

**A STUDY ON MARKETING AND EXPORT OF
CASHEWNUT IN KERALA**

Thesis submitted in part fulfilment of the requirements for the degree of
MASTER OF SCIENCE (AGRICULTURE) in AGRICULTURAL ECONOMICS
to the Tamil Nadu Agricultural University, Coimbatore-3.

BY

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CENTRE FOR AGRICULTURAL AND RURAL DEVELOPMENT STUDIES
TAMIL NADU AGRICULTURAL UNIVERSITY
COIMBATORE - 641 003.**

1998

CERTIFICATE

This is to certify that the thesis entitled "A STUDY ON MARKETING AND EXPORT OF CASHEWNUT IN KERALA" submitted in part fulfillment of the requirements for the degree of **MASTER OF SCIENCE (AGRICULTURE)** in **AGRICULTURAL ECONOMICS** to the Tamil Nadu Agricultural University, Coimbatore is a record of *bonafide* research work carried out by **Ms. K. SREELAKSHMI** under my supervision and guidance and that no part of this thesis has been submitted for the award of any 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.

Place : Coimbatore

Date : 28th May 1998


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*Sreyan Sua-dharmo vigunah
para - dharmat Svanusthitat
Suabhava - niyatam Karma
Kuruva n'apnoti Kilbisam*

Bhagavad Gita

A loving tribute to my Dad and Mom.

ACKNOWLEDGEMENT



*"Salutations unto Thee, the All-formed,
from before, from behind and from all directions!
Infinite in Puissance and limitless In Might,
Thou Pervadest everything and Thou art Verily the All".*

The author acknowledges...

The author expresses her profound sense of gratitude to her Chairman, Dr. N. Raveendaran, Professor, Department of Agricultural Economics, for his able and sincere guidance. Her appreciation and respect are due to him, whose thought and guidance are reflected on every page. He was a perpetual source of enthusiasm and kindness.

No less had been the incessant help and inspiring suggestions received during the conduct of the study and the preparation of the thesis from the members of the advisory committee, Dr. R. Sundaresan, Professor, Directorate of Research and Dr. C. Kailasam, Associate Professor, Department of Mathematics. The time, energy and counsel they contributed is gratefully acknowledged.

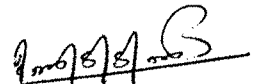
The author wishes to express her heartfelt thanks to her former Chairman Dr. N. Ajjan, Assistant Professor, Department of Agricultural Economics for his guidance and help during the course of the study.

The author owes a lot to Dr. Palanisamy, Associate Professor, Department of Mathematics, for his valuable guidance, constant encouragement, constructive criticisms and timely help, during the course of the study.

This venture would not have been completed in time but for the timely help extended by her bosom pal Suni and Ms. Sudha. Ph.D. Scholar. Department of Agricultural Economics. U. A. S., Bangalore. The author is greatly indebted to them for their goodwill and friendship.

The author doesn't want to belittle her precious pals. Bincy, Mini, Padmaja and Sheeja by thanking them for their love and companionship, but wishes that this lasts forever.

She is greatly indebted to her Daddy, Mummy and Harikrishnan for their love and affection endurance and encouragement and for making her what she is.


(Sreelakshmi K)

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INTRODUCTION



CHAPTER - I

INTRODUCTION

Cashew, a perennial fruit grown in the tropical and subtropical tracts in laterite red and coastal sands, is a native of South America. This tree was introduced in India by the Portuguese in the 16th century, primarily as a tree to prevent soil erosion, waste land development and help afforestation. It is considered as a saviour of environment, generally referred to as a self ploughing crop due to its ability to penetrate even in moderately hard layered soils. The Goan soils were the first to receive it and since then its cultivation gradually spread along the regions of the Western and Coromandal coasts. In India cashew is a crop allotted mainly to marginal and low productivity areas where no other crop can be grown. The most fertile soils of cashew are the forest soils rich in organic matter found on the Western slopes of Western ghats. Today, India has become the top producer, processor and exporter of cashew in the world through 40 years endeavour. An area of 6.35 lakh hectare is under cashew in India with production of 4.19 lakh tonne of raw nuts.¹

IMPORTANCE OF CASHEWNUT

Cashew is a versatile nut. It is infact a poor man's crop and the rich man's favourite snackfood all over the world. Practically all the parts of a cashew tree are useful in one way or the other. The raw cashewnut and the apple are edible and nutritious. Cashew shell and cashewnut shell liquid (CNSL hereafter) are by products of cashew processing industry which are used as raw materials for manufacture of particle boards, as fuel, and has applications in polymer based industries such as friction linings, paints and varnishes. Cashew has a unique combination of fat, proteins, carbohydrates, minerals and vitamins.

1. K.P. Kannan, **Cashew Development in India : Potentialities and constraints** (New Delhi: Agricole Publishing Academy, 1983). pp. 3-4.

Cashew contains 47 per cent fat, but 82 per cent of this fat is unsaturated fatty acid. Cashew also contains 21 per cent of proteins and 22 per cent of carbohydrates and a right combination of aminoacids, minerals and vitamins and therefore nutritionally it stands on par with milk, egg and meat. Cashewnut doesnot lead to obesity and help to control diabetes. In short, it is a good appetiser, an excellent nerve tonic, a steady stimulant and a body builder. It is rich in Vitamin C also.²

CASHEW STATUS IN KERALA

Kerala is the predominant state of cashew, with largest hectarage and highest production in India. The raw cashewnut produced in Kerala is found to be superior and competes well with international grades to get premium prices. Kerala has a predominant position in so far as this traditional industry is concerned. In Kerala there are more than 270 cashew processing factories which require nearly 3 lakh MT of raw nuts. Since the production of raw cashew nut in Kerala is only meeting half of the requirement, the industry is depending upon imported raw nuts. The export statistics of cashew kernels from Kerala is indicated in Appendix I.³

THE CRISIS

Production

Cashew cultivation in Kerala is mostly confined to small and marginal holdings and the farmers are not economically sound. Majority of cashew plantations are lacking adequate attention. The inadequate care and non availability of good planting materials have added

2. C.R. Soman, "Cashew kernel in Human Health", **The cashew**, 20(3) : 7-8, 1997.

3. P.P.Balasubramanian, 1996. "Three Decades of Cashew Development in India - An Introspection", in **Proceedings of National Seminar on Development of Cashew Industry**, Directorate of Cashewnut Development, Cochin. p.2

to the line and played against obtaining optimum productivity. Better plantations raised with clones of good yielding strains are too meagre (5.7 per cent). The senility of the older trees in recent years have started manifesting low yield or no yield from such plantations.⁴

An agewise classification of cashew plantations in the state reveals that plantations of over 30 years of age covering nearly 56 per cent of area under cashew in the state accounts only for 38 per cent of the production while plantations of 15-30 years of age accounts for 37 per cent of area and 53 per cent of production of raw nuts in the state. It may also be pointed out that plantations of age 15-30 years gave maximum productivity and productivity declined after 30 years. Preponderance of cashew plantations of older age group which have been evolved from non descript seedling progeny continues to remain as one of the major constraints in the production of cashew in the state. The corrective measure to be taken up in this regard is to replant or rejuvenate all such old and unproductive plantations with high yielding variety clones. However during the 8th plan period, the developmental programme could be supplemented only in a limited area. This has caused some farmers to switch over to other remunerative crops. The declining trend in area under cashew in the state over the years is attributed to this factor⁵.

Besides land is a major problem in the cultivation of cashew in Kerala. Land ceiling laws prevalent in the state limit its cultivation to the small and marginal holdings only, the owners of which are not economically sound. Adoption of scientific management

4. P.P. Balasubramanian, *Op.Cit.*, p. 4.

5. K.G. Nair, 1996. "Status of cashew in Kerala". in **Proceedings of National Seminar on Development of Cashew Industry**, Directorate of Cashewnut Development, Cochin, p.41.

practices is beyond the reach of economically unsound farmers. Pest attack is also a problem which is not properly controlled and farmers in general suffer 30 per cent loss in their yield.

MARKETING OF CASHEW IN KERALA

Cashew is a cash crop. Different regions of the country have different patterns with regard to marketing of raw cashews. In some places, notably in Kerala and Karnataka, raw cashew nuts are sold immediately after harvest. In places like Maharashtra and Goa, they are accumulated over a period of time and brought to the market during a particular time of the month. In AndhraPradesh and Orissa, in addition to the above, large growers tend to hold back the produce and sell it in larger volumes. The entire crop needs to be marketed during the short period of two months and the manufacturers are forced to cover their annual requirements, sometimes in less than 40 days.

In Kerala there are no regulated markets and hence farmers either auction their plantation to private merchants or collect nuts by themselves and sold to collection agencies setup by exporters. The factors influencing market price of raw cashewnut are quality of raw cashewnuts, availability of finance to factories and infrastructural facilities related to handling of raw cashew nuts. Except in the state of Kerala, which had a monopoly procurement scheme in some years, all other states had a free market.⁶

MONOPOLY PROCUREMENT BY KERALA GOVERNMENT

At present Kerala is the largest producer of cashewnut in the country. However the policies of the state government have many times played havoc with the prospects of this industry affecting cultivation, processing and exports all at the same time.

6. K.G. Nair, *Op.Cit.*, p.45.

Until March 1993, there was a monopoly procurement scheme for cashewnuts in the state, which resulted in erratic price movements. The Government had to reverse the policy because of its complete failure. In 1994-95, the State Government again decided to resume the monopoly procurement scheme. The State Government fixed a procurement price of Rs.24.00 to 26.50 per kg for raw cashews against a price of Rs.30.55 per kg recommended by the Cashew Board. The highest price was offered in Kannur district. At the same time open market price in April'94 ruled at Rs.30 per kg. The monopoly procurement scheme in the state, however flopped, as large scale smuggling of raw cashew from Kerala to Karnataka and Tamil Nadu took place in 1994-95.

The cashew marketing season in Kerala begins in January. However the State Government entered the market only in March and actual procurement could begin only in April because of delay in mobilizing the necessary funds. By then quality nuts were already smuggled out to neighbouring states. The nuts procured by the agencies were of poor quality and were distributed to some 250 odd units for processing. Against a target for procurement of one lakh tonne of raw cashewnut, the two state agencies, the Kerala State Co-operative Marketing Federation and the Apex Society of Cashew Workers Co-operatives had procured only about 17,500 tonnes by June end. They did not achieve even one-fourth of the target this time.⁷ In April 1995 however, the Kerala High Court struck down the Kerala Raw Cashew Procurement And Distribution Act, 1981.

