

An Analysis of Socio-Economic Background of Farmers and its Impact on Marketing of Areca Nut: with Special Reference to Karavali Region of Karnataka

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Abstract: *The study on the socio-economic background of farmers and its impact on the marketing of Areca Nut in the Karavali region of Karnataka is a research project that delves into the relationship between the socio-economic status of farmers and the marketing dynamics of Areca Nut in this specific geographical area. The study's primary objective is to investigate how farmers' socio-economic factors, such as income levels, education, land ownership, and access to resources, influence their participation in the marketing of Areca Nut. The researcher collected data through surveys, interviews, and focus group discussions with farmers in the Karavali region. Secondary data was gathered from government reports, academic papers and industry publications. The study analyzed the collected data using statistical tools and qualitative analysis methods to identify patterns, trends and correlations between the socio-economic background of farmers and their involvement in the marketing of Areca Nut. The study's findings revealed insights such as how farmers' education levels impact their marketing decisions, how land ownership influences market participation and how income levels affect marketing strategies related to Areca Nut. Based on the research findings, the study suggests policy recommendations, market interventions or strategies to support farmers in the Karavali region in improving their socio-economic conditions and enhancing their participation in the marketing of Areca Nut.*

Keywords: Areca nut production, Karavali region, Marketing, Socio-economic conditions

1. Introduction

The areca nut palm (*Areca catechu* L.) is India's significant commercial and business crop. It plays an important role in the political, social and cultural functions and the economic life of people in our country. The areca nut has spread its use in Ayurvedic and animal veterinary medicine. Areca nuts in our traditional country are growing in large quantities in many countries like India, Malaysia, Sri Lanka, Indonesia, the Philippines and some Pacific Islands. The economic production of areca nuts is called "betel nut" and is used mainly for mastication purposes by the people of India. The Indian population chews the raw kernel in tender, ripe, or processed form. It is processed and used in panmasala, gutkha, scented supari, etc., which are becoming more popular in the country. The cultivation of areca nut production can be traced back to the Vedic periods, where we can see the use of it. Areca nuts have been of much importance in the life of Indians since pre-Vedic times in this traditional country. This practice of having a 'Tambula,' as described in Vedic literature, has been part of the ancient period of Indian civilization. In the literature of the Tantric period that is shown that followed the Vedic period, there is some evidence to show that arecanut began to occupy a very prominent place in the religious ceremonies of some religions, such as childbirth, marriage, nuptial ceremonies and extending hospitality to guests of our culture. It is a common practice of Indians, even today in Hindu religious rituals, to offer two betel leaves for guests and one betel nut called 'Tambula' with the image of God during worship.

Further, areca nuts have many medicinal properties. Chewing areca nuts is said to have a tonic effect on the body, is expected to stimulate the nervous system and has

Ayurvedic properties. Hence, chewing it after a sumptuous lunch is good for health consciousness and after dinner. It aids the digestive system due to the 'Tambula' qualities.

Areca nut, betel nut, or supari (*Areca catechu*) is one of the important cash crops in India cultivated from the pre-Christian era. India ranks first in area (58.00%) and production (53.00%) of areca nut. In India, the major states that are growing areca nuts are Karnataka, Kerala, Assam, Meghalaya, West Bengal, Mizoram and Tamil Nadu. The area under Areca nut cultivation in Karnataka is significant, as Karnataka is one of the leading states in India for areca nut production. According to recent data, Karnataka accounts for a substantial portion of the country's total area of areca nut cultivation. According to statistics, Karnataka has several districts known for Areca nut cultivation, with the Malnad region being a prominent area for areca nut farming. The districts of Shimoga, Chikmagalur, Kodagu and Hassan are among the major Arecanut-producing regions in Karnataka.

