

An Economic Inquiry into the Consumer's Usage of Coconut Oil in Tamil Nadu

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Abstract - A study was carried out to analyze the consumers' preference of coconut oil in Tamil Nadu state, India. Data were collected from consumers across the three major coconut producing zones of Tamil Nadu. Thirty respondents were interviewed for the survey. Among the consumers of coconut oil, a little over 33% belonged to the age group of 31-40 years and majority of them (60%) were females. TV advertisement was the major source of information about coconut products. More than 80% of the consumers were using coconut oil as hair oil. About 31% used unbranded oil for edible purposes. Adequate availability of homemade oil and high price were the main reasons for not choosing branded coconut oil. The factors influencing the use of coconut oil for household consumption was examined by functional analysis. The R^2 value of 0.57 indicates that about 57% of the variation in the household consumption is influenced by the family type, age, education and income of the households. The variable education was positive and significant at 5% level indicating that increase in educational level of the consumers would result in increase the household consumption.

Since the price of oil is comparatively high for many of the consumers, the usage of coconut is very much limited. The unacceptable flavour and taste unlike other conventionally used oils like groundnut and gingelly oils, made the consumers not to use coconut oil for cooking purposes. The nutritive and economic values of coconut oil should be popularized among the households to enhance the usage of coconut oil as a cooking media since education played a key role in deciding the usage of oil. The misconception of consuming coconut oil inducing health hazards like accumulation of fat may be eliminated through adequate mass media contacts and awareness campaigns by the institutional agencies to ensure adequate intake of coconut oil in the day-to-day food chain mechanisms.

Keywords: Consumers, Usage Coconut Oil, Economic Inquiring

1. INTRODUCTION

Coconut, one of the globally cultivated crops is popular in more than 90 countries, occupying an area of 26 million acres with a total production of 547.16 lakhs tonnes per annum. The average yield is 5000 nuts/ha. In terms of production, Philippines ranks first sharing 36% followed by Indonesia

(28%), India (20%), Brazil (5%) and Srilanka (4%). In India, coconut is cultivated in an area of about 1895 thousand hectares with an average annual production of about 15,730 million nuts. The average productivity of coconut in an Indian coconut farm is about 8303 nuts per hectare. In India, coconut is cultivated mainly in the coastal tracts of Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Orissa, West Bengal, Pondicherry, and Maharashtra and in the islands of Lakshadweep, Andaman and Nicobar.

A. Coconut Scenario in India

Kerala is the major coconut growing state in India with an area of 7.88 lakh hectares and a production of 5802 million nuts, followed by Karnataka (4.19 lakh hectares and 2176 million nuts), Tamil Nadu (3.9 lakh hectares and 5365 million nuts) and Andhra Pradesh (1.01 lakh hectares and 970 million nuts). Four southern states put together account for about 90% of the total area in the country (Kerala- 41.58% Karnataka - 22.12%, Tamil Nadu - 20.56% and Andhra Pradesh - 5.49%). In productivity too, India ranks number one among the other coconut growing countries in the world. Among the four major coconut growing states, Tamil Nadu has the highest productivity of 13771 nuts/ha followed by Andhra Pradesh (9327 nuts/ha), Kerala (7365 nuts/ha) and Karnataka (5193 nuts/ha) (Source: www.dacnet.nic.in).

B. Status of Coconut Production in Tamil Nadu

Coconut is grown in almost all the districts of Tamil Nadu. It is cultivated in 3.90 lakh hectares and the production is estimated to 5365 million nuts. The major coconut growing districts are Coimbatore, Tirupur, Thanjavur, Theni, Dindugul, and Kanyakumari. Among the districts, Coimbatore occupies a leading position in the state. It contributes about 19.7% of area followed by Tirupur (11.37%), Thanjavur (7.9%), Dindugul (6.6%), Kanyakumari (6.4%) and Vellore (5.8%) (Source: www.coconutboard.nic.in).

- X3 - Family type (1- Joint family, 2- Nuclear family)
- X4 - Household Income (Rs/year)
- X5 - Educational level (1-Illiterate, 2-Primary, 3-Secondary, 4 - Higher Secondary, 5-Graduate and Post Graduate)
- X6 - Employment pattern (1-Employed in Government / private institutions, 2- Self employed).
- a - Intercept b,c,d,e,f, and g - Coefficients to be estimated.

