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A study on profile characteristics and constraints faced in value addition in coconut among the farmers in Thanjavur District

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Abstract

Agriculture plays a pivotal role in India's economy by contributing substantially to the national GDP and providing employment to a vast section of the population, especially in rural areas. Traditionally regarded as a way of life, agriculture in India is undergoing a significant transformation due to changing market dynamics, urbanization and the growing pressures of globalization. In this evolving scenario, there is an urgent need to reorient agriculture from a subsistence activity to a profit-oriented enterprise. This transformation emphasizes the recognition of farmers as entrepreneurs who can improve their income and livelihoods by adopting modern technologies, enhancing productivity and engaging in value addition. The present study was conducted in the Peravurani block of Thanjavur district, Tamil Nadu. A sample size of 120 respondents were selected using a proportionate random sampling technique. An ex-post-facto research design was adopted, and data were collected using a well-structured and pre-tested interview schedule. Out of the fourteen blocks, Peravurani block were selected based on the maximum number of coconut cultivation for the study. The selected villages were Sengamangalam, Kalathur east, Kalagam and Periyannayagipuram. Twelve socio-economic variables were selected viz., age, educational status, occupational status, farm size, annual income, farming experience, extension agency contact, innovativeness, risk orientation, scientific orientation, economic motivation and decision making ability. They were measured by using various statistical tools and techniques including percentage analysis, correlation analysis, and multiple regression as discussed in the methodology. Despite their interest, the farmers faced several barriers in adopting value addition practices. Major constraints identified included lack of time, limited access to training, unavailability of equipment and skilled labour, high costs of processing machinery, inadequate market infrastructure, poor access to credit, and lack of export avenues. Technological limitations and a lack of institutional support further restricted adoption.

Keywords: Agriculture, value addition, coconut farming, socio-economic factors, constraints, market infrastructure

1. Introduction

Coconut, often referred to by its unique name "Karpagaviriksha" or "Tree of Heaven", is a highly valued perennial plantation crop grown across many tropical countries. The coconut palm (*Cocos nucifera* Linn) is known for its tall, slender trunk and broad crown, bearing clusters of nuts. Among the world's most beneficial trees, the coconut serves as a vital source of food, fuel, water, and shelter—particularly in tropical regions. Every part of the tree is useful, making it an indispensable resource for rural livelihoods and industries alike. Tamil Nadu ranks as the second-highest coconut-producing state in India, contributing about 25% to the nation's total production. With an area of 4.449 lakh hectares under cultivation, it records an annual production of 51,282 lakh nuts at a productivity level of 11,526 nuts per hectare (Anonymous, 2023) ^[1]. Major coconut-growing districts include Coimbatore, Tirupur, Thanjavur, Dindigul, and Kanyakumari. The favorable monsoon and steady supply from these regions have further boosted production. Tamil Nadu also leads in coconut processing activities with numerous units engaged in producing value-added products

like activated carbon, virgin coconut oil, and packaged tender coconut water. Despite the opportunities, farmers face several socio-economic and structural barriers in adopting value addition practices. The study focused on twelve socio-economic variables including age, education, occupation, farm size, income, farming experience, and others. Major challenges included limited access to training, lack of processing equipment and skilled labor, high capital investment, inadequate market infrastructure, and poor access to credit and export channels. Technological gaps and insufficient institutional support further hinder adoption. However, the study concludes that with focused interventions such as training, technology access, credit facilitation, and improved marketing, coconut value addition can significantly improve rural livelihoods and foster agripreneurship. Strengthening the linkages between farmers, extension agencies, financial institutions, and markets will be key to sustainable agricultural transformation.

