

**A STUDY OF THE MARKETING CHANNELS OF
NATURAL RUBBER WITH SPECIAL
REFERENCE TO CO-OPERATIVE
MARKETING IN KERALA**

**THESIS SUBMITTED TO THE
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY
FOR THE AWARD OF THE
DEGREE OF DOCTOR OF PHILOSOPHY
IN COMMERCE
UNDER THE FACULTY OF SOCIAL SCIENCES**

BY

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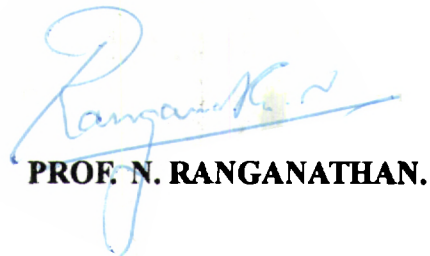
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Certificate

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SRI. K.K. KURIAKOSE *under my guidance. The thesis is worth*
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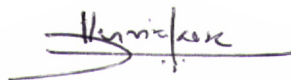
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ACKNOWLEDGEMENTS

I acknowledge my deep sense of gratitude to **Prof. N. Ranganathan**, former Dean and Director, Faculty of Social Sciences, School of Management Studies, Cochin University of Science and Technology. **Sri. Ranganathan** has not only been my guide, but also a constant source of inspiration throughout the research programme.

I am very grateful to the Chairman and various officials of the Rubber Board, Kottayam for permitting me to go through the office files. I extend my sincere thanks to the hundreds of small rubber growers in different parts of Kottayam and Pathanamthitta districts for the valuable opportunity they have given me to share their experiences and difficulties. Some of them have extended their warm hospitality and offered me valuable assistance. I am also thankful to the Secretaries and staff of various primary rubber marketing and rubber producers' societies and rubber dealers in different parts of Kerala for their co-operation throughout the study.

I am glad to express my sincere thanks to the teaching and non-teaching staff of the School of Management Studies, Cochin University of Science and Technology for their wholehearted co-operation.

Words cannot express my debt of gratitude to the Principal, Head of the Department and my colleagues in the Department of Commerce, Baselius College, Kottayam for their constant co-operation and encouragement. I am also indebted to Prof. M.J. Idicula and Prof. Jacob Kurian who have helped me in editing this work.

I am extremely indebted to the Librarians and staff members of the Centre for Development Studies, Trivandrum, Directorate of Economics and Statistics, Trivandrum, State Planning Board, Trivandrum, Kerala University Library, Trivandrum, Rubber Research Institute, Rubber Board, Kottayam, the Kerala Agricultural University, Trichur, School of Management Studies and Applied Economics Department, Cochin University of Science and Technology, Cochin.

I am thankful to the All India Association for Christian Higher Education, New Delhi for their kind willingness to provide financial assistance for completing this thesis.

My special thanks are due to of M/s. **HAWK** COMPUTERS, Opp. Baselius College, Kottayam for the word processing and photocopying of this work.

I wish to express my sincere thanks to the members of my family and all other well-wishers for their keen interest and co-operation during the period of my research work.

Last but not least, with a brimming heart, I thank **GOD ALMIGHTY** for the successful completion of this work in time.

K.K. KURIAKOSE.

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LIST OF ABBREVIATIONS

AIRIA	All India Rubber Industries Association
ANRPC	Association of Natural Rubber Producing Countries
BIS	Bureau of Indian Standards
CRAFICARD	Committee to Review Arrangements for Industrial Credit for Agricultural and Rural Development
CV	Constant Viscosity
DRC	Dry Rubber Content
EBC	Estate Brown Crepe
GP	General Purpose
IIRR	Indian Institute of Rubber Research
INRO	International Rubber Organisation
IRRA	International Rubber Regulation Agreement
IRRDB	International Rubber Research and Development Board
IRSG	International Rubber Study Group
ISNR	Indian Standard for Natural Rubber
JKI	JK India
KADP	Kerala Agricultural Development Project
MARKETFED	Kerala State Co-operative Marketing Federation Limited
MOU	Memorandum of Understanding
MRF	Madras Rubber Factory
MTS	Metric Tonnes
MTRMPS	Meenachil Taluk Rubber Marketing and Processing Society

NABARD	National Bank for Agricultural and Rural Development
NAFED	National Agricultural Co-operative Marketing Federation
NCDC	National Co-operative Development Corporation
NFRPS	National Federation of Rubber Producers' Society
OENR	Oil Extended Natural Rubber
PACS	Primary Agricultural Credit Society
PCMS	Primary Co-operative Marketing Society
PLC	Pale Latex Crepe
RBI	Reserve Bank of India
RPS	Rubber Producers' Society
RAIDCO	Regional Agro-Industrial Development Corporation
RUBBER MARK	Rubber Marketing Federation
RPDS	Rubber Plantation Development Scheme
RSS	Ribbed Smoked Sheet
RMA	Rubber Manufacturer's Association
RRII	Rubber Research Institute of India
RRIM	Rubber Research Institute of Malaysia
SCB	Service Co-operative Bank
SBI	State Bank of India
STC	State Trading Corporation
UPASI	United Planters' Association of South India
TCIL	Tyre Corporation of India Ltd.
TSR	Technically Specified Rubber

CHAPTER I
INTRODUCTION

Economic development of most of the countries in the world depends, to a considerable extent, upon the development of their agriculture. Agriculture refers to the art of raising plant life from the soil. It includes all such human efforts and are conducive to the quick and better growth of vegetable and animal products for the benefit of man. It is the most important of all primary human occupations and is carried out through out the world except in polar regions. In most of the South East Asian countries, more than 70 per cent of the population depends on agriculture.

Agriculture forms the main stay of the people in India. It is the very back bone of her economic system. A variety of agricultural crops are cultivated in different parts of India depending upon the soil and climatic conditions. The crops of the country may be classified into two, viz., food crops and cash crops or commercial crops. Among commercial crops, rubber plays a vital role both in area and production. Natural rubber, 'nature's most versatile vegetable product', is a unique industrial raw material found in the latex extracted from the tree *Hevea brasiliensis*. It has come to stay as an indispensable ingredient of civilized living.

Currently, the domestic production of natural rubber saves the country more than Rs.200 crores in foreign exchange. The rubber industry produces about 35,000 different rubber products, with an annual turnover of about Rs.6,000 crores. It also contributes through excise and customs duties and cess on rubber around Rs.1,500 crores per annum to the government exchequer.¹ Natural rubber can also claim to be the largest afforestation programme having brought about two lakh hectares of land under a thick tropical forest cover, thus helping to restore the ecological balance and preventing soil erosion.²

Natural rubber has an important role in providing employment to the rural labour in Kerala. It is estimated that about two lakh families make a living by growing rubber. Another one lakh people are engaged in its processing, transportation, marketing and related activities. Export of rubber goods in 1992-'93 was valued at Rs. 672 crores and Rs. 870 crores in 1993-'94. The Rubber Board with its headquarters in Kottayam collects Rs. 26.1 crores as rubber cess during 1994-'95.³ By way of purchase tax, the Government of Kerala annually gets Rs. 21.5 crores. It may be said that the rising standard of living of a section of the Keralites be attributed to the growth of natural rubber cultivation and rubber industry.

STATEMENT OF THE PROBLEM

Marketing plays an important role in stimulating and accelerating the agrarian development of the country. Marketing is the business process by which products are matched with markets and through which transfers of ownership are effected ⁴.

1 The Economic Times, Bombay, Mid-week Review, Rubber Goods, February 25, 1993, p.11

2. The Economic Times, Bombay, October 18, 1986, p.5

3. The Malayala Manorama, Kottayam. April 18, 1995, p.7

4. Edward. W Cundiff and Richard.R.Still , Basic Marketing, Prentice-Hall of India.Pvt. Ltd., New Delhi, 1972, II Ed., p.4

The objective of marketing is to bring the producers and consumers together. Marketing is a means through which production and purchasing power are converted into consumption. It makes available the goods to all those who want them at the right place and time. The modern concept of marketing, therefore, focuses on the consumer and the satisfaction of his needs.

Broadly there are three entities involved in the marketing system. They are the producer, consumer and the middleman.⁵ The producer after making a lot of investment and putting in hard labour, would naturally look forward to get the largest possible returns for his produce. The consumer would like to get his required quantities of goods and pure quality at the least possible cost. The middleman would aim at realising the maximum possible net profits from the deal. An efficient marketing system would, therefore, aim at balancing these conflicting interests in such a way that each entity gets a fair deal.⁶

The marketing of natural rubber also centres on these three entities. Natural rubber in Kerala is mainly cultivated in small holdings. Currently, small holdings account for 82 per cent of the area and 81 per cent of production.⁷ For 90 per cent of the small holders, rubber is the main source of income. The growers have to depend on various marketing agencies to get a remunerative price for their produce, who in turn depend on rubber consumers for effecting their sales. This necessitates the need for studying the various marketing channels of natural rubber. There is considerable literature on natural rubber. But no serious effort has so far been made to study the marketing channels of natural rubber.

5. Irani. J.R., Regulated Markets in Mysore, Eastern Economist, March, 1968, p.661

6. Mirchandani.R.T. , Marketing Programmes and their Evaluation, Agricultural Marketing, Vol.III , No. 1, Jan-Apr.,1960, p.23

7 Facts for you, Markert Survey, Rubber Industry, Growing Growth Potentialities,May, 1994.p.12

The private trading community with an eye only on profit, will either enter or withdraw from the market as and when they wish so. If the co-operative sector functions properly, it can, to some extent, withstand the speculative nature of the trade and major fluctuations in rubber price. In this connection, the co-operative sector in rubber marketing could play a major role. This paves the way for an enquiry into the rubber marketing co-operatives in Kerala.

OBJECTIVES OF THE STUDY

The general objective of this study is to analyse the various marketing channels of natural rubber with special reference to co-operative rubber marketing in Kerala. In order to achieve the above general objective, the study sets the following specific objectives.

- a. to examine the nature of natural rubber production, processing and consumption pattern.
- b. to analyse the various marketing channels of natural rubber and to identify the problems faced by small growers in the marketing of rubber.
- c. to study the functioning of the co-operative sector in rubber marketing and their functional problems.
- d. to examine the role of various developmental agencies like the Rubber Marketing Federation, the State Trading Corporation and the Rubber Board in marketing rubber.
- e. to suggest some measures for the effective organisation and management of rubber trade by co-operative sector and the role of the State Government and the Central Government in boosting the working of the co-operative sector to remove the problems faced by rubber growers, especially small rubber growers.

SCOPE OF THE STUDY

The study is designed to gather, record, analyse and critically evaluate data on natural rubber production, consumption and marketing in Kerala. The scope of the study also covers the processing of natural rubber by rubber growers, especially small growers. Taking into consideration Kerala's supremacy in natural rubber cultivation, a detailed study of marketing channels of natural rubber in Kerala, by giving special reference to co-operative rubber marketing has been given importance. Attempt has also been made to collect secondary data of the last 15 years.

REVIEW OF LITERATURE

There is considerable literature on natural rubber. Natural rubber was one of the main topics for study in India and abroad. So many studies were made relating to rubber production, processing, consumption and rubber industry. Bauer⁸ (1948) made a detailed study on the growth of rubber industry, distribution of area under rubber, establishment of international rubber regulation, plantation labour and prospects of the rubber industry.

Schidrowitz and Dawson⁹ (1954) traced the history of the rubber industry in the world. They examined the origin of the industry, raw materials, scientific and technological development in the rubber goods manufacturing industry. An economic study of innovations in British Rubber manufacturing was conducted by Donnithorne (1958)¹⁰. He traced the developments in British Rubber Manufacturing Industry before 1958.

8. Bauer.P T., The Rubber Industry- A study in Competition and Monopoly, London, Longman Green and Co., 1948.

9. Schidrowitz. P and Dawson T.R., (Ed) History of the Rubber Industry, Cambridge. W. Heffer and Sons Ltd., 1952.

10. Audry, Donnithorne. G, British Rubber Manufacturing, London, Gerald, Buckworth and Co., 1958.

Stifel ¹¹ (1975) had made an effort to study the efficiency of sheet rubber marketing system in Thailand in the framework of the structure-conduct-performance model from the field of the industrial organisation. This study indicates that government can make competition more workable by measures to increase the producers bargaining strength, to improve the efficiency of the capital market, to encourage standardisation of products' quality, and by continuing to push feeder roads into the rubber producing areas to increase the size of effective markets.

Dowling ¹² (1979) had made an effort to analyse the supply response of rubber in Thailand. He concluded that the long run response is fairly elastic and is some what higher on post-war period. However, the short run response is comparatively inelastic.

Kanbur and Morris¹³ (1980) made a study of the measurement of cycles of the prices of natural rubber. The main thrust of the study was to analyse the short-turn fluctuations in natural rubber prices prevailing in the important rubber markets of the world. The study revealed the existence of cycles of thirty months.

Daud ¹⁴ (1983) illustrated a statistical approach using Box and Jenkins technique to forecast RSS I and RSS II prices. The technique, developed begins with a generalised forecasting model followed by model specification namely, identification, estimation and diagnostic checking.

-
11. Stifel Lawrence. D., Imperfect Competition in a Vertical Market Net Work. The Case of Rubber in Thailand, American Journal of Agricultural Economics, Nov. 1975. p p. 630-640.
 12. Dowling, The Supply Response of Rubber in Thailand, Discussion Paper 58, Thammasat University, 1977
 13. Kanbur M.G. and Morris J.L., Measurement of Cycles of Natural Rubber Prices, Indian Economic Review, Vol. XV, No.1, 1980. p.p. 53 - 63.
 14. Daud Mohd. Napi Bin, A Forecasting Methodology as Applied to Rubber Prices. Journal of Rubber Research Institute of Malaysia, Vol. 31, Part 3, 1983, p p 188-203.

Yee, Longworth and Strong¹⁵ (1983) analysed the changes in the derived input demand and cost functions resulting from technological development in the Malaysian rubber industry. The specific objective of the study was to determine the nature and magnitude of shift both in the derived input demand and cost functions associated with different levels of rubber growing technologies. The important indications of the results were that the rate of reduction in unit cost of output resulting from the introduction of the recent high yielding technologies has been diminishing, given the existing factor prices.

Rubber small holdings in China was the real attraction there. Chew¹⁶ (1984) had made an effort to measure the rate of technological change in Chinese rubber small holdings. In this study technological progress was estimated from a micro economic point of view. The study shows that the rate of technological progress in rubber small holdings was the capital augmenting type at about 1.2 per cent per year.

During the same period the world rubber scenario was focussed by Tansuan¹⁷ (1984) He conducted a comprehensive study on the world rubber market structure and price stabilisation. The main theme of the study was the estimation of an econometric model of the world natural and synthetic rubber market to explain natural rubber price consumption share overtime. This study developed a model of the world rubber market with explicit treatment of the

-
- 15 Yee, Y.L., et.al, Impact of Technological Changes on Input demand and Cost Functions in the Malaysian Rubber Industry, Journal of Rubber Research, 1983.
 16. Chew. T.A., Measuring the Rate of Technological Changes in Chinese Rubber Small Holdings - A Micro - economic Approach, Journal of Rubber Research, Institute of Malaysia, Vol. 32., Part III, 1984, p.p. 191-197
 - 17 Tansuan, World Rubber Market Structure and Stabilisation - An Econometric Study, Washington, World Bank Staff Commodity Paper 10, 1984.

synthetic rubber industry and oil price, the latter being a key variable about which there is great uncertainty and worry.

In Indian rubber scenario also there were a lot of studies. Rubber has been attracting the attention of the Indians since 1902. Reddy¹⁸ (1950), Officer of the former Madras Govt. at the instance of the Rubber Board tried a lot to study the rubber small holdings in India.

The Tariff Board (Dey¹⁹, 1951) and its successor of the Tariff Commission (Bhat²⁰, 1953 and Pai,²¹ 1968) had made a number of studies in connection with the fixation of rubber prices. They had primarily dealt with the cost of production of natural rubber.

The Plantation Enquiry Commission conducted a study in 1956 on the development of rubber cultivation in India, capital structure, area under small holdings and labour at the instance of government of India.(Menon & Madhava²² 1956)

The Govt. of India had appointed the Small Holding Economics Enquiry Committee to study the problems of rubber plantation sector in 1967. Although the committee had studied some general problems connected with the

18. Reddy D.V., Report on Marketing Organisation of Rubber, Rubber Board, Kottayam, 1950. p.27

19. Dey H.L., Report of the Indian Tariff Board on the Prices of Raw Rubber and Protection and Assistance to the Rubber Plantation Industry, Manager of Publications, Govt. of India, Delhi, 1951, p. 108

20. Bhat M.D., Report of the Revision of Prices of Raw Rubber, Manager of Publications, Govt. of India, Delhi, 1953, p. 38.

21. Pai M.P., Report of the Fixation of Raw Rubber Price, Manager of Publications, Govt. of India, Delhi, 1968,

22. Menon and Madhava. P, Report of the Plantation Enquiry Commission, Part III, Rubber, Manager of Publications, Govt. of India, New Delhi, 1956, p. 345.

industry, the enquiry was mainly confined to the conditions of small holders. (Abdulla ²³, 1968)

Jose Thomas ²⁴(1979) studied the economic position of the rubber small holdings. It brings out graphically the differences between the estates and holdings in such vital matters such as costs, price and profitability.

Haridasan ²⁵ (1979) tried to find out the management practices followed in rubber estates in India. It also compared the management practices followed in the estates belonging to Indian and non-Indian companies.

Elsamma Job ²⁶ (1981) studied the economics of rubber cultivation by small holders in Kottayam district. The cost of production per quintal of sheet rubber was estimated at Rs. 305/- at 1980-'81 prices and the pay back period was in 9.51 years.

The short run and long run response of natural rubber to price movements was examined by Uma Devi ²⁷ (1989). She came to the conclusion that producers are influenced by the past six years prices in their planting decision and that they positively responded to price.

23. Abdullah T.M., Report of the Rubber Small Holdings, Economic Enquiry Committee, Rubber Board, Kottayam, 1968, p. 120.

24. Jose Thomas, The Economics of Rubber Plantations in Kerala, 1979

25. Haridasan. V, Early History of Rubber Plantation in India, Rubber Board Bulletin, Vol. 12, 1925, Rubber Board, Kottayam.

26. Elsamma Job. Economics of Rubber Cultivation by Small Holders in Kottayam District, Kerala Agricultural University, Trichur, 1981.

27. Uma Devi .S, Plantation Economy of the Third World, Bombay, Himalaya Publishing Co., 1989.

A study was done on Rubber based Industrialisation in Kerala by Tharian George .K. and Toms Joseph ²⁸ (1992). They examined various linkages associated with the rubber plantation industry and assessed its future scope and concluded that the potentials of various by-products of the industry like rubber wood, rubber seed and rubber honey should be exploited.

METHODOLOGY

The study is based on both secondary and primary data. Secondary data have been collected from books, records, annual reports and other publications. Data were obtained from various sources such as the Rubber Board, Rubber Mark, Rubber Manufacturers' Association and the Association of United Planters in South India. Data were also collected from the commodity reviews and reports of leading news papers like the Economic Times, Financial Express, Indian Express, The Hindu, Malayala Manorama, Mathrubhumi and Deepika.

Primary data were generated through field surveys using structured questionnaire, schedules and personal interviews. The information from rubber growers especially small growers having an area of cultivation in not more than two hectares were collected through schedules. For the selection of rubber growers two-stage random sampling technique was followed. In the first stage two districts in Kerala, namely Kottayam and Pathanamthitta were selected as the sample districts.

In the second stage from Kottayam district, 800 sample growers were selected on a random basis from the following four rubber growing regions as shown in the table below:

28. Tharian George. K and Tom Joseph, Economic and Political Weekly, February, 1994, p. 413.

Table 1.1
Sample regions and size of growers from Kottayam district

Region		No. of small growers
1.	Kaduthuruthy	200
2.	Pampady	200
3.	Mundakayam	200
4.	Parathodu (Kanjirappally)	200
Total		800

Source: Field survey

Similarly from Pathanamthitta district, 700 sample growers were selected on a random basis from the following four rubber growing regions as shown in the table below:

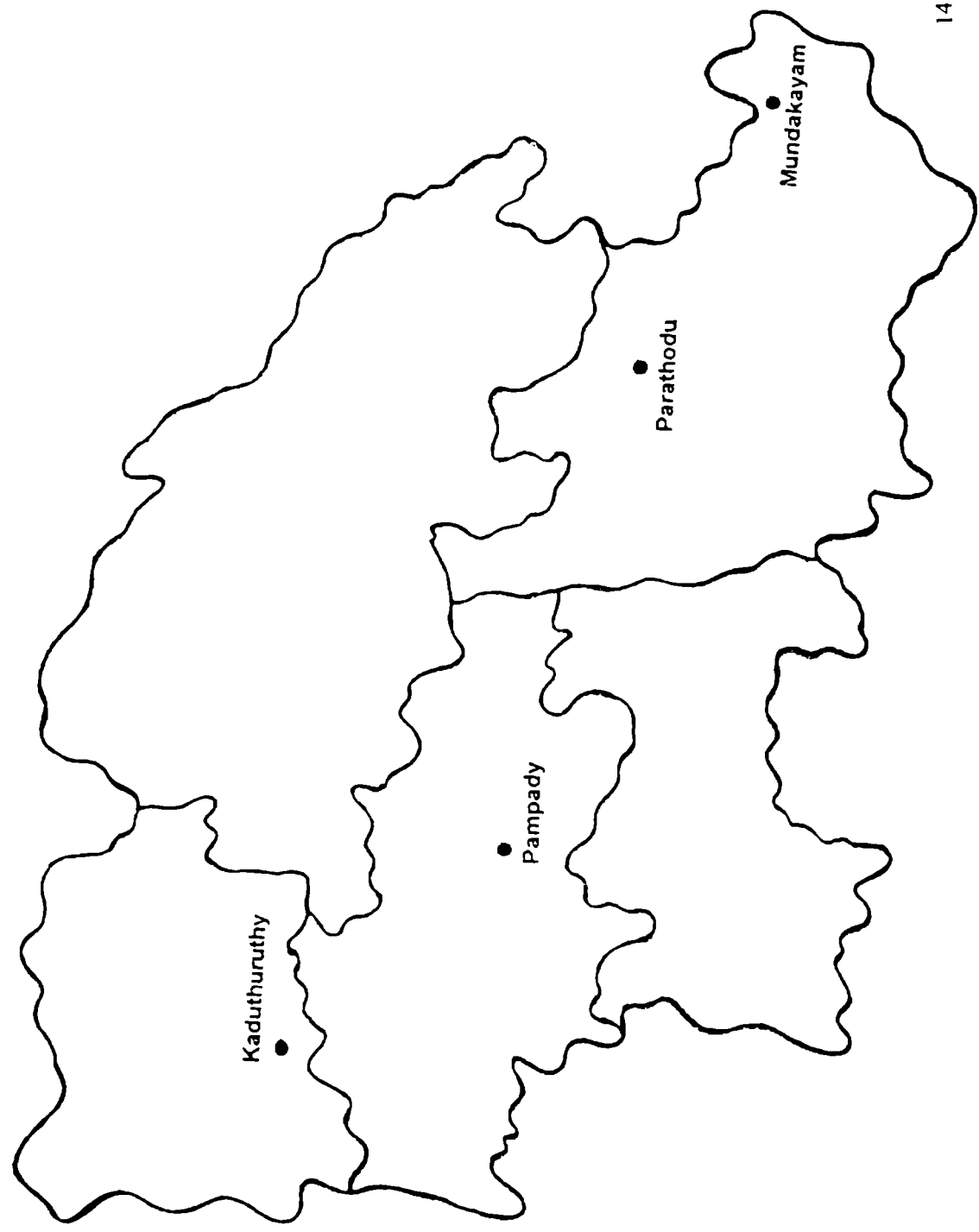
Table 1.2
Sample regions and size of growers from Pathanamthitta district

Region		No. of small growers
1.	Konni	175
2.	Kaippattoor	175
3.	Vadasserikkara	175
4.	Ranny	175
Total		700

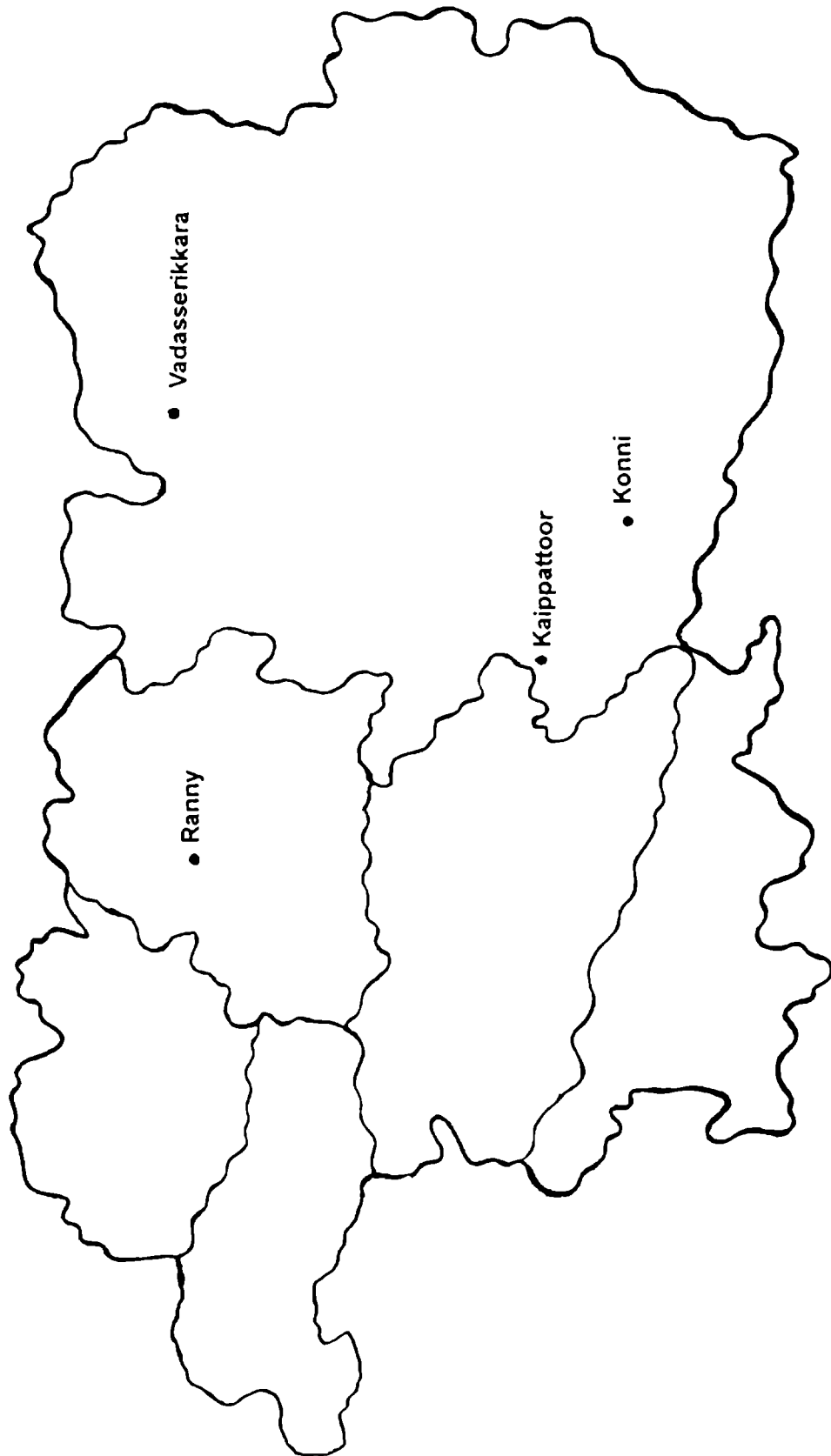
Source: Field Survey

Thus the sample size consists of 1500 growers and out of this, 500 growers were members of co-operative rubber marketing societies in those localities. This enabled the researcher to study the problems of the co-operative sector. Because of the homogeneity of the small growers, the number of samples respondents were limited to 1,500. The sample regions in Kottayam and Pathanamthitta districts are illustrated in the following maps.

MAP 1.1
THE SAMPLE REGIONS IN KOTTAYAM DISTRICT



MAP 1.2
THE SAMPLE REGIONS IN PATHANAMTHITTA DISTRICT



In order to collect the details from the co-operative marketing societies, a questionnaire was developed and 12 major societies, engaged in rubber marketing were contacted. The study of the rubber trading community was also done with the help of a schedule. Personal interviews and discussions were also held with various officials of the Rubber Board, Rubber Mark, Rubber Marketing Co-operatives and Rubber Producers' Societies to collect first-hand information.

Primary data obtained from the rubber growers, co-operatives and dealers were classified and analysed to bring out various problems faced by them. The data analysis have been done with computer and simple statistical tools were used.

LIMITATIONS OF THE STUDY

This study, however, was not devoid of limitations as the researcher had to depend substantially on published data. A major difficulty, a statistical one, was the collection of data regarding holdings which are unregistered. The Rubber Board was able to supply statistics only relating to the registered estates and holdings. But every effort has been made to cover the whole rubber producing sector. The study pertaining to the rubber trading community was not easy. Some of the traders were not willing to give the true picture of their activities. The problem was complicated with regard to big dealers. But all possible effort has been made to trace the present picture of the rubber trading community to make an objective assessment of the issues under study.

SCHEME OF THE STUDY

The study altogether consists of seven chapters.

The introductory chapter highlights the need, objectives, scope, methodology and limitations of the study.

The second chapter briefly examines the aspects relating to the history of natural rubber, its processing and uses.

Chapter three is a study of cultivation and production of natural rubber in order to give an overview to the supremacy of this plantation crop.

Chapter four deals with the consumption pattern of natural rubber by the rubber industry including tyre and non-tyre sectors.

The study of the marketing channels in detail is presented in chapter five. The various marketing channels and institutional marketing agencies are clearly dealtwith in this chapter.

Chapter six investigates the role, functions and functional problems of co-operatives in natural rubber marketing in a detailed manner.

Chapter seven presents the marketing problems, conclusion and suggestions emerging from the study.

CHAPTER II
NATURAL RUBBER
History, processing and uses

The history of rubber starts with Christopher Columbus who after his second voyage to the New World in 1496, recalled a ball that bounced, which the natives of Haiti used to play with. The ball was made from the gum of a tree and was known as Cachuc (weeping wood). It was also water proof. There is evidence that rubber was used at an early period in Ethiopia for making play balls and other objects.¹ The Portuguese and French explorers also came to know about the properties of the mysterious plant.

The name 'rubber' as being used today owes its use to Joseph Priestly, the discoverer of oxygen. He also noted that rubber erases pencil marks. It was tried in the preparation of water proof articles like boots, caps etc. The efforts were not rewarding. But in 1893, Charles Goodyear an American accidentally stumbled to discover vulcanised rubber. Thus started an era of experimentation and today rubber is man's one of the most versatile servants.²

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1. Schidrowitz. P Dawson, T.R (Ed.) History of the Rubber Industry, Cambridge W. Heffer and Sons Ltd, 1952.
 2. Bendre and Kumar, Economic Botany, Rastogi Publications, Meerut, 1982-'83 p.187.

Natural rubber is obtained from the latex, of various plants of tropical or sub tropical regions. Most of the rubber plants belong to Moraceae, Euphorbiaceae and Apocynaceae families. Though several species are available as sources of rubber, yet *Hevea brasiliensis* supersedes all. The Rubber plantation industry in South-East Asia dates back to 1876, when nearly 1900 seedlings raised at Kew from 70,000 seeds obtained from Brazil, were despatched to Ceylon by Henry Wickham.³

Rubber is a large tree attaining a height of 60 feet or more and girth of 8-12 feet. Its stem is smooth and straight and generally unbranch up to a considerable height, with a much branched leafy canopy. *Hevea* is considered to be indigenous to the Amazon valley of Brazil, Venezuela, Peru, Equedor and Columbia.⁴ The economic life of the rubber tree is 20 to 25 years.

Rubber plant requires hot and humid climate. The annual rainfall should be between 200 to 300 cms. and should be well distributed. A stiff alluvial soil which is neither too steep or too swampy is suited for the cultivation of rubber.⁵

The rubber tree is now grown in the tropical regions of Asia, Africa and America. Natural rubber, however, has been found in the latex of over 895 species of plants belonging to 311 genera of 79 families⁶ Para rubber is cheaply obtained from *Hevea brasiliensis* which belongs to the family of Euphorbiaceae.

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3. The Wealth of India Hevea, Council of Scientific and Industrial Research, New Delhi, 1984 p.25.
 4. Rubber Research Institute of India, Hand Book of Natural Rubber Production in India, Kottayam, 1980 p. 15
 5. Seasons and Crop Report of Kerala 1979-80 and 1980-81 Govt. of Kerala Publication. Dept. of Economics and Statistics, March 1985 p.178.
 6. The Rubber Grower's Companion 1990, Rubber Board, Kottayam.

RUBBER IN INDIA.

Rubber plantation in India is of recent origin. The rubber seeds came to India from England. Sir Henry Wickham of India office sent Para rubber seeds to Kew , Botanical Garden in England from Amazon river region of Brazil. These were germinated at Kew and the young plants were taken out by Dr. George King, then superintendent of Calcutta Botanical Garden. They were shipped safely to Calcutta. However, these plantings were not successful. Later, more plants were brought to India by Sri. Henry Wickham. The present rubber plantations were developed from these plant stocks and Sir Henry Wickham was rightly considered the Father of modern rubber plantations in India.

RUBBER IN KERALA.

Kerala is considered the birth place of rubber plantations in India. In August 1902, rubber planting commenced at Thattakad near Alwaye by the 'Periyar Syndicate'⁷ From 1902 onwards, the then Government of Travancore, Cochin, Madras and Mysore encouraged rubber cultivation by granting land. By 1904, planting of rubber was started in 'Yendayar', 'Eldorado' and 'Mundakayam' estates. By 1910, Mundakayam became the leading centre of rubber plantations in India. During that period two important companies ie., the Travancore Rubber and Produce Company and the Malayalam Rubber and Produce Company came into existence. By this time Indians also began to take active interest in planting rubber.

Rubber cultivation continued to progress till 1929, but the continuous fall of rubber price made it a sick industry. However, since

7. Speer S.G (ed) UPASI 1893-1953. United Planters Association of South India, Conoor, 1953. p.215

1948 it had been once again progressing gradually. The inception of Rubber Board in 1947 was an important landmark in the development of rubber cultivation. Now its production, sale and manufacture have to be carried out under a valid licence from the Rubber Board.

HARVESTING OF THE CROP

The main crop from the rubber tree is latex, a milky white liquid, which is harvested from the bark of the tree by the process of tapping. It may be grey, yellow or slightly pink, depending upon the season and local conditions. The latex occurs in latex tubes or latex vessels found in the various parts of the plants. Generally the commercial rubber is obtained from the lower part of the stem of the tree. Latex is a gummy white liquid full of minute globules. It is mixture of water, hydrocarbons, resins, oils, proteins, acids, salts, sugars and caoutchouc.

TAPPING

Para rubber is valued for the latex obtained by tapping, i.e., opening up the latex vessels situated in the bark with a sharp incision on the main trunk. When the vessels are cut, the latex flows out, quickly at first, then slowly, and finally coagulating on the cut surface. The tree is rested after each cut for varying periods according to age, climate and conditions of the tree. When the tree is tapped again, the coagulated latex of 'plug' from the old cut surface is removed and a thin strip of bark is cut off. During the first tapping, only a small amount of viscous latex exudes. The flow increases with each successive tapping.

The cut being opened always at an angle to the horizontal. Usually, the cut extends, halfway around the trunk. Tapping is done at early morning in India. The tapping task, number of trees tapped on a day by one tapper, in India often is 250 to 300 trees. The tapping cost per tree is now around paise 20 per day.

COLLECTION OF LATEX

The latex that flows out from the rubber trees on tapping is channelled into a container attached to them. Coconut shells and polythene cups are popularly used as container in most Indian states. Latex collected in the cups is transferred to clean buckets, two or three hours after tapping. Around 80% of the crop from plantations is in the form of latex.

The latex which gets dried up on the tapping panel (tree lace) and the collection cups(shell scrap) also form a part of the crop and are collected by the tapper in basket just prior to tapping. The latex split and/or over flowed on the ground(earth scrap), when get dried up, is also collected as scrap once in a month or so. Normally 10-20% of the total crop constitutes the tree lace, shell scrap and earth scrap, which together are called field coagulum.

PROCESSING OF RUBBER BEFORE MARKETING

The different types of crop harvested from rubber trees are highly susceptible to bacterial action due to contamination on keeping. Therefore, it is essential to process them into forms that will allow safe storage and marketing.

The important forms in which the crop from rubber plantations can be stored and marketed are the following⁸

1. Preserved latex and latex concentrates
2. Ribbed sheet rubber
3. Crepe Rubber
4. Technically specified block rubber.

The crop collected in the form of liquid latex can be processed into any of the above forms. But the crop collected in the form of tree lace, shell scrap and earth scrap can be processed only into crepe or block rubbers.

1. Preserved latex and latex concentrates.

Fresh latex as it comes out from the tree is slightly alkaline or neutral. It becomes acidic rapidly due to bacterial action and gets coagulated on keeping. Therefore fresh latex cannot be kept for long without pre-coagulation.

Anticoagulants

An anticoagulant is a material added to latex before it is processed, in order to prevent pre-coagulation. Anticoagulants generally used are Ammonia, Sodium sulphite and Formalin. Of these Ammonia is recommended for use, when the latex is to be processed as preserved latex or latex concentrates. For sheet rubber processing and the coagulants are used only if essential and sodium sulphite is the preferred one. The details of anticoagulants and their preparation and use are given in the following table.

