

**A STUDY ON CONSUMER'S RESPONSE TO SORTEXED
FINE RICE IN CHENNAI AND COIMBATORE CITIES**

**Thesis submitted in part fulfilment of the requirements for the
Degree of Master of Business Management to the
Tamil Nadu Agricultural University
Coimbatore**

By

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CERTIFICATE

This is to certify that the thesis entitled "A STUDY ON CONSUMER'S RESPONSE TO SORTEXED FINE RICE IN CHENNAI AND COIMBATORE CITIES" submitted in part fulfilment of the requirements for the degree of Master of Business Management to the Tamil Nadu Agricultural University, Coimbatore is a record of bona fide research work carried out by Mr.K.ABDUL WAHEED under my supervision and guidance and that no part of this thesis has been submitted for the award of any other degree, diploma, fellowship or other similar titles or prizes and that the work has not been published in part or full in any scientific or popular journal or magazine.

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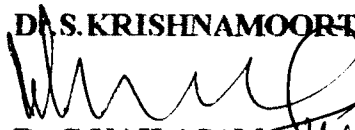

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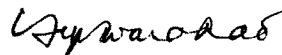
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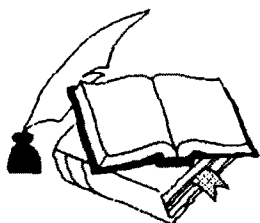

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***Dedicated to my beloved
parents and
brothers***



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(K. ABDUL WAHEED)

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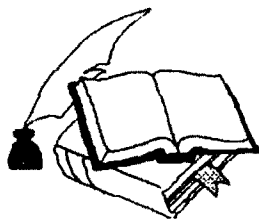
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Introduction



CHAPTER I

INTRODUCTION

In India over the years there has been tremendous change in the socio-economic profile of the population. The population increased from 548 million in 1971 to 844 million in 1991. During the same period the percentage share of rural population declined while the share of urban population increased from 19.9 per cent to 25.7 per cent. The number of agglomerations increased from 2476 in 1971 to 3609 in 1991. About 64 per cent of the families in urban areas were of nuclear type and the rest were joint families. The per capita income increased from Rs. 1,520 in 1970-71 to Rs.2,226 in 1992-93. The literacy level of the population in India increased from 34.5 per cent in 1971 to 52.2 per cent in 1991 and the literacy rate of the females increased from 22 per cent to 39 per cent during the same period. The work participation rate in India increased from 34.2 per cent to 37.7 per cent between 1971 and 1991. The work participation rate in urban areas increased marginally from 29.6 per cent to 30.4 per cent and that of the female participation rate increased from 7.2 per cent to 9.7 per cent during the same period. The increase in urban growth in work participation rate, literacy level and per capita income might have brought about changes in the buying behaviour of the people. Indian market is changing from seller's market to buyer's market. There is an increasing demand for better quality premium priced products, packaged and branded products.

In recent time several commodities like wheat, atta, sooji, rice, rice flour, cooking oil, ghee, chilly, turmeric powder etc., are being branded and marketed in urban areas. The firms also obtained Agmark grading for the produce to convince the customers about the quality of the produce. The progress made under voluntary grading in India showed that the value of commodities graded increased from Rs.3.64 crores in 1952-53 to Rs.653.75 crores in 1991-92. Correspondingly the value of commodities graded under compulsory grading increased from Rs.13.27 crores to Rs.923.90 crores.

Rice is the staple food particularly for those in South India. The Government of India took control over rice milling industry by declaration made in the Parliament under entry 52 of list I of schedule 7 of the constitution. The main object of controlling rice milling industry was to encourage the modernisation of conventional type of rice mills to produce more rice of better quality and nutritive value. The modernisation of rice mills started in 1970 but the pace of modernisation gained momentum only after 1983. There were 13,132 modern rice mills in the country in 1983 and it increased to 33,557 in 1993. In Tamil Nadu, there were 3408 modern rice mills during 1993.

A new product called sortexed fine rice has been conceptualised by Green Country Agro Foods Ltd., Chennai. This sortexed fine rice is a high quality rice to be obtained by a machine called "sortex". This machine segregates the milled rice into grains of uniform length, width, thickness, weight and colour, without broken rice, stones, kernel, husk, damaged or slightly damaged grains, discoloured grains,

chalky grains, red grains and mixture of different lower quality of other varieties of rice.

PROBLEM FOCUS:

Sortexed fine rice is going to be a high quality premium product and will be relatively costlier than other fine rice varieties in the market. Only those consumers who are able to appreciate the quality of rice will be willing to pay the higher price. Therefore the success of this new product in the market depends upon the proportion of such prospective buyers among buyers of fine rice in the market and their knowledge about the product quality. As a new entry into the market the product needs to be popularised among the consumers to build awareness of its quality which involves large investment in product promotion. The firm may be willing to incur the cost if the market potential for the product is sufficiently large. To evaluate this potential and identify the factors that influence the preference of the consumers to such premium product the present study was undertaken.

HYPOTHESIS:

There exists a positive response to sortexed fine rice in the urban area.

OBJECTIVES:

The overall objective of the study is to study the consumer's response to sortexed fine rice. The specific objectives are,

- (i) to study the consumer's buying behaviour for branded fine rice in Chennai and Coimbatore cities;
- (ii) to identify the factors influencing the consumption of branded fine rice; and
- (iii) to study the constraints and promotional efforts needed to promote this new product in the market.

SCOPE OF THE STUDY:

The findings of the study would identify specific factors that influence the buying behaviour of consumers of fine rice and also their expectations in respect of quality of rice and price. Such information will be very useful to the firm to decide its strategies to build market for the new product through development of brand loyalty. Based on consumer expectations on quality of fine rice, the rice breeding programmes could be formulated.

LIMITATIONS OF THE STUDY:

The present study covered a particular region and the data were collected for only one year (1995-96) by survey method. Though provisions were made in the interview schedule to cross check the information, recall bias of the respondents could not be completely eliminated. Since, sortexed fine rice is not available in the market and the price is also not fixed, the consumer's buying behaviour for branded fine rice was studied to arrive at consumer's response to sortexed fine

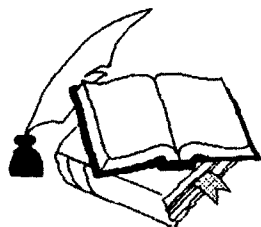
rice. Therefore, generalisation of the findings of the study needs to be done with caution.

ORGANISATION OF THE THESIS:

The study has been divided into the following chapters to cover the objectives of the study.

- CHAPTER I : Problem setting, hypothesis, objectives, scope and limitations of the study are discussed.
- CHAPTER II : Concepts in the present study and the concepts used in previous researches and review of past studies are presented.
- CHAPTER III : The methodology and technique of analysis used in the study are given.
- CHAPTER IV : The general description of the study area is discussed.
- CHAPTER V : The results are discussed with their implications.
- CHAPTER VI : The summary and conclusions with policy implications are presented.

* * * * *



Concepts and Review

CHAPTER II

CONCEPTS AND REVIEW

Concepts used in the past studies and a brief review of earlier research are presented in this chapter with a view to get a comprehension of the subject.

CONCEPTS

Fine rice:

Tamil Nadu Civil Supplies Corporation defined fine rice based on the recommendation of Balasubramaniam Committee as a variety of rice which has the length/breadth ratio of 2.5 and above but below three. ¹

For the present study the above mentioned definition is followed.

Consumer:

According to Kotler consumers included all the individuals and households who buy or acquire goods and services for personal consumption. ²

Bhatt explained that consumer is an individual who consumes goods, whether manufactured by business unit or created by nature such as air, water etc and utilities offered by the government, business organisations like hospitals,

1. Government of Tamil Nadu, *Quality Control Guide* (Chennai: Tamil Nadu Civil Supplies Corporation, 1994), p.23.
2. Philip Kotler, *Principles of Marketing* (New Delhi: Prentice Hall of India Ltd., 1983), p.121.

religious, educational and other voluntary organisation etc., ³

The Consumer Protection Act, 1986 defined consumer as any person who buys any goods for a consideration paid or promised or partly paid and partly promised or any system of defined payment and included the user of such goods other than the person who buys such goods for a consideration paid or promised or partly paid and partly promised or any system of deferred payment when such use is made with the approval of such person but does not include a person who obtained such goods for resale or for any commercial purpose.⁴

For the present study consumers are defined as all the households who buy or acquire branded fine rice for personal consumption.

Household:

Census of India (1961) defined household as a group of persons who commonly live together and take their meals from a common kitchen unless the exigencies of work prevented any one of them from doing so. ⁵

3. Gopal R. Bhatt, "Consumerism: Concept and its Need in our Era", *Indian Journal of Marketing*, 15 (12): pp 3-8, 1985.

4. Anonymous, *Consumer Protection Act, 1986*, (Allahabad: Central Law Agency, 1989), p.1-3.

5. Government of India, *Census of India 1961 vol. I Part IV B*, (New Delhi: Registrar General and ex officio Census Commissioner of India), p 1.

National Council of Applied Economic Research defined household as a group of persons, atleast some of whom are interrelated, who live together and generally share a common kitchen. A single person is treated as a household provided he or she maintains a kitchen.⁶

Batcheldor defined household as one comprising of all persons who occupy a housing unit, i.e., a house, an apartment or other group of rooms that constitutes separate living quarters.⁷

Household is a group of persons atleast some of whom are interrelated who live together and generally share a common kitchen according to Sidhu. A single person is treated as a household if a group of unrelated persons lived together and maintained a common kitchen.⁸

Directorate of Economics and Statistics reported household as a family unit

6. National Council of Applied Economic Research, "All India Rural Household Survey; Savings, Income and Investment Vol II" (New Delhi: National Council of Applied Economic Research, 1970), p.17.

7. A.B. Batcheldor, "The Economics of Poverty" (New York: John Wiley and Sons. Inc. 1971), p.3.

8. D.S. Sidhu, "Demand and Supply of Eggs-An Econometric Analysis" (New Delhi: S. Chand and company pvt. Ltd., 1974), pp.125-127.

with a common kitchen, common accounts and residing in the same house.⁹

National Council of Applied Economic Research in subsequent studies defined household as a unit of all persons who are adopted and living in the same dwelling unit continuously for more than six months during the reference period, sharing the same kitchen.¹⁰

Shah defined household as one that consists of persons staying together under one common roof and having a common kitchen.¹¹

Premkumar defined household as a single economic decision making unit comprising members of blood relation, dwelling in the same house, cooking in the common kitchen and dining together.¹²

Sabeson defined household as the group of persons who are interrelated by blood, marriage or adoption and share a common kitchen and common account

9. Directorate of Economics and Statistics, "Studies on Economics of Farm management in Coimbatore District (Tamil Nadu)" Report for the year 1971-72 (New Delhi: controller of publications, 1977), p.498.

10. National Council of Applied Economic Research "Charges in Rural Income in India, 1968-69, 1969-70, 1970-71", (New Delhi: National Council of Applied Economic Research, 1974), pp 30-32.

11. C.H. Shah, "The Demand for Higher Status Food and Nutrition in Rural India: Experience of matur taluka.", Food and Nutrition Bulletin, 8(2): pp 4-5, 1985.

12. P.V. Premkumar, "A Study on Consumption Pattern of Milk and Milk products in Coimbatore City", (An unpublished M.Sc. Ag., Thesis submitted to Tamil Nadu Agri. University, 1984), p.97.

and live in the same house. ¹³

For the present study, household is defined as a group of persons who live together and dine in the same kitchen and interrelated by blood, marriage or adoption.

Household income:

Visaria defined household income to include wages and salaries from employment, profits from business, pension, remittance, other cash receipt, and non monetary income.¹⁴

Sarma defined household income as an aggregation of self employment income from agriculture and allied activities, self employment income from business, income from agricultural and non agricultural wages, income from rent, interest and dividend and transfer income.¹⁵

National Council of Applied Economic Research defined household income as self employment income from business, profession and services, salary income, agricultural and non agricultural wage income, rent, interest and dividend income

13. C.Sabeson, "Processed Fruit and Vegetable Products - A Consumer Analysis in Coimbatore", (An unpublished M.Sc., Ag., Thesis submitted to Tamil Nadu Agrl. University, 1991), p.17.

14. Pravin Visaria, " Some Aspects of Relative Poverty in Srilanka 1969-70", World Bank Staff Working Paper No. 461, The World Bank, Washington, May, 1981, p. 182.

15. I.R.K. Sarma, "Recent Trends in Distribution of Personal Income", Margin, XVI (2): p 87, 1984.

and transfer income.¹⁶

For the present study, household income is defined as the total amount of current receipt from wages and salaries, income from currently operating business, profession, services, rent, interest, dividend, gifts and bonus received by all the members of the household during the reference period.

Consumer's buying behaviour

Consumer behaviour referred to selection of specific brand of a product out of the available brands in the market by considering their various attributes such as size, texture, material, taste, hardness, price, name and distribution.¹⁷

According to Wolgaust buying behaviour involved a complicated series of stimulus-response to many factors or motives which are expressed on the basis of deep seated needs or more openly felt wants. When some one buys something, he psychologically satisfies both a need and a want. He buys a specific product out of a vast lot, because it provides him with certain amount of mental and physical satisfaction. Modern buyers not only want to know about the product features but also to know, how and why the product will benefit them. They look not only for

16. National council of Applied Economic Research, "Household Income and its Disposition", (New Delhi: National Council of Applied Economic Research, 1989), p.12.

17. H.P. Gupta and Raghbir Singh, "Consumers Brand Choice Behaviour for Televisions", *Indian Journal of Marketing*, XIX(6-7): pp. 17-22. 1989.

what the product can do but also, what they mean.¹⁸

Elling identified four factors that determined the buying behaviour irrespective of whether the buyer is a consumer or an individual user. They are rational forces, emotional forces, life cycle of the consumer, and life cycle of the product.¹⁹

Narvar and Savitt indicated that the process of buying behaviour meant the steps either implicit or explicit which every buyer pass through in making a decision, to accept or reject products to fulfill needs. The process consisted of four sequential stages i.e., problem recognition, search, choice, and post-decision evaluation.²⁰

The integrative model of buyer behaviour proposed by Howard and Seth was built as inputs, perceptual constructs, learning constructs and outputs. The inputs are designated as significative, symbolic and social including both business and environmental factors. When the senses pick up any of the above mentioned inputs stimulus ambiguity resulted which concurrently led to overt search for more information and might cause changes in motives, choice, criteria, intentions and

18. E.M. Wolgaust, "Do Husbands or Wives Make the Purchase Decision", *Journal of Marketing*, 10(1): pp.151-8, 1958.

19. Karl A. Elling, "Introduction to Modern Marketing-An Applied Approach", (New York: The Mac millan company., 1969), p.46.

