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Analysis of the People's Rubber Marketing System in Mandailing Natal: Review of Distribution Channels, Margins, and Efficiency

Muhammad Iqbal[1], Mitra Musika Lubis[2]
[1,2]Universitas Medan Area

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ABSTRACT

Smallholder rubber is a leading commodity that plays a vital role in the regional economy, particularly in Mandailing Natal Regency, which is known as one of the main rubber-producing areas in North Sumatra. However, the marketing system for smallholder rubber in this region still faces several structural constraints that significantly affect farmers' income. This article aims to analyze the distribution channels, margin distribution, and marketing efficiency of smallholder rubber in Mandailing Natal using a literature review approach. The data were obtained from various scientific publications, government reports, and agribusiness studies published over the past ten years. The review found two common marketing channel patterns: a long channel (farmers → local collectors → wholesalers → factories) and a short channel (farmers → wholesalers → factories). The short channel proves to be more profitable for farmers by reducing intermediaries and increasing marketing efficiency. Additionally, farmers' share of profit margins increases significantly under the short channel. Nonetheless, challenges such as weak farmer institutions, limited market access, and lack of price information remain major obstacles. Therefore, recommended strategies include establishing marketing cooperatives, improving distribution infrastructure, and digitizing price information systems. Enhancing the existing marketing system is expected to improve the welfare of smallholder rubber farmers in Mandailing Natal sustainably.

Corresponding Author:

Muhammad Iqbal
Universitas Medan Area
Email: mi2420697@gmail.com

INTRODUCTION

Indonesia is an agricultural country with abundant natural resources, including the plantation sector, which makes a significant contribution to the national economy. Natural rubber is a key commodity with strategic value in the plantation sector. This product is not only a leading export commodity but also a primary source of livelihood for millions of rural farmers (Kusumaningrum, 2019).

Natural rubber is widely used in various industries, such as automotive, manufacturing, and medical devices. Global demand for rubber remains high, but prices at the farm level are often unstable. This price instability indicates problems with the inefficient local trade and marketing system (Harahap & Segoro, 2018).

The majority of rubber production in Indonesia comes from smallholder farmers who manage their land independently on a small scale. Their contribution is substantial, reaching more than 85% of total national production. However, the welfare of rubber farmers does not commensurate with the vital role they play. One factor contributing to the low welfare of farmers is a lengthy and less transparent marketing system. Farmers often rely on middlemen or collectors to sell their crops, where they have a very weak bargaining position. As a result, the selling price received is far below market prices (Santoso, 2018).

The long distribution chain also leads to high marketing costs. Large traders or factories enjoy the largest profit margins, while farmers receive only a small share. This exacerbates the inequality in income distribution among market players. On the other hand, there is potential for improving the marketing system through shorter distribution patterns, such as direct sales to wholesalers or through open auctions. However, implementing these patterns requires adequate infrastructure, institutional support, and access to market information (Saptana & Saliem, 2016).

Mandailing Natal Regency in North Sumatra Province is one of the regions with significant potential for smallholder rubber production. However, the marketing system issues in this region are similar to those in other regions in Indonesia, requiring special attention in agribusiness studies. To understand and address these issues, a comprehensive analysis of the marketing channel structure, profit margin distribution, and the efficiency of the distribution system used by rubber farmers in Mandailing Natal is necessary.

Through this literature review, the author attempts to describe the current state of smallholder rubber marketing in Mandailing Natal, based on previous research. The goal is to formulate a more efficient and farmer-friendly marketing strategy to sustainably improve their well-being.

METHODOLOGY

This study employed a literature review with a descriptive-qualitative approach to identify and analyze the distribution channel structure, marketing margins, and efficiency levels of the smallholder rubber marketing system in Mandailing Natal Regency. This approach was chosen because it provides a comprehensive understanding based on relevant previous studies (Bado, 2022).

Data sources were obtained from various national and international journal articles, research reports from government agencies, seminar proceedings, and academic books published between 2013 and 2024. The literature reviewed was selected based on the following inclusion criteria: (1) discussing the marketing of smallholder rubber commodities in Indonesia, (2) presenting data or analysis on marketing channels, margins, and efficiency, and (3) possessing academic credibility and relevance to the research area.

The search process was conducted using academic search engines such as Google Scholar, Garuda, DOAJ, and university journal databases. Keywords used included: smallholder rubber marketing, agricultural commodity distribution channels, rubber marketing efficiency, and rubber farmer profit margins. All references meeting the criteria were analyzed and grouped according to the main research themes.