8. The Rubber Grower's Companion 1987, Rubber Board, Kottayam.

Table 2.1
Preparation and use of Anticoagulants

Anticoagulant	Commercially available form	Preparation of stock solution	Dosage	Remarks
1 Sodium Sulphite	White solid of 90 - 98% purity, should be kept in tightly closed containers.	Prepared by dissolving 1 Kg. of solid in 33 litres of water.	1.5 litre of stock solution is required for every 100 litres of field latex (0.05% in latex)	For preventing normal precoagulation. Of little value in abnormal precoagulation, excess quantity retards drying of sheets and causes tackiness. Should be freshly prepared as the solution deteriorates on standing.
2. Ammonia	Either as gas in cylinders or 20% solution.	1 Kg. of gas is passed into 100 litres of water or 50 ml of the 20% solution is diluted to 1 litre with water	1 litre of stock solution is required for m 100 litres of latex (0.01%)	It is a general purpose anticoagulant. Suitable for abnormal precoagulation as in Avros 225. Gl. 1 etc. Excess causes difficulty in coagulation and drying. Not used if crepes are to be prepared.
3 Formalin	40% formaldehyde in water	250 ml. formalin is diluted to 10 litres with water Formalin has to be first neutralised with a solution of sodium carbonate before dilution.	2 litres of the solution is required for 100 litres of field latex (.02%).	Used with an equal quantity of 1% sodium carbonate solution. Excess acid is required for coagulation. Should not be used if crepe rubber is to be prepared.

Source Rubber and its cultivation 1995, Rubber Board, Kottayam

Preservatives

A preservative is a chemical or mixture of chemicals which when added to latex can prevent bacterial action in it and at the same time stabilises it. Ammonia is the most popular latex preservative. Usually latex is preserved with 0.7% Ammonia. But a variety of other substances also could be used with advantage along with a low level of Ammonia concentration(0.2%) for effective latex preservation.

Preserved field latex

Field latex preserved with a suitable preservative is termed as preserved field latex. The processing of field latex consists essentially of adding the preservative to the latex, bulking, settling and blending into consignments of suitable size for despatch. The equipments required for the purpose are a latex reception tank and a few bulking tanks. The reception tank should be large enough to treat the whole crop. It is necessary to strain latex brought from the field and to mix calculated quantities of preservatives in it. The latex after the above operation is then fed in to a bulking tank and left undisturbed for short period. After settling and removal of the sediments, it is thoroughly but gently mixed. Samples are then drawn and tested for the preservation content and dry rubber content. Based on this, necessary adjustments are made. The latex is then ready for despatch to the market. There is no much scope in processing field latex in to preserved field latex unless there is a local demand because the cost of packing and transportation will be very high per unit quantity of dry rubber compared to latex concentrates.

Latex concentrates

Preserved latex concentrates are generally marketed in two concentrations; they are

- (1) Latex between 36 and 50% drc (dry rubber content)
- (2) Latex between 51 and 60% drc. (dry rubber content)

There is good market for preserved latex concentrate as it is an important raw material having wide uses. Three major methods of processing latex in to preserved latex concentrates are known. They are briefly described below.

(a) Latex concentration by evaporation

In this method the latex is stabilised with protective colloids and alkalies and evaporated to remove part of the water. This method is cheap and quick.

(b) Latex concentration by creaming

The processing of latex into creamed concentrates involves the mixing of a creaming agent solution such as an ammonium alginate or tamarind seed powder with properly preserved field latex and allowing the latex to separate in to two layers, an upper layer of concentrated latex and lower layer of serum containing very little rubber. The lower layer of serum (skim latex) is removed, leaving the latex concentrate which is then tested, packed and marketed.

Though this method of processing latex into concentrate is very slow compared to the centrifugal concentration method, it is still employed with advantage by small scale rubber goods manufactures for producing latex concentrate because the equipment required for a creaming factory can be fabricated locally at a very low investment.

(c) Latex concentration by centrifugation

The processing of latex into latex concentrates by centrifugation involves the separation of preserved field latex into two fractions, one containing concentrated latex of 50-60% dry rubber and the other containing 5-10% dry rubber, by a suitable centrifuge machine (De Lavel Centrifuge) which consists essentially of a bowl that can rotate at a very fast speed. The essential feature of a factory to process latex into latex concentrates by centrifugation is a latex reception unit that can act as a feed reservoir for the centrifuge, the centrifuge itself with means of driving them, bulking and storage tanks, provision for packing in drums or tankers and means for processing the skim fraction. The skim fraction is generally coagulated with sulphuric acid, creped, dried and marketed as skim rubber. This is a low grade rubber and not used in the manufacture of products which require good service properties.

The quality of marketable forms of latex concentrates produced by the above mentioned processes are to be strictly controlled by laboratory testing before marketing. Specifications for centrifuged latex is given in IS 5430-1981. Typical laboratory tests that are to be undertaken for the quality control of the latex concentrates produced in a

processing factory and the methods of tests are framed by the Bureau of Indian Standards in documents 3708 Part I and II.

According to Rule 48 of the Rubber Rules 1955 (as amended) preserved latex concentrates shall be graded and marketed in conformity with such standards as are specified by the Bureau of Indian Standards from time to time.

2. Ribbed sheet Rubber

Latex is coagulated in suitable containers in to thin slabs of coagulum and sheeted through a set of smooth rollers followed by a grooved set, and dried to obtain ribbed sheet rubbers. Depending upon the drying method, sheet rubbers are classified into two; ribbed smoked sheets and the air dried sheets (pale amber unsmoked sheet). The major quantity of natural rubber produced in this country is marketed in the sheet form at present, as it is the oldest and simplest method of processing latex in to a marketable form.

Smoked sheets

The sheets, after two or three hours of dripping in shade, are put in the smoke house where the temperature is maintained between 100 and 140^o F. In smoke house sheets are dried gradually whereby blisters are avoided. In addition, the creosotic substance present in the smoke prevent the mould and yeast growth on the smoked sheets. It is preferable to smoke the sheets on the first day at a low temperature (110 to 120^oF) and at fairly high humidity. For the subsequent days

(ie, second to fourth day) the sheets are to be dried at a higher temperature (not exceeding 140°F), and fairly low relative humidity.

Generally the sheets are turned on the reapers every day for uniform smoking and drying and to avoid reaper-marks on the dry sheets. Four days smoking is generally sufficient under normal conditions, but during the rainy season five to six days are required for satisfactory drying of sheets.

The completely dried sheets are removed to the packing shed where they are carefully inspected and graded according to the standards published by the Rubber Manufacturers Association (RMA) Inc., Washington in the Green Book. This standard at present provides for six grades of ribbed smoked sheets, viz., RSS IX, RSS 1, RSS 2, RSS 3, RSS 4 and RSS 5. The grading of sheet rubber is carried out by visual examination. Normally, this is accomplished by holding rubber sheets against light when the most obvious defects will become apparent. The following table shows the defects on smoked sheets.

Table 2.2
Causes and Prevention of defects in Smoked Sheets

Defects (1)	Causes (2)	Prevention (3)
1. Small sand, dirt or foreign particles in the sheet.	Due to improper bulking and sieving.	Practice proper bulking in suitable tanks for the sedimentation of dirt and use proper sieves.
2. Small bubbles along the edges of rubber sheets.	Due to (1) insufficient mixing of the acid with latex and (2) insufficient acid for coagulation.	Ensure thorough mixing of acid with latex. Use adequate quantity of acid.
3. Pinhead bubbles in clusters all over the sheets.	Caused by bacterial growth	The latex tanks and coagulating pans should be cleaned regularly, preferably with a small quantity of disinfectant solution (Lysol or formalin).
4. Small white specks and irregular bubbles.	Mainly due to precoagulated latex.	Use anticoagulants in the field.
5. Blisters and large bubbles.	Rapid drying in the smoke house.	Resort to gradual drying by regulating the temperature.
6. Burnt and oxidised sheets	High temperature drying and the flame directly reaching the sheet.	Sheets have to be initially dried at 40-45° C and then at 60° C until completed dry.
7. Weak sheets	High dilution of field latex and sheeting before maturation. Use of latex from slaughter tapping	Dilute the field latex to 12.5% drc and sheet the coagulum after obtaining sufficient strength.
8. Mould	Improper drying and storage under moist conditions.	Dry the sheet after dipping in Paranitrophenol solution. Proper drying and storing in dry atmosphere.
9. Rust	Improper washing of the coagulum during and after sheeting.	Wash the coagulum during and after sheeting.
10. Stickiness	High dosage of coagulant and high temperature drying and drying in sunlight alone.	Use only sufficient quantity of acid and dry at the specified temperature.
11. Discolouration	Atmospheric oxidation during coagulation.	Use sodium bisulphite solution during coagulation.

Source Rubber and its Cultivation, 1995, Rubber Board, Kottayam

Air-dried sheets

This is a light coloured sheet prepared in the same way as ribbed smoked sheets but dried in a shed or tunnel in hot air instead of smoke. As colour of the sheets is an important consideration, use of sodium bisulphite which inhibits enzymic discolouration and lightens the colour of the sheets is necessary in this process. Usually a calculated volume of a solution of bisulphite is added in the bulking tank so as to get 1.25 gm. of it in a kg. of rubber in field latex. Air dried sheets may fetch a better price when compared to smoke sheets as they can be used as substitutes for pale latex crepe.

3. Crepe rubbers

When coagulated latex, or any form of scrap rubber (tree lace, shell scrap and earth scrap) is passed several times through a minimum of 3 million with heavy rolls, crinkly lace- like rubber will be obtained. This crinkly lace of rubber when air-dried is called crepe rubber. There are different types of crepe rubbers depending upon the type of starting materials from which they are manufactured. The different types of crepe rubbers and their processing details are given below:-

- a. Pre-coagulated crepe
- b. Sole crepe
- c. Pale latex crepe
- d. Estate brown crepe
- e. Remilled crepe
- f. Smoked blanket crepe
- g. Flat bark crepe

a. Pre-coagulated crepe

Starting material Fresh field latex

Pre-coagulated crepe is prepared from field latex under controlled conditions. The field latex is sieved, diluted and bulked as usual. Fractional coagulation is then effected by adding a little acid to remove the undesired colouring matter present in latex. (For 100 Kg. of drc, use 120 ml. of acetic acid diluted to 12.0 litres). The latex is diluted to 20% drc before coagulation. Usually RPA3 is used to bleach the latex, RPA3 is used at the level of 40ml, for 100 kg drc. The latex is then drained to a separate tank to remove the initial coagulum and further coagulated by adding the required quantity of acid. The coagulum is then passed through a creping battery consisting of at least one macreator and one intermediate creper, which are having grooved rollers and one finished creper with smooth rollers to obtain a thin crepe. The thin crepe is then dried at a temperature 90° F, and packed into bales. During creping, the coagulum is washed thoroughly with water.

b. Sole crepe

Starting material : Pre-coagulated thin crepe

Laminated pre-coagulated crepe is called sole crepe. Selected pre-coagulated crepe is cut into proper sizes and lamination is done with hand. A table which can be heated and machines that can press the laminated crepes are the additional requirements for the production of sole crepe.

c. Pale latex crepe

Starting material : Fresh coagulum produced from natural rubber latex

Fresh coagulum obtained from sieved, diluted (20% drc), bulked latex, treated with RPA3 and sodium bisulphite, is milled into thin crepe with

the aid of the creping battery. Then this crepe is air dried, graded and packed. There are 4 different grades of pale latex crepe. (PLC)

d. Estate brown crepe

Starting material : Cuplumps and other higher grades of field coagulum

The processing consists of soaking in water for 24 hours and washing the cuplumps and scrap to remove dirt and passing the washed materials through a creping battery. The crepe thus obtained is air-dried, graded, and packed. There are 3 different grades of pale latex crepe. (PLC)

e. Remilled crepe

Starting material : Wet slab coagulum, unsmoked sheets and cup lumps.

The materials are washed and milled in the creping battery. The crepe obtained is air-dried, graded and packed. There are 3 different grades of remilled crepe.

f. Smoked blanket crepe

Starting material : Smoke rubber derived exclusively from ribbed smoked sheet or cuttings

The processing consists of milling the materials in the creping battery, air drying and packing.

g. Flat bark crepe

Starting materials : All types of low grade scrap including earth scrap.

The details of processing are the same as that of estate brown crepe.

The grading of the different types of crepes are also made visually as per the standards published by the Rubber Manufacturers Association, Inc., Washington. (Green Book)

4. Technically specified block Rubber (TSR)

Ribbed smoked sheets and various grades of crepe rubbers processed and marketed adopting conventional methods were found to be less effective to compete with technically specified synthetic rubbers which started coming in to the world market in attractive packing in block forms after the Second World War. So attempts were made mostly by the plantation industry in Malaysia during the last decade to develop new methods for processing and presentation of the crop from rubber plantations. All the modern processing methods which are popular in rubber plantations of various producing countries are developed as a result of them. All the rubber produced in the modern methods are graded by technical specification schemes.

In India, the first TSR plant was established in 1975, by Havea Crumb Rubber Pvt. Ltd., Poovarani in Kerala. Now there are sixteen major TSR plants in the country. The following table shows the names of these plants and installed capacity.

Table 2.3
TSR Plants and Installed Capacities

Name and Location	Installed Capacity (Tonnes)
1. Aspinwall & Co. Ltd. Pullangode	900
2. A.V. Thomas and Co. Punalur	900
3. Comorin Rubbers, Kanyakumari	900
4. Co-operative Rubber Marketing Society, Moovattupuzha	3000
5. Co-operative Rubber Marketing Society, Palghat	3000
6. Hevea Crumb Rubber Pvt. Ltd. Poovarani	900
7. Kerala State Co-operative Rubber Marketing Federation Ltd. Kanjirappally	3000
8. Kozhikode District Co-operative Rubber Marketing Society Ltd. Kuppayakode	3000
9. Malankara Rubber and Produce Co. Ltd. Thodupuzha	600
10. Mambad Rubber Co. Ltd. Nilambur	3000
11. Palai Co-operative Rubber Marketing Society Ltd. Palai	3000
12. Pilot Crumb Rubber Factory, Rubber Board, Kottayam	900
13. Plantation Corporation of Kerala, Vettilapara	1500
14. Rubber-o- Dynat, Kalamassery	1800
15. Thodupuzha Co-operative Rubber Marketing Society, Thodupuzha	3000
16. Travancore Rubber and Tea Co. Ltd., Mundakayam	600

Source: Rubber Board, Kottayam.

New process rubbers

Now new process rubbers are also common. The principles involved in the development of new form of processed rubbers are

1. The cost of the rubber is reduced by blending lower grade scraps and latex rubber and
2. The Mooney viscosity of the rubber is kept low by addition of extender oils or plasticisers.

Following are the different types of new process rubbers

- a. Constant viscosity and low viscosity rubbers
- b. Oil extended natural rubber (OENR)
- c. Tyre rubber
- d. General purpose rubber

a. Constant viscosity and low viscosity rubbers

Mooney viscosity, one of the physical properties of natural rubber, is of utmost importance to the rubber manufacturers, as it is intimately connected with the processing operation. Rubber having a low viscosity need not be pre-masticated in the manufacturers' factory. It is a fact that viscosity of natural rubber increases on storage and this phenomenon of storage hardening can be prevented by using either hydrazine hydrate or hydroxylamine hydrochloride, Rubbers treated with the correct concentration of one of these chemicals, therefore, retain its original viscosity for long periods and such rubbers are termed constant viscosity rubbers. Addition of hydroxylamine at 0.15% produces constant low viscosity rubbers (Mooney viscosity 60-65). Treatment of latex with 0.15% hydrazine hydrate produces a high constant viscosity rubber (Mooney viscosity 85-90).

The viscosity of rubbers can be brought to a low range by the addition of a fixed quantity of an inert plasticiser (a nonstaining naphthenic

rubber process oil) to the viscosity stabilised rubber. Rubber, the viscosity of which is thus stabilised at a lower range is termed low viscosity rubber. Both constant viscosity (CV) and low viscosity (LV) rubbers are being produced in India in limited quantities. In this connection it is important to point out our that production of CV and LV rubbers is controlled by a patent held by the Rubber Research Institute of Malaysia.

b. Oil extended natural rubber (OENR)

Oil extension of natural rubber is usually done at the consumers factory as a processing step. But recently it has been shown that the crop from rubber plantations can be processed as oil extended natural rubber. In processing latex into oil extended rubber, oil is added to the latex as an emulsion and then coagulated with acid in the usual manner. The coagulum so obtained is then processed as block rubbers.

c. Tyre rubber

The tyre manufacturing industry consumes over 50% of the natural rubber produced. The two basic requirements of this most important consumer are (1) large volume supply, (2) and a technologically attractive product at an economic price.

In order to meet this requirement Rubber Research Institute of Malaysia has developed the tyre rubber, which, in some respects, resembles low viscosity rubber. The processing of tyre rubber is similar to the other forms of block rubbers. It is packed in polythene sheets and sold on technical specifications.

d. General purpose rubber

The relatively high oil content in the tyre rubber was one of its drawbacks. So a new general purpose (GP) rubber was developed to meet the requirements of the tyre industry. The processing involves the cleaning of scrap rubber and creping it into blankets. Latex coagulum is also creped into blankets. The blankets are blended in the ratio of latex rubber: scrap rubber as 40 : 60 (on drc basis). The blanket is then converted into crumbs using creper hammer mill. The crumbs are soaked in a solution hydroxylamine sulphate, dried and pressed into blocks of 24 kgs. Samples are tested in the laboratory to ascertain conformity with standards and marketed with technical specifications. Block rubbers cannot be graded by the visual grading systems as in the case of sheet or crepe rubbers. Their classification is exclusively on the basis of analytical data and as per the standards prescribed by various national or international standards organisations. Bureau of Indian Standards (BIS) formulated specifications for raw natural rubber as early as in 1969 (IS-4588).

Reclaimed rubber

Reclaimed rubber is prepared from discarded rubber products and rubber scrap. Reclaiming industry is of considerable economic importance as it renders useful service of recycling of material which would otherwise be waste. Further, the low and uniform cost of reclaimed rubber has a stabilising effect on the market price of raw rubber. The reclaimed rubber is used in the manufacture of rubber goods usually blended with natural or synthetic rubber.

Synthetic rubber:

Natural rubber is an all purpose rubber and due to its shortage during the Second World War period many synthetic rubbers have been developed and marketed. The following are the different types of synthetic rubbers.

1. Styrene butadiene
2. Butyl
3. Polychloroprene
4. Nitrile
5. Silicone
6. Thiokol
7. Cis-polybutadiene
8. Cis-polyisoprene
9. Polyurethanes
10. Acrylates
11. Chlorosulphonated polyethylene
12. Fluoro hydrocarbons
13. Ethylene propylene co polymer
14. Ethylene propylene terpolymer

Properties of Rubber

The physical and chemical properties of rubber is discussed below:

a. Physical Properties

The physical properties of rubber vary with temperature. Natural rubber is soft and translucent at 20°C; when chilled to 0-10°C, it becomes hard and opaque; at the temperature of liquid air, it is brittle and transparent

like glass. At temperatures exceeding 25°C, rubber loses elasticity and becomes sticky. Rubber melts to a viscous fluid at about 200°C. Rubber is insoluble in water and is unaffected by alkalis or moderately strong acids. It is soluble in benzene, naphtha, carbon disulphide, ether, chloroform and chlorinated hydrocarbons. When rubber is dissolved in a solvent, it first swells to gel-like consistency and then forms a solution. The elastic property of rubber is closely related to its molecular structure. Rubber is amorphous in the unstretched state, but shows crystalline behaviour when kept at 0° for a long time or when stretched. Rubber is one of the best insulating and dielectric materials available.⁹

b. Chemical Properties

First grade latex plantation rubber contains : rubber hydrocarbon 92-94%, resin 3%, protein 2% and ash 0.2% in Hevea rubber. Rubber hydrocarbon, also known as caoutchouc, is colourless, odourless, transparent and elastic. It consists of long chains of isoprene units connected end to end through 1-4 linkages in cisoid manner. Rubber forms compounds with halogens, halogen acids and metallic halides, ozone and oxides of nitrogen. Hydrogenation at elevated temperatures and pressures in the presence of a catalyst gives fully saturated hydorrubber. Rubber is oxidised by nitric acid, potassium permanganate and hydrogenperoxide¹⁰.

Uses of rubber

Man is associated with the rubber at all stages of his life. He wants rubber cushioned chair to sit, rubber foam bed to sleep and rubber ornaments to wear. Rubber is used for the production of a wide variety of

9. Pandey B.P. , Economic Botany, S. Chand and Company Ltd., New Delhi, 1984, p.213

10. Ibid p.214.

products utilised in industries and services, and for domestic purposes. It has been estimated that about 50,000 different products are fabricated from rubber directly or indirectly. Rubber is mainly used for the production of tyres and tubes. Among miscellaneous manufactured articles, mention may be made of rubberised fabrics, motor mountings for absorbing vibrations and shocks, transmission and conveyor beltings, paints, sports goods, household and hospital supplies, toys such as balls, dolls and balloons, erasers and rubber bands and adhesives. It is also employed in the fabrication of battery boxes, fountain pen barrels, tobacco pipe stems, telephones, combs and dentures.¹¹

Next to steel, rubber is the most vital raw material for most of the strategic products such as, thermal plants, defence, railways, aeroplanes and family planning. Elastic fabrics are made from latex threads. Metals are coated with rubber to protect them from wear and corrosion.

In addition to this natural rubber now finds extensive uses in washers and gaskets, garden hose, fire hose and soil stabilisation in vibration, absorption and road making.

Natural rubber latex, in preserved and concentrated forms, finds many commercial applications. Compounded latex is largely replacing rubber solutions for the manufacture of such articles as balloons, gloves contraceptive appliances, finger stalls and teats. Over 65 per cent of the latex is used in the manufacture of foam rubber and rest for dripped goods, fabric coatings, impregnation and moulded goods. Uncured latex is used as an adhesive in footwear manufacture. The bulk of latex goods is made from vulcanised latex.

11. Rubber Spectrum, January - February 1990, Rubber Board, Kottayam.

Reclaimed rubber is used in the manufacture of heels, soles, mechanical rubber goods, tyres and adhesive for use in fabric dipping, carpet backing, flooring etc., and hard rubber used for battery containers, tubes and rods.

In recent years rubber wood has assumed importance as a source of raw material for various industries in India. The stem wood is used in packing case manufacturing industry which accounts for sixty per cent of the total consumption. The branch wood is used as fire wood.

Rubber seed oil is a minor source of non-edible oil in India. Rubber seed cake can be used as cattle feed. Rubber honey is also produced from rubber plantations which contains three major sugars, fruit sugar, grape sugar and cane sugar¹².

Thus the uses of rubber are so wide and varied that if you want a child you need rubber and if do not want a child you again need rubber. Rubber is a strategic raw material which is needed both in war time and peace time.

12. Rubber and its cultivation 1995, Rubber Board, Kottayam, p. 72

CHAPTER III
NATURAL RUBBER PRODUCTION PATTERN

As marketing embraces the entire process of getting goods and services from the place of production to the final consumer for ultimate consumption, it is essential to analyse the structure of production and consumption pattern of natural rubber. Production, marketing and consumption are the three basic factors in the modern business activities. Without production, there is no marketing, and without consumption there is no need for production. Thus production, marketing and consumption are inter related with each other in such a way that any one function without the other is almost impossible. In this connection a careful study of production and consumption pattern of natural rubber is considered essential for this study.

In India there are about 23 major crops of which eleven are grouped under food grain crops and remaining under non-food grain crops. The total area under food grain crops and non-food grain crops are 15,19,68,000 hectares, of which 12,39,10,000 hectares are under food grain which constitute 81.5 per cent of the total area and 2,80,58,000 hectares under non-food crops which constitute 18.5 per cent of the total area¹

1 Govt. of Andhra Pradesh, Hand Book of Statistics, Hyderabad, 1989, p.93

Among food crops, rice, wheat and maize cover 36 per cent of the total area, while inferior cereals like jowar, bajra, ragi, small millets and grain cover the balance. The main non-foodgrain crops include commercial crops such as cotton, jute, tea, coffee, rubber, sugarcane, tobacco, oil seeds, indigo, opium, cinchone, lac, cardamom, pepper, cashew-nuts, ginger etc. The following table shows the pattern of crop production in India.

Table 3.1
Indian Agricultural - Crop Production pattern during 1991-'92

Crop	Area '000 hectares	Production '000 tonnes
1. Rice	42,308	73,664
2. Wheat	22,980	55,087
3. Millets	2,246	952
4. Tea	418	742
6. Tobacco	426	579
7. Natural rubber	370	367

Source Compiled from Southern Economist, May 1, 1994, p. 15

WORLD NATURAL RUBBER PRODUCTION

The bulk of natural rubber is accounted for by the South Asian countries like Malaysia, Indonesia, Thailand and India. Malaysia, Indonesia and Thailand together account for more than three-fourth of the world rubber production. India ranks fourth in terms of production of natural rubber. Other countries producing natural rubber include China, Sri Lanka, Liberia, Nigeria, Vietnam, Brazil etc. The following table shows the area under rubber in various rubber cultivating countries of the world in small holdings and estates wise.

Table 3.2
Area under Rubber Holding & Estate wise ('000 hectares)

Countries	End of	Small holdings	Estates	Total
Indonesia	1992	2668	489	3157
Malaysia	1990	1488	349	1837
Thailand	1990	1752	92	1844
China	1990	—	—	603
India	1992	421	78	499
Sri Lanka	1990	134	65	199
Brazil	1989	138	59	197
Nigeria	1990	200	47	247
Liberia	1973	43	77	120
Vietnam	1983	—	—	115
Total	—	—	—	9510*

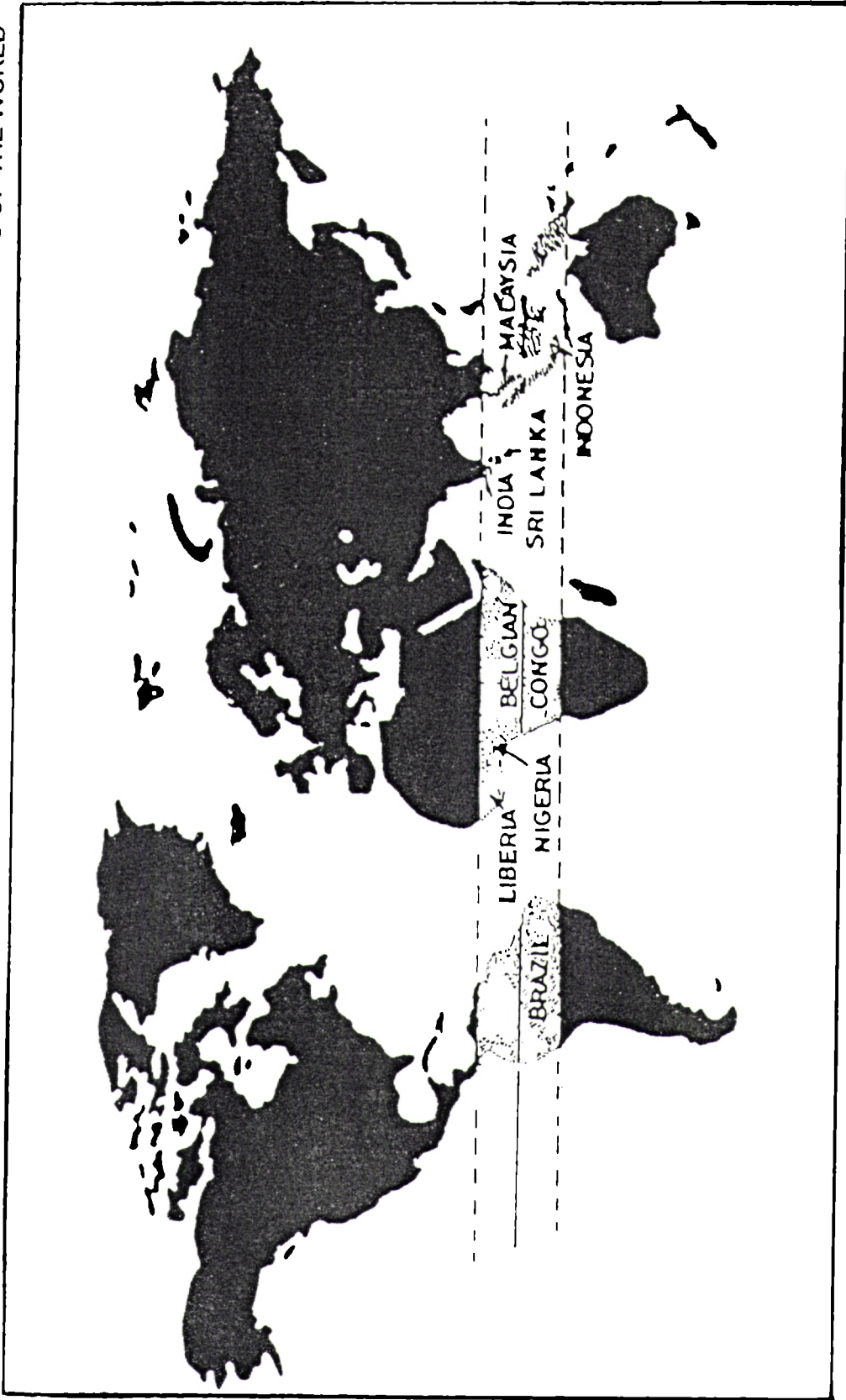
Note Estate areas refers to holdings of 40 hectares and over

* Including other countries not reported separately.

Source Rubber Statistical Bulletin of the International Rubber Study group.

From the above table, the area under rubber cultivation is the largest in Indonesia followed by Thailand, Malaysia, China and India. The map showing the world rubber cultivation is given below.

MAP 3.1
NATURAL RUBBER CULTIVATING REGIONS OF THE WORLD



The total world production of natural rubber is revealed by the following table.

Table 3.3
World Production of Natural Rubber
(In thousand metric tonnes)

Country	1983	1988	1993 (P)
Malaysia	1564	1662	1074
Indonesia	997	1235	1301
Thailand	587	979	1570
India	168	255	428
China	172	240	325
Sri Lanka	140	122	104
Liberia	76	108	30
Nigeria	50	81	105
Philippines	70	156	172
Vietnam	48	60	111
Cote d' Ivorie	31	61	69
Brazil	35	33	27
Zaire	22	17	10
Total +	4030	5130	5500

P Provisional

+ Including other countries not reported separately

Source The International Rubber Study Group

The diagramatic representation of area and production of natural rubber is given below:

Diagram: 3.1 World Rubber Cultivation ('000 hecets.)

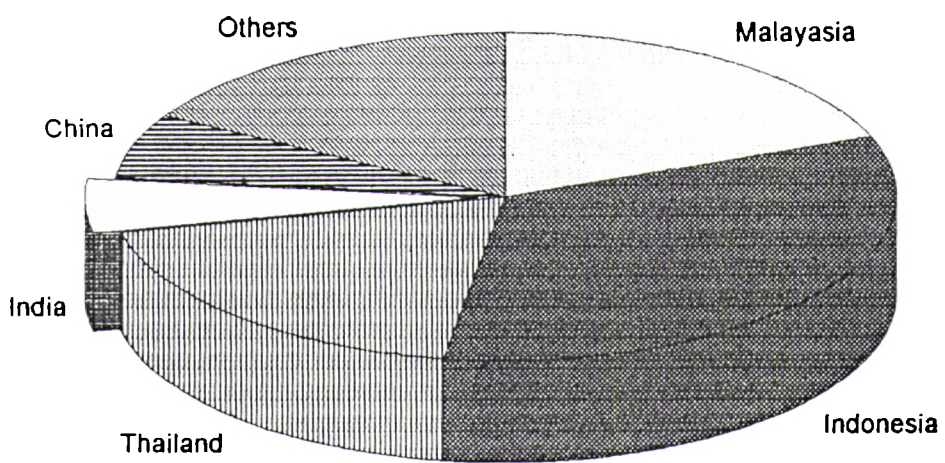
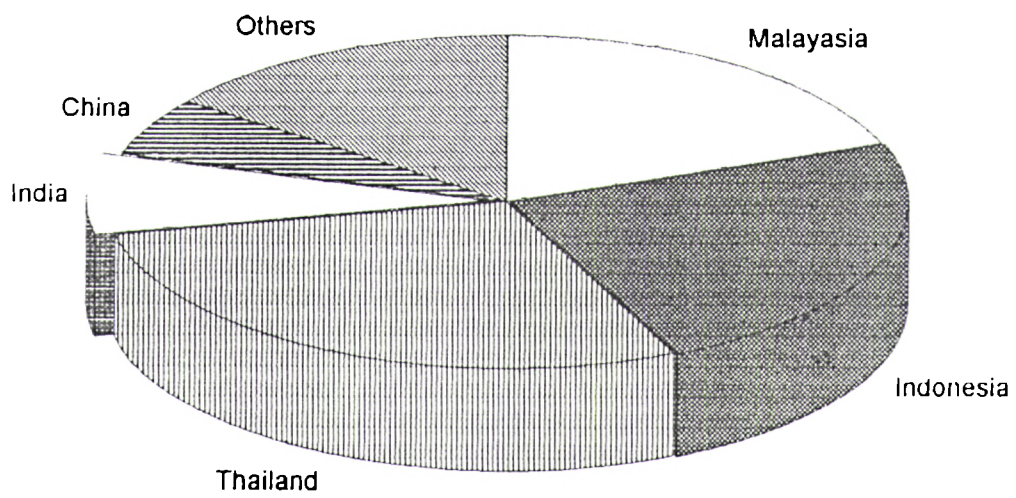


Diagram: 3.2 World Rubber Production ('000 M.T.S.)



ASSOCIATION OF NATURAL RUBBER PRODUCING COUNTRIES (ANRPC)

This is an association of major rubber producing countries with its headquarters at Kuala Lumpur. The member countries are Thailand, Indonesia, Malaysia, India, Sri Lanka, Singapur and Papua New Guinea; Vietnam and Philippines may soon become the members of this association.

The main aim of this association is to formulate various strategies in the rubber cultivation and production. Technical expertise transfer, training programme are the other main functions of this association. The present Secretary General of the Association is Smt. J. Lalithambika I.A.S., from Kerala.

NATURAL RUBBER PRODUCTION IN INDIA

At present natural rubber cultivation in India is mainly confined to the Southern States - Kerala, Kanyakumari district of Tamilnadu and the Coorg district of the Karnataka State. These regions are referred to as the traditional areas of natural rubber cultivation.

Development of rubber plantations is also going on in non-traditional areas. The North Eastern States like Tripura, Assam, Meghalaya, Nagaland, Mizoram, Manipur, Arunachal Pradesh are the major regions suited for economic rubber cultivation. The Eastern parts of India comprising Orissa, Madhya Pradesh and West Bengal States are also suited for extensive rubber planting. Goa and Konkan regions of Maharashtra are also meant for planting rubber. The present production of rubber in the State of Tripura was more than that of the other six States in the North Eastern Regions².

2. The Economic Times, Bombay, 5th August, Wednesday, 1992, p. 5

According to the surveys conducted by the Rubber Board in Andaman and Nichobar Islands, it was revealed that these regions hold potential for development of rubber plantations in an estimated extent of 20,000 hectares. The total extent under rubber cultivation in the whole Andaman and Nichobar Islands come to about 1,000 hectares only now. The World Bank is now giving assistance for developing rubber cultivation in non-traditional areas. The following table gives the total and tappable area of rubber in India since 1950-'51.

Table 3.4
Total area and tappable area of Rubber in India

Year	Total area (ha)	Tappable area (ha)
1950-'51	74915	55800
1955-'56	86067	67200
1960-'61	143905	70300
1965-'66	186713	112700
1970-'71	217198	141200
1975-'76	235876	178500
1980-'81	284166	194200
1982-'83	321495	199700
1983-'84	339848	204500
1984-'85	361960	210500
1985-'86	382831	223300
1986-'87	402329	237100
1987-'88	421512	249100
1988-'89	440584	266100
1989-'90	460341	289100
1990-'91	475083	306400
1991-'92	488514	324500
1992-'93	499374	341000
1993-'94	508420	358000

Note Figures for the last three years are provisional

Source Rubber Board, Rubber Statistics, Rubber and its Cultivation, 1995 p. i

The total area under rubber cultivation in the country at the time of independence was only 65,000 hectares which has increased to 5.08 lakh

hectares in 1993-'94. The total area under the production of natural rubber is projected to rise from 5.08 lakh hectares to 6.21 lakh hectares in 2000 A.D., and the tappable area from 3.58 lakh hectares to 4.43 lakh hectares.

The production of natural rubber in the country at the time of independence was only 15,000 tonnes, which was increased to 4.35 lakh tonnes in 1993-'94. The total production of natural rubber is projected to rise from 4.35 lakh tonnes to 6.75 lakh tonnes in 2000 A.D. The following table shows the production of natural rubber in India since 1950-'51.