CASHEW EXPORT AND PROCESSING INDUSTRY IN KERALA

Till recently, Kerala has been enjoying a near monopoly in the processing of raw cashewnuts and in the export of cashew kernels. Now the industry has started spreading

7. K.G.Nair, *Op.Cit.*, p.44.

outside Kerala. East African countries like Tanzania, Kenya were the traditional sources of supply of raw cashew nuts for feeding the factories of Kerala. Since processing facilities have been developed in those countries imports from these countries were reduced to a considerable extent. The introduction of statutory minimum wages in Kerala paved the way for shifting the industry to the neighbouring states where wage rates are lower. A major quantity of raw cashewnuts produced in Kerala also started moving outside the state and this caused a huge crisis resulting in unemployment.⁸

IMPORTANCE OF THE STUDY

Of the total area in Kerala 45 per cent is in Kannur district and 40 per cent of the total production of the state also comes from Kannur district. The livelihood of more than 50 per cent of agriculturists or farmers totally depends on cashew cultivation. Apart from that more than 1.5 lakh people are working in cashew factories in Kerala. Cashew, being a cash crop, is mainly grown for market and as such, marketing of the crop plays a very important role in the final reckoning of income to the growers.⁹

The prices of processed cashew kernels are increasing year by year. The prices of raw cashewnuts have also increased, but even then there is wide disparity among the prices prevalent in different states as well as within the state. This has led to flow of raw cashewnuts into other states leading to shortage of raw nuts in processing units in Kerala. Despite the higher prices the farmer has not benefitted much. Cashew growing is mostly

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8. G. Giridhar Prabhu, 1996. "Marketing of Raw Cashewnuts in India, in **Proceedings of National Seminar on Development of Cashew Industry**, Directorate of Cashew Development, Cochin.p.39.
 9. M. Abdul Kalam, 1994. "Problems and Prospects of Cashew Cultivation in Kerala" in **Proceedings of National Seminar on Development of Cashew Industry**. Directorate of Cashewnut Development, Cochin. p.78.

confined to remote villages where marketing is not that much organized. This has resulted in middlemen playing an important role in the marketing of nuts thereby reducing the margin or dividends due to the cashew growers.¹⁰

A strategy to recognise the importance of the cashew farmer should be evolved and put into practice so as to increase production by full exploitation of available resources. There should be more material support to the farmer. It is evident from the proliferation of the cashew processing factories even in the face of scarcity of raw materials, that there are high profits derived from the marketing of processed kernels. A part of these profits should flow back to the farmer as an incentive for increased production.

With these ideas, a systematic investigation was made regarding overall marketing aspect of the crop in the state especially in Kannur district. The present study is an attempt in that direction aiming at understanding the marketing practices and marketing channels, with emphasis on the selling behaviour of cashew growers.

The specific objectives of the study are :

- i) to analyse the marketing margins and marketing costs incurred by the cashew growers as well as the intermediaries;
- ii) to analyse the export performance of cashewnut over years;
- iii) to study the direction of export of cashewnuts; and
- iv) to suggest suitable policy measures to curtail problems in marketing of cashewnuts in Kerala.

10. M. Abdul Kalam, *Op.Cit.*, p.79.

HYPOTHESES

It is hypothesized that;

- i) the producer can enhance their share of consumer price by regulating existing marketing practices.
- ii) import of raw cashewnuts determines the export performance of cashewnuts.

SCOPE OF THE STUDY

A study on marketing of cashewnut will help to understand various issues relating to costs and margins and problems associated with marketing. The results of the study will be useful in evolving suitable suggestions to improve the marketing practices. The results will also be useful in identifying constraints in cashew exports and finding solution thereof.

LIMITATIONS

Due to time constraint, the study area was confined to limited geographical area. Similarly none of the farmers maintained farm records and they had to furnish the information relating to the selling price, marketing cost and margin from their memory and hence the data collected were subjected to recall bias. However concerted efforts have been taken to minimize the errors. The findings of the study is more appropriate to the situation prevailing in the study area and extra care should be taken while making generalization.

ORGANISATION OF THE THESIS

Chapter I : **Introduction**: Objectives, scope and limitations of the study.

Chapter II : **Concepts and Review**: Provides precise review of the concepts used in earlier studies and specifies appropriate concepts as relevant to the present study.

- Chapter III : **Design of the study** : Specifies the sampling design, method of data collection and tools used in the conduct of research and analysis of data.
- Chapter IV : **A Profile of Cashew in India** Describes area, production and productivity of cashew in India and major cashew growing states. The details on cashew processing are furnished. Data on import and export of cashew are analysed.
- Chapter V : **Results and Discussion**: The results of the analysis are presented and discussed to draw inferences with respect to the objectives.
- Chapter VI : **Summary and Conclusion**: A summary of the results of the study are presented to draw specific conclusions and policy implications.

CHAPTER II

CONCEPTS AND REVIEW

For developing a proper comprehension and making generalization it is necessary to analyse the concepts followed by previous researchers in the same field. A review of past research would help in expounding the issues relevant to the study. This will help in analysing the problems critically and drawing meaningful conclusions. A review is made on studies on marketing of different crops, concepts in marketing, price spread and export marketing.

MARKET

Carson defined market as the place within which price making forces act.¹ According to Pyle, the concept of market includes both place and region in which buyers and sellers were in free intercourse, with each other.²

The American Marketing Association viewed market as an expression of the aggregate forces or conditions, within which buyers and sellers take decisions resulting in the transfer of goods and services consequent to the aggregate demand of the potential buyers of a commodity or service.³

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1. A.C. Carsons, **Agricultural Marketing**, (New York : The Macmillan Company, 1953), pp.33-34.
 2. J.F. Pyle, **Marketing Principles**, (New York : McGraw Hills Book Company Inc., 1956), 62 : 24-25.
 3. Committee on Definitions, **Marketing Definitions**, (Chicago : American Marketing Association; 1960), p.15

The word market is derived from the Latin word 'marcatus' which referred to merchandise or place, where business was conducted. Thus market referred to a place or the actual forces that resulted in the exchange of goods from one hand to the other.⁴

Beckman and Davidson,⁵ Kulkarni⁶, Cundiff and Sill⁷ defined market in a manner similar to Pyle.

Rosenberg has observed the economic reality of a market and defined it as "the gap which separates producer and consumer".⁸

Hill⁹, Bressler, Richard and King¹⁰ defined market as an area or setting within which producers and consumers were in communication with each other, where supply and demand conditions are operated and the title of the goods were transferred.

According to Kotler, a market consists of all the potential customers sharing a particular need or want, who might be willing and able to engage in exchange, to satisfy that need or want.¹¹

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4. R.D. Touseley, E. Clark and E.E. Clark, **Principles of Marketing**, (London : The Macmillan company Inc., 1962), p.10
 5. Theodore N. Beckman and William R. Davidson. **Marketing**, (New York : The Ronald Press Co., 1962), p.4
 6. ✓ K.R. Kulkarni, **Agricultural Marketing in India**, (Bombay : The Co-operators Book Depot, Vol.I, 1964), pp . 2-5.
 7. ✓ E.W. Cundiff and R.R. Still, **Basic Marketing**, (New Delhi : Prentice Hall of India Pvt. Ltd., 1968), p.21.
 8. Rosenberg, **Marketing**, (New York : The Macmillan Publishing Co., 1972), p.32.
 9. Barkely Hill, **An Introduction to Economics for Students of Agriculture**, (Oxford : Perguman Press, 1980), p.91.
 10. ✓ G. Bressler, Richard and King, **Markets, Prices and International Trade**, (New York : John Wiley and Sons Inc., 1980), p.74.
 11. Philip Kotler, **Marketing Management**, (New Delhi : Prentice Hall India Pvt. Ltd., 1994), p.9.

Acharya and Agarwal referred to market as a social institution which performs activities and provides facilities for exchanging commodities between buyers and sellers.¹²

In the present study, market is considered as a means by which, buyers and sellers are brought into contact with one another; the function being exchange of goods and services.

MARKETING

Gill defined marketing as the one including all intermediaries and functions which happen to face in the channel to move the farm produce from the farm to the consumer.¹³

The American Marketing Association defined marketing as performance of business activities that would direct the flow of goods and services from primary producer to ultimate consumer.¹⁴

Marketing of farm supplies and farm products are viewed as a sequential series of steps or stages or functions that are needed to be performed as the input or product moves from its point of primary production to ultimate consumption. It is also viewed in terms of firms and agencies performing those functions or in terms of how these institutions are inter-related.¹⁵

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12. S.S. Acharya and N.L. Agarwal, **Agricultural Marketing in India**, (New Delhi : Oxford and IBH Co. Pvt. Ltd., 1994), p.2.
 13. K.S. Gill, "Role of Commercial Banks in Marketing of Agricultural Produce", **Agricultural Marketing**, 15(3) : 14-18, 1972.
 14. R.D. Bazzel, J.B. Mathews Jr and T. Levitt, Quoting American Marketing Association in **Marketing - An Introductory Analysis**, (New Delhi : McGraw Hill Book Company Inc., 1974), p.13.
 15. Dale C. Dahi and Jerome W. Hammond, **Market and Price Analysis**. (New York : McGraw Hill Book Company, 1977), p.4.

Thomas defined marketing as the total function of bringing goods and services from the producer in usable and finished state to the ultimate consumer.¹⁶

According to Ramamoorthy, marketing is the set of activities that are performed from the point of production till it reaches the ultimate consumer.¹⁷

Sherlehar defined marketing as an ongoing process of discovering and translating consumer needs and services, creating demand for those products and services, serving the consumer demand with the help of marketing channel and expanding in turn the market even in face of keen competition.¹⁸

Stanton and Charles defined marketing as a total system of business activities designed to plan, promote and distribute want satisfying products, services and ideas to target markets in order to achieve organisational objectives.¹⁹

According to Dubey, marketing is the function which assesses the consumer needs and then satisfies them by creating an effective demand for and goods and services at a profit.²⁰

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16. K.T. Thomas, "Marketing Concepts", **Marketing Management**, 7(3) : 44-47, 1972.
 17. K. Ramamoorthy, "An Economic Analysis of Production, Marketing and Consumption of Tomato in Coimbatore Region, Tamil Nadu, (Unpublished Ph.D. Thesis, Department of Agricultural Economics, Tamil Nadu Agricultural University, Coimbatore, 1981), p.18.
 18. S.A. Sherlehar, **Marketing Management**, (Bombay : Himalaya Publication House, 1983), p.17-3.
 19. William J. Stanton and Charlet Futrell, **Fundamentals of Marketing**, (Singapore : McGraw Hill Book Co., 1987), p.6.
 20. V.K. Dubey, **Perspectives in Rural Management**. (New Delhi : Common Wealth Publishers, 1991), p.288.

Kotler defined marketing as the process of planning and executing the conception, pricing, promotion and ideas to create exchanges with target group to satisfy customer and organisational objectives.²¹

AGRICULTURAL MARKETING

Agricultural marketing includes everything done with the commodity from the time it leaves the farm gate or where it first changes hands till it reaches the hands of the consumer, involving assembly, transportation, processing, storage, wholesaling, retailing and all of the related services.²²

Kohls and Uhl defined agricultural marketing as the performance of all business activities involved in the flow of goods and services from the point of initial agricultural production until they are in the hands of the ultimate consumer.²³

Singh defined agricultural marketing as composed of series of operations, processes and agencies involved in the movement of food and raw materials from the farms to final consumer and the effect of such operations on producers and middlemen. These included buying, assembling, processing, packaging, transporting, storing, financing, risk bearing and selling.²⁴

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21. Philip Kotler, *Op.Cit.*, p.13.
 22. Richard R. Newburg, "An Economist Evaluates Marketing Research Production Specialists and Home Economists", **Journal of Farm Economics**", 40(3) : 1537-1546, 1962.
 23. Richard L. Kohls and Joseph N. Uhl, **Marketing of Agricultural products**, (New York : The Macmillan Publishing Co. Inc., 1980), p.8.
 24. Lallan Singh, "Relationship between Apex and Primary Co-operative Marketing in Bihar", **The Co-operator**, 22(9) : 245, 1984.

According to Chandrasekaran, agricultural marketing refers to the movement of produce from the farm gate to the ultimate consumer and includes all the functions performed in the process and agents performing them.²⁵

Sivakumar referred to agricultural marketing as one which includes all business activities that help in the flow of agricultural commodities from the point of initial production until it reaches the exporters in the desired form, at the desired place and time.²⁶

According to Varma agricultural marketing is the study of all the activities, agencies and policies involved in the procurement of farm inputs by the farmers and the movement of rural products from the farms to the consumers.²⁷

In the present study, marketing is defined as all the activities that direct the flow of raw cashewnut from the initial producer to the final consumer in the required form and time.