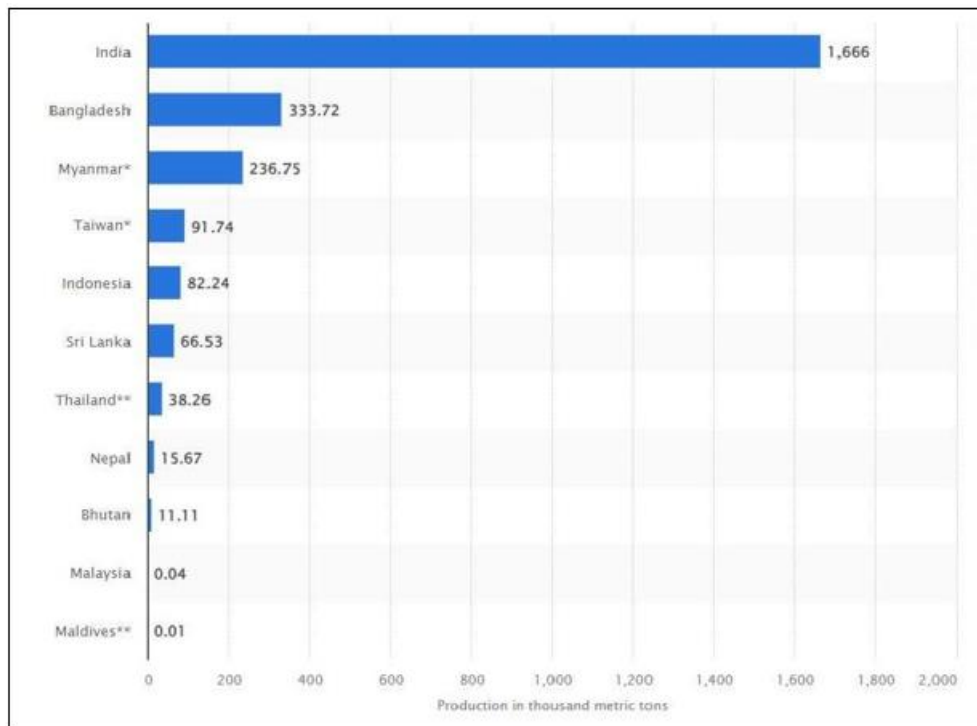
The area under areca nut cultivation in Karnataka can vary annually based on weather conditions, market demand and government policies. However, Karnataka's contribution to the overall Areca nut cultivation area in India remains significant, highlighting the importance of this crop in the state's agricultural landscape. As of November 2022, Karnataka's area under areca nut cultivation was 5,00,522 hectares. This is the largest area of areca nut cultivation in India. Between 2017 and 2021, Karnataka's area under areca nut cultivation increased from 2.79 lakh hectares to 5.49 lakh hectares.

Areca nut production in the Asia-Pacific region in 2022 by country (in 1,000 metric tons)

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Source: @statistica

In 2022, the areca nut production in India amounted to approximately 1.66 million metric tons. Comparatively, areca nut production was approximately 12.72 tons in Maldives in 2022.

Table 1: Top 10 Areca Nut Producing States in India (2021-22)

Rank	State	Production ('000 tonnes)	Share
1	Karnataka	1100.00	78.98
2	Kerala	104.24	7.48
3	Assam	50.67	3.64
4	Meghalaya	24.09	1.73
5	West Bengal	23.28	1.67
6	Tripura	20.51	1.47
7	Mizoram	14.10	1.01
8	Tamil Nadu	13.49	0.97
9	Arunachal Pradesh	11.56	0.83
10.	Andhra Pradesh	10.00	0.72

Source: National Horticulture Board (NHB)

Areca nut is not a native crop of India. India is the largest country growing cacao nuts in the world. Karnataka and Kerala are India's major areca nutgrowing regions, accounting for 70% of the country's area and production. As per data of 2021-22, Karnataka was the largest producer of areca nut in the country with the production of 1100 thousand MT, followed by Kerala (104.24 thousand MT), Assam (50.67 thousand MT), and Meghalaya (24.09 thousand MT). Karnataka cultivates the areca nut plantation under 500 thousand hectares of land, followed by Kerala (98 thousand ha), Assam (80 thousand ha) and Meghalaya (16.90 thousand ha) (Source: Ministry of Agriculture and Farmers Welfare, Govt. of India. (ON1955).

The average production in India in the last three years indicated that Karnataka was the major producer with a 79% share in Indian production, followed by Kerala (7%)

and Assam (4%) (Table 1). Coastal districts such as Dakshina Kannada, Uttara Kannada and Udupi are the major producers in Karnataka. Apart from these major producing states, areca nut is also grown in North Eastern states, West Bengal, Tamil Nadu, Andhra Pradesh, Maharashtra and Goa.