Table 3.5
Production of Natural Rubber in India

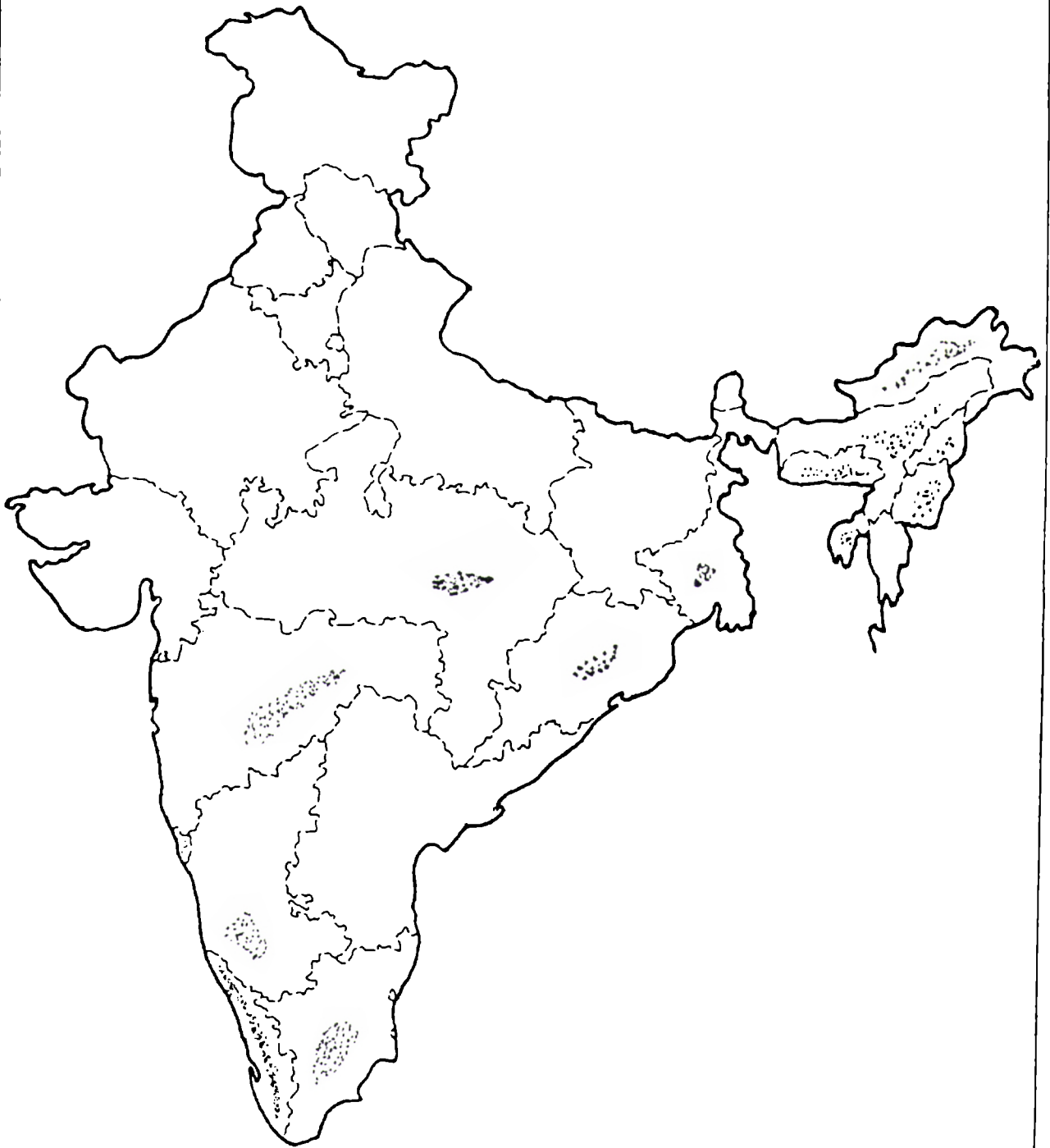
Year	Production (Tonnes)
1950-'51	15830
1955-'56	23730
1960-'61	25697
1965-'66	50530
1970-'71	92171
1975-'76	137750
1980-'81	153100
1981-'82	152870
1982-'83	165850
1983-'84	175280
1984-'85	186450
1985-'86	200465
1986-'87	219520
1987-'88	235197
1988-'89	259172
1989-'90	297300
1990-'91	329615
1991-'92	366745
1992-'93	393490
1993-'94	435160

Note Figures for the last three years are provisional

Source Rubber Board, Rubber Statistics, Rubber and its cultivation 1995 p.i

The map showing the area under rubber cultivation in India is given below:

MAP 3.2
AREA UNDER RUBBER CULTIVATION IN INDIA



YIELD PER HECTARE IN INDIA

In the case of yield per hectare the increase is also tremendous. On account of scientific cultivation and use of high yielding varieties of rubber plant, the yield per hectare was increased from 284 kgs. in 1950-'51 to 1215 kgs. in 1993-'94. The yield per hectare is projected the rise from 1215 kgs. in 1993-'94 to 1525 kgs. in 2000 A.D. The following table shows the yield per hectare of natural rubber since 1950-'51.

Table 3.6
Yield per hectare of Natural Rubber in India

Year	Average yield per hectare (kg)
1950-'51	284
1955-'56	353
1960-'61	365
1965-'66	448
1970-'71	653
1975-'76	772
1980-'81	788
1981-'82	779
1982-'83	830
1983-'84	857
1984-'85	886
1985-'86	898
1986-'87	926
1987-'88	944
1988-'89	974
1989-'90	1029
1990-'91	1076
1991-'92	1130
1992-'93	1154
1993-'94	1215

Note Figures for the last three years are provisional

Source Rubber Board, Rubber Statistics, Rubber and its cultivation 1995, p.i

Among the plantation crops, rubber is the pre-dominant one; natural rubber accounting for about 85 per cent of the area and 95 per cent of the production in the country.³ Natural rubber has a major role both in area and in production.

The following table shows the position of major plantation crops for the last five years.

Table 3.7
Area and Production of Major Plantation Crops in India from 1988-'89 to 1992-'93

Area (hcct)	1988-'89	1989-'90	1990-'91	1991-'92	1992-'93
Tea	414,347	414,953	416,563	418,961	419,600
Coffee	243,950	246,794	246,794	246,794	246,794
Rubber	440,584	460,341	475,083	488,514	499,374
Cardamom	105,000	81,003	81,003	81,000	81,000
Production (Tonnes)					
Tea	700,014	697,700	717,400	742,500	702,800
Coffee	215,000	118,053	169,726	180,000	161,500
Rubber	259,172	297,300	329,615	366,745	393,490
Cardamom	4,250	3,100	4,750	5,000	3,000

Source :Economic survey 1993

Note I. Figures relating to tea refer calender year

NATURAL RUBBER PRODUCTION IN KERALA

Kerala has a unique cropping pattern, it accounts for 92 per cent of India's rubber, 70 per cent of coconut, 60 per cent of tapioca and about 100 per cent of lemon grass⁴ In the post-independence period, rubber cultivation had taken a special place in the economy of Kerala, particularly after

3 Economic Review, 1993, State Planning Board, TVM. p. 26

4. Manorama Year Book, 1994, p. 635

1970-'71. During 1970-'71, the area under rubber cultivation in the State was 1,98,424 hectares. In 1984-'85, the area under rubber in the State was increased to 3,23,303 hectares.

During the VI th Five Year Plan period alone about 70,000 hectares of land was additionally brought under rubber cultivation in the State. During 1990-'91, the total area under rubber increased to 4,07,821 hectares. In the last four decades the area under this crop in the State has increased by 250 per cent, production by 864 per cent and yield by 178 per cent. The following tables show the area and production of natural rubber in Kerala since 1955-56.

Table 3.8
Area under Rubber Cultivation in Kerala

Year	Area in Hectares	Index
1955-'56	80537	100.00
1960-'61	135809	156.30
1965-'66	174561	192.41
1970-'71	198424	239.32
1975-'76	211808	261.78
1980-'81	253784	315.05
1981-'82	269621	334.71
1982-'83	287334	354.40
1983-'84	303774	375.10
1984-'85	323303	397.65
1985-'86	341506	416.42
1986-'87	356421	430.43
1987-'88	370079	447.38
1988-'89	383562	454.12
1989-'90	396467	470.14
1990-'91	407821	484.23
1991-'92	419174	498.32
1992-'93	428864	510.35

Source Indian Rubber Statistics, Vol. 20, Rubber Board, Kottayam.

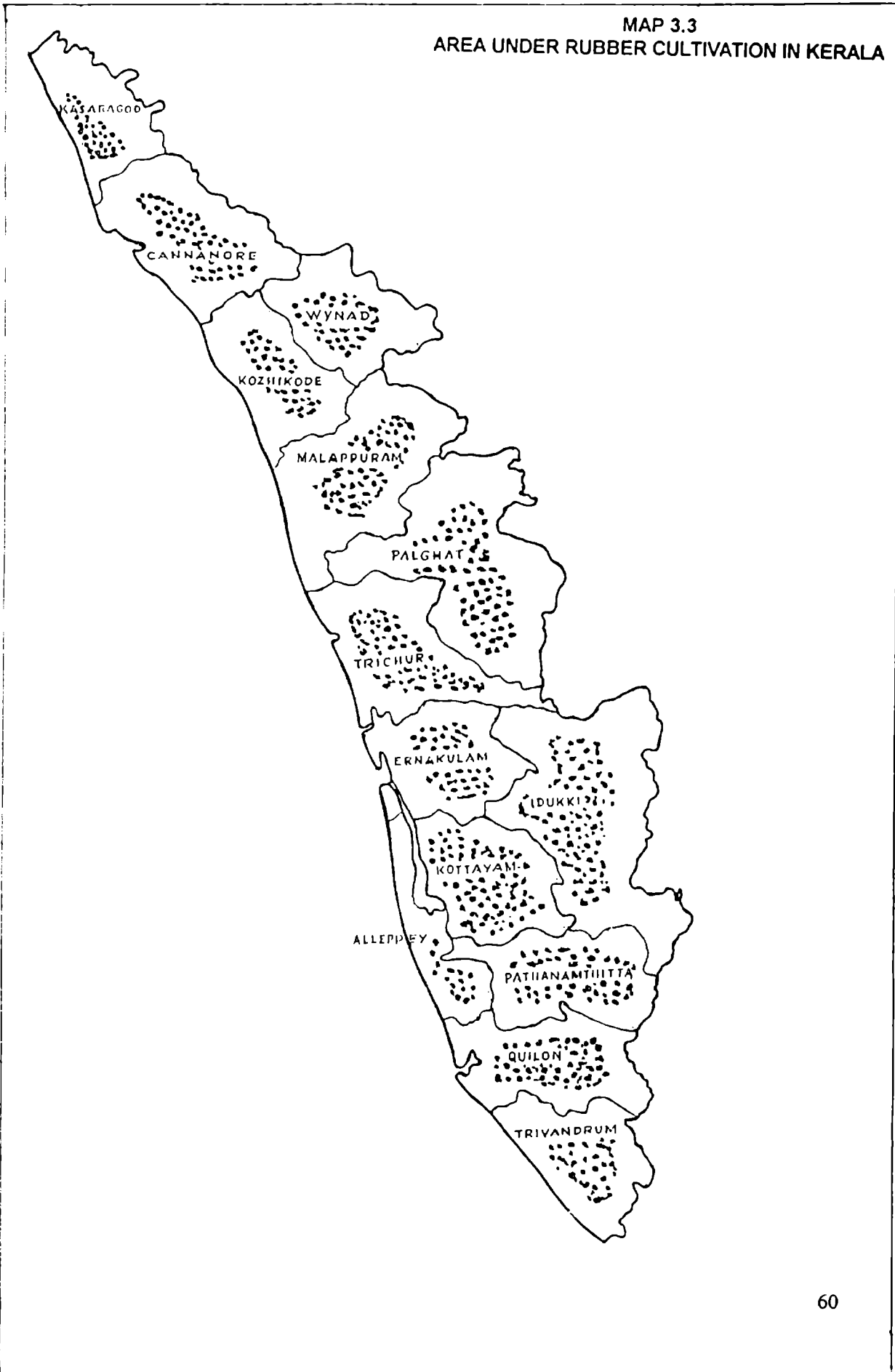
Table 3.9
Production of Natural Rubber in Kerala

Year	Production in Tonnes	Index
1955-'56	21680	100.00
1960-'61	23175	106.89
1965-'66	46953	216.57
1970-'71	86773	400.24
1975-'76	128769	593.95
1980-'81	140320	647.23
1981-'82	139435	643.15
1982-'83	152662	704.16
1983-'84	162212	748.21
1984-'85	172092	793.78
1985-'86	184563	851.31
1986-'87	202129	932.23
1987-'88	216562	1000.80
1988-'89	238414	1101.59
1989-'90	275397	1272.18
1990-'91	307521	1410.35
1991-'92	343109	1574.50
1992-'93	368648	1692.30

Source Compiled from Indian Rubber Statistics for the respective years.

Increase in the production of natural rubber in Kerala is due to both the extension of area under rubber cultivation and improvement in yield per hectare. Yield per hectare was only 347 kgs. in 1955-'56 which increased to 440 kgs in 1965-66 and again to 786 kgs. in 1975-'76. In 1985-'86 it increased to 397 kgs and in 1986-'87 it reached 924 kgs. per hectare and again reached 1164 kgs. in 1992-'93. The map showing the rubber cultivating areas in Kerala is given below

MAP 3.3
AREA UNDER RUBBER CULTIVATION IN KERALA



YIELD PER HECTARE IN KERALA

During the last 40 years yield per hectare has increased 3.4 times. Use of high yielding varieties of plants, system of scientific manuring, and use of pesticides, effective plant protection measures, improvement in the system of tapping, use of rainguarding etc. are the factors that contributed to the improvement in the yield per hectare. The following table gives average yield per hectare of rubber in Kerala.

Table 3.10
Average yield per hectare of Rubber in Kerala

Year	Yield per Hectare in Kg.	Index
1955-'56	347	100.00
1960-'61	354	102.02
1965-'66	440	126.80
1970-'71	647	186.46
1975-'76	768	221.33
1980-'81	780	224.78
1981-'82	770	221.90
1982-'83	828	238.62
1983-'84	864	248.99
1984-'85	890	256.48
1985-'86	897	258.56
1986-'87	924	266.28
1987-'88	942	271.47
1988-'89	967	278.67
1989-'90	1025	295.38
1990-'91	1079	310.94
1991-'92	1139	328.23
1992-'93	1164	335.43

Source Compiled from Indian Rubber Statistics for the respective years.

The study shows that Kerala's impressive performance in rubber cultivation was due to various reasons like agrarian reforms aimed at the abolition of feudal landlordism as well as intermediary interests in land, the

evolution of a strong basis for peasant proprietary, etc. The spread of disease and the subsequent devastation of extensive coconut plantation in different parts of Kerala prompted change over to rubber cultivation.

The active role of Rubber Board in propagating rubber cultivation, the subsidy schemes and above all the price protection also prompted large scale switch-over to natural rubber cultivation.

Diagrams 3.3, 3.4 and 3.5 indicate the growth of area, production and yield per hectare of rubber in Kerala from 1988-'89 to 1992-'93.

Diagram 3.3 Area under rubber cultivation in Kerala from 1988-'89 to '92-'93

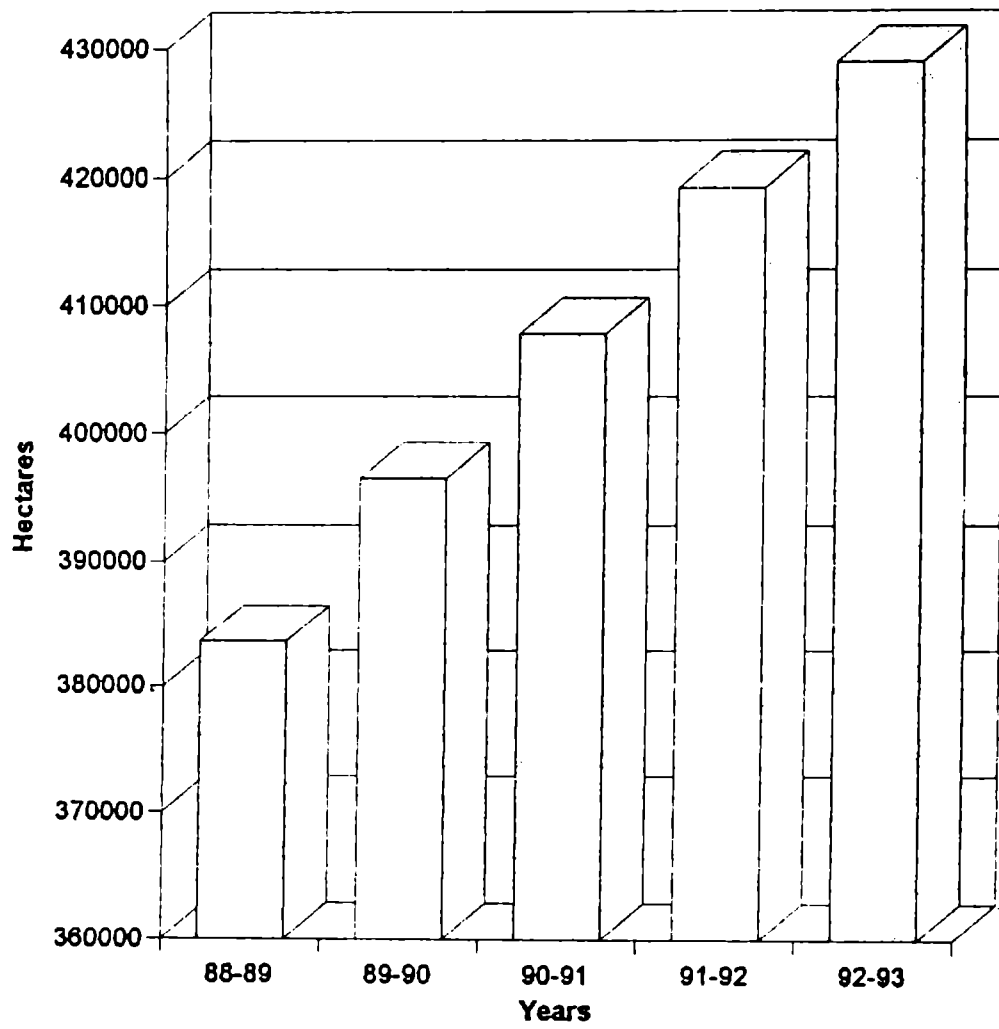


Figure: 3.4 Production of rubber in Kerala from 1988-'89 to '92-'93

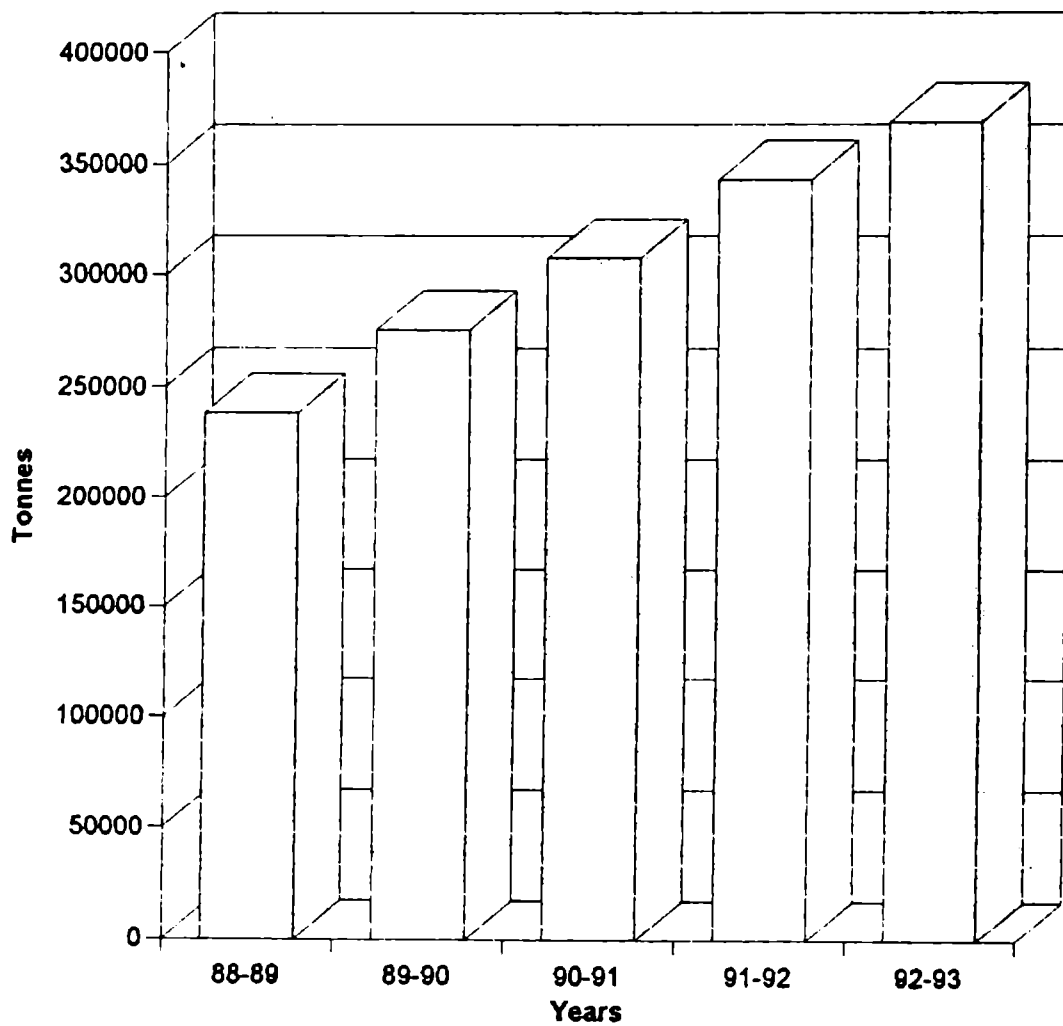
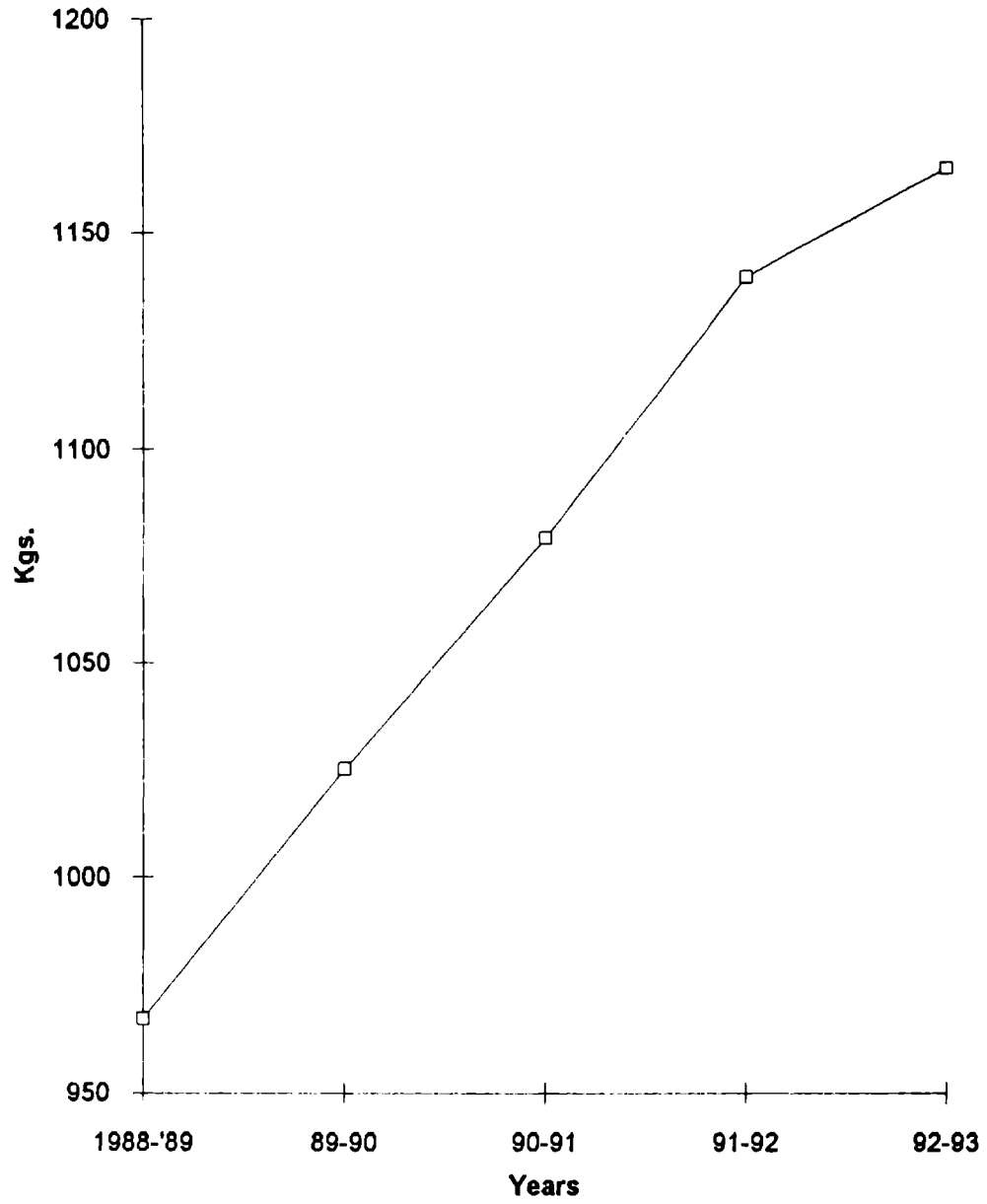


Diagram : 3.5 Average yield per hectare of rubber in Kerala from 1988-'89 to 1992-'93



AREA AND PRODUCTION OF RUBBER IN KOTTAYAM AND PATHANAMTHITTA DISTRICTS

Though rubber is cultivated in all the districts of Kerala, it is mainly concentrated in Kottayam district. This is mainly because of the favourable geographical features of this district. Kottayam is rightly considered the 'Rubber Capital' of India. Kottayam district accounts for 24.5 per cent of total area and 27 per cent of total production of natural rubber in Kerala. The following table presents district-wise distribution of area and production of natural rubber in Kerala.

Table 3.11
District-wise Area and Production of Natural Rubber in Kerala during 1992-'93

Name of District	Area (Hectares)	Production (Tonnes)
1 Thiruvananthapuram	24,939	21,465
2 Kollam	33,540	31,346
3 Pathanamthitta	44,930	41,902
4 Alappuzha	3,470	2,538
5 Kottayam	1,06,200	96,650
6 Idukki	36,239	31,721
7 Ernakulam	53,293	47,324
8 Trissur	11,883	10,592
9 Palakkad	23,981	15,786
10 Malappuram	24,745	18,246
11 Kozhikode	17,091	14,413
12 Wynad	5,179	2,575
13 Kannur	25,035	19,482
14 Kasargod	18,339	14,606
Total	4,28,864	3,68,646

Source Indian Rubber Statistics, Vol. 20, 1993-'94 Rubber Board, Kottayam.

Total area under rubber cultivation in Kottayam district in 1960-'61 was 45,494 hectares. In 1970-'71 there were 59,187 hectares under rubber cultivation in Kottayam district constituting 29 per cent of total area in Kerala. From 1970-'71 to 1985-'86 the total area increased to 84,509 hectares which

constituted 25 per cent of total area under rubber cultivation in Kerala. During the period from 1960-'61 to 1991-'92 , the area under rubber cultivation in Kottayam district increased more than 2 fold.

The total production of natural rubber in Kottayam district in 1965-'66 was 15,276 tonnes which constituted 32 per cent of total output of Kerala. The output in 1975-'76 was 34,021 tonnes which accounted for 26 per cent of the output of Kerala. In 1985-'86 total output in Kottayam district was 50,134 tonnes which increased to 89,895 tonnes in 1991-'92. In other words there was more than 5 fold increase in output of rubber in Kottayam district from 1965-'66 to 1991-'92.

The table as shown below presents information regarding area and production of natural rubber in Kottayam district from 1960-'61 to 1991-'92 and diagrams 3.6 and 3.7 highlight the growth of area and production of rubber in Kottayam district from 1975-'76 to 1991-'92.

Table 3.12
Area and Production of Natural Rubber in Kottayam district

Year	Area (Hectares)	Production (Tonnes)
1960-'61	45,494	—
1965-'66	54,056	15,226
1970-'71	59,187	26,907
1975-'76	56,130	34,021
1980-'81	66,926	36,132
1985-'86	84,509	50,134
1990-'91	1,03,888	82,852
1991-'92	1,04,703	89,895

Source Indian Rubber Statistics Vol. 20, Rubber Board, Kottayam.

Diagram : 3.6 Area of natural rubber in Kottayam district from 1975-'76 to 1991-'92

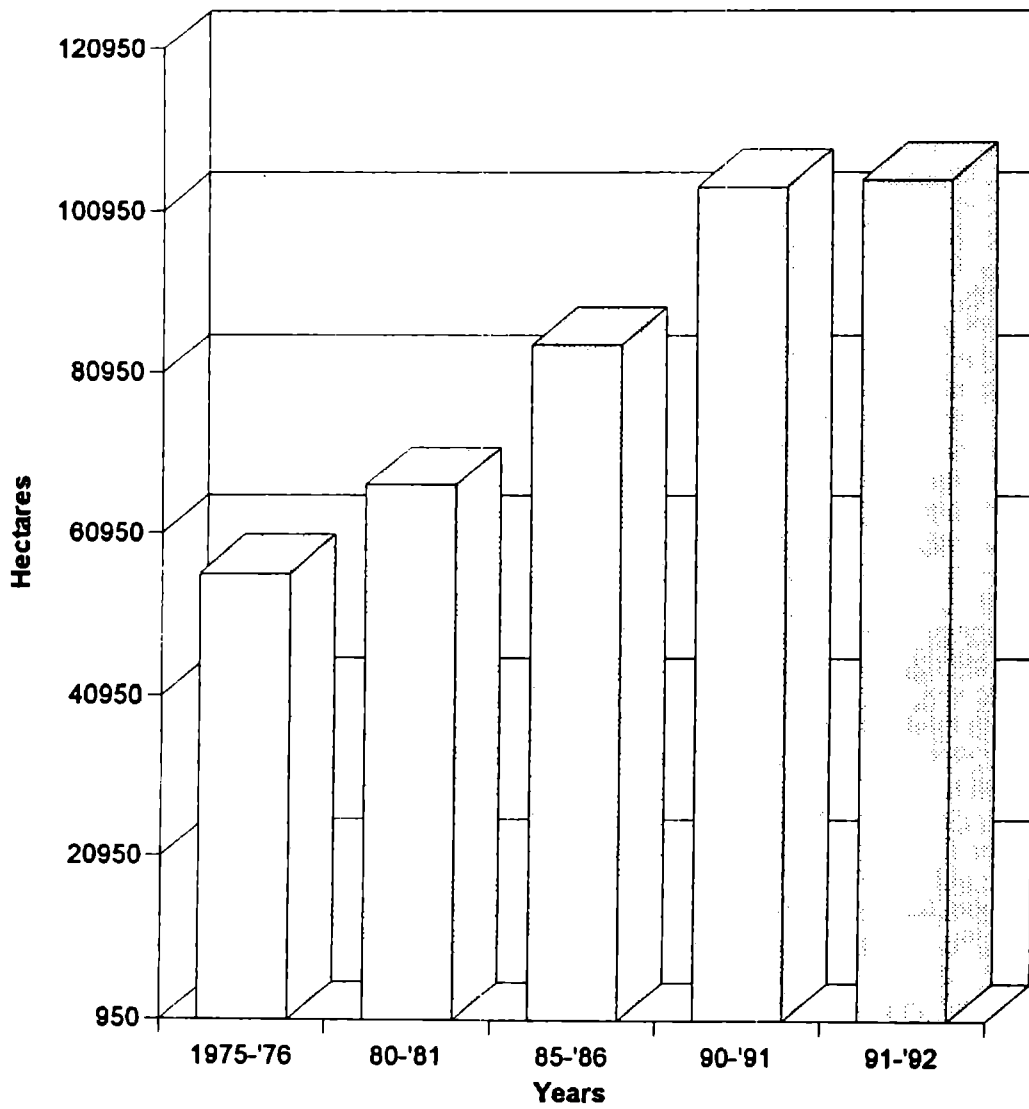
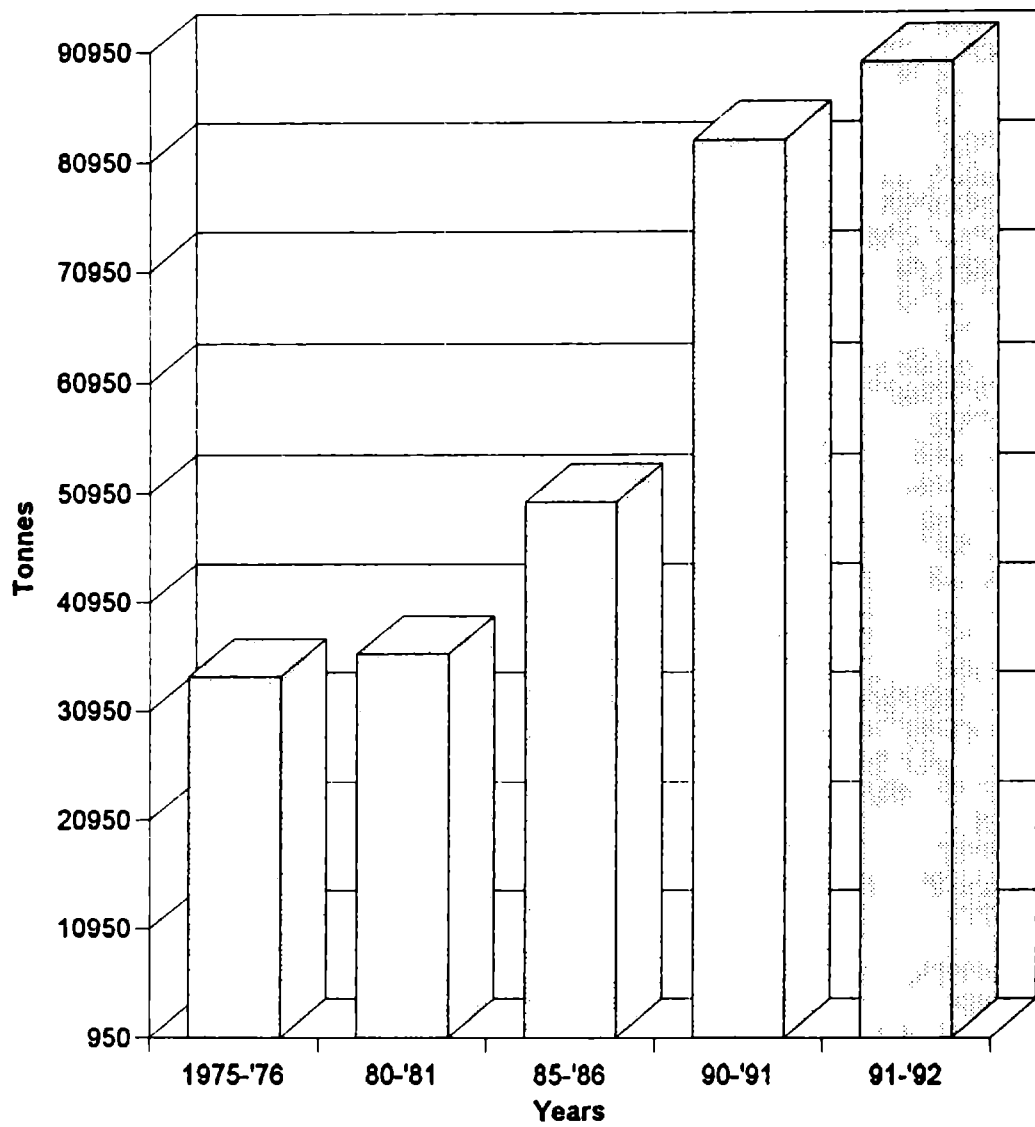


Diagram : 3.7 Production of natural rubber in Kottayam district from 1975-'76 to 1991-'92



Total area under rubber cultivation in Pathanamthitta district in 1985-'86 was 36,823 hectares, the available data after the formation of the district on 1st November, 1982. In 1990-'91 there were 42,872 hectares under rubber cultivation in Pathanamthitta district constituting 10.51 per cent of total area in Kerala. From 1990-'91 to 1992-'93 the total area increased to 44,930 hectares which constituted 10.48 per cent of the total area under rubber cultivation in Kerala. This fall in percentage growth in area was due to lack of additional land for rubber cultivation and also on account of land utilised for huge building constructions in this area for residential and commercial purposes but not on account of shift in the crop pattern.

Total production of natural rubber in Pathanamthitta district in 1985-'86 was 16,245 tonnes which constituted 8.8 per cent of total output of Kerala. The output in 1990-'91 was 34,264 tonnes which accounted 11.14 percent of the total output of Kerala. From 1990-'91 to 1992-'93 the total output increased to 41,902 tonnes which constituted 11.37 per cent of the total output of Kerala. Thus it can be seen that there was a steady marginal increase in output from 1985-'86 to 1992-'93 in Pathanamthitta district. This is mainly because of scientific cultivation and manuring of rubber.

The following table presents information regarding area and production of natural rubber in Pathanamthitta district and diagrams 3.8 and 3.9 highlight the details of area and production of rubber in the district.

Table 3.13
Area and Production of Natural Rubber in Pathanamthitta District

Year	Area (Hectares)	Production (Tonnes)
1980-'81		
1985-'86	36,823	16,245
1990-'91	42,872	34,264
1991-'92	43,854	38,691
1992-'93	44,930	41,902

Source Indian Rubber Statistics Vol. 20 Rubber Board, Kottayam.

