Environment and Ecology 42 (3) : 990—996, July—September 2024
Article DOI: https://doi.org/10.60151/envec/CNLH8158
ISSN 0970-0420

Analysis of Marketing Pattern of Arecanut Grower in East Garo Hills District, Meghalaya

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Received 29 February 2024, Accepted 9 May 2024, Published on 15 July 2024

ABSTRACT

Arecanut (*Areca catechu* L) is one of the important cash crops in India and ranks first in terms of both area and production of arecanut in world. Meghalaya holds 4th position in the production of arecanut in India producing 51,000 tonnes in 2019. The total of 200 samples was selected for the study. The marketing channels were identified based on various intermediaries involved in the marketing process. A total of 4 marketing channels found in the study area of which Channel II (Producer – Village Trader – Whole seller – Consumer) was the most effective channel for marketing arecanut, accounting for nearly 40% of the total marketed quantity. In terms of marketing margin earned by the different marketing channel, channel III was found to be earned the highest marketing margin consists of the marketing margin earned by the wholesaler, village traders and retailer. The Producers share in Consumer's Rupee (%) was found to be highest in Channel I. The study of arecanut marketing channels offers valuable lessons for the broader agricultural sector, suggesting pathways to enhance producer income, reduce marketing costs, and improve the overall efficiency of agricultural marketing systems.

Keywords Arecanut, Intermediaries, Marketing channel, Marketing margins, Price spread.

INTRODUCTION

Arecanut, scientifically known as *Areca catechu*, is a species of palm cultivated primarily in tropical climates for its nut, commonly referred to as betel nut. The arecanut has significant cultural, economic, and social importance in many Asian and Pacific regions, serving not just as a chewable stimulant when wrapped in betel leaves, but also playing a crucial role in various traditional ceremonies and rituals (Niranjana 2015 and Veerabhadraswamy 2017). Arecanut production is an intricate process that involves careful planning, planting, maintenance, and harvesting, all of which require a deep understanding of the crop's specific needs including climate, soil type, and water requirements.

The cultivation of arecanut is widespread in countries such as India, Bangladesh, Indonesia, the Philippines and Sri Lanka and these regions are the leading producers in the world. India, in particular, stands as the largest producer producing 7, 82,554 tonnes of arecanut in 2017 (Rabha 2021, Jamanal and Murthy 2022). The crop thrives in humid tropical climates, with well-distributed rainfall and a short dry season, necessitating particular attention to irrigation

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in areas where natural precipitation is insufficient.

Karnataka, Kerala, Assam, West Bengal, Meghalaya and Tamil Nadu are the major producers of arecanut in India. Meghalaya holds 4th position in the production of arecanut in India producing 51,000 tonnes in 2019 (ICAR 2023).

The introduction of arecanut production into an economy can significantly impact local communities, offering employment opportunities and contributing to the livelihoods of millions of smallholder farmers and laborers involved in its cultivation, processing, and trade (Kuki and David 2016, Tigari and Rajamma 2019). However, the industry also faces challenges, including fluctuating market prices, concerns over health impacts associated with arecanut consumption, and environmental issues related to intensive cultivation practices.

With this background an attempt is made in this paper to identify the marketing Channels and their efficiency and Marketing Margin and their price spread.

MATERIALS AND METHODS

Area of the study: The present study was undertaken in the East Garo Hills district of Meghalaya. The East Garo Hills comprises of three blocks namely Samanda block, Songsak block and Dambo Rongjeng block. For the study, only two blocks were undertaken namely Samanda and Songsak block.

Selection of sample: 10 villages each from Samanda and Songsak block were selected randomly for the study. Again from each village, 10 respondents were selected using the simple random sampling procedure. Thus, a total of 200 respondents were selected for the present study which were stratified into three groups viz. Group I, Group II and Group III based area under arecanut cultivation.

Data collection: The primary data were used in the study. The primary data were collected using a pre tested interview schedule by the personal interview method of sampling. The following tools were used to analyze the data :

Marketing cost of arecanut : The marketing cost of arecanut was calculated by estimating the cost incurred in the process of marketing of arecanut. The cost incurred after the harvesting till it reaches the consumer hand constituted marketing cost. It includes transportation cost, market fees, loading and unloading labor cost, cost on foods, costs on gunny bags.

