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Improving the Cardamom Marketing: Assessing the Marketing Efficiency of Cardamom in Theni District, Tamil Nadu

**Sreedhar R. ^{a++}, Abbadasari Kiran Kumar ^{a#},
Bala Venkata Ganesh Yakkala ^{a#}, Nithish Narayn K. ^{a#},
Priyadharshini R. ^{a#}, Punitha M. ^{a#}, Shruthi R. ^{a#}
and Yamuna A. ^{a#}**

^a College of Agricultural Technology, Gullapuram, Theni -625 562 India.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Introduction: The cardamom is the oldest spices and belongs to *Zingiberaceae* family. It is cultivated in the thick shady, rainy forests of the Western Ghats of the South India. The major growing states are Kerala, Karnataka and Tamil Nadu in reference to green cardamom (Small) and

⁺⁺ Assistant Professor;

[#] Undergraduate Students;

*Corresponding author: E-mail: ramsreedhar126@gmail.com;

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its botanical name *Elettaria cardamomum*. The part of Theni district is constituted by thick vegetations of hills of Western Ghats and Cumbum Valley at Bodi and Uthamapalayam taluk. In these areas, the farmers are cultivating the Cardamom. This study aims to find out the socio-economic characters, marketing behavior, assess the marketing efficiency of different supply channels and ranking the major problems faced by farmers to market their agricultural product.

Methodology: The author used both primary and secondary data. The maximum area covered by cardamom was used as criteria for selecting the blocks. Purposive random sampling method was used to select the villages and the data was collected from the 60 farmers and other stakeholders using well-structured questionnaire. The descriptive statistics and percentage analysis were used for interpreting the results. For marketing analysis, marketing costs, marketing margin and price spread were estimated. For marketing efficiency, Acharya's method (2003) was used.

Results: The 34 respondents with 56.67 percent were found to be 21-35 years of age group. It was found that 7 respondents only with 11.67 percent and 26 respondents with 43.33 percent were found to be illiterate and the annual turnover of 1-5 lakh respectively. Using Acharya's method (2003), the marketing efficiency of the channel I, II, III were 5.92, 9.97, 7.27 respectively. The price spread in the marketing channel I, II, and III are Rs. 295.94 per Kg, Rs. 163.54 per Kg and 229.48 per Kg respectively. It was shown that channel II is efficient due to high efficiency value and less price spread. Producer in the marketing channel II had highest share (90.88) in consumer rupee. The result showed that the Lack of timely adequate funds were major problem faced by the cardamom farmers with garret mean score of 65.23. The financial problems were common in the respondents.

Conclusion: Marketing channel II was efficient because the spice auction center plays a vital role in protecting the farmer as well as consumer from the malpractices and exploitation of Intermediaries and to provide the transparency in trading operations of cardamom. The government may increase the financial assistance or technical support program to support the cardamom growers of the Tamil Nadu. The board should educate the farmers to grade or sort the cardamom before entering the e-Auction center to get better price for better quality of the commodity and to expand the pilot project of separate e-auctions for lab tested cardamom for artificial colours and pesticidal residues to potential markets of Tamil Nadu.

Keywords: Cardamom; Theni district; marketing efficiency; price spread; spices board e-auction center.

1. INTRODUCTION

The cardamom is a spice that is part of (ginger) *Zingiberaceae* family [1]. It is commonly used in Indian and eastern culinary for its unique flavor and its medicinal purpose [2]. It is used in curries, desserts, meat dishes and beverage such as Tea. India is one of the leading producers of cardamom in the world [3]. It is cultivated in the evergreen rainy forests of the western ghats in south India [4]. The ideal conditions required is thick shady areas. The major growing states of green cardamom (small) are Kerala, Karnataka and Tamil Nadu [2]. In Tamil Nadu, Theni is major growing district and market are Bodinayakanur, Thekkaddy, Kumily and Kumbam. The research is carried out to find out the socio-economic characters, marketing behavior, assess the marketing efficiency of different supply channels and ranking the major problems faced by farmers to market their commodity.

2. METHODOLOGY

The author used both primary and secondary data. Theni district is located in Tamil Nadu, South India. The maximum area covered by cardamom was used as criteria for selecting the blocks. For selecting sample farmers, a purposive random sampling method was used. The selected blocks are Bodi and K Myladumparai [5]. purposive random sampling method was used to select the villages and the data was collected from the 60 cultivators and other stakeholders using well-structured questionnaire. The descriptive statistics and percentage analysis were used for interpreting the results. For marketing analysis, marketing costs, marketing margin and price spread were estimated. For marketing efficiency, Acharya's method (2003) was used.