Diagram: 3.8 Area of natural rubber in Pathanamthitta district from 1985-'86 to 1992-'93

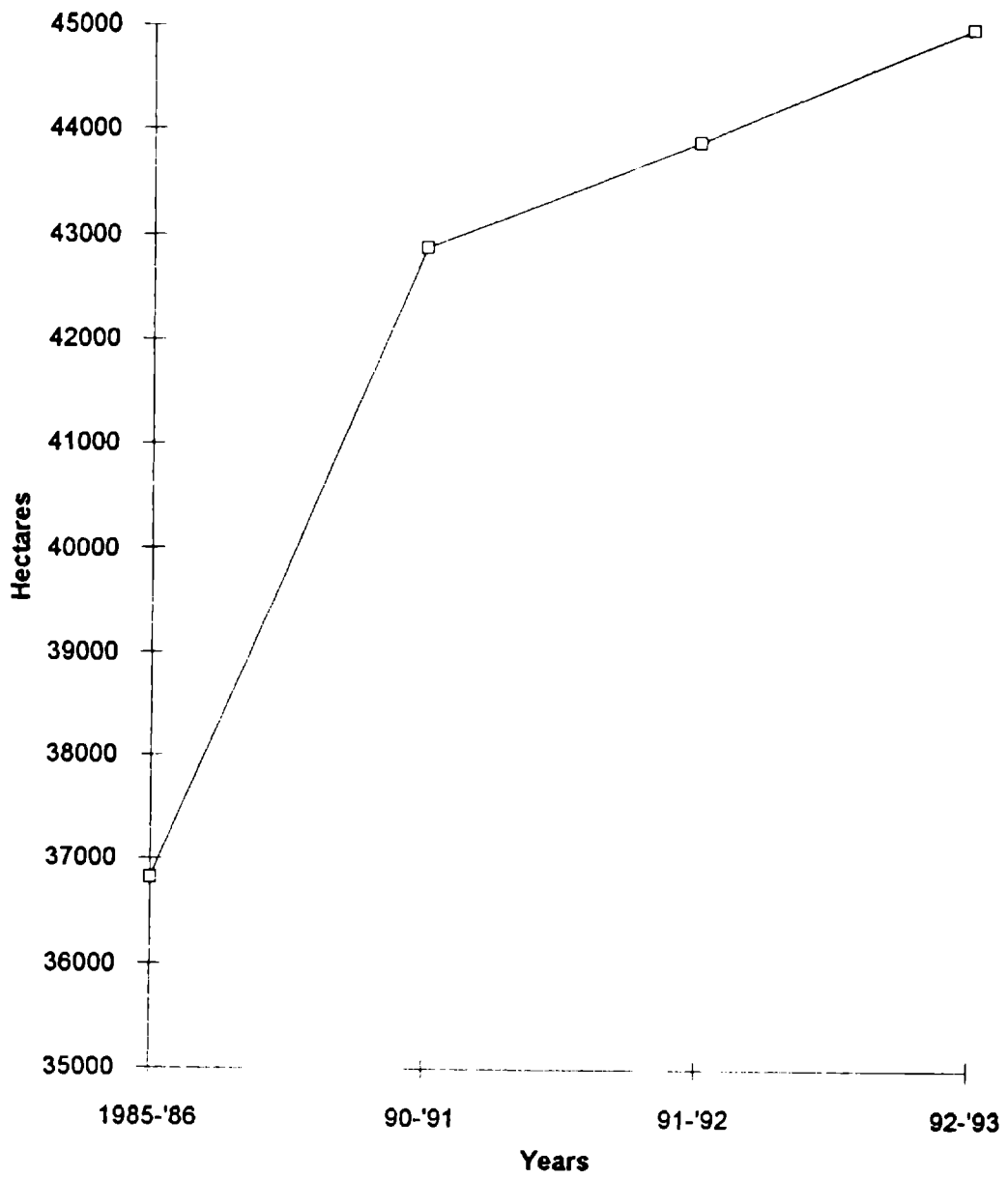
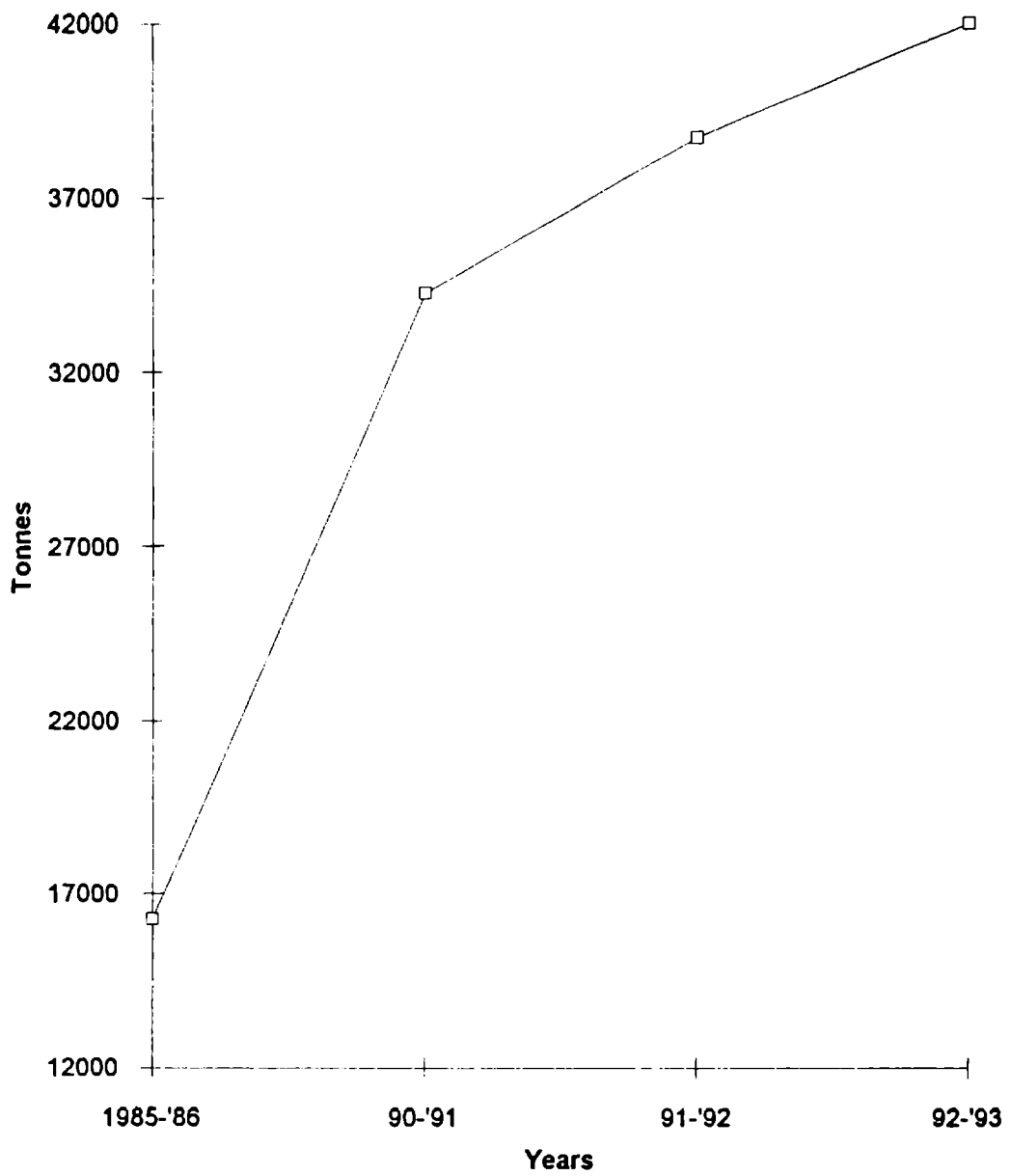


Diagram: 3.9 Production of natural rubber in Pathanamthitta district from 1985-'86 to 1992-'93



ROLE OF SMALL HOLDERS IN RUBBER CULTIVATION

The Rubber Board in its Rubber Act and Rules, classified owners of rubber plantation into three sections, estates, holdings and small holdings. An owner having more than 20.23 hectares (50 acres) of rubber plantation is called an estate owner⁵. A holding is the land which is below 20.23 hectares and above 5 hectares. Small holdings is the land below 5 hectares. But in this study small holding is defined as a unit under rubber cultivation which does not exceed 2 hectares.

The structure of rubber holdings reveals that most of the estates were under the private sector. The only two government agencies were the 'Plantation Corporation of Kerala Ltd.', which was registered in November 1962, and the Rehabilitation Plantation Ltd., a joint venture of Government of India and Government of Kerala. The following table shows the units and area of rubber estates above 800 hectares from 1955-'56 to 1992-'93.

Table 3.14
Units and Area of Rubber Estates above 800 hectares

Years	Units	Area (Hectare)
1955-'56	6	5878
1960-'61	8	7841
1965-'66	10	13024
1970-'71	12	15088
1975-'76	14	18018
1980-'81	17	20201
1985-'86	20	28249
1990-'91	22	35815
1991-'92	22	35781
1992-'93	20	34149

Source Indian Rubber Statistics, Vol. 20, Rubber Board, Kottayam.

5. Rubber Plantation Development Scheme Rules, Rubber Board, Kottayam

The monopoly of large plantations in rubber production seems to have gone. In 1949, the area under rubber in India was 67,913 hectares. Out of this 60.27 per cent of the area was owned by estates of forty hectares and above. The estates between twenty hectares and forty hectares accounted for 7.94 per cent of the total area. The share of the small holdings of twenty and below was 31.79 per cent. The percentage share of area under small holdings had increased from 43.27 per cent in 1955-'56 to 70.25 per cent in 1974-'75. Fast increasing number of petty small holdings had now gone up to 23 per cent of the total number of holdings. The average size of holdings was 1.34 hectares in 1960-'61, which came down to 1.23 hectares in 1982-'83. During the last twenty years the area under small holdings increased from 70.25 per cent to 82 per cent. During the same period the area under estates declined from 29.75 per cent to 18 per cent. The contribution to the total production of natural rubber by holdings and estates is also very interesting. The following table shows the production of natural rubber, holding and estate wise.

Table 3.15
Production of Rubber : Holding and Estate wise 1955-'56 to 1992-'93

Year	Holding (tonnes)	Share of holdings to all Kerala %	Estate (tonnes)	Share of estates to all Kerala %
1955-'56	6450	27.18	17280	72.82
1960-'61	6528	25.40	19169	74.60
1965-'66	20424	40.42	30106	59.58
1970-'71	51538	55.92	40633	44.08
1975-'76	84616	61.43	53134	38.57
1980-'81	107700	70.35	45400	29.65
1985-'86	149673	74.66	50792	25.34
1990-'91	268500	81.46	61115	18.54
1991-'92	302700	82.54	64045	17.46
1992-'93	327500	83.22	65990	16.68

Source Rubber Board, India, Rubber Statistics. Vol. 20.

The structural change in rubber plantation is partly due to the cash subsidy scheme introduced by the Rubber Board for the small growers. Another reason is that the new planting is being made by subsistence farmers. The pressure of population in Kerala, the inheritance law which enjoins the parents to divide the land among children, the various incentives and assistance given by the Rubber Board are other key points.

The implementation of the plantation labour Act, 1951 which does not apply to holdings below 10.117 hectares and the differential slab rates and exemptions provided under the Agricultural Income Tax Act of Kerala paved the way for gradual breaking up of large plantations into small holdings.

LICENCE REQUIREMENTS FOR RUBBER CULTIVATION

Any person desiring to plant or replant rubber must take out a licence from the Rubber Board by applying in the prescribed form, Form F* The application will be scrutinised by the Board which may or may not grant the licences. Licence in Form G* are granted for new planting and in Form I* for replanting. These are valid for one year only. A fee of Re. 1/- is charged in respect of each licence. The right of planting granted by licence is attached to the particular land and is not transferable apart from the land on which right is permitted to be exercised. Every licence holder has to furnish to the Board all information about the area planted or replanted from time to time. The authority to issue planting licences and registration of estates are vested with the Deputy Development Officers in charge of various Regional Offices.

* vide Appendix

REGISTRATION OF RUBBER CULTIVATING UNITS

Every rubber holding in the country must be registered with the Rubber Board. An application in the prescribed form Form A* (in duplicate) has to be made by the owner for each of the holdings owned by him. A register number will be allowed to each estate or holding.

With this short review of the natural rubber production pattern, the study now turns to the rubber consumption pattern which is equally important for analysing the marketing channels of natural rubber.

* vide Appendix

CHAPTER IV
NATURAL RUBBER CONSUMPTION PATTERN

Every man is a consumer of natural rubber. Rubber products are indispensable in modern man's life. The spectacular growth of rubber goods industry from its infancy to its present size has been made possible through extensive research programmes involving selection techniques, production techniques coupled with enlightened management.

ORIGIN AND GROWTH OF NATURAL RUBBER BASED INDUSTRIES

The year 1770 is memorable in the history of rubber industry because an English Chemist, Joseph Priestly, reported the ability of the hardened latex (caoutchouc) to erase lead pencil marks on paper and since then it still tips millions of lead pencils. Because of the property of caoutchouc to rub off pencil lines, it came to be known as 'rubber' By 1780, a great number of erasers were on sale in London shops.

Charles MacIntosh a Scotsman, in 1823, discovered that rubber could be dissolved in the solvent of naphtha, which offered a new way for producing waterproof articles such as rain coats which are known as 'mackintoshes' in Britain even to this day. He established a factory in Manchester and became the founder of the rain coat industry.

Another significant achievement in the nineteenth century was the development of vulcanisation by an American rubber manufacturer, Charles Goodyear in 1839, which revolutionised the rubber industry over night. He found that the earlier fundamental defects encountered in rubber articles were overcome by heating rubber with sulphur, under pressure, at 150°C. The process was called vulcanisation, after Vulcan, the Roman God of Fire. The technique was successfully applied to the manufacture of various types of rubber goods, and subsequently the rubber manufacturing industry began to take shape.

Solid rubber tyres were first used on road vehicles in 1867. The new industry received a great impetus when a British Veterinary Surgeon John Boyd Dunlop (1888) developed the pneumatic bicycle tyre, from which the motor car tyre was later developed.

The history of rubber industry will be incomplete without a reference to the work of Murton and Parkin who discovered root initiation in cuttings and a suitable method of coagulating latex respectively¹

NATURAL RUBBER BASED INDUSTRIES IN INDIA

Though rubber cultivation in India was started by the beginning of this century, almost the entire production in India had been exported since 1920. The rubber manufacturing industry in India made a start in 1920 with the establishment of the Dixine Aye Rubber Factory Ltd., a general rubber goods factory, which went into liquidation in 1923²

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- 1 Kochhar S.L., Economic Botany in the Tropics, Mc Millan India Ltd., 1981, p. 388
 2. Sundaram S.G., Rubber Revolution, Rubber Spectrum, January - February, 1987, Rubber Board, Kottayam.

In 1923, a water proofing factory, the Bengal Water Proof Works, and another for the manufacture of rubber covered cables were started in Calcutta. But the real beginning was made with the promulgation of the International Rubber Regulation Agreement, (1934) which by fixing quotas raised the World price of rubber. As a result, large portion of indigenous rubber, till then exported, became available for internal consumption at a price lower than world price. This, coupled with cheap labour in India, induced some of the large overseas manufacturers of rubber goods to establish subsidiary units in the country. Important among them were

Bata Shoe Co., Calcutta (1934) for rubber foot wear,
Indian Rubber Manufacturers Ltd., Calcutta (1934) for the manufacture of railway and mechanical rubber goods,
Travancore Rubber Works (1935),
Dunlop Rubber Co. Ltd., and
Firestone Tyre Rubber Co. Ltd., Bombay³.

THE ALL INDIA RUBBER INDUSTRIES ASSOCIATION (AIRIA)

The All India Rubber Industries Association (AIRIA) was established in April 1945. The aim and objectives of the AIRIA include

- i. to promote and protect the interest, growth and development of the rubber industry;
- ii. to foster co-operation among individuals and units engaged in the manufacture of rubber goods;
- iii. to represent officially to the government the views of the industry on all matters affecting or likely to affect the industry and
- iv. to help the members in solving the difficulties faced in procuring raw materials etc.

The AIRIA takes special interest in the dissemination of information, technical and commercial.

3. Sundaram,S.G., Rubber Revolution, Rubber Spectrum, January - February, 1985, Rubber Board, Kottayam.

The Indian rubber industry is now seven and a half decades old. It consists of more than 5000 units of which only about 200 units are borne on the DGTD list including 34 large and medium scale tyre manufacturing units. The industry produces about 35,000 different rubber items with an annual turnover of Rs. 60,000 million. The total consumption of natural rubber during 1989-'90 was 3,41,840 metric tonnes and it went up to 4,50,480 metric tonnes in 1993-'94. The following table shows the grade-wise consumption of natural rubber from 1989-'90 to 1993-'94.

Table 4.1
Grade wise consumption of Natural Rubber (Metric tonnes)

Grade	1989-'90	1990-'91	1991-'92	1992-'93	1993-'94
RMA Sheet	240895	261780	272605	298090	332720
Estate Brown Crepes	36365	30367	32515	32205	28300
Latex Concentrates (drc)	36790	39865	42370	48600	52185
Pale Latex Crepe & Sole Crepe	2710	3307	3240	3075	3035
Solid Block Rubber	23750	27700	27855	30730	32560
Others	1330	1291	1565	1405	1680
Total	341840	364310	380150	414105	450480

Source Rubber Statistics, Vol. 20, 1994

NATURAL RUBBER BASED INDUSTRIES IN KERALA

In Kerala, the first rubber based industry, the Trivandrum Rubber Works, was started in 1935. The War efforts encouraged the infant rubber goods manufacturing industry to produce more rubber goods. This changed the position of the country from an exporter of natural rubber to an importer. A few small manufacturing units around Kottayam also came into existence in 1940 's. The launching of the five year plans found the country importing more and more rubber to meet the internal demand.

Natural rubber is cultivated in about 11 per cent of the total cropped area in Kerala and 92 per cent of the total production of natural rubber in India is accounted by Kerala ⁴. However, this important industrial raw material is mainly utilised by other states for developing their industrial base. Though Kerala accounts for the lion's share of the total natural rubber production in India, its industrial consumption had increased only by 3 per cent from 1980-1990; i.e., from 11 per cent to 14 per cent ⁵. In 1993-'94 it was only 12 per cent. The following table shows the state wise consumption of natural rubber in metric tonnes during 1992-'93 and 1993-'94.

Table 4.2
State-wise Consumption of Natural Rubber (Metric Tonnes)

State/Territory	1992-'93	% share	1993-'94	% share
Andhra Pradesh	15003	3.62	14997	3.33
Bihar	985	0.24	1095	0.24
Delhi	17201	4.15	18810	4.18
Goa and Daman	10533	2.54	9434	2.09
Gujarat	15613	3.78	20303	4.51
Haryana	27198	6.58	31133	6.91
Karnataka	19598	4.73	21061	4.68
Kerala	52462	12.67	54108	12.01
Madhya Pradesh	9579	2.31	12675	2.81
Maharashtra	49174	11.88	51976	11.54
Orissa	9308	2.25	10980	2.44
Pondicherry	3720	0.89	3871	0.86
Punjab	53763	12.98	55374	12.29
Rajasthan	22395	5.41	23358	5.19
Tamil Nadu	22003	5.31	25270	5.61
Uttar Pradesh	44962	10.86	52897	11.74
West Bengal	38485	9.29	40554	9.00
Others	2123	0.51	2584	0.57
Total	414105	100.00	450480	100.00

Source Indian Rubber Statistics, Vol. 20, Rubber Board, Kottayam.

4 District Hand Book, Kottayam, Department of Public Relations, 1988-'89.

5 Registration Records of Various issues, Rubber Board, Kottayam.

In 1965-'66, the consumption of natural rubber in the state was 3,353 metric tonnes. By 1975-'76 the consumption went up to 9,268 metric tonnes. During 1985-'86, the consumption again went up to 28,341 metric tonnes and reached 54,108 metric tonnes in 1993-'94. The following table shows the share of Kerala in the consumption of natural rubber in India.

Table 4.3
Share of Kerala in Total Consumptions of Natural Rubber in India

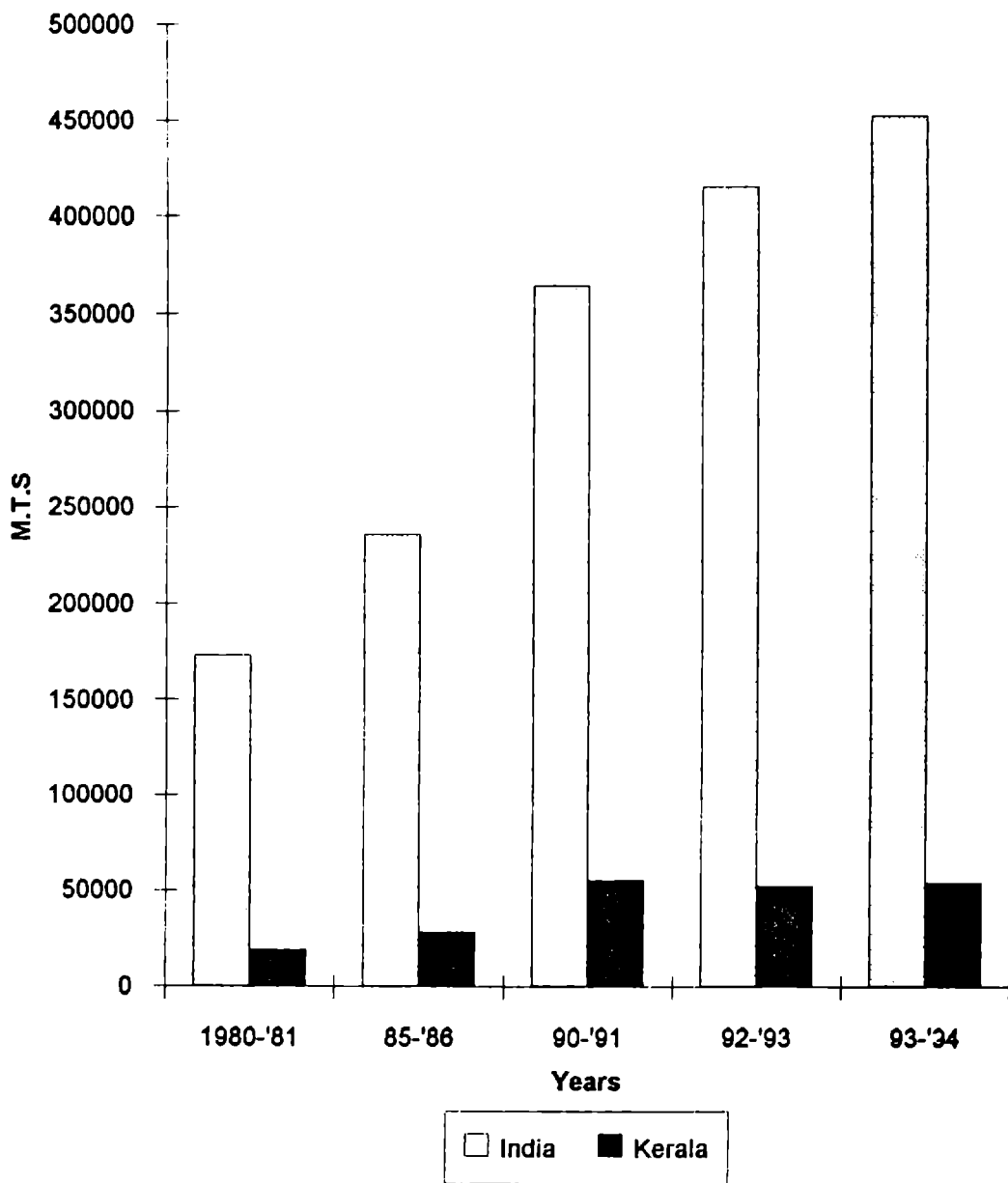
Year	Consumption in India (MTS)	Consumption in Kerala (MTS)	% share of
1975-'76	125612	9268	7.4
1980-'81	173630	19283	11.1
1985-'86	235440	28341	11.3
1990-'91	364310	55365	14.5
1992-'93	414105	52462	12.7
1993-'94	450480	54108	12.0

Source Compiled from Indian Rubber Statistics, Various issues, Rubber Board, Kottayam.

The diagrammatic representation of the share of total consumption of Natural Rubber in India and Kerala is given in diagram 4.1.

Rubber consuming sector in the country can be divided into two groups. One is the tyre sector and the other is non-tyre sector. Tyre sector has three major sectors, namely, automobiles (four - wheelers), scooters, motor cycles, mopeds etc. (Two wheelers)and bicycles. Non-tyre sector consists of small producers which produce tread rubber, foot wear, rubber band, latex and foam products, rubberised coir products, balloons, automobile components, contraceptives and toys.

Diagram; 4.1 Share of total consumption of natural rubber in India and Kerala from 1980-'81 to 1993-'94



TYRE SECTOR

There are 34 units which are engaged in the manufacture of auto tyres of which 14 belong to the big business houses. The giants in the field are the Modi, Ceat, Dunlop, MRF and JK in terms of production and market share. They are followed by Good year, Tyre Corporation of India, Premier, Vikrant and Apollo. There are also a large number of scooter and moped tyre units followed by the cycle tyres. The following table shows production and installed capacity to these 14 major tyre companies including truck and bus tyres.

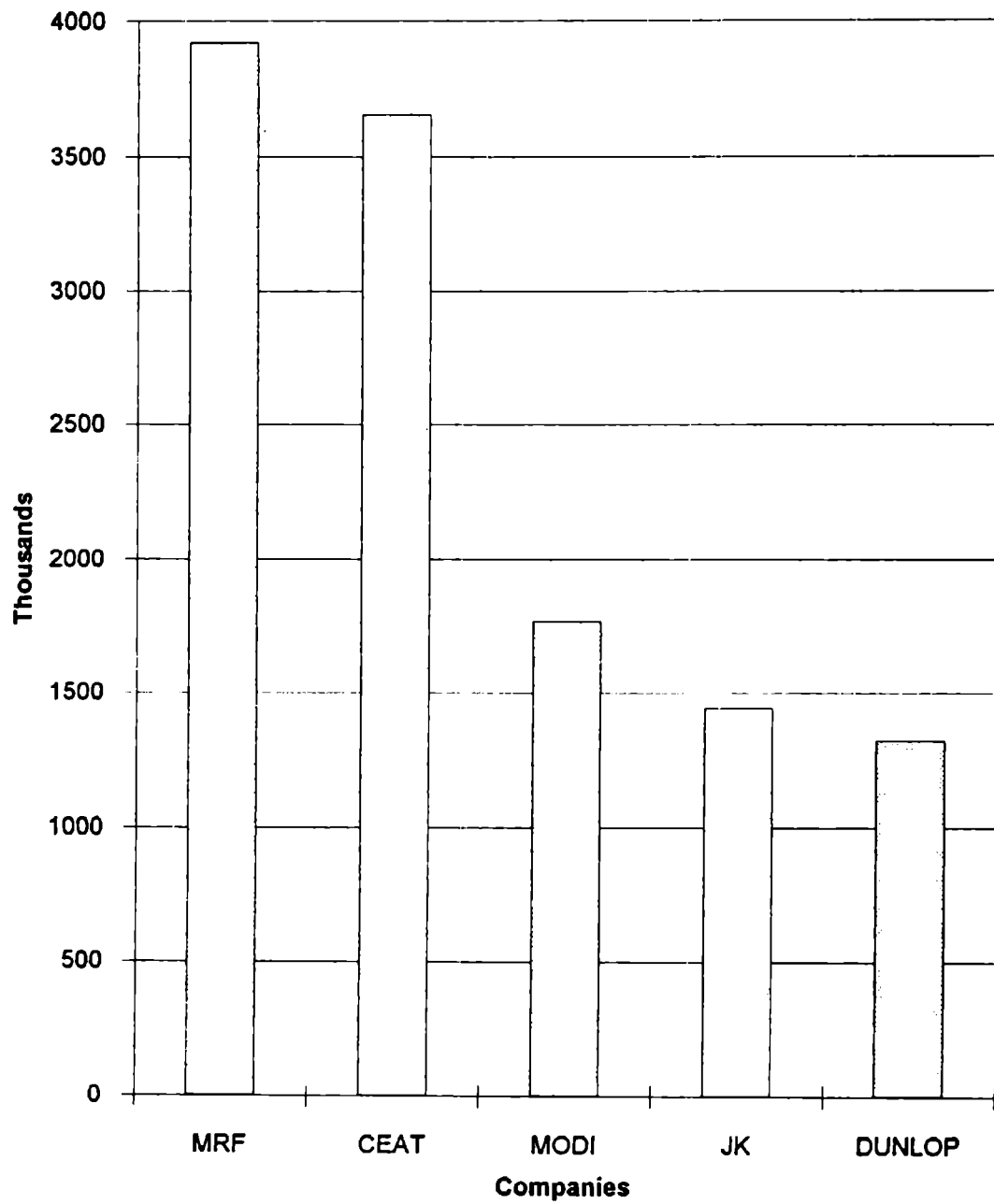
Table 4.4
Companies producing various categories of Tyres including
Truck / Bus tyres during 1992-'93

Company	No. of units	Installed capacity	Production (In thousand)	Capacity utilisation %
Apollo	2	1195	1096	92
Birla	1	1000	482	48
Btil	1	1100	1066	91
Ceat	3	4500	3655	80
Dunlop	2	3221	1320	41
Good year	1	1174	736	63
JKI	2	1961	1441	73
MRF	5	7200	3919	54
Modi	2	1856	1769	95
Premier	1	600	216	36
Vikrant	2	1184	629	53
Sri Chakra	1	900	1311	46
TCIL	1	500	87	17
Wear well	1	600	240	40
Total	25	26991	17967	

Source Facts for you Aug 1994, p.25

The following diagram shows the production of tyres by five top tyre manufacturing companies during 1992-'93.

Diagram: 4.2 Production of various categories of tyres by five top tyre manufacturing companies during 1992-'93



Out of the rubber manufacturing units located in Kerala, the Apollo Tyres Ltd., Chalakudi and the Premier Tyre Ltd, Kalamassery are the only two big units using above 1,000 tonnes per year. Apollo Tyres Ltd. and Premier Tyres Ltd. are producing tyres and tubes for various types of vehicles. The M.R.F. Ltd., Kottayam (Vadavathoor) unit now under expansion programme is another big manufacturing unit. A fourth auto-tyre unit namely the KTC Tyres Ltd., Calicut started production in 1985, producing tyres and tubes for two wheelers. The two main medium scale units are the Ruby Rubber Ltd., now under the control of Premier foams and the Trivandrum Rubber Works. Both these units are sick units. Fifteen rubber units producing various other products are found using rubber within a range of 100 to 500 tonnes per year. The total capacity, production and capacity utilization of Tyre Industry in the country from 1988-'89 to 1992-'93 is given below.

Table 4.5
Total Capacity, Production and Capacity Utilisation of Tyre Industry

Year	Installed Capacity	Production (in thousands)	Capacity utilization (%)
1988-'89	17366	14382	83
1989-'90	19907	18853	80
1990-'91	24007	17064	71
1991-'92	29880	20000	67
1992-'93	34991	21780	62

Source Facts for you , August 1994. p. 26

The automobile tyre production increased from 1.49 millions in 1960-'61 to 3.70 millions in 1970-'71. It again reached a peak production at 20.1 millions in 1990-'91 and has been in a recession ever since that year. Out put of automobile tyres was 16.2 millions in 1991-'92 and situation was almost the same in 1992-'93. The following table shows the picture of automobile tyre production from 1960-'61 to 1991-'92.

Table 4.6
Automobile Tyre Production from 1960-'61 to 1991-'92

Year	Production of Automobile Tyres (in millions)
1960-'61	1.49
1970-'71	3.79
1980-'81	7.97
1984-'85	11.50
1985-'86	12.30
1986-'87	12.70
1987-'88	14.60
1988-'89	15.04
1989-'90	19.00
1990-'91	20.10
1991-'92	16.20

Source Facts for you July 1993, p. 15.

The bicycle tyre production attained an all-time high production at 36.1 millions in 1985-'86 and had ruled at much lower levels ever since. Its output came down to 22.6 millions only in 1991-'92. Obviously, the bicycle is steadily being replaced by the two wheelers. The following table shows the bicycle tyre production from 1960-'61 to 1991-'92.

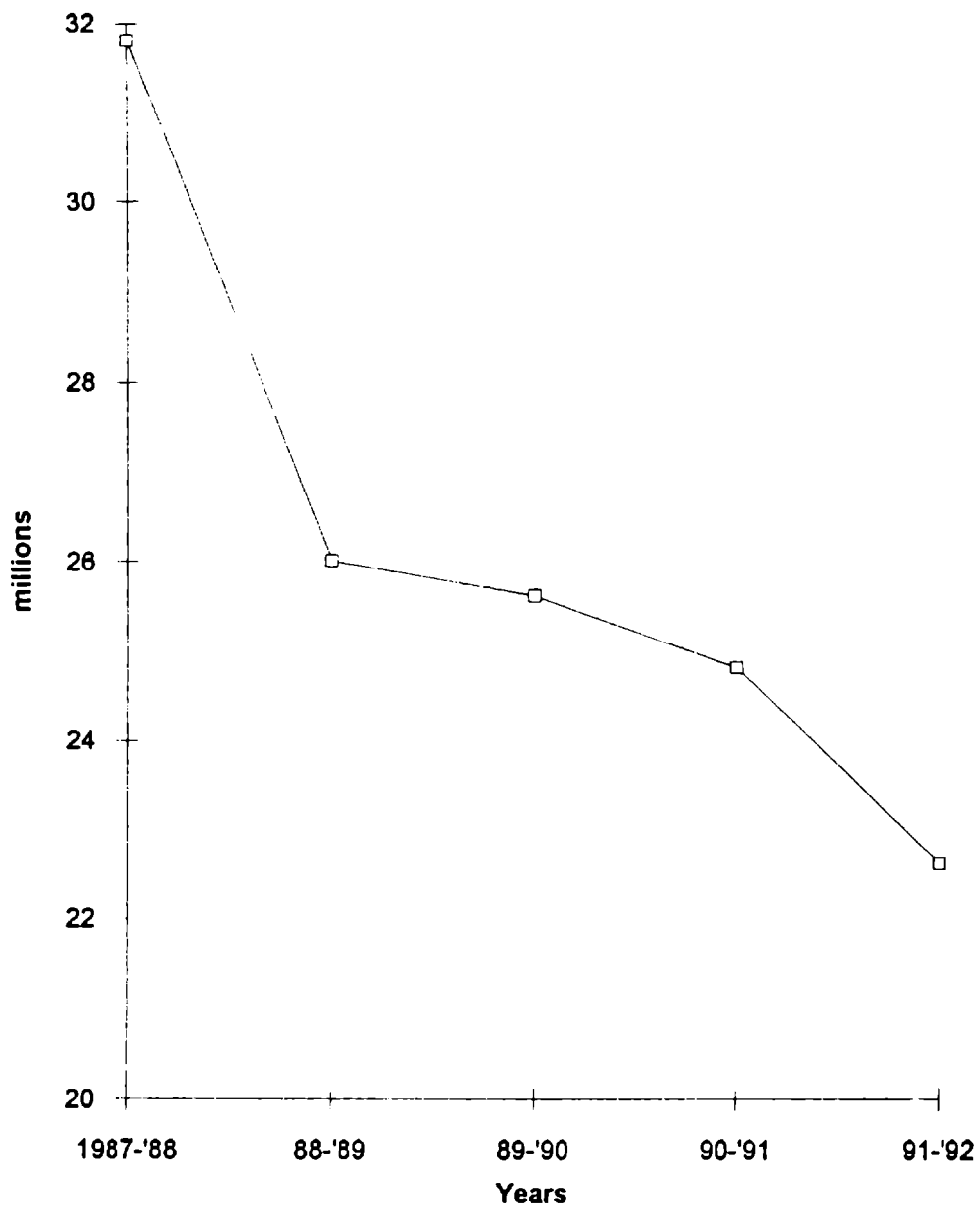
Table 4.7
Bicycle Tyre Production from 1960-'61 to 1991-'92

Year	Production of Bicycle Tyres (in millions)
1960-'61	11.2
1970-'71	19.2
1980-'81	27.0
1984-'85	31.2
1985-'86	36.1
1986-'87	29.7
1987-'88	31.8
1988-'89	26.0
1989-'90	25.6
1990-'91	24.8
1991-'92	22.6

Source Facts for you July 1993, p. 15.

The following diagram illustrates the production of bicycle tyres for the last five years.

Diagram: 4.3 Bicycle tyre production from 1987-'88 to 1991-'92



A detailed breakup of the tyre production in 1992, shows that tyre production for trucks and bus top the list followed by scooter, passenger car and motor cycle. But the percentage increase in 1991 was the highest in industrial and moped tyre production. The following table shows the tyre production scenario for the year 1992.

Table 4.8
Breakup of Tyre Production in 1992 (In thousands)

Category	1992	Percentage Increase over 1991
Truck and Buses	6060	13
Passenger Car	2214	1
Jeep	596	24
Light Truck	845	11
Tractor Front	737	10
Tractor Rear	513	3
Tractor Trailer	319	44
A.D.V	547	-7
O.T.R.	39	26
Scooter	4473	1
Motor Cycle	1871	7
Moped	1072	72
Industrial	29	93
Aero	8	-11
Total	19323	100

Source Facts for you July 1993, p. 16

The Planning Commission has forecast that the capacity of automobile tyres will rise to 36 million tyres in 1996-'97 as against 30 millions tyres in 1991-'92. Production of these tyres is anticipated to increase to 32.0 millions tyres. In the case of bicycle tyres in the organised sector, capacity is likely to rise from 40 million tyres in 1991-'92 to 60 million tyres in 1996-'97. Production is forecast to improve from 30 million tyres to 50 million tyres.