The demand for Areca nuts also rapidly increased with the appearance of new products like Gutkha, pan masala, etc. For this reason, the farmers benefited from the remunerative prices. They expanded the growing areas in non-traditional plain (Maidan) parts, irrigated zones of Karnataka, and some other states.

In Karnataka, around 2.54 lakh hectares are under the cultivation of areca nut plantation (nearly 51% of India), producing about 5.17 lakh MT of areca nut (62% of the total nation's) in 2019-20. In the state, Shivamogga, Dakshin Kannada, Davanagere, Tumkur, Chikmagalur, and Uttara Kannada are the potential districts where areca nut is grown significantly. These districts comprise three-fourths of the state's total area and areca nut production. (Source: Indiatat.com)

The consumption scenario indicated that consumption spread all over the country. Before the 1980s, the raw form of areca nut was consumed by preparing traditional Tambulam or Beeda. Up to 1965, the production level could not even meet domestic demand. The development of value-gained areca nut products like Gutkha and Scented Supari has enhanced the areca nut economy in India. By value addition, the development of post-farm enterprises through increments in consumption by all groups of people is taken as a shape of prospects. Through processing, the consumer's choice was enhanced. As a result, areca nut consumption has increased mainly in north Indian states like Maharashtra, Uttar Pradesh, Gujarat and Delhi. Areca nut reaches consumers in processed

value-added forms like Scented Supari, Gutkha, and Beeda. The value-added products reach their final destination through intermediaries such as wholesalers, cooperative societies, traders, processors, etc. It is necessary to ascertain the farmer's share in the final price that the consumers pay for the value gained from areca nut products.

The literature reviewed on this crop's marketing aspects showed that areca nut marketing is well organized in Karnataka compared to other areca nut-producing states. The literature also indicates that the marketable surplus of areca nuts is around 93 percent and they are marketed through regulated markets, co-operative societies and other private traders. The value chain denotes the relationships between the actors involved directly & indirectly as a stakeholder and takes fruitful action to add value in every value chain stage. The value chain of areca nut probably includes the unions of growers (co-operatives, collective and producer's organizations), distributors, processors, traders, and regulatory and support institutions. These people struggle hard to meet their mutual needs and achieve their goals. They incur energy, time, and resources to meet their target continuously during the process of marketing and addition to the value chain.

With the above background, this study planned to analyze the marketing pattern & supply chain of areca nut under the broad objectives of identifying different marketing channels, price spread, constraints, etc., to explore the possibilities of higher producers' share in consumers rupee of areca nuts farmers in the sampled areas.

2. Review of Literature

Janmejaya Kumar et al. (2023) in their study "Marketing pattern of areca nut in Tumkur district of Karnataka," noted that Karnataka has the most potential for areca nut cultivation nationwide. Karnataka has 464582 hectares of land with an annual yield of 620348 MT, according to data from 2018–19. Tumkur district heavily relies on plantation crops, namely coconut and Areca nut. With this in mind, the study aimed to identify the main marketing avenues and obstacles associated with promoting areca nut. According to the study, the three main Areca nut marketing channels were employed in the regions under investigation. Numerous market mediators were discovered to be involved in the produce's marketing process in all three channels. The survey also found that channel 3 (Rs. 48468.76) had a larger price spread because more mediators were involved. Channel 2 recorded a greater manufacturers' share of consumer spending (50.26%) and a higher market efficiency (2.06). It was discovered that processors engage in secondary processing in each of the three marketing channels. The study identified a few significant barriers, including intermediaries, a lack of technical expertise, inadequate infrastructure and price swings in the Areca nut industry. As a result, the study recommends improving the marketing system in the research areas so that growers may receive the price they anticipate for their produce.