20. John C. Narvar and Ronald Savitt, "The Modern Marketing Economy-an Analytical Approach", (New York: Holt, Rinchart and Winston Inc., 1971), p.4.

brand comprehension. These factors inturn affect the confidence, intention and purchase. The experience that is gained in this process is retained in the memory and it has its impact on the subsequent purchases.²¹

According to Markin buying behaviour meant human activities in the consumption role. The acts of individuals and organisations directly involved in obtaining and using goods and services included the decision making process. This includes problem recognition, search for alternatives, evaluation and assesment of options, decision to buy, postpone, or search further and post decision evaluation.²²

Walters viewed buyer behaviour as the process wherein individuals decide whether, what, when, where, how and from whom to purchase goods and services.²³

Mehta defined buying behaviour as the search of alternatives, evaluation of alternatives, choice decision and post purchase feelings and reactions.²⁴

21. Black well, "Consumer Behaviour", (Illinois: Dryden Press, 1972), p.38.

22. Rom Markin, "Marketing Strategy and Management", (New York: John Wiley and Sons, 1982), p. 635.

23. C. Glenn Walters, "Consumers Behaviour, Theory and Practice", (Illinois: Richard D. Irwin Inc., 1974), p.7

24. Subash C. Mehta, "Indian Consumers", (New Delhi: Tata Mc Graw Hill pub. Company Ltd., 1974), p.8.

According to Kotler consumers go through a complex buying behaviour when they are involved in a purchase and are aware of the significant differences that exist among the brands. Consumers are highly involved in a purchase when it is brought infrequently, expensive and risky. Such buyers undergo a cognitive learning process characterised by first developing beliefs about the product their attitude, moving towards the product and finally making a deliberate purchase choice.²⁵

Venkateswaralu *et al.*, viewed consumer behaviour as a dynamic condition which changes with the perceptions and attitudes towards the product and it also influenced by certain exogeneous variables such as culture, time pressure, organisation and income.²⁶

Naik defined consumer behaviour as the influence of numerous uncontrollables such as product, price, promotion and distribution.²⁷

For the present study buying behaviour is taken as the needs, wants,

25. Philip Kotler, "Marketing Management-Analysis, planning, Implementation and control", (New Delhi: Prentice Hall of India Pvt. Ltd., 1989), pp. 191-192.

26. Haripuram Venkateswaralu, M.Kishorekumar and K.Rajanath, " Factors Influencing Consumer Decision making Process towards Biscuits - A Behavioural Analysis", *Indian Journal Marketing*, XVII (9-10): p.3, 1987.

27. G.B.Naik, "Marketing of Textiles and Consumer Behaviour - A Case Study of Belgaum City", *Indian Journal of Marketing*, XXII (9-12): p.10, 1994.

preferences and attitudes of the consumer which makes him to involve in the purchase of branded fine rice.

Consumer preference:

Elling explained consumer preference as that character of the consumer which when the product preferred by him is not available with one dealer, makes him to walk to other dealers for the same product.²⁸

Kotler opined that it is the customer's satisfaction or dissatisfaction that decides the consumers' preference for the product and if he is satisfied it will have a higher probability of purchasing it again.²⁹

Stephen and Knipe opined that attitudes, habits, taste and quality affected the preferences of a consumer towards a product.³⁰

For the present study consumer preference is taken as that character of the consumer which when the product preferred by him is not available with one dealer, makes him to walk to other dealers for the same product.

Brand :

The American Marketing Association defined brand as a name, term, sign,

28. Karl A. Elling, Op. cit., p.153. .

29. Philip.Kotler, Op.cit.,p.340.

30. Sapp. G. Stephen and C.Lynn Knipe, "Japanese Consumer Preferences for Processed Pork", Agri business, 6(4): pp. 387-400, 1990.

symbol or design or a combination of them which is intended to identify the goods and services of one seller or a group of sellers and to differentiate them from those of its competitors.³¹

As per Kotler brand name is that part of a brand which can be localized-the utterable.³²

According to Branson and Nowell, a brand has both a name by which it is called and often a mark by which it was recognised visually. A brand could facilitate communication for buyers at other levels than consumers such as food retailers who wanted to purchase in greater volumes. The brand name could communicate to retailers and consumers as what to expect from the product.³³

Stanton referred a brand to a name, term, symbol or special design or some combination of these elements that is intended to identify the goods and services of one seller or a group of sellers. A brand differentiated one seller's product or services or a group of seller's from those of its competitors.³⁴

31. Committee Reports, "Reports of Definitions Committee", *Journal of Marketing*, 13(2): p. 205, 1948.

32. Philip Kotler, *Op.cit.*, p. 366.

33. Robert E. Branson and Douglas G. Nowell, "Introduction to Agricultural Marketing", (New York: Mc Graw Hill Book Company, 1983), p. 351.

34. W.J. Stanton, "Fundamentals of Marketing", (New Delhi: Mc Graw Hill International Book Company, 1984), p. 210.

Sivakumar viewed brand as an aggregate of all characters of a product of a firm that enabled to differentiate it from similar products of other firms.³⁵

For the present study, any name, term, sign, symbol or design or a combination of them which is intended to identify the goods and services of one seller or a group of sellers and to differentiate them from those of competitors is defined as brand name.

Brand Preference:

Day explained brand preference as the predisposition of the consumer to prefer some brand or brands over others. This predisposition is influenced by factors such as recent experiences, customers, or habits, reference group, exposure to advertising and also the availability of the brand.³⁶

Markin stated that brand preference is the consumer favouring a brand over most others and accepting a substitute only if it is out of stock³⁷

For this study, brand preference is taken as favouring a brand over most others, but in case of its non availability substituting it with another brand of same product.

35. S.D. Sivakumar, "A Study on the Market Structure and Buying Behaviour of the Farmers with Reference to Pesticides", (An unpublished M.Sc (Ag)., Thesis submitted to Tamil Nadu Agrl. University, 1987), p.40.

36. R.L.Day, "Marketing models - Quantitative and Behavioural", (Pennsylvania; International Test Book Company, 1968), p. 52.

37. Rom Markin, "Marketing strategy and Management", (New York: John Wiley and Sons, 1982), p.273.

Consumption function:

Singh and Singh studied consumer expenditure in Punjab through concentration curve by using National Sample Survey data. Consumer expenditure concentration curve for food and non-food items were computed separately for urban and rural areas. The authors used Engle's functions of different functional forms namely linear, semi-log and double log for estimating the demand relationship with average current consumption of each commodity plus (or minus) any change which will result from the expected growth of expenditure.³⁸

Gupta argued that the concentration curve was unsuited to deal with two or more explanatory variables, and hence has limited applicability, as country like India, where the household characteristics, social customs and habits vary between the households and between the region. Eight functions namely, linear, quadratic, log-linear, log-quadratic form, hyperbolic, semi-log, log-inverse, and log-log inverse were used for the study.

38. Amarjit Singh and Haranal Singh, "Demand Projection of Consumer Expenditure in Punjab (re-organised)", *Indian Journal of Agricultural Economics*, 43(4): pp.27-37, 1973.

The author concentrated on two items namely food grains and clothing and found that household size and age of the head of the household influenced the consumption level. He also found that the expenditure elasticity decreases with rise in income.³⁹

Goreaux used logarithmic, semi-logarithmic, and log inverse relationship to study the income and food consumption and stated that linear function was unsuited for the analysis of food consumption because it assumed the co-efficient of elasticity to tend towards unity as income increased indefinitely. Logarithmic function was satisfactory when food consumption was expressed in terms of expenditure rather than in terms of quantities.⁴⁰

King formulated a general model for the analysis of food expenditure by bringing out explicitly total food expenditure as a function of income, family size and composition and all other non specified variables.⁴¹

39. Devendra B. Gupta, "Consumption Patterns in India- A Study on Inter Regional Variations", (Bombay : Tata McGraw Hill Publishing company Ltd., 1963), p.36.

40. L.M. Goreaux, "Income and Food Consumption" Monthly Bulletin on Agricultural Economics and Statistics, 1(10), pp.1-12, 1960.

41. Gordon A. King, "An Appraisal of the Strengths and Weaknesses of the Econometric Approach in Food Consumption Analysis", Journal of Farm Economics, 45(5): pp. 1408-10, 1963.

Muthukrishnan defined consumption function as a mathematical relationship between total family consumption of mutton and the factors influencing it viz., family gross income, family size in consumption units, and the proportion of expenditure on vegetables.⁴²

Ramalingam used semilog function to estimate the demand for vegetables in Coimbatore city. He assumed the following functional form:

$$Y = \ln A + b_1 \ln x_1 + b_2 \ln x_2 + b_3 \ln x_3 + e.$$

where Y = Expenditure on vegetables in rupees per week,

x_1 = Household income in rupees per week.

x_2 = Size of the household in consumption units and

x_3 = Vegetarian / Non vegetarian dummy variable.

i.e., $x_3 = 1$ if vegetarian household

= 0 if otherwise.

The main criterion for the selection of semilog functional model was the nature of expenditure elasticity implied in it.⁴³

42. A Muthukrishnan, "Study on Consumption Pattern of Mutton in Coimbatore City", (An unpublished M.Sc.(Ag)., Thesis submitted to Tamil Nadu Agrl.University, 1979), p.36.

43. A. Ramalingam, "Demand for Vegetables in Coimbatore City - An Economic Analysis", (An unpublished M.Sc. (Ag)., Thesis submitted to Tamil Nadu Agrl.University, 1985), p.50.

Rees opined that the factor that influenced the consumer's choice of food are complex, and the variables such as flavour, texture, appearance, advertising, demographic changes and introduction of microwave ovens has produced changes in eating habits, a reduction in traditional cooking, fragmentation of family meals and an increase in "snacking". He also argued that the vigorous sale of chilled and other prepared foods is related to the large number of working wives and single people who require the value convenience.⁴⁴

For the present study, consumption function is defined as a mathematical relationship between consumption of branded fine rice and the factors influencing it namely, income of the household, size of the family in consumption units, expenditure on coarse rice, basmati rice, and other cereal food items.

REVIEW OF PAST STUDIES

Kramer argued that the recent trends appeared to be motivated by nutritional and food safety perceptions. Health concerns are clearly not the only factors. He observed that taste, price, convenience, variety and quality are important. He also found that consumers are increasingly demanding safe and nutritious foods, appropriately produced, processed, labelled and certified.⁴⁵

44. A.M. Rees, "Factors Influencing Consumer Choice", *Journal of the Society of Dairy Technology*, 45(4): pp. 112-116, 1992.

45. C.S. Kramer, "Consumer Demands-A Balancing Act", *US Agriculture in a Global setting: An agenda for the future research for the future*, pp. 105-122, 1988.

Guenther, *et al.*, developed a demand model to determine the factors that affected the demand for potato products in USA. They found population, consumer price index, consumer income, consumer debt, retail potato products price, females in the labour force, percentage of household with microwave ovens, restaurant meal expenditure, price of substitute potato product, price of component product and advertising expenditures as the important factors. They found that the demand for all the potato products to be inelastic but for fresh demand it was most inelastic.⁴⁶

Choudhury found that the consumer demand for parboiled rice did not vary much among South Asian countries. He found that the grain size and shape, appearance of milled rice, translucency, amber colour of milled rice, percentage of broken grains and cooked rice hardness and fluffiness influenced consumer preference.⁴⁷

46. J.F. Guenther, "Factors that Affect the Demand for Potato products in the United States", *American Potato Journal*, 68(9): pp.569-579, 1991.

47. N.H. Choudhury, "Parboiling and Consumer Demand for Parboiled Rice in South Asia", *Rice grain marketing and quality issues, selected papers from the IRRI conference, Manila: IRRI*, pp. 47-54, 1991.

Balaji observed a direct relationship between consumer behaviour and the size of consumer's family. He found that in about 65 per cent of the houses, head of the household and his wife jointly took consumption decision. It was also seen that the housewife played a vital role either individually or jointly with the head of the household in fish purchase. As regards the purchase of fish the taste, quality and nutritional value played the major role in affecting consumer preference.⁴⁸

Dhunna while studying the consumer behaviour regarding soft drinks observed that the brand awareness is more in males than females. He also found that when there is an increase in income, the number of regular drinkers increased. As regards preference the taste and refreshing ability of the soft drink caused consumer to prefer certain drink of brand.⁴⁹

Senthilkumar while studying the consumer's buying behaviour for button and oyster mushroom, analysed the source of information from which the consumer got aware of mushroom, purchase frequency, quantity per purchase,

48. V. Balaji, "Fish Consumption-A Case Study of Fish Consumption Behaviour in Visakapatnam City", *Indian Journal of marketing*, 16(2-3): pp. 21-27, 1985.

49. Mukesh Dhunna, "An Analysis of Consumer Behaviour- A Case Study of Soft Drinks", *Indian Journal of Marketing*, 14(7): pp. 26-28, 1984.

and distance to retail point. He found that retail shop, hotels, friends and relatives, print media and mass media were the major sources of information to become aware of mushroom. He also found that non-availability of mushroom at the required time, higher price, perishability and distance to shop as the important problems faced in purchasing mushroom.⁵⁰

Sudalaimani found that the various promotional activities such as posters, wall painting, radio, TV, leaflets, filmshows, demonstrations, neighbours and seminars were needed to improve the sale of tissue culture cardamom plantlets. He found that demonstration, leaflets, posters, TV and radio, were the major promotional activities preferred by the farmers.⁵¹

50. M. Senthilkumar, "Market Study on Spawn and Edible Mushroom", (An unpublished MBM thesis submitted to Tamil Nadu Agrl. University, 1992), pp. 131-133.

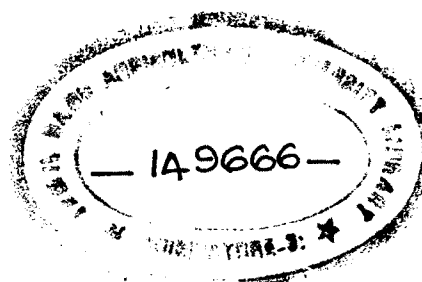
51. M.Sudalaimani, "An Assessment of Market Potential for Tissue Culture Cardamom Plantlets in India", (An unpublished MBM thesis submitted to Tamil Nadu Agrl. University, 1991), pp. 42-50.

Bouis presented food demand elasticities for Pakistan's rural and urban population for 13 food groups. He estimated the price and income elasticities using a new food demand estimation technique with a strong *a priori* assumption concerning food demand behaviour namely, that the marginal rate of substitution between two foods depends directly on the levels of consumption of all other foods.⁵²

Haridoss and Balaji attempted to find out the effect of disposable income and household size on the expenditure on different commodity groups, namely, food, clothing, fuel and light, shelter, travel, medical and other items by estimating Engel elasticities. The log-linear form of Engel function was used. The result showed that the income elasticities for food (0.57), clothing (0.92), shelter (0.94) and fuel and light were less than unity, i.e., they were necessary goods. The income elasticities of demand for medical (1.19), travel (1.31) and other items (1.91) were found to fall under the category of luxuries.⁵³

52. H.E. Bouis, "Food Demand Elasticities by Income Group by Rural and Urban Population of Pakistan", *Pakistan Development Review*, 31 (1): pp.997-1017, 1992.