Marketing margin of arecanut: Marketing margin of marketing of arecanut at different stage was calculated as :

$$MM_1 = SP_1 - (PP_1 + MC_1)$$

Where,

MM_1 = Marketing margin of i-th middlemen

SP_1 = Selling price of i-th middlemen

PP_1 = Purchasing price of i-th middlemen

MC_1 = Marketing cost of i-th middlemen.

After calculating the marketing margins at different stage, finally the total marketing margin were estimated.

Price spread of arecanut

The difference between the price paid by the consumer and the price received by the producer was calculated in the present study. To examine the efficiency of the marketing system, producer's share in consumer's rupee was calculated as follows:

$$\text{Price spread} = \frac{(\text{Consumer price} - \text{Net price of producer})}{\text{Consumer price}} \times 100$$

Or

$$\text{Producer's share in consumer's rupee} = \frac{\text{Producer's price}}{\text{Consumer's price}} \times 100$$

Marketing efficiency of arecanut

The marketing efficiency of channels was measured by using Shepherd's method (Ramesh 2016). The Market efficiency of arecanut was calculated by using Shepherd's formula which is expressed as

$$ME=V/I–1$$

Where,

ME = Index of marketing efficiency

V = Value of goods sold (consumer's price)

I = Total marketing cost

RESULTS AND DISCUSSION

The marketing channels and their effectiveness

The marketing channels were identified based on the intermediaries involved in the marketing from the point of production to the point at which it reached to the ultimate consumer.

The study revealed that there are four marketing channels of arecanut in the area. They are as under :

Channel I : Producer – Consumer

Channel II : Producer – Village Trader – Whole seller – Consumer

Channel III : Producer – Village Trader – Whole seller –Retailer - Consumer

Channel IV : Producer – Commission Agent – Retailer – Consumer

The effectiveness of various marketing channels was discussed based on the quantity of arecanut marketed through the different channels, shown in Table 1.

The Table 1 outlines the distribution of arecanut (betel nuts) marketed through different channels, detailing both the quantity marketed in quintals and the corresponding percentage share of each channel in the total market. Channel II was the most effective channel for marketing arecanut, accounting for nearly 40% of the total marketed quantity. This was followed by Channel III accounting 31%, Channel IV with about 23%, and Channel I with 6.12% respectively (Vadivel and Ramasamy 2022). The distribution indicates the varying reliance on different marketing channels for selling arecanut, highlighted the dominant role of Channel II in this market.

Table 1. Effectiveness of various marketing channels of arecanut.

Channels	Arecanut marketed	
	Quantity (Quintal)	Percent
I	321	6.12
II	2075.5	39.59
III	1624	30.98
IV	1222	23.31
Total	5242.5	100

The marketing margin of the intermediaries

Marketing margin refers to the difference between the price at which a product is sold to the final consumer and the cost of the product when it leaves the farm or the initial production point. This margin encompasses all the costs and profits associated with the product's journey through the supply chain until it reaches the consumer. The intermediaries involved in the marketing of arecanut are Wholesaler, Commission agent, village traders and retailer. The marketing margin of the different middlemen are shown Table 2 below.

Table 2. Marketing margins of intermediaries in arecanut marketing system in different marketing channels (Rs /Qt). The figure in the parentheses indicates percentage to the total.

Intermediaries	Channel I	Channel II	Channel III	Channel IV
Wholesaler	-	1530.81 (35.1)	1460.81 (23.06)	-
Commission agent	-	-	-	1020.48 (31.29)
Village traders	-	2830.46 (64.9)	2747.64 (43.38)	-
Retailer	-	-	2125.87 (33.56)	2240.37 (68.71)
Total marketing margin		4361.27 (100.00)	6334.32 (100.00)	3260.85 (100.00)

Intermediaries Channel I Channel II Channel III Channel IV

The Table 2 reveals the distribution of marketing margins across four distinct identified channels, detailing the contributions of various intermediaries (Wholesaler, Commission Agent, Village Traders, and Retailer) in each channel. Each intermediary's contribution was listed both in absolute terms and as a percentage of the total marketing margin for that channel.