The collected data were analyzed thematically through data reduction, data presentation, and conclusion drawing. The analysis focused on comparisons between studies, identifying common patterns, and formulating recommendations based on existing literature. Validity was strengthened by comparing findings from various sources to obtain reliable and representative conclusions (Adnan & Latief, 2020).

With this approach, it is hoped that the results of the study can provide an in-depth picture of the characteristics of the people's rubber marketing system in Mandailing Natal, as well as provide applicable policy recommendations to increase efficiency and fairness in the distribution of agricultural products.

RESULTS AND DISCUSSION

This section discusses the key findings from various literature analyzed to understand the smallholder rubber marketing system in Mandailing Natal Regency. The discussion focuses on the distribution channel structure, the marketing margins received by each supply chain actor, and the level of marketing efficiency based on the cost-to-return ratio. These three aspects are considered key indicators for evaluating the performance of rubber product marketing at the farmer level and developing recommendations for more effective and equitable agribusiness policies.

Distribution Channel Structure

The distribution channel structure is a crucial component in determining the effectiveness and fairness of the smallholder rubber marketing system. Based on a literature review of various articles, there are two main

distribution patterns commonly used by rubber farmers in Mandailing Natal Regency: long channels and short channels. Long channels consist of links that include farmers, collectors, wholesalers, and factories. Meanwhile, short channels connect farmers directly with wholesalers or even directly to factories. The use of long channels remains dominant in various regions for practical reasons such as geographic proximity and ease of transactions, although farmers only receive a smaller profit margin compared to short channels.

The choice of distribution channel is directly related to the farmer's socioeconomic capacity, access to market information, and available institutional support. Farmers not affiliated with institutions such as cooperatives or UPPB tend to sell their products through long channels due to limited price information and transportation facilities. On the other hand, farmers who are affiliated with institutions tend to have stronger bargaining power and prefer shorter distribution channels due to guaranteed prices and support regarding product quality. In this regard, the structure of the distribution channel is not merely a market mechanism but also reflects the institutional structure and collective capacity of farmers.

According to the Director General of Plantations' report, the role of the UPPB (Center for Smallholders) is a strategic instrument in streamlining distribution channels. The UPPB provides farmers with the opportunity to aggregate production, standardize quality, and negotiate more transparent prices with factories or industrial partners. The UPPB also serves as a coordination hub between farmers and government agencies or the private sector in building sustainable partnerships (Dirjenbun, 2019). In the Mandailing Natal context, the distribution pattern through the UPPB has proven effective in shortening the distribution chain and reducing farmers' dependence on middlemen, thereby significantly increasing the selling value of smallholder rubber.

Conceptually, a short distribution structure supported by strong institutions will be more oriented towards efficiency and equitable distribution of marketing margins. This distribution model needs to be systematically promoted through policies that support the institutional integration of farmers with market players and the provision of supporting infrastructure. Therefore, institutional strengthening, increasing market literacy, and facilitating direct access to industrial partners are strategic steps that can optimize the structure of smallholder rubber distribution channels, particularly in Mandailing Natal. With this approach, the rubber marketing system can move towards being more inclusive, efficient, and profitable for farmers as the main actors in the agribusiness supply chain.

Marketing Margins

Marketing margins reflect the proportion of profits received by each actor in the distribution chain. Harun's study found that marketing margins in long-term channels ranged from IDR 13,500, with a 52% share of the farmer's margin, while in short-term channels the margin was IDR 12,000, with a 60% share of the farmer's margin. This indicates that the fewer intermediaries in the distribution chain, the greater the proportion of profits received by farmers (Harun, 2018).

A study by Siregar et al. supports this finding by showing that channels involving more actors result in unequal margin distribution and are detrimental to farmers (Siregar et al., 2012). Meanwhile, margins in channels through the UPPB (Farmers' Union) are not detailed in nominal terms, but explicitly state that these institutions provide fairer and more transparent price distribution through joint pricing mechanisms and partnership contracts (Dirjenbun, 2019).