- A) Marketing Margin: $MM_i = SP_i - (PP_i + MC_i)$, Where in: MM_i = Marketing margin of the i^{th} middlemen SP_i = Selling price of the

- i^{th} middlemen, PP_i = Purchase price of the i^{th} middlemen MC_i = Marketing cost incurred by the i^{th} middlemen [6]
- B) Price spread = Purchase price of consumer - Net sale price of producer [1]
- C) A modified form of Marketing efficiency (MME) = $FP / (MC + MM)$ Where, MC = Total Marketing Costs, MM = Total Marketing Margins, and FP = Net-Prices received by the farmer [7]
- D) Producers share in consumer's rupee It is the price received by the farmer expressed as a percentage of the retail price (the price paid by the consumer) $P_s = (P_f / P_r) \times 100$, Where, P_s = Producers share in consumer's rupee, P_f = Price received by the farmer, P_r = Price paid by the consumer [1]
- E) Garrett's ranking technique: Percent position = $(100 (R_{ij} - 0.5)) / N_j$ Where, R_{ij} = Rank given for the i^{th} variable by j^{th} respondents N_j = Number of variables ranked by j^{th} respondents [8].

3. RESULTS AND DISCUSSION

3.1 Socio Economic Character of Cardamom Growers in Theni District

The 34 respondents with 56.67 percent were found to be under the age group of 21-35 years, 21 respondents with 35 percent were found to be between 36-50 years. It was found that 7 respondents with 11.67 percent were found to be illiterate, 36 respondents with 60 percent were had secondary education, 14 respondents and other 3 respondents were educated as Higher secondary and Graduation respectively. It was reported that, 26 respondents with 43.33 percent were found to be under the annual turnover of 1-5 lakh, 20 respondents with 33.33 percent were found to be under the annual turnover 5-10 lakh. The diversification of income source and multiple occupation was brought them high turnover for 13 respondents. Also, 45 respondents with 75 percent belong to nuclear family, fifteen respondents with 25 percent belong to joint family. It was found that, 27 respondents with 45 percent have less than 5acre land area under cardamom cultivation, 11 respondents with 18.33 percent have 10- 20acres of land area under cardamom cultivation. It was reported that, 11 respondents with 18.33 percent have farming experience below 15 years, 49 respondents with 81.67 percent have farming experience above 15 years. It was revealed that, 42 respondents with 70 percent occupational status are carrying out

farming alone, 18 respondents with 30 percent are performing both farming and other occupations. The results were similar in case of previous study [8].

3.2 Marketing Channels

- I) Farmers \longrightarrow Village Trader \longrightarrow Spices Board Auction Centre \longrightarrow Primary Wholesaler \longrightarrow Secondary Wholesaler \longrightarrow Retailer \longrightarrow Consumer
- II) Farmer \longrightarrow Spices Board Auction Centre \longrightarrow Primary Wholesaler \longrightarrow Secondary Wholesaler \longrightarrow Retailer \longrightarrow Consumer
- III) Farmer \longrightarrow Village Trader \longrightarrow Aggregators \longrightarrow Secondary Wholesaler \longrightarrow Retailer \longrightarrow Consumer

3.3 Price Spread of Cardamom in Theni District

In marketing channel, I, the producer received Rs. 1995.76 and Rs. 1960.74 as Gross price and Net price per kg of cardamom respectively. The primary wholesaler purchased cardamom for Rs. 2128.16 per kg and has spent Rs. 28.34 per Kg for marketing and earned Rs. 38.12 per Kg as Marketing margin. Secondary wholesaler earned Rs. 30.45 per kg as Marketing margin. The retailer earned Rs. 36.40 per kg as a marketing margin by selling the commodity to the consumer. The total marketing cost and Total marketing margin in the channel I is Rs. 143.29 and Rs. 187.67 per Kg respectively. The price spread in the marketing channel I is Rs. 295.94 per Kg. In marketing channel 2, the producer sold the commodity in spice auction center and getting price Rs. 2028.12 Per kg. In this channel, the primary wholesaler bids the commodity and bought the commodity for the Rs. 2028.12 per kg. He incurred Rs. 28.34 as a marketing cost and earned rupees 38.12 per kg as a marketing margin and sold the commodity to the secondary wholesaler. He has to store the bulk quantity of commodity in storage godown for a while hence he had little more marketing cost the Aggregators. the retailer incurred Rs.12.45 per kg as a marketing cost and Rs. 36.40 per kg as a marketing margin and he sold the commodity to the consumer for Rs. 2191.66 per kg. He spent more on primary packaging for direct consumption. The Total marketing cost and Marketing margin incurred in the channel II was Rs. 94.80 and Rs. 104.97 per Kg respectively. The price spread in the marketing channel II was Rs. 163.54 per Kg. In marketing channel III, the Producer has sold the commodity to the village trader for the Rs. 2002.32 per kg. the village

trader incurred the marketing cost for Rupees 23.40 and earned Rs. 47.50 as Marketing Margin. The Aggregators bought the commodity from the Village trader for Rs. 2073.22 per Kg and spent Rs. 26.30 per Kg and earned Rs. 35.20 as Marketing cost and Marketing Margin. The Retailer incurred Rs. 12.45 as Marketing cost and earned Rs. 36.40 per Kg as Marketing

