
Analysis Of The Marketing Channel Efficiency Of Fresh Fruit Bunches (FFB) Among Smallholder Farmers In Gunung Ambat Village, Sei Bingai District, Langkat Regency

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Abstract

*This study aimed to analyze the marketing channels of fresh fruit bunches (FFB) of oil palm (*Elaeis guineensis* Jacq.) in Gunung Ambat Village, Sei Bingai District, Langkat Regency, and analyze the marketing efficiency of fresh fruit bunches (FFB) of oil palm in Gunung Ambat Village, Sei Bingai District, Langkat Regency. The research was conducted in Gunung Ambat Village using a purposive method for site selection. A total of 42 oil palm farmers were selected as respondents using the simple random sampling method. The data were analyzed using descriptive and quantitative approaches, including marketing channel analysis, marketing margin, Farmer's Share, marketing efficiency, and the cost-benefit ratio. The results showed that there were two marketing channels, namely Channel I (Farmers → Collecting Traders → PT Putra Grup Agribisnis) and Channel II (Farmers → PT Putra Grup Agribisnis). A total of 32 farmers (76.19%) used Channel I, while 10 farmers (23.81%) used Channel II. The marketing margin in Channel I was IDR 200/kg, whereas Channel II had a marketing margin of IDR 0/kg. The Farmer's Share values were 93.33% for Channel I and 100% for Channel II. The marketing efficiency values were 4.17% for Channel I and 3.00% for Channel II, indicating that both channels were efficient because their efficiency values were below 50%. The cost-benefit ratio in Channel I was 0.60, whereas the ratio for Channel II was not calculated because farmers sold FFB directly to PT Putra Grup Agribisnis without any marketing intermediary. Based on the overall analysis, Channel II was found to be the more efficient marketing channel due to its shorter marketing chain, lower marketing margin, and higher Farmer's Share.*

Keywords: *Farmer's Share, Fresh Fruit Bunches, Marketing Channels, Marketing Efficiency, Marketing Margin, Oil Palm.*

INTRODUCTION

Oil palm is one of Indonesia's leading plantation commodities and plays a strategic role in the national economy. In addition to generating foreign exchange through exports, the oil palm industry contributes significantly to employment opportunities and rural household income. North Sumatra is among the country's major oil palm-producing provinces due to its favorable agro-climatic conditions. According to Statistics Indonesia of North Sumatra Province (2023), the province had approximately 1.407 million hectares of oil palm plantations, producing 25.03 million tons of fresh fruit bunches (FFB) in 2022. Smallholder plantations accounted for about 442,072 hectares with an output of 1.639 million tons of FFB, demonstrating the substantial contribution of smallholder farmers to the regional oil palm industry.

Langkat Regency is one of the important smallholder oil palm production areas in North Sumatra. The region has experienced a continuous increase in plantation area and production over recent years. Based on data from Statistics Indonesia of North Sumatra Province (2023), smallholder oil palm plantations in Langkat covered approximately 47,263 hectares, producing 764,436.36 tons of FFB in 2021. This upward trend indicates that the smallholder plantation sector plays an increasingly important role in supporting regional economic development by creating employment opportunities and improving farmers' income (Aznuur et al., 2024). Nevertheless, high production does not necessarily translate into higher income when the marketing system is inefficient.

The marketing of fresh fruit bunches generally involves several intermediaries, including village collectors, traders, and palm oil mills. The participation of multiple marketing institutions creates different marketing channels, each with varying marketing costs, profit margins, and price distributions. Longer marketing channels generally result in higher marketing costs and wider

marketing margins, reducing the proportion of the final selling price received by farmers (Rahayu et al., 2021; Ningrum, 2023; Laga, 2024). In addition, smallholder farmers often have weak bargaining power due to limited access to market information, transportation facilities, and direct marketing relationships with processing mills (Siregar et al., 2023). These conditions frequently lead farmers to accept lower prices than those available in other marketing stages.