Hanumantappa Jamanal and C. Murthy (2022) conducted a study paper "Production and marketing management of areca nut in Karnataka" is an important commercial and business crop in India. It has a significant

impact on how people in our nation live their economic, social and cultural lives, as well as their political lives. India produces about 17.96 lakh tons of areca nuts annually, covering an area of about 12.26 lakh hectares. Kerala and Karnataka comprise 70–80% of the areca nut producing area. Areca nuts are grown on over 2.15 lakh hectares in Karnataka. Random sampling was employed in the initial phase to choose areca nut growers. 192 areca nut farmers were selected, with six villages picked from each main producing taluka and four farmers selected for the study from each town. Five traders, wholesalers, five pre-harvest contractors and five retailers were selected from the district's two major talukas. A single areca nut processing plant was chosen from every district that was considered. There were 360 samples as a result. The irregular distribution and scarcity of rainfall in the research area caused significant fluctuations in the increase in areca nut productivity, production and area. The variable cost of cultivating areca nuts accounted for 80.75 percent of the total price, with pay for human labor constituting the largest share at 31.99 percent. The cost of processing areca nuts was rather expensive per quintal, significantly more than the purchase cost. The main issue with areca nut cultivation was labor scarcity and high labor costs. Therefore, more mechanization could make it easier to do tasks like harvesting.

Mohanraj and R. Velusamy (2022) in their study "Analysis of Marketing Pattern of Areca nut Growers in Salem District of Tamil Nadu" claimed that areca nut, also known as betel nut (*Areca catechu*), is the most produced and most area-based cash crop in the world. With an annual production of 3445 tons of areca nuts, the Salem district of Tamil Nadu holds the top spot in the areca nut cultivation area. Proportionate random selection was used to choose 120 areca nut producers as the study's sample size. Most respondents nearly two-thirds, had a medium degree of overall marketing pattern. The majority of respondents 67.50% sold their goods directly from the farm, with 18.33% selling in a nearby town. Of those surveyed, two-thirds sold their goods to pre-harvest contractors and 37.50 percent said they preferred the market facilities that were already in place. An areca nut farm's profitability is mainly based on its marketing strategy and the requirement for market knowledge. Encouraging the utilization of market intelligence increases their ability to sell their produce at competitive pricing.

Nilesh Chatterjee et al. (2021) in their study titled "A Qualitative Study of Perceptions and Practices Related to Areca Nut Use Among Adolescents in Mumbai, India," noted that India uses supari or areca nut. It contributes to high mouth cancer rates in the country, along with tobacco and alcohol. In this qualitative study, 61 Mumbai-based school children were interviewed and the focus was on areca nut use. Respondents used cheap supari sachets of sweetened, flavored areca nut. They thought supari was harmless because it was sweet and had a fresh aftertaste, unlike bitter smokeless tobacco. How can something sweet be harmful was a typical response. Respondents always compared areca nut to smoke, believing supari had fewer health risks. Supari use began with friends, siblings, or cousins. It was usually with pals. Respondents also

struggled to refuse supari from friends. Parents' reactions to supari use were frequently milder than to tobacco use. Adolescents consume areca nuts due to social influence, product qualities and perceived low risk or harmlessness. These findings are useful for school-based tobacco prevention and cessation programs and health policymakers, but more risk perception research with more extensive samples is needed. The study has implications for prevention, cessation, and policymakers. Areca nut sessions should be added to school health instruction. The public needs focused mass media campaigns about its hazards and oral cancer. Indian policymakers must analyze areca nut marketing, commerce and distribution and adopt rules like they did for tobacco. Understanding areca nut perceptions requires more extensive national sampling.

Divya Bharathi and G. P. Dinesh (2020) wrote "A Study on Tea Industry and Areca Nut Market – A Case Study on Enhancing the Possible Strategies to Increase Sales and Spread Brand Awareness for Areca Market in Karnataka, India" to study and analyze the tea industry and areca nut market. An exploratory and descriptive study design was used to build a structured questionnaire and administer it to 100 Areca tea drinkers and consumers in Karnataka, India, utilizing convenience and random sampling. Data was analyzed using averages, percentages, and measurement scales, and SPSS software (One-Sample Statistics, One-Sample Test) was used to achieve the desired results. Though people in Karnataka, India, are health conscious and consume healthy products, Areca Tea could not position itself strongly in the market due to high prices and low brand awareness. A study was conducted to determine the reasons for this and possible solutions to increase sales and brand awareness through promotional media, free samples, sponsorship, tying up with health clubs, and creative marketing. The study is unique because it establishes a strategy and organizational marketing plan by the mystic aromatic firm (ARECA) to promote Areca tea to diverse categories. To tackle this obstacle, a study tested customer responses before and after product use and suggested tactics to enhance sales and brand awareness. Its limitations include being limited to Karnataka, India.