53. R. Haridoss and S.Balaji, "Engel Elasticity and Economies of scale in Household Consumption- A Micro Analysis", *Margin*, 22(1-2): pp. 105-110, 1989.



Capps and Love found the determinants of household expenditure on fresh vegetables in United States. The expenditure on fresh vegetables was found to be influenced by household income, region, population density and unemployment of either the spouse or both household heads, and education of the household heads. However race of household head and education of the housewife did not significantly influenced fresh vegetable expenditure.⁵⁴

Ritson and Hutchins identified price, income, taste, religion, social attitudes and desire for convenience as the most influencing factors for the food choice by individuals and households. They argued that the factors other than price and income actually influenced the pattern of food consumption.⁵⁵

Ito made an analysis of consumption pattern in 125 countries and found that the percapita consumption was around 100 Kg for rice and as low as 10-50 kg for wheat in most of the Asian countries. On the contrary, Europeans ate less than 5 Kg rice but consumed as much as 170 Kg or more of wheat. He also found that each individual country has a rice-wheat consumption or vice versa. He indicated that rice and wheat were found to be strong substitutes for each other in many countries.⁵⁶

54. O.Capps and J.M. Love, "Determinants of Household Expenditure on Fresh Vegetables", *Southern Journal of Agricultural Economics*, 15(2): P.127-132, 1983.

55. C.Ritson and R.Hutchins, "Food Choice and the Demand for Food", *Food choice and the consumer* (edited by manshall D.M.), pp. 43-76, 1995.

56. S.Ito, "An Analytical Study on World Rice and Wheat Consumption". *Journal of faculty of Agriculture, Tottori University*, 26: pp. 69-79, 1990.

Burney and Khan examined the household consumption patterns in Pakistan by estimating three different functional forms of the Engel curve. They used household level data for the year 1984-85 focussing on the impact of household size and composition on expenditure patterns. The results indicated that the coefficients corresponding to total household expenditure followed a cyclical patterns across different income group. This was explained in quantitative as well as qualitative changes in the consumption basket.⁵⁷

Gardon et al., attempted to study farm family disposable income. They examined the farm family propensity to consume from separate income sources. The results indicated that the propensity to consume, off farm income, and government payments were higher than that of the farm income.⁵⁸

57. Nadeem A. Burney and Ashafaque. H. Khan, "Household Size its Composition and Consumption Patterns in Pakistan : An Empirical Analysis using Microdata", *Indian Economic Review*, 26(1):pp.57-72, 1992.

58. E.C. Gardon, R.L. Michael, Jedschroder and M.F. Allen, "Propensity to Consume Farm Family Disposable Income from Separate Sources", *American Journal of Agricultural Economics*, 75(4), pp.739-744, 1993.

Burton, *et al.*, employed limited dependent variable model to determine factors influencing U.K. household meat purchase behaviour. The “double hurdle” model specifically the cragg and complete dominance version provided a better representation of the factors that influenced the separate decision of participation and expenditure levels. Key results showed that employment class and adult gender were significant determinants of participation but not expenditure and income was the prime factor which affected expenditure.⁵⁹

Singh examined the consumer reaction towards walnut in urban region of Punjab. The consumer preference had consistent similarity among all the income group. But the factors that influenced the consumption marginally differed among the income groups. Large sized walnuts were preferred by rich consumers and for export.⁶⁰

59. M.Burton, M.Jomlinson and T.Young, “Consumer Decision Whether or not to Purchase Meat: A Double Hurdle Analysis of Single Adult Households”, *Journal of Agricultural Economics*, (48) 2: pp.202-232,1994.

60. K.S.Gursharan Singh, “Consumption of Walnut: Consumers View, Pattern and Determinants”, *Indian Journal of Agricultural Marketing*, 9(1): pp.136-137,1995.

Rupkumar, *et al.*, studied the consumption behaviour and nutritional pattern of farm families in Vidarbha region and identified the factors responsible for such variation. According to them development of agriculture played an important role in the economy of farmers. It brought out the changes in the quality and quantity of consumption of different products. They verified these by conducting study on consumption pattern of farm families in Akola district in the year 1989-90.⁶¹

Meyinsee, *et.al.*, made a consumer survey to find out the factors influencing the consumption of new food products. They identified the marital status, age, education, household size, income, race, religion and occupation as important factors influencing the consumption of new food products.⁶²

61. R.Rupkumar, V.N.Autkar and V.P.Mahalk, "Family Consumption Pattern in Rural Sector- A Case Study of Vidarbha Region", *The Bihar Journal of Agricultural Marketing*, 3(2): pp.206-213, 1995.

62. P.E.McLean-Meyinsee, Hui Juon Gow and J. Meyinsee, "Factors influencing Consumption of New Food products and Speciality Meat", *Journal of Food products Marketing*, 2(4): pp.29-43, 1995.

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Design of the study

CHAPTER III

DESIGN OF THE STUDY

The objectives of the study are to study the consumer's buying behaviour for branded fine rice in Chennai and Coimbatore cities, to identify the factors influencing the consumption of branded fine rice, and to study the constraints and promotional efforts needed to increase the consumption of branded fine rice. Various methods and statistical tools were employed for accomplishing the aforesaid objectives. Chennai and Coimbatore cities were selected purposively due to the urban orientation, varying degree of income earning households, and use of branded items on a large scale. A brief account of the design of the study enlisting sampling procedure, information gathered, and analysis of the data is presented below.

SAMPLING DESIGN:

Chennai city has 155 wards and Coimbatore city has 72 wards. The affluent wards were selected by purposive sampling method by discussion with local residents. Due to the limitation of time 0.30 per cent of households from Chennai and 0.90 per cent of households from Coimbatore were selected at random for the study. The number of households from each of the wards were decided by proportionate method. The households from each of the wards were selected by random sampling with replacement. The wards, the number of households in each ward and the number of sample households chosen for the study are given in

Table.1.The location of the chosen wards in Chennai and Coimbatore cities are exhibited in Figures 1 and 2 respectively.

The sample households were post stratified into three income groups. The class interval was arrived at by arranging the selected households in the ascending order based on the monthly household income and finding out the one third of cumulative total. The income groups were low (upto Rs. 16,000), middle (Rs. 16,001 - 23,000) and high (Rs. 23,001 and above). In all, there were 105 low income households, 58 middle income households and 37 high income households in Chennai city and 103 low income households, 60 middle income households, and 37 high income households in Coimbatore city.

COLLECTION OF DATA:

The data were collected by personal interview with the selected respondents. An interview schedule for the purpose was designed and pre-tested for necessary correction and modification. Though the head of the households did not maintained records, they were able to recollect and furnish the details. Besides, necessary cross-checks were also resorted to for finding the correctness of the data. The data collected broadly related to the following items:

- (i) Number of members in the family, age, sex, education, and relationship to the head of the household.
- (ii) Income by way of earnings from salary, house rent, interest, dividend and other sources.

TABLE I

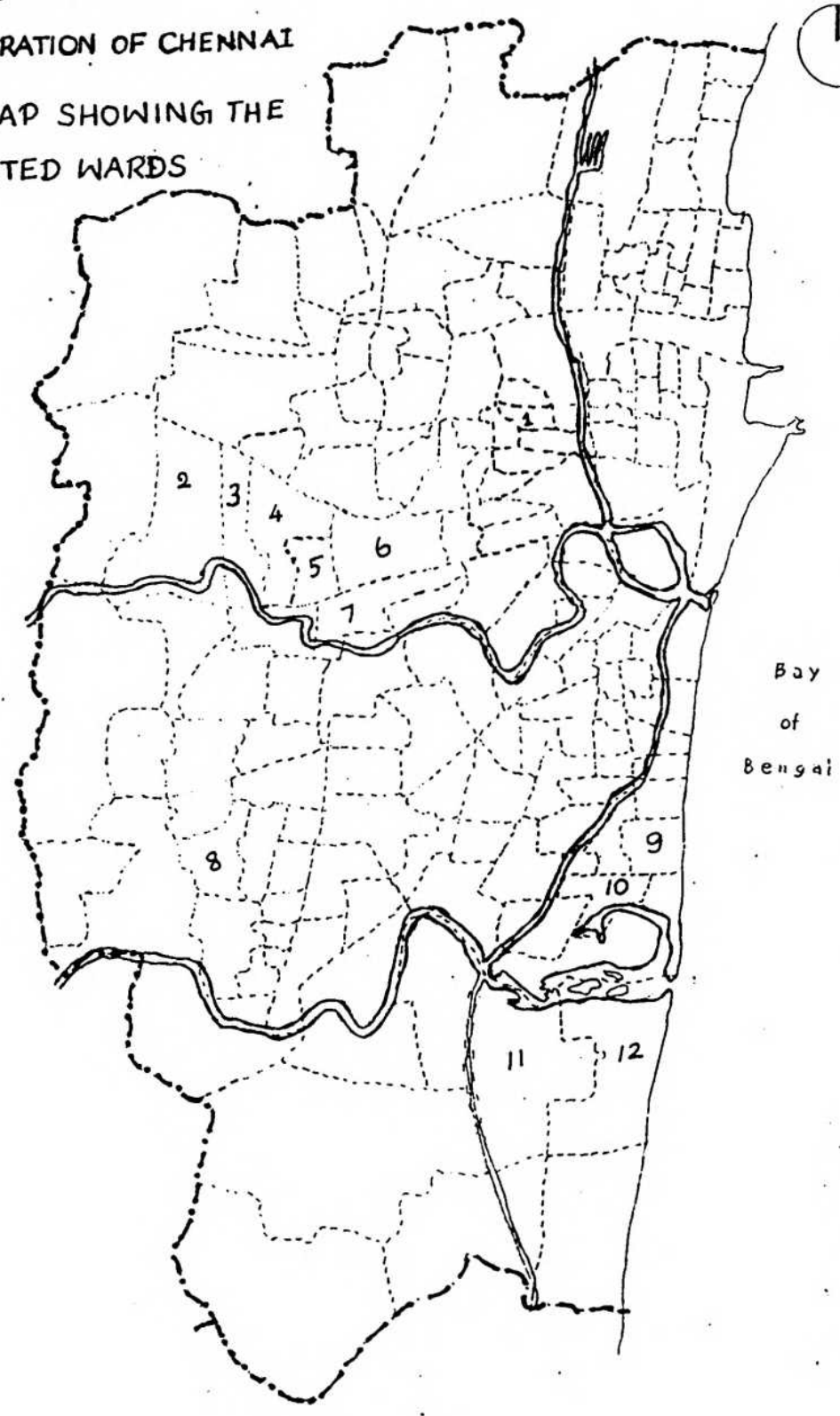
DISTRIBUTION OF SAMPLE HOUSEHOLDS IN SELECTED WARDS

S.NO.	Ward number	Total No. of households	No.of households selected
Chennai			
1.	42	4043	11
2.	66	9299	26
3.	67	6351	18
4.	68	7924	22
5.	69	4751	13
6.	70	4008	11
7.	72	5392	15
8.	122	6642	19
9.	146	4864	14
10.	147	4846	13
11.	151	7088	20
12.	152	6400	18
Total		71608	200
Coimbatore			
1.	31	2294	21
2	32	2372	22
3.	33	2933	27
4	34	2797	26
5.	36	2489	23
6.	48	1876	17
7	49	2633	24
8	50	1966	18
9	51	2431	22
Total		21791	200

CITY MAP

CORPORATION OF CHENNAI

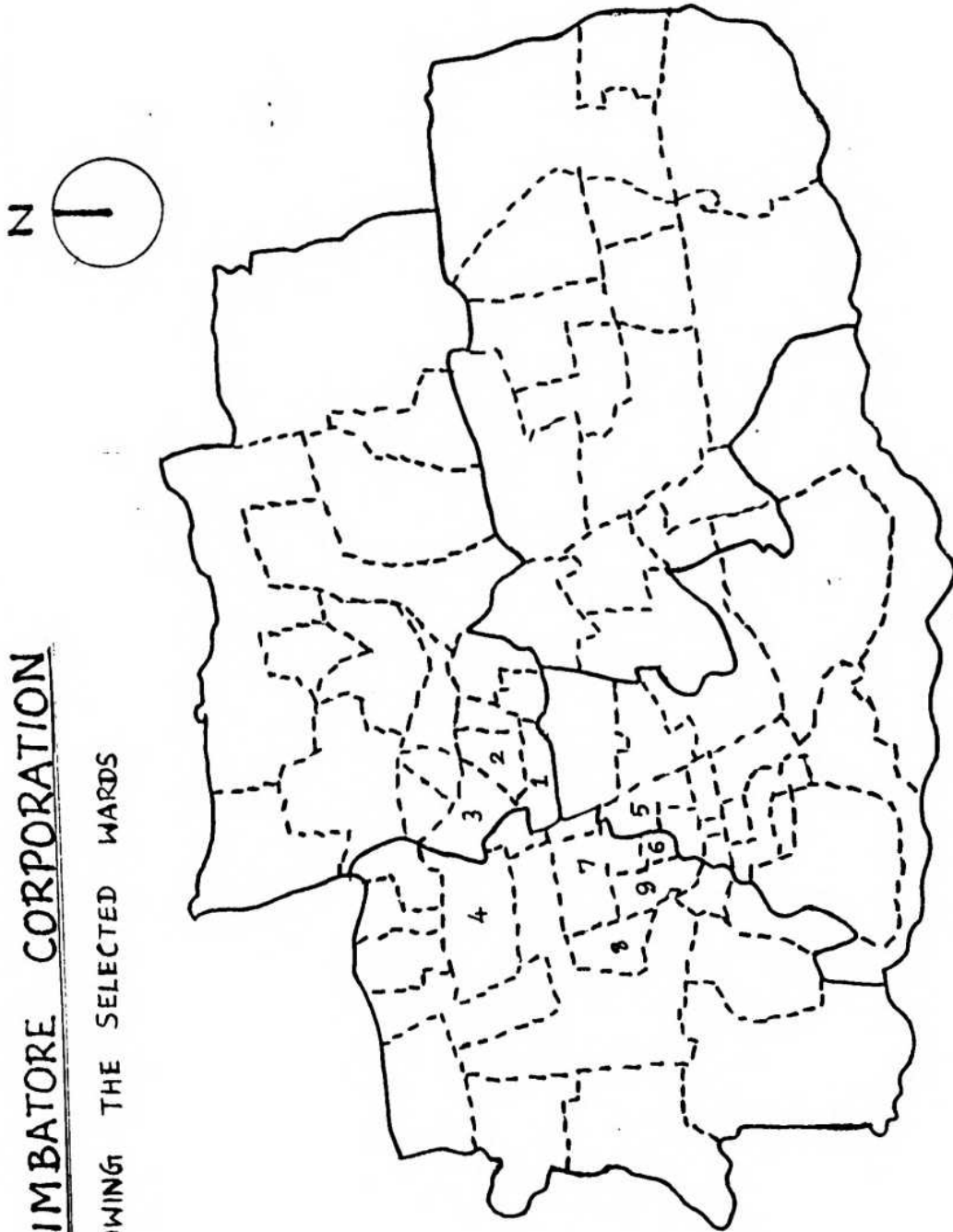
FIG-1. MAP SHOWING THE
SELECTED WARDS



Bay
of
Bengal

COIMBATORE CORPORATION

FIG.2. MAP SHOWING THE SELECTED WARDS



- (iii) Expenditure on branded fine rice, coarse rice, basmati rice and other cereal food items.
- (iv) The buying behaviour of consumers for branded fine rice with respect to purchase decision, place of purchase, frequency of purchase, package preference, their response to changing factors like price and new brand.
- (v) Constraints in the consumption of branded fine rice and the promotional efforts needed to increase the consumption of branded fine rice.