III. RESULTS AND DISCUSSION

A. General Characteristics of the Sample Consumers

The general characteristics of the consumers included age, educational status, family type, and income of the households. The data were analyzed to understand the profile of the consumers. Age of the consumers in a way indicates their acceptance of changes and hence the details regarding sample consumers were gathered and analyzed. It could be observed that about 33% of the sample respondents belonged to the age group of 31-40 years followed by the age group of more than 50 years (26.66%). The dominance of a larger section of the sample belonging to a relatively younger group indicates that they would influence the purchase decisions, brand preference etc. Source persons are important in the flow of information regarding consumer products. Hence, the respondents were grouped based on their gender as male and female and the details were collected. Majority of the sample respondents (60%) were females, while 40% of the respondents were male.

B. Educational Status and Family Type

It is evident from the analysis that majority of the sample respondents (36.66%) were graduates followed by higher secondary education holders (23.33%) and only about 6% of the respondents were illiterates. This sort of distribution is likely to influence the preferences of the consumers in a more edifying way. It was inferred that 63 % of the sample households were nuclear type and only 37% of the sample

households live as joint family. Since the percentage of nuclear family was high, the chance of using only a particular brand of oil in the family was reported high.

C. Employment and Income

It is quite interesting to note that majority of the sample respondents (73.33%) were employed in government/private institutes, while only 26.66 % of the respondents were self employed. The income of the household normally influences the purchasing power of the family and hence it was assessed. Based on the household's monthly income, the respondents were categorized into three groups such as less than Rs.10,000; Rs.10, 000-20,000 and more than Rs. 20, 000. It could be inferred from the Table 1 that 40% of the consumers had a monthly household income of more than Rs.20,000 and 33.33% of the households had a monthly income of Rs 10,000-20,000.

D. Consumers' Buying Behaviour

The details of source of information, reasons for preferring a particular brand, usage of cooking oil, influence of demographic factors etc., are important to understand the consumers' acceptability. The source of information would be helpful to identify the media for communication. The respondents were asked to indicate about the source through which they got the information regarding various brands of coconut oil. The data were analyzed and the results are presented in Table II.

It could also be inferred from the Table II that the influence of TV advertisement was higher (43.33%) in getting the information about the various brands of coconut oil. Word of mouth and shopkeeper's recommendation were the second and third important sources of information. Radio advertisement though acted as the source of information, it accounted only 10%. Hence it is obvious that TV advertisement was the major source to attract maximum percentage of people and hence the firms can use the media to position their product in the market appropriately.

TABLE I HOUSEHOLD INCOME

Group (Income/month in Rs)	Western Zone	Cauvery Delta Zone	Southern Zone	Over all
Group I (Less than 10000)	1 (10.00)	3 (30.00)	4 (40.00)	8 (26.66)
Group II (10000-20000)	1 (10.00)	6 (60.00)	3 (40.00)	10 (33.33)
Group III (More than 20000)	8 (80.00)	1 (10.00)	3 (20.00)	12 (40.00)
Total	10 (100.00)	10 (100.00)	10 (100.00)	30 (100.00)

TABLE II SOURCE OF INFORMATION

Source of information	Western Zone	Cauvery Delta Zone	Southern Zone	Over all
Television(TV)	4 (40.00)	4 (40.00)	5 (50.00)	13 (43.33)
Word of mouth	3 (30.00)	2 (20.00)	1 (10.00)	6 (20.00)
Shopkeeper's recommendation	1 (10.00)	2 (20.00)	2 (20.00)	5 (16.67)
Print media/News paper	1 (10.00)	1 (10.00)	1 (10.00)	3 (10.00)
Radio	1 (10.00)	1 (10.00)	1 (10.00)	3 (10.00)
Total	10 (100.00)	10 (100.00)	10 (100.00)	30 (100.00)

TABLE III PURPOSE OF USING COCONUT OIL

Particulars	Western Zone		Cauvery Delta Zone		Southern Zone		Over all
	Hair oil	Edible oil	Hair oil	Edible oil	Hair oil	Edible oil	
Branded	6 (60.00)	–	4 (40.00)	–	7 (70.00)	–	17 (56.66)
Un branded	2 (20.00)	2 (20.00)	5 (50.00)	1 (10.00)	2 (20.00)	1 (10.00)	13 (43.33)
Total	8 (80.00)	2 (20.00)	9 (90.00)	1 (10.00)	9 (90.00)	1 (10.00)	30 (100.00)