Margin. The consumer bought the commodity from Retailer for the Price Rs. 2231.80 per Kg. the Total marketing cost was Rs. 120.16 per Kg and The Marketing Margin was Rs. 149.55 per kg respectively. it clearly indicated that high share of consumer price earned as marketing margins to the intermediaries [9]. The price spread in the Marketing channel III is 229.48 per Kg [4].

Table 1. Socio economic character of cardamom growers in Theni District

S. No	Particulars	Number	Percentage
A	Age		
1	Upto 20 Years	1	1.67
2	21-35 years	34	56.67
3	36-50 years	21	35.00
4	above 50 years	4	6.67
B	Education		
1	Illiterate	7	11.67
2	Secondary School	36	60.00
3	Higher secondary	14	23.33
4	Graduation	3	5.00
C	Annual turn over		
1	Upto 1 lakh	1	1.67
2	1 lakh - 5 lakh	26	43.33
3	5 lakh - 10 lakh	20	33.33
4	Above 10 lakh	13	21.67
D	Family Type		
1	Nuclear	45	75.00
2	Joint	15	25.00
E	Area under cardamom		
1	Less than 5 Acre	27	45.00
2	5 to 10 Acre	11	18.33
3	10 to 20 Acre	21	35.00
4	Greater than 20 Acre	1	1.67
F	Farming Experience		
1	Below 15 years	11	18.33
2	Above 15 years	49	81.67
G	Occupation		
1	Farming Alone	42	70.00
2	Farming + Others	18	30.00
		60	100.00

Source: primary data and author's calculation (2024)

Table 2. Price Spread of Cardamom in Theni District

S. No	Particulars	Price (Rs/Kg)		
		Channel I	Channel II	Channel III
1.	Farmers			
	Net Price Received	1960.74	1991.89	1962.09
	Marketing Cost	35.02	36.23	40.23
	Gross Price Received	1995.76	2028.12	2002.32
2.	Village Trader			
	Price Paid	1995.76	-	2002.32
	Marketing Cost	23.40	-	23.40
	Marketing Margin	47.50	-	47.50
	Price Received	2066.66	-	2073.22

S. No	Particulars	Price (Rs/Kg)		
		Channel I	Channel II	Channel III
3.	Aggregators			
	Price Paid	2066.66	-	2073.22
	Marketing Cost	26.30	-	26.30
	Marketing Margin	35.20	-	35.20
	Price Received	2128.16	-	2134.72
4.	Primary Wholesaler			
	Price Paid	2128.16	2028.12	-
	Marketing Cost	28.34	28.34	-
	Marketing Margin	38.12	38.12	-
	Price Received	2194.62	2094.58	-
5.	Secondary Wholesaler			
	Price Paid	2194.62	2094.58	2134.72
	Marketing Cost	17.78	17.78	17.78
	Marketing Margin	30.45	30.45	30.45
	Price Received	2242.85	2142.81	2182.95
6.	Retailer			
	Price Paid	2242.85	2142.81	2182.95
	Marketing Cost	12.45	12.45	12.45
	Marketing Margin	36.40	36.40	36.40
	Price Received	2291.70	2191.66	2231.80
7.	Consumer			
	Price Paid	2291.70	2191.66	2231.80
	Price Spread	295.94	163.54	229.48

Source: primary data and author's calculation (2024)

Table 3. Marketing Efficiency of Cardamom in Theni District

S. No	Particulars	Unit	Channel I	Channel II	Channel III
1.	Consumer's purchase Price	Rs. / Kg	2291.7	2191.66	2231.80
2.	Total Marketing cost	Rs. / Kg	143.29	94.80	120.16
3.	Total Marketing Margin	Rs. / Kg	187.67	104.97	149.55
4.	Net Price Received by Producer	Rs. / Kg	1960.74	1991.89	1962.09
5.	Value added	Rs. / Kg	330.96	199.77	269.71
A	Marketing efficiency	Ratio	5.92	9.97	7.27
C	Producers' share in consumer rupee	Percent	85.55	90.88	87.91

Source: primary data and author's calculation (2024)