The general information about the wards and the city were collected from the records of Coimbatore and Chennai Municipal Corporation.

UNITS OF MEASURE:

Households, rather than individuals were used as unit of measure for two reasons. Firstly, the household is the frame of reference for consumption decisions. Secondly, the household acts as the economic unit on the income side. Morgan found that there is little difference between distribution measures for the household and individual.¹ Ranadive also justified the appropriateness of household as the recipient unit.²

1. James Morgan, "The Anatomy of Income Distribution", *The Review of Economics and Statistics*, 44 (3): pp.270-283, 1962.

2. Ranadive, "Patterns of Income Distribution in India, 1953-54 to 1956-60", *Bulletin of Oxford University Institute of Economics and Statistics*, 30(3): pp. 231-261, 1968.

Since a typical household consisted of males, females and children it is necessary to consider them in terms of comparable units. For this purpose, the household size was converted into consumption units using Lusk's coefficient.³

Particulars	Consumption units
Adult male above 14 years	1.00 Unit
Adult female above 14 years	0.83 Units.
Child between 10 and 14 years	0.83 Units.
Child between 6 and 9 years	0.73 Units.
Child below 6 years	0.50 Units.

This conversion facilitated inter-family comparison and prevented likely specification error.

PERIOD OF STUDY:

The investigation was carried out during November-December 1996 and the data related to the calendar year, January-December 1995.

TOOLS OF ANALYSIS:

The following tools were employed in analysing the various aspects of the study to fulfil the set objectives.

(i) Percentage analysis:

Percentage analysis is used to analyse distribution of income, household characteristics and educational status.

The buying behaviour of consumers for branded fine rice with respect to purchase decision, place of purchase, frequency of purchase, quantity per purchase, package preference, their response to changing factors like price and new brand were also be analysed using percentage analysis.

(ii) Functional Analysis:

The consumption function for branded fine rice by various income groups was determined by applying the following semilog functional form.

$$Y = \ln A + b_1 \ln X_1 + b_2 \ln X_2 + b_3 \ln X_3 + b_4 \ln X_4 + b_5 \ln X_5 + e$$

Where,

Y = Expenditure on branded fine rice per month (Rs)

X_1 = Monthly household income (Rs)

X_2 = Size of the family in consumption units

X_3 = Expenditure on coarse rice per month (Rs)

X_4 = Expenditure on basmati rice per month (Rs)

X_5 = Expenditure on other cereal food items (Rs)

A = Constant

b_1, b_2, b_3, b_4, b_5 = Regression coefficients

e = Error term.

(iii) Garrett's ranking technique:

To rank the source of information for branded fine rice, factors influencing for brand preference, constraints faced by the consumers in consumption of

branded fine rice and the promotional efforts needed by the consumers to increase the consumption of branded fine rice, Garrett's ranking technique is used.

The order of merits assigned by the respondents regarding the source of information, factors influencing brand preference constraints in consumption of branded fine rice, and promotional efforts needed were converted into rank by using the formula.

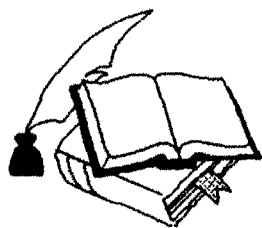
$$\text{Percentage Position} = 100 \times \frac{R_{ij} - 0.5}{N_j}$$

Where

R_{ij} - Rank given by the 'j' th individual for 'i' th factor.

N_j - Total number of factors ranked by the 'j' th individual.

* * * * *



Description of the study area

CHAPTER IV

DESCRIPTION OF THE STUDY AREA

The consumption pattern in any region is influenced by the physical and environmental conditions prevailing in that area. Hence understanding of the geographical, demographical and economic features of the study area is important to get a holistic perspective and to draw inferences. In this chapter, the agro-socio-economic features of the study area is presented.

CHENNAI CITY:

Chennai city besides being the capital of Tamil Nadu, is a district by itself. It is one of the four metropolis of India and the largest city in South India. Chennai is a cosmopolitan city with people of different religion, culture, language and other characteristics. It is supposed to be the cultural centre of South India. Chennai city symbolised the rise of British power in South India by the setting up and consolidation of East India Company in the 17th century with its headquarters at Fort St. George as a trading centre. Within a period of 350 years, it had developed into a modern metropolis, still retaining the traditional cultural and religious values. It is one of the leading cities in India from trade and commercial point of view with a stock exchange, international air and sea ports, industrial estates, and numerous financial institutions.

Geographical Features:

Chennai city is situated on the north east of Tamil Nadu on the coast of Bay of Bengal. It lies between $12^{\circ} 9'$ and $13^{\circ} 9'$ of northern latitude and $80^{\circ} 12'$ and $80^{\circ} 19'$ of southern longitude on a sandy beach. It stretches to nearly 25 Km along the Bay of Bengal coast from Thiruvannmiyur in south to Thiruvottriyur in north. It is bounded by Bay of Bengal in the east and by Chengai MGR district in the remaining sides. The land surface is low lying and flat with the average elevation of the city not more than 22 feet above mean sea level. The city occupies an area of 174 Sq.Km. The city is intersected by two rivers, Cooum and Adyar which are almost stagnant and they do not carry enough water except during rainy seasons. The other rivers of mention are Buckingham Canal and Otteri Nullah. The predominant soil of the district is alluvial with scattered pockets of gravel soil. Saline and sandy soils are found in coastal areas. Subsoil is generally black clay. Due to proximity of sea water is saline.

Climate and Rainfall:

The climate is tropical. The temperature is naturally high but is counter balanced to a considerable degree by landward sea breeze due to the proximity to sea. The mean maximum and minimum temperature and normal and actual rainfall are presented in Table II.

The mean maximum temperature of 36.5°C was in June and the mean minimum temperature of 20.8°C was in the months of January and February. The maximum rainfall of 551.1 mm was recorded in November followed by 402.3mm in October as against the normal rainfall of 346.7mm and 286.4mm during the same months respectively. In 1994 the city received an annual rainfall of 1959.2mm against the annual normal rainfall of 1220.4mm.

TABLE II
TEMPERATURE AND RAINFALL IN CHENNAI CITY (1994)

Season	Month	Average Temperature°C		Rainfall (mm)	
		Max	Min	Normal	Actual
Winter	Jan	28.3	20.8	34.3	172.6
	Feb	29.7	20.8	8.9	0.0
Summer	Mar	31.7	22.9	7.1	32.5
	April	33.3	25.8	14.8	0.0
	May	35.6	27.4	38.0	304.3
South West	June	36.5	27.2	44.4	53.1
	July	34.4	25.8	88.5	77.1
	Aug	33.9	25.4	118.1	102.7
	Sep	33.5	25.2	116.6	38.3
North East	Oct	31.5	24.4	286.4	402.3
	Nov	29.2	22.7	346.7	551.1
	Dec	28.2	21.2	116.6	225.2
	Total	-	-	1220.4	1959.2

Source: Records of the Asst. Director of Statistics, Chennai.

Demographic Features:

Chennai city has a population of 38.4 lakh as per 1991 census with a population density of 22,077 persons per Sq.Km. Of the total population, males formed 51.70 per cent and females 48.30 per cent.

Table III presents the categorywise percentage of workers to total workers. It could be seen that there is a decrease of 0.06 per cent, 0.09 per cent, 1.09 per cent and 1.35 per cent in the population of cultivators; agri. labourers; workers involved in household industries, manufacturing, processing, and servicing and repairing; and marginal workers respectively whereas there is 2.61 per cent increase in other workers category. The reduction in the percentage of cultivators and agri. labourers indicates the decreasing importance to agriculture oriented employment. It could also be seen that the working population in the city increased from 28.31 per cent to 30.54 per cent between 1981 and 1991.

TABLE III
CATEGORYWISE WORKER POPULATION OF CHENNAI CITY

S.No.	Industrial category	Persons	
		1981	1991
1.	Total main workers	914,114 (98.54)	1,171,739(99.84)
	(i) cultivators	1300 (0.14)	883 (0.08)
	(ii) Agri. labourers	1166 (0.13)	199 (0.02)
	(iii) Household industry, manufacturing, processing, servicing and repairing	15906 (1.74)	7683 (0.65)
	(iv) Other workers	895,742 (96.53)	1,162,974(99.14)
2.	Marginal workers	134,98 (1.46)	1323 (0.11)
	Total workers	927,612 (100.00)	1,173,062(100.00)

(Figures in parentheses indicate the percentage to total).

Source: Records of the Asst. Director of Statistics, Chennai

The details of the literacy level of the population are furnished in Table IV. The overall literacy percentage is 71.65 percent. The percentage of literate males and females were 39.97 and 31.68 respectively. From the table it is evident that there is an increase of 3.25 per cent of literacy level between 1981 and 1991 in Chennai city.

TABLE IV
LITERATE POPULATION IN CHENNAI CITY

S.NO	Particulars	Persons	
		1981	1991
1.	Total literates	22,41,149 (68.40)	2,752,341(71.65)
2.	Males	12,80,772 (39.09)	1,535,351(39.97)
3.	Females	960,377 (29.31)	1,216,990 (31.68)

(Figures in parentheses indicate the percentage to total).

Source: Records of the Asst. Director of Statistics, Chennai.

Religionwise population of Chennai is furnished in Table V. Hindus constituted major portion of the city population i.e., 83.92 per cent followed by Muslims (7.70 per cent) and Christian and other religions.

TABLE V
RELIGIONWISE POPULATION IN CHENNAI CITY (1991)

S.No	Religion	Male	Female	Total
1.	Hindus	16,65,197	15,58,653	32,23,850
2.	Christians	1,24,691	1,20,263	2,44,954
3.	Muslims	1,75,667	1,58,005	2,95,930
4.	Jains	18,830	16,773	35,603
5.	Sikhs	916	725	1,641
6.	Buddhists	421	275	696
7.	Other religion & persuasions	297	239	536
8.	Religion not stated	259	185	444

Source: Census of India, 1991.

Transport and Communication:

Chennai city is linked with all major cities of India with well laid roads and rails. It is a major sea port. Chennai is linked with major cities of the country and world by airways. The details of transport and communication facilities available in the city are given in Tables VI and VII.

The data in the table showed that the city is well connected with other cities and towns and within the cities with well laid bituminous national and state highways roads. Chennai city is the head-quarters of Southern Railway. The city is well connected by broad gauge and metre gauge lines as well. The broad gauge line

connects the city with important cities of the country. The metre gauge line connects the city within the state.

The urban traffic services like sub-urban electric trains, Mass Rapid Transit System between Chennai Beach and Luz (8.4 Km distance), Pallavan and Ambedkar Transport Corporation buses, a good number of autorickshaws and taxis are serving the commuters to reach any part of the city.

The city has the largest central telegraph office in the state connected with all important stations. It is connected by V.F.T system to major cities like Delhi, Mumbai, Calcutta etc. From the table it could be observed that the city has a good number of post offices, post and telegraph offices, and telephone exchanges to facilitate communication all over the world. The city has one letter box for every 2250 persons.

TABLE - VI

TRANSPORT FACILITIES AVAILABLE IN CHENNAI CITY(1994)

S.No.	Items	Length /Numbers
1.	Road length	
	Bituminous	
	(a) National Highways	29.70 Km
	(b) State Highways	17.50 Km
2.	Railway length	
	Broad Gauge	
	(a) Route length	38.00 Km
	(b) Track length	73.50 Km
	Metre Gauge	
	(a) Route length	17.12 Km
	(b) Track length	47.04 Km
3.	Auto rickshaws	21,845 Nos
4.	Taxis	6,932 Nos
5.	Buscs	3,214 Nos

Source: Records of Asst. Director of Statistics, Chennai.

TABLE VII
COMMUNICATION FACILITIES AVAILABLE IN CHENNAI CITY (1994)

S.No.	Items	Numbers
1.	Post office (Departmental / extra departmental)	270
2.	Post and Telegraph office	37
3.	Telephone exchange/sub exchange	40
4.	Letter Boxes	1,712

Source: Records of Asst. Director of Statistics, Chennai.

Educational Institutions:

There are four universities in Chennai city, viz., Madras University, Dr. MGR Medical University, Anna University and Tamil Nadu Veterinary and Animal Sciences University. The details of the educational institutions in Chennai city is given in Table VIII. The table indicates that Chennai city has got a well developed educational system from primary school to colleges which caters to the educational needs of people of the city as well as other parts of the state and country.

TABLE VIII

EDUCATIONAL INSTITUTIONS AVAILABLE IN CHENNAI CITY (1994)

S.No.	Items	Numbers
1.	Primary Schools	385
2.	Middle Schools	248
3.	High Schools (Including Anglo Indian High Schools)	217
4.	Higher Sec.Schools (Including Anglo Indian Schools)	306
5.	Teacher training Institutes	6
6.	Technical & vocational Institutes	175
7.	Arts Colleges	35

Source: Records of Asst. Director of Statistics, Chennai.

Electricity :

The Table IX shows the power consumption by various sectors in Chennai city. It was found that 45.43 per cent of the power consumption was by industry followed by households (25.06 per cent), and trade (10.70 per cent).

TABLE IX

POWER CONSUMPTION BY VARIOUS SECTORS IN CHENNAI CITY
(1994)

S.No.	Items	Power consumption in '000 KWH	Percentage
1.	Agriculture (Including state pumping loan)	132	3.56
2.	Industry	1686	45.43
3.	Trade	397	10.70
4.	Households	930	25.06
5.	Street lights	35	0.94
6.	Others	531	14.31
Total		3711	100.00

Source: Records of Asst. Director of Statistics, Chennai.