Evaluating marketing channel efficiency is therefore essential to determine whether the existing marketing system provides equitable benefits to all market participants, particularly farmers. Marketing efficiency can be assessed using several indicators, including marketing functions, marketing margins, the benefit-cost ratio, and the *Farmer's Share*. These indicators provide comprehensive information on marketing costs, profit distribution, and the proportion of the final consumer price received by producers (Yunita et al., 2021; Amruddin et al., 2023; Dm. Ali et al., 2024). An efficient marketing channel is expected to minimize unnecessary marketing costs, reduce excessive margins, and increase farmers' income.

Gunung Ambat Village, located in Sei Bingai District, Langkat Regency, is one of the smallholder oil palm-producing areas where fresh fruit bunches are distributed through several marketing institutions. However, empirical information regarding the efficiency of these marketing channels remains limited. Therefore, this study aims to identify the existing marketing channels and evaluate their efficiency based on marketing functions, marketing margins, the benefit-cost ratio, and the *Farmer's Share*. The findings are expected to provide valuable insights for farmers and other stakeholders in selecting more efficient marketing channels, thereby improving the marketing system and enhancing the welfare of smallholder oil palm farmers.

RESEARCH METHODS

This study was conducted in Gunung Ambat Village, Sei Bingai District, Langkat Regency, North Sumatra, Indonesia. The research employed a mixed-methods approach by integrating quantitative and qualitative techniques to comprehensively evaluate the efficiency of fresh fruit bunch (FFB) marketing channels among smallholder oil palm farmers.

The study population consisted of all 71 smallholder oil palm farmers who were members of farmer groups in Gunung Ambat Village. The sample size was determined using the Slovin formula to obtain a representative number of respondents with an acceptable margin of error. Farmers were selected using the simple random sampling technique, ensuring that each member of the population had an equal probability of being chosen. Meanwhile, marketing institutions involved in the distribution of FFB were identified using the snowball sampling technique, beginning with key informants and expanding through referrals until all relevant marketing actors within the supply chain were identified.

Primary data were collected through structured questionnaires, direct observations, and in-depth interviews with farmers and marketing institutions. The questionnaires gathered information on selling prices, production volumes, marketing costs, marketing channels, and farmers' marketing practices. Observations were conducted to understand the actual marketing activities and distribution processes, while in-depth interviews were used to obtain detailed information regarding marketing functions, pricing mechanisms, marketing constraints, and the reasons for selecting particular marketing channels. Secondary data were obtained from Statistics Indonesia (BPS), the Agricultural Extension Agency (BPP), published scientific literature, government reports, and other relevant documents related to the oil palm sector.

Data analysis consisted of descriptive and quantitative approaches. Descriptive analysis was applied to identify and describe the existing marketing channels, marketing institutions, and marketing functions performed by each intermediary. Quantitative analysis was conducted to evaluate marketing efficiency using several indicators, including marketing margin, *Farmer's Share*, marketing cost-benefit ratio, and marketing efficiency.

Marketing margin was calculated as the difference between the price received by the final buyer or palm oil mill and the price received by farmers. *Farmer's Share* was measured as the percentage of the farmer's selling price relative to the final market price. The marketing cost-benefit ratio was used to compare the marketing costs incurred with the profits earned by each marketing institution.

RESULTS AND DISCUSSION

Fresh Fruit Bunch (FFB) Marketing in Gunung Ambat Village
Marketing Channels Used by Respondents

Marketing channels describe the flow of fresh fruit bunches (FFB) from smallholder farmers to the final buyers, namely palm oil mills (POMs). Farmers select marketing channels based on several factors, including FFB prices, production volume, transportation costs, distance to the mill, market accessibility, and their relationships with collectors and palm oil mills. Understanding these marketing channels provides the basis for evaluating the efficiency of the FFB marketing system (Directorate General of Estate Crops, 2023). Tables and charts or captions are arranged in the form of a phrase (not a sentence) succinctly.