Table 4. Marketing Problem Faced by Cardamom Farmers in Theni District

S. No	Problems	Mean score	Rank
1	Lack of timely adequate funds	65.23	1
2	High fluctuation in Price	61.00	2
3	Unaffordable Marketing cost	53.90	3
4	Lack of transportation facilities	43.82	4
5	Lack of storage facilities	40.18	5
6	Problems in auction	37.87	6

Source: primary data and author's calculation (2024)

3.4 Marketing Efficiency of Cardamom in Theni District

Using Acharya's method (2003), the marketing efficiency of the channel I, II, III are 5.92, 9.97, 7.27 respectively. It shows that channel II is efficient because the spice auction center plays

vital role in the channel which cuts the part of marketing cost and marketing margin than other channels. The producers' share in consumer rupee of the marketing channel I, II, and III was 85.55, 90.88 and 87.91 percent. It indicates that producer in the marketing channel II has highest share in consumer rupee. Spice auction center

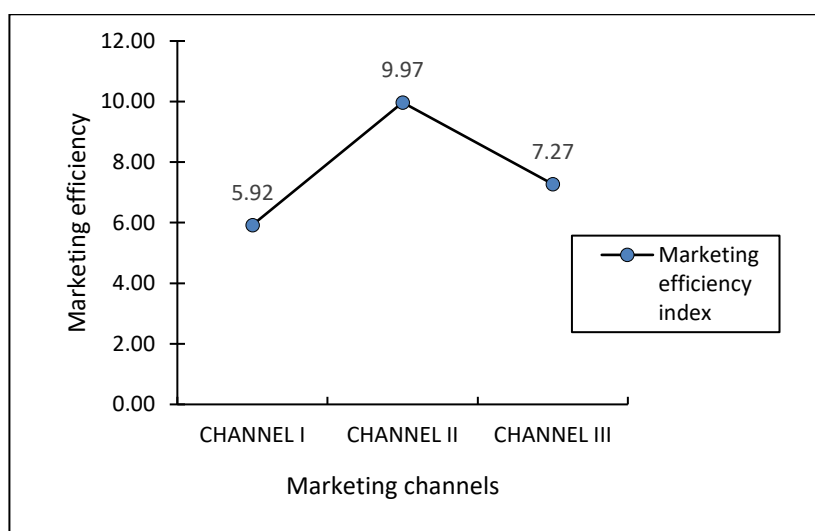


Fig. 1. Marketing Efficiency of Cardamom in Theni District

Source: primary data and author's calculation (2024)

as governmental Organization has primary objective to protect the farmer as well as consumer from the malpractices and exploitation of Intermediaries and to provide the transparency and functional convince in trading operations of cardamom. The marketing efficiency of the cardamom was given in Fig. 1.

3.5 Marketing Problem Faced by Cardamom Farmers in Theni District

The result showed that the lack of timely adequate funds was the major problem faced by the cardamom farmers with garret mean score of 65.23. The financial problem is followed by Price fluctuations with garret mean score of 61.00 [10]. The unaffordable marketing cost with mean score of 53.90 is third rank followed by Lack of transportation facilities with mean score 43.82 as fourth, lack of storage facilities with mean score of 40.18 at fifth and Problems in auction at last with mean score of 37.87. The government need to support the farmers using reasonable prices to avoid the exploitation of the farmers by Intermediaries. The board should educate the farmers to grade or sort the cardamom before entering the e- Auction centre to get better price for better quality of the commodity. The board may certify the quality of the commodity before commencement of the auction with high transparency and appropriate standards and procedure [2].

4. CONCLUSION

It is concluded from the study that marketing channel II is efficient. It has shown that channel II

is efficient because the spice auction center plays vital role in the channel which cuts the part of marketing cost and marketing margin than other channels [11]. Spice auction center as governmental Organization has primary objective to protect the farmer as well as consumer from the malpractices and exploitation of Intermediaries and to provide the transparency and functional convince in trading operations of cardamom [12]. Both the farmer and the consumer are benefitted [13]. The producers' share in consumer rupee of the marketing channel I was 90.88 percent. It indicates that producer in the marketing channel II has highest share in consumer rupee. The result showed that the lack of timely adequate funds was the major problem faced by the cardamom farmers with garret mean score of 65.23. The financial problems are common in the respondents [8]. The government may increase the financial assistance or technical support program in the special concern to cardamom growers of the Tamil Nadu. The board should educate the farmers to grade the cardamom before entering the e Auction center to get better price for better quality of the commodity [2]. The spices board and Department of Horticulture should create awareness programs on recently launched special e-auctions of lab-tested Small Cardamom on pilot basis to facilitate a separate marketing channel for cardamom tested in lab for artificial colours and pesticide residues [14]. Pilot project should be launch on all potential markets of the Cardamom in south India. This would help in the increase of participation of the cardamom growers and traders in this innovative channel [11].

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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