3. Statement of the Problem

The statement of the problem for the study "An Analysis of Socio-economic Background of Farmers and its Impact on Marketing of Areca Nut: With Special Reference to Malnad Region of Karnataka" is framed as follows:

The Karavali region of Karnataka is known for its significant areca nut production, with many farmers engaged in areca nut cultivation. However, there is a lack of comprehensive research focusing on the socio-economic background of these farmers and how it influences the marketing of areca nut in the region. Understanding the interplay between farmers' socio-economic characteristics and their marketing decisions is crucial for developing targeted policies and interventions to enhance the socio-economic well-being of farmers and improve the efficiency of the areca nut market in the Karavali region. Therefore, this study aims to analyze the socio-economic factors affecting farmers engaged in areca nut cultivation in the

Karavali region of Karnataka and investigate their impact on the marketing dynamics of areca nut, with the ultimate goal of providing insights for sustainable development and growth in this sector.

Objectives of the study

The objectives of the study are:

- 1) To assess the socio-economic characteristics of farmers in the Karavali region of Karnataka, including factors such as income levels, educational attainment, land ownership, access to resources, and other relevant indicators.
- 2) To analyze the marketing practices and strategies employed by Arecanut farmers in the Karavali region, including pricing mechanisms, market participation, value chain integration, and market access.
- 3) By aligning the research objectives with the research questions and the study's scope, the study effectively addresses key issues related to the socio-economic background of farmers and its impact on Arecanut marketing in the karavali region, ultimately generating valuable insights and practical recommendations for stakeholders in the agricultural sector.

4. Research Methodology

The research methodology for the study involves the following key components:

Research Design: The study adopts a mixed-methods research design to gather quantitative and qualitative data to understand the research problem comprehensively. This involves surveys, interviews, focus group discussions and secondary data analysis.

Sampling: The researcher needed to determine the appropriate sampling strategy to select representative participants from the target population of farmers in the karavali region. Random sampling methods were employed based on the research objectives.

Data Collection: The data collection method included structured questionnaires to collect quantitative data on socio-economic variables such as income, education, landholding, and marketing practices. Qualitative data was collected through in-depth interviews or focus groups to explore farmers' perceptions, challenges, and strategies related to Arecanut marketing.

For the study, data is collected from both primary and secondary sources. The researcher collects primary data from the 72 areca nut growers from the karavali region of Karnataka, India. Samples are selected using simple random sampling and data is collected through direct interviews with the sample grower with the help of a well-structured schedule about land size, cost, income, price, forms of selling, multi-cropping, varieties, problems, etc., and through the direct observation of the garden of the sample growers. On the other hand, secondary data sources for this study are the Directorate of Economics and Statistics, Karnataka, reports such as Karnataka Economic Report,

Food and Agriculture Organization, etc. Moreover, various articles from research journals, newspapers, research theses, etc., are followed to take necessary advice and information. The collected data are represented in tabulated form and statistical tools like mean, percentage, t-test, Anova, etc., are used for evaluation.

Data Analysis: Quantitative data analysis involves descriptive statistics, correlation analysis, regression analysis and other statistical techniques to examine the relationship between socio-economic variables and marketing outcomes.

Limitations: The researcher acknowledged the study's limitations, such as sample size constraints, potential biases in data collection and generalizability of findings beyond the study area.

By following a robust research methodology that combines quantitative and qualitative approaches, the study provides valuable insights into the socio-economic determinants of areca nut marketing in the karavali region of Karnataka. It contributes to informed policy recommendations and decision-making in the agricultural sector.

Scope of the study

The study includes various aspects explored and addressed within the research framework. The study delves into farmers' socio-economic background in the Malnad region, focusing on income levels, education, land ownership, access to resources and other relevant socio-economic

indicators that can impact arecanut cultivation and marketing. The research analyzes how the identified socio-economic factors influence farmers' marketing decisions, market participation, pricing strategies, market linkages and overall marketing performance in the arecanut sector. The study explicitly targets the karavali region of Karnataka, known for its arecanut cultivation. By concentrating on this specific geographical area, the research provides region-specific insights and recommendations tailored to the socio-economic context of karavali farmers. The study involves engaging with various industry stakeholders such as farmers, co-operatives, traders, government agencies and other relevant actors in the arecanut value chain in the karavali region. Understanding the perspectives and roles of these stakeholders enriches the study's findings.