MARKETING CHANNEL

Kohls defined market channel as a path over which a commodity passes as it moves from farmer to the ultimate hands of the consumer.²⁸

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25. P. Chandrasekaran, "Marketing of Groundnut in South Arcot District - A study on contribution of Regulated Markets", (Unpublished M.Sc.(Ag.) Thesis, Department of Agricultural Economics, TNAU, Coimbatore, 1985), p.16.
 26. K. Sivakumar, "A study on Export Marketing of Bellary Onion - A Micro and Macro Approach" (Unpublished M.Sc.(Ag.), Thesis, Department of Agricultural Economics, TNAU, Coimbatore, 1996), p.12.
 27. Varma and Aggarwal, **Rural and Agricultural Marketing**, (New Delhi : Forward Publishing Company, 1997) p.11.
 28. Richard L. Kohls and Joseph P.N. Uhl, *Op.Cit.*, p.29.

Marketing channel is the route through which agricultural products move from producer to consumers. The length of the channel varies from commodity to commodity, depending upon the quantity to be moved, the form of consumer demand and degree of regional specialisation in production.²⁹

Kotler viewed marketing channel as the act of interdependent organisations included in the process of making a product or service available for use or consumption.³⁰

MARKETING COST

Thakur defined marketing cost as the actual expenses required in bringing goods and services from the producer to consumer.³¹

Singh, Verma and Agarwal are of the view that the marketing cost includes the cost of transportation, labour including weighing, taxes such as octroi, market fee and sales tax, commission and brokerage deduction and costs due to storage, transport and insect damage.³²

Marketing costs are the actual expenses incurred in the marketing process. They include not only the cost of performing the various marketing functions but taxes and other expenses as well.³³

29. S.S. Acharya and N.L. Agarwal, *Op.Cit.*, p.163.

30. Philip Kotler, *Op.Cit.*, p.526.

31. D.R. Thakur, **Principles and Practices of Agricultural Marketing and Prices**, (Bombay : Vora and Company Publishers Private Ltd., 1977), p.3.

32. R.V. Singh, R.C. Verma and N.L. Agarwal, "Marketing Costs and Margins of a Cooperative Marketing Society and a Private Wholesaler Trader", **Agricultural Marketing**, 17(1) : p.14, 1974.

33. E.W. Cundiff and R.R. Still, *Op.Cit.*, p.40.

Dhull and Gangwar defined marketing costs as the actual costs incurred by each of the agency involved in the marketing channel for performing their functions.³⁴ Jain defined marketing costs as the actual expenses required in bringing goods and services from the producer to consumer.³⁵

According to Easwaran, marketing cost is the cost involved in transportation, processing, storage and all other expenses in bringing the produce from the producer to the ultimate consumer, and in the sense, it is the price spread less the margin earned by all the intermediaries.³⁶

In this study, marketing cost has been defined as all the costs incurred while moving the goods from the farm gate till it reaches the final consumer. These costs include transport cost, loading and unloading, assembling, packing, sales tax, commission, deduction and costs due to storage and processing.

MARKETING MARGIN

According to Kohls and Uhl the portion of the consumer's dollars that goes to food marketing firms is referred to as the marketing margin. This is the difference between what the consumer pays for good and what the farmer receives. In a sense, the marketing margin is the price of all utility adding activities and fractions performed by good marketing firms.

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34. D.H. Dhull and A.C. Gangwar, "Marketing of Rapeseed and Mustard in Haryana". **Agricultural Marketing**, 18(1) : 16, 1975.
35. S.C. Jain, **Principles and Practices of Agricultural Marketing and Prices Policies**. (Bombay : Vora and Company Publishers Private Ltd., 1977), p.3.
36. K. Easwaran, "A Study on Marketing of Turmeric in Erode Block of Periyar District", (Unpublished M.Sc.(Ag.) Thesis, Department of Agricultural Economics, TNAU, Coimbatore, 1985), p.20.

This price includes the expenses of performing marketing functions and also the food marketing firms profits.³⁷ Marketing margin is the returns on marketing cost received by marketing intermediaries for thier services.³⁸

According to Tamilaya and Adekany, Marketing margin is the net margin which is the difference between price spread and marketing cost.³⁹ The marketing margin is the difference between the buying and selling price.⁴⁰

Sivakumar defined marketing margin as the profit received by the different maketing agencies in carrying out their marketing functions.⁴¹ Moore, Johl and Ali are of the view that marketing margins are the actual amount received by the marketing agencies in the marketing process.⁴²

The marketing margin refers to the difference between prices at different levels of the marketing system. The marketing margin is the difference between farm price and retail price. The term total marketing margin will include both the incurred costs as well as the margins of the intermediaries.⁴³

In the present study marketing margin in defined as the profit earned by different middlemen for their functions and or services rendered.

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37. Richard L. Kohls and Joseph N. Uhl. *Op.Cit.*, p.221.
38. P.S. Thakur, "Pricing Efficiency of Indian Apple Market", **Indian Journal of Agricultural Economics**, 33(1) : 160, 1975.
39. Tamilayo and Adekany, Marketing Margin for Food "Some Methodological Issues and Emphirical Findings for Nilgiris", **Canadian Journal of Agricultural Economics**, 30(5) : 133, 1982.
40. Michael J. Wallace and Patrick J. Flynn, **Dictionary of Business English**, (Calcutta : Rupa and Co., 1984), p.100.
41. Sivakumar, *Op.Cit.*, p.22.
42. John R. Moore, Sardar S. Johl and M. Khusro Ali, **Indian Food Grain Marketing**, (New Delhi : Prentice Hall of India Private Limited, 1973), p.18.
43. Dale C. Dahl, Jerome W. Hammand, **Market and Price Analysis : The Agricultural Industries**, (New York : McGraw Hill Book Company Inc., 1987), p.4.

Sivakumar attempted a linear trend analysis to identify the trend in export of onion from India for 43 years. He took time period in years as the causal variable and quantity of export as the explained variable. The coefficient of determination was 44.12 per cent informing that 44.12 per cent of variation in annual exports was explained by the time factor in years. The results showed that the export of onion was growing by 5.67 tonnes annually. From the data, variation due to cyclical and irregular factors were estimated.⁷²

72. K. Sivakumar, *Op.Cit.*, p.26. ✓

DESIGN OF THE STUDY



CHAPTER III

DESIGN OF THE STUDY

The purpose of the research is to understand the different functions involved in marketing of cashewnuts as well as problems encountered therein. Since export plays an important role in the prosperity of a country, particularly in the case of a developing country like India, special reference was given to export trade of processed cashewnuts. Appropriate methodology is necessary to draw meaningful inferences of the study. The methodology adopted for the selection of sample units, collection of data and tools of analysis used in the study are discussed in this chapter.

CHOICE OF THE STUDY AREA

The present study was confined to Kerala only, since Kerala has a predominant position, in so far as cashew industry is concerned. In the state 45 per cent of the area under cashew is in Kannur District. Hence Kannur district was purposively selected for the study. Of the nine blocks in the district, four blocks were randomly selected with minimum area constraint. The selected blocks for the research are depicted in Figure 1.

SAMPLING PROCEDURE

Farm level enquiry

Kannur district consists of nine blocks. Of these nine blocks, four blocks were selected, and from each block 2 villages were selected randomly, with minimum area constraint. The details regarding the area under cashew, in the selected block, and villages selected are furnished in Table-1. In each village 15 cashew growers were selected using random sampling technique.

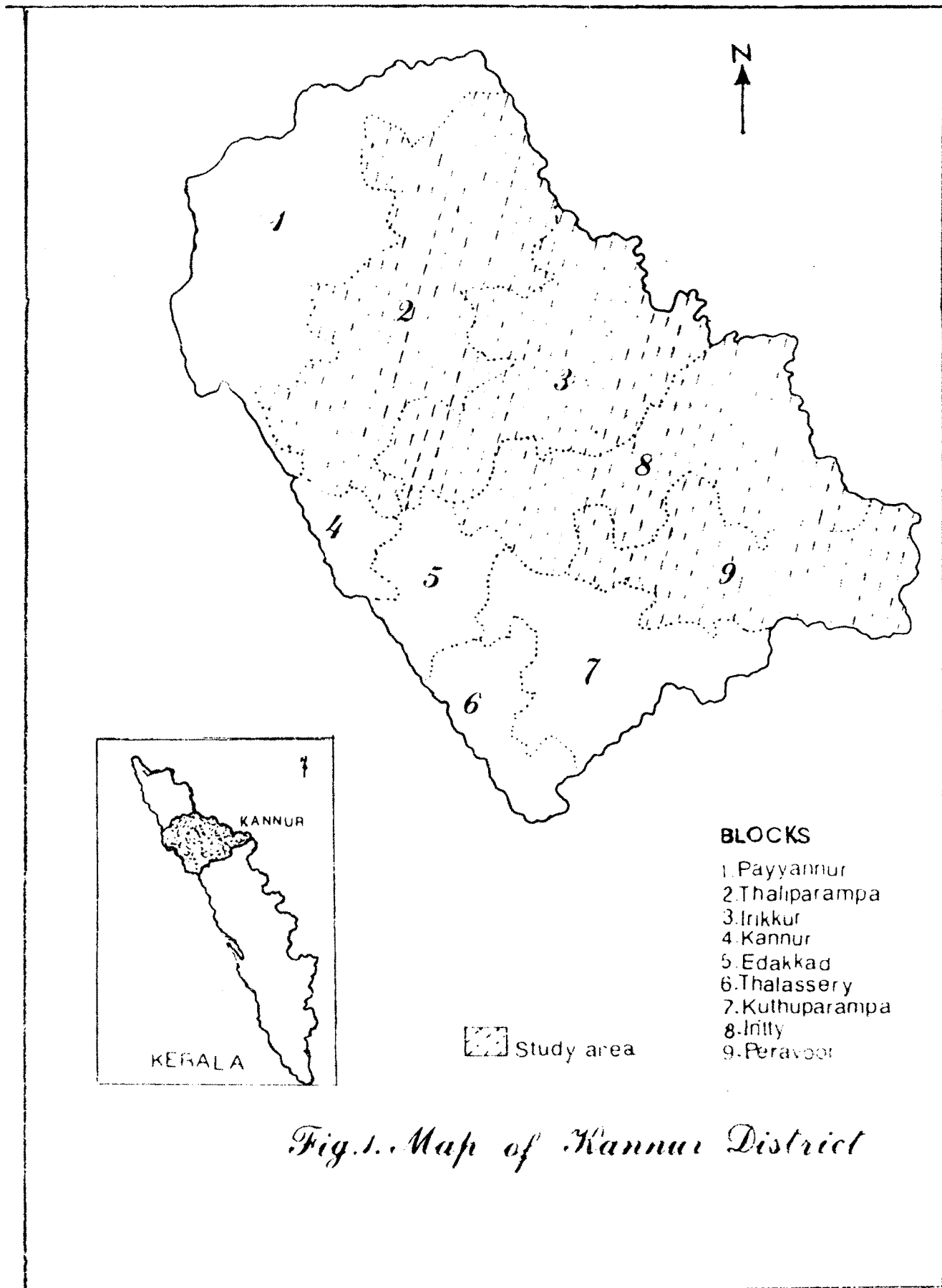


Table 1. Area under cashew in selected blocks and number of villages selected (1996-97)

Sl.No.	Name of the block	Area(ha)	No. of villages selected
1.	Iritti	13314	2
2.	Irikkur	12114	2
3.	Peravur	10342	2
4.	Taliparamba	7747	2

Source : District Statistical Office, Kannur

Thus a three stage random sampling procedure was followed in selection of 120 farmers, from eight villages spread over four blocks, in Kannur district. The details of area under cashew in the selected villages are given in Table 2.