Figure 1. Fresh Fruit Bunch (FFB) Marketing Channels

Marketing of fresh fruit bunches (FFB) in Gunung Ambat Village is carried out through two marketing channels. The first is an indirect channel, where farmers sell FFB to local collectors, who subsequently transport and sell the produce to palm oil mills (POMs). In this channel, collectors perform marketing functions such as purchasing, collection, transportation, and resale, thereby earning a marketing margin. The second is a direct channel, in which farmers sell FFB directly to palm oil mills without the involvement of intermediaries. This channel generally provides farmers with higher selling prices because of the shorter marketing chain; however, it is typically accessible only to farmers who have their own transportation or meet the purchasing requirements established by the mills.

The use of different marketing channels results in variations in marketing costs, marketing margins, profits, and the Farmer's Share. Generally, longer marketing channels incur higher marketing costs and margins, reducing the proportion of the final price received by farmers. Conversely, direct sales to palm oil mills enable farmers to obtain a larger share of the final selling price due to the absence of intermediary costs. Therefore, analyzing the existing marketing channels is essential for evaluating the efficiency of the FFB marketing system and determining the extent to which farmers benefit from the current marketing structure.

Distribution of Respondents by Marketing Channel

Table 1. Distribution of Respondents by Marketing Channel

Marketing Channel	Respondents (n)	Percentage (%)	Sales Volume (kg)
Channel I (Farmer → Collector → Palm Oil Mill)	32	76.19	143,800
Channel II (Farmer → Palm Oil Mill)	10	23.81	26,600
Total	42	100.00	170,400

Source: Processed Primary Data (2026).

As shown in Table 1, most respondents (76.19%) marketed their fresh fruit bunches (FFB) through Channel I, with a total sales volume of 143,800 kg per month. The remaining 23.81% sold directly to palm oil mills (Channel II), accounting for 26,600 kg per month. The predominance of Channel I indicates that collectors continue to play a significant role by providing convenient marketing services, particularly transportation and immediate payment. In contrast, farmers using Channel II generally have sufficient transportation and are able to meet the purchasing requirements of palm oil mills, allowing them to obtain higher selling prices. These differences suggest that each marketing channel has distinct advantages and cost structures, highlighting the need to evaluate marketing costs, margins, *Farmer's Share*, and overall marketing efficiency.

Marketing Institutions

Marketing institutions are organizations or individuals involved in distributing fresh fruit bunches (FFB) from farmers to palm oil mills (POMs). These institutions perform marketing functions such as purchasing, transportation, storage, and selling, which influence marketing margins, *Farmer's Share*, and overall marketing efficiency (Directorate General of Estate Crops, 2023; Amruddin et al., 2023). In Gunung Ambat Village, the marketing system consists of three main actors: smallholder farmers, collectors, and palm oil mills.

Farmers act as the primary producers and market their FFB through two channels: indirectly through collectors or directly to palm oil mills. Of the 42 respondents, 32 farmers (76.19%) sold their FFB to collectors at IDR 2,800 kg⁻¹, while 10 farmers (23.81%) sold directly to palm oil mills at IDR 3,000 kg⁻¹. The higher price received through the direct channel reflects the absence of intermediary marketing costs.

Collectors function as intermediaries by purchasing FFB from farmers, collecting, transporting, and delivering the produce to palm oil mills. Two collectors, Mr. Manto and Mr. Surianto, participated in the marketing system and served all farmers using Channel I.

Table 2. Characteristics of Collectors in Gunung Ambat Village

Collector	Experience (Years)	Partner Farmers (n)	Percentage (%)	Purchase Price (IDR kg ⁻¹)	Selling Price (IDR kg ⁻¹)
Mr. Manto	7	17	53.13	2,800	3,000
Mr. Surianto	10	15	46.87	2,800	3,000
Total	—	32	100.00	—	—

Source: Processed Primary Data (2026).