Table 4.9
Percentage Share of Each Tyre Company : 1992

	Apollo	Birla	Btil	Ceat	Dunlop	Falcon	Good Year	JKI	MRF	Modi	Premier	Vikrant	TCIL	Srichakra	Metro	Balkriswa
Truck & Bus Passenger	12.0	5.2	3.9	13.3	8.1	0.0	5.1	12.1	15.3	13.0	6.5	8.2	1.1	(Neg)	0.0	0.0
Car	3.6	2.7	9.9	25.4	12.7	0.0	8.1	9.2	18.1	8.5	0.6	0.5	0.5	0.1	0.0	0.1
Jeep	1.2	0.0	8.3	23.6	5.3	0.0	1.7	17.7	24.4	9.5	0.4	2.5	2.3	1.4	0.1	1.8
Light Truck	3.5	1.0	12.9	15.2	8.4	0.0	6.9	16.3	19.1	10.8	0.3	3.5	1.2	1.0	0.0	1.1
Tractor Front	6.5	0.7	9.0	11.9	6.4	0.0	11.2	10.0	25.9	9.2	1.4	2.9	0.0	0.0	2.7	2.4
Tractor Rear	7.9	0.6	7.2	13.3	8.9	0.0	16.4	6.6	24.4	9.9	2.1	2.4	0.0	0.0	0.3	0.0
Tractor Trailer	11.7	4.3	6.6	22.4	6.6	0.0	6.3	6.5	22.2	5.4	1.9	2.9	2.9	0.0	0.6	2.5
ADV	1.9	1.3	14.5	10.5	10.0	5.7	0.0	0.8	14.3	16.5	1.1	3.2	0.0	0.0	12.3	5.6
OTR	0.0	0.0	3.9	59.7	14.7	0.0	16.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scooter	0.0	0.0	4.5	26.5	1.5	18.5	0.0	0.0	21.5	7.1	0.2	0.0	0.0	10.5	1.2	8.5
Motor Cycle	0.0	0.0	3.1	29.1	10.0	14.9	0.0	0.0	29.3	5.7	0.0	0.0	0.0	6.5	0.6	6.8
Moped	0.0	0.0	0.0	0.6	0.0	23.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	61.9	2.0	12.0
Industrial	0.0	0.0	0.0	43.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.6	0.0	0.0
Aero	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Facts for you, July 1993, p. 17

The percentage share of each tyre company in 1992 for Truck, Bus and Jeep tyres M.R.F. is the leading Co., but for passenger car tyre Ceat is the leading Co. In the case of Scooter Ceat is the leading Co. whereas in the case of motor cycle M.R.F. is in the fore front. The table 4.9 shows the percentage share of each tyre company in 1992.

All India pattern of the use of rubber according to end products shows that automobile tyres and tube products amounted to 51.7 per cent of the total consumption during 1983-'84. This declined to 42.6 per cent in 1990-'91 and again to 41.8 per cent in 1991-'92. It is projected that the use of rubber in this area declined to 41.7 per cent in 1994-'95, 40.6 per cent in 1999-2000 and to 40.4 per cent in 2000 A.D. The following table shows the consumption of rubber by tyre and tube sector.

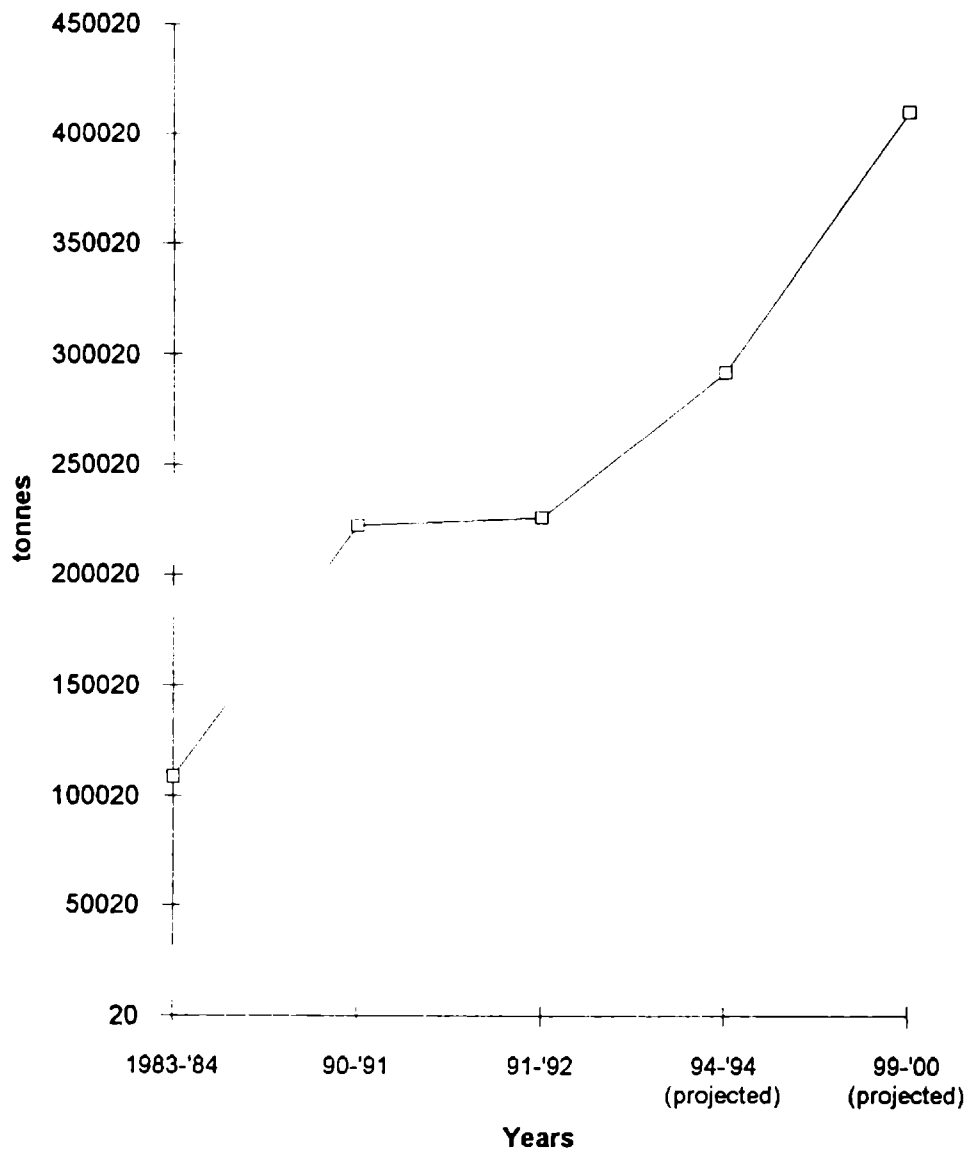
Table 4.10
Consumption of Natural Rubber by Auto Tyres and Tube Sector

Year	Consumption (in tonnes)	Share (Percentage)
1983-'84	108449	51.7
1990-'91	222120	42.6
1991-'92	225600	41.8
1994-'95	291150	41.7
(Projected)		
1999-2000	408355	40.6
(Projected)		
2000 A.D	429795	40.4
(Projected)		

Source The Economic Times, Bombay , Thursday 25, February 1993, p. 12.

The diagrammatic representation of the consumption of natural rubber by auto tyres and tube sector is given below:

Diagram: 4.4 Consumption of natural rubber by auto tyres and tube sector from 1983-'84 to 1999-2000 (projected)



The total rubber consumption of the industry in 1991-'92 was 5,39,815 tonnes, the breakup figure being 3,80,150 tonnes for natural rubber, 10,55,650 tonnes for synthetic rubber and 54,015 tonnes of reclaimed rubber. The tyre sector's share in this total was of the order of 2,25,600 tonnes the balance quantity of 3,14,215 tonnes being accented for non-tyre sector. The ratio of consumption between tyre and non-tyre sectors is 41.80 and 58.20 respectively. The consumption of natural rubber according to end product is given in the following table.

Table 4.11
Consumption of Natural Rubber According to End Products (Tonnes)

Products	1980-'81	1990-'91	1991-'92	1992-'93
1. Automobile tyre and tubes	87295	161578	165790	186404
2. Cycle tyres and tubes	20664	50180	52639	56413
3. Camel back	9130	25440	26747	27157
4. Foot wears	17800	37574	39904	42972
5. Belts and Hoses	11812	25583	27119	28522
6. Latex foam	5753	19598	20750	22350
7. Cables and Wires	779	1252	1120	1073
8. Battery Boxes	485	1265	1260	1295
9. Dipped goods	4945	15578	1767	18750
10. Others	14967	26262	27754	29169
Total	173630	364310	380150	414105

Source Indian Rubber Statistics Vol. 20 Rubber Board, Kottayam.

Regarding rubber consumption India ranked seventh after USA, Japan, China, Federal Republic of Germany, France and Korea. As far as natural rubber consumption is concerned India is the fourth largest natural rubber consuming country in the world next only to USA, Japan and China⁶. In India, the ratio of rubber consumption is 22 per cent synthetic rubber to 78 per cent natural rubber; it is the other way in most of the western countries. The per capita consumption of rubber in India is 0.64 kg. as against 13 kgs. in Japan⁷

6. The Economic Times, Bombay, February 25, 1993, p. 12.

7. Facts for you, May 1994, p. 14.

Per capita consumption of rubber is the highest in the USA. An American consumes 15 kgs. of rubber per year, a Canadian consumes 12.5 kgs. a German consumes 10 kgs. and a British consumes 8 kgs. per year. But two Indians put together are consuming only 1kg. of rubber per year. This shows the scope for enormous growth potential in the domestic sector itself.

NON-TYRE SECTOR

The non-tyre sector constitutes an important segment of the rubber industry in our country. The non-tyre sector has in its fold more than 5000 manufacturing units and they range from large scale to medium scale, medium scale to small scale and small scale to tiny scale. Besides this, there are a large number of units which buy ready mixed compounds from a seller manufacturer and convert this compound in to hundreds of moulded parts. They are known as 'Moulders' which do not figure in the regular list of rubber manufacturers.

The phenomenal range of products on non-tyre sector manufacturers is indeed awe inspiring. The total number of individual rubber items manufactured in India reckoning to about 35,000 items. Just imagine a car or a lorry containing something like 500 odd rubber parts and the same in the case with railways, defence, agriculture and so on.

The tyre and non-tyre sector will have their own peculiar advantages and disadvantages. The tyre sector is compact in nature, the other one is vast and varied. The first one is mere organized and capable of taking quick policy decisions, the second one is some what feeble in this matter. Like that tyre sector has an easy access to the advanced world technology through its collaborators, the non-tyre sector has to manage technologically on its own, though their

product performance is second to none. In fact, the non-tyre sector is the backbone of the industry.

The non-tyre sector constitutes an important segment of the rubber industry of our country. Basically non-tyre sector comprises of the following industries.

1. Fan Belts for Automobile applications
2. Industrial V-Belts
3. Radiator Hoses
4. Vacuum Break Hoses
5. Rubber ply Transmission and Conveyor Beltings
6. Camel Back
7. Ebonite Sheets, Rods and Tubes
8. Other types of Hoses
9. Water proofed Fabrics
10. Rubber Foot wear
11. Contraceptives etc.

There are many other speciality rubber products that are not included in this classification, largely due to insufficient statistical data being readily available. The production of non-tyre rubber goods increased to a considerable extent for the last few years. This is mainly because of the demand in non-tyre products in the market. The following table shows the non-tyre rubber manufacturing units in different states from 1989-'90 to 1991-'92.

Table 4.12
Non-tyre Rubber Manufacturers in different States

State/Territory	1989-'90	1990-'91	1991-'92
Andhra Pradesh	148	158	192
Assam	4	3	*
Bihar	45	47	45
Delhi	393	377	366
Goa, Due, Daman	16	24	23
Gujarat	305	304	337
Haryana	235	252	262
Himachal Pradesh	15	12	*
Karnataka	216	221	257
Kerala	767	816	893
Madhya Pradesh	81	85	81
Maharashtra	571	569	581
Orissa	18	19	18
Punjab	529	538	569
Rajasthan	65	66	73
Tamil Nadu	476	491	524
Uttar Pradesh	482	504	502
West Bengal	482	494	501
Others	33	48	69
Total	4881	5028	5249

* The figures include 34 units under tyre sector as well.

Source The Economic Times Bombay, 25th February 1993.

The non-tyre sector is expected to grow at an average growth rate of 8 per cent as against tyre industries expected growth rate of 7 per cent. It could be seen that the non-tyre sector has accounted for a consumption of 2,99,425 in 1990-'91 i.e., 57.4 per cent of the total. This total consumption of rubber by non-tyre sector is expected to go up to 634470 tonnes by 2000 A.D. and at that stage, this sector would increase its purchase off take to 59.6 per cent. The following table gives the consumption of rubber by non-tyre sector.

Table 4.13
Consumption of Rubber by non-tyre sector (in MTS)

End Product	1990-'91	1991-'92	2000 A.D (Projected)
Cycle Tyres & Tubes	77453	80000	164120
Foot wears	63644	64000	134850
Belt and Hoses	36387	38500	77105
Camel back	34352	37500	72790
Latex Foam	19598	21100	41530
Dipped goods	15578	16500	33015
Battery Boxes	11538	12500	24445
Cable & Wires	2996	3250	6350
Other Products	37879	40865	80265
Total	299425	314215	634470
Percentage	57.4%	58.2%	59.6%

Source The Economic Times, January Thursday 25, Feb. 1993, p.12

The consumption of rubber by tyre and non-tyre sector for the past few years are given in table 4.14. There is an indication of healthy trend in the growth of the non-tyre sector. The huge employment potential that arises out of the non-tyre sector, including the large number of small industries could be well appreciated. Further the rubber industry in the non-tyre sector is necessarily not an urban centred industry and therefore, can be widely dispersed giving lot of impetus to a rural economy.

Table 4.14
Consumption pattern of Natural Rubber by Tyre and Non-Tyre sector
(in tonnes)

Year	Consumption by Tyre companies	Percentage	Consumption by Non-Tyre sector	Percentage	Total
1982	108940	55.29	88095	44.71	197035
1983	111245	54.16	94150	45.84	205395
1984	11245	52.92	100065	47.08	212540
1985	110934	47.71	121606	52.29	232540
1991	222120	42.60	299425	57.40	521545
1992	225600	41.80	314215	58.20	539815

Source Rubber Statistics News, Various Issues. Rubber Board, Kottayam

It could be seen from the above table that non-tyre sector had accounted for a consumption of 2,99,425 tonnes or 57.40 per cent of the total during 1991. This total consumption of rubber by the non tyre sector is expected to go up to 6,34,470 tonnes by 2000 A.D. and at that stage, this sector would increase its percentages off take to 59.60 as against 40.40 per cent by the tyre sector.

Non-tyre sector can be again divided into automotive sector and non-automotive sector.

Rubber components for automotive sector include Automobile Fan Belts, Radiator Hoses, Camel Back, Moulded Rubber Products, O-rings, Oil seals and grommets.

At present Indian automobile industry is witnessing a fast change in the types of vehicles produced in all the various principal sectors, namely motor cycle, scooters, mopeds, passenger cars and light commercial vehicles. Therefore, it can be seen that for automobile component sector there is definitely a growth potential interms of value of the products.

In fact the rubber based product manufacturing industries in the non-tyre sector have to take a serious note of the necessity to qualify themselves technically and meet the challenges in the automobile industry, in terms of improved designs and technology of components.

In the non-automotive sector, we have such products like Rubber Conveyor Belts, Moulded Rubber Parts, Rubber Foot Wear and Contraceptives. Needless to say, the general industrial growth of our country is going to play its

role in terms of the demand pattern of such products also. Even then the broad dimensions of an agricultural base, combined with an industrial sector will contribute significantly to the betterment of standards, particularly the rural sector increasing the demand for consumer durables like foot wear etc.

Apart from the opportunities in the indigenous market, there are equally good opportunities for export in the non-tyre sector. Already the country has recorded huge export of V-Belts to various foreign countries. Other goods include Rubber Foot wear, different types of Beltings, Hoses, Medical and Surgical articles and sheetings.

It is expected that we could develop our export market efficiently and profitably by organizing suitable trade visits and catering to the specific needs in an organised manner. It is also gratifying to note that we are very fortunate to have a good domestic base for our various rubber components and articles, combined with a good and healthy export potential for the same group of products. The following table shows the value of rubber products exported from 1980-'81 to 1993-'94.

Table 4.15
Value of Rubber Products Exported
(Value in Million Rs.)

Products	1980-'81	1990-'91	1993-'94
1 Automobile tyres and tubes including tyre retreading materials	131.53	1826.00	(estimated) 5950.00
2. Beltings	42.80	241.00	335.50
3 Cycle tyres & tubes	25.88	120.00	667.00
4 Hoses	8.23	77.00	68.50
5 Hygenic, Medical & Surgical articles including gloves	20.94	139.00	559.00
6 Rubber Foot wear	3.66	7.50	44.00
7 Rubber soled foot wear with canvas upper	41.77	112.00	177.00
8. Rubber Coats & aprons for textile industry	3.94	11.00	34.00
9 Rubber Sheetings	0.63	7.20	682.50
10 Others	34.23	89.80	405.50

Source Rubber Board, Kottayam.

To conclude, the non-tyre segment has to grow rapidly and keep in tune with the demand pattern as expected to emerge from the changing global economic scene. This would result in the price hike of natural rubber as we experience now and improve the conditions of rubber cultivators, especially the small growers of Kerala.

CHAPTER V
THE MARKETING CHANNELS OF
NATURAL RUBBER

The word 'Market' is derived from the Latin word 'Marcatus' meaning there by merchandise or a place where business is conducted. But for a layman, a market is a place where buyers and sellers meet together for the buying and selling of goods. Hence several Economists have defined the term 'Market' in various ways. Tousely and Clarks have defined a market as a place or area where buyers and sellers work together.¹

Generally the word Marketing refers to all those various activities and services related to marketing, which are responsible for carrying the final products or commodities from the producer to the consumer. These activities and services include assembling, processing, packaging, storage and transportation. All these activities are performed during the period from production to consumption.²

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1. Tousely. R.D., Clark E., Clark F., Principles of Marketing, Mc Millan and Co., New York, p. 10.
 2. Sharma A.N., Economic Structure of India, Himalaya Publishing House, Bombay, 1984, p. 346.

The word 'channel' owes its origin to the French word canal. Marketing channels can be defined as the movement of goods and services between the point of production and the point consumption through organisations that perform a variety of marketing activities.³ The term 'distribution structure' is used to encompass all the available distribution channels in a particular industry.

In order to analyse the natural rubber marketing, it is essential to recollect the pattern of natural rubber production and consumption. The production of natural rubber is confined to the Southern States of India - Kerala, Tamilnadu and Karnataka. These states which are considered traditional areas of rubber cultivation and account for almost 99 percent of the total area under rubber in the country.

The rubber consuming sector in the country comprises of two sections, tyre sector and non-tyre sector. Rubber goods manufacturing units in the country are distributed in various states with comparatively better concentrations in Maharashtra, West Bengal, Uttar Pradesh and Punjab. The total natural rubber consumption during 1993-'94 showed that Maharashtra, West Bengal, Uttar Pradesh and Punjab alone account for 44 per cent of the total natural rubber consumption. It is interesting to note that these four states are non rubber producing states located at far distant regions, miles apart. This necessitates the need to have an effective marketing channel to link the producers and consumers who are at the two extreme ends.

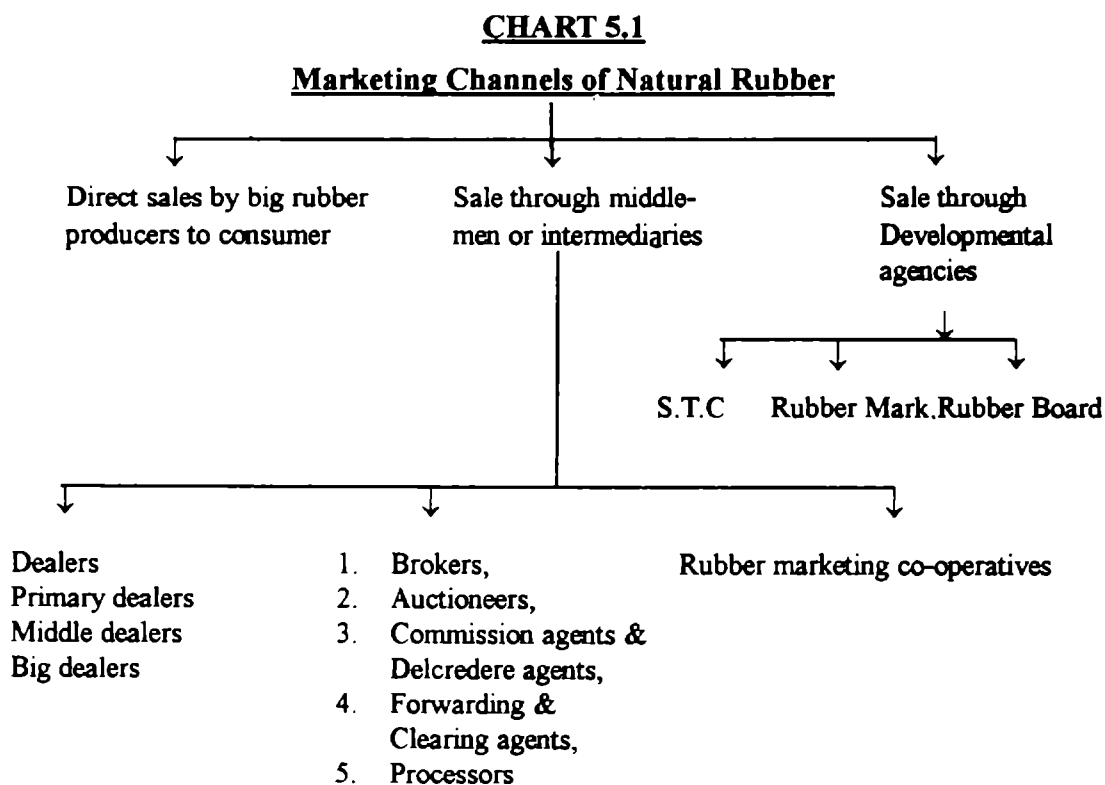
Another feature which demands a well developed marketing network is the fastly changing structures of the plantation industry. The average size of

3. Maurice I. Mandell and Larry. J. Rosenberg, Marketing, Prentice - Hall of India Pvt. Ltd., New Delhi, II Edition p. 371.

the holdings are coming down due to sub-divisions and fragmentations. When the number of the producing units increase and the volume of goods available for sale per producer become smaller, the marketing mechanism assumes vital importance. With out a well spread out marketing net work the produce of lakhs of petty holders cannot successfully reach the consumers located far off places.

MARKETING CHANNELS OF NATURAL RUBBER

The marketing channels of natural rubber include the various marketing agencies and institutions such as dealers, brokers, auctioneers, processors, marketing co-operatives and other developmental agencies like the State Trading Corporation, the Rubber Marketing Federation and the Rubber Board. In the light of the study, the chart given below shows the typical marketing channels of natural rubber in Kerala.



Broadly, rubber marketing channels can be classified in to three categories:-

- I. Direct Sale by big rubber producers to consumers
- II. Sale through middlemen or intermediaries
- III. Sale through developmental agencies.

I. Direct Sale.

Most of the large estate groups and the State owned plantations can be grouped under this category, as they sell their entire produce directly to big manufacturers. The Plantation Corporation of Kerala Ltd., a State owned enterprise, follows this practice. The Plantation Corporation of Kerala has at present more than 7,200 hectares of rubber plantations spread over the districts of Pathanamthitta, Ernakulam, Trichur and Calicut. The annual production is around 7000 tonnes marketed in various forms like RSS, EBC, centrifuged latex and ISNR. The Rehabilitation Plantations Ltd., a project to resettle the repatriates of Indian origin from Sri Lanka is another example. Big processing units producing pale latex crepe, latex concentrates, estate brown crepe, crump rubber etc. sell their products directly to consumers can also be classified under this group. The analysis shows that direct sales account only for 20 per cent of the total production.

II. Sales through middlemen or intermediaries.

There are different types of intermediaries functioning in rubber marketing. The main two types of intermediaries are dealers and rubber marketing co-operatives. Brokers, auctioneers, commission agents, delcredere agents, forwarding and clearing agents and processors also play their role.

Dealers

Origin

The rubber trading community is perhaps as old as the plantation industry itself. There were dealers in rubber from a very early time. However, their activities were neither controlled nor regulated. With the enactment of Rubber Act, 1947 and Rubber Rules 1955 dealings in rubber have become a regulated trading activity, ie., licencing has become a must.

The Rubber Act provides for the licencing of manufacturers for purchase of raw rubber. Unlicenced purchase of rubber is a contravention of Section 14 of the Act and is punishable under Section 26 thereof.

A manufacturer (a person engaged in the manufacture of any article in the making of which rubber is used) can purchase rubber only from a registered owner of an estate or from licenced dealer.

Licences for rubber trading

The transactions in rubber is regulated based on licence issued by the Rubber Board. The Board has been issuing 3 kinds of licences, namely,

- A. licence to deal in rubber
- B. licence to acquire rubber for processing and to sell such processed rubber and
- C. licence to acquire rubber for manufacturing rubber products.

For the development of the rubber plantation industry in the country, the Rubber Act provides for the collection of a duty of excise on rubber called 'cess' at the rate notified by the Government of India from time to time. The present rate of cess is Re. 1 per kilogram of rubber. For regulating the interstate

transport of rubber, the Rubber Rules 1955 have prescribed certain declarations to be used by consignors while transporting rubber from one state to another state.

A. DEALER'S LICENCE

Every person who wants a special licence to purchase, sell or otherwise deal in rubber shall apply for a licence in Form B*. The application should be accompanied by an affidavit in the prescribed form, attested photograph of the applicant and documentary evidence to prove the right of possession of the proposed business premises and storage by the applicant. Besides, the prescribed licence fee and service charge at the rate of Rs. 250/- per year or part thereof has to be remitted. The amount can be remitted either by Demand Draft or Money Order or by cash at the counter. If the amount is to be sent by Demand Draft the same should be drawn in favour of the Excise Duty Officer, Rubber Board payable at Kochi.

The Board if it is satisfied with regard to the suitability of the applicant, may issue a licence in Form C*. The licence has to be renewed every year if the dealer wants to continue his business for which application in the prescribed form and the requisite licence fee and service charge have to be remitted. The Board renews licences for a consecutive period of 3 years on receiving the prescribed application, licence fee and service charge.

B. PROCESSOR'S LICENCE

Every person who wants to acquire rubber for processing or to sell the rubber so acquired after processing or otherwise, shall apply for a licence in Form B1*. Every application should be accompanied by an affidavit in the

* vide Appendix

prescribed form and copy of the project report, besides, a sum of Rs. 250/- towards licence fee and service charge, has to be remitted. The remittance can be made either by Demand Draft or by Money Order or by cash at the cash counter. If the amount is to be sent by Demand Draft, the same may be drawn in favour of the Excise Duty Officer, Rubber Board payable at Kochi.

The Board may issue a special licence in Form C1* if it is satisfied with regard to the following matters, namely:

1. Suitability of the applicant,
2. Suitability of the site selected,
3. Availability of raw materials,
4. Availability of technical know how,
5. Arrangements made for technical specifications and
6. Economic feasibility.

The licence has to be renewed before expiry of the period of validity if the processor wants to continue his business. For this purpose, application in the prescribed form and the requisite licence fee and service charge at the rate of Rs. 250/- per annum have to be remitted. Board renews licences for a consecutive period of 5 years.

The dealer's and processor's licences are issued from the Board's Sub Office at Willington Island, Kochi.

C. MANUFACTURER'S LICENCE

A person desirous of manufacturing any article in the making of which rubber is used, has to obtain a licence in Form E* from the Rubber Board. This

* Vide Appendix

licence is issued for acquiring a specific quantity of rubber and has to be renewed every year. For obtaining the licence, one has to apply to the Board in the prescribed form ie., Form D* along with the details required to be furnished in the form of 'Additional particulars' and remit the prescribed licence fee and service charge at the following rates:

Particulars	Rate of Licence fee and service charge (amount in Rs.)
1. If the anticipated requirement of rubber in an year or part of a year does not exceed 4 MT.	79/-
2. If the anticipated requirement of rubber in an year or part of a year exceed 4 MT.	210/-

If the manufacturer wants to continue his manufacturing operation he should apply for renewal of licence for which the application in the prescribed form, licence fee and service charge have to be sent. The manufacturer's licence is issued from the Board's Office at Kottayam.

INTERSTATE TRANSPORT OF RUBBER

Special forms containing valid declarations prescribed under the Rubber Rules 1955 have to be issued while transporting rubber from one state to another state. Transactions in rubber across the state boundaries without the prescribed declaration is a punishable offence. The form prescribed for the declaration to be used by estates, dealers, processors and manufacturers are Forms N1*, N2*, N3* and N4* declarations respectively.

* vide Appendix

DUTY OF EXCISE (CESS) ON RUBBER

For facilitating the collection of the duty of excise (cess) on rubber every manufacturer shall submit to the Rubber Board a half yearly return in Form M* for the periods from 1st April to 30th Sept. and from 1st October to 31st March of each financial year, showing the total quantity of all rubber.

1. purchased or otherwise acquired during such periods (separately for indigenous and imported rubber) and
2. consumed or used in the process of manufacture during the same periods. The last dates for receipt of the 'M return' for the period April to September and October to March in the office of the Secretary, Rubber Board, Kottayam are 15th April respectively. After checking the 'M return' and after making such further enquiry as deems necessary, the Board shall assess the amount of duty payable by such manufacturer at the rate of Re. 1 per kg. of rubber acquired during the period and issue a Notice demanding the manufacturer to remit the relevant cess amount. The manufacturer shall remit the amount specified therein either in cash at the Board's office at Kottayam or by Money Order or Postal order or by bank draft payable to the Secretary, Rubber Board, Kottayam within 30 days from the date of receipt of the said notice. If a manufacturer fails to remit the amount within the due date, the Board may take steps for recovery of the outstanding amount as an arrear of land revenue. Interest at the rate of 12per cent per annum is also leviable on arrears of cess on rubber.

THE OBLIGATIONS OF THE LICENSEES

The Rubber Act and the Rubber Rules prescribe that the licensees shall submit certain returns to the Board. Every licenced dealer shall submit to the Board, a true and correct monthly return in Forms H2* & L* giving the particulars of rubber stock held, acquired or disposed off by him. Every processor shall submit to the Board a true and correct monthly return in Forms H3* & L1* giving the particulars of rubber used for processing, disposal etc.

* vide Appendix

Similarly, every manufacturer shall submit to the Board a true and correct monthly return in Forms K* & L* giving the particulars of stock of rubber including synthetic and reclaimed rubber held, acquired, consumed or disposed off by him. The returns for each month should be sent by the dealers, processors and manufacturers so as to reach the Secretary, Rubber Board, Kottayam on or before the 20th of the succeeding month. The licensees are also bound to maintain true and correct accounts in respect of their business and produce them before the officers authorised in this behalf for inspection on demand.

Renewal of licences

A manufacturer in possession of a licence shall apply for the renewal of the same in the prescribed Form D* together with the additional particulars attached thereto reach the Board not later than 31 st December of every year. The licence fee prescribed and the mode of remittance indicated above are applicable in the case of renewal applications also.

The Rules include elaborate provisions for issue, renewal and supervision of dealers' licences. Rubber Board is vested with all the powers relating to control and regulation of rubber dealings including power for enforcing legal provisions related to these basic functions. In brief rubber trade is controlled and regulated.

PENAL PROVISIONS

The licences referred to above are liable to be revoked/cancelled if the Board is convinced that the licensee obtained the licence by mis-representations of facts or fraud or if he fails to submit the necessary returns. Besides, prosecution

* vide Appendix

under Section 26 of the Rubber Act can be initiated against the delinquent for violations of the provisions of the Rubber Act and the Rules framed thereunder.

GROWTH AND DISTRIBUTION OF RUBBER DEALERS

The All India distribution of rubber dealers showed that the total number of dealers in 1980-'81 was 3,641. During 1965-'66, there were only 608 dealers which had shot upto 4,044 in 1985-86 and again shot up to 7,365 in 1991-92. This increase was mainly due to the liberal licencing policy of the Rubber Board and unemployment among the educated youth. Yet another attraction was the tempo of price fluctuation of natural rubber and thereby the trend of profit making. During 1992-'93 the number declined to 7,135 but again went up to 7,509 in 1993-'94. The number of licenced dealers in the different States of India is shown in the following table.

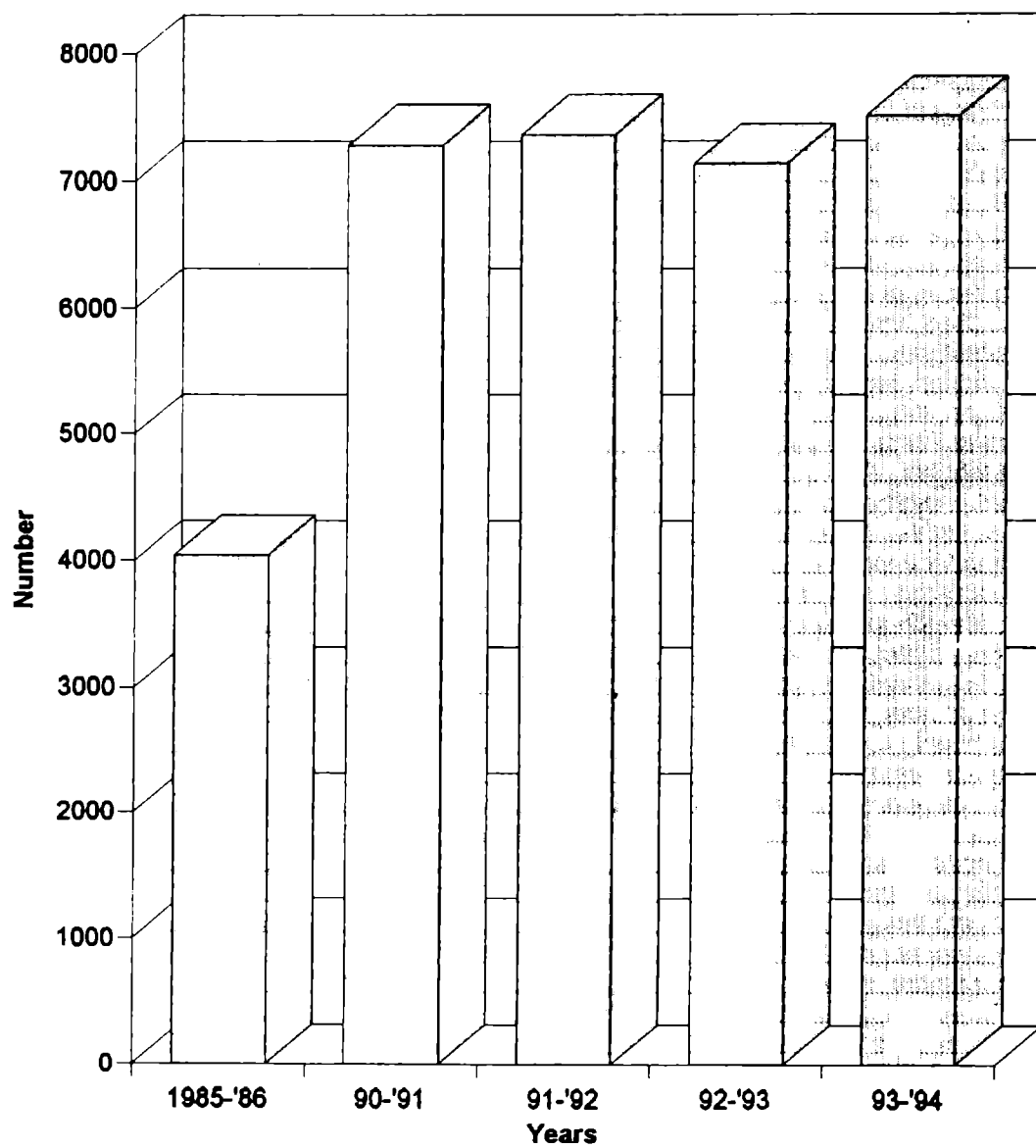
Table 5.1
Number of Licenced Dealers in the different
states of India at the end of each year

State/Territory	1985-'86	1990-'91	1991-'92	1992-'93	1993-'94
Kerala	3499	6439	6497	6215	6480
Tamilnadu	140	192	177	192	204
Delhi	115	123	136	144	177
Punjab	68	161	165	164	172
Chandigarh	67	91	92	95	97
West Bengal	40	59	63	71	82
U.P.	62	77	74	65	76
Maharashtra	22	51	56	61	73
Karnataka	17	34	37	40	44
Haryana	02	12	13	24	33
Tripura	06	21	21	25	26
Gujarath		03	08	08	10
M.P.		02	05	08	10
Rajasthan	02	03	06	05	07
A.Pradesh		05	05	06	04
Assam	02	02	03	04	04
Andaman	01	03	02	03	03
Bihar	01		01	02	03
Orissa		01		01	02
Himachal Pradesh			01		01
Mehalaya		01	03	01	01
Mizoram				01	
Total	4044	7280	7365	7135	7509

Source Indian Rubber Statistics Vol. 20, Rubber Board, Kottayam

The growth of licenced dealers in India is shown by the following diagram.

Diagram: 5.1 Number of licenced dealers in India from 1985-'86 to 93-'94



District-wise distribution of Licenced Dealers in Kerala

Since Kerala accounts for 93 per cent of the natural rubber production, the bulk of the rubber dealers are found in this State. The following table gives an idea of the district-wise distribution of rubber dealers in Kerala from 1985-'86 to 1993-'94.