Table 2. Area under cashew in selected villages and number of sample respondents

Sl.No.	Name of the village	Area(ha)	No. of sample respondents
1.	Ayyamkunnu	5026	15
2.	Kizhurchavessery	1550	15
3.	Srikandapuram	1200	15
4.	Eruvesi	1515	15
5.	Kottiyoor	3095	15
6.	Kilakore	2057	15
7.	Chapparapadavu	1421	15
8.	Udayagiri	1290	15
	Sample		120

MARKET LEVEL ENQUIRY

The sample covered 10 village merchants, 10 wholesalers, 10 agents of exporters and 10 processors/exporters of cashew. In all 40 market functionaries were contacted and the required information were collected. The village merchants were contacted in their respective villages and wholesalers as well as agents of exporters at their work place i.e. in major markets. The exporters were concentrated in Kollam district, and hence they were interviewed personally at their factories in Kollam.

CONDUCT OF FIELD STUDY

Field enquiry was conducted using the pre-tested questionnaires. The growers and village merchants did not maintain any records and hence had to recall from memory and provided the required information. But by virtue of their experience they were able to furnish the details required. The wholesalers and agents, as well as exporters maintained records for their transactions and provided the information needed.

SOURCE OF DATA

Primary Data

A well structured interview schedule bearing questions in relation to the specific objectives of the study was used for the data collection. Two different types of interview schedules were prepared, to gather information from farmers and the market functionaries.

The selected respondents were contacted in person and the objectives of the study were explained to them to secure their cooperation in the collection of data. The information collected included production, marketing, costs involved in marketing, price details, returns from the sale of produce, storage, processing, and problems in marketing of cashewnut

Similarly, details regarding mode of operation, working expenses, market facilities and problems, sales turnover, prices paid and received per unit of produce, storage, processing costs were collected from the market functionaries.

Secondary data

The annual exports of cashew from India, from 1967-68 to 1996-97 were collected from the different volumes of Cashew Statistics published by the Cashew Export Promotion Council, Cochin. Also countrywise export details were collected for the past one decade. The primary and secondary data thus collected were tabulated, analysed and subjected to statistical analysis.

PERIOD OF STUDY

The reference year for the study was 1996-97 and the collection of data from the sample respondents was taken up during the months of November-December, 1997.

METHOD OF ANALYSIS

The sample farmers were post stratified as marginal small, medium and big farmers based on their land holdings,¹ since, there existed wide disparity among them with regard to the production and marketing of cashewnut.

1. Based on Action Plan, 1996-97 given by District Agricultural Office, Kannur.

TOOLS OF ANALYSIS

Percentage Analysis

Simple percentages and averages were worked out to interpret the data related to the size and composition of farm holdings, cropping pattern, selling behaviour of the farmers, reason for choosing a particular functionary for sale of produce, mode of transport and also to bring about the basic characteristics of the sample farms.

The following tools of analysis were employed in order to present the facts in cogent manner and to draw meaningful inferences.

PRICE SPREAD ANALYSIS

Price spread, in general, is referred to as the difference between price paid by the consumer and that received by the grower per unit of the commodity, inclusive of marketing costs and marketing margins earned by the market functionaries.

For estimating marketing costs, costs for storage, grading, packing, processing, sales tax, commission charges and other incidental charges were considered. The marketing margins were obtained, by considering the difference between price received and marketing cost.

The net price received by the farmer and the marketing margins of the various market functionaries were estimated as percentage to the export price of the commodity. The marketing costs, margins and their percentage share were computed for all the identified marketing channels.

$$\text{Price spread} = \text{Consumers' price} - \text{Producers' price}$$

EXPORT PERFORMANCE

To study the export performance of cashewnut over years, a multiple linear regression model was used as follows. The data pertained to 30 years (1967-68 to 1996-97).

$$Y_{Ex} = b_0 + b_1 \text{ pdn} + b_2 \text{ imp} + b_3 \text{ Expr} + b_4 \text{ dom} + u_t$$

where,

Y_{Ex} = Export in the year t in MT

pdn = Production in the year t in MT

Expr = Export price in the year t in Rs./quintal

dom = Domestic consumption in the year t MT

u_t = Error term

b_0 , b_1 , b_2 , b_3 and b_4 are coefficients of the parameter, for which the values are to be estimated.

DIRECTION OF EXPORTS OF CASHEW FROM INDIA

The structural change in the share of exports of a commodity can be analysed through a first order Markov model. This model is a stochastic process which describes the finite number of possible outcomes S_i ($i=1,2,\dots,r$) which is a discrete random variable X_t ($t=1,2,\dots,r$) and which assumes that (a) the probability of an outcome on the t^{th} trial depends only on the outcome of the preceeding trial and (b) this probability is constant for all time periods.

Central to Markov chain analysis is the estimation of transitional probability matrix, 'P'. The element ' P_{ij} ' of this matrix indicates the probability that exports will switch from country i to country j, with the passage of time. The diagonal element ' P_{ii} ' measures

the probability that the export share of a country will be retained. An examination of this matrix will indicate the loyalty of an importing country to a particular country's exports.²

In the context of the current application, there are six major countries importing Indian cashewnuts. They are USA, Netherlands, U.K., Japan, Germany, Australia. All other importing countries were grouped as others. To estimate the transitional probability matrix, the annual export data of cashew for 20 years (1976-1996) was used. The actual and estimated figures were compared, so as to know how the position of cashew exports had been changing in different countries, over the period.

In the current application, the average export to a particular country was considered to be a random variable, which depends only on its past exports to that country and following a first order Markov model, it can be denoted algebraically as :

$$E_{jt} = \sum_{i=1}^r E_{it-1} P_{ij} + C_{jt}$$

where

E_{jt} = exports from India during the year t to j^{th} country

E_{it-1} = exports to i^{th} country during the year t-1

P_{ij} = the probability that exports will shift from i^{th} country to j^{th} country

e_{jt} = the error term which is statistically independent of E_{it-1} , and

r = the number of importing countries

2. T.C. Lee, G.G. Judge and T. Takayama, "On estimating the Transitional Probabilities of a Markov Process", *Journal of Farm Economics*, 47(5) : 742-762, 1965

The transitional probabilities P_{ij} , which can be arranged in a $(c \times r)$ matrix, have the following properties.

$$0 \leq P_{ij} \leq 1 \text{ for all } i \text{ and } j$$

$$\sum_{i=1}^r P_{ij} = 1 \text{ for all } j$$

Thus the expected shares of each country during period 't' can be obtained by multiplying the exports to these countries in the previous period (t-1). Similarly, the future export shares of each of the importing countries can also be estimated.

The transitional probability matrix was estimated in the linear programming (LP) framework by a method referred to as minimisation of Mean Absolute Deviation³.

The LP formulation is stated as :

$$\text{Min o.p.} + Ic$$

Subject to

$$XP + V = y$$

$$GP^* = 1$$

$$P^* \geq 0$$

where

P^* is a vector of the probabilities P_{ij}

O is a vector of zeros

I is an appropriately demonstrated identity matrix.

3. U.M. Veena, S. Suryaprakash and Lalith Achoth, "Changing Direction of Indian Coffee Exports", **Indian Journal of Agricultural Economics**, 49(3) : 425-431, 1994

e is the vector of absolute errors ($|u_i|$) y is the vector of exports to each country

X is a block diagonal matrix of lagged values of y ,

V is the vector of absolute errors

G is a grouping matrix to add the row elements of P arranged in P^* , to unity.

GARRETTS' RANKING TECHNIQUE

To rank the constraints in marketing faced by producers and market functionaries, Garrett's ranking technique was used. The order of merit assigned by the respondents were converted into ranks using the formula.

$$\text{Per cent position} = \frac{100(R_{ij} - 0.5)}{N_j}$$

where,

R_{ij} = Rank given for i^{th} factor by j^{th} individual

N_j = Number of factors ranked by j^{th} individual

By referring to the Garrett's table, the per cent positions estimated were converted into scores and then for each factor the scores of various respondents were added and mean value was arrived at. The means were arranged in descending order. The problem having the highest mean value was considered to be the most important and was given the highest rank and vice versa.⁴

4. Hendry E. Garrett and R.S. Wood Worth, "Statistics in Psychology and Education", (Bombay : Vikils, Fetter and Simons Private Limited, 1969), p.239.

A PROFILE OF CASHEN IN INDIA



Table 3. Area and Production of Cashewnut in India (1967-1996)

Year	Area (hectare)	Production (MT)	Productivity (Kg/ha)
1967-68	257107	118542	461
1968-69	265698	120438	453
1969-70	281171	123319	438
1970-71	302732	127223	420
1971-72	320034	130000	406
1972-73	328294	129766	395
1973-74	350887	135451	386
1974-75	361443	144254	399
1975-76	374653	161536	431
1976-77	375702	162457	432
1977-78	385895	165323	428
1978-79	419692	171817	409
1979-80	464465	185250	398
1981-82	481043	195760	406
1982-83	492492	201440	409
1983-84	501953	210870	420
1984-85	509768	221330	434
1985-86	518379	234480	452
1986-87	522998	245580	469
1987-88	527395	260260	493
1988-89	529287	274330	518
1989-90	530869	285590	537
1990-91	531849	294590	553
1991-92	533549	305310	572
1992-93	560290	349190	623
1993-94	565420	348350	616
1994-95	577200	321640	557
1995-96	634970	417830	658
1996-97	650000	430000	652
CGR	2.9%	4.5%	1.53%