Both collectors purchased FFB at IDR 2,800 kg⁻¹ and sold it to palm oil mills at IDR 3,000 kg⁻¹, generating a marketing margin of IDR 200 kg⁻¹ before marketing costs. Their role remains important, particularly for farmers with limited transportation or small production volumes.

The final marketing institution is the palm oil mill, represented in this study by PT Putra Grup Agribisnis (PGA) in Kuala District, Langkat Regency. The company purchases FFB from both collectors and farmers, subject to quality standards such as fruit maturity and physical condition. Farmers who sold directly to the mill received IDR 3,000 kg⁻¹, resulting in a marketing margin of zero and a *Farmer's Share* of 100%. In contrast, farmers marketing through collectors received lower prices because part of the final selling price constituted the collectors' marketing margin. These findings indicate that palm oil mills play a crucial role in ensuring market access while the choice of marketing channel determines the price received by farmers and the overall efficiency of the marketing system.

Marketing Functions

Marketing functions refer to the activities performed by marketing institutions to distribute fresh fruit bunches (FFB) from farmers to palm oil mills (POMs). These functions include exchange, physical, and facilitating activities that support an efficient marketing process (Amruddin et al., 2023). The marketing functions performed by each institution are presented.

Table 3. Marketing Functions Performed by Each Marketing Institution

Marketing Function	Farmers	Collectors	Palm Oil Mill (POM)
Selling	✓	✓	—
Purchasing	—	✓	✓
Transportation	✓*	✓	—
Storage	—	✓	—
Sorting/Grading	—	✓	✓
Risk Bearing	✓	✓	✓
Financing	✓	✓	✓
Market Information	✓	✓	✓

Note: ✓ applies only to farmers who sell directly to the palm oil mill.*

Farmers mainly perform selling, financing, risk-bearing, and market information functions, while transportation is carried out only by those selling directly to the mill. Collectors undertake the widest range of marketing functions, including purchasing, transportation, storage, grading, and resale. Palm oil mills function as the final buyers, performing purchasing, grading, financing, risk-bearing, and market information activities.

Cost–Benefit Ratio of Marketing Institutions

The cost–benefit ratio was used to assess the profitability of marketing institutions by comparing marketing profits with marketing costs. A higher ratio indicates greater returns relative to marketing expenditures.

Table 4. Cost–Benefit Ratio of Marketing Channels

Marketing Channel	Marketing Cost (IDR kg ⁻¹)	Profit (IDR kg ⁻¹)	Cost–Benefit Ratio
Channel I	125	75	0.60
Channel II	90	—	—

Source: Processed Primary Data (2026).

As shown in Table 4, collectors in Channel I incurred marketing costs of IDR 125 kg⁻¹ and earned a profit of IDR 75 kg⁻¹, resulting in a cost–benefit ratio of 0.60. This indicates that every IDR 1.00 spent on marketing generated IDR 0.60 in profit, with a substantial portion of the marketing margin allocated to transportation, handling, labor, and other operational costs. In Channel II, farmers sold FFB directly to the palm oil mill without intermediaries. Consequently, no marketing institution earned a marketing profit, and the cost–benefit ratio was not calculated. Although farmers incurred transportation costs of IDR 90 kg⁻¹, these expenses were production-related selling costs rather than marketing costs incurred by an intermediary.

Marketing Margin Analysis

Marketing margin refers to the difference between the price paid by the final buyer and the price received by farmers. It represents the costs incurred and profits earned by marketing intermediaries during the distribution process. In this study, marketing margins were analyzed for two marketing channels to determine the extent of price differences and to evaluate which channel provides greater economic benefits to farmers.

Marketing Margin of Channel I (Farmer → Collector → Palm Oil Mill)

The marketing margin was calculated using the following formula:

$$MP = Pr - Pf$$

where MP is the marketing margin (IDR kg⁻¹), Pr is the selling price at the palm oil mill, and Pf is the price received by farmers.

