Articles

Arecanut Marketing Channels: Determining Factors and Effectiveness in Kasaragod District of Kerala

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Abstract

Arecanut is an important commercial crop in India and finds a place in all religious, social and cultural functions. Cultivation of arecanut is mostly confined to the states of Karnataka, Kerala and Assam, but its consumption spread all over the country. India is considered as the largest arecanut producing country in the world. The share of Karnataka, Kerala and Assam in terms of total area under cultivation and production of arecanut is around 88 percent. In Kerala, the area under arecanut is spread in almost all districts and the Kasaragod district ranks first. Arecanut marketing is the systematic performance of business activities related to processing, grading, standardizing, assembling, transporting, storing, financing, selling and distributing to make it available to the ultimate consumers. Market is a means or a channel for the free flow of products to the consumers, where the traders and consumers are actively participated. Marketing channels are the routes through which arecanut produce moves from the hands of producers to the ultimate consumers and so, in this study we analysed the factors determining arecanut marketing and identified the effective marketing channels in the Kasaragod district of Kerala. Estimate of marketing channels and its determinants, like sales price, farming experience and quantity marketed revealed that marketing channel I (Producer → local market) is most effective. The regression coefficients of land holding, farming experience and sales price were positively associated with quantity marketed. It is suggested that farmers should adopt modern practices and techniques to increase production and productivity of the crop. Agriculture department should provide better education to the farmers on arecanut production, and marketing. It is recommended that the production related problems of the farmers should be addressed and solved.

Keywords: *Kasaragod, arecanut, marketing channels, effectiveness.*

1. Introduction

India ranks first in the world in terms of production of arecanut. In the country, share of Karnataka, Kerala and Assam is very high compared to other states. In Kerala, the area under arecanut is spread in almost all districts. Kasaragod, Malappuram and Wayanad districts stands on top positions in area under cultivation. Kasaragod district ranks first in arecanut production in the state. Still, most of the farmers in the district are facing problems mainly related to marketing of the crop. In marketing, existence of various intermediaries leads to decrease in farmers share in consumer rupee. Arecanut farmers' share in consumer rupee is far lower compared to other crops like cereals, pulses, oilseed, vegetable and fruits, where farmers have higher percentage of consumer rupee.

1.1. Objectives of the study

The main objectives of the study are:

(i) To identify the different marketing channels.

(ii) To analyse the determining factors and effective marketing channel of arecanut in the Kasaragod district of Kerala.

1.2. Review of literature

Ramappa (2013), Karunakaran & Gangadharan (2013) and Karunakaran (2013) examined the trend, cost of production and method of sale of arecanut in Kerala and other states of India. Naagarajan & Meenakshi (2016) examined the production and export of arecanut in India. Gupta *et al.* (2018) also

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examined perspectives on arecanut with some global implications. Adejo *et al.* (2011), Anand *et al.* (2012) and Bhagat & Dhar (2013) conducted study on dynamics of arecanut supply chain. Karunakaran (2014) analyzed the arecanut marketing in Kerala with special focus on Chennagiri and Central Arecanut and Cocoa Marketing and Processing Co-operative (CAMPCO) Limited, Mangalore. Kirankumar R. Patil *et al.* (2012) and Karunakaran (2014) studied the degree of supply response of arecanut with respect to price and non-price factors.

2. Methodology

The study is based on both primary and secondary data. Primary data was collected from two Panchayaths, namely, Manjeshwar and West Eleri of Kasaragod district. From both the Panchayaths, a sample of 60 farmers was selected to collect data. The data related to marketing aspect of arecanut was collected using specially designed pre-tested schedule. Secondary data was collected from various published and unpublished reports related to arecanut marketing.

In order to determine the factors affecting the quantity marketed of arecanut and the extent of actual impact of each factor, multiple linear function models have been used.

$$Y=b_0+b_1X_1+b_2X_2+b_3X_3+b_4X_4+b_5X_5+b_6X_6+b_7X_7 \ldots\ldots (1)$$

Where, Y = Quantity marketed of arecanut;

X_1 = Total production (in quintal),

X_2 = Family size (in number),

X_3 = Land holding (in acre),

X_4 = Sales price (in Rs./quintal),

X_5 = Family consumption (in Rs.),

X_6 = Farming experience (in years),

X_7 = Non-farming income (in Rs),

b_0 = Regression constant or intercept; b_1, b_2, b_3..... b_7 are regression coefficients.