Hypotheses

H0: Socio-economic background (demographic characteristics like gender, age, education, experience, annual income and marital status) does not influence the marketing of areca nut produced.

H1: Socio-economic background (demographic characteristics like gender, age, education, experience, annual income, and marital status) influences the marketing of areca nut produced.

5. Analysis of Data

Demographic Statistics of the Respondents

Table 2: Demographic Statistics of Respondents

Variable		Number	Percentage
Gender	Male	50	69.4%
	Female	22	30.6%)
Age Group	18-25 years	43	59.7%
	26-35 years	10	13.9%
	36-45 years	3	2.8%
	46-55 years	15	20.8%
	Above 55 years	2	2.8%
Region of Residence	Urban	28	38.9%
	Rural	44	61.1%
Marital Status	Single	25	34.7%
	Married	47	65.3%
Educational Qualification	No formal education	2	2.8%
	Secondary education up to 12+	8	11.1%
	PUC	5	6.9%
	Bachelor's Degree	43	59.7%
	Master's Degree	14	19.4%
No. of years of experience in areca nut farming	Below 5 years	21	29.2%
	5-10 years	14	19.4%
	10-15 years	14	19.4%
	15-20 years	6	8.3%
	More than 20 years	17	23.6%
Income from areca nut growing per annum	Less than 2 lakh	31	43.1%
	3-5 lakhs	24	33.3%
	5-10 lakhs	13	18.1%
	10-20 lakhs	1	1.4%
	20 lakhs and above	3	4.2%

Source: Primary Data compiled by researcher

Objective 1:

To assess the socio-economic characteristics of farmers in the Malnad region of Karnataka, including factors such as

income levels, educational attainment, land ownership, access to resources and other relevant indicators.

A primary data survey and the following demographic statistics were obtained. Out of the 72 respondents 50(69.5%) were male and 22 (30.6%) were female. The respondents belonged to various age groups. 43 (59.7%) were aged between 18 and 25 years, 10 (13.9%) were between 26 and 35 years, 3(2.8%) between 36 and 45 years. 15(20.8%) were 2(2.8%) above 55 years. The probable reason could be that middle-aged farmers with the needed skills and experience can efficiently and actively participate in farming activities compared to farmers of other age groups. Further, rural youth were not interested in agriculture and were searching for non-farming jobs that provided steady earnings.

Most respondents, 44(61.1%) lived in rural areas and only 28(38.9%) belonged to urban areas. Further, rural youths were not interested in agriculture and were searching for non-farming jobs that provided them with steady earnings. Among the study respondents 47(65.3%) were married and 25(34.7%) were single. Regarding the respondents' educational qualifications, 43(59.7%) possessed a Bachelor's degree and 14(19.4%) had a master's degree. Thus, most of

the respondents were well-qualified.

All the respondents had experience in areca nut farming. 17(23.6%) had more than 20 years of experience, while 14(19.4%) had experience of 5-10 years and 10-15 years each. 21(29.2%) were new to areca nut farming and had less than 5 years of experience.

Most farmers, 31(43.1%), had an annual income of less than 2 lakhs from growing areca nut. 13(18.1%) had an annual income between 5 to 10 lakhs while 24(33.3%) earned 3 to 5 lakhs per annum. Big farmers 3(4.2%) with larger cultivation areas produced more areca nuts; their annual income was more than 20 lakhs.

Objective 2:

To analyze the marketing practices and strategies employed by Arecanut farmers in the Malnad region, including pricing mechanisms, market participation, value chain integration, and market access.