Objectives of the Study

1. To study the profile characteristics of the respondents.

2. To study the constraints faced by the farmers while going on value addition in coconut.

2. Research Methodology

Thanjavur district of Tamil Nadu was purposively selected for the study as it occupies the third position in the state based on area under coconut cultivation. Among the 14 blocks in Thanjavur district, Peravurani block is selected for the study. The villages selected were Sengamangalam, Athanoor, Kalagam and Perianayagipuram. A sample size of 120 respondents were selected for the study using Proportionate Random Sampling method. The responses of judge were qualified by assigning scores of 3, 2 and 1 for 'most relevant', 'relevant' and 'irrelevant', respectively. The variables with 80 per cent relevancy score and above were selected. Totally 12 variables were selected for this study. They were age, educational status, occupational status, farm

size, annual income, farming experience, extension agency contact, innovativeness, risk orientation, scientific orientation, economic motivation and decision-making ability. Constraints are obstacles that are encountered by the respondents in the course of action. The possible constraints were enumerated from related studies, in consultation with the developmental workers, social scientists and farmers of non-sample area. The frequency of respondents indicating each of the constraint was found out and expressed in percentage. A major constraints faced by the farmers were inadequate infrastructure, high production costs, limited access to markets and improved technology in the adoption of value addition. Hence, the constraint analysis was included in present research.

3. Findings and Discussion

3.1. Profile Characteristics of the Respondents

Table 1: Profile Characteristics of the Respondents

Variable	Category	Number	Percentage
Age	Young	24	20.00
	Middle	66	55.00
	Old	30	25.00
Educational status	Illiterate	9	7.50
	Functionally literate	10	8.33
	Primary education	30	25.00
	Middle education	48	40.00
	Secondary education	17	14.17
Occupational status	Collegiate	6	5.00
	Agriculture as main occupation	92	76.67
	Agriculture as subsidiary occupation	28	23.33
Farm size	Marginal farmers(Less than 2.47 acres)	27	22.50
	Small farmers(2.47 to 9.88 acres)	63	52.50
	Big farmers(Above 9.88 acres)	30	25.00
Annual Income	90000-120000	27	22.50
	121000-330000	75	62.50
	331000-450000	18	15.00
Farming experience	15-27 years	27	22.50
	28-39 years	54	45.00
	40-51 years	39	32.50
Extension agency contact	Low	39	32.50
	Medium	48	40.00
	High	33	27.50
Innovativeness	Low	24	20.00
	Medium	69	57.50
	High	27	22.50
Risk orientation	Low	30	25.00
	Medium	62	51.66
	High	28	23.34
Scientific orientation	Low	36	30.00
	Medium	54	45.00
	High	30	25.00
Economic motivation	Low	42	35.00
	Medium	51	42.50
	High	27	22.50
Decision making ability	Low	24	20.00
	Medium	51	42.50
	High	45	37.50

The majority of the respondents (55 per cent) were middle-aged, had middle school education (40 per cent) and belonged to the medium level of annual income (62.50 per cent). Most of them (76.67 per cent) of the respondents were

considered farming as their main occupation. A significant portion (52.50 per cent) of the respondents were small farmers and had a medium level of farming experience (45 per cent). Less than half of the respondents had medium

levels of extension agency contact (40 per cent), scientific orientation (45 per cent), economic motivation (42.50 per cent) and decision-making ability (42.50 per cent). Majority of the respondents (57.50 per cent) were medium level of

innovativeness and risk orientation (51.66 per cent).

3.2. Constraints Faced by the Farmers While Going on Value Addition in Coconut

Table 2: Constraints Faced by the Farmers While Going on Value Addition In Coconut