Table 5. Marketing Margin of Channel I

Item	Value (IDR kg ⁻¹)
Farmer selling price	2,800
Collector selling price	3,000
Marketing margin	200
Transportation cost	75
Loading and unloading	15
Labor cost	15
Other operating costs	20
Total marketing cost	125
Collector profit	75

Source: Processed Primary Data (2026).

As presented in Table 5, farmers sold fresh fruit bunches (FFB) to collectors at IDR 2,800 kg⁻¹, while collectors resold the FFB to the palm oil mill at IDR 3,000 kg⁻¹, resulting in a marketing margin of IDR 200 kg⁻¹. This margin was not entirely retained as profit because collectors incurred total marketing costs of IDR 125 kg⁻¹, consisting of transportation, loading and unloading, labor, and other operational expenses. After deducting these costs, collectors obtained a net marketing profit of IDR 75 kg⁻¹.

These findings indicate that collectors play an important role in facilitating FFB distribution by providing transportation and marketing services for farmers who have limited access to palm oil mills. Although the involvement of collectors reduces the price received by farmers, it also enables smallholders with limited transportation facilities or low production volumes to market their harvest efficiently. Therefore, the marketing margin in Channel I reflects not only intermediary profit but also the operational costs required to maintain the distribution process.

Marketing Margin of Channel II (Farmer → Palm Oil Mill)

Table 6. Marketing Margin of Channel II

Item	Value (IDR kg ⁻¹)
Farmer selling price	3,000
Selling price to palm oil mill	3,000
Marketing margin	0
Transportation cost	75
Loading and unloading	15
Total marketing cost	90

Source: Processed Primary Data (2026).

As shown in Table 6, farmers sold FFB directly to the palm oil mill at IDR 3,000 kg⁻¹, which was identical to the purchase price paid by the mill. Consequently, the marketing margin was zero, indicating that no intermediary participated in the marketing process. Although farmers incurred marketing expenses amounting to IDR 90 kg⁻¹, these costs were associated with transportation and handling rather than intermediary marketing activities.

The absence of intermediaries allows farmers to receive the full selling price offered by the palm oil mill, thereby increasing their income from FFB sales. However, this marketing channel requires farmers to provide their own transportation and comply with the purchasing requirements established by the mill. Therefore, while Channel II offers greater economic returns, it is generally more accessible to farmers with adequate resources and logistical capacity.

Farmer's Share Analysis

Farmer's Share represents the percentage of the final selling price received by farmers and is calculated as: $\text{Farmer's Share} = (\text{Pf} / \text{Pr}) \times 100\%$

Table 7. Farmer's Share by Marketing Channel

Marketing Channel	Farmer Price (IDR kg ⁻¹)	Mill Price (IDR kg ⁻¹)	Farmer's Share (%)
Channel I (Farmer → Collector → Palm Oil Mill)	2,800	3,000	93.33
Channel II (Farmer → Palm Oil Mill)	3,000	3,000	100.00

Source: Processed Primary Data (2026).

Table 7 shows that the *Farmer's Share* was 93.33% for Channel I and 100.00% for Channel II. In Channel I, farmers received 93.33% of the final price paid by the palm oil mill, while the remaining 6.67% represented the marketing margin earned by collectors. In contrast, farmers using Channel II received the entire selling price because no intermediary was involved in the transaction.

The higher *Farmer's Share* observed in Channel II indicates that shorter marketing channels enable farmers to retain a larger proportion of the product value. Nevertheless, the slightly lower *Farmer's Share* in Channel I should not be interpreted solely as a disadvantage. Collectors provide essential marketing services, including collection, transportation, and market access, particularly for farmers who are unable to deliver their harvest directly to the mill. Therefore, although Channel II offers the highest return to farmers, Channel I remains an important marketing alternative for smallholders facing logistical constraints.