Table 2: Marketing Practices and Strategies

Statement	Variables	Number	Percentage
All the areca nut produced every year is sold out	No	12	16.7%
	Yes	60	83.3%
Familiar with fair trade practices in the areca nut industry	No	21	29.2%
	Yes	51	70.8%
Stay informed about current market trends and prices for areca nut	Local newspapers or magazines	15	20.9%
	Radio and television programs	19	26.4 %
	Internet and online resources	9	12.6 %
	Word-of-mouth from other farmers	11	15.3%
	Other	18	25.0 %
How do you usually sell your areca nut produce?	Directly to local consumers	26	36.1 %
	Through a middleman or broker	18	19.4%
	Through agricultural markets/co-operatives	19	26.4 %
	Other	9	12.5%
How do you determine the price of your areca nut produce?	Market demand and supply	1	1.4 %
	Negotiation with buyers	7	9.7 %
	Based on government prices	49	68.1 %
	As per the tender price	15	20.8 %
Which mode of arrangement of selling areca nut is beneficial	At far away market	1	1.4 %
	Directly to nearby local markets	29	40.3 %
	Through APMC	31	43.1 %
	To collectors who come to my home	11	15.3 %
Satisfied with the existing marketing channels available for areca nut	No	42	58.8 %
	Yes	30	41.6 %
Satisfied with the price of the areca nut they offer	No	33	45.8 %
	Yes	39	54.2 %
Get credit and other services from areca nut collectors	No	27	37.5 %
	Yes	45	62.5 %
Challenges faced in marketing your areca nut produce	Lack of market access	18	25 %
	Price fluctuations	10	13.9 %
	Intermediaries taking a large portion of profits	23	32 %
	Limited knowledge of marketing strategies	8	11.2 %
	Lack of transportation facilities	11	14.6 %
	Other	2	2.8 %

Source: Primary Data complied by researcher

The table above describes pricing mechanisms, market participation, value chain integration, and market access. It was observed that 60 (83.3%) respondents opined that they could sell out the areca nut they produced yearly. 51 (70.8%) of the respondents said they were familiar with the fair trade practices in the areca nut industry. However, 21 (29.2%)

respondents were unaware of the trading practices as they were small farmers. The producers of areca nuts got information about the current market trend and prices from various sources. 15 (20.9%) got the information from local newspapers and magazines, 19 (26.4%) from radio and television programs, 9 (12.6%) from internet and online

resources, 11 (15.3%) from word-of-mouth from other farmers, and 18 (25.0%) from various sources like government officials, agents, and buyers.

Various methods were adopted to sell areca nut produce. 26 (36.1%) sold directly to local consumers, 18 (19.4%) sold through an intermediary or broker, 19 (26.4%) sold through agricultural markets/co-operatives, and 9 (12.5%) sold through other sources like agents, big farmers, etc.

Arecanuts are a commercial crop, so farmers have various avenues to market their produce. Thus, farmers tend to choose the marketing channels with the utmost care to ensure the highest price for their produce. Furthermore, most farmers had an education up to high school. They exhibited medium economic motivation, which might have influenced them to have a medium to a high level of market orientation.

Table 4: Response to mixed crop farming and yield obtained

Statement	Variables	Number	Percentage
Areca nut growing is a major source of income	No	9	12.5%
	Yes	63	87.5%
Possibility of incurring losses from areca nut cultivation	No	21	29.2%
	Yes	51	70.8%
Mixed cropping system is followed	No	11	15.3%
	Yes	61	84.7%
Mixed cropping system is adopted along with areca nut	Pepper	16	22.3%
	Coffee	18	25%
	Cardamom	21	29.2%
	Plantain Leaf	17	23.6%
Yield obtained per acre of land cultivated annually in quintals	Less than 1 Quintal	7	9.7%
	1 to 2 Quintals	14	19.4%
	2 to 3 Quintals	21	29.16%
	More than 3 Quintals	30	41.6%
Areca nuts can be stored for a longer time without losing their quality	No	24	33.3%
	Yes	48	66.7%

Source: Primary Data complied by researcher

From the samples, the researcher finds that areca nut growers follow a inter-cropping system; they do not grow areca nuts alone. Though their main crop is areca nut, they often grow other crops. They usually grow 3-4 crops. Generally, they prefer to grow such crops, which do not cover much space and can be grown in the free space between two areca nut trees (within 8 - 10 feet). The reason behind this is that if they grow crops that cover a lot of space, it will create food disruption among the plants for their survival and reduce the productivity of areca nut trees and other crops. Therefore, they have to choose crops strategically to provide them with maximum production. This multi-cropping system reduces the probability of income reduction from areca nut and at the same time, it can supply additional revenue to the growers. Other crops can provide at least 1/3 of the total income of the growers on the same piece of land.