TABLE IV REASONS FOR PURCHASING BRANDED COCONUT OIL

Reasons	Mean score	Rank
Enhanced keeping quality	95	I
Flavour (aroma)	81	II
Purity	47	III
Brand image	46	IV

E. Usage of Coconut Oil

Coconut oil has been used as hair oil as well as for edible purpose but to a limited extent. Hence the respondents were asked to indicate the purpose of using coconut oil as well as their brand choice and the results are presented in Table III. It could be observed that about 57% of respondents were using branded coconut oil. It is also interesting to note that more than 80% of the consumers were using coconut oil as hair oil. It was also observed that 43.33% of the household respondents were using unbranded coconut oil, mostly as hair oil and only about 31% of consumers used unbranded oil for edible purposes.

F. Reasons for Purchasing Branded Coconut Oil

The respondents were asked to rank their reasons for preferring the branded coconut oil and the results are presented in Table IV.

It could be observed from the Table IV that the sample respondents ranked keeping quality as the first reason for the preference of branded oil. Since the products under study were hair care products, the consumers were very much keen about the keeping quality of the products and hence the production firms could print the quality certifications details on the pack to win the confidence of the consumers. Consumers had given second rank to flavor, which indicated that the respondents expected 'Home made flavour' from the branded coconut oils. Purity and brand image were ranked as third and fourth important factors. Hence, the firm can concentrate on branding to attract the target consumers.

G. Reasons for not Preferring Branded Coconut Oil

Branded coconut oil was also not purchased by some of the consumers due to various reasons like adequate availability of homemade oil, high price, loss of purity, poor keeping quality etc. The reasons for not buying branded coconut oil were analyzed and results are presented in Table V.

TABLE V REASONS FOR NOT PREFERRING BRANDED COCONUT OIL

Reasons	Mean score	Ranks
Adequate availability of homemade oil	87	I
High price	78	II
Loss of purity	49	III
Poor keeping quality	33	IV

It could be inferred from the Table V that the sample consumers ranked adequate availability of homemade oil as the first criteria for not choosing branded coconut oil. They had given second rank to high price. This indicates the price consciousness of the respondents. So the firm may also consider this factor while formulating the pricing strategies for their products. They had given third rank to loss of purity and poor keeping quality was ranked as fourth reason for not buying branded coconut oil.

H. Consumers' Preferred Brand of Coconut Oil

There are many brands in coconut oil in the market viz, Parachute, VVD, Navrathina, Dabur vatika, Shanthi, Aswini, Parachute jasmine, AVM, etc. The sample consumers were asked to give the top three brands in their mind and the results obtained are presented in Table VI.

It could be observed from the Table VI that Parachute occupied first place in top of mind of the sample consumers followed by VVD and Navrathina.

I. Types of Cooking Oil

Different types of cooking oil have been used by the consumers. The various cooking oils are Ground nut oil, Sunflower oil, Palm oil, refined oil, and Coconut oil, etc., the various oils used for cooking by the consumers were analysed and the results are presented in Table VII.

TABLE VI TOP THREE BRANDS OF COCONUT OIL

Brands	Mean score	Rank
Parachute	94	I
VVD	72	II
Navarathina	33	III

TABLE VII TYPES OF COOKING OIL

Types of oil	Western Zone	Cauvery Delta Zone	Southern Zone	Over all
Ground nut oil	4 (40.00)	4 (40.00)	2 (20.00)	10 (33.33)
Sunflower oil	2 (20.00)	1 (10.00)	4 (40.00)	7 (23.33)
Gingelly oil	1 (10.00)	1 (10.00)	1 (10.00)	3 (10.00)
Palm oil	3 (30.00)	2 (20.00)	1	6 (20.00)
Coconut oil	-	2 (20.00)	2 (20.00)	4 (13.33)
Total	10 (100.00)	10 (100.00)	10 (100.00)	30 (100.00)

TABLE VIII REASON FOR POOR HOUSEHOLD CONSUMPTION

Reasons	Western Zone	Cauvery Delta Zone	Southern Zone	Total	Difficulty Index
High fat	3 (30)	4 (40)	5 (50)	12	40
High cost	2 (20)	3 (30)	3 (30)	8	27
Poor taste	8 (80)	8 (80)	6 (60)	22	73
Un acceptable flavour	4 (40)	5 (50)	7 (70)	16	53
Lack of good flavour and taste	7 (70)	6 (60)	5 (50)	18	60

It is clear from the Table VII that from the sample consumers 33.33% of the consumers used Ground nut oil for cooking followed by Sunflower oil 23.33% and Coconut oil 13.33%, Coconut oil mostly used in Cauvery delta zone and Southern zone because of availability of Coconut oil was too high.