Markets:

There are several markets in Chennai city for the sale of vegetables, meat, fish, eggs, oils etc., Kothawal Bazaar is the largest market and it supplies vegetables, fruits, oils etc., to the people of the city. Now the Kothawal Bazar has been shifted to a newly constructed market at Koyambedu. But the traders are shifting their shops in slow pace. There is also a fruit cum flower market in the city.

(-149666-)

Wholesale markets are mostly concentrated in and around Kothawal Bazaar and a few are located in other parts of the city. Rice mandies and provisional stores are the important places of purchase of rice, branded rice and other cereals and they are located in such a manner that they are very nearer to the consumer dwellings whereas the Co-op.super markets and departmental stores are situated at elegant shopping complex areas.

Industries:

The functioning of a number of large and small scale industries have aided the growth of the city. Industrial development helps in improving the income of the people and thereby their standard of living. There are 2764 factories by industrial group in Chennai. The details of small scale industries is presented in Table X.

TABLE X
SMALL SCALE INDUSTRIES IN CHENNAI CITY (1994)

S.No.	Type of Industry	Numbers
1.	Food Products	980
2.	Beverage, Tobacco Products	67
3.	Cotton textiles	72
4.	Wool, Silk, Synthetic, Fibre textiles	27
5.	Jute, Hemp & Mesta Products	24
6.	Hosiery and Ready made garments	3611
7.	Wood and Wood Products	208
8.	Paper and Paper Products	3751
9.	Leather and Fur Products	1214
10.	Rubber and Plastic Products	1473
11.	Chemical and Chemical Products	1017
12.	Non Metallic mineral Products	360
13.	Basic Metal Products	406
14.	Metal Products & Paints	2789
15.	Machinery parts except electronics	2112
16.	Electrical Machinery and Apparatus	1112
17.	Transport and equipments and parts	382
18.	Other Manufacturing	1681
Total		21286

Source: Records of the Asst. Director of Statistics, Chennai.

COIMBATORE CITY:

Coimbatore district, a pace-setter for agricultural progress and path for industrial development, is located in the southern part of Deccan Peninsula towards the north-west of the State. The district lies between 11° of northern latitude and 77° of eastern longitude and elongated from north to south. In the north, it is bounded by Karnataka state and Periyar district of Tamil Nadu, in the east by Periyar and Madurai districts, in the south by Madurai district and in the west by Kerala state.

Location:

Coimbatore city, the head quarters of the Coimbatore district and the third largest city in Tamil Nadu state is situated between 10° 58 1/2' northern latitude and 76° 56' eastern longitude. Coimbatore city, called the manchester of South India, is well known for its richness in textile industry, pump set industry and structural industry. The significant industrial development in the city over the past few decades had facilitated it to earn a definite place in the Industrial Map of India. The availability of abundant entrepreneurial skill and productive hinterland has been largely responsible for the all-round development of Coimbatore city. The Coimbatore corporation stretches over an area of 105.60 Sq.Km and is divided into 72 wards. Since the city is located in an altitude of 1,426 feet above sea level and at the head of the Palghat gap of western ghat, it enjoys an even and pleasant climate throughout the year and it receives rain both in the south-west and north-east monsoons.

Climate and Rainfall:

The monthwise mean, maximum and minimum temperature and rainfall are furnished in Table XI. The city experiences a minimum temperature of 19.2°C during November and a maximum temperature of 37.0°C during April. The maximum rainfall of 158.4 mm was recorded in November followed by 158.0 mm in October as against the normal rainfall of 113.0 mm and 161.5 mm during the same months respectively. In 1994 the city received annual rainfall of 595.3 mm which is 96.92 per cent of annual normal rainfall.

TABLE XI
TEMPERATURE AND RAINFALL IN COIMBATORE CITY
 1994

Season	Month	Average temperature°C		Rainfall (mm)	
		Max	Min	Normal	Actual
Winter	Jan.	30.1	22.1	17.8	Nil
	Feb.	NA	23.4	7.9	Nil
Summer	Mar.	36.1	23.6	11.9	Nil
	April	37.0	25.0	43.2	55.3
	May	36.3	24.4	63.5	72.0
South West	June	31.4	22.1	35.6	29.0
	July	31.0	22.0	47.0	120.0
	Aug.	31.4	22.0	33.0	2.6
	Sep.	31.3	21.1	41.7	52.0
North East	Oct.	32.1	19.6	161.5	158.0
	Nov.	N.A	19.2	113.0	158.4
	Dec.	35.3	20.2	38.1	Nil
	Total	-	-	614.2	595.3

Source: Records of the Asst. Director of Statistics, Coimbatore.

Demographic Features:

Coimbatore city with a population of 8.16 lakh has a population density of 7,730 persons per Sq.Km as per 1991 census. The average size of household in Coimbatore city is 4.3 as against 4.1 for the district as a whole. The working population in Coimbatore city increased from 32.72 per cent of the total population

in 1981 to 34.67 per cent in 1991. Table XII shows the categorywise percentage of workers to total work force. It could be observed that there is a decrease of 0.34 per cent, 1.73 per cent, 0.20 per cent and 0.88 per cent in cultivators; agri. labourers; workers involved in household industry, manufacturing, processing, servicing and repairing; and marginal workers respectively. The other workers population increased by 3.14 per cent during the same period.

TABLE XII

CATEGORYWISE WORKER POPULATION OF COIMBATORE CITY

S. NO	Industrial category	Persons	
		1981	1991
1.	Total main workers	230530 (98.47)	281194 (99.35)
	(i) Cultivators	2055 (0.89)	1571 (0.55)
	(ii) Agrl.labourers	6907 (2.95)	3471 (1.22)
	(iii) Household industry, manufacturing, processing, servicing and repairing	1831 (0.78)	1635 (0.58)
	(iv) other workers	219736 (93.86)	274517 (97.00)
2.	Marginal workers	3584 (1.53)	1829 (0.65)
	Total workers	234114 (100.00)	283023 (100.00)

(Figures in parentheses indicate percentage to total workers population).

Source: Records of the Asst. Director of Statistics, Coimbatore.

The overall literacy percentage is high for the city (76.33 percent). The percentage of literate males and females were 43.67 and 32.66 respectively. The details are furnished in Table XIII.

TABLE XIII

LITERATE POPULATION IN COIMBATORE CITY (1991)

S.NO	Particulars	Persons
1.	Total literates	6,23,097 (76.33)
2.	Males	3,56,487 (43.67)
3.	Females	2,66,610 (32.66)

(Figures in parentheses indicate percentage to total population).

Source: Records of the Asst. Director of Statistics, Coimbatore.

Religionwise population furnished in Table XIV revealed that Hindus constituted the major share (85.3. per cent) followed by Muslims (7.75 per cent), and Christian and other religions.

TABLE XIV
RELIGIONWISE POPULATION IN COIMBATORE CITY (1991)

S.NO	Religion	Male	Female	Total
1.	Hindus	362,176	334,164	696,340
2.	Muslims	33,246	30,020	63,268
3.	Christians	26,999	26,219	53,218
4.	Jains	1,034	920	1,954
5.	Sikhs	169	117	286
6.	Buddhists	16	11	27
7.	Other religions and persuasions	44	42	86
8.	Religion not stated	626	516	1142

Source: Census of India, 1991.

Transport and Communication:

Coimbatore city has a good network of road, rail and airways. Table XV gives the details of transport and communication facilities available in the city. About 85 per cent of the length of roads available in the city are tar roads. In Coimbatore city, for every 2000 persons one bus is available and a good number of taxis and autorickshaws are available to cater to the needs of commuters. Coimbatore is an important junction in Tamil Nadu with both broad gauge and meter gauge lines. There is also a civil airport in the city. It could be observed that the large number of post offices and post and telegraph offices meets the needs of

the people of the city. It was noticed that one telephone is available for every 36 persons in the city and 98.5 per cent of telephones are private.

TABLE XV

TRANSPORT AND COMMUNICATION FACILITIES IN COIMBATORE CITY

(1994)

S.No.	Items	Length/Number
TRANSPORTATION FACILITIES		
1.	Road length	
	Concrete roads	37.252 Km
	Tar roads	630.160 Km
	Gravel roads	76.460 Km
2.	Buses	423 Nos
3.	Taxis	610 Nos
4.	Auto rickshaws	2,550 Nos
COMMUNICATION FACILITIES		
5.	Post and Telegraph Office	75 Nos
6.	Post Offices	23 Nos
7.	Private telephones	22,132 Nos
8.	Public telephones	343 Nos

Source: Records of the Asst. Director of Statistics, Coimbatore.

Educational Institutions:

There are three universities in Coimbatore city i.e. Avinashilingam Deemed University, Bharathiar University and Tamil Nadu Agricultural University. Apart from this two Medical Colleges, four Engineering Colleges, one Law College, two Teacher's Training Colleges, and ten Science and Arts Colleges are functioning in this city. National Textile Corporation's Staff Training college, and Forest Ranger's College are also located in the city. The city also has its due share of primary, middle, high and higher secondary schools. The details of the educational institutions available in Coimbatore city are given in Table XVI.

TABLE XVI

EDUCATIONAL INSTITUTIONS FUNCTIONING IN COIMBATORE CITY (1994)

S.NO.	Items	Numbers
I	Schools	
	(i) Primary	93
	(ii) Middle	32
	(iii) High	31
	(iv) Higher Sec.	18
II	Colleges	
	(i) Science and Arts	10
	(ii) Professional	11

Source: Records of the Asst. Director of Statistics, Coimbatore.

Electricity :

Coimbatore Municipal Corporation is a licensee of Tamil Nadu Electricity Board for the distribution of electrical energy to the consumers. The demand for electricity is on the increase. The demand for electricity is 51,440 KVA but the sanctioned power to this city is 40,000 KVA. Table XVII presents the details of power consumption. It is evident that households consumed more than half (54.14 per cent) of the power distributed. Industry and trade formed the other two major consumers of electricity with 25.78 per cent and 17.38 per cent respectively.

TABLE XVII
POWER CONSUMPTION BY VARIOUS SECTORS IN COIMBATORE CITY
 (1994)

S.NO.	Items	Power consumption units	Percentage
1.	Agriculture	4,30,364	0.45
2.	Industry	2,45,60,409	25.78
3.	Trade	1,65,62,805	17.38
4.	Households	5,15,49,630	54.15
5.	Street lights	18,71,335	1.96
6.	Others	2,74,051	0.28
Total		9,52,78,644	100.00

Source: Records the Asst. Director of Statistics, Coimbatore

Markets:

Although there are a large number of retail vegetable markets serving the entire population of the city, the six major vegetable markets are Tyagi Kumaran market, Gandhipuram market, Panneer Selvam market, Chinnakadai market, Sundarapuram market and Saibaba Colony market. Nine branches of the Chinthamani Co-operative Super market located at important residential areas in the city also caters to the needs of the people. The supply of vegetables is mainly from the surrounding areas like, Mettupalayam and Kinathukadavu and the hill vegetables are received from Ooty and Coonoor of the Nilgiris district. The essential commodities like rice, branded rice and other cereals are marketed by rice mundies, provisional stores, co-op super markets and departmental stores.

Industries:

The economy of this part of Kongu Nadu is multifaceted with strong binding between agriculture and industries. A number of large and small scale industries have aided the growth of the city. Due to industrial development the income and standard of living of the people of the city is at a higher level. The industries located in the city are presented in Table XVIII.

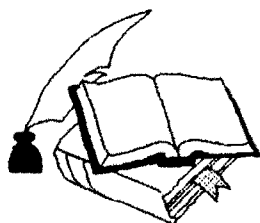
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TABLE XVIII

INDUSTRIES LOCATED IN COIMBATORE CITY (1994)

S.NO	Items	Numbers
I INDUSTRIES		
1.	Textile Mills	30
2.	Ginning factories	25
3.	Waste Cotton Mills	23
4.	Rice Mills	5
5.	Plastic Industries	21
6.	Engineering Industries	180
7.	Coffee and Allied Industries	3
8.	Rubber and Allied Industries	3
9.	Automobile spare manufacturers	37
10.	Printing Press	52
II SMALL SCALE UNITS		
11.	Button Factories	2
12.	Flour Mills	2
13.	Metal Rolling Mills	5
14.	Cattle feed manufacturing Industries	3
15.	Miscellaneous Industries	48

Source: Records of the Assistant Director of Statistics, Coimbatore.



Results and Discussion

CHAPTER V

RESULTS AND DISCUSSION

The results of the investigation are presented and discussed in this chapter. The chapter has been divided into four parts. In the first part, general information like income, family size, and educational status of the sample households are discussed. In the second part, consumer's buying behaviour for branded fine rice is discussed. In the third part, the factors influencing the consumption of branded fine rice and in fourth part, the constraints and promotional efforts needed to promote sorted fine rice in the market are given. Based on the total monthly household income the sample household were stratified into three groups as mentioned earlier. The low income group accounted for 52.50 per cent of the total sample households in Chennai city and 51.50 per cent in Coimbatore city whereas the middle and high income groups accounted for 29.00 per cent and 18.50 per cent in Chennai city and 30.00 per cent and 18.50 per cent in Coimbatore city respectively. This showed that though study area were the two cities more than 50.0 per cent of the households had a monthly income less than Rs.16,000/= .

I. GENERAL CHARACTERISTICS OF SAMPLE HOUSE HOLDS.

Size of family:

The details of the average size of the family both in absolute numbers as well as in consumption units are furnished in Table XIX.

TABLE XIX
 SIZE OF THE SAMPLE HOUSEHOLDS
 (Numbers)

S.NO.	Income group	Average size of the household			
		Members		Consumption Units	
		Chennai	Coimbatore	Chennai	Coimbatore
1.	Low	3.33	3.17	2.90	2.73
2.	Middle	4.31	4.13	3.74	3.72
3.	High	6.76	6.48	5.76	5.74
	Average	4.80	4.59	4.13	4.06

On an average, a household in Chennai city is made up of 4.80 members and it is 4.59 in Coimbatore city. This worked out to be 4.13 and 4.06 consumption units respectively per family in Chennai and Coimbatore city. Among the three income groups, the size of family varied from 3.33 in Chennai city and 3.17 in Coimbatore city in low income group to 6.67 and 6.48 members in high income group respectively. This was mainly because of the prevalence of joint family system in larger income groups where both husband and wife were employed. In terms of consumption units, it ranged from 2.90 in Chennai city and 2.73 in Coimbatore city to 5.76 in Chennai city and 5.74 in Coimbatore city among the three income groups. One note worthy feature is that the income and family size were directly related, i.e., as income increased the family size also increased. This might be due to the increase of number of earners in the family as the size of family increased. Earlier studies of Muthukrishnan¹ and Tirouvingadame² have also indicated the same phenomenon, i.e., the family size increased with increase in income.