Marketing Efficiency Analysis

Marketing efficiency was assessed by comparing total marketing costs with the final product value using the following equation:

$$Ep = (TB / TNP) \times 100\%$$

Where Ep is marketing efficiency (%), TB is total marketing cost (IDR kg⁻¹), and TNP is the final product value (IDR kg⁻¹). A marketing channel is considered efficient when its efficiency value is below 50% (Amruddin et al., 2023).

Table 8. Marketing Efficiency of FFB Marketing Channels

Marketing Channel	Marketing Cost (IDR kg ⁻¹)	Product Value (IDR kg ⁻¹)	Marketing Efficiency (%)	Category
Channel I	125	3,000	4.17	Efficient
Channel II	90	3,000	3.00	Efficient

Source: Processed Primary Data (2026).

The results presented in Table 8, indicate that both marketing channels were classified as efficient, as their efficiency values were substantially below the 50% benchmark. Channel I recorded a marketing efficiency of 4.17%, whereas Channel II achieved a lower value of 3.00%. These findings suggest that only a small proportion of the final product value was allocated to marketing costs in both channels.

The lower efficiency value of Channel II demonstrates that direct marketing requires lower distribution costs relative to the value of the product. Without intermediary involvement, farmers receive higher selling prices while incurring only transportation and handling expenses. Consequently, Channel II represents the most economically efficient marketing channel in this study.

Conversely, the slightly higher efficiency value observed in Channel I reflects the additional costs associated with the services provided by collectors, including collection, transportation, grading, and distribution. Although these activities increase marketing costs, they also improve market accessibility for farmers who lack transportation facilities or produce relatively small harvest volumes. Therefore, while Channel II is more efficient from an economic perspective, Channel I continues to play a crucial role in supporting the marketing activities of smallholder farmers in Gunung Ambat Village by ensuring that FFB can be delivered to palm oil mills in a timely and reliable manner.

Discussion

This study evaluated the marketing channels, marketing margins, *Farmer's Share*, cost–benefit ratio, and marketing efficiency of fresh fruit bunches (FFB) produced by smallholder farmers in Gunung Ambat Village, Sei Bingai District, Langkat Regency. The findings revealed two marketing channels: Channel I (Farmer → Collector → Palm Oil Mill) and Channel II (Farmer → Palm Oil Mill). The existence of these two channels indicates that farmers adopt different marketing strategies depending on their transportation facilities, production capacity, and accessibility to palm oil mills.

The marketing margin analysis showed that Channel I generated a marketing margin of IDR 200 kg⁻¹, while Channel II had no marketing margin because farmers sold their FFB directly to the palm oil mill. In Channel I, collectors performed essential marketing functions, including collection, transportation, and distribution, which resulted in additional marketing costs and intermediary profits. These findings support the principle that longer marketing channels generally create larger marketing margins because additional intermediaries require compensation for the services they provide (Directorate General of Estate Crops, 2023). Although Channel I reduced the selling price received by farmers, collectors remained an important component of the marketing system by facilitating market access for farmers who lacked transportation or sufficient production volume to sell directly to the mill.

The results of the *Farmer's Share* analysis further demonstrated the advantages of direct marketing. Farmers in Channel II received 100.00% of the final selling price, whereas those in Channel I received 93.33%. The higher *Farmer's Share* observed in Channel II reflects the absence of intermediary marketing margins, enabling farmers to retain the entire value paid by the palm oil mill. Conversely, the slightly lower value in Channel I does not necessarily indicate an ineffective marketing system, as collectors provide valuable logistical and marketing services that improve market accessibility for smallholder farmers. Therefore, the difference in *Farmer's Share* mainly reflects the structure of the marketing channel rather than unequal pricing practices.