S.No.	Statements	No of Respondents	Percentage	Rank
Personal Constraints				
1.	No time available for preparation of value-added products due to involvement in farming	103	85.83	I
2.	Don't have the interest towards value addition	92	76.67	II
3.	Difficult to prepare	88	73.33	III
4.	Not having self confidence	72	60.00	IV
5.	Lack of confidence in the preparation of products to the standards accepted by public	65	54.17	V
Physical Constraints				
1.	Non-availability of equipment and machinery required for preparation of value added products	110	91.6	I
2.	Absence of proper facilities to assess the quality of coconuts and value-added products affects product standardization	97	80.83	II
3.	Non-availability of raw materials	87	72.50	III
4.	Limited availability of land and space while going on value addition	81	67.50	IV
Extension Constraints				
1.	Lack of training in value addition	97	80.83	I
2.	Lack of skilled labourers in value addition	89	74.17	II
3.	Extension personnel not having adequate knowledge about value addition	72	60.00	II
4.	Mass media not giving importance for value addition	68	56.67	I V
Economic Constraints				
1.	High costs of equipment and machineries	110	91.67	I
2.	Lack of remunerative price for value added products	94	80.83	II
3.	Lack of capital to purchase the equipment and machineries required for preparation of value added products	80	66.67	III
4.	Non-availability of credit	73	60.83	IV
Technological Constraints				
1.	Inadequate technology for commercial production	102	85.00	I
2.	Lack of research in value addition	92	76.60	II
3.	Low investment in R&D specific to coconut value addition	88	73.30	III
4.	Inadequate technology for by-product utilization	74	61.67	IV
5.	Poor adoption of automation and mechanization	51	42.50	V
Marketing Constraints				
1.	Lack of export avenues for value added products	117	97.50	I
2.	Lack of infrastructure facilities to sell value added products	97	80.83	II
3.	Lack of market for non-branded products	83	69.16	III
4.	Lack of market channels	69	57.50	IV
5.	Lack of government assistance from the marketing department	44	36.66	V

3.2.1. Personal constraints

85.83 per cent of the respondents had no time available for preparation of value-added products due to involvement in farming as a major physical constraints with rank I, 76.67 per cent of the respondents had no interest towards value addition with rank II, 73.33 per cent of the respondents had difficulty to prepare the value added products with rank III, 60 per cent of the respondents were not having self-confidence with rank IV, 54.17 per cent of the respondents had lack of confidence in the preparation of products with rank V. The most significant constraint is the no time available for preparation of value-added products due to their extensive involvement in regular farming activities leaves them with insufficient time to engage in value addition processes, multiple responsibilities, labour intensive farming practices.

3.2.2. Physical constraints

91.6 per cent of the respondents had faced non availability of equipment and machinery required for preparation of value added products as major physical constraints with

rank I, is due to the lack of modern and efficient equipment and machinery required for processing and producing value-added coconut products such as virgin coconut oil, desiccated coconut, coconut chips and others. Most rural or small-scale producers do not have access to high-end technology due to high initial investment costs. Without proper equipment, manual processing reduces efficiency, increases labour cost and affects the scalability of production, followed by 80.83 per cent of the respondents had absence of proper facilities to assess the quality of coconuts and value-added products affects product standardization as a constraint with rank II, 72.50 per cent of the respondents had non availability of raw materials as constraints with rank III, followed by 67.50 per cent of the respondents had limited availability of land and space while going on value addition as a constraint with rank IV. This findings is same with the findings of Kumar *et al.*, (2022) [5].

3.2.3. Extension constraints

Most of the farmers faced lack of training in value addition

as a major constraint with 80.83 per cent as rank I, because of inadequate access to structured, hands-on training programs for coconut value addition and most farmers and small-scale entrepreneurs have not received formal instruction in processing techniques, quality standards, hygiene, or market preparation due to insufficient number of training centers focused on value-added coconut products, lack of coordination between research institutions, government bodies and local extension services, budget and resource limitations restrict the reach of existing training programs, followed by 74.17 per cent of the respondents had lack of skilled labourers in value addition as a constraints with rank II, 60 per cent of the respondents had extension personnel not having adequate knowledge about value addition as a constraint with rank III, 56.67 per cent of the respondents had mass media not giving importance for value addition as a constraint with rank IV. This findings is same as with the findings of Elfahmi *et al.*

3.2.4. Economic constraints

91.67 per cent of the respondents faced high costs of equipment and machineries as a major constraints with rank I, followed by 80.83 per cent of the respondents had lack of remunerative price for value added products as constraints with rank II, 66.67 per cent of the respondents had lack of capital to purchase the equipment and machineries required for preparation of value added products as a constraints with rank III and 60.83 per cent of the respondents had a constraint as non-availability of credit with rank IV. The most prominent constraint is high costs of equipment and machineries is due to most machines required for value addition are either imported or manufactured on a small scale is more expensive and lack of bulk procurement or government supply chains keeps prices high, operation and maintenance costs add to the financial burden. This findings is same as with the findings of Honlah *et al.*