CGR - Compound Growth Rate

Source : Cashew Statistics

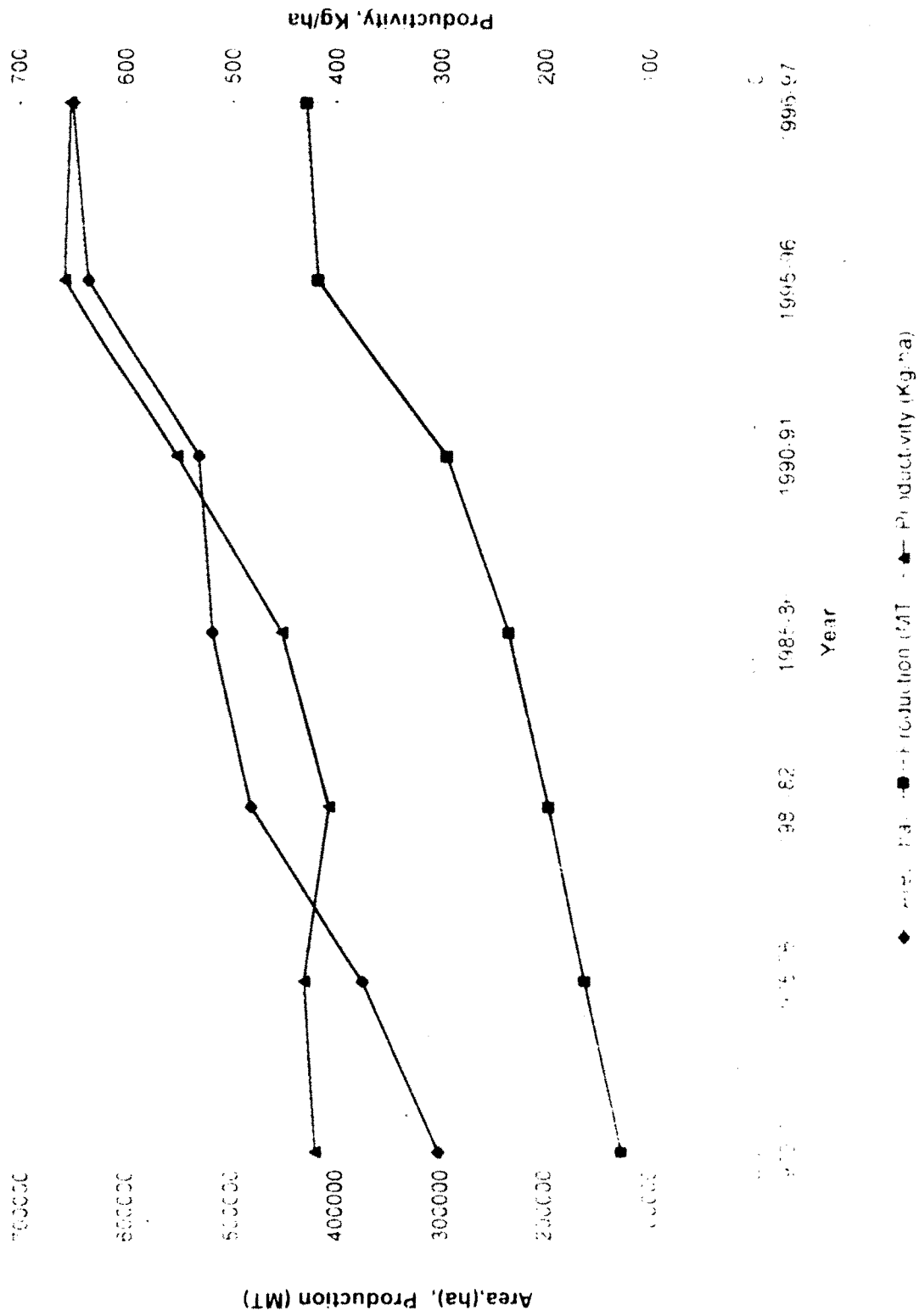


Fig.2 Area, production and productivity of cashewnut in India

Table 4. Area, Production and Productivity of Cashew in India (1987-88 to 1996-97)

State	1987-88			1988-89			1989-90			1990-91			1991-92		
	A	P	PDY	A	P	PDY	A	P	PDY	A	P	PDY	A	P	PDY
Kerala	155260	134000	1027	155260	136900	972	155390	139500	956	155390	142100	978	155490	143200	972
Karnataka	72370	22940	638	72370	23680	474	73780	24650	464	74080	25770	458	74440	26750	459
Goa	44140	12090	286	44240	12780	307	44240	13210	317	44640	14100	328	45080	14490	328
Maharashtra	22690	21360	941	22750	24380	1074	22750	27130	1196	22750	29510	1300	22850	31360	1408
Tamil Nadu	94770	11980	130	95370	12360	135	95370	12430	131	95620	12470	132	95970	12710	134
Andhra Pradesh	70470	31860	1024	71020	34260	896	71070	36580	826	71100	37770	760	71240	40360	707
Orissa	59790	22320	833	59980	26770	997	59980	28600	737	59980	29100	646	60090	31640	655
West Bengal	6700	3400	430	6800	2890	431	6800	3170	473	6800	3440	513	6900	3660	454
Others	1200	310	266	1490	310	258	1490	320	266	1490	330	275	1490	340	283
TOTAL	527390	260260	674	599280	274330	653	530870	285590	638	531850	294590	634	533550	305110	634

Table 4 contd..

State	1992-93		1993-94		1994-95		1995-96		1996-97						
	A	P	PDY	A	P	PDY	A	P	PDY	A	P	PDY			
Kerala	155640	151600	1012	155810	140200	925	156200	119200	781	118600	140000	1000	119000	135660	1140
Karnataka	74590	31260	519	74790	31540	500	75300	26480	400	83900	37600	550	85000	52000	611
Goa	45630	15450	350	46160	16210	370	47500	16960	390	49600	17800	410	51000	20000	392
Maharashtra	47910	43750	1128	51220	46860	1246	58200	37600	1100	66709	69000	1440	80000	125600	1570
Tamil Nadu	96270	19190	202	96770	19200	203	97200	22000	232	77360	30930	330	79000	30000	379
Andhra Pradesh	71720	44880	742	72090	46570	723	73300	58700	880	118080	71700	1000	121000	60000	495
Orissa	60140	39060	745	60190	43240	812	60600	37200	679	101850	44000	720	105000	40000	380
West Bengal	6900	3660	546	6900	3990	596	7000	3280	490	3680	6960	870	9000	6000	666
Others	1490	340	283	1490	360	299	1900	500	250	10200	840	560	10000	8000	800
TOTAL	560290	349190	709	565420	348150	694	577200	321640	63163	4970	417830	720	659000	430000	657

Source : Directorate of Cashewnut Development, 1997

Table 7. Export of Cashewnut Shell Liquid from India
(1967-1995)

Year	M.T.	Rs.(000)
1967	10102	15656
1968	10266	12758
1969	8420	9717
1970	7519	8557
1971	6178	7091
1972	5013	5911
1973	4626	5381
1974	6300	14923
1975	5207	12774
1976	6024	12802
1977	2966	9639
1978	5014	35168
1979	11419	128216
1980	11034	99468
1981	5602	27452
1982	5992	18979
1983	3332	13297
1984	4103	19547
1985	2210	13246
1986	2895	15806
1987	6481	47019
1988	3184	26378
1989	1821	18881
1990	5297	52868
1991	5367	44210
1992	3661	33991
1993-94	3625	29015
1994-95	3807	24410
1995-96	760	14515

Source : Cashew Statistics

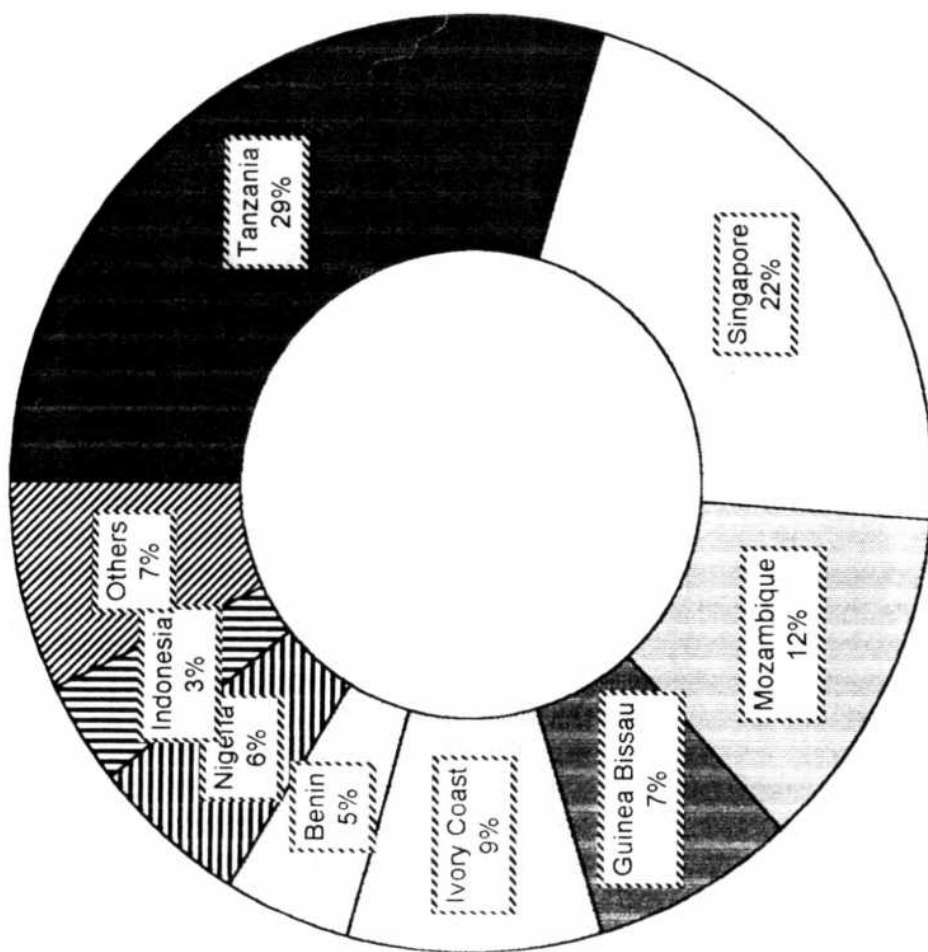


Fig.7 Import of raw cashewnuts into India during 1996-97

Table 10. Import of Raw Cashewnuts into India during 1996-97

Countries	1996-97			
	Qty. (M. T.)	% of Total Qty.	Value Rs.Crs.	% of Total Value
Tanzania	56779	29.5	186.4	29.0
Singapore	41516	21.6	152.8	23.9
Mozambique	22745	11.8	75.6	11.8
Guinea Bissau	14315	7.4	52.5	8.2
Ivory Coast	16727	8.7	49.5	7.7
Benin	8934	4.6	29.4	4.6
Nigeria	10826	5.6	28.6	4.5
Indonesia	6528	3.4	21.6	3.4
Senegal	1479	0.8	6.0	0.9
Malagasy Rep.	1448	0.8	4.0	0.6
Kenya	933	0.5	2.6	0.4
Togo	463	0.2	1.4	0.2
Philippines	302	0.2	1.0	0.2
Others	9290	4.8	29.2	4.6
Total	192285	100.0	640.6	100.0

Source : D.G.C.I. & S., Calcutta

Table 11. Different Grades in Cashew Processing
Wholes

Grade Designation	Number of kernels per lb.
W 210	200/210
W 240	220/240
W 280	260/280
W 320	300/320
W 400	350/400
W 450	400/450
W 500	450/500

Scorched Wholes

Grade Designation	Trade Name
SW	Scorched Wholes

Scorched & Dessert Wholes

Grade Designation	Trade Name	Blemish
SSW	Scorched wholes Seconds or Scorched wholes IA	Slightly shrivelled kernels
DW	Dessert Wholes	...

White Pieces

Grade Designation	Trade Name	Description
B	Butts	Kernels broken crosswise and naturally attached.
S	Splits	Kernels split naturally lengthwise
LWP	Large White pieces	Kernels broken into more than two pieces and not passing through a 4 mesh 16 SWG. Sieve
SWP	Small White pieces	Broken kernels smaller than those described as LWP but not passing through a 6 mesh 20 SWG Sieve.
BB	Baby Bits	Plumules and broken kernels smaller than those described as SWP but not passing through a 10 mesh 24 SWG Sieve.

Scorched Pieces

Grade Designation	Trade Name	Description
SB	Scorched Butts	Kernels broken crosswise and naturally attached
SS	Scorched Splits	Kernels split naturally lengthwise.
SP	Scorched pieces	Kernels broken into pieces and not passing through a 4 mesh 16 SWG. Sieve.
SSP	Scorched small pieces	Broken kernels smaller than those described as SP but not passing through a 6 mesh 20 SWG. Sieve.

Dessert Pieces

Grade Designation	Trade Name	Description
SPS	Scorched Pieces seconds or scorched pieces 1A.	Kernels broken into pieces but not passing through 4 mesh 13 SWG. Sieve.
DP	Dessert pieces	Kernels broken into pieces but not passing through 4 mesh 16 SWG. Sieve.
DSP	Dessert small pieces	Kernels of the same description as, but smaller than DP and not passing through 6 mesh 20 SWG. Sieve.