Hypothesis 1:

H0: Socio-economic background (demographic characteristics like gender, age, education, experience, annual income, and marital status) does not influence the marketing of areca nut produced.

H1: Socio-economic background (demographic characteristics like gender, age, education, experience, annual income, and marital status) influences the marketing of areca nut produced.

Linear regression was adopted to test the above hypothesis. Marketing of areca nut was the dependent variable and Socio-economic background (demographic characteristics like gender, age, education, experience, annual income, and marital status) was taken as the independent variable.

The results of linear regression are as follows:

Linear Regression

Table 5 (a): Model Fit Measures

Overall Model Test

Model	R	R ²	Adjusted R ²	F	df1	df2	p
1	0.488	0.238	0.141	2.46	8	63	0.022

Table 5(b): ANOVA Test

	Sum of Squares	df	Mean Square	F	p
Gender	1.764	1	1.764	1.8385	0.18
Age	6.14E-04	1	6.14E-04	6.39E-04	0.98
Region	0.0693	1	0.0693	0.0722	0.789
Marital Status	1.1522	1	1.1522	1.2008	0.277
Education Level	6.4825	1	6.4825	6.7562	0.012
Experience in Areca nut growing.	10.2087	1	10.2087	10.6397	0.002
Areca nut is the major crop.	0.111	1	0.111	0.1157	0.735
Income from areca nut produce	2.6081	1	2.6081	2.7183	0.104
Residuals	60.448	63	0.9595		

Note. Type 3 sum of squares

Table 5(c): Model Coefficients –Marketing of Areca nut produced

Predictor	Estimate	SE	t	p	Std. Estimate
Intercept	2.72571	1.014	2.6893	0.009	
Gender	0.40156	0.296	1.3559	0.180	0.17623
Age	0.00524	0.207	0.0253	0.980	0.00651
Region	0.10263	0.382	0.2687	0.789	0.03073
Marital Status	0.56148	0.512	1.0958	0.277	0.25468

Education Level	-0.3771	0.145	-2.599	0.012	0.34576
Experience in Areca nut growing.	-0.3319	0.102	-3.262	0.002	- 0.48374
Areca nut is the major crop.	-0.1306	0.384	-0.340	0.735	- 0.04115
Income from areca nut produce	0.22041	0.134	1.6487	0.104	0.21335

Interpretation: Table 5(a) indicates a Model Summary from the multiple linear regression analysis for predicting "Marketing of Areca nut produced," indicating a moderate relationship between the predictors, including Socio-economic background (demographic characteristics like gender, age, education, experience, annual income and marital status) and the dependent variable marketing of Areca nut produced ($R = .488$, $p < .05$). The model accounted for 23.5% of the variance in "Marketing of Areca nut produced" ($R^2 = .238$), with an adjusted R-squared value of .141. The standard error of the estimate was 1.014. The ANOVA results (table 5(b)) from the regression analysis for predicting "Marketing of Areca nut produced" indicated a significant overall relationship between the predictors.

The results revealed that the variables, namely education, region, experience in areca nut cultivation and income were found to have significantly contributed to the variation in the marketing of areca nut produce. Hence, these six variables could be considered good predictors of variation in the marketing of Areca nuts produced by adopting recommended cultivation practices by arecanut growers.

6. Conclusion

The study concludes that it is essential to understand the farmers' multidimensional behavior and socio-economic characteristics to adopt improved agricultural practices, reducing the technological gap. The study found that the socio-economic background of farmers in the Malnad region of Karnataka plays a significant role in marketing Areca Nut. Farmers with higher socio-economic status tend to have better access to markets, information and resources positively impacting their marketing strategies and outcomes.

Additionally, the study highlighted the importance of providing support and resources to farmers from lower socio-economic backgrounds to improve their marketing capabilities and profitability in the Areca Nut industry.

Overall, understanding the socio-economic context of farmers is crucial for designing effective marketing strategies and interventions to support their livelihoods and enhance the sustainability of the Areca Nut market in the karavali region of Karnataka. Thus, this study provides valuable insights into the complex interplay between the socio-economic background of farmers and the marketing dynamics of Areca Nut in the karavali region of Karnataka, ultimately contributing to a better understanding of the agricultural economy and livelihoods in that area.

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