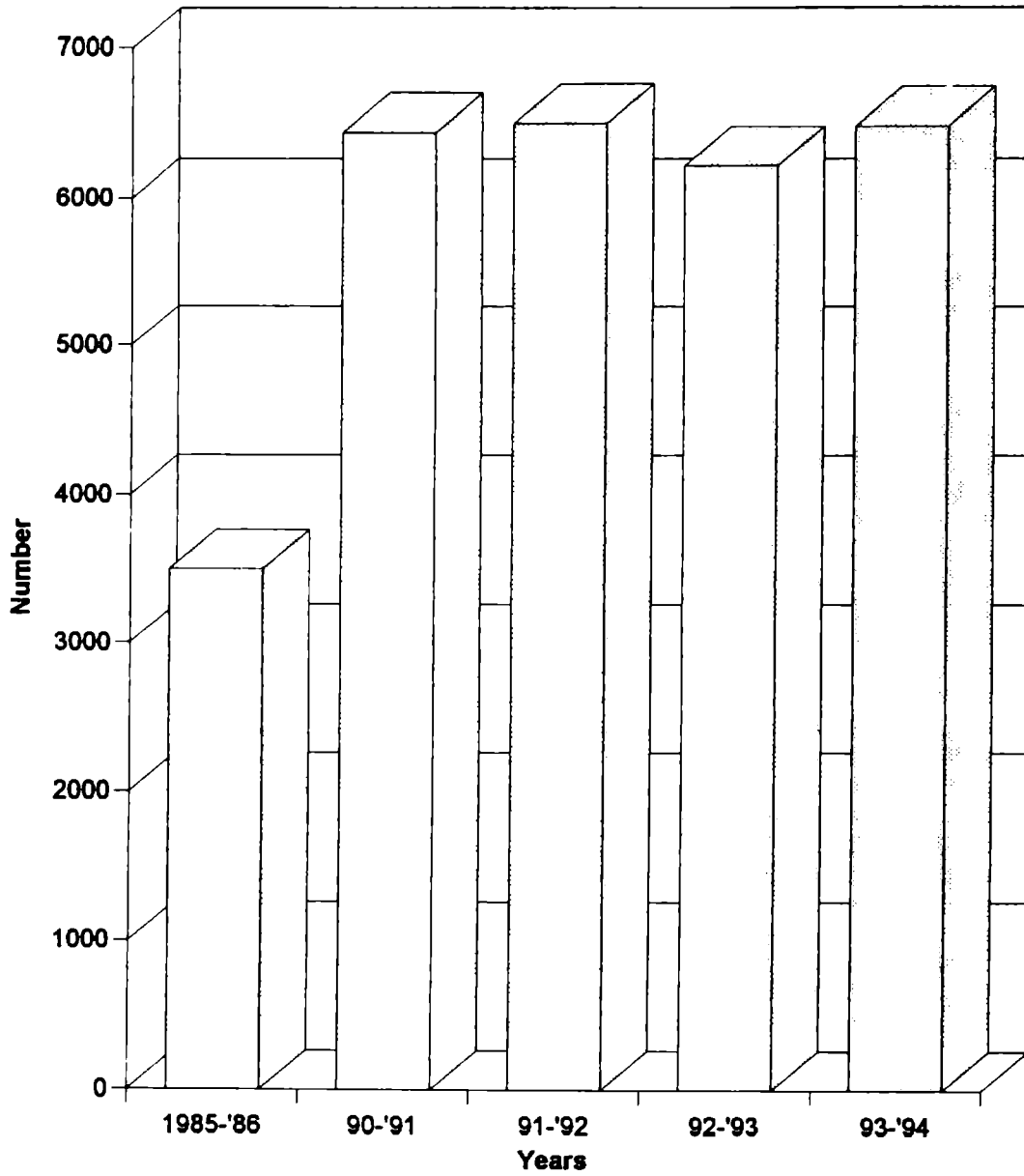
Table:5.2
Number of Licenced Dealers in the different Districts of Kerala

District	1985-'86	'90-'91	'91-'92	'92-'93	'93-'94
Thiruvananthapuram	197	477	483	472	500
Kollam	329	771	789	742	751
Pathanamthitta	323	857	888	800	829
Alapuzha	9	37	38	43	58
Kottayam	1431	2033	2012	1907	1969
Idukki	239	324	323	318	362
Ernakulam	510	1005	975	912	912
Thrissur	30	84	85	101	107
Palakkad	47	113	135	144	169
Malappuram	88	226	243	231	224
Kozhikkod	98	164	164	159	161
Wynad	25	35	39	37	49
Kannur	156	262	275	298	327
Kasargod	17	51	48	51	62
Total	3499	6439	6497	6215	6480

Source: Indian Rubber Statistics Vol. 20, Rubber Board, Kottayam

The growth of licenced dealers in the State of Kerala is illustrated by the following diagram.

Diagram: 5.2 Number of licenced dealers in Kerala from 1985-'86 to 93-'94



The table indicates that Kottayam district leads in the number of dealers followed by Ernakulam. During 1985-'86, the number of growers were 3,499. It increased to 6,439 in 1991 and shot up to 6,497 in 1991-'92. The tempo is continued in 1993-'94 and the number touched the level of 6,480. The share of Kerala in the total number of dealers is shown in the table given below.

Table : 5.3
Distribution pattern of rubber dealers in Kerala and other states during 1980-'81 to 1993-'94

Year	No. of dealers in Kerala	% share	No. of dealers in other states	% share	Total No. of dealers
1980-81	3041	83.5	600	16.5	3641
1981-82	3047	83.0	623	17.0	3670
1982-83	3038	83.0	621	17.0	3659
1983-84	3103	84.6	565	15.4	3668
1984-85	3035	85.7	507	14.3	3542
1985-86	3499	86.5	545	13.5	4044
1990-91	6439	88.4	841	11.6	7280
1991-92	6497	82.2	868	11.8	7365
1992-93	6215	87.1	920	12.9	7135
1993-94	6480	86.3	1029	13.7	7509

Source: Compiled from Indian Rubber Statistics, various issues.

The locational distribution of dealers shows that the share of Kerala has been increasing during the recent years. In 1980-81 the percentage share was 83.5, but it increased to 86.5 during 1985-86 and again reached the peak to 88.4 per cent in 1990-'91. This shows that there is multiplicity of dealers in Kerala. The study shows that increase in dealers enables the growers to sell the products

effectively but not profitably as the price offered by the dealers vary from place to place. There is competition among dealers to purchase more and this leads to wide fluctuation in prices. The fluctuations in natural rubber price put the small dealers in trouble. In Kerala the study indicates that a dealer covers 50 growers on an average. Except in the Alleppey district, average number of growers covered is less than 100. But in this district rubber estates are widely scattered and in areas of concentration there are enough dealers to cater to the needs of growers around. During 1985-86, the number of dealers in Alleppey district was 9 and it increased to 37 in 1990-'91 and still showed the increasing tendency and touched at 58 in 1993-'94. The coverage of growers by the dealers in Kerala as a whole is quite satisfactory.

DISTRIBUTION OF DEALERS IN KOTTAYAM AND PATHANAMTHITTA DISTRICTS

As Kottayam district is the leading centre in rubber cultivation and rubber production in Kerala, the number of licenced dealers is the highest. The concentration of the dealers in Kottayam district is mainly confined in Mundakayam, Kanjirappally, Palai, Kaduthuruthy, Manimala, Pallickathodu and Kottayam town. This district is properly knitted with primary, small and big dealers. During 1985-'86 the number of dealers was 1,431 and it reached the highest point at 2,033 in 1990-'91. But the number declined to 2012 in 1991-'92 and further to 1907 in 1992-'93. In the year 1993-'94 the number of dealers again increased to 1969.

In Pathanamthitta district also the dealers are playing a vital role. The important trading centres are Ranny, Konni, Koodal, Kozhencherry, Vadasserikkara and Pathanamthitta town. During 1985-'86 the number of

dealers in Pathanamthitta was 323 and it reached the peak point at 888 in 1991-'92. But the number of dealers declined to 800 in 1992-'93. In the year 1993-'94 the number of dealers was 829. The following table shows the growth of dealers in Kottayam and Pathanamthitta districts from 1985-'86 to 1993-'94.

Table : 5.4
Growth of Dealers in Kottayam and Pathanamthitta Districts
from 1985-'86 to 1993-'94

Year	Number of Dealers in Kottayam	Number of Dealers in Pathanamthitta
1985-'86	1431	323
1990-'91	2033	857
1991-'92	2012	888
1992-'93	1907	800
1993-'94	1969	829
Total	9352	3697

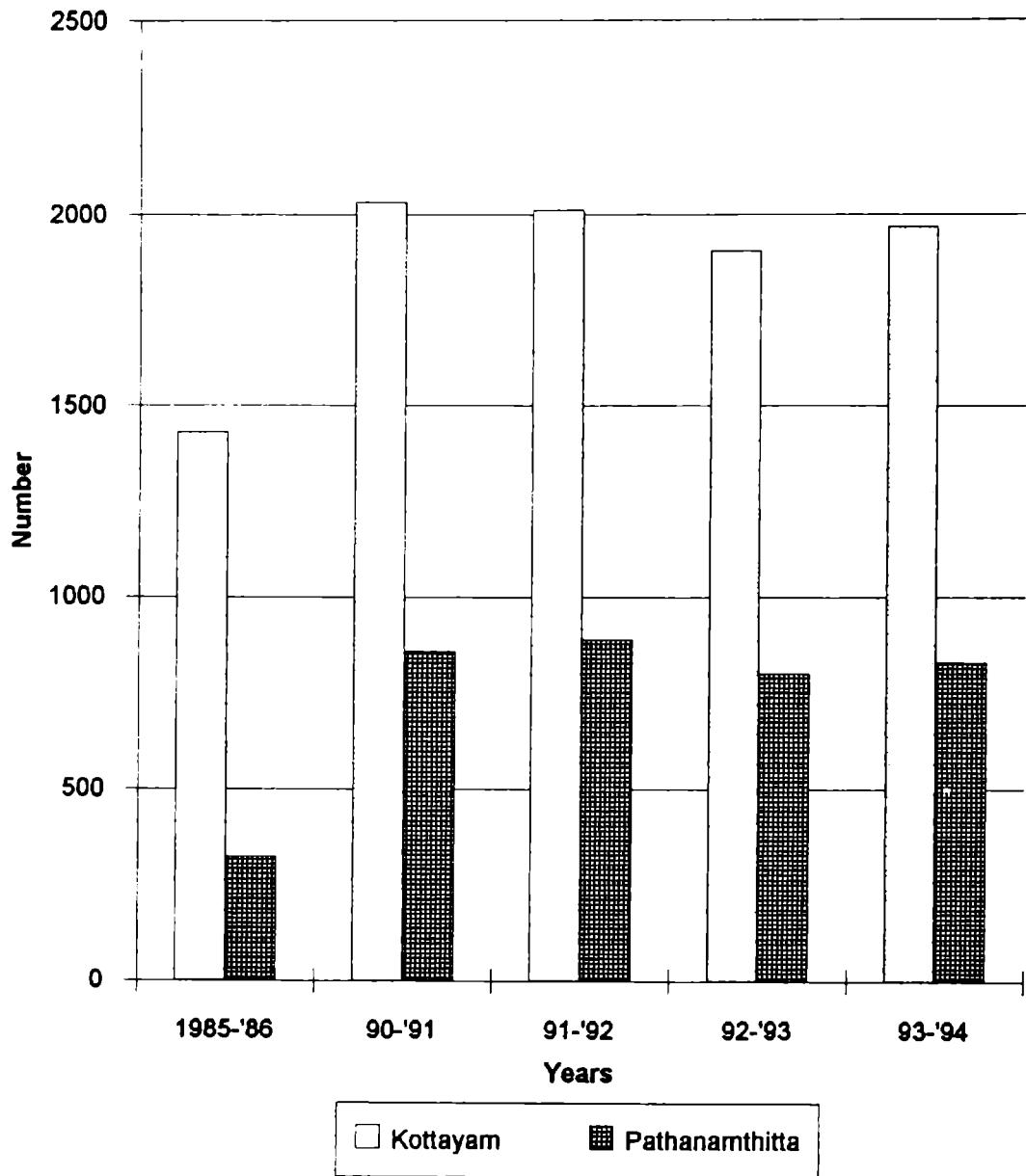
Source Compiled from Indian Rubber Statistics, various issues.

The diagrammatic representation of the growth of dealers in Kottayam and Pathanamthitta districts is given in the diagram 5.3.

TYPES OF DEALERS

A strict classification of dealers according to the system of operation is very difficult. This is mainly because the mode of purchase and the sale of dealers are not always identical and uniform. However, the dealers can be grouped according to the volume of their business and location of business. Rubber dealers can be classified into three groups such as primary, middle and big.

Diagram 5.3 Number of licenceddealers in Kottayam and Pathanamthitta from 1985-'86 to 93-'94



Primary dealers

Primary dealers are the rubber dealers who operate at the village level. They are usually known as village traders. Their function is collecting the sheet rubber and scrap rubber from small growers in and around their place of business. Primary dealers are the means through which the bulk of small holders' rubber is channelled. The rubber thus bought by them is brought to town once in a week or a fortnight and sold usually to middle dealers or to big dealers. The peculiar feature of rubber trade at the level of primary dealers is that there is no grading as such. The entire rubber acquired by the primary dealers is sold to middle dealers for a margin of profit.

In an interview with some primary dealers, it is revealed that they get only a small margin of profit. But small rubber growers openly said that they sold the sheet of rubber to primary dealers at a commission of 5 to 10 per cent. In addition to the commission they also get the advantage of price fluctuations. In some cases primary dealers act as agents of middlemen or big dealers. For their services they get a fixed monthly remuneration. Dealers who purchase upto 50 tonnes per year can be normally treated as primary dealers. In Kerala, 70 per cent of dealers are primary dealers.

Middle dealers

Those dealers who purchase between 50 to 250 tonnes of rubber annually can be considered 'middle' dealers. They form 20 per cent of the total. Middle dealers buy rubber sheets and scrap rubber mainly from primary dealers and from estate groups. They in turn sell the rubber thus collected to big dealers. Grading and standardisation often starts at the level of middle dealers. Middle dealers concentrate their business in towns and cities. Some middle dealers have

their own transporting and storage facilities. Their share of profit is more as compared with primary dealers, and they have sound financial capacity to keep the produce upto a period when the prices are fairly favourable.

Big dealers

Big rubber dealers usually purchase more than 250 tonnes of rubber annually. They constitute around 10 per cent of the total dealers in rubber. Out of this, 3 per cent are the biggest dealers having sales over 1,000 tonnes per year. It is very interesting to note that big dealers are operators of big estates. They carry on the business usually as partnership firms and companies. The rubber is suitably graded and packed by these big dealers. They sell the purchased rubber to final consumers like big tyre manufacturers either directly or through their branches. Even though the number of big dealers is considerably small, they are the forces controlling the rubber market to a great extent. They can even create artificial scarcity of rubber by hoarding it in their big godowns. An interview with some big dealers at Kottayam and Cochin market revealed that rubber price is even controlled by them by giving misleading statistics to the Rubber Board and the Government.

Bulk of the big dealers are located in Kerala and they operate branches at important rubber consuming centers like Bombay, Delhi, Calcutta and Jullundur. Similarly big dealers with head-quarters outside the state of Kerala usually operate branches in Kerala. Branches and agencies are very common in rubber trading. As per the Rubber Rules 1955, approval from the Rubber Board is required for opening branches. Sufficient office and godown facilities are required for obtaining approval for branch licence from the Rubber Board. Inter-state transport of rubber is possible only by getting sanction from the Rubber Board.

The following table explains the classification of dealers as primary, middle and big according to the volume of their purchases

Table : 5.5
Classification of licensed dealers by the Quantum of their Purchases

Purchase in metric tonnes	No. of dealers in 1985-86	No. of dealers in 1991-92
10 and below	1724	3384
Above 10 and upto and including 20	507	915
Above 25 and upto and including 50	517	962
Above 50 and upto and including 100	435	776
Above 100 and upto and including 250	451	794
Above 250 and upto and including 500	177	243
Above 500 and upto and including 1000	117	145
Above 1000	116	146
Total	4044	7365

Source Compiled from Indian Rubber Statistics.

The percentage share of each type of dealers in terms of the total number of dealers is shown in the following table.

Table:5.6
Percentage distribution of each type of dealers in terms of total dealers during
1985-86 and 1991-92

Purchase in metric tonnes	% in terms of total No. of dealers in 1985-86	% in terms of total No. of dealers in 1991-92
10 and below	42.5	46.0
Above 10 and upto and including 20	12.6	12.5
Above 25 and upto and including 50	12.8	13.0
Above 50 and upto and including 100	10.8	10.6
Above 100 and upto and including 250	11.2	10.8
Above 250 and upto and including 500	4.3	3.3
Above 500 and upto and including 1000	2.9	1.9
Above 1000	2.9	1.9
Total	100.0	100.0

Source: Compiled from Indian Rubber Statistics.

Functions of Rubber Dealers

The role of rubber trading community in the marketing and trading mechanism is very important. Rubber dealers are the main channel in the field of procurement of rubber of all grades from small growers at the village level. Most of the dealers offer financial help at the time of difficulty. Usually during rainy season and non-tapping season, small rubber growers get financial assistance only from dealers. Some dealers provide manure and other chemicals, pesticides and tools needed for rubber cultivation to the growers at concessional

rates. The system of advancing money against stock is another type of incentive provided by the dealers. So the growers have no necessity to borrow money at high rate of interest from other sources. The competition among the dealers from the village level to major trading centres ensures a reasonable price to growers. Dealers also help the rubber consuming industry. They supply this basic raw material to the industry at their doorsteps at the most competitive rates. Even though the rubber dealers are accused of exploitation and twisting of prices to make large profits, by virtue of prompt and dependable services the rubber dealers have become indispensable part of rubber industry.

1. Brokers

Brokers are the persons bringing together buyers and sellers. They bring together rubber dealers and big rubber goods manufacturers. In the case of rubber, the entire production is concentrated in South India, but most of the rubber consumers are in North India. Because of this particular situation the buyers in North India come into contact with the dealers in South India through brokers. A large number of rubber brokers are in operation in Cochin and Kottayam markets. Brokers play an important role when there is shortage of rubber in the market. Brokers claim commission from both buyers and the sellers. They are neither owners nor dealers in rubber, but only act as an intermediary between buyers and sellers.

2. Auctioneers

Auctioneers offer a common place for the buyers and sellers to meet at bidding. They may also provide facilities for storage and transportation of rubber. Now the number of auctioneers are very few and auctioning is common only in the Cochin market. A few tea auctioning firms are handling rubber at

Cochin market. Sale of rubber by auction is practiced by the Plantation Corporation of Kerala Limited in the case of some grade of rubber. The Corporation disposes off their produce once or twice in a year by public auction.

3. Commission agents and delcredere agents

Agency system is very common now-a-days. In the agency system, the agents make purchases on behalf of the principals and transfer the goods to them. Here again the approval of the Rubber Board is required. The agents are paid a commission ranging from 0.5 to 1 per cent on the total turnover. The number of agents in the Kottayam market is more than the number in the Cochin market. Besides, big dealers operating in towns also open purchase depots in important rubber producing areas for purchasing rubber. There is a complaint from some areas that the big dealers exploit the primary dealers in the grading of rubber and transportation. Delcredere agents are not only doing agency services, but also collecting the debts for and on behalf of the principal.

4. Forwarding and clearing agents

Forwarding and clearing agents are common in Cochin market. They contact the various consumers in North India and arrange for the transportation of rubber purchased from Cochin market. Some forwarding and clearing agents have their own transportation facilities. In Kottayam market the number of such forwarding and clearing agents are limited. Some middle and big dealers also act as forwarding and clearing agents at Kottayam.

5. Processors

There are different grades of rubber, out of these only 39 grades of natural rubber are directly consumed by the rubber consuming industry. The rest

are not consumable as such, which the rubber processors convert into marketable and readily consumable grades to the rubber industry by processing them in Crepe Mills. Now a licence has to be obtained from the Rubber Board to acquire rubber for processing and selling the processed rubber. Every person who wants to acquire rubber for processing and selling the rubber so processed, has to apply for a special licence in the Form B1* If the Board is satisfied with regard to the suitability of the applicant, it may issue a licence in the Form C1* The fee for a processor's licence is Rs. 100/- per year or a part thereof. Most of the big estate groups have their own rubber processing units. Rubber processors act as an important channel for marketing scrap rubber, low grade and ungraded rubber by converting them into consumable goods.

III. Developmental agencies in Natural Rubber Marketing

In the marketing field of any agricultural product, there are some developmental agencies which are working for the benefit of the producers and consumers. These agencies are mostly owned or controlled by the State for public interest. The main aim of such agencies is to avoid the exploitation of private agencies, whose main aim is profit making. With the twin objectives of protecting the producers and consumers, the government has constituted three developmental agencies. These agencies help the rubber producers to market their product and to get reasonable price to their produce.

Two main agencies acting as developmental agencies other than Rubber Mark in marketing natural rubber are:

1. The State Trading Corporation (STC)
2. The Rubber Board.

* vide Appendix

The State Trading Corporation (STC)

An important developmental agency in rubber marketing is the State Trading Corporation. It is a Central Government Institution which is engaged in rubber imports. Natural rubber production in the country was not up to the demand of the consumers. During 1992-'93 the total production was 3,93,490 MTS where the consumption was 4,14,105 MTS. This difference is met through imports. The imported rubber is essentially required to meet the requirements of the rubber goods industry during the lean months of February to August. On several occasions, inspite of adequate imports, the price touches dizzy heights largely on account of the non-availability of commodities in sufficient quantity. The following table shows the imports of natural rubber from 1978 to 1986.

Table : 5.7
Imports of natural rubber in India from 1978 to 1986

Year	Imports(lakh tonnes)
1978	0.15
1979	0.32
1980	0.01
1981	0.37
1982	0.46
1983	0.25
1984	0.38
1985	0.34
1986	0.56

Source: The Economic Times, Bombay, Thursday, January 2, 1987 p.7.

After 1986, the role of STC in importing natural rubber has been merely marginal, as rubber manufacturers have been allowed to import rubber under advance licence policy for export promotion of rubber goods.

STC and Domestic Rubber Procurement

The State Trading Corporation entered the domestic rubber market during 1985-86 for the purchase of RMA IV rubber to prevent further crash of rubber prices. The purchases are being made through the purchase depots of Rubber Mark. This is a bold step taken by the STC to prevent fluctuations in the price of natural rubber. However, according to market reports, rubber procurement by STC failed to lift prices in the open market during the close of 1986. But the situation changed from January 1987. For the stabilisation of the rubber prices the Kerala State Warehousing Corporation which has been procuring rubber on behalf of the State Trading Corporation had exceeded the stipulated quantity. The Warehousing Corporation had bought about 2,200 tonnes of RMA IV grade rubber and 1,000 tonnes of RMA V at Rs. 16/- per kg. and Rs. 15.5 per kg. respectively.

During the year 1989-90, the season started by early September and the market was flooded with rubber compelling the growers to resort to distress sales. Forecasting a future decline in price, the STC and Rubber Mark urged the Commerce Ministry for a market intervention to stabilise the price. Accordingly the Government of India was pleased to announce a market intervention scheme from February and the Rubber Mark procured 4,972 MT. of rubber under this scheme for STC.

The impact of the gulf war which started in January 1991, had its reflection on the sphere of industry from May, 1991 onwards and extended upto the end of the financial year 1991-'92. This set back of the consuming industry and the increase of rubber production resulted in a decline of price from September 1991. In order to avoid a distress sale situation, STC was advised for a procurement

operation and the Rubber Mark supplied 15,290 MTSs. STC's operation was confined to RMA-IV and V only and hence it could not achieve the desired objective raising the price to the bench mark level.

STC is playing a leading role in the price stabilisation and can be considered an important rubber marketing channel both in importing rubber from foreign sources and procurement of rubber from domestic market.

The Rubber Board

The Indian Rubber Board was constituted under the Rubber (Production and Marketing) Act, 1947. This Act was passed on the recommendations of an Adhoc Committee appointed by the Govt. of India in 1945, and came into force on 19th April, 1947. The Rubber Production and Marketing (Amendment) Act of 1954 made certain changes in the constitution of the Board and shortened its name to the 'Rubber Board.' This Act came into force on 1st August, 1955. The Rubber Act of 1947 was further amended by the Rubber Amendment Act 1960 which made certain alterations in the rate and procedure of collection of cess of rubber. It was again amended by the Rubber (Amendment) Act, 1982 to enable the Central Government to appoint a part time Chairman/whole time Chairman for the Board and an Executive Director on whole time basis (if considered necessary by the Central Government) to exercise such powers and perform such duties as may be prescribed or delegated to him by the Chairman. This Act came into force on 23rd October, 1982.

Functions

The functions of the Board as defined under the Act are:

1. To promote by such measures as it thinks fit the development of the rubber industry.
2. Without prejudice to the generality of the foregoing provision the measures referred to therein may provide for:
 - a. undertaking, assisting or encouraging scientific, technological or economic research:
 - b. training students in improved methods of planting, cultivation, manuring and spraying:
 - c. the supply of technical advice to rubber growers:
 - d. improving the marketing of rubber:
 - e. the collection of statistics from owners of estates, dealers and manufacturers:
 - f. securing better working conditions and the provision and improvement of amenities and incentives to workers and
 - g. carrying out any other duties which may be vested with the Board as per rules made under this Act.
3. It shall also be the duty of the Board:
 - a. to advise the Central Government on all matters relating to the development of the rubber industry, including the import and export of rubber:
 - b. to advise the Central Government with regard to participation in any international conference or scheme relating to rubber:
 - c. to submit to the Central Government and such other authorities as may be prescribed, half yearly reports on its activities and the working of this Act; and
 - d. to prepare and furnish such other reports relating to the rubber industry as may be required by the Central Government from time to time.

Constitution

The Rubber Board functions under the Ministry of Commerce of the Govt. of India. The Board has a Chairman appointed by the Central Government. He is the Principal Executive Officer responsible for the proper functioning of

the Board and implementation of its decisions and discharge of its duties under the Rubber Act.

There are 25 other members of the Board consisting of:

1. two members to represent the State of Tamil Nadu, one of whom shall be a person representing rubber producing interests:
2. eight members to represent the State of Kerala, six of whom shall be representing the rubber producing interest; three of such being persons representing the small growers;
3. ten members to be nominated by the Central Government of whom two shall represent the manufacturers and four labour:
4. three members of Parliament of whom two shall be elected by the House of the People and one by the Council of States:
5. the Rubber Production Commissioner of the Rubber Board (Ex-officio), and:
6. the Executive Director (Ex-officio).

One of the members is selected as Vice-Chairman. The Board meets periodically for transacting business. The committees are formed to scrutinise various matters and make recommendations to the Board. Besides the Executive Committee and the Research and Development Committee (Statutory Committees) the Board has 5 other committees viz. (1) Planting Committee, (2) Statistics and Import/Export Committee, (3) Market Development Committee, (4) Labour Welfare Committee and (5) Staff Affairs Committee.

Organisation

The Chairman is the Principal Executive Officer and exercises control over all departments of the Board. The activities of the Board are classified under seven departments viz. Administration, Finance and Accounts,

Rubber Production, Training, Research, Rubber Processing and Product Development and Statistics and Planning.

Marketing Division

The Marketing Division set up by the Board in 1986, is attached to the head office of the Board and functions under the direct control of the Chairman.

The basic functions of the Division are:

- a. Monitor, co-ordinate and provide technical support for Price Support Operation,
- b. Collection, compilation and dissemination of rubber prices and Natural Rubber Subsidy,
- c. Monitor, co-ordinate and provide follow up and liaison for export of natural rubber,
- d. Provide sales and marketing support to factories owned/promoted/assisted by the Rubber Board.

The division is headed by a Deputy Director (Marketing) and has three functional units under it, namely Marketing, Price collection and Monitoring and Quality Control. The Marketing Unit attends to all sales and marketing activities while the Price Collection Unit looks after all functions relating to rubber prices. The Quality Control Unit is responsible for Price Support Operation, Promotion of organised collection of latex and sheet rubber and imparting of training on quality improvement techniques.

One of the important objectives of the Rubber Board was to carry on research and development activities in natural rubber production. As a result,

the Rubber Research Institute of India (RRII) was set up in a modest way in 1955. By 1964, the Institute was in a position to undertake regular and co-ordinated research work. The Department of Rubber Processing was started in 1977 for implementation of the Rubber processing component of the Kerala Agricultural Development Project (KADP) which is financed by the International Association of the World Bank.

SCHEMES IMPLEMENTED THROUGH CO-OPERATIVE SOCIETIES

The Board has a number of schemes implemented through co-operative societies with the ultimate aim of increasing the production, improving the quality and marketing of rubber produced by small growers. The various schemes like share participation in the co-operatives, working capital loan to co-operatives and assistance to processing units are briefly explained below.

1. Share participation in the Co-operatives

The Rubber Board participates in the share capital of co-operative marketing societies by providing Rs. 2 lakhs or three times the paid up share capital of the member growers of the society whichever is less. A rubber marketing society which should become eligible for this assistance should have atleast 200 member growers with a paid up share capital of Rs.12,500/-.The share capital contributed by the Board has to be repaid in five equal annual instalments within a period of ten years, the first of such instalment falling due on the expiry of the 5th year from the date of disbursement of the share capital and subsequent instalments falling due on corresponding dates in the succeeding years. This paved the way for starting more co-operative societies in different parts of Kerala.

2. Working Capital Loan to Co-operatives

The Board has also a scheme for financing Co-operative Marketing Societies dealing in rubber for the benefit of small rubber growers. The maximum amount payable under the scheme is limited to Rs.2 lakhs or the amount equivalent to the own funds of the society minus accumulated loss, whichever is less. Only societies with a membership of 200 and a paid up share capital of Rs. 12,500 are eligible for this loan. The interest payable is 5 per cent. The loan has to be paid back within a period of ten years beginning with the second year of receipt.

The maximum amount thus payable to Co-operative Marketing Societies dealing in rubber by way of share capital contribution and working capital loan is further limited to the quantum of rubber marketed by the society during the previous year, i.e., at the rate of Rs. 1 lakh for every 250 tonnes of rubber marketed per year subject to the maximum of Rs. 4 lakhs by way of share capital contribution and working capital loan taken together.

3. Assistance to processing units

The Board has a scheme for giving technical and financial assistance to Marketing Co-operative Societies for establishing processing units for the production of technically specified rubber.

The scheme is to assist societies with share capital contribution at the rate of Rs. 2 lakhs and loan for setting up testing laboratory at the rate of Rs. 1 lakh. The rate of interest on the loan is $8\frac{3}{4}$ per cent per annum and the loan shall be payable in 10 equal annual instalments within a period of 15 years beginning with the fifth year of receipt.

The Rubber Board, in addition to the above services, carry on research and developmental activities in natural rubber production. The Rubber Research Institute (RRII) was set up by the Board in 1955. The Department of Rubber Processing was started in 1977 for the implementation of the rubber processing component of the Kerala Agricultural Development Project (KADP). The Rubber Board has recently set up a consultancy wing to give the existing and proposed new rubber based industries a package of technical assistance. This cell will study the technical problems faced by the existing rubber processing units apart from preparing feasibility reports and project reports for new units.

The Rubber Board in collaboration with three International Organisations namely, International Rubber Study Group (IRSG), Association of Natural Rubber Producing Countries (ANRPC) and International Rubber Research and Development Board (IRRDB) conduct various active works for the benefit of the rubber growers.

Insurance of Rubber Plantations

During December, 1988, M/s. National Insurance Co. Ltd. implemented a plantation insurance scheme for rubber through the Rubber Board. The perils covered under the insurance scheme are fire, fire resulting from explosion, lightning, bush-fire, forest fire, wind, storm, tempest, hurricane, flood, land-slide, hailstorm, rock slide and subsidence. The scheme originally covered only rubber plantations raised during 1988 under Board's Rubber Plantation Development Scheme. From June 1989, all immature plantations under RPD Scheme as well as mature plantations upto 22 years of age are also brought under coverage of the scheme. The insurance certificates are issued through Rubber Board Regional Offices. The Board has taken Master Policies on behalf of

rubber growers and issues individual certificates to participating growers. Claims will be investigated by the Board's Officers and eligible compensation collected from the insurance company will be passed on to affected growers.

The rate of premium for immature areas is Rs. 500/- per hectare irrespective of the year of planting to cover immaturity period of 1 to 8 years or part thereof and Rs. 473/- per ha. for mature areas to cover three year period.

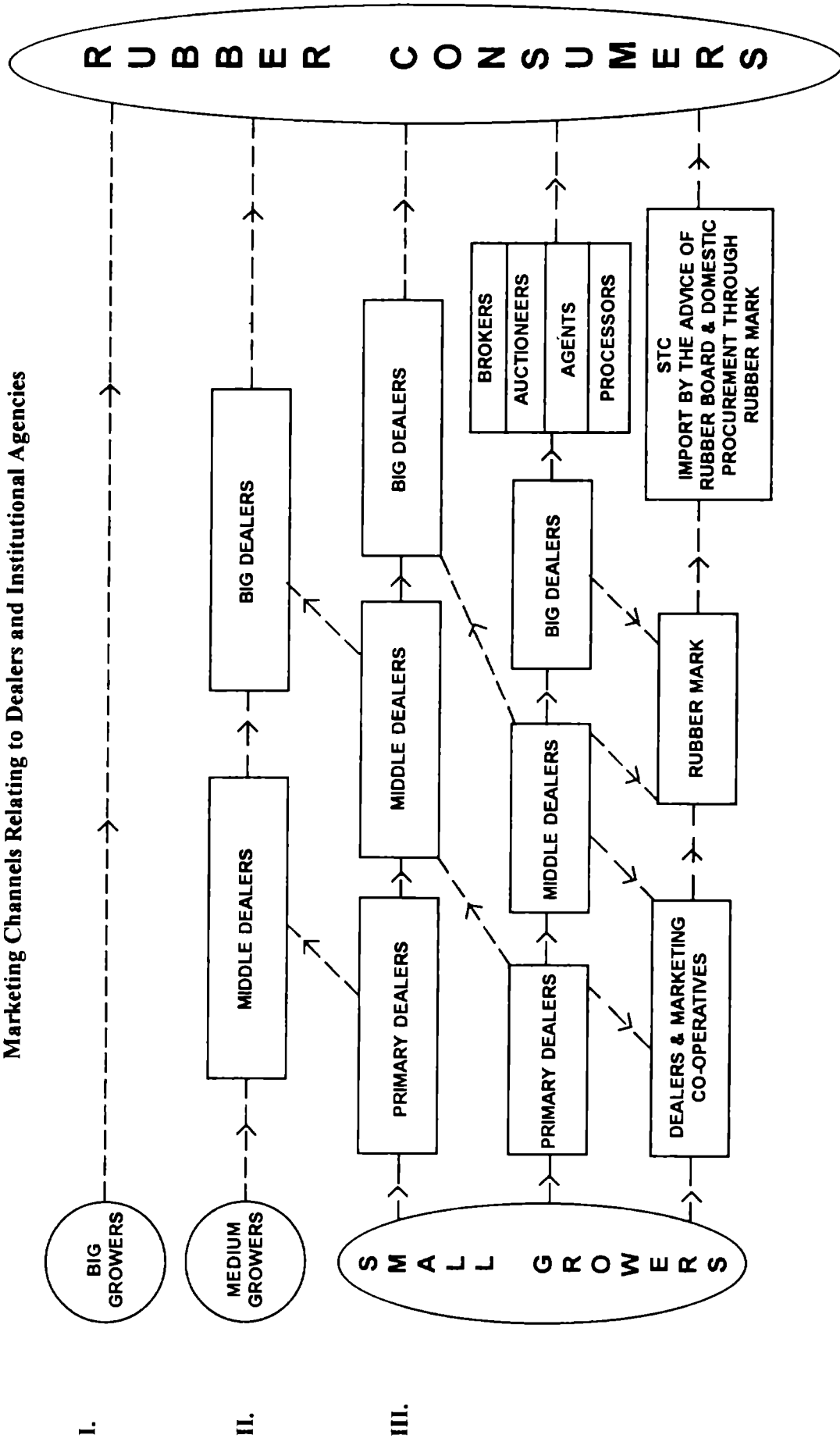
No salvage value would be deducted from the amount of compensation. For the newly planted rubber, the insurance claim takes effect after a waiting-in-period of one year when the area is insured during the first year planting and 30 days for areas insured in subsequent years. For immature rubber, the insured grower has to bear Rs. 250/- or 10 per cent of the loss whichever is higher and in the case of mature rubber this is 10 per cent or Rs. 1000/- whichever is higher.

Claim is settled assuming the stand. per hectare as 400. Hence compensation will be proportionately reduced for higher stands. Only irrecoverable losses will be compensated. M/s New India Assurance Company also is being inducted to undertake rubber plantation insurance.

On the whole the following flow chart shows the marketing channels relating to big, medium, small growers and institutional agencies.

FLOW CHART 5.2

Marketing Channels Relating to Dealers and Institutional Agencies



CHAPTER VI

**THE ROLE OF CO-OPERATIVE SECTOR IN
MARKETING OF NATURAL RUBBER**

Co-operation as a thought and system acts in harmony with man's right and need to form associations. It refers to an organisation of individuals for achieving a common objective by mutual help and collective effort. Co-operation is only a means to an end. The co-operatives play an important role in influencing the illiterate and poverty-stricken people towards social and economic change in terms of adoption of innovations.

The term 'co-operation' finds its origin from the Latin word 'co-operari' which means work. Today co-operation, means working together for a common purpose. Co-operation is an economic miracle of the last century. It is a voluntary and democratic association of human beings for the promotion of their common interest as producers or consumers. Level of co-operation can be local, regional, national or international. Co-operation is the essence of successful social, economic and political life. But during these days co-operation is being linked more with economic activities rather than any other aspect of life.

Co-operation acts as an organisational instrument for the economically weaker producers, farmers, workers and consumers for strengthening themselves against the exploitation by the stronger. It would be seen that co-operation plays a very crucial role in the social development of a nation. Emphasizing the importance of co-operation the renowned authors on co-operation Umesh and Anantha observed, “in working with others for the common good, man’s highest qualities are enlisted and developed and in the employment of these qualities the man himself becomes a better man and the quality of the human race is improved”¹.

Co-operation has been defined in slightly different ways by different authorities. It is due to its flexible nature that it can lend itself to a variety of purposes and adapt itself to widely divergent economic and social systems.

According to Herbert Calvert “Co-operation is a form of organisation wherein persons voluntarily associate together as human beings on the basis of equality for the promotion of economic interest of themselves”².

In the words of C.R. Fay, “a co-operative society is an association for the purpose of joint trading, originating among the weak and conducted always in an unselfish spirit on such terms that all who are prepared to assume the duties of membership may share in its rewards in proportion to the degree in which they make use of their association”³

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1. Patnaik. C. Umesh, Roy. K. Anantha, Co-operation and Co-operative Management, Kalyani Publishers, Ludhiyana 1988, p.14.
 2. Herbert Calvert, The Law and Principles of Co-operation, p. 19.
 3. Fay C.R., Co-operation, Home and Abroad, Rainbow Publications, 1986. p.15.