Marketing Channel Efficiency

Marketing channel efficiency is a key indicator in assessing the extent to which a distribution system maximizes benefits to farmers at minimal cost. Good efficiency is reflected in a low ratio of marketing costs to product sales value. In the context of smallholder rubber marketing in Mandailing Natal, the three studies analyzed consistently show adequate efficiency levels, but with potential for improvement. The following table presents a comparison of the efficiency levels of smallholder rubber marketing patterns:

Table 1. Comparison of Efficiency Levels of Rubber Marketing Patterns

No	Research Source	Marketing Channels	Marketing Efficiency	Catagory
1	Mansyur Harun (2019)	Farmers→PP→PB→Factory	14,0%	Efficient
		Farmers → PB → Factories	12,5%	More Efficient
2	Siregar et al. (2012)	Farmers→PP→PB→Factory	Inefficient (values are not	Inefficient

			explicit, called “not yet efficient”)	
3	Director General of Plantations (2019) through UPPB	Farmers→UPPB→Factories	Quantitative data is not yet available, but it is said to be “institutionally efficient”	Structurally Efficient

Description:
PP : Collector
PB : Wholesaler
UPPB : Bokar Processing and Marketing Unit

From the table above, it can be concluded that shorter channels (Farmer → PB → Factory) consistently demonstrate higher marketing efficiency. A study (Harun, 2018) explicitly calculated an efficiency value of 12.5% for short channels, compared to 14% for long channels. Meanwhile, a study (Siregar et al., 2012) did not provide specific figures, but identified that marketing chains involving multiple intermediaries lead to inefficient distribution. A study (Dirjenbun, 2019) highlighted the role of institutions such as the UPPB (Farmers' Association) in reducing the chain and strengthening farmers' bargaining position, although it did not present quantitative efficiency values. Therefore, institutional strengthening strategies and a preference for shorter distribution channels are worthy of focus to improve the marketing efficiency of smallholder rubber in Mandailing Natal.

The Role of Institutions and Government

Farmer institutions play a strategic role in strengthening the marketing system for agricultural commodities, particularly smallholder rubber. One proven effective institution is the Bokar Processing and Marketing Unit (UPPB), which acts as a collective platform for farmers to manage their produce in an organized manner. The UPPB not only acts as an aggregator or collector of bokar, but also performs important functions such as quality control, price assurance, and facilitation of partnerships between farmers and the rubber processing industry. The Director General of Plantations (2019) stated that the existence of the UPPB encourages more transparent and equitable transactions, as farmers gain access to price information and more transparent marketing procedures.

This institution also contributes to increasing farmer capacity, particularly through technical training on bokar quality standards and market-based farming management. With the UPPB, farmers can sell their products in larger quantities and with more uniform quality, which is certainly more attractive to industry partners. The price negotiation process also becomes more rational because it is based on measurable quality and production volume. In addition, the existence of partnership contracts facilitated by UPPB makes the position of farmers more legally and economically protected, especially in facing market price fluctuations.

However, the effectiveness of the UPPB cannot be optimal without strong support from the government, both central and regional. The government plays a crucial role in creating a supportive regulatory climate, providing distribution infrastructure such as roads and storage warehouses, and facilitating managerial training for institutional administrators. Support in the form of financing, transportation subsidies, and access to information technology are also determining factors in the success of farmer institutions. Therefore, synergy between the government, UPPB, and business actors is essential for more efficient and competitive marketing of smallholder rubber. To realize a more equitable and efficient marketing system, regional governments need to encourage the establishment of village-based UPPBs more widely, particularly in rubber production centers such as Mandailing Natal.

This step will not only shorten the distribution chain but also strengthen farmers' bargaining power vis-à-vis middlemen and factories. Furthermore, institutional integration with digital marketing systems and real-time price information will further accelerate agribusiness transformation at the farmer level. Thus, the role of institutions and government is a key foundation for developing a sustainable smallholder rubber marketing system.

CONCLUSION

Based on the results of a literature review of the smallholder rubber marketing system in Mandailing Natal Regency, it can be concluded that efficiency and fairness in distribution are significantly influenced by the structure of the marketing channels used. Shorter distribution channels have been shown to provide greater profit margins for farmers and significantly reduce marketing costs. The existence of institutions such as the Bokar Processing and Marketing Unit (UPPB) plays a crucial role in shortening the distribution chain, improving yield quality, and strengthening farmers' bargaining position with industry players. Therefore, strengthening farmer institutions, providing transparent access to market information, and providing adequate infrastructure support are key strategies that need to be pursued to create a more efficient, equitable, and sustainable smallholder rubber marketing system.

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