J. Reason for Poor Household Consumption

The reason for non usage of coconut oil was high fat, high cost, poor taste, vomiting sense, smell and taste and presence

of cholesterol, etc., the various reasons quoted by the respondents were analyzed and the results are described in Table VIII. From the table it could be concluded that majority of the consumers did not prefer coconut oil for household consumption because of poor taste. The difficulty index was high (73) for this reason. So this reason was highly influenced the consumers. Followed by smell and taste, vomiting sense and high fat were also other reasons for poor household consumption of coconut oil. High cost was the minor reason for poor household consumption of coconut oil.

TABLE IX TYPE OF THE PREFERRED PACKAGING MEDIA

Type of Packing	Western Zone	Cauvery Delta Zone	Southern Zone	Over all
Sachet	3 (30.00)	4 (40.00)	2 (20.00)	9 (30.00)
Bottle	6 (60.00)	2 (20.00)	6 (60.00)	14 (46.67)
Flip top	1 (10.00)	4 (40.00)	2 (20.00)	7 (23.33)
Total	10 (100.00)	10 (100.00)	10 (100.00)	30 (100.00)

TABLE X FACTORS INFLUENCING THE CONSUMPTION OF COCONUT OIL

S.No	Variables	Co-efficient	Standard Error
1	Intercept	82.613	4.87296
2	Age	0.537817**	0.271084
3	Gender	-1.57598	4.911542
4	Family type	0.394898	5.197651
5	Income of the household	0.488428*	0.258543
6	Education	5.310822**	2.332915
7	Employment pattern	0.808447	6.738593

R² = 0.571, N = 30

** - Significant at five percent level

* - Significant at ten percent level

K. Type of Preferred Packaging

The type of packaging preferred varied among the consumers and the details are given in Table IX. It could also be inferred that majority of the respondents (46.66%) preferred bottle type packing about 30% of the consumers preferred sachet. Only 23.33% of the respondents preferred flip top. Among the three zones, western and southern zone respondents (60%) preferred bottle. Majority of Cauvery delta zone respondents (40%) preferred both sachet and flip top.

L. Influence of Demographic Factors on the Use of Household Consumption of Coconut Oil

The factors influencing the use of coconut oil for household consumption was examined by functional analysis. The respondents' demographic factors like family type, age, income of the household, gender, education, and employment pattern were taken as independent variables and coconut oil consumers were taken as dependent variable respectively. Regression analysis was done to identify the factors that

influence the use of poor household consumption of coconut oil and the results are presented in Table X. The coefficient of multiple determinations (R²) was 0.57. The R² value of 0.57 indicates that about 57% of the variation in the household consumption is influenced by the explanatory variables included in the model.

The variable education was positive and significant at 5% level indicating that increase in educational level of the consumers would result in increase the household consumption. Similarly, age and income level of the consumers had positive and significant effect at 5% and 10% level of significance indicating that one unit increase in age and income level of consumers would result in an increase in the consumption of coconut oil by 1.9 and 1.8 unit respectively. This clearly indicates that age and income of the consumers greatly influences the household consumption level of the individual consumer.

IV. CONCLUSION

From the foregoing discussions the following conclusions could be derived for adoption by policy makers. Since the price of oil is comparatively high for many of the consumers, the usage of coconut is very much limited. The unacceptable flavour and taste unlike other conventionally used oils like groundnut and gingelly oils, made the consumers not to use coconut oil for cooking purposes. The nutritive and economic values of coconut oil should be popularized among the households to enhance the usage of coconut oil as a cooking media since education played a key role in deciding the usage of oil. The misconception of consuming coconut oil inducing health hazards like accumulation of fat may be eliminated through adequate mass media contacts and awareness campaigns by the institutional agencies to ensure adequate intake of coconut oil in the day-to-day food chain mechanisms.

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