3. Results and Discussion

Arecanut is an important plantation crop grown in India mainly by the small and marginal farmers. India is one among the leading producers of arecanut with an area of 4.97 lakh hectares and a production of 8.33 lakh tonne (Table 1). The cultivation of arecanut is mostly confined to Karnataka, Kerala and Assam and to a smaller extent in Tamil Nadu, West Bengal, Maharashtra, Andhra Pradesh, Meghalaya, Goa, Tripura, Puducherry, Mizoram, Andaman and Nicobar Islands..

3.1. Arecanut marketing and processing scenario

Arecanut production is location-specific and its consumption is wide spread. Prior to 1980s, it was consumed mostly in the raw form to prepare either traditional Tambulam or Beeda. The production was not sufficient to meet even the internal demand up to the year 1965. Emergence of value added products, such as Scented Supari and Gutkha have given a real boost to the arecanut economy in India Gupta *et al.*, 2018).

TABLE 1: AREA, PRODUCTION AND PRODUCTIVITY OF ARECANUT IN INDIA

Year	Area (in '000 hectare)	Production (in '000 metric tonne)	Productivity (in metric tonne/hectare)
2001-02	221.8	251.0	1.1
2002-03	334.8	409.3	1.2
2003-04	334.8	409.3	1.2
2004-05	365.0	439.2	1.2
2005-06	364.3	452.7	1.2
2006-07	381.1	483.1	1.3
2007-08	382.7	483.3	1.3

TABLE 1: AREA, PRODUCTION AND PRODUCTIVITY OF ARECANUT IN INDIA-*CONTD.*

Year	Area (in '000 hectare)	Production (in '000 metric tonne)	Productivity (in metric tonne/hectare)
2008-09	386.6	476.0	1.2
2009-10	387.1	481.3	1.2
2010-11	400.1	478.0	1.2
2011-12	400.1	478.1	1.2
2012-13	463.9	680.7	1.5
2013-14	446.4	608.7	1.4
2014-15	452.0	622.0	1.4
2015-16	450.2	746.7	1.6
2016-17	474.4	713.8	1.5
2017-18	454.7	722.9	1.6
2018-19	496.7	833.0	1.7

Source: Agricultural Statistics (2018-19), Government of India.

There are more than 15 Arecanut co-operative marketing societies among whom Malnadu Areca Marketing Co-operative Society (MAMCOS) Limited in Shivamogga district, South Kanara Agricultural Produce Co-operative Marketing Society (SKACMS) in Mangalore, the Totagaras' Co-operative Sales Society (TCSS) in Sirsi, Mangalore Agriculturist Sahakara Sangha (MASS) Limited, Thotada Uthpanna Maarata Co-operative Society (TUMCOS), Chennagiri and Central Arecanut and Cocoa Marketing and Processing Co-operative (CAMPCO) Limited, Mangalore are notable. Consumption of arecanut in India has increased tremendously since 1991-92 with an annual growth rate of around six percent (Gupta *et al.*, 2018).

TABLE 2: PRODUCTION OF ARECANUT IN VARIOUS STATES IN INDIA

S. No.	State	Production (in 000' Tonne)	Percentage share
1.	Karnataka	517.35	63.16
2.	Kerala	130.10	15.88
3.	Assam	77.90	9.51
4.	Meghalaya	24.99	3.05
5.	West Bengal	22.85	2.79
6.	Tripura	20.41	2.49
7.	Tamil Nadu	10.14	1.24
8.	Mizoram	7.27	0.89
9.	Maharashtra	3.41	0.42
10.	Andhra Pradesh	2.37	0.29
11.	Nagaland	2.30	0.28

Source: National Horticulture Board (NHB).

3.2. Arecanut cultivation in Kerala

In Kerala, the area under the crop is spread in almost all districts with a total of approx 94.580 thousand hectare. Kasaragod (21.35 percent), Malappuram (18.96 percent) and Wayanad (12.84 percent) districts stands top in the total area under cultivation as shown in table 3.

TABLE 3: DISTRICT-WISE CULTIVATION OF ARECANUT IN KERALA

S. No.	District	Area (in hectare)
1.	Kasaragod	20192
2.	Malappuram	17929
3.	Wayanad	12147
4.	Kannur	9493
5.	Kozhikkode	9445
6.	Palakkad	7283
7.	Trissur	5925
8.	Ernakulam	3946
9.	Idukki	1928
10.	Kollam	1635
11.	Kottayam	1409
12.	Alappuzha	1304
13.	Pathanamthitta	1053
14.	Thiruvananthapuram	891

Source: Agricultural Statistics (2018-19), Government of India.