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1. A. Muthukrishnan, "A Study on Consumption Pattern of Mutton in Coimbatore City", (An unpublished M.Sc. (Ag.) Thesis submitted to the Tamil Nadu Agrl. University, 1979), p.36.
 2. Thanmathi Tirovingadame, "An Economic Analysis of Consumption Behaviour of Households in Coimbatore City", (An unpublished M.Sc. (Ag.) Thesis submitted to the Tamil Nadu Agrl. University, 1995), p.62.

Educational status:

The educational status of the head of the sample households are furnished in Table XX.

The households being in the city all the heads of households are literates. In Chennai city 73.00 per cent of the respondents had collegiate level of education and it is 72.50 per cent in Coimbatore city. The respondents with high school and higher secondary level of education was 22.0 per cent and 5.0 per cent and 20.0 per cent and 7.50 per cent in Chennai and Coimbatore. All the respondents in low, middle and high income groups had education beyond middle school level. It is interesting to note that though all the heads of the sample households had formal education the level of education increased as the income increased. This might be due to the capacity of the high income group to invest on education and also the educational facilities available in the cities. The high level of education is a factor which has an influence on consumption of quality products.

II. BUYING BEHAVIOUR OF BRANDED FINE RICE:

The buying behaviour of consumers for branded fine rice with respect to source of information, purchase decision, place of purchase, frequency of purchase, factors for brand preference, expectations on the quality and willingness to pay extra price were studied among the sample households using percentage analysis. The details are discussed below.

TABLE XX
EDUCATIONAL STATUS OF THE HEAD OF THE SAMPLE HOUSEHOLDS

S. No.	Particulars	(Numbers)			Total
		Low	Middle	High	
1.	High				
	Chennai	26 (24.77)	12 (20.69)	6 (16.22)	44 (22.00)
	Coimbatore	23 (22.33)	12 (20.00)	5 (13.51)	40 (20.00)
2.	Higher Sec.				
	Chennai	6 (5.71)	2 (3.45)	2 (5.40)	10 (5.00)
	Coimbatore	7 (6.80)	5 (8.33)	3 (8.11)	15 (7.50)
3.	Collegiate				
	Chennai	73 (69.52)	44 (75.86)	29 (78.38)	146 (73.00)
	Coimbatore	73 (70.87)	43 (71.67)	29 (78.38)	82 (72.50)
4.	Total				
	Chennai	105 (100.00)	58 (100.00)	37 (100.00)	200 (100.00)
	Coimbatore	103 (100.00)	60 (100.00)	37 (100.00)	200 (100.00)

(Figures in parentheses indicate the percentage to total.)

Source of Information about the Branded Fine Rice:

The respondents were asked to rank the source of information about the branded fine rice. The results are furnished in Table XXI.

As one expects in both the cities shop owners were the prime source of information about branded fine rice to the households. When a new commodity or brand of a commodity is introduced the shop owners first keep their customers informed of this. To promote a new brand door canvassing, advertising etc., are carried out by the sellers. The family members ranked second as the source of information. Though the husband, son and daughter are not much involved in purchase decision, due to their high level of education whenever they come across a new brand through newspapers, TV, etc., they pass this information to their house.

Purchase Decision of Branded Fine Rice:

It could be seen from Table XXII that in Chennai city in 62.0 per cent of the households the decision to buy was made by wives and the corresponding figure for Coimbatore city was 63.5 per cent. As one expects the purchase decision on consumption items are generally made by housewives and more so in literate households. This percentage also increased as income increased. Though the decision on purchase of branded fine rice by men was only in 7.0 per cent of the households in Chennai city and 5.0 per cent in Coimbatore city, the percentage increased as the income increased.

TABLE XXI

SOURCE OF INFORMATION ABOUT THE BRANDED FINE RICE.					
S. No.	Source of information	Chennai city		Coimbatore city	
		Mean score	Rank	Mean score	Rank
1.	Shop owners	64.9	I	69.00	I
2.	Family members	57.5	II	55.60	II
3.	Neighbours, friends and relatives	54.6	III	52.40	III

TABLE XXII
PURCHASE DECISION OF BRANDED FINE RICE.

							(Numbers)	
S. No.	Income group	Head	Wife	Both husband and wife	Sons	Daughters	All members jointly	Total
Chennai								
1.	Low	5 (4.76)	60 (57.14)	25 (23.50)	4 (3.82)	5 (4.76)	6 (5.71)	105 (100.00)
2.	Middle	4 (6.90)	39 (67.24)	13 (22.41)	-	-	2 (3.45)	58 (100.00)
3.	High	5 (13.51)	25 (67.57)	7 (18.92)	-	-	-	37 (100.00)
	Total	14 (7.00)	124 (62.00)	45 (22.50)	4 (2.00)	5 (2.50)	8 (4.00)	200 (100.00)
Coimbatore								
1.	Low	4 (3.88)	57 (55.34)	27 (26.21)	5 (4.85)	4 (3.88)	6 (5.84)	103 (100.00)
2.	Middle	2 (3.33)	42 (70.00)	16 (26.67)	-	-	-	60 (100.00)
3.	High	4 (10.82)	28 (75.68)	5 (13.50)	-	-	-	37 (100.00)
	Total	10 (5.00)	127 (63.50)	48 (24.00)	5 (2.50)	4 (2.00)	6 (3.00)	200 (100.00)

(Figures in parentheses indicate the percentage to total.)

It is expected that son and daughter who are literates and aware of market trend and consumption pattern would have a say in purchase decision. The results showed that their involvement is very negligible. This might be due to the fact that they may be concentrating more on their studies involving less in family activities especially in the purchase of food (consumption items)

Frequency of Purchase of Branded Fine Rice:

The details on the frequency of purchase of branded fine rice is given in Table XXIII. It could be inferred that in Chennai city 73.5 per cent of the households preferred monthly purchase of branded fine rice and it was 69.5 per cent in Coimbatore city. All the income groups showed the same pattern. Only 15.5 per cent and 18.5 per cent of the households in Chennai city and Coimbatore city had bimonthly purchase respectively. The percentage of households effecting quarterly and half yearly purchase of branded fine rice in both the cities was negligible. The preference for monthly purchase might be due to the fact that the households mostly being monthly income group, they would like to have monthly purchase. Second reason might be to avoid problem of storage when large quantities are purchased for three months or six months. Another reason might be the frequent introduction of new brands in the market.

Place of Purchase of Branded Fine Rice:

The details regarding the place of purchase of branded fine rice is given the Table XXIV. The four common places from where the households purchased rice

TABLE XXIII
FREQUENCY OF PURCHASE OF BRANDED FINE RICE.

S. No.	Income group	Monthly		Bimonthly		Quarterly		Half yearly		(Numbers)	
		CHE	CBE	CHE	CBE	CHE	CBE	CHE	CBE	CHE	CBE
1.	Low	84 (80.00)	80 (77.67)	21 (20.00)	23 (22.33)	-	-	-	-	105 (100.00)	103 (100.00)
2.	Middle	41 (70.69)	39 (65.00)	7 (12.07)	10 (16.67)	-	-	10 (17.24)	11 (18.33)	58 (100.00)	60 (100.00)
3.	High	22 (59.46)	20 (54.05)	3 (8.10)	4 (10.81)	6 (16.22)	7 (18.92)	6 (16.22)	6 (16.22)	37 (100.00)	37 (100.00)
Total		147 (73.50)	139 (69.50)	31 (15.50)	37 (18.50)	6 (3.00)	7 (3.50)	16 (8.00)	17 (8.50)	200 (100.00)	200 (100.00)

(Figures in parentheses indicate the percentage to total.)

CHE - Chennai

CBE - Coimbatore

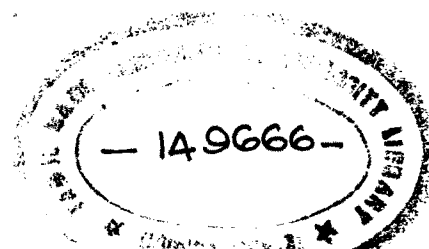


TABLE XXIV

PLACE OF PURCHASE OF BRANDED FINE RICE.

S. No.	Income group	Co-op. super market		Departmental stores		Provisional stores		Rice mandy		(Numbers)	
		CHE	CBE	CHE	CBE	CHE	CBE	CHE	CBE	CHE	CBE
1.	Low	3 (2.86)	2 (1.94)	7 (6.67)	8 (7.77)	10 (9.52)	11 (10.68)	85 (80.95)	82 (79.61)	105 (100.00)	103 (100.00)
2.	Middle	3 (5.17)	5 (8.33)	7 (12.07)	9 (15.00)	7 (12.07)	6 (10.00)	41 (70.69)	40 (66.67)	58 (100.00)	60 (100.00)
3.	High	3 (8.11)	4 (10.81)	9 (24.32)	11 (29.73)	5 (13.52)	4 (10.81)	20 (54.05)	18 (48.65)	37 (100.00)	37 (100.00)
	Total	9 (4.50)	11 (5.50)	23 (11.50)	28 (14.00)	22 (11.00)	21 (10.50)	146 (73.00)	140 (70.00)	200 (100.00)	200 (100.00)

(Figures in parentheses indicate the percentage to total.)

CHE - Chennai

CBE - Coimbatore

were co-op.super market, departmental store, provision store, and rice mandy. It could be seen from the table that rice mandy formed the major source of purchase i.e., for 73.0 per cent of households in Chennai city and 70.0 per cent in Coimbatore city. The rice mandy is the exclusive retail shop for several varieties and brands of coarse, fine and super fine rice and their location is always nearer to the consumer dwellings. This might be the reason for this large percentage of households preferring rice mandy. The other sources were departmental store (11.5 per cent and 14.0 per cent) and provision store (11.0 per cent and 10.5 per cent) for both the households in Chennai city and Coimbatore city respectively.

The income groupwise analysis showed that as income increased, the percentage of households purchasing branded fine rice from rice mandy declined in both the cities whereas the percentage of households purchasing from co-operative super market, departmental stores and provisional store increased. Normally, the consumers purchase their monthly provisions from the departmental store, co.op-super market and provisional store. The shop loyalty for other provision would have induced the consumers to prefer the same shop for branded fine rice and their desire for convenience in purchasing the branded fine rice. It could also be inferred that the shop loyalty and the desire for convenience increased as income increased in both the cities.

Branded Fine Rice Package Preference:

The package preference of the households was collected and furnished in Table XXV. Of the sample households nearly 60.0 per cent preferred branded fine rice only in pack while others preferred to buy in loose quantity in both the cities. Gunny bag was liked by 52.0 per cent of the households in Chennai and by 59.0 per cent in Coimbatore. As income decreased larger percentage of households preferred rice in loose form. This might be due to the smaller quantity purchased by low income group in both the cities. The packing in gunny bags and cloth bags are not available in quantities less than 25 Kg. Due to the larger quantity of purchase by high income group their preference goes for gunny bag.

Package size Preference:

The data in Table XXVI revealed that in Chennai city most of the low income households (60.95 per cent) are not satisfied with the package size of 25 Kg and above whereas 67.24 per cent of middle income households and 100 per cent of high income households expressed their satisfaction over the size of package available in the market. In Coimbatore city also 64.08 per cent of low income households were not satisfied with the present size of package of branded fine rice.

The details of the package size preferred by the households who were not satisfied with the present size of packing is given Table XXVII. Among the households dissatisfied with present packing in Chennai city the low income group preferred 10 Kg package (70.31 per cent) whereas 73.68 per cent of middle

TABLE XXV
BRANDED FINE RICE PACKAGE PREFERENCE

S. No.	Income Group	(Numbers)									
		Loose		Packaging				Total			
				Gunny bag		Cloth bag				Total	
		CHE	CBE	CHE	CBE	CHE	CBE	CHE	CBE	CHE	CBE
1.	Low	64 (60.95)	66 (64.08)	36 (34.29)	37 (35.92)	5 (4.76)	-	41 (39.05)	37 (35.92)	105 (100.00)	103 (100.00)
2.	Middle	19 (32.76)	16 (26.67)	36 (62.07)	44 (73.33)	3 (5.17)	-	39 (67.24)	44 (73.33)	58 (100.00)	60 (100.00)
3.	High	-	-	32 (86.49)	37 (100.00)	5 (13.51)	-	37 (100.00)	37 (100.00)	37 (100.00)	37 (100.00)
	Total	83 (41.50)	82 (41.00)	104 (52.00)	118 (59.00)	13 (6.50)	-	117 (58.50)	118 (59.00)	200 (100.00)	200 (100.00)

(Figures in parentheses indicate the percentage to total.)

CHE - Chennai

CBE - Coimbatore

TABLE XXVI
PACKAGE SIZE SATISFACTION

S.No.	Income group	Satisfied		Dissatisfied		(Numbers)	
		Chennai	Coimbatore	Chennai	Coimbatore	Chennai	Coimbatore
1.	Low	41 (39.05)	37 (35.92)	64 (60.95)	66 (64.08)	105 (100.00)	103 (100.00)
2.	Middle	39 (67.24)	45 (75.00)	19 (32.76)	15 (25.00)	58 (100.00)	60 (100.00)
3.	High	37 (100.00)	37 (100.00)	-	-	37 (100.00)	37 (100.00)
	Total	117 (58.50)	119 (59.50)	83 (41.50)	81 (40.50)	200 (100.00)	200 (100.00)

(Figures in parentheses indicate the percentage to total.)

TABLE XXVII

PACKAGE SIZE PREFERENCE
(Numbers)

S. No.	Income group	5 Kg pack		10 Kg pack		Both 5 and 10Kg pack		Total	
		CHE	CBE	CHE	CBE	CHE	CBE	CHE	CBE
1.	Low	3 (4.69)	4 (6.06)	45 (70.31)	54 (81.82)	16 (25.00)	8 (12.12)	64 (100.00)	66 (100.00)
2.	Middle	-	-	14 (73.68)	12 (86.67)	5 (26.32)	2 (13.33)	19 (100.00)	15 (100.00)
3.	High	-	-	-	-	-	-	-	-
	Total	3 (3.62)	4 (4.94)	59 (71.08)	67 (82.72)	21 (25.30)	10 (12.34)	83 (100.00)	81 (100.00)

(Figures in parentheses indicate the percentage to total.)

CHE - Chennai

CBE - Coimbatore

income households preferred 10 Kg package. In Coimbatore city, 81.82 per cent of dissatisfied low income group households preferred 10 Kg package, while 86.67 per cent of middle income group preferred 10 Kg packages.

All the households dissatisfied with 25 Kg and above pack available in the market, preferred to buy in loose and they were monthly purchasers. This would be because of the unavailability of lesser quantity packs like 5 Kg and 10 Kg. About 25 per cent of dissatisfied households in Chennai and 12 per cent in Coimbatore preferred both 5 Kg and 10 Kg packs. This showed their desire for choice in size of package available in the market.