Co-operation puts all social tensions and disturbances to an end with the help of the spirit of love, affection and brotherhood. It improves the standard of living of people by providing them with proper education and training and by inculcating among them a spirit of co-operation. It is a special method of doing work jointly and it suits the poor more than the rich. The rich, however, are not precluded from coming within its fold.

PRINCIPLES OF CO-OPERATION

Co-operative principles are those practices which are essential to the achievement of the co-operative movement. Co-operative principles have been formulated on the basis of experience gained by the workers in the co-operative movement in various countries. The principles of co-operation are normally traced to 'Rochdale Pioneers' of England, who established their Equitable Society in 1844.

It was on the recommendation of a special committee of the International Co-operative Alliance that a formal recognition was given to the Co-operative Principles in 1937. The committee enumerated seven principles as open membership, democratic control, distribution of surplus in proportion to member's contribution, limited interest on capital, political and religious neutrality, cash trading and promotion of education.

The International Co-operative Alliance, on the request of the International Co-operative Congress held in 1963, appointed a Commission, under the Chairmanship of Mr. D.G. Karve of India with Mr. A. Bonner (England) Mr. Havard. A. Cavden (U.S.A) Prof. D.R. Henzler (Germany) and Prof. I. Istanov

(U.S.S.R) as members to formulate the fundamental principles of co-operation. The principles enunciated by the commission are⁴.

1. Voluntary, open and active membership
2. Democratic Control
3. Limited interest on share capital
4. Equitable distribution of surplus
5. Co-operative education and
6. Co-operation among co-operatives or mutuality.

CO-OPERATIVE MOVEMENT IN INDIA

The co-operative movement was started in India primarily as an alternative to the village money lenders. It has emerged out of that turmoil and dissatisfaction which prevailed during the last quarter of the 19th century. The enactment of the Co-operative Credit Societies Act 1904 was the first milestone in the co-operative movement in India. The object of this Act was to encourage saving-habits among poor people by setting up co-operative societies. Moreover, the registration as well as the cancellation of the societies under the Act involved a lengthy procedure and there was no provision for the establishment of non-credit societies. In order to rectify these shortcomings the government passed a comprehensive Co-operative Societies Act in 1912. With the enactment of this Act there was a hurried expansion in the number of societies together with their membership and working capital. Then the Government of India appointed a Committee on co-operation on 8th October, 1914 under the Chairmanship of Sir. Edward Maclagan to assess the progress of the movement.

4. Mathur B.S., Co-operation in India, Sahitya Bhavan, Agra, 1984, p. 23

This Committee recommended the present form of three tier system. During the period 1939 to 1946 co-operative movement made a rapid progress as a result of the second world war.

The partition of the country in 1947 resulted in communal riots and blood shed and it adversely affected the progress of the co-operative movement. The number of societies and their membership fell down considerably. The most important event in the history of the co-operative movement in India, since independence, was the appointment of the Rural Credit Survey Committee by the RBI in 1951. The first five year plan recognised co-operation as an indispensable instrument of planned economic action in the democracy.

The second five year plan was drawn on the basis of the recommendation of All India Rural Credit Survey Committee. During this period, the total number of all types of societies has increased from 2.4 lakhs to 3.32 lakhs. During the third plan period also the co-operative movement was accorded a crucial role in implementing the schemes of economic development. Based on the concept of growth with stability and social justice the fourth five year plan visualised a bright future for co-operatives. During the fifth five year plan also co-operatives were recognised as an institutional frame work to ameliorate the conditions of weaker sections. The sixth year plan has pointedly recognised the non-exploitative character of co-operatives. The seventh five year plan aimed at developing the Primary Agricultural Credit Societies as multipurpose viable units. The eighth five year plan gives emphasis on agricultural co-operatives and improving marketing of agricultural produce.

The co-operative movement in India is one of the largest in the world. Since independence it has progressively expanded in terms of membership and transactions.

THE CO-OPERATIVE MOVEMENT IN KERALA

The Kerala State came into existence in November 1956. The State has a total area of 38,863 sq. km.⁵, consisting of 14 districts, 61 taluks, 151 blocks and 1001 panchayats. Its geographical area consists of three parts namely the former Travancore and Cochin Princely States and Malabar Area of the former Madras Province. These three parts had their own co-operative societies Act. The Co-operative movement was started in the Travancore State only after the enactment of the Co-operative Societies Act of 1912.

The first Co-operative legislation in the former Travancore state was the Travancore Co-operative Societies Regulation of 1914. The first Co-operative society registered under the Act was the Travancore Central Co-operative Bank which was set up in 1915. The bank was formed with the object to provide financial assistance to primary societies when such societies were registered. Within a few years, many primary societies were registered. Most of them were on Raiffeisen model with unlimited liability. Soon it was realised that limited liability would be more suitable for the efficient working and provisions were incorporated in the Act for registration of such societies. In 1936, the Travancore Co-operative Societies Act was passed and that was in force up to 1951.

The Co-operative Society started at Edavanakkad as per the provisions of the Cochin Co-operative Societies Act 1913 was the first society of

5. The Manorama Year Book, Kottayam, 1994, p.162

the former Cochin state. A Central Co-operative Bank also started working at Trichur under which a number of credit and non-credit societies were registered. There was a supervising union to supervise and inspect the co-operative societies. There was also a unitary land mortgage bank which was working as the central land mortgage bank for the whole of the Cochin State.

Before the reorganisation of states, the present Malabar area was a part of the former Madras State. The Co-operative Credit Societies Act of 1904 which was replaced by the Co-operative Societies Act of 1912 was in force in this area up to 1932. When the Montague Chelmsford Reforms were introduced under the Government of India Act 1919, Co-operation became a provincial subject and accordingly the Madras Province passed its own Co-operative Societies Act in 1932. This Act was in operation in the Malabar area until the Kerala Co-operative Society Act was passed in 1969. The first co-operative society formed in Malabar area was Koduvayur Agricultural Credit Society registered in 1909.

After the merger of Travancore and Cochin States in 1949, it was found necessary to have a uniform co-operative law applicable to the entire Travancore Cochin State. Accordingly, the Travancore Cochin Co-operative Societies Act was passed in 1951 which was in force in the state until the enactment of the Kerala Co-operative Societies Act in 1969.

When the Kerala state was organised in 1956, two different co-operative laws were in operation i.e., the Travancore Cochin Co-operative Societies Act of 1951 in the Travancore Cochin area and the Madras Co-operative Societies Act of 1932 in the Malabar area. Hence the necessity for

a uniform legislation covering the whole of Kerala State was felt. Accordingly, the Kerala Co-operative Societies Act, was passed in 1969. This Act came into force on 15th May, 1969. To integrate the working of land-mortgage banks in the state, Kerala Co-operative Land Mortgage Bank Act was passed in 1960.

In the Kerala Co-operative Societies Act there is provision for State partnership and government nomination in the management of Co-operative Societies other than at the primary level. Under the Act, Circle Co-operative Unions and State Co-operative Union were formed. Although necessary amendments are made in the Act, there is a clamouring on the part of co-operators for the enactment of a new Co-operative Societies Act to suit the changed economic and social conditions in the state.

MARKETING CO-OPERATIVES

With the commercialisation of agriculture, efficient marketing is as necessary as scientific agricultural operations. The income of the farmers depends, to a large extent, on the marketing of their produce at a fair price. In this regard, to a farmer, a marketing co-operative is very important. The marketing societies are organised by the farmers with the object of undertaking all types of marketing on efficient lines in such a way that the producers secure the best price for their produce.

Co-operative marketing has a wider meaning than it is popularly known to have. It represents not only the sale of the commodity in the markets, but also includes all the stages and the processes that the produce has to undergo to reach the consumer. It includes various services rendered by co-operatives such as

transport, grading, storage, warehousing, processing and packing. The successful marketing requires not only quality product, but also knowledge of markets and the way prices changes. Such knowledge proves useful to farmers, merchants and consumers alike.

Co-operative marketing is the system by which a group of producers join together to carry on some or all the processes involved in bringing goods from the producer to the consumer. According to the Reserve Bank of India “a marketing society is a co-operative association of cultivators formed primarily for the purpose of helping the members to market their produce more profitably than is possible through private trade.”

The objective of co-operative marketing is raising the income of their members through securing higher prices for their goods without raising the price to the consumer. Marketing co-operatives can adopt a number of ways to raise the incomes of their farmer members. They can provide credit to members on the security of their produce and thus give them the necessary holding power, they can arrange for the storage and grading of their produce which results in higher prices; they can introduce the system of pooling which improves price prospects of farmer members who sell their produce, they can eliminate unnecessary middlemen and absorb their profits and reduce marketing cost by eliminating trade abuses. Similarly marketing co-operatives can reduce the cost of supplies and equipment to their members through purchasing them co-operatively⁶.

STRUCTURE OF CO-OPERATIVE MARKETING

The co-operative marketing structure in India presents a pyramidal structure. At the bottom level or base, primary societies are operating, at the

6. Philips. C.F. and Duncan D.J., Marketing Principles and Methods, 1976, p. 42

intermediate level, the central or district co-operative marketing societies are functioning, and at the state level co-operative marketing federation. Besides, at the national level the National Agricultural Co-operative Marketing Federation (NAFED) is there. Thus it has a three tier structure. Co-operative marketing structure in Kerala has a two tier one, with Apex Marketing Society at the state level and Primary Marketing Societies at the base level.

PRIMARY MARKETING CO-OPERATIVES

Primary Marketing Co-operatives are those which are operating at the village and taluk level. The members are generally small growers. Membership of a primary society consists of individual farmers, service co-operative societies in that area and the state government. Membership is given to service societies because they serve as collecting centres.

These co-operatives will be either buying agricultural produce or acting as agents for the farmers, to sell the produce on behalf of them. They sell the produce of the members directly to consumers or industrial users. They make advance of loans to members on the security of their produce. They also provide manures, fertilizers, agricultural implements, planting materials etc. to the members.

In order to help the members to secure fair and remunerative price for their produce, a variety of market practices are being followed by these societies. Some major types are the following:

1. Outright purchases

Under this practice the marketing society makes outright purchases from the producer and waits for the most favourable price to prevail in the market for disposal. This price advantage is finally handed over to the members.

2. Commission Agency System

The most popular marketing system is to sell the produce of the members as and when it comes to the market by open auction. Immediately after sale, price is paid to the members. Under this system, the society is acting as an agent and gets a nominal commission.

3. Advances Against Stock

Lack of waiting capacity is the most serious marketing problem faced by small producers. The small producers have to sell their produce immediately after harvesting, when the market prices are very low. Co-operative Marketing Societies allow the members to store their produce in the godowns of the society and give them advance against the security of the produce, for meeting their essential requirements. When the prices increase, the society sells the produce and pay the balance after deducting the advance given earlier. This system involves no risk for the society. It gives necessary holding power to the cultivators and ensure better prices to them.

The primary marketing societies do the grading and standardisation of the produce of the members. This will help the farmers in selling quality goods at better prices. With the financial assistance of the Central Warehousing Co-operation most of them have constructed godowns to facilitate the storage of the agricultural produce. Some of them have even set up processing units.

A primary marketing society raises funds mainly by way of shares from members and Government. The other sources are deposits, loans from district co-operative banks and SBI, reserves, grants and subsidy from the state Government.

CENTRAL MARKETING CO-OPERATIVES

Above the primary co-operatives operating at the village level, there are central or district marketing societies at the district or regional level. They are engaged in the task of buying and selling and extending credit facilities to primary societies. They are also called 'Unions'. The members of these societies comprise primary co-operative societies as units and individuals from a particular district. Central or district marketing co-operatives act as the connecting link between the primary societies at the bottom and apex or state co-operatives at the top.

STATE MARKETING SOCIETIES

These are apex institutions for co-operative marketing societies operating in a state. It is the federation of primary marketing societies of all types. Its area of operation is the whole of a state. Membership of the state marketing society is given to primary marketing societies and the State Government. They buy from the growers in wholesale. They undertake the task of granting credit facilities to the needy and deserving primary or central co-operatives. These societies have to act as the lender of the last resort. In addition, the state marketing co-operative society is expected to co-ordinate the activities of different societies at the primary level and bring out, an overall, sound development of the co-operative structure. They are also at commanding heights to watch the activities of the primary and central or district co-operatives.

The funds of the federation consist of share capital, reserves, loans from SCB and SBI and grants and subsidies from government and NABARD.

The interstate trade of agricultural commodities is handled on a large scale by the State Co-operative Marketing Federations. The main agricultural commodities dealt with are food grains, plantation crops, jute, cotton, oil seeds, fruits and vegetables.

NATIONAL AGRICULTURAL CO-OPERATIVE MARKETING FEDERATION (NAFED)

At the all India level there is an organisation called NAFED to assist the marketing co-operatives in the states to develop their marketing business. NAFED which was organised in 1958, represents the entire marketing structure at the national level. It is an apex organisation of marketing co-operatives at national level. The membership of the federation consists of 29 state co-operative marketing federations, including the federations in union territories. The National Co-operative Development Corporation is also a member of NAFED. NAFED was established with its headquarters at New Delhi with the object of co-ordinating and promoting the marketing and trading activities of its members in agricultural and other commodities. Its main objectives are

1. To make arrangement for the supply of agricultural requirements to its members.
2. To promote interstate and international trade in agricultural and other commodities.
3. To render advice and technical guidance to its members.

Apart from the Government, there are certain institutions which render support and help to the co-operatives in the country. NABARD and NCDC are two such institutions.

NATIONAL BANK FOR AGRICULTURE AND RURAL DEVELOPMENT (NABARD)

The National Bank for Agriculture and Rural Development was set up by the Government of India under an Act of the Parliament in 1982. This bank was set up on the recommendations of CRAFICARD - a Committee set up by the Government of India to review arrangements for institutional credit for agricultural and rural development. The main aim of NABARD is to provide financial assistance for the promotion of agriculture, handicrafts, small scale industries etc. in rural areas. NABARD covers a wide range of integrated rural development by ensuring timely, suitable and adequate credit for short, medium and long terms through all the concerned banking institutions, the objective being an all-round development of the rural population. NABARD is now giving long term loans to state governments from its National Rural Credit (Long Term Operations) Fund for the state participation in the share capital of co-operative institutions.

NATIONAL CO-OPERATIVE DEVELOPMENT CORPORATION (NCDC)

The National Co-operative Development Corporation was set up in 1963 by the Government of India by a special Act. The headquarters of the Corporation is New Delhi. The NCDC is a successor of the National Co-operative Development and Warehousing Board, established by the Central Government in 1956. It is mainly engaged in the planning and promotion of co-operative production, marketing, processing and storage and also export and import of agricultural commodities and notified commodities.

The NCDC is helping the Processing Societies in many ways to set up processing units. The Corporation circulates 'Model Blue Prints' of co-operative processing units by giving managerial subsidy, share capital contribution, loans and grants for the construction of godowns etc. The NCDC provides funds through the State Government for the construction of godowns and also for the construction of cold storages.

RUBBER MARKETING CO-OPERATIVES

Origin and development

The organisation of small rubber growers into co-operatives has been attracting the attention of the Govt. and the Rubber Board since the fifties of this century. As there are many agencies involved in the conventional marketing system, there will be deduction at each level which is normally termed as 'marketing margin.' In India more than 90 per cent of the small holders own less than two hectares of land under rubber cultivation. As the small holders are widely scattered, it is very difficult to adopt scientific cultivation, processing and marketing methods effectively. In order to increase productivity and reduce the cost of production, these small holding sectors have to be organised on a co-operative basis. Above all a reasonable price can also be realised if there is the existence of co-operatives.

The raw latex obtained from the rubber tree can be marketed only after necessary processing. However, as the processing of latex into smoked sheets is done by the grower himself and not much attention is given by the Rubber Board for organised processing in the earlier periods. During the early 1950's, there were limited co-operatives on experimental basis for the processing of the latex of the growers. This idea was dropped due to lack of adequate support and co-operation from small growers⁷ But 1950 is considered as the land mark in the origin of co-operative rubber marketing.

⁷ Report of Plantation Enquiry Commission, Ministry of Commerce, Government of India, 1956, p.p. 105-108

In the early 1950's, the Rubber Board appointed Shri. D.V. Reddy to make a detailed study of the marketing and other problems of the industry⁸. By the end of 1950, Shri. Reddy submitted his report. The Board made detailed discussions on the report and came to the conclusion that centralised co-operative marketing was unnecessary and agreed to the proposal of starting co-operative smoke houses for the processing of latex of small growers. But later on, the idea was dropped as the small holders were pessimistic about such a move.

In 1954, the Rubber Board appointed a Committee to examine the scope of establishing co-operative marketing societies. The Committee found that the small growers were not in need of such co-operatives. The Rubber Board, therefore, was forced to wait for the initiatives on the part of the growers for setting up such co-operatives. Unfortunately it did not happen⁹

The Plantation Enquiry Commission (1956) examined the situation in detail and came to the conclusion that co-operative marketing societies should be formed with co-operative supply and banking services. The functions of such marketing societies were also envisaged by the Commission. In 1958, the Government of India accepted the recommendations of the Commission.

Subsequently in order to promote the growth of Rubber Marketing Co-operatives, the Rubber Board obtained the services of a Deputy Registrar from the Department of Co-operation, Kerala Government, in 1960. Thanks to the concerted effort of this officer, a few societies were set up.

8. Ibid

9. Report of the Plantation Enquiry Commission, Ministry of Commerce, Government of India, 1956, p.p. 119-121

The first few societies established were the 'Trivandrum District Rubber Planters Co-operative Society', the 'Ranny Marketing Co-operative Society' and 'Kozhikode District Co-operative Rubber Marketing Society' Later more societies were registered in Kottayam District. The major societies in this district are the Kanjirappally Co-operative Rubber Marketing Society, the Palai Rubber Marketing Society, the Meenachil Rubber Marketing Society, the Kaduthuruthy Rubber Marketing Society, and the Changanacherry Rubber Marketing Co-operative Society Ltd.

Gradually more societies have been set up and at present there are 35 marketing societies dealing in rubber. The widespread growth of co-operative marketing societies during that period was on account of the support given by the Rubber Board. To get the rubber growers attracted to the co-operative movement, the Rubber Board chalked out some schemes for implementation through co-operative societies with the aim of making the benefits under the schemes available only to the members of the co-operatives. The decision of the Rubber Board to route new schemes on share capital contribution, working capital loan, financial assistance for the production of Technically Specified Rubber (TSR) and existing schemes like spraying subsidy, manure subsidy, loan for purchases of rollers and so on, through co-operatives gave further impetus for the development of rubber marketing co-operatives all over Kerala.

RUBBER PROCESSING CO-OPERATIVES

Processing of agricultural produce is essential for profitable marketing. Processing implies the transformation of products from their raw state to usable form. It increases the value of the products and makes it possible to retain them

for longer periods. It ensures their steady supply throughout the year. But the individual farmers cannot undertake it owing to limited resources. The growers can derive all the benefits of processing, if they co-operatively own the processing unit. In order to achieve these benefits rubber processing co-operatives are organised.

Natural rubber is a strategic raw material needed both in war time and peace time. The crop collected from the plantations consists of rubber latex which contains about 30 to 35 per cent dry rubber and scrap rubber. The ratio of latex to scrap rubber in a typical plantation is 80:20 based on the dried rubber content. The latex and scrap collected from the plantations have to be processed into various forms for efficient use in the manufacturer of different rubber products.

ORIGIN AND GROWTH OF RUBBER PROCESSING CO-OPERATIVES

The idea of centralised processing is not new. The Plantation Enquiry Commission Report (1956), stressed the need for co-operative smoke houses and processing societies¹⁰. Though the Govt. accepted the recommendations of the Commission in 1958, the Rubber Board proceeded with the implementation of the recommendation connected with the formation of rubber marketing co-operatives. The formation of processing co-operatives was not given much emphasis because of the non-response from the growers.

However, the Board chalked out schemes for the distribution of sheeting rollers on easy hire purchase terms and for construction of small low cost smoke

10. Ibid

houses in small holdings, subsidising 50 per cent of the cost arranged through marketing societies. The response of growers to both these schemes have not been satisfactory¹¹.

During early 1970's, due to the recession in the manufacturing sector, India became a surplus natural rubber producing country. Consumers began to prefer high quality rubber. Quality aspect became more prominent due to export orientation of the surplus natural rubber production. Therefore, at the initiative of the Rubber Board, Marketing Co-operatives, for the first time in 1971-'72 came forward with the proposal of starting rubber processing units. During the co-operative year 1972-'73, two co-operatives undertook processing of rubber and processed 3,300 quintals of rubber valued at Rs. 11.41 lakhs¹².

During the same year, National Co-operative Development Corporation (NCDC) approved schemes of the Meenachil Taluk Rubber Growers Marketing Society and Palai Marketing Co-operative Society, and sanctioned under its Central Sector Scheme Rs. 12.68 lakh and Rs. 9.99 lakhs respectively for the establishment of the units for the manufacture of centrifugal latex and solid block rubber. These two societies are the two prominent societies in Kottayam district engaged in the marketing and processing of natural rubber.

The movement got a boost when the Department of Rubber Processing was started by the Rubber Board in 1977 for implementing the Rubber Processing Component of the KADP financed by the International Development Association of the World Bank. The Department operates the Bardi Pilot Crumb Rubber Factory established in 1976. Besides discharging duties connected with the

11. Hand Book of Natural Rubber Production in India, Rubber Board, Kottayam, 1980, p. 553.

12. Annual Report 1973-'74, National Co-operative Development Corporation.

implementation of the KADP factories, the Department undertakes works of related interest such as planning and implementation of other processing projects, offering advisory and training services and assisting co-operative departments of the State Govt. and Co-operative Societies towards improving the coverage and effectiveness of co-operative movement in the integrated service of small rubber growers.

The rubber processing component of the World Bank aided KADP, originally envisaged the expansion of Solid Block Rubber Factory of the Palai Marketing Society into a 10 tonnes per day capacity unit and the setting up of a new co-operative factory of 10 tonnes per day capacity each by 1985. These factories were intended to convert 25,000 tonnes of small holder rubber into solid block form by 1981¹³. However, so far only six such factories have been commissioned and started commercial production. Out of this, the Palai Marketing Society even exports high quality block rubber to foreign countries on a limited scale.

There are only 52 processing units in the co-operative sector in the State. Out of this, there are six rubber factories and two centrifugal latex factories in the co-operative sector for processing small holders' rubber. The Crumb Rubber factory owned by the Muvattupuzha Taluk Rubber Marketing Society and Thodupuzha Co-operative Rubber Marketing Society were commissioned in January 1987.

The Crumb Rubber Factories set up by Kerala State Co-operative Rubber Marketing Federation, Palai Marketing Society and Calicut Rubber Marketing Society are in full stream. The centrifugal latex factories of the

13. Hand Book of Natural Rubber Production in India, Rubber Board, Kottayam, 1980, p. 543.

Kaduthuruthy Rubber Marketing Co-operative Society and the Meenachil Rubber Marketing Co-operative Society are also in full production. The Hawaii chappels manufacturing unit of the Kanjirappally Rubber Marketing Society is under production. The following table shows the number of societies and the quantum of natural rubber marketed by them from 1979-'80 to 1993-'94.

Table 6.1
Number of Societies and Quantum of Natural Rubber
Marketed by Co-operatives

Year	No. of Society	Rubber marketed in Tonnes
1979-'80	50	10,200
1980-'81	53	9,336
1981-'82	54	11,067
1982-'83	58	11,077
1983-'84	59	11,984
1984-'85	60	12,960
1985-'86	62	21,036
1986-'87	116	24,651
1987-'88	116	25,781
1988-'89	118	31,246
1989-'90	118	30,413
1990-'91	125	29,285
1991-'92	146	48,665
1992-'93 (P)	146	34,260
1993-'94 (P)	219	50,719

Source Indian Rubber Statistics Vol. 20, Rubber Board, Kottayam
(P) Provisional

The following diagrams show the number of societies and the quantum of natural rubber marketed by them from 1989-'90 to 1993-'94.

Diagram - 6.1 Number of Rubber Marketing Societies from 1989-'90 to '93-'94.

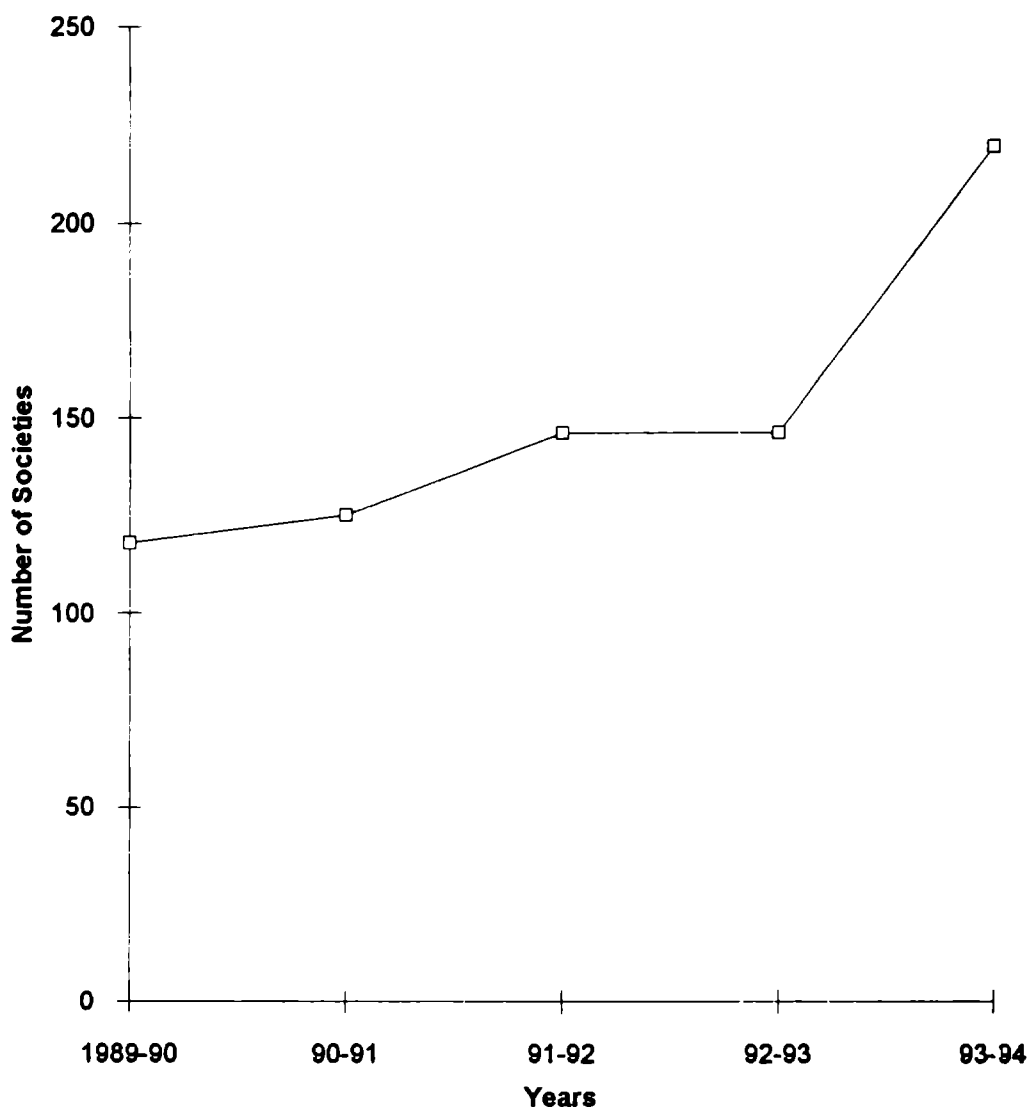
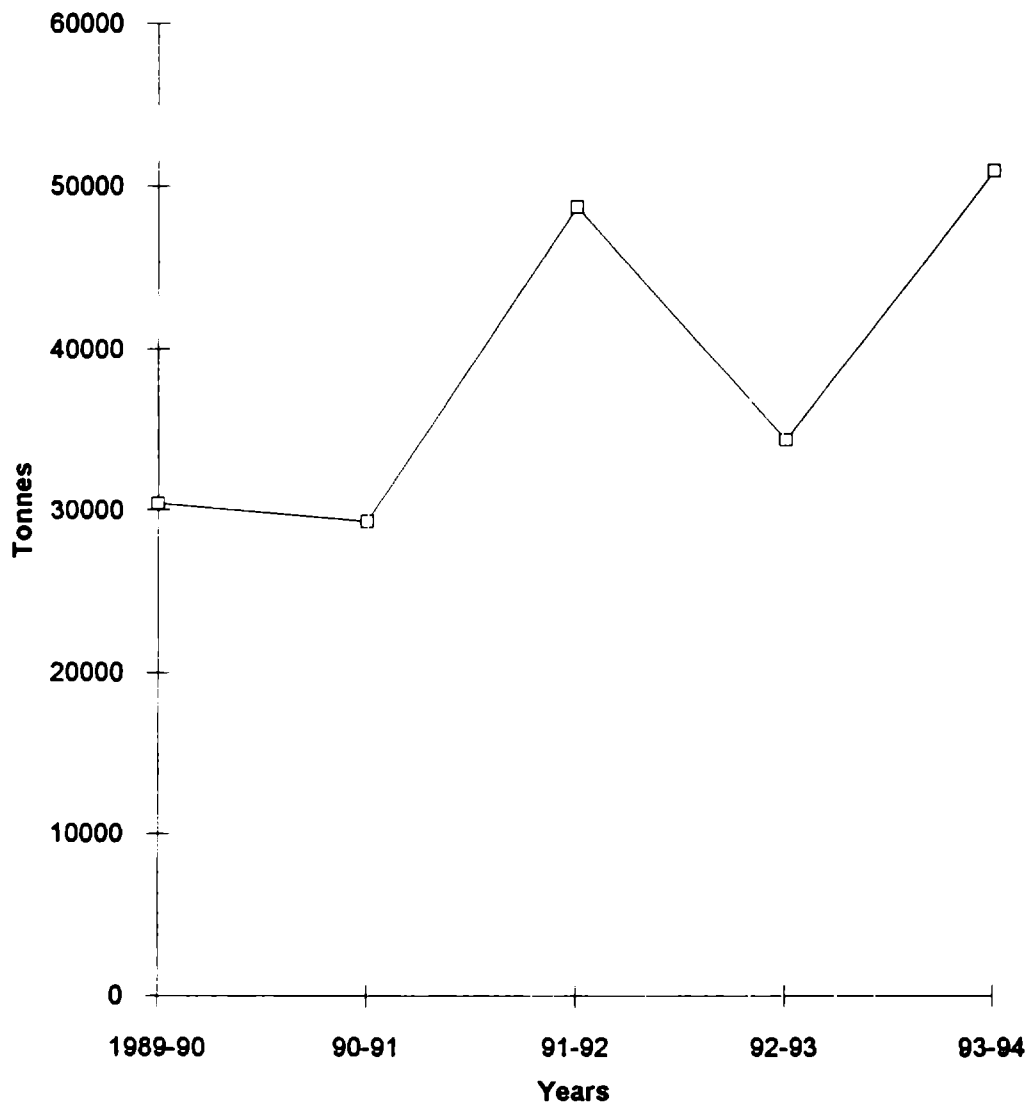


Diagram - 6.2 Quantum of Natural Rubber marketed by co-operatives from 1989-'90 to '93-'94.



In the year 1979-'80 the number of Co-operative Societies dealing in rubber was only 50 and the total quantity of rubber handled by them was 10,200 tonnes. During the last 15 years, the number of societies has increased by more than 4 times and quantity of natural rubber handled by more than 5 times.

The Regional Agro Industrial Development Co-operative Ltd. (RAIDCO), a co-operative institution for the distribution of agricultural tools and instruments like power tillers, pump sets, sprayers etc. to cultivators also helps the small rubber growers in getting agricultural tools and implements.

RUBBER MARKETING SOCIETIES IN KOTTAYAM AND PATHANAMTHITTA DISTRICTS

In Kottayam district, private rubber dealers play a vital role in the marketing of natural rubber. They purchase raw sheet rubber from small producers and sell the product to big and wholesale dealers in Cochin and Kottayam markets. The big and wholesale dealers have got large godowns and they can stock the rubber. They normally release the rubber sheets, when the prices are up, as per the needs of the big rubber-goods manufacturers located in Bombay, Delhi, Calcutta and Madras.

There is the existence of a long chain of agencies in between the rubber producers and rubber consumers. As a result of this, the producers are not in a position to get reasonable price for their product. The 'in between agencies' make profit and the producers may not get the remunerative price prevailing in the market.

The small rubber growers do not have either collective bargaining power or alternative agencies to depend on. Moreover, most of the small producers do

not know how to process their latex in a scientific manner so as to get the best quality product. This paved the way for undergrading of rubber and finally the producers are not in a position to obtain a reasonable price for their produce. Such is the condition prevailing in most part of the districts of Kottayam and Pathanamthitta, so far as small growers are concerned.

The existence of too many middlemen in any field is quite unscientific. Therefore, their number and role should be minimised to the optimum level. In order to avoid the hardship of the rubber producers, certain rubber producers took initiative for the establishment of co-operative societies in the field of rubber marketing in Kottayam. The Meenachil Rubber Marketing and Processing society is the first society formed in the district, exclusively for rubber marketing. At present there are four other societies which deal in rubber exclusively. They are:

1. The Kaduthuruthy Rubber Marketing Society, Kaduthuruthy.
2. The Changanacherry Rubber Marketing Society located in Karukachal.
3. The Kanjirappally Rubber Marketing Society located in Kurishukavala and
4. The Kottayam Rubber Marketing Society located in Kanjikuzhy.

These rubber marketing societies purchase rubber mainly in the form of latex and rubber sheet from the producers. The societies have got large godowns and other facilities to preserve rubber. Most of the societies have factories of their own. As a result, they can process the raw product into crepe or some other value added form and sell it to industrial consumers at the maximum price. The member producers share the profit of the proceeds and thus they are protected from the exploitation of intermediaries.

Apart from these five societies which are formed exclusively for rubber marketing there are three other societies which are formed for general purposes undertake rubber marketing also. They are:

1. The Palai Marketing Co-operative Society.
2. The Monippally Marketing Co-operative Society and
3. The Ponkunnam Marketing Co-operative Society

These societies purchase various agricultural products like copra, pepper, cocoa etc. But at present, raw rubber and other byproducts are the major items handled by these societies.

The working of the premier Rubber Marketing Society in Kottayam district, the Meenachil Rubber Marketing and Processing Co-operative Society Ltd., is worth examining, in order to get a bird's eye view of the functional performance of co-operative sector as most of the other societies are organized on the same footing of this one.

THE MEENACHIL RUBBER MARKETING AND PROCESSING CO-OPERATIVE SOCIETY LTD.

Formation

The Meenachil Taluk Rubber Marketing and Processing Society was registered in March 23, 1960 and it began to function in June 30, 1960. It was formed by 29 rubber growers. The name of the society at its formation was 'Meenachil Taluk Rubber Planter's Co-operative Society'¹⁴ The initial share capital was Rs. 640/-.

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The society was formed primarily with a view to propagating rubber cultivation in Meenachil Taluk. For this purpose the society adopted certain principles like the insistence on the planting of high yielding varieties of seedlings, identification and segregation of such varieties and propagation of rubber through modern planting techniques and so on.

Objectives

The major objectives of the society can be summarised as follows:

1. To ensure reasonable price to rubber growers for their products.
2. To save the member growers from the exploitation of middlemen.
3. To give necessary technical and financial assistance to the rubber producing societies.
4. To supply chemical fertilisers, pesticides and other implements to growers at reasonable prices; and
5. To supply standard quality 60 per cent concentrated centrifuged latex and skim crepe to industrialists.

Share Capital

The capital of society is Rs. 2 crores which is divided into 20 lakh shares of Rs. 10 each. The value of each share has to be fully paid up at the time of taking the share. The share holder should have completed the age of 18; and he should have soundness of mind. The person intending to take share should have property, employment or residence in Meenachil Taluk.

The Rubber Board and State Government have the right to take shares in the society. Each individual member should hold at least one share. But no individual member is allowed to hold more than 500 shares. Each individual member should pay Rs. 50/- each per share as entrance fees. The Rubber Board

and the State Government are exempted from the payment of entrance fees. No member is allowed to withdraw his share before the expiry of 3 years.

WORKING CAPITAL OF THE SOCIETY

The Director Board has the right to borrow money from the members, District Co-operative Bank, companies registered under the Companies Act or from the Rubber Board, for its operations. The interest on such borrowings should not exceed 10 per cent. This percentage may be increased with the prior sanction of the Registrar. Thus the society can collect its operating funds from the following sources:

- a. Sale of shares
- b. Acceptance and deposits
- c. Borrowings
 - (i) From members
 - (ii) Registered companies
 - (iii) District Co-operative Bank or
 - (iv) Any other agencies with the prior sanction of the Registrar
- d. Acceptance of debentures
- e. Entrance fees.

The borrowings of the society should not exceed 30 times of its paid up capital and reserves.

Working

In order to achieve the objectives of the society, from the formation onwards, it has been rendering yeoman services to members. In order to propagate rubber cultivation in the Taluk, the society conducted various seminars,

conferences and study classes to rubber growers. High yielding varieties of seeds and plants were distributed by the society. The society started a rubber nursery in 1963, and supplied H.Y.V. plants at subsidised price. Besides this, necessary inputs like fertilisers, pesticides like copper sulphate etc. were supplied to rubber growers at concessional rates. The society's nursery was the first one recognised by the Rubber Board¹⁵

In 1965, two smoke houses were constructed by the society to process the raw rubber in a more scientific way. For this purpose, the Rubber Board gave necessary technical and financial assistance. By this facility the society is able to produce high grade rubber.