Source : Cashew Export Promotion Council, 1997

Table 12. Trend in Export in Relation to Import and Indigenous Production (1981-95)

Year	Export (C.K. in 000 MT)	Import (R.N. in 000 MT)	Indigenous production utilised (R.N. in 000 MT)	% in export	% of total production
1981	33.7	11.70	141.50	92	76
1982	31.8	4.90	139.65	97	71
1983	36.5	19.20	146.71	88	73
1984	30.6	35.00	104.09	75	49
1985	40.6	47.90	136.65	74	62
1986	39.5	43.70	135.85	76	58
1987	37.4	50.40	119.60	70	49
1988	32.5	30.50	117.23	79	43
1989	44.2	48.00	152.91	76	54
1990	48.8	93.30	128.52	58	44
1991	46.8	76.20	136.53	64	46
1992	52.6	117.20	121.89	51	40
1993	62.6	135.00	149.55	53	43
1994	74.4	275.00	63.20	19	18
1995	70.7	170.10	151.30	43	47
Mean	45.93	77.21	129.68	62	52

C.K. - Cashew kernel

R.N - Raw Nut

Source : Cashew Statistics

of the indigeneous production in addition to resorting to imports from abroad. The trend in export in relation to import and utilisation of internal production is given in Table-12.

It can be observed from the table that from 1981 to 1989 the export was increasing only in alternate years. From 1989 onwards there was steady increase in exports. Similarly the consumption of domestic production for export was also increasing when export was increasing. From 1989 onwards, when the import was steadily increasing domestic production used for export was decreasing. The trend in export is also found to be directly correlated to imports. Further, whenever the import was more, the participation of domestic production was less. It appears that the trade continues to rely much on imports.¹²

EXPORT IN RELATION TO INTERNATIONAL PRICE

The Table-13 reveals the international value for kernels average Indian Rupee per US dollar, the export effected and domestic price for rawnuts.

The trend in export has a dependence on the international market price for kernels and the corresponding foreign exchange in terms of Indian rupee equivalency per U.S. dollar. Except for the year 1981, there is an inclined relationship between the price and the quantity of kernels exports. When the international price was less when compared to the previous year, the export was more than the previous year and when the international price was more the export was less.

12.K.G. Nair, 1996. "Cashew in International Trade - Problems and Prospects" in **Proceedings of National Seminar on Development of Cashew Industry**. Directorate of Cashew Development, Cochin, p.32.

Table 13. Export in Relation to International Price

Year	Value of kernels (\$/lb)	Average Indian Rupees/Dollar	Export 000 MT (Kernels)	Internal procurement price per kg of rawnut (Rs.)
1981	3.13	8.40	33.7	8.94
1982	2.41	10.40	31.8	7.10
1983	1.98	9.70	36.5	5.76
1984	2.68	11.50	30.6	9.35
1985	2.48	12.50	40.6	9.75
1986	3.08	13.14	39.5	12.08
1987	3.30	13.10	37.4	15.30
1988	3.12	14.60	32.5	12.71
1989	2.50	16.75	44.2	13.20
1990	2.37	19.15	48.8	13.94
1991	2.61	23.50	46.8	19.20
1992	2.45	29.20	52.6	24.20
1993	2.42	31.40	62.6	20.70
1994	2.28	31.30	74.4	23.50
1995	2.46	32.50	70.7	27.30
Mean	2.62		45.93	

Source : Cashew Statistics

Table 14. Comparison of Realisable Value of Rawnuts and Real Value Obtained
(1981-95)

Year	International value for C.K.\$/kg	Realisable value of rawnut (Rs/kg)	Real value of rawnut (Rs/kg)	Loss per kg of rawnut (%)
1981	7.01	10.95	8.94	18
1982	5.40	9.90	7.10	22
1983	4.44	6.99	5.76	18
1984	6.00	10.73	9.35	13
1985	5.56	11.70	9.75	17
1986	6.90	13.67	12.08	12
1987	7.40	17.59	15.30	13
1988	6.98	15.69	12.71	19
1989	6.20	15.67	13.20	16
1990	5.31	16.36	13.94	15
1991	5.85	20.30	19.20	6
1992	5.49	24.67	24.20	12
1993	5.42	21.90	20.70	6
1994	5.11	27.79	23.50	15
1995	5.51	30.68	27.30	11
Average	5.90	16.97	14.87	14

C.K - Cashew kernel

Source : Cashew Statistics

Table 15. Processing Cost and Incidentals

Factors	% distribution of the cost
Value of Raw Cashewnut	70.00
Purchase Tax (7%)	5.00
Transportation of raw material to the factory	0.10
Processing labour	10.50
Fuel for processing	0.10
Packaging materials	4.50
Factory over heads	0.10
Administrative over heads	0.10
Selling over heads	1.20
Handling charges of finished products	5.00
Income tax	3.30
Depreciation of movable and immovable assets	0.10
Total	100.00

Source : Directorate of Cashewnut Development, 1997

According to the above distribution, the distribution towards incidental aspects of handling rawnuts and finished products is found to be around 14 per cent. Therefore, the pricing of Indian rawnuts, as convinced by the industrialists, that it is in relation to international price, is found to be a convincing phenomena.¹³

PRICING TREND OF RAW CASHEWNUT IN DIFFERENT STATES

The Table -16 indicates the pricing trend in different states in the collection season. It can be seen from the Table that Kerala being the predominant State in the production of raw cashewnut, the prices of Kerala is the determining factor for the rawnut prices in other areas for the reason that the prices in other areas have been centering around the price prevalent in Kerala. Whenever the price in Kerala was less, the price in other areas also was less and whenever the price in Kerala was more, the price in other areas was also more. A direct correlation observed in this regard is that the price in other areas increases or decreases by Rs. 1/- per kg. on the price prevalent in Kerala.

DESCRIPTION OF THE ORGANISATIONS IN CASHEW TRADING*

In Kerala, the cashew industry is largely owned by private processors and traders. The only one public sector processor-exporter company is the government owned, **Kerala State Cashew Development Corporation (KSCDC hereafter)**. In the co-operative sector there is the **Kerala State Cashew Workers Apex Industrial Co-operative Society (CAPEX hereafter)** which started functioning in the 1984-85 season.

13. N. Binod, **CAPEX-A Study** (Alappuzha : S.D. College, 1995), p.29

Table 16. Pricing Trend of Raw Cashewnut in Different States (1981-1995)

Price - Rs./Kg						
Year	Kerala	Karnataka	Andhra Pradesh	Tamil Nadu	Goa	Average
1981	7.60	8.00	9.63	9.88	9.60	8.94
1982	7.35	6.35	7.60	7.35	6.70	7.10
1983	3.93	6.35	6.50	6.03	6.00	5.76
1984	9.50	9.00	9.50	8.75	10.00	9.35
1985	10.00	8.88	10.25	9.13	10.50	9.75
1986	12.50	11.50	11.50	11.13	13.75	12.08
1987	15.00	13.25	16.25	13.94	18.00	15.30
1988	12.75	12.25	13.13	11.40	14.00	12.71
1989	12.25	14.00	12.25	12.19	15.25	13.20
1990	12.25	14.50	13.00	13.19	16.75	13.94
1991	14.50	19.75	17.50	21.25	23.00	19.20
1992	22.00	25.50	20.75	23.51	29.13	24.20
1993	20.63	19.50	19.50	19.60	24.13	20.70
1994	20.50	21.50	23.20	22.80	29.50	23.50
1995	25.00	26.00	25.50	27.50	32.30	27.30
Average	13.25	13.65	14.70	14.51	17.25	14.67

Source : Cashew Statistics

RESULTS AND DISCUSSION



CHAPTER V

RESULTS AND DISCUSSION

The present research work was undertaken to analyse the marketing of cashewnut in Kerala, with special reference to Kannur district. The information secured from different sources and data collected from sample respondents *viz.*, growers of cashew, various intermediaries including exporters were analysed statistically and the results are presented and discussed with respect to the following specific objectives of the study *viz.*,

- i. to analyse the price spread, marketing costs and marketing margin of the cashew growers as well as the intermediaries;
- ii. to analyse the export performance of cashewnut over years in India;
- iii. to study the direction of export of cashewnut; and
- iv. to suggest suitable policy measures to curtail problems in marketing of cashewnut in Kerala.

Based on the objectives, the research was conducted in four different blocks of Kannur district. The basic characteristics of the sample respondents such as, experience in farming or trade, particulars of holding, cropping pattern, selling behaviour etc. are presented in what follows :

GENERAL CHARACTERISTICS OF FARMER RESPONDENTS

Size and distribution of operational holding is one of the important factors which would influence the decision of the farmers not only in the selection of crops but also in marketing the produce, like storage, primary processing, transport etc.

The sample respondents were post stratified into marginal, small, medium and large farmers based on the classification given in the Action Plan by Kannur District Agricultural Office. According to this classification, farmers possessing an area less than one hectare were reckoned as marginal farmers, those possessing a size of farm between one hectare and two hectares were classified as small farmers and those farmers who own an area between two and 10 hectares were considered as medium farmers and farmers with more than 10 hectares of land were considered as large farmers. The details on size of holding of the sample respondents are furnished in Table-17.

It could be seen from the table that 57.50 per cent of the respondents were marginal farmers, while 31.67, 9.17 and 1.66 per cent of the sample farmers belonged to small, medium and large categories respectively.

Table.17 Size of holding of sample respondents

Sl. No.	Size group	No.	Area (Hect.)			Total operated area
			Minimum	Maximum	Mean	
1.	Marginal	69 (57.50)	0.2	0.95	0.63	43.47 (22.96)
2.	Small	38 (31.67)	1.25	1.80	1.52	57.76 (30.51)
3.	Medium	11 (9.17)	2.60	7.50	5.51	60.61 (32.01)
4.	Large	2 (1.66)	11.50	16.00	13.75	27.50 (14.52)
<hr/>						
Sample		120 (100.00)	0.2	16.00	1.58	189.34 (100.00)

Figures in parentheses indicate percentage to respective total

It was observed that though 57.50 per cent of the total respondents were marginal farmers, they occupied only 43.47 per cent of the total operated area. 31.67 per cent of the farmers who are categorised as small farmers owned 30.51 per cent of the total operated area. Both the marginal and small farmers put together constituted 89.17 per cent of the total respondents and their total area constituted only 53.47 per cent of the total operated area. The 9.17 per cent of the medium farmers had an area constituting 32.01 per cent of the total operated area, while large farmers- though they were two in numbers owned 14.52 per cent of the area. The mean size of the farms was estimated as 0.63, 1.52, 5.51 and 13.75 ha. for marginal, small, medium and large farmers respectively and the overall mean size of the sample was found to be 1.58 hectares.

AREA UNDER CASHEW IN SAMPLE FARMS

Table.18 Area Under Cashew in Sample Farms

Sl. No.	Size group	Area (ha)			Share of cashew to total area (per cent)	Total cashew area
		Minimum	Maximum	Mean		
1.	Marginal	0.1	0.64	0.41	65.10	28.29 (22.66)
2.	Small	1.0	1.55	1.15	75.66	43.70 (34.99)
3.	Medium	2.10	5.11	3.58	64.97	39.38 (31.54)
4.	Large	6.0	7.50	6.75	49.09	13.5 (10.81)
	Sample	0.1	7.50	1.04	65.82	124.87 (100.00)

Figures in parentheses indicate percentage to respective total

When the share of area under cashew to total area was analysed it was seen that in large farms 49.09 per cent of the area was occupied by cashew while it was 65.10 per cent, 75.66 per cent and 64.97 per cent respectively in marginal, small and medium farms.

It was observed from the table that, the marginal farmers owned around 22.66 per cent of the total area under cashew while small farmers accounted for 34.99 per cent. Medium farmers and large farmers had a share of 31.54 per cent and 10.81 per cent respectively. The sample showed a minimum of 0.1 hectare and a maximum of 7.50 hectare under cashew with a mean of 1.04 hectares. The total area under cashew in sample farm was 124.87 hectares.