In Channel I, where the producer sold their goods directly to the consumer there was no involvement of the intermediaries. In Channel II, the marketing margin was entirely attributed to wholesaler and village traders, contributing Rs 1530.81 per quintal and 2830.46 per quintal respectively. The total marketing margin earned through this channel was estimated to be Rs 4361.27 per quintal.

The total of Rs 6334.32 per quintal of arecanut was the marketing margin earned through the channel III. Wholesaler participated with a margin of Rs 1460.81 per quintal, accounting for 23.06% of the total marketing margin, showed their involvement but less dominance in this channel. Village traders continued to a substantial presence with a margin of Rs 2747.64 per quintal, or 43.38% of the total, highlighted their importance even in more complex distribution networks. Retailer also played a significant role, with a margin of Rs 2125.87 (33.56% of the total), suggesting that retailers were key in the final sale to consumers, adding substantial value in this channel.

In Channel IV, the commission agent and the retailer shared the marketing margin, sharing the margin of Rs 1020.48 per quintal (31.29%) and Rs 2240.37 per quintal (68.71%) respectively. The total marketing margin earned through this channel was found to be Rs 3260.85 per quintals.

This table underscores the complexity of distribution networks and the varied importance of different intermediaries in adding value across channels. It highlights how products might take different paths from producers to consumers, each involving different sets of intermediaries and each adding a unique amount of value (as reflected in the marketing margins).

Price spread analysis of arecanut marketing

Price spread analysis is used to understand the behavior and potential direction of market prices by examining the differences (spreads) between various prices. It is a technique often utilized by traders and analysts to gain insights into market sentiment, demand and supply dynamics, and potential price movements. The concept of price spread can be applied in various contexts within the financial markets, including but not limited to stocks, commodities, currencies and bonds.

It is expressed as percentage of consumer's price.

$$\text{Price spread} = \frac{\text{Consumer price} - \text{Net price of producer}}{\text{Consumer price}} \times 100$$

Price spread includes cost involved in moving the product from the point of production to the point of consumption i.e marketing cost and profit of the various functionaries involved in moving the produce from the initial point of production till it reaches the ultimate consumer.

Price spread analysis is a valuable tool in the arsenal of financial market participants. It requires a nuanced understanding of market dynamics and should ideally be used in conjunction with other analysis methods to make informed trading or investment decisions. The price spread analysis is shown in Table 3 below:

Table 3 represents data regarding the sale of arecanut through four different marketing channels, focusing on the consumer price, total marketing costs, total marketing margins, and the producer's share in the consumer's rupee expressed in percentage terms. Channel I had the lowest consumer price and marketing cost among all the channels, and the producer's share in the consumer's rupee was found to be as highest at 88.46%. This result depicted that Channel I was the most efficient in terms of delivering value to the producer, which was possibly due to lower intermediary costs or more direct selling methods.

Table 3. Price spread analysis in arecanut marketing system for different marketing channels.

Items	Channel I	Channel II	Channel III	Channel IV
Value of arecanut sold at consumer price (Rs/Qt)	3380	8641.69	10654.33	6540.38
Total marketing cost (Rs /Qt)	389.88	823.5	938.59	558.74
Total marketing margins (Rs/Qt)	–	4361.27	6334.32	3260.85
Producers share in consumer's Rupee (%)	88.46	39.11	31.72	51.67

Channel II showed a significant increase in both the consumer price and the marketing margins compared to Channel I. The producer's share dropped to 39.11%, indicating that a larger portion of the consumer's rupee was found to be covering marketing costs and margins, which included intermediary fees, transportation and other expenses.

Channel III had the highest consumer price, marketing cost, and marketing margins among all channels. However, the producer's share in the consumer's rupee was the lowest at 31.72%. This indicates that while the arecanut was sold at a premium price, a significant portion of that price was consumed by the marketing chain, leaving the smallest percentage for the producer.

Channel IV had a consumer price and marketing margins that were mid-ranged compared to the other channels. The producer's share of 51.67% as higher than in Channels II and III but lower than in Channel I. This highlighted a more balanced distribution of the consumer's rupee between the producer and the marketing costs/margins.

