin (Rp350/kg compared to Rp615/kg) and provides greater profits for farmers. These results are in line with research by Aznur et al. (2024) which states that the shorter the marketing channel, the smaller the marketing margin formed, so that the marketing system becomes more efficient.

Marketing Efficiency

Marketing efficiency is a measure of whether a marketing system is operating optimally in delivering products from producers to consumers at the lowest possible cost. Marketing is considered efficient when marketing costs are relatively small compared to the value of the product being marketed and it provides a fair price distribution for all actors in the marketing chain. Marketing efficiency is calculated using the formula $E_p = (TBP/TNP) \times 100\%$.

Table 6. Marketing Efficiency

Description	Channel I	Channel II
Total cost	90	250
Price to End Consumer (Rp/kg)	3350	3350
Marketing Efficiency %	2.68%	7.46%

Based on the results of the study, it shows that there are differences in the efficiency value of TBS marketing in Dolok Merawan Village. The smallest efficiency value is found in channel I, which is 2.68%, and the largest efficiency value is found in channel II, which is 7.46%, which shows that channel I is more efficient than channel II. According to Aulia et al., (2024), marketing will be considered efficient if it is able to deliver production results from farmers or producers to end consumers at the lowest possible cost and can ensure fair price distribution.

CONCLUSION

Based on the research results, the marketing of oil palm FFB from independent smallholder farmers in Dolok Merawan Village involves two marketing channels, namely Channel I (Farmers–Wholesalers/RAM–PKS) used by 12.12% of farmers and Channel II (Farmers–Collectors–Wholesalers/RAM–PKS) used by 87.88% of farmers. The marketing institutions involved consist of collectors and wholesalers (RAM) who play a role in distributing FFB from farmers to the Palm Oil Mill (PKS). The analysis results show that Channel I is a more efficient marketing channel than Channel II. This is indicated by a lower marketing margin, which is IDR 350/kg compared to IDR 615/kg, a higher *farmer's share value* of 89.55% compared to 81.64%, and a higher profit to cost ratio, which is 2.8 compared to 1.6 in Channel II. Furthermore, the marketing efficiency value for Channel I was 2.68%, lower than Channel II's 7.46%, indicating that Channel I had a higher level of marketing efficiency. This finding indicates that the shorter the marketing channel, the lower the marketing costs and margins, resulting in a larger share of the price received by farmers and an increase in their income.

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