Factors influencing Brand Preference:

The respondents were asked to rank the factors that influenced the brand preference and was analysed using Garrett's ranking technique. The results are furnished in Table XXVIII. From the data in the table it could be inferred that the quality and the brand image of the particular brand were the important factors for preferring it. It is interesting to note that price was not a important factor if the brand had good quality and brand image. The preference of particular brand was not due to the credit facilities it offered. This might be due to the fact that the sample households were from affluent areas of two major cities of Tamil Nadu.

TABLE XXVIII

FACTORS INFLUENCING BRAND PREFERENCE.

S.No.	Factors	Chennai city		Coimbatore city	
		Mean score	Rank	Mean score	Rank
1.	Quality	76.30	I	77.50	I
2.	Brand image	67.00	II	69.50	II
3.	Retailer's influence	61.30	IV	61.30	III
4.	Reasonable price	56.67	V	58.50	V
5.	Ready availability	62.44	III	58.80	IV
6.	Credit facilities	51.00	VII	50.75	VII
7.	Packaging	53.25	VI	54.00	VI

Brand loyalty:

The data in Table XXIX provides the details regarding brand loyalty as revealed by the respondents. All the respondents irrespective of their income group in both the cities told that they will go for another brand if their choice brand is not available. This clearly shows the importance of making available the brand at the right place in right time. One can also infer that the respondents were not brand loyal. As regards the increase in the price of the brand 64.76 per cent, 86.21 per cent, 100.0 per cent of low, middle and high income group households in Chennai expressed that they will go for the same brand even with an increase in the price of their brand. The corresponding percentages in Coimbatore city were 52.43, 76.63 and 100.0 respectively.

The reduction in quantity of branded fine rice if the price increased was 12.0 per cent in Chennai and 16.50 per cent in Coimbatore. It could be inferred that the option of reduction in quantity decreased as the income increased in Chennai. In Coimbatore, 23.33 per cent of middle income household opted for reduction in quantity as against 13.79 per cent in Chennai. When the price of branded fine rice increased 10.50 per cent and 15.00 per cent of households opted to go for other brand in Chennai and Coimbatore respectively. Most of the households opted the same brand purchase when the price increased, even though the quality of branded fine rice was kept at the same level. This might be due to the fact that sample households considered branded fine rice as a necessary

TABLE XXIX
BRAND LOYALTY

BRAND LOYALTY									
		Lack of availability		(Numbers)					
S. No	Income group	Go for other brand	Total	Buy the same brand	Buy reduced quantity			Go for other brand	Total
					25%	50%	Total		
Chennai									
1.	Low	105 (100.00)	105 (100.00)	68 (64.76)	6 (5.72)	10 (9.52)	16 (15.24)	21 (20.00)	105 (100.00)
2.	Middle	58 (100.00)	58 (100.00)	50 (86.21)	2 (3.45)	6 (10.34)	8 (13.79)	-	58 (100.00)
3.	High	37 (100.00)	37 (100.00)	37 (100.00)	-	-	-	-	37 (100.00)
	Total	200 (100.00)	200 (100.00)	155 (77.50)	8 (4.00)	16 (8.00)	24 (12.00)	21 (10.50)	200 (100.00)
Coimbatore									
1.	Low	103 (100.00)	103 (100.00)	54 (52.43)	7 (6.80)	12 (11.65)	19 (18.45)	30 (29.12)	103 (100.00)
2.	Middle	60 (100.00)	60 (100.00)	46 (76.67)	9 (15.00)	5 (8.33)	14 (23.33)	-	60 (100.00)
3.	High	37 (100.00)	37 (100.00)	37 (100.00)	-	-	-	-	37 (100.00)
	Total	200 (100.00)	200 (100.00)	137 (68.50)	16 (8.00)	17 (8.50)	33 (16.50)	30 (15.00)	200 (100.00)

(Figures in parentheses indicate the percentage to total).

commodity. This clearly indicates that the households in both the cities were prepared to pay more when the quality of branded fine rice is upgraded.

Satisfaction with the quality of branded fine rice.

The quality satisfaction of the branded fine rice by the sample households was gathered and presented in Table XXX. It is surprising to note that only 37.5 per cent of the households in Chennai and 47.0 per cent in Coimbatore were satisfied with the existing quality of the branded fine rice. The percentage of households satisfied about the quality decreased as the income increased in both the cities. Only 10.0 per cent of the high income group in Chennai and 5.0 per cent of high income group in Coimbatore were only satisfied with the quality of branded fine rice.

The available quality of branded fine rice in the market is with lesser percentage of stones and broken rice. Since, the sample households were from affluent areas, their expectation on quality might be more than that of available quality in the market. The dissatisfaction on the quality aspect of branded fine rice is 62.50 per cent in Chennai and 53.00 per cent in Coimbatore. So it could be inferred that the expectation of Chennai people in the affluent areas on the quality of branded fine rice was more than in Coimbatore.

Sortexed fine rice is expected to have superior qualities with absence of damaged or slightly damaged grains, other lower quality variety rice, red grains, discoloured grains, chalky grains and uniform colour when compared to available

TABLE XXX
SATISFACTION WITH THE QUALITY OF BRANDED FINE RICE
(Numbers)

S.No.	Income group	Satisfied		Dissatisfied		Total	
		Chennai	Coimbatore	Chennai	Coimbatore	Chennai	Coimbatore
1.	Low	50 (47.62)	70 (67.96)	55 (52.38)	33 (32.04)	105 (100.00)	103 (100.00)
2.	Middle	21 (36.21)	22 (36.67)	37 (63.79)	38 (63.33)	58 (100.00)	60 (100.00)
3.	High	4 (10.81)	2 (5.41)	33 (89.19)	35 (94.59)	37 (100.00)	37 (100.00)
	Total	75 (37.50)	94 (47.00)	125 (62.50)	106 (53.00)	200 (100.00)	200 (100.00)

(Figures in parentheses indicate the percentage to total.)

branded fine rice in the market. Hence, it could be inferred that the dissatisfaction on the existing quality of branded fine rice in the market can be met by introduction of sortexed fine rice in the market. It could also be inferred that the prospects for sortexed fine rice is more in Chennai when compared to Coimbatore.

Expectations on the quality of branded fine rice:

The sample households were asked to give their expectations on the quality for branded fine rice and the details are given in Table XXXI.

All the income group in both the cities expected soft and fluffier cooked rice and more whole grains as the good quality of branded fine rice. Sortexed fine rice is expected to be without damaged or slightly damaged grains. By relating this with the consumers expectation on quality, it could be inferred that the sortexed fine rice may be a well receivable product among all the households in the affluent areas of both the cities.

Between 90.0 to 100.0 per cent of the high income group in Chennai expressed aged rice, translucency and less discoloured grains as the desired quality. In Coimbatore city cent per cent of the high income group households expressed translucency and less discoloured grains as desired quality while 85.7 per cent expressed aged rice as the desired quality for fine rice. The translucent quality in rice can be achieved by removing chalky grains. Since, sortexed fine rice will be without chalky grains and discoloured grains, it may be well received by the high income households in both the cities.

TABLE XXXI
EXPECTATIONS OF THE QUALITY FOR BRANDED FINE RICE
(Numbers)

S. No.	Particulars	Income group					
		Low		Middle		High	
		CHE	CBE	CHE	CBE	CHE	CBE
1.	Soft and fluffier cooked rice	55 (100.00)	33 (100.00)	37 (100.00)	34 (89.47)	33 (100.00)	35 (100.00)
2.	Aged rice	28 (50.91)	25 (75.76)	25 (67.57)	27 (71.05)	30 (90.91)	30 (85.71)
3.	More whole grains	55 (100.00)	33 (100.00)	37 (100.00)	38 (100.00)	33 (100.00)	35 (100.00)
4.	Translucency	30 (54.55)	17 (51.52)	31 (83.78)	35 (92.11)	32 (96.97)	35 (100.00)
5.	Less discoloured grains	14 (25.45)	7 (21.21)	35 (94.60)	34 (89.47)	33 (100.00)	35 (100.00)

(Figures in parentheses indicate percentage to the total unsatisfied households on the quality of branded fine rice.)

CHE - Chennai

CBE - Coimbatore

The willingness to pay extra price:

The willingness to pay extra price for a branded fine rice which suits the consumers needs and expectations of quality was gathered and furnished in Table XXXII.

It is interesting to note that 10.50 per cent of the sample households in Chennai city and 15.00 per cent in Coimbatore city expressed that they are not willing to pay extra price for the rice suited to their needs. These households belonged to low income group. Income would have acted as a constraint for this. It was found that nearly 50.0 per cent of the households in high income group opined that they will buy branded fine rice even if the price increased by Rs.4 to 5 per Kg. Another 32.0 per cent in Chennai and 24.0 per cent in Coimbatore are willing to pay more than Rs.5 per Kg for fine rice. This indicted their quality consciousness which might be due to their high income.

The low income households in both the cities were not willing to pay more than Rs.3 as increased price for fine rice whereas in middle income group they preferred to pay upto Rs.4 per Kg to have branded quality fine rice. One could infer that except a few households in low income group others are willing to pay extra price for branded fine rice. The extent of extra price varied with the level of income of the family.

TABLE XXXII

WILLINGNESS TO PAY EXTRA PRICE

(Numbers)									
S.No	Income group	No Extra price	Less than Re.1/=	Rs.1-2/=	Rs.2-3/=	Rs.3-4/=	Rs.4-5/=	More than Rs.5/=	Total
Chennai									
1.	Low	21 (20.00)	49 (46.67)	30 (28.57)	5 (4.76)	-	-	-	105 (100.00)
2.	Middle	-	12 (20.69)	29 (50.00)	14 (24.14)	3 (5.17)	-	-	58 (100.00)
3.	High	-	-	-	2 (5.41)	3 (8.11)	20 (54.05)	12 (32.43)	37 (100.00)
	Total	21 (10.50)	61 (30.50)	59 (29.50)	21 (10.50)	6 (3.00)	20 (10.00)	12 (6.00)	200 (100.00)
Coimbatore									
1.	Low	30 (29.13)	41 (39.80)	24 (23.30)	8 (7.77)	-	-	-	103 (100.00)
2.	Middle	-	15 (25.00)	24 (40.00)	15 (25.00)	4 (6.67)	2 (3.33)	-	60 (100.00)
3.	High	-	-	-	-	8 (21.63)	20 (54.05)	9 (24.32)	37 (100.00)
	Total	30 (15.00)	56 (28.00)	48 (24.00)	23 (11.50)	12 (6.00)	22 (11.00)	9 (4.50)	200 (100.00)

(Figures in parentheses indicate the percentage to total)

III. Functional Analysis:

Lin-log form of functional analysis was carried out to identify the relationship between the amount spent on the consumption of branded fine rice by a household and a set of variables for the three income groups separately since there was significant variation among the three income groups. The expenditure on branded fine rice per month was taken as the dependent variable. Monthly household income, size of family in consumption units, expenditure on coarse rice per month, expenditure on basmati rice per month and expenditure on other cereal food items per month were taken as the independent variables. The results are furnished in Tables XXXIII through XXXV.

Income group-I (Less than Rs.16000/=)

The co-efficient of multiple determination were 0.7122 and 0.7034 for Chennai and Coimbatore cities respectively which showed that 71 per cent and 70 per cent of the variations in the expenditure on branded fine rice was explained by the variables included in the functions.

In this low income group, the monthly household income per month, and family size in consumption units were positively significant and the expenditure on other cereal food items per month was negatively significant at one per cent level in both the cities. It may be seen from the consumption function for Chennai city that one per cent increase in monthly household income and family size in consumption units would lead to Rs.1.84 and Rs.8.13 increase in expenditure on branded fine

TABLE XXXIII
Branded fine rice consumption function for the I income group

S. No	Specified variables	Chennai city				Coimbatore city			
		Co-efficients of regression	Standard error	Computed 't' value	Remarks	Co-efficients of regression	Standard error	Computed 't' value	Remarks
1.	Regression constant	-604.8391				-605.6037			
2.	X ₁ Monthly household income per month in rupees	183.9334	50.1080	3.671	**	181.0005	50.2028	3.605	**
3.	X ₂ Size of family in consumption units	813.0143	111.7493	7.275	**	798.8885	112.5690	7.097	**
4.	X ₃ Expenditure on coarse rice per month in rupees	-4.8306	20.5075	-0.236	NS	-4.5236	20.5449	-0.220	NS
5.	X ₄ Expenditure on basmati rice per month in rupees	24.4605	46.6099	0.525	NS	27.6157	46.6986	0.591	NS
6.	X ₅ Expenditure on other cereal food items in rupees	-139.7032	45.6598	-3.060	**	-134.8625	45.8997	-2.938	**
7.	Coefficient of multiple determination (R ²)	0.7122				0.7034			
8.	Number of observations	105				103			

** Significant at one per cent level NS- Non significant

rice per month respectively. Similarly one per cent increase in expenditure on other cereal food items per month leads to Rs.1.40 decrease in the expenditure on branded fine rice per month. This trend is similar in case of Coimbatore also. i.e., one per cent increase in monthly household income, family size in consumption units and expenditure on other cereal food items would lead to Rs.1.81 and Rs. 7.99 increase and Rs.1.34 decrease in expenditure on branded fine rice per month respectively.

Income group-II (Rs.16,001/- -Rs.23,000/=)

The functional analysis for the II income group revealed that the co-efficient of multiple determination indicated that 87.3 per cent and 80.95 per cent of the variation in the branded fine rice consumption was explained by the selected variables in Chennai and Coimbatore cities respectively. Family size in consumption units was only positively significant variable at one per cent level in both the cities. It could also be inferred that one per cent increase in the family size in consumption units would lead to Rs. 12.74 and Rs. 11.15 increase in the expenditure on branded fine rice per month in Chennai and Coimbatore cities respectively.