3.3. Method of sale of arecanut in Kerala

In Kerala, arecanut growers followed different methods of sale. It includes short-term contract sale of garden, long-term contract sale of garden, sale to the traders in the village after harvest, sale to the wholesalers in the market by the producers, sale to the co-operative societies and direct sale to the consumers by the producers (Karunakaran, 2018).

3.4. Marketing channels for arecanut

Market is a means or a channel for the free flow of products to the consumers, where the traders and consumers actively participate. Marketing channels are the routes through which arecanut produce moves from the hands of producers to the ultimate consumers (Karunakaran, 2014). Operations involved in the movement of arecanut from the producer to the consumers is grouped under two main phases, namely, assembling (primary and secondary market) and distribution (terminal market). The practice of consuming raw arecanut both in their fresh and processed form is prevalent in the entire producing regions but the processed form of value based arecanut is consumed more and more out of the production belt. The prevailing marketing channels from the place of production to the place of consumption can be identified as:

(I) Producer → Itinerant trader → Retail traders → Secondary market traders → Bulk or wholesale traders

(II) Producer → Retail traders → Village merchants → Secondary market traders → Wholesale trader

(III) Producer → Traders → Cooperative Institutions → Selling representatives → Wholesale traders

(IV) Producer → Locally settled outside traders

(V) Producer → Secondary market traders

(VI) Producer → Co-operative institution

(VII) Producer → Outside traders settled in the secondary market

(VIII) Producer → Wholesale traders → Retail traders → Panwalas → Consumer

(IX) Producer → Processing unit → Household and purchase → Line sales through bicycles → Panwalas

(X) Producer → Panwalas → Consumer

3.5. Intermediaries in the marketing channels for arecanut

The role of market intermediaries occupied a significant part in the market of arecanut. They were involved at primary, secondary and terminal marketing process.

(i) Primary Market: It is an arrangement for the marketing of arecanut where produce of arecanut flows from the grower to the

trader of primary market with the help of intermediaries, like itinerant village traders, primary wholesaler, retail trader, primary co-operative society, like CAMPCO.

(ii) **Secondary Market:** It is working as media between the primary markets and terminal markets and it is an arrangement of wholesale market where arecanut produce is handled in large quantities with the help of specialized market functionaries to transport the arecanut over to the terminal point. It includes wholesalers, service co-operatives, selling representatives, and the brokers.

(iii) **Terminal Market:** In this market, arecanut is assembled for further intra and inter-state distribution and for exports. The terminal marketing channel for arecanut is associated with number of main functionaries like sales representatives, brokers, wholesale traders, CAMPCO sales departments, retail traders processing units, line sales, panwalas and pan shop owners.

3.6. Area (land holdings) and production of arecanut in percentage

Table 4 indicates that 26.7 percent of farmers are having land above 4.50 acre, about 53 percent have above 3.50 acre, only 3.3 percent of farmers having land below 0.5 acre. About 15 percent of farmers produce above 40 quintals of arecanut and 30 percent produce above 35 quintals. The remaining farmers produce below 35 quintals of arecanut.

TABLE 4: AREA AND PRODUCTION OF ARECANUT

Area		Production	
Land holdings (in Acre)	**Percentage**	**Quantity (in Quintal)**	**Percentage**
Below 0.5	3.3	Below 1	5.0
0.5 – 1	5.0	1 – 5	6.7
1.01 – 1.50	5.0	5.1 – 10	6.7
1.51 – 2	6.7	10.1 – 15	8.3
2.01 – 2.50	8.3	15.1 – 20	8.3
2.51 – 3	8.3	20.1 – 25	10.0
3.01 – 3.50	10.0	25.1 – 30	11.7
3.51 – 4	13.3	30.1 – 35	13.3
4.01 – 4.50	13.3	35.1 – 40	15.0
Above 4.50	26.7	Above 40	15.0
Total	100.0	Total	100

Source: Primary data.

3.7. Marketing channels of arecanut in the study area

The Three main marketing channels identified in the area of study are:

(i) Channel I: Producer → Local market;

(ii) Channel II: Producer → CAMPCO;

(iii) Channel III: Producer → Village merchants → Consumer.

TABLE 5: MARKETING CHANNELS OF ARECANUT IN THE STUDY AREA

Marketing channel	Number of farmers	Percentage
Channel I	42	70.0
Channel II	11	18.3
Channel III	7	11.7
Total	60	100.0

Source: Primary data.