The marginal and small farmers together held the maximum area under cashew viz., around 63.28 hectares which was 57.65 per cent of the total area under cashew. Similarly medium and large farmers owned 52.88 hectares which was 42.35 per cent of the total cashew area. From this it could be inferred that area under cashew was maximum in marginal and small farmers category.

THE AREA UNDER OTHER MAJOR CROPS

The area under other major crops, the pattern of their distribution are presented in Table-19.

It could be seen from the table that the other major crops cultivated were Paddy, Rubber, Coconut, Pepper, Arecanut and Tapioca which constituted 19.45, 25.15, 27.52, 11.56, 8.45 and 5.08 per cent of the remaining area respectively. The other crops accounted for 2.79 per cent, which included vegetables, banana, amorphophallus, other tuber crops etc.

Table 19. Area under other major crops

(Area in hectares)						
Sl. No.	Crops	Marginal	Small	Medium	Large	Sample
1.	Paddy	2.19	2.50	4.75	3.10	12.54 (19.45)
2.	Rubber	2.85	3.76	5.11	4.50	16.22 (25.15)
3.	Coconut	5.39	4.15	5.01	3.19	17.74 (27.52)
4.	Pepper	1.25	1.81	3.1	1.29	7.45 (11.56)
5.	Arecanut	1.31	1.11	2.01	1.02	5.45 (8.45)
6.	Tapioca	1.70	0.52	0.65	0.40	3.27 (5.08)
7.	Other crops	0.49	0.21	0.60	0.50	1.80 (2.79)
Sample		15.18	14.06	21.23	14.00	64.47 (100.00)

AREA UNDER RAINFED CONDITIONS

The following table presents the total area under rainfed conditions and percentage share of area under cashew to total rainfed area.

Table.21 Agewise Classification of Cashew Plantations

(Area in hectares)

Sl. No.	Size group	Age of cashew plantation (years)			Total area
		< 15	15-30	> 30	
1.	Marginal	0.78 (2.76)	3.97 (14.03)	23.54 (83.21)	28.29 (100.00)
2.	Small	3.54 (8.10)	12.44 (28.47)	27.72 (63.43)	43.70 (100.00)
3.	Medium	5.33 (13.54)	11.42 (28.99)	22.63 (57.47)	39.38 (100.00)
4.	Large	6.50 (48.15)	7.00 (51.85)	-	13.50 (100.00)
	Sample	16.15 (12.93)	34.83 (27.89)	73.89 (59.18)	124.87 (100.00)

Figures in parantheses indicate percentage to respective total

It could be seen from the table that in all the size groups except large, a major area is constituted by trees over 30 years, followed by trees between 15 and 30 years and the rest below 15 years.

In the case of marginal farms 83.21 per cent of the total area under cashew was occupied by trees above 30 years, and in small farms it was 63.43 per cent. Trees between 15 and 30 years accounted for 14.03, 28.47, 28.99 and 51.85 per cent in marginal, small, medium and large farms respectively. When the sample as a whole was

considered 59.18 per cent (73.89 hectares) of cashew area had trees over 30 years followed by trees between 15 and 30 years (27.89 per cent) and a meagre 12.93 per cent below 15 years.

To sum up, it was observed that with the increase in size of holding, the share of trees above 30 years category declined. This was because large farmers were capable of replanting their entire area with new seedlings, as was evident from the fact that none of the two large farmers contacted, had plantation over 30 years. The marginal and small farmers were not in a position to replant the entire area, due to financial constraint.

An agewise classification of cashew plantations in the State revealed plantations of over 30 years of age covering nearly 56 per cent of the area under cashew in the state which accounted for only 38 per cent of state's production. Those between 15 and 30 years accounted for 37 per cent of the area and 53 per cent of production of raw nuts in the State.¹

PRODUCTIVITY AND PRODUCTION OF CASHEW

The data regarding productivity and production of cashew in the sample farms are presented in Table-22.

The productivity of cashew ranged from 410.76 kg to 990 kg per hectare with a mean of 817.83 kg. There was significant difference in the productivity of raw nuts among different size groups of farms.

1. P.P. Balasubramanian, "Cashew Production in Kerala", **The Cashew**, 18(4) : 20, 1996.

Table.22 Production and Productivity of Cashew in Sample Farms

Sl. No.	Size group	Productivity (kg/ha)			Production (kg)
		Minimum	Maximum	Mean	
1.	Marginal	410	770	750.41	21229.09
2.	Small	500	890	864.14	37762.92
3.	Medium	780	1150	1024.92	40361.35
4.	Large	950	1300	1125.00	15189.50
	Sample	410.75	1300.00	917.28	114540.86

In the marginal farms the mean productivity was 750.41 while it was 864.14, 1024.92 and 1125 kg/hectare in the case of small, medium and large farms respectively. The high productivity in medium and large farms can be attributed to the fact that both the groups adopt scientific methods to certain extent by planting new varieties while replanting their senile plantations. In the case of marginal and small farms, since trees over 30 years constituted the major area productivity is low comparing medium and large farms.

The sample showed a mean productivity of 917.28 kg per hectare which resulted in a production of 114540.86 kg.

Table.25 Period of Storage of Rawnut by Sample Respondents

(in numbers)

Sl. No.	Size group	Immediate sales	Upto 15 days	16-30 days	Sample
1.	Marginal	56 (81.15)	8 (11.60)	5 (7.25)	69 (100.00)
2.	Small	22 (57.89)	9 (23.70)	7 (18.41)	38 (100.00)
3.	Medium	3 (27.27)	3 (27.27)	5 (45.46)	11 (100.00)
4.	Large	-	1 (50.00)	1 (50.00)	2 (100.00)
	Sample	81 (67.50)	21 (17.50)	18 (15.00)	120 (100.00)

Figures in parantheses indicate percentage to respective total

The table revealed that 67.50 percent of the respondents preferred selling the produce immediately after harvest, followed by 17.50 percent who preferred selling the produce after 15 days, and 15.00 percent of the farmers stored upto one month.

It was observed that 81.15 percent of the marginal farmers sold their produce immediately after harvest, 11.60 percent stored upto 15 days, and the rest (7.25 per cent) stored upto one month. In the case of small farmers 57.89 per cent sold immediately after harvest, 23.70 per cent after 15 days and 18.41 per cent after one month. A larger section

of both medium and large farmers preferred storage for a month. 46.46 per cent of medium farmers and 50.00 per cent of large farmers sold the produce after one month. The reasons were obvious. The first one is that they wanted to get a higher price and secondly it was possible for them to withhold the stock.

Since, both marginal and small farmers were lacking proper storage facility they could not store the produce properly, which resulted in deterioration of the quality of nuts stored, resulting in reduced price as mentioned earlier.

SELECTION OF MIDDLEMEN

It is not only the time of sale, but also the middlemen through, or to whom the produce was sold also is important as it would influence the net price realized by the farmers. In the present study farmers were found to sell their produce directly to village merchants or to agents of the exporter or wholesalers or to the exporter directly (which only large farmers followed). Details are presented in Table-26.

Much differences could not be noticed in the selection of middlemen among marginal and small farmers since 86.92 per cent and 78.83 per cent of their produce respectively was sold to village merchants. Similarly 71.19 per cent of the produce of medium farmers was also sold to village merchants. Only in case of large farmers a significant deviation was seen in that 57.78 per cent of their produce was sold to the exporters directly and the rest to the agents of the exporter.

The overall behaviour showed that 80.40 per cent of the produce was sold to village merchants, 12.99, 5.27 and 1.33 per cent of the produce was sold to wholesaler, agent and exporter respectively.

Table.26 Selling Behaviour of Cashew Growers

(kg of nuts)						
Sl. No.	Size group	Village merchant	Wholesaler (Qty)	Agent to exporter (Qty)	Exporter (Qty)	Total (Qty)
1.	Marginal	18452.33 (86.92)	1976.43 (9.31)	800.34 (3.77)	-	21229.09 (100.00)
2.	Small	29768.51 (78.83)	6204.44 (16.43)	1789.96 (4.74)	-	37762.92 (100.00)
3.	Medium	28733.25 (71.19)	9065.16 (22.46)	2562.95 (6.35)	-	40361.35 (100.00)
4.	Large	-	-	6412.16 (42.22)	8775.34 (57.78)	15187.50 (100.00)
	Sample	92102.30 (80.41)	14878.8 (12.99)	6036.30 (5.27)	1523.39 (1.33)	114540.86 (100.00)

Figures in parantheses indicate percentage to total

From the above results it was deduced that the major agency for cashew marketing was village merchant in all the cases and in particular marginal and small farmers depend heavily on village merchants for the disposal of rawnuts than the medium and large farmers. Large farmers were in a position to sell their produce to wholesalers, agents, and to the exporter directly, because they got produce in bulk and hence possessed better bargaining power.

CHOICE OF THE MIDDLEMEN

Table.27 Reasons for Preferring Different Agencies

Sl. No.	Reasons	Village merchant		Wholesaler	
		Mean score	Rank	Mean score	Rank
1.	Immediate payment of cash	78.91	I	76.44	II
2.	Kinship	67.80	II	63.57	III
3.	Too small a quantity	59.55	III	-	-
4.	Lack of own storage facility	52.10	IV	45.89	IV
5.	Better price	49.80	V	79.21	I

To rank the reasons for the choice of market functionaries, Garrett's ranking technique was used. Farmers who sold to village merchants ranked immediate payment of cash as the major reason followed by kinship. It was obvious that farmers preferred village merchants not because of the prices they received but because of the prompt payment, as well as kinship. Another reason which was assigned third rank was the quantity available at a time. Since majority of the farmers belonged to marginal and small category, they had only lesser quantity to sell and hence preferred village merchants. Lack of storage facility also was a reason for immediate disposal to village merchants who were located locally.

It could be observed that the farmers who sold their produce to wholesalers assigned the first rank to better prices because they offered higher price than the village merchant. The second and third rank was assigned to immediate payment of cash and for kinship.

From these results it was deduced that farmers do not have any storage facilities and they sold their produce immediately after harvest to village merchants because village merchants offered cash immediately, while higher price was the prime objective in selection of wholesalers, by other category of farmers.

Table.28 Problems Faced by Farmers in Marketing of Cashew

Sl. No.	Problem	Mean score	Rank
1.	Price fluctuation	92.78	I
2.	Exploitation by middlemen	86.59	II
3.	Absence of storage facilities	68.25	III
4.	Lack of transport	62.79	IV

The problems faced by the farmers were ranked using Garrett's scoring technique. It was found that fluctuating price was the major problem, followed by the exploitation by middlemen. Exploitation included reducing the weight of raw cashews. Third rank was assigned to the absence of storage facilities due to which the nuts lose the quality.

Price fluctuation is a major problem in cashew marketing system. In the year 1991 the cashew cultivators received only Rs.16 for one kg of raw cashewnuts. With this

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Price fluctuation is a major problem in cashew marketing system. In the year 1991 the cashew cultivators received only Rs.16 for one kg of raw cashewnuts. With this

16 rupees growers could not meet the expense to produce one kg of raw cashewnut. The producer was not getting fair and reasonable price for his product. In 1981 the price per kg of raw cashewnut was Rs.8.94 and decreased to Rs.7.10 in 1982 and again declined to Rs.5.76 per kg of raw cashew nut. Similarly in 1991 it was Rs.16, increased to Rs.24.20 in 1992 and then declined to as 20.70 in 1993.⁴ Thus the wide fluctuation in prices was supposed to be the major problem for cashew growers in Kerala.