3.2.5. Technological constraints

85 per cent of the respondents had inadequate technology for commercial production as major constraint with rank I. This is mainly due to the absence of efficient, scalable and cost-effective technologies suited for mass production of coconut value-added products such as virgin coconut oil, coconut chips, milk, flour and beverages. This leads to lack of automation, consistency and throughout needed for commercial operations. Most small and micro entrepreneurs were lack of access to industrial-grade machinery, followed by 76.60 per cent of the respondents were lack of research in value addition as a constraints with rank II, 73.30 per cent of the respondents had low investment in research and development specific to coconut value addition as a constraints with rank III, 61.67 per cent of the respondents had Inadequate technology for byproduct utilization as a constraints with rank IV and last 42.50 per cent of the respondents had poor adoption of automation and mechanization as a constraints with rank V. This finding is same as with the findings of Elfahmi *et al.*

3.2.6. Marketing constraints

Most of the farmers faced lack of export avenues for value added products as major constraints with (97.50 per cent). The major reason is absence of clear opportunities, systems

and support mechanisms for exporting coconut value-added products to international markets, Entrepreneurs often lack of knowledge of export procedures, quality standards (HACCP, ISO, etc.) and documentation. There is limited institutional support in identifying global buyers or facilitating trade partnerships, Insufficient packaging and processing standards restrict access to global markets, Export logistics and certification requirements can be complex and costly for small producers, followed by 80.83 per cent of the respondents had lack of infrastructure facilities to sell value added products as a constraints with rank II, 69.16 per cent of the respondents had lack of market for non-branded products as a constraints with rank III, 57.50 per cent of the respondents had lack of market channels as a constraints with rank IV and last 36.66 per cent of the respondents had lack of government assistance from the marketing department as a constraints with rank V. This findings is same as with the findings of Archana *et al.*, (2022) [3].

4. Conclusion

The study on value addition in coconut among farmers in Thanjavur district revealed that most respondents were middle-aged (55%), had middle school education (40%), and belonged to a medium income group (62.50%), with farming as their main occupation (76.67%). A majority had medium levels of farming experience, innovativeness, and risk orientation, but showed lower levels in extension contact, scientific orientation, and decision-making. Key constraints included lack of time (85.83%), interest (76.67%), self-confidence, and difficulties in preparation. Major issues were non-availability of equipment (91.60%), raw materials, training, and skilled labor. Financial problems such as high equipment costs, lack of capital and credit, and poor pricing were significant. Technological and marketing barriers like inadequate technology, poor R&D, lack of export avenues (97.25%), infrastructure, and market support further hindered progress. These findings stress the need for targeted interventions to overcome these challenges and promote value addition in coconut farming.

References

1. Anonymous. Proposal for procurement of copra in Tamil Nadu for copra season 2023. New Delhi: Department of Agriculture and Farmers Welfare; 2023.
2. Anusuya A, Balasubramaniam P, Krishnaveni TS. Socio-economic characteristics of the cashew growers of Tamil Nadu: An analysis. *International Journal of Current Microbiology and Applied Sciences*. 2020;9(7):1790-1801.
3. Archana AS, Sakthivel V, Kanagasabapathi K. An analysis of constraints encountered by coconut growers in coconut cultivation of Kanyakumari district. *Bulletin of Environment, Pharmacology and Life Sciences*. 2022;11(11):5-8.
4. Dijendragowda SP, Mahendran K, Hemalatha S, Muralidharan C, Selvi RP. A study on consumer profile and preference for virgin coconut oil in Bangalore city. *Asian Journal of Agricultural Extension, Economics and Sociology*. 2023;41(10):102-109.
5. Kumar MS, Chandrakumar M, Deepa N, Selvi RP. A study of marketing constraints among coconut farmers

- in Palakkad district. International Journal of Agriculture Sciences. 2022;15(24):1.
6. Kumar S, Murugan P. Socio-economic and psychological characteristics of Gajah cyclone affected coconut growers in Tamil Nadu. The Pharma Innovation Journal. 2022;11(8):1301-1306.
 7. Mannekote JK, Kulas SV. Value addition to coconut: Opportunities and challenges. Indian Coconut Journal. 2016;55(11):4-9.