Income group-III (more than Rs.23,000/=)

The co-efficient of multiple determination were 0.8598 and 0.8350 in Chennai and Coimbatore cities respectively showing that 85 per cent and 83 per cent of the variations in the expenditure on branded fine rice was explained by the

TABLE XXXIV
Branded fine rice consumption function for the II income group

S. No	Specified variables	Chennai city				Coimbatore city			
		Co-efficients of regression	Standard error	Computed 't' value	Remarks	Co-efficients of regression	Standard error	Computed 't' value	Remarks
1.	Regression constant	-880.9266				-1293.5096			
2.	X ₁ Monthly household income per month in rupees	144.4429	223.7662	0.511	NS	160.2956	256.4571	0.625	NS
3.	X ₂ Size of family in consumption units	1273.6705	87.1343	14.617	**	1114.6879	184.3604	6.046	**
4.	X ₃ Expenditure on coarse rice per month in rupees	-32.2317	26.0946	-1.2352	NS	67.5146	49.6844	1.359	NS
5.	X ₄ Expenditure on basmati rice per month in rupees	30.5081	43.8343	0.696	NS	0.5158	58.5020	0.0089	NS
6.	X ₅ Expenditure on other cereal food items in rupees	15.9766	84.5816	0.189	NS	87.7931	91.4644	0.960	NS
7.	Coefficient of multiple determination (R ²)	0.8730				0.8095			
8.	Number of observations	58				60			
** Significant at one per cent level		NS- Non significant							

TABLE XXXV
Branded fine rice consumption function for the III income group

S. No.	Specified variables	Chennai city				Coimbatore city			
		Co-efficients of regression	Standard error	Computed 't' value	Remarks	Co-efficients of regression	Standard error	Computed 't' value	Remarks
1.	Regression constant	-830.2372				-2066.4622			
2.	X ₁ Monthly household income per month in rupees	194.4653	334.3598	0.582	NS	364.1721	326.5976	1.1150	NS
3.	X ₂ Size of family in consumption units	1537.4745	344.3598	4.467	**	1344.2010	214.7332	6.260	**
4.	X ₃ Expenditure on coarse rice per month in rupees	-17.8952	92.9120	-0.193	NS	-33.8475	123.4593	-0.2742	NS
5.	X ₄ Expenditure on basmati rice per month in rupees	-39.7063	90.8258	-0.437	NS	-64.6823	154.1011	-0.420	NS
6.	X ₅ Expenditure on other cereal food items in rupees	-153.3160	194.6734	-0.788	NS	-52.8074	212.1008	-0.249	NS
7.	Coefficient of multiple determination (R ²)	0.8598				0.8350			
8.	Number of observations	37				37			

** Significant at one per cent level
NS- Non significant

variables included in the functions. The coefficient of the variable showed that one per cent increase in the family size in consumption units would cause Rs. 15.37 and Rs. 13.44 increase in the expenditure on branded fine rice per month in Chennai and Coimbatore cities respectively.

From the foregoing analysis, it could be inferred that the significant factors influencing the consumption of branded fine rice in low income households were monthly household income, size of family in consumption units and expenditure on other cereal food items in both the cities. In middle and high income households in both the cities size of family in consumption units was significantly influencing the consumption of branded fine rice. It was observed that as the income increased the amount spent on consumption of branded fine rice also increased.

IV (a) Constraints in the consumption of branded fine rice:

The constraints expressed by the sample households in the consumption of branded fine rice was analysed and the details are given in Table XXXVI. Lack of advertisement was given as the major constraint in both Chennai and Coimbatore cities. When a new brand is introduced it is necessary to give wide publicity to create awareness among the consumers. The next constraint was poor cooking quality. Higher percentage of broken rice was ranked third in Chennai city, while poor keeping quality of cooked rice was given third rank in Coimbatore city. The other constraints were poor quality package, high price and no credit sales. It is interesting to note that higher price was ranked fifth. This might be due to the fact

TABLE XXXVI
CONSTRAINTS FACED IN THE CONSUMPTION OF BRANDED FINE RICE

S.No.	Constraints	Chennai city		Coimbatore city	
		Mean score	Rank	Mean score	Rank
1.	Poor quality package	55.63	VI	55.43	VI
2.	Higher price	56.75	V	55.67	V
3.	Lack of advertisement	71.10	I	74.50	I
4.	Higher percentage of broken rice	58.25	III	58.75	IV
5.	Poor cooking quality	63.90	II	65.50	II
6.	Poor keeping quality of cooked rice	58.20	IV	62.38	III
7.	No credit sales	51.00	VII	50.00	VII

that sample households are from the affluent areas of the two major cities of Tamil Nadu.

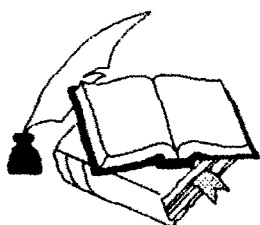
IV. (b) Promotional efforts needed to promote a new branded fine rice.

The data in Table XXXVII showed that free samples to household got a mean score of 80.10 and 79.60 in Chennai and Coimbatore city respectively. This indicated that people wanted to test cook the rice to see for its quality before purchase. Since, free samples involved cost, it can be wisely used for introducing the new product for initial period. Advertisement in TV ranked second among the promotional efforts with a mean score of 71.30 and 72.90 in Chennai and Coimbatore city respectively. The advertisement in TV which is a combination of sight, sound and motion, appeals the senses and reaches more audience but it also involves high cost. Advertisement in newspapers and magazines was ranked third in both the cities as it has the advantages of local market coverage, high believability and relatively cheaper cost than advertisement in TV. Advertisement in TV and newspapers and magazines can be combined after it has been introduced in the market through free samples. Credit sales and rebates were accorded the least important position among the promotional efforts. This might be due to the unique character of the sample households.

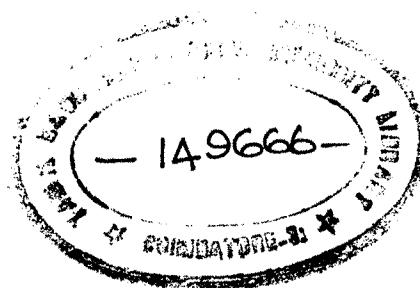
TABLE XXXVII

PROMOTIONAL EFFORTS NEEDED TO PROMOTE A NEW BRANDED FINE RICE

S.No.	Promotional efforts	Chennai city		Coimbatore city	
		Mean score	Rank	Mean score	Rank
1.	Radio advertisement	56.20	VII	55.33	VII
2.	Printed handouts	64.90	IV	63.70	IV
3.	Posters and signboards	60.60	V	57.30	VI
4.	Advertisement in Newspapers and Magazines	68.10	III	67.80	III
5.	Advertisement in TV	71.30	II	72.90	II
6.	Free samples	80.10	I	79.60	I
7.	Rebates	50.00	X	50.00	X
8.	Credit sales	52.00	IX	52.00	IX
9.	Exhibition shows	56.14	VIII	55.00	VII
10.	Door delivery	57.90	VI	59.90	V



Summary and Conclusion



CHAPTER VI

SUMMARY AND CONCLUSION

The present study endeavoured to understand the consumer's response to sortexed fine rice in Chennai and Coimbatore cities. The main objectives were to study the consumer's buying behaviour for branded fine rice, to identify the factors influencing the consumption of branded fine rice, and to study the constraints and promotional efforts needed to promote this new product in the market.

The sample consisted of 200 households from Chennai city, and 200 households from Coimbatore city. These 200 households from each of the city were selected from 12 affluent wards in Chennai city and 9 affluent wards in Coimbatore city by adopting proportionate method. The data were collected through personal interview with the help of a pretested interview schedule. Based on the monthly household income, the households were post stratified into three income groups, viz., less than Rs. 16,000 per month (Low income group), Rs.16001-Rs.23,000 per month (middle income group) and above Rs.23,000 per month (high income group) in both the cities. In all, there were 105 low income households, 58 middle income households and 37 high income households in Chennai city and 103 low income households, 60 middle income households and 37 high income households in Coimbatore city. The data collected were analysed and the summary of the results are given below.

The average family size and consumption units per household were 4.80 and 4.13 in Chennai city and 4.59 and 4.06 in Coimbatore city respectively. The incomewise analysis revealed that family size increased as the income increased. This was mainly because of the prevalence of joint family system in larger income groups where both husband and wife were employed.

Buying behaviour of branded fine rice.

The source of information for branded fine rice was studied using Garrett's ranking technique and the results showed that shop owners, family members, and neighbours and relatives were ranked in the order in both the cities. The shop owners were ranked first because when a new commodity is introduced the shop owners first keep their customers informed of this.

The analysis on purchase decision showed that in 62.0 per cent of households in Chennai city and in 63.5 per cent of households in Coimbatore city wives were the decision makers in the purchase of branded fine rice and the percentage increased as the income increased. It was also found that the involvement of sons and daughters was very negligible in decision making of branded fine rice purchase in both the cities. This showed that the house wife was the decision making authority since this involved in cooking activities. Other members in the family might have been concentrating in their respective activities.

Regarding the frequency of purchase, it was observed that 73.5 per cent of the households in Chennai city and 69.5 per cent of them in Coimbatore city preferred monthly purchase. This might be due to the fact that most of the respondents were monthly earners and so they would have planned in this way.

The analysis on place of purchase indicated that 73.0 per cent households in Chennai city and 70.0 per cent households in Coimbatore city purchased branded fine rice from rice mandy. The result also showed that as the income increased, the percentage of households purchasing branded fine rice from rice mandy declined in both the cities whereas the percentage of households purchasing from co-op.super market, departmental store and provisional store increased. Normally, the consumers purchase their monthly provisions from the departmental store, co-op super markets and provisional store. The shop loyalty for other provisions would have induced the consumers to prefer the same shop for branded fine rice and their desire for convenience in purchasing the branded fine rice. The shop loyalty and desire for convenience increased as income increased in both the cities.

Branded fine rice package preference was analysed and it revealed that nearly 60.0 per cent of the households preferred to buy the branded fine rice in pack in both the cities while others to buy in loose quantity. Among packed branded fine rice purchase of gunny bag was liked by 52.0 per cent of the households in Chennai and by 59.0 per cent in Coimbatore. The income groupwise analysis showed that as the income decreased, larger percentage of households

preferred rice in loose. This might be due to the smaller quantity purchased by low income group in both the cities and unavailability of less than 25 Kg packed branded fine rice. Regarding the package size preference it was found that all the households preferred to buy in loose were dissatisfied with 25 Kg pack available in the market in both the cities. This might be due to the small quantity of branded fine rice purchased by the households every month. Among the households dissatisfied with present packing in Chennai city the low income group preferred 10 Kg package (70.31 per cent). In Coimbatore city, 81.82 per cent of dissatisfied low income households preferred 10 Kg package, while 86.67 per cent of middle income group preferred 10 Kg packages.

Factors influencing brand preference was analysed using Garrett's ranking technique and it was found that the main factor was the quality of the brand with mean scores of 76.30 and 77.50 in Chennai and Coimbatore respectively. Brand image ranked second in Chennai and well as Coimbatore with mean scores of 67.00 and 69.50 respectively. It was also found that reasonable price was ranked fifth in both Chennai (56.67 mean score) and Coimbatore (58.50 mean score) and credit facilities was the least important factor for brand preference. This might be due to the fact that the sample households were from affluent areas of two major cities of Tamil Nadu.

The analysis on brand loyalty revealed that households in both the cities opined that they will go for another brand if their preferred brand is not available.

Regarding the increase in the price of the particular brand at the same quality 64.76 per cent, 86.21 per cent, 100.0 per cent of low, middle and high income group households in Chennai expressed that they will go for the same brand even if the price is increased. The corresponding percentages in Coimbatore city were 52.43, 76.63 and 100.0 respectively.

The satisfaction with the quality of branded fine rice available in the market was analysed and it showed that only 37.5 per cent of the households in Chennai and 47.0 per cent in Coimbatore were satisfied with the quality. It was also found that the satisfaction level decreased as the income increased. The expectations on the quality of branded fine rice were gathered from 62.5 per cent of dissatisfied households in Chennai and 53 per cent of dissatisfied households in Coimbatore and it revealed that all the income group in both the cities expected soft and fluffier cooked rice and more whole grains as the good quality of branded fine rice. Between 90.0 to 100.0 per cent of the high income in Chennai expressed aged rice, translucency and less discoloured grains as the desired quality. In Coimbatore city cent per cent of the high income group expressed translucency and less discoloured grains as desired quality while 85.7 per cent expressed aged rice as the desired quality for fine rice. The analysis on willingness to pay extra price revealed that only 10.50 per cent of households in Chennai and 15.00 per cent in Coimbatore expressed their unwillingness to pay extra price for the rice suited their

needs and expectations. It was also found that the willingness to pay extra price increased as the income increased.

Functional Analysis:

A semi-log regression model was fitted for the three income groups in both the cities to identify the important factors influencing the consumption expenditure on branded fine rice. It was found that monthly household income, size of family in consumption unit and expenditure on other cereal food items were the significant factors in low income group in both the cities with R^2 values of 0.7122 in Chennai and 0.7034 in Coimbatore. In Chennai city one per cent increase in monthly households income and family size in consumption units would lead to Rs.1.84 and Rs.8.13 increase in expenditure on branded fine rice per month respectively. Similarly one per cent increase in expenditure on other cereal food items per month leads to Rs.1.40 decrease in the expenditure on branded fine rice. This trend is similar in case of Coimbatore also. i.e., one per cent increase in monthly household income, family size in consumption units and expenditure on other cereal food items would lead to Rs.1.81 and Rs.7.99 increase and Rs.1.34 decrease in expenditure on branded fine rice per month respectively.

In middle income households R^2 value was 0.8730 in Chennai and 0.8095 in Coimbatore. The family size in consumption units is significantly influencing the consumption of branded fine rice. One per cent increase in the family size in

consumption units would lead to Rs.12.74 and Rs.11.15 increase in expenditure on branded fine rice.

The R^2 value in high income households was 0.8598 and 0.8350 in Chennai and Coimbatore respectively. The family size in consumption units was only significant variable in high income households of both the cities. The co-efficient of the variable showed that one per cent increase in the family size in consumption units would cause Rs.15.37 and Rs.13.44 increase in the expenditure on branded fine rice per month in Chennai and Coimbatore cities respectively.

Constraints in the consumption of branded fine rice.

The constraints in the consumption of branded fine rice was analysed using Garrett's ranking technique. It was found that lack of advertisement was the major constraint in both the cities followed by poor cooking quality. Higher price was ranked fifth in both the cities. The least important constraint was no credit sales in both the cities.

Promotional efforts needed to promote new branded fine rice.

It was observed that, free samples was the most important promotional effort suggested by the households because the people wanted to test cook the rice to see for its quality before purchase. This is followed by advertisement in TV and advertisement in newspapers and magazines. It was also found that credit sales and rebates were the least important position among the promotional efforts.

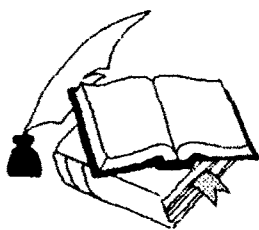
The following policy implications are drawn based on the findings of this study.

* It was found that nearly 50.0 per cent of the sample households were not satisfied with the quality of the branded fine rice available in the market. They preferred qualities like soft and fluffier cooked rice and more of whole grains. So the introducer of a new brand should take care of the above preference of the consumers.

* Among the sample households 90.0 per cent have expressed their willingness to pay a higher price for quality branded fine rice. The producer should take into account the quality consciousness of the consumers while developing the brand.

* The study showed that more than 75 per cent of the middle and low income groups preferred a packing of 10 Kg. Since the branded fine rice is not a regular item of consumption for these income group who formed a larger percentage of the population, introduction of new brand / existing brand dealers should modify their packing to increase the sale of their brands.

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