The table illustrates the variance in efficiency and profitability for the producer across different marketing channels for arecanut. Channel I was the most efficient with the highest percentage of the consumer's rupee going to the producer, while Channel III was the least efficient from the producer's perspective, with the highest consumer price and marketing costs but the lowest producer share percentage. This analysis might help arecanut producers to take decisions about which marketing channels might be most beneficial for them.

Table 4. Marketing efficiency of various channel of arecanut marketing.

Particulars	Channel I	Channel II	Channel III	Channel IV
Consumer price (V)	3380	8641.69	10654.33	6540.38
Total marketing cost (I)	389.88	823.5	938.59	558.74
Shepherd's marketing efficiency: ME=(V/I)-1	7.67	9.49	10.35	10.71

Marketing efficiency

The marketing efficiency of four channel of arecanut marketing has been computed by using the Shepherd's formula and presented in Table 4. The table reveals that the marketing efficiency of various groups in Channel IV was estimated to be highest with 10.71. This was followed by the Channel III with 10.35, Channel II with 9.49 and channel I with 7.67 respectively. Therefore, from the above discussion, it can be summarized that the Channel IV was the most efficient channel in arecanut marketing.

SUGGESTIONS

Given the findings from the analysis of arecanut marketing channels, the following suggestions aim to enhance the efficiency, profitability, and fairness of arecanut marketing for all stakeholders involved:

1. Direct marketing channels may be encouraged to consumers. This might involve setting up farmer's markets, leveraging online platforms, or forming producer cooperatives to reduce dependency on intermediaries and increase the producer's share of the consumer rupee.

2. Strengthening or establishing of producer cooper-

atives may significantly enhance bargaining power against intermediaries, reduce individual marketing costs, and facilitate access to larger markets. Cooperatives might also play a crucial role in standardizing quality, which can help achieve better prices.

3. Improvement of rural market infrastructure may be encouraged to enable efficient transportation and storage of arecanut production. Enhanced infrastructure can reduce post-harvest losses, decrease transportation costs, and make direct marketing channels more viable for producers.

4. Training and capacity-building programs may be conducted by the concerned departments for arecanut producers on market analysis, digital marketing, quality standards, and negotiation skills. Educated and informed producers are better equipped to choose the most profitable and efficient marketing channels.

5. Digital market places may be used to reduce marketing costs and increase transparency, allowing producers to get better prices.

6. Support initiatives for value addition and processing of arecanut at or near the production sites may be encouraged.

CONCLUSION

The comprehensive analysis of the marketing channels, marketing margins of intermediaries, and the price spread analysis of arecanut marketing sheds light on the complex dynamics of agricultural marketing systems. The study clearly delineates the variations in efficiency, cost implications, and profitability for producers across different marketing channels.

Channel I, characterized by the direct sale of arecanut from producers to consumers, emerges as the most efficient and profitable route for producers. It not only ensures the highest share of the consumer's rupee for the producer at 88.46% but also minimizes the marketing cost and eliminates intermediaries. This channel underscores the potential benefits of direct marketing strategies in agricultural products, offering insights for producers on reducing cost and enhancing profitability.

Channel II and Channel III, involving multiple intermediaries like village traders, wholesalers, and retailers, significantly increase the consumer price and marketing margins but reduce the producer's share to 39.11% and 31.72% respectively. These channels highlighted the cost and efficiency implications of traditional supply chains, where each intermediary adds to the final cost borne by the consumer, reducing the share accruing to the producer. The data point towards the need for optimizing these channels, perhaps by streamlining operations or enhancing the bargaining power of producers.

Channel IV presented a mixed scenario where the involvement of commission agents and retailers leads to a producer's share of 51.67%. This channel suggests an intermediate level of efficiency and profitability, indicating the potential for balanced marketing strategies that involve intermediaries while still ensuring a reasonable share for the producer.

The analysis highlighted the significance of understanding and optimizing marketing channels to enhance the profitability and efficiency of agricultural marketing. For policymakers, this analysis highlights the importance of supporting direct marketing channels, providing training and infrastructure to producers to access these channels, and regulating intermediary margins to ensure fair prices for both producers and consumers. For producers, the insights emphasize t need to carefully choose their marketing channels based on cost, efficiency, and profitability considerations.

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