The middlemen including village merchants exploited marginal and small farmers by giving low prices. They would reduce the price per kg of raw cashewnut unnecessarily by regarding the nuts as of low quality, with high moisture content. Since these poor farmers donot have the bargaining power they had to yield to whatever the middlemen ask for. They call this process of reducing the weight as "cutting", which will be around 2-3 per cent or sometimes more.

Absence of storage facilities forced the farmers to sell their produce immediately to the merchants resulting in low prices. Another problem was the lack of transport and because of the high cost of transport farmers suffered a lot.

PRICE SPREAD ANALYSIS

Several people conceive price spread and refer to this as the difference between the price received by the producer and the price paid by the ultimate consumer for a commodity. In reality one could find from the marketing processes that the term price spread is not that simplistic and is, in fact, a composition of several factors, fairly complex in nature. Despite being limiting in scope and crude in estimate, it still does offer an

4. P.P. Balasubramanian, 1996, "Marketing of raw cashew" in **Proceedings of National Seminar on Development of Cashew Industry**, Directorate of Cashew Development, Cochin. p.14.

explanation for the phenomenon and provide economic implications and therefore, price spread in its simplest terms was estimated for each of the channels found in cashew marketing and the results are furnished and discussed here.

As stated earlier, in the present study, price spread is referred to as the difference between the prices received by the farmers and paid by the consumers. This is also referred to as marketing margin which comprises of marketing costs and profit margins. While the producers i.e., cashew growers in this study, realize a net price for their produce, obtained by deducting all such costs incidental to marketing from the gross price received, the various market functionaries in each channel earn a profit, of course, after incurring certain marketing costs themselves in their respective spheres of business activities.

The ensuing discussion is presented under two major heads viz., marketing cost and market margin, the former dealing with the actual costs incurred by the different marketing units in the grower consumer continuum in the cashew marketing channel system, and the latter including, in the analysis, the profit margin earned by the market functionaries, followed by interchannel comparisons for evaluating the efficiency of the respective channels.

CHANNELS OF DISTRIBUTION

The following two channels were found to be the prominent ones in marketing of cashew.

Channel I - Producer - Villagemerchant - Wholesaler/Agent of exporter - Exporter.

Channel II - Producer - Wholesaler/Agent of exporter - Exporter.

In channel I, the produce is purchased by village merchants who in turn sold it to wholesaler or agent of exporter, from whom exporter collects the produce. Nearly 80.00 per cent of the farmers followed this channel and the rest 20 per cent sold their produce to wholesalers or agents of exporter directly (Figure 8).

MARKETING COST

Marketing cost is associated with individual marketing units in the grower consumer continuum, and thus is incurred in the beginning at the grower's level. For the sake of clarity and comprehension, this aspect is elaborated with reference to individual marketing units.

MARKETING COST FOR GROWERS

The two major modes of disposal exhibited by the growers demanded different levels of marketing cost fetching different prices to the growers, and hence the marketing cost for grower was computed separately under the two modes.

The data collected from respondent growers in each of the two categories, mentioned above, pertaining to costs incurred since harvest till the realization of a price for their produce, were aggregated and averaged as there was no significant difference across the four size groups, and the details are presented in Tables along with the gross and net prices realized.

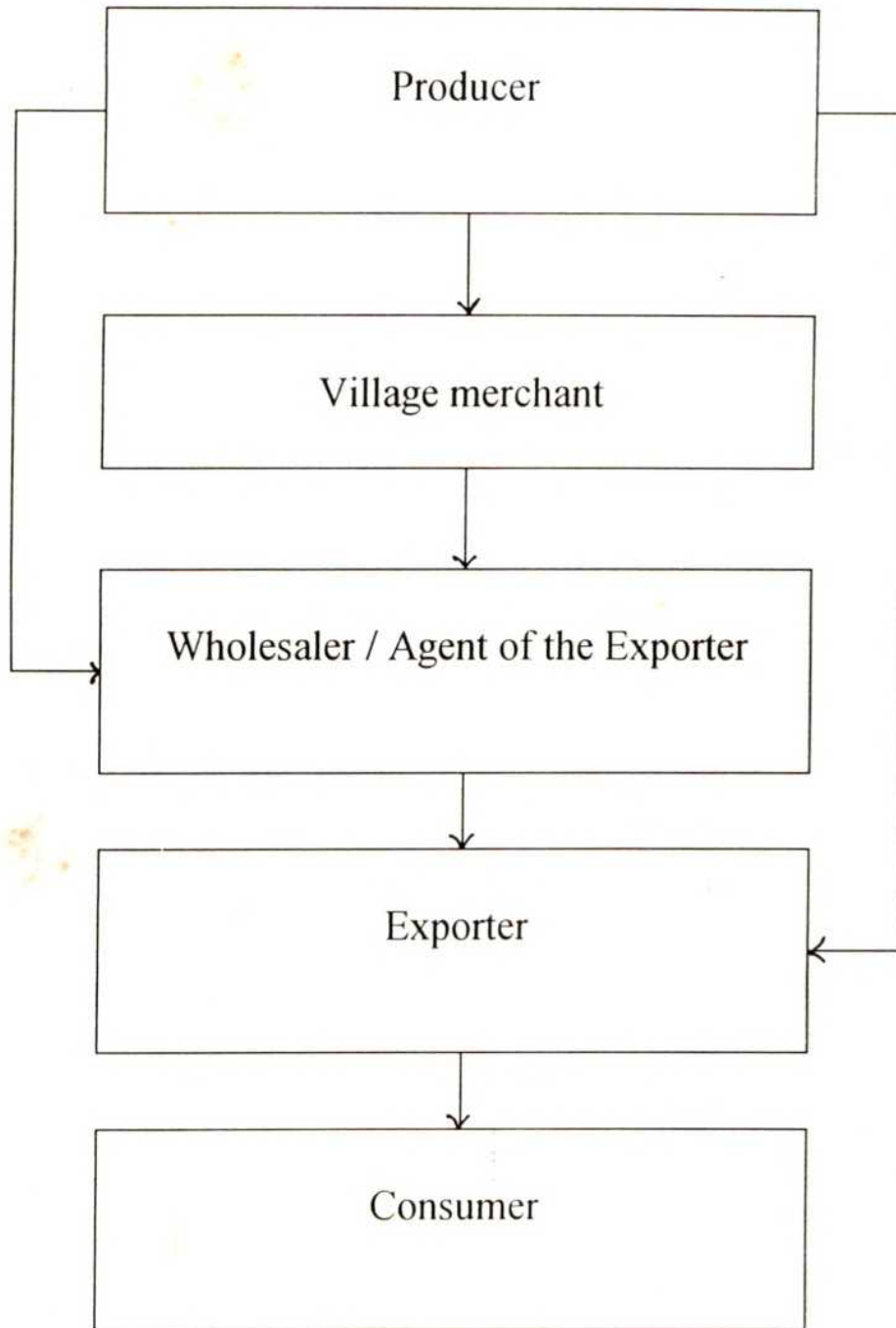


Fig. 8. Channels for Cashew Marketing

CHAPTER VI

SUMMARY AND CONCLUSIONS

The present study was carried out to analyse the different aspects of marketing of cashewnuts in Kerala, alongwith understanding the export potential of cashewnut. The specific objectives of the study were;

- i) to analyse the price spread, marketing costs and marketing margin of the cashew growers and the intermediaries in Kerala;
- ii) to analyse the export performance of cashewnut in India over years;
- iii) to study the direction of export of cashewnut; and
- iv) to suggest suitable policy measures to curtail problems in marketing of cashewnut in Kerala.

Based on the concentration of area under cashew, kannur district was purposively selected for the study. From the district, four blocks were randomly selected using minimum area constraint, and eight villages were also selected randomly. The sample consisting of 120 farmers chosen at random was post stratified into marginal, small, medium and big farmers. Different intermediaries, numbering in all, 40 viz., village merchants, wholesalers, Agent of the exporter and exporters were selected. The data refers to the year 1996.

GENERAL FEATURES OF SAMPLE FARMS

Of the total sample, 89.17 per cent belonged to marginal and small categories. The area operated ranged from 0.2 to 16.00 hectares, with an over all mean of 1.58 hectares.

The area under cashew varied from 0.1 to 7.50 hectares with a mean of 1.04 hectares, per farm. The entire cashew area was under rainfed conditions and in the sample farms 82.21 per cent of the rainfed area was occupied by cashew. The marginal and small farmer together accounted for 57.65 per cent of the area under cashew.

The agewise classification showed that 59.18 per cent of the cashew plantations was above 30 years and the rest below 30 years. The productivity ranged from 410.75 kg to 1300 kg with an average productivity of 917.28 kg per hectare. The main reasons for the low productivity, as reported by the farmers, were pest attack, untimely rain, Theft, Aged plantation and Non availability of labour, in that order.

MARKETING OF CASHEW

The average price obtained by the farmers during the season varied from Rs.2775 to Rs.3050 per quintal. It was observed that 67.50 per cent of the farmers sold the produce immediately after harvest. Further 17.50 per cent of the farmer stored upto 15 days and 15 per cent of the farmers stored upto one month. Since the produce was sold immediately after harvest proper drying was not adopted.

The selling behaviour of the farmers varied in all the categories. Even then 80.41 per cent of the farmers sold to village merchants. 12.99 5.27 and 1.33 per cent of the farmers to wholesalers, Agents of the exporter and to exporters respectively.

The seasons for preferring different agencies were analysed. It was observed that those who preferred village merchants got immediate payment of cash. Further they gave importance to kinship. Farmers who preferred other agencies like wholesaler or agents of the exporter got better prices.

The major problems faced by the farmers were price fluctuation, exploitation by middlemen, absence of storage facilities and lack of transport, in that order.

The two marketing channels for cashewnut, operating in the study region were.

- Chan-1. Producer - Village merchant - Wholesaler/Agent of the exporter - Exporter and
Chan-2. Producer - Wholesaler/Agent of the exporter - exporter.

In both the channels the exporter earned a higher profit margin (20.43 per cent) followed by the village merchant (2.15 per cent). It was found that when the farmers sold directly to the wholesaler or agent of the exporter, the price realized was more. Among the two channels the price spread was low in channel two.

The multiple linear regression model used to study the export performance of cashewnut revealed that the major item which influenced the export was import of raw cashewnuts. None of the other variables showed any relevance.

The direction of export when analysed, revealed that U.S.A. will continue to be the major buyer of Indian cashew kernels upto 2005 A.D. The probability of U.S.A retaining its share was 0.5027. Its share is likely to increase from 36.73 per cent in 1996-97 to 38.00 percent in 2005 A.D. The probability of Netherlands and others (several countries grouped together) to continue as importers from India was found to be higher while Japan, U.K., Australia and Germany has lost their share to U.S.A. Netherlands and others.

POLICY IMPLICATIONS

* The study has shown that the entire cashew was grown under rainfed conditions. If only proper awareness regarding timely irrigation and fertilizer application is done, the yield can be increased.

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APPENDIX



Appendix I
Export Statistics of Cashew Kernels from Kerala

Year	Quantity	Value
	(in tonnes)	(in crores)
1982-83	28075	122.44
1983-84	35245	144.08
1984-85	31409	174.47
1985-86	31904	196.16
1986-87	37508	302.81
1987-88	33163	290.36
1988-89	30234	245.76
1989-90	30136	342.18
1990-91	32007	398.50
1991-92	31630	432.46
1992-93	26981	385.49
1993-94	30684	454.66
1994-95	34379	538.11
1995-96	33275	606.55

Source : Cashew Statistics