Among the three, in the marketing channel I, there is the existence of local market. In marketing channel II, no local market exists and producer directly sells to CAMPCO. In channel III producer sells arecanut to consumer through village merchants. 70 percent of the farmers selling arecanut directly to the local market, 18.3 percent are selling directly to the CAMPCO and 11.7 percent sell to the consumers through village merchants (Table 5).

TABLE 6: DETERMINING FACTORS OF ARECANUT MARKETING IN THE STUDY AREA

Sales price (Rs./Quintal)	**Channel I***	**Channel II***	**Channel III***	**Total***
30000.00	70	18	0	88
25000.00	0	0	12	12
Total	70	18	12	100
Farming experience (in Years)	**Channel I***	**Channel II***	**Channel III***	**Total***
Below 10	0	0	12	12
11-20	0	13	0	13
21-30	17	5	0	22
31-40	22	0	0	22
Above 40	31	0	0	31
Total	70	18	12	100
Quantity marketed (in Quintal)	**Channel I***	**Channel II***	**Channel III***	**Total***
Below 1	0	0	5	5
1-5	0	0	7	7
5.1-10	0	7	0	7
10.1-15	0	8	0	8
15.1-20	5	3	0	8
20.1-25	10	0	0	10
25.1-30	12	0	0	12
30.1-35	13	0	0	13
35.1-40	15	0	0	15
Above 40	15	0	0	15
Total	70	18	12	100
Regression results for determinants				
R	**R square**	**Adjusted R square**	**Standard error**	
0. 997	0.993	0.992	0.26031	

TABLE 6: DETERMINING FACTORS OF ARECANUT MARKETING IN THE STUDY AREA-*CONTD.*

Coefficients					
Model	Un-standardized coefficients		Standardized coefficients	t	Significance
	B	Standard error	Beta		
Constant	-0.179	0.342	-	-0.524	0.602
Total production	0.944	0.047	0.967	20.017	0.000
Family size	-0.008	0.041	-0.003	-0.187	0.853
Area of land holding (acre)	0.023	0.039	0.021	0.588	0.559
Sales price (Rs./qt)	0.009	0.068	0.003	0.131	0.896
Family consumption	0.142	0.117	0.024	1.207	0.233
Non-farming income	-0.068	0.039	-0.026	-1.732	0.089
Farming experience (year)	0.049	0.045	0.021	1.087	0.282

Source: Primary data; Output from regression analysis.
NOTE: *indicates percentage of farmers in marketing channels.

3.8. Determining factors of arecanut marketing

There are many determining factors of arecanut marketing, like sales price, farming experience, type of land, rainfall, source of irrigation, variety of crops, usage of machinery, total production and quantity marketed. Among these sales price, farming experience and quantity marketed are very important. Most of the farmers followed marketing channel I (70 percent). Table 6 indicates the comparison between marketing channels and the determining factors like sales price, farming experience and quantity marketed. It is observed from table 6 that among the 3 marketing channels, marketing channel I is most effective. Table 6 also indicates the regression results and the analysis showed that the coefficient was 0.944 showing positive relationship. The regression coefficients of land holding and sales price were positively associated with quantity marketed. The regression coefficient of farming experience was also positively associated with quantity marketed indicating that farmers with higher experience in farming marketed more arecanut output.

4. Conclusion and Suggestions

Arecanut cultivation is mainly confined to Karnataka, Kerala and Assam and the share of these states in the country's total area under arecanut cultivation and production is tremendously high. In Kerala, Kasaragod ranks first in arecanut production. There are many intermediaries in the marketing of arecanut which include local market, CAMPCO and village merchants. Three marketing channels identified are: channel I (Producer → local market), channel II (Producer → CAMPCO) and channel III (Producer → village merchant → consumer). Estimate of marketing channels and its determinants, like sales price, farming experience and quantity marketed revealed that marketing channel I (Producer → local market) is most effective. Among farmers studied, channel I received higher sales price per quintal. Determinants of quantity marketed like family size, land holding, sales price, family consumption, non-farming income and farming experience are very important. The regression coefficients of land holding, farming experience and sales price were positively associated with quantity marketed.

Based on above analysis following suggestions can be given:

i. Farmers should adopt modern practices and techniques to increase production and productivity of the crop.

ii. Research and development in evolving suitable high yield variety of the crop should be improved.

iii. Agriculture department should provide better education to farmers on arecanut production.

iv. Development of infrastructure, such as roads and transport facilities for the strengthening of the effectiveness of arecanut marketing channels, should be done by the Government.

v. Subsidies, grants, financial support, fertilizers and other inputs to farmers should be ensured and increased.

vi. Market and production related problems of the farmers should be addressed and solved.

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