Regarding the cost–benefit ratio, collectors operating in Channel I obtained a ratio of 0.60, indicating that every IDR 1.00 spent on marketing activities generated IDR 0.60 in net profit. This relatively moderate return suggests that a considerable proportion of the marketing margin was absorbed by operational expenses, particularly transportation, loading and unloading, labor, and other distribution costs. Consequently, the profit earned by collectors represented compensation for the marketing services they performed rather than excessive economic gains. Since Channel II did not involve intermediaries, this indicator was not applicable because no marketing institution generated profits from product distribution.

The marketing efficiency analysis showed that both marketing channels were efficient, with efficiency values of 4.17% for Channel I and 3.00% for Channel II, both substantially below the 50% efficiency threshold proposed by Amruddin et al. (2023). Nevertheless, Channel II exhibited the lowest efficiency value, indicating that direct marketing required lower marketing costs relative to the value of the product. The elimination of intermediary activities reduced distribution expenses and enabled farmers to receive higher prices, making Channel II the most economically efficient marketing channel identified in this study.

Despite the superior performance of Channel II in terms of marketing margin, *Farmer's Share*, and marketing efficiency, the findings also demonstrate that collectors continue to play a strategic role in the local marketing system. Many farmers are unable to sell directly to palm oil mills because of limited transportation facilities, inadequate capital, relatively small harvest volumes, or the purchasing requirements imposed by mills. Under these conditions, collectors provide an important marketing service by purchasing FFB directly from farmers and ensuring timely delivery to processing facilities. Therefore, the choice of marketing channel is influenced not only by economic efficiency but also by farmers' operational capacity and market accessibility.

Overall, the findings indicate that Channel II is the most beneficial marketing channel for smallholder farmers because it provides zero marketing margin, a 100% *Farmer's Share*, and the

lowest marketing efficiency value, allowing farmers to maximize their selling price. However, Channel I remains an essential marketing alternative for farmers who face logistical and financial constraints. Improving transportation infrastructure, strengthening farmer organizations, and expanding direct market access to palm oil mills would enable more farmers to benefit from the advantages of direct marketing while maintaining the important supporting role of collectors within the FFB marketing system.

Table 9. Summary of Marketing Channel Efficiency

Criteria	Channel I	Channel II	Best Channel
Shortest marketing channel	X	✓	Channel II
Lowest marketing margin	X	✓	Channel II
Highest <i>Farmer's Share</i>	X	✓	Channel II
Highest cost–benefit ratio	✓	X	Channel I
Marketing efficiency (<50%)	✓	✓	Both Efficient

Source: Processed Primary Data (2026).

As summarized in Table 9, Channel II demonstrated superior performance across most evaluation indicators. The direct marketing channel eliminated intermediary margins, increased the proportion of the final price received by farmers, and reduced overall marketing costs. Although both channels satisfied the criteria for marketing efficiency, Channel II provided greater economic benefits to farmers. Nevertheless, Channel I remains relevant because it accommodates farmers who cannot directly access palm oil mills, highlighting that marketing efficiency should be evaluated alongside the practical conditions faced by smallholder farmers.

CONCLUSION

This study identified two fresh fruit bunch (FFB) marketing channels in Gunung Ambat Village, Sei Bingai District, Langkat Regency: Channel I (Farmer → Collector → Palm Oil Mill) and Channel II (Farmer → Palm Oil Mill). Most respondents (76.19%) marketed their FFB through collectors, while 23.81% sold directly to the palm oil mill. The predominance of Channel I indicates that collectors continue to play an important role in facilitating market access for farmers with limited transportation facilities and production capacity.

The results demonstrate that Channel II is the most efficient marketing channel, recording a marketing margin of IDR 0 kg⁻¹, a Farmer's Share of 100%, and a marketing efficiency value of 3.00%. In comparison, Channel I generated a marketing margin of IDR 200 kg⁻¹, a Farmer's Share of 93.33%, a cost–benefit ratio of 0.60, and a marketing efficiency value of 4.17%. Although both channels were classified as efficient, direct marketing provided greater economic benefits by enabling farmers to receive higher prices without intermediary deductions.

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