In 1969, a crepe mill was started by the society. The Rubber Board contributed Rupees one lakh for this venture. In 1968, the name of the society was changed to 'Meenachil Taluk Rubber Growers Marketing Co-operative Society' because majority of the members are small and medium rubber growers residing in the region. In course of time, two sales depots were opened in Meenachil Taluk, one at Palai town and another at Erattupetta.

In 1973, the centrifugal latex factory situated near the premises of the Head Office was started. By this, the name of the society was again changed to 'Meenachil Rubber Marketing and Processing Co-operative Society' in March 1975. At present the society has more than 50 latex collection depots. It also supplies fertilisers specially meant for rubber, formic acid, pesticides, rainguard materials, aluminium dishes and rubber coat to its members at reasonable price.

15. Ibid

The functioning of most of the marketing societies in Kottayam district is more or less in the same way as that of the Meenachil Rubber Marketing & Processing Co-operative Society.

In Pathanamthitta district, the three main rubber marketing societies are the Ranny Marketing Co-operative Society Ltd., the Adoor Taluk Co-operative Society Ltd., Koodal and the Konny Co-operative Rubber Marketing Society Ltd. Among this the Adoor Taluk Co-operative Society Ltd. is extending various financial and non-financial assistances to members like supply of fertilizers, formic acid, pesticides, rainguard materials etc. at reasonable price. This society has rubber collection depots in the major rubber producing belts in the district.

NEW TREND IN RUBBER MARKETING BY CO-OPERATIVES

A new trend in co-operative rubber marketing in Kottayam district is that the Co-operative Service Banks are also involved in rubber marketing. The Koovappally Service Co-operative Bank Ltd. is an ideal example for this. The bank took the dealership in 1986. The area of operation of this bank is spread over 9, 10 and 11 wards of the Parathodu Panchayat. The total number of members now is 4,275. The activities of the bank include banking, consumer store, fertiliser depot, maveli store, textiles and rubber marketing.

The main achievement of this bank is marketing of rubber sheets by grading. They procure rubber for STC and now the bank acts as an agent for procuring rubber to M.R.F. Discussions with the Bank Officials revealed that 95 per cent of the small growers in this region are selling their produce to this bank. Some small and middle dealers are also selling their produce to this bank. The bank even purchases the rubber procured by Kanjirappally Rubber Marketing Society. The following table shows the details of rubber trading by the bank.

Table 6.2
Rubber Trading of Koovappally Service Co-operative Bank Ltd.

Year	RSS. 4 (Metric Tons)	RSS. 5 (Metric Tons)	Total (Metric Tons)
1990-'91	800	42	842
1991-'92	890	54	944
1992-'93	906	40	946
1993-'94	897	99	996

Source Bank Records.

The bank is also engaged in various service activities like conducting discussions regarding grading of rubber, tapping system, manuring, storing and so on. The total sales turnover of this bank is around Rs. 2.75 crores per year.

In Pathanamthitta district also, the co-operative rubber marketing societies are functioning satisfactorily. In this region, the new trend is, starting of joint ventures. The Pamba Rubber (P) Ltd. is a joint venture owned by the Rubber Board, Govt. of India and rubber growers societies. This type of joint ventures increased the morale of rubber growers' societies as they can directly depend on them. The Pamba Rubbers (P) Ltd. started its operation on September 9, 1991. The company is engaged in the processing of rubber and in agency business. The company processes latex and does business in selling crumb rubber, latex, sheet rubber and formic acid.

The big tyre companies like Apollo Tyres Ltd., Goodyear India Ltd., Modi Rubber Ltd., Modistone Ltd., Hartex Tubes and Tyres Ltd., Ralson Industries Ltd., are the main customers of this company. The company now produces various grades of rubber in I.S.I. mark.

The company is doing agency business with Ralson Industries Ltd., and transacts business of Rs. 40 lakhs per month. The Pamba Rubbers is going to float a new subsidiary called Malayalam Rubber Trading and Finance Co. (P) Ltd., to improve the agency business. The following table shows the turnover of the company on various types of products.

Table 6.3
Product-wise turnover of Pampa Rubbers (P) Ltd.

Items	1992-'93 (in lakhs)	1993-'94 (in lakhs)	1994-'95 up to Sept. (in lakhs)
Crumb	73.940	283.880	387.970
Latex	73.130	146.680	75.580
Sheet	53.290	70.820	36.840
Acid	3.167	3.510	1.570
Rubber buds	0.130	0.001	—
Others	0.198	0.521	28.891
Total	233.855	505.412	530.851

Source Company Records.

The Rubber growers in Trivandrum district and Quilon district started a joint venture under the name Ponmudi Rubbers (P) Ltd., for processing and marketing of rubber with the help of Rubber Board and the Government. The company was started on 9th November, 1994 at Meenmutti. There are 47 Rubber grower's co-operatives covering around 6,000 small rubber cultivators associated with this company.

SMALL HOLDER DEVELOPMENT CENTRES

In order to facilitate the smooth working of the co-operative rubber processing factories, the Rubber Board organised three small holder development

centres on a pilot basis in the early 1980's through which crop collections were arranged. At these centres, the collection of latex and scrap rubber is linked with efforts towards modernisation of small holdings through the provision of a package of services. The centres function under the co-operative marketing societies which buy rubber for central processing. The Rubber Board gives comprehensive assistance for establishing and maintaining the centres.

RUBBER PRODUCERS' SOCIETIES (RPSs)

One of the most important weaknesses found in the functioning of rubber marketing and processing co-operatives is that they do not meet the needs of the small growers in the villages. As these co-operatives are operating in the Taluk headquarters, the village level small growers cannot have easy access to them and they find it difficult to reap the benefits of organised processing and marketing.

Inspired by the success of the small holder development centres and with the objective of relieving the small holders from the hardships suffered in the processing and marketing of their produce, the Rubber Board launched a massive programme in 1987 for organising Rubber Latex Collection Centres in village areas modelled on the 'AMUL' pattern successfully functioning at Anand in Gujarat. These centres are registered as Rubber Producers' Societies and linked to one of the larger marketing and processing societies functioning in the Taluk. These Rural Latex Collection Centres in the villages are being fully managed by the rubber producers themselves under the over all guidance of the Rubber Board.

FORMATION OF THE SOCIETY

Each Rubber Producers' Society (RPS) is a group of 50 to 200 small rubber growers residing in one locality, forming themselves into a society registered under the Charitable Societies Registration Act. The President looks after most of the executive functions of the society. He is assisted by a commission agent for collection, processing and marketing of latex and scrap and the distribution of inputs.

The RPS is conceived largely as a non-political, non-profit, secular, democratic fraternity of the rubber producers. To ensure proper guidance and linkage from the Rubber Board, the local Field Officer of the Rubber Board is nominated to the managing committee of each RPS.

The society is a nucleus for distribution of inputs and dissemination of information to the rubber cultivating members. It can channelise and expedite distribution of financial and technical assistance from the Rubber Board and other agencies by collective action. This society can cater to all the needs of members and even maintain correct statistics and other information on rubber produced and the area newly developed in the locality.

The Rubber Board's activities for developing these societies started at the beginning of the eighth five year plan. During the last three years alone, over 600 such societies have been registered and are functioning in the village level to assist the unorganised sector among the small growers. The Board gives a financial assistance of Rs. 10,000/- in cash or equipments needed for forming the society.

FUNCTIONING OF THE SOCIETY

The crop collected by the RPS is sold to the nearest marketing society. The marketing society pays a commission of Ps. 25 per kg. of Dried Rubber Content (DRC) for latex and Ps. 15 per kg. of sheet rubber. Out of this, commission at the rate of Ps. 15 per kg. of DRC for latex and Ps. 10 per kg. of sheet rubber is paid to the latex collection agent of the society. The remaining amount is to be utilised for meeting the operating expenses of the Centre. Additional commission will be paid to the collection agent for extra work done by him and for the work of collecting the member's produces. The members are paid the price of the produce brought by them on the basis of the DRC contained in it at the end of the week at the average price of lot rubber prevalent in major markets during the previous week.

The RPSs are very successfully functioning under the jurisdiction of Changanacherry Rubber Marketing Co-operative Society and Palai and Meenachil Rubber Marketing Societies.

OTHER ACTIVITIES OF THE RPSs

The RPSs formed at the village level can be regarded as the primary units of the Rubber Marketing Societies functioning at the Taluk level. In addition to collecting the crops of members in the form of RMA sheets, latex and scrap daily and selling the same to the nearby marketing societies; the other activities are:

distributing inputs like fertilizers, fungicides, plastic latex collection cups, rain guards etc. at the subsidised rate under the Rubber Board's Scheme.

developing smoke houses and other facilities for improved and scientific processing of the crop.

making combined efforts for new planting and replanting by high yielding varieties of plants in consultation with the Board.

giving technical advice and educate the small growers regarding scientific use of fertilizers, fungicides, rainguards etc.

The formation of the RPS in each village for the daily collection of latex and scrap rubber, facilitates the full utilisation of production capacity of the processing factories run by the marketing societies. The recent record production achieved by the Indiar Crumb Rubber Factory of the Palai Rubber Marketing Society is mainly on account of the successful functioning of the RPSs in that locality. It is estimated that if such RPSs are formed under each marketing society, there will be about 4500 societies all over the State.

COMPANIES IN THE RPS SECTOR

In order to strengthen the activities of the RPSs, the Rubber Board took the initiative to set up seven processing companies and eight trading companies in the predominant rubber growing areas in Kerala. These are private limited companies owned by the Rubber Board and the Rubber Producers Societies of the concerned area with majority equity participation by the Rubber Board. The names of the companies are given in the following table.

Table 6.4
Name, Location, Product and Area of Operation of Processing Companies

Name	Location of	Product	Area of operation
1 Pazhassi Rubber Pvt. Ltd.	Aryangad, Tholambbra	Crumb Rubber	Kannur and Wynad Districts
2. Pamba Rubbers Pvt. Ltd.	Aruvappulam, Konni Taluk	Crumb Rubber	Pathanamthitta Idukki and Alappuzha Districts
3 Ponmudi Rubbers Pvt. Ltd	Meenmutty, Palode Nedumangad Taluk	Crumb Rubber	Thiruvananthapuram and Kollam Districts
4. Periyar Latex Pvt. Ltd	Kavakkad, Kalloorkad, Ayavana Panchayat	Centrifuged latex	Ernakulam and Idukki Districts
5 Sreekandapuram	Madanbam, Sreekandapuram	Pale latex crepe Estate brown crepe creamed latex	Kannur and Kasargod Districts
6. Kavanar latex pvt. Ltd	Vakakkad, Moonnilavu Panchayat	Latex Crumb & Scrap Crumb Centrifuged latex	Kottayam, Idukki and Ernakulam Districts
7 Meenachil Treated Rubber Wood Pvt. Ltd.	Peringulum, Poonjar Middle Village	Chemically treated & seasoned Rubber Wood ("Metrowood")	Kerala State

Source Rubber and its cultivation, Rubber Board Kottayam, 1995, p.89

In addition to processing companies, trading companies are also functioning. Now there are eight trading companies functioning in different rubber growing areas. They are as follows:

Table 6.5
Name and Area of Operation of Trading Companies

Name	Area of Operation
1. Adoor Rubber (P) Ltd.	Kollam, Pathanamthitta and Alappuzha Districts
2. Bharathapuzha Rubbers (P) Ltd.	Palakkad District
3. Kanhangad Rubbers (P) Ltd.	Kasargode District
4. Kunhali Marakkar Rubbers (P) Ltd.	Kozhikode District
5. Manimalayar Rubbers (P) Ltd.	Areas coming under Rubber Board Regional Offices at Kottayam, Changanacherry and Kanjirappally
6. Sahyadri Rubbers (P) Ltd.	Pathanapuram and Kottarakkara Taluks
7. Thunchathu Ezhuthachan - Rubbers (P) Ltd.	Malappuram District
8. Vallathol Rubbers (P) Ltd.	Thrissur District

Source Rubber and its cultivation, Rubber Board, Kottayam, 1995, p.90

RPSs IN KOTTAYAM AND PATHANAMTHITTA DISTRICTS

In Kottayam district alone there are 364 rubber producers' societies. The following table shows the region wise breakup of RPSs in Kottayam district.

Table 6.6
Region wise breakup of RPSs in Kottayam district as on 1st April 1995

Regional Centre	No. of RPS
Kottayam	76
Changanacherry	65
Erattupetta	43
Kanjirappally	77
Palai	103
Total	364

Source Compiled from records of Rubber Board (Unpublished)

Rubber Producer's Societies in Kottayam district are functioning well. Most of the small rubber growers are actively participating in the various activities of the Society. The 'Kooroppada Rubber Producers' Society' is an ideal society functioning in this locality. This society has improved the financial position of the member rubber growers by providing fertilisers, fungicides, latex collection cups, rainguarding materials etc. at a subsidised rate. Smoke houses are also built for improved and scientific processing of the crop.

The 'Ramanchira Rubber Producers' Society' at Mezhuvelly in Pathanamthitta District was started in 1989. This society collects rubber latex daily from the members and supplies to Pamba Rubbers (P) Ltd. This will reduce the burden of the members to convert latex into sheet rubber. The society can also protect the members from the wide fluctuations in the rubber price and exploitation of private dealers. The total number of RPSs in this district is now about 92 societies.

The following table shows the present position of RPSs in India as on 1st April 1995.

Table 6.7
Number of RPSs in India as on 1st April 1995

Regional Centre	No. of RPS
Trichur	53
Ernakulam	72
Thodupuzha	76
Muvattupuzha	67
Kothamangalam	54
Kottayam (Total)	364
Trivandrum	73
Nagarcoil	10
Adoor	56
Pathanamthitta	77
Punalur	92
Kanghangad	70
Talipparambu	118
Talassery	61
Kozhikode	53
Nilambur	61
Palakkad	73
Mangalore	22
Goa	1
South Andaman	1
Total	1454

Source Rubber Board Records (Unpublished)

NATIONAL FEDERATION OF RUBBER PRODUCERS' SOCIETIES

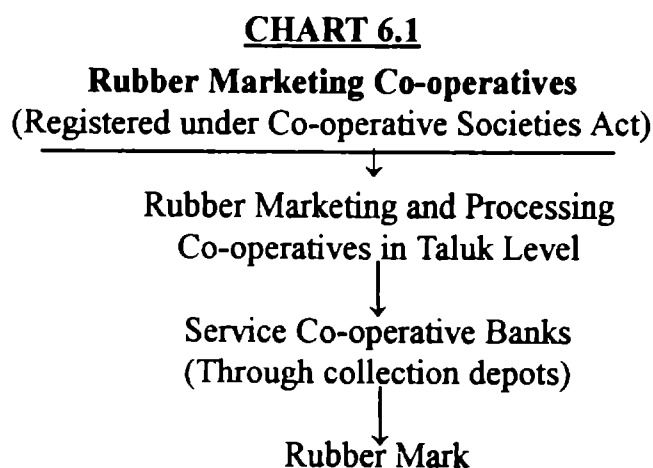
The National Federation of Rubber Producers' Society (NFRPS) is an apex body of about 1100 primary rubber producers' societies affiliated to it. The headquarters of NFRPS is at Kottayam. The NFRPS is a body registered under the Charitable Societies Registration Act.

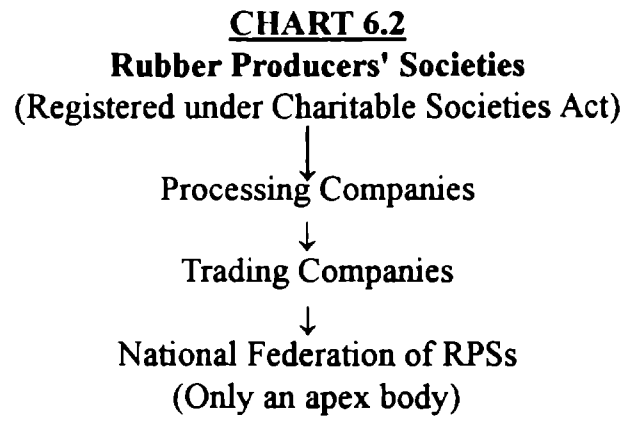
The main objective of this apex body is to secure common economic stability to the members and to eliminate all kinds of middlemen to secure reasonable price of the hard earned produce of the small rubber cultivators.

At present 2 lakh rubber growers are members of the primary rubber producers' societies covering 25 per cent of the total 8 lakh small growers all over India.

It is hoped that by the formation of this kind of producers' society in important rubber growing tracts at the village level in Kerala and by connecting them with the taluk level marketing societies by their apex federation at the State level; the present two-tier structure rubber marketing societies can be modified as a three-tier system from the village level to the state level. This will help the small growers for efficient and intensive cultivation, processing and marketing of rubber in all seasons.

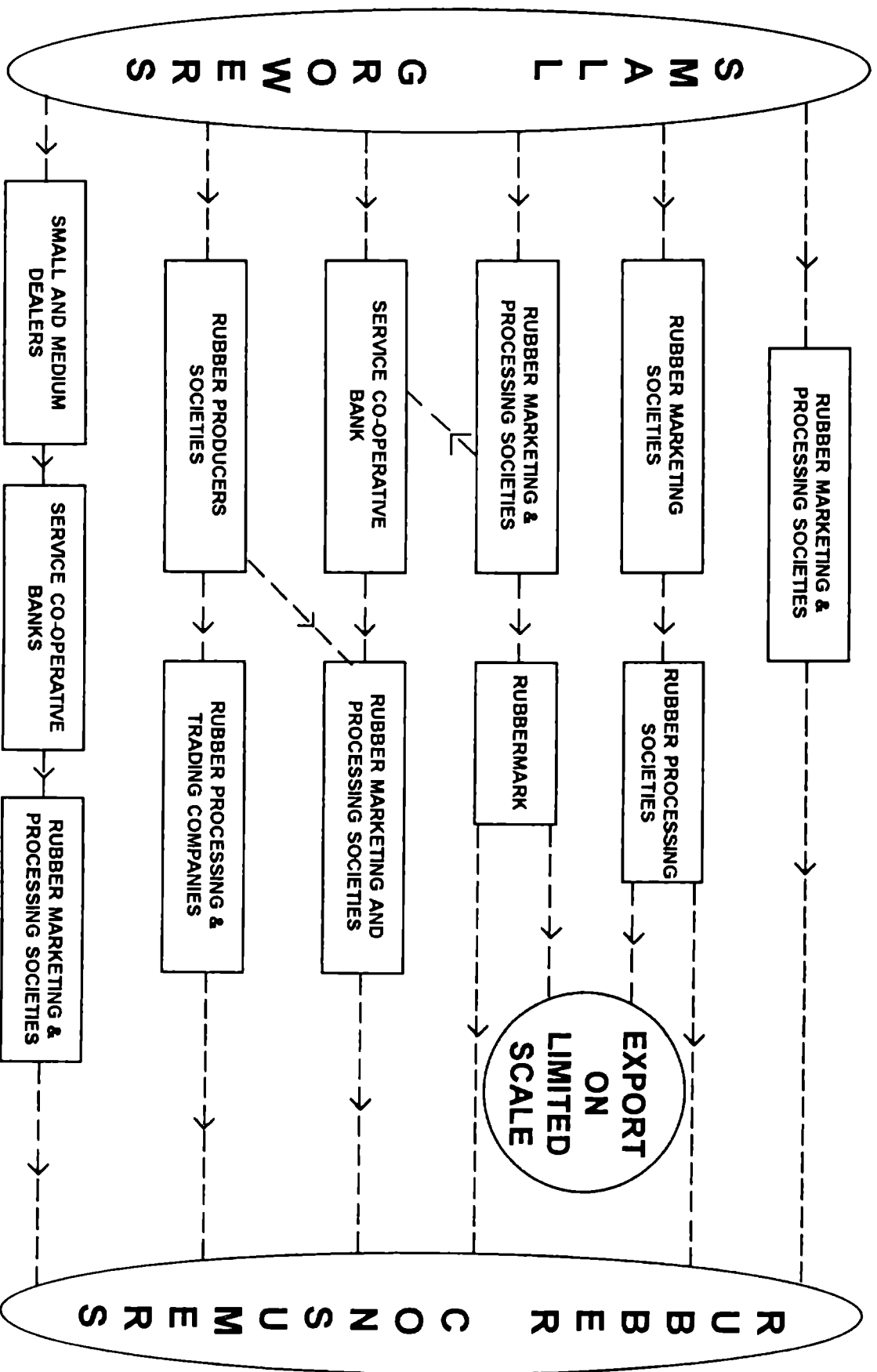
The following charts give a detailed picture of rubber marketing co-operatives.





Co-operative Rubber marketing channels can be explained in detail by the following diagram.

FLOW CHART 6.3
Co-operative Rubber Marketing Channels



PROCUREMENT PROBLEMS FACED BY MARKETING CO-OPERATIVES

The survey conducted among the co-operative marketing societies and members reveals several functional problems regarding procurement of rubber. Though the co-operative marketing societies have a wide net work for collection of latex from rubber growers, they could not reach most parts of the working area. Most of the collection centres are located in towns or semi-towns. The growers have to carry their latex to a long distance in order to reach the collection depots. As a result, they process the latex into sheet and sell it to the rubber dealers who are nearby.

Another problem is that of preservation of latex with ammonia gas. Most of the small rubber growers do not know how to treat the latex with ammonia gas. So they often resort to the conventional system of making rubber sheet.

Transportation is another serious problem. The collected latex has to be transported to the collection centre on the same day itself. The inadequacy of conveyance facilities sometimes creates serious problems to members and private dealers take advantage of such situations by providing their own conveyance facility.

Even though the Rubbers Producers' Societies (RPSs) are functioning at the village level, they cannot procure the whole produce generated by members during peak-season. So the members are forced to sell the excess production to private dealers in that locality. But they in turn compel the growers to sell the total produce to them.

Besides this, the co-operatives cannot support the financial constraints of the members by settling the whole price of the produce supplied by the members in difficult times. So the growers are forced to sell their product to the private dealers. Most of the growers, especially the marginal growers borrow money from the rubber dealers in advance, under the agreement that they will sell their produce to the former.

The following tables give the opinion of the respondents about the working of the co-operative rubber marketing societies in Kottayam and Pathanamthitta districts.

Table 6.8
Grower Opinion on the Working of Rubber Marketing Societies in Kottayam District

Opinion	No. growers contacted	% share of growers
Good	162	54
Satisfactory	102	34
Unsatisfactory	36	12
No opinion	Nil	—
Total	300	100

Source Field Survey.

Table 6.9
Grower Opinion on the Working of Rubber Marketing Societies in Pathanamthitta District

Opinion	No. growers contacted	% share of growers
Good	104	52
Satisfactory	64	32
Unsatisfactory	28	14
No opinion	04	2
Total	200	100

Source Field Survey.

The suggestions given by the respondents for improving the working of the co-operative rubber marketing societies are summarised as shown in the following tables.

Table 6.10
Suggestions for Improvement of Rubber Marketing Societies in Kottayam District

Suggestions	No. of Respondents	% Share of Respondents
Provide more financial help	120	40
Provide storage facilities	42	14
Provide Transportation facilities	72	24
Provide advance payment of price	54	18
No suggestion at all	12	04
Total	300	100

Source Field Survey.

Table 6.11
Suggestions for Improvement of Rubber Marketing Societies in Pathanamthitta District

Suggestions	No. of Respondents	% Share of Respondents
Provide more financial help	84	42
Provide storage facilities	30	15
Provide Transportation facilities	44	22
Provide advance payment of price	32	16
No suggestion at all	10	05
Total	200	100

Source Field Survey.

EXPORT MARKETING OF RUBBER BY CO-OPERATIVES

Rubber Marketing Co-operatives have grown to such an extent, that they export crumb rubber to foreign countries. The first crumb rubber factory under the co-operative sector was started by Palai Rubber Marketing Society. The Society established the Indiar Crumb Rubber Factory in 1974. The factory attained 100 per cent production efficiency in 1992-'93.

The factory has exported 'Indiar I.S.N.R. 20 grade' crumb rubber in collaboration with Rubber Marketing Federation and M/s. Harrison Malayalam Ltd. The first lot of 20 tonne crumb rubber was exported to Amsterdam. The Factory also exported 'I.S.N.R. 10' rubber to Nepal in 1992-'93.

The export of this rubber is done after proper grading, processing, packaging and testing. The whole 20 tonnes of rubber exported was packed in 1.2 metric tonne, 16 pallets. A pallet contains 36 bales consisting of kgs. 33.33 of rubber.

The M.R.M. crumb rubber factory owned by Muvattupuzha Taluk Co-operative Rubber Marketing Society is also exporting rubber to Singapore. The foreign consumers are satisfied with the quality of the crumb rubber exported and it is hoped that more and more co-operatives will follow the path of Palai and Muvattupuzha Rubber Marketing Societies.

There are three apex co-operative marketing federations in the State under the department of co-operation viz., Kerala State Co-operative Marketing Federation, Kerala State Co-operative Rubber Marketing Federation (Rubber Mark) and KERAFED. In the Kerala State Co-operative Marketing Federation, there are 84 primary marketing societies as members while the Kerala Rubber Marketing Federation (Rubber Mark) has 22 primary rubber marketing societies and 13 general marketing societies dealing in rubber as the members. During the eighth plan, an outlay of Rs. 4.25 crores is set apart for the development of marketing societies in the state.

**THE KERALA STATE CO-OPERATIVE RUBBER MARKETING
FEDERATION LIMITED NO. 4331, COCHIN - 20
(RUBBER MARK)**

The 'Kerala State Co-operative Rubber Marketing Federation', popularly known as 'Rubber Mark' was registered in March 1971 and started its functioning on April 1971. It is a professionally managed apex institution of the Primary Rubber Marketing Co-operative Societies of the State. The name of the society is 'The Kerala State Co-operative Rubber Marketing Federation Limited.' The area of operation of the Federation shall extend to the whole of Kerala State.

OBJECTIVES OF THE FEDERATION

The objectives of the Federation are primarily to arrange for the purchase and sale of raw rubber, processed rubber, manufactured rubber goods, to undertake processing of rubber and the manufacture of rubber products, to supervise, co-ordinate and facilitate the working of affiliated societies, and to assist in the promotion, organisation and development of co-operative movement among rubber growers of the State. In detail, the objectives of the Federation can be summed up as follows:

1. To arrange for the marketing and sale of rubber belonging to affiliated societies either on commission or on outright basis,
2. To establish sales depots within its jurisdiction and elsewhere,
3. To acquire or rent lands, godowns, factories, buildings and vehicles,
4. To supply approved planting materials, pesticides and chemicals, manures, agricultural implements and other requisites,
5. To purchase and distribute chemicals, machines, and all accessories required for the processing of rubber to the affiliated societies,
6. To establish manure mixing plants for mixing fertilisers required for rubber plantation,
7. To act as ware-housemen under the warehousing Act,
8. To advance loans to affiliated societies against the security of produce and other rubber goods deposited with the Federation,
9. To undertake testing, grading, packing and standardisation,
10. To act as insurance agents,
11. To advice and assist affiliated societies in standardising the accounting and stock control methods and practices,

12. To undertake management of an affiliated society where necessary, on such terms and conditions as stipulated by the Registrar,
13. To open branches in areas where there are no Rubber Marketing Societies and in areas where the scale of operation of the Rubber Marketing Societies is considered to be inadequate,
14. To arrange transport, shipping, clearing and forwarding of goods,
15. To undertake with the approval of the Registrar such other activities that are incidental and conducive to the attainment of its objectives.

SHARE CAPITAL AND MEMBERSHIP

The liability of the members shall be limited to the face value of the shares subscribed by them. The authorised share capital of the Federation is fixed at Rs. 5 crores consisting of 50,000 shares of Rs. 1,000/- each. The membership of the Federation is confined to the marketing societies engaged in the marketing of rubber and Central and State Governments and Rubber Board, individuals, institutions and statutory bodies may become Associate members for the purpose of availing the services and facilities offered by the Federation. The association fee is Rs. 25/- per annum. Every applicant must pay the entrance fee of Rs. 10/- for each share taken, provided that the total entrance fee collected from each applicant shall not exceed Rs. 50/-. The existing capital of the Federation during 1993-'94 was Rs. 176 lakhs.

At present 35 marketing societies are affiliated to the Federation. The share holders of the Federation include the Government of Kerala and the Rubber Board, and thus the total members are 37.

WORKING CAPITAL OF THE FEDERATION

The funds of the Federation may be raised through one or more of the following ways:

1. by issuing shares and collecting admission and association fee,
2. receiving grants and other contributions from the Central and State Governments and Rubber Board.
3. taking loans from the Central and State Governments, Rubber Board, Reserve Bank of India, Nationalised Banks and Co-operative Financing Agencies and other institutions and agencies,
4. receiving deposits from affiliated societies and other non-members.

The borrowings of the Federation should not, at any time, exceed 20 times of the total amount of paid up share capital and Reserve Fund. The Kerala State Co-operative Bank Ltd., is the main financing Bank of the Federation. In addition, the Federation also enjoys hundi discounting facilities from the Indian Overseas Bank.

During 1991-'92, the working capital of the Rubber Mark was raised from Rs. 3.5 crores to Rs. 9 crores, besides, management securing a loan of Rs. 20 crores from the State Co-operative Bank for the purpose.

MANAGEMENT

The management of the Federation is vested in a Board of Directors consisting of 15 members constituted in the manner mentioned below:

1. Ten members to be elected by the General body from among the delegation of the affiliated societies,
2. The Registrar of Co-operative Societies, Kerala,
3. The Managing Director of the Kerala State Co-operative Rubber Marketing Federation Ltd., and
4. Three persons to be nominated by the State Government.

GENERAL BODY

The General Body of the Federation consists of the following:

1. Delegates of the affiliated societies. Each affiliated society shall appoint a delegate,
2. All Directors of the Federation.

The General Body Meeting of the Federation should be convened at least once a year in accordance with the provisions of the Act and the Rules.

To facilitate the management of the Federation the following committees shall be elected from among the Board of Directors.

(a) Executive Committee

The executive committee shall consist of the following:

1. The President,
2. One Director representing the Rubber Board,
3. Two Directors elected from among the members of the Board of Directors,
4. The Managing Director of the Kerala State Co-operative Rubber Marketing Federation Limited.

Three members will form the quorum.

(b) Marketing Committee

The marketing Committee shall consist of the following:

1. The President,
2. The Vice-President,
3. The Directors elected from among the members of the Board of Directors,
4. The Registrar of Co-operative Societies.

Three members will form the quorum.

(c) Factory Management Committee

There shall be a Factory Management Committee for the Processing Factories owned by the Federation under the Rubber Processing Component of the Kerala Agricultural Development Project.

The Committee shall consist of the following:

1. The President,
2. The Director, representing the department of Rubber Processing of the Rubber Board,
3. The Registrar of Co-operative Societies, Kerala,
4. Two other Directors elected from among the members of the Board of Directors,
5. The Managing Director of the Kerala State Co-operative Rubber Marketing Federation Limited,
6. The Managing Director of the Kerala State Co-operative Bank Ltd., to be co-opted.

Three members will form the quorum.

TRADING ACTIVITIES

The Federation shall carry on such trade as may from time to time, be decided by the Board of Directors or sub-committees constituted by them provided they are not contrary to the objectives contained in the bye laws:

1. The Federation may arrange for the sale of rubber raw, processed or manufactured of affiliated societies or others as their agent or otherwise.
2. All transactions by way of sales on behalf of the members shall, as far as possible, be on a ready cash basis.
3. The Federation may purchase outright, rubber raw, processed or manufactured, of the affiliated societies or others including dealers.

4. At the end of each quarter, stock shall be taken of all the goods and other things kept in custody and also owned by the Federation.

The major activities of the Federation are the following:

1. Rubber marketing,
2. Fertilizer mixing and distribution,
3. Distribution of chemicals, fungicides and aerial spraying and
4. Rubber processing.

1. RUBBER MARKETING

The most important role played by the Federation is in the marketing of natural rubber. It includes purchase and sale of rubber.

Purchase activities

The Federation purchases rubber from the member societies and rubber growers through its own depots at Trivandrum, Punalur, Calicut, Vithura, and Nilembur and sells the same to the manufacturers. It has opened sales offices at Bombay, Delhi, Calcutta, Faridabad, Jullundur and Ahmedabad. The Rubber Mark helps a lot to maintain the price level of rubber in the open market. It purchases rubber from the member societies at reasonable price. Thus the private dealers are compelled to compete with the Federation. This competition sets price of rubber at reasonable level.

The following table shows the purchase of rubber by the Rubber Marketing Federation from 1979-'80 to 1993-'94.

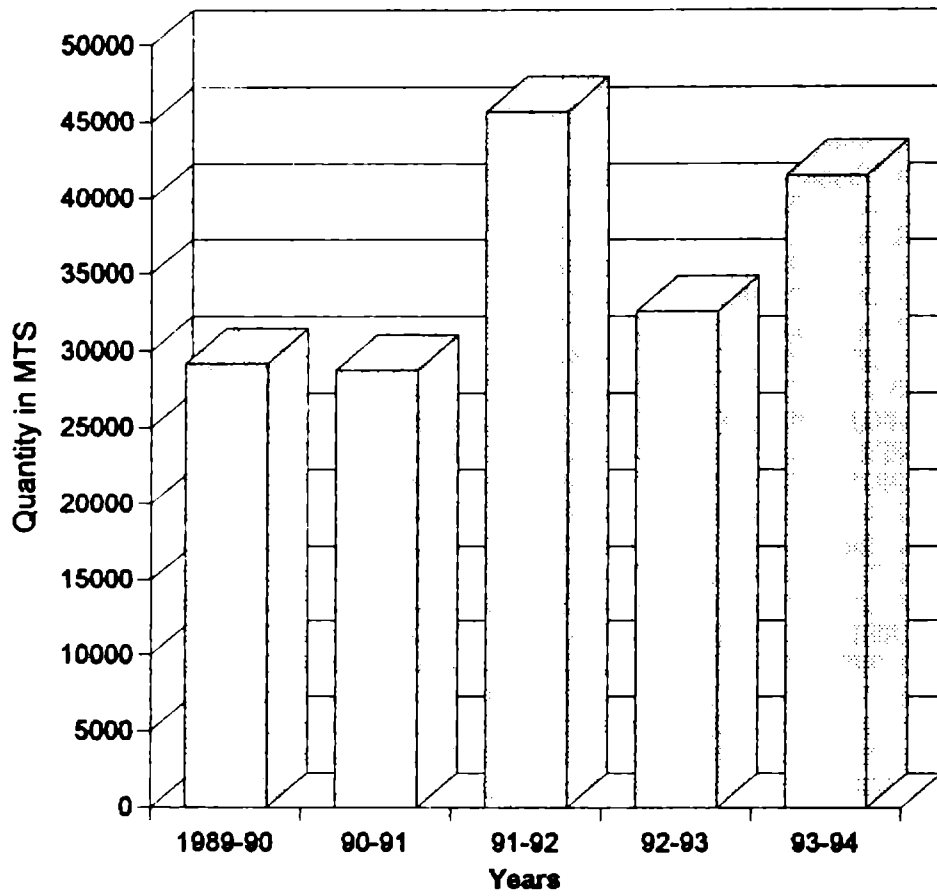
Table 6.12
Purchase of Rubber by the Rubber Marketing
Federation from 1979-'80 to 1993-'94
(in Metric Tonnes)

Year	Quantity in MTS	Index
1979-'80	10,200	100
1980-'81	10,800	106
1981-'82	8,300	81
1982-'83	11,700	115
1983-'84	12,100	119
1984-'85	13,400	131
1985-'86	17,200	169
1986-'87	22,000	216
1987-'88	26,000	255
1988-'89	30,300	297
1989-'90	29,192	286
1990-'91	28,788	282
1991-'92	45,644	447
1992-'93	32,589	319
1993-'94	41,500	406

Source: Annual Reports of the Rubber Marketing Federation for the period from 1979-'80 to 1993-'94

The table 6.12 depicts the purchase of rubber by the Federation from 1979-'80 to 1993-'94. Taking 1979-'80 as the base year, there was an increase of 197 per cent in purchase, during 1980's. During 1979-'80 the Federation purchased 10,200 MTS of rubber from its members. It shot upto 30,300 MTS in 1988-'89. It was in 1981-'82 there was a decrease in the matter of purchase. During 1989-'90 and 1990-'91 there was again a decrease in purchase. But the purchase was at its peak in 1991-'92 and again decreased in 1992-'93. In 1993-'94 the total procurement reached 41,500 MTS. The following diagram illustrates the purchase activities from 1989-'90 to 1993-'94.

Diagram-6.3 Purchase activities of the Rubber mark from 1989-90 to '93-'94



Sales Activities

The sales activities of the Federation include, the sale of various rubber products. The Federation now sells various grades of rubber suited for different types of manufacturers. The primary objective of the Rubber Mark is not to earn profit, but to render all possible services to its members. In this juncture, it can be seen that the Federation had to sell its product even at a loss.

The following table shows the details of sales from 1979-'80 to 1993-'94.

Table 6.13
Details of Sales from 1979-'80 to 1993-'94 in MTS

Year	Quantity in MTS	Index
1979-'80	10,200	100
1980-'81	9,300	92
1981-'82	8,400	83
1982-'83	10,800	106
1983-'84	12,000	118
1984-'85	14,300	141
1985-'86	18,400	181
1986-'87	21,400	210
1987-'88	25,500	250
1988-'89	29,500	289
1989-'90	29,452	288
1990-'91	28,623	280
1991-'92	42,699	418
1992-'93	29,202	286
1993-'94	39,135	383

Source Annual Report of Rubber Marketing Federation for the period from 1979-'80 to 1993-'94

The following diagram shows the sales activities from 1989-'90 to 1993-'94.

Diagram- 6.4 Sales activities of the Rubber mark from 1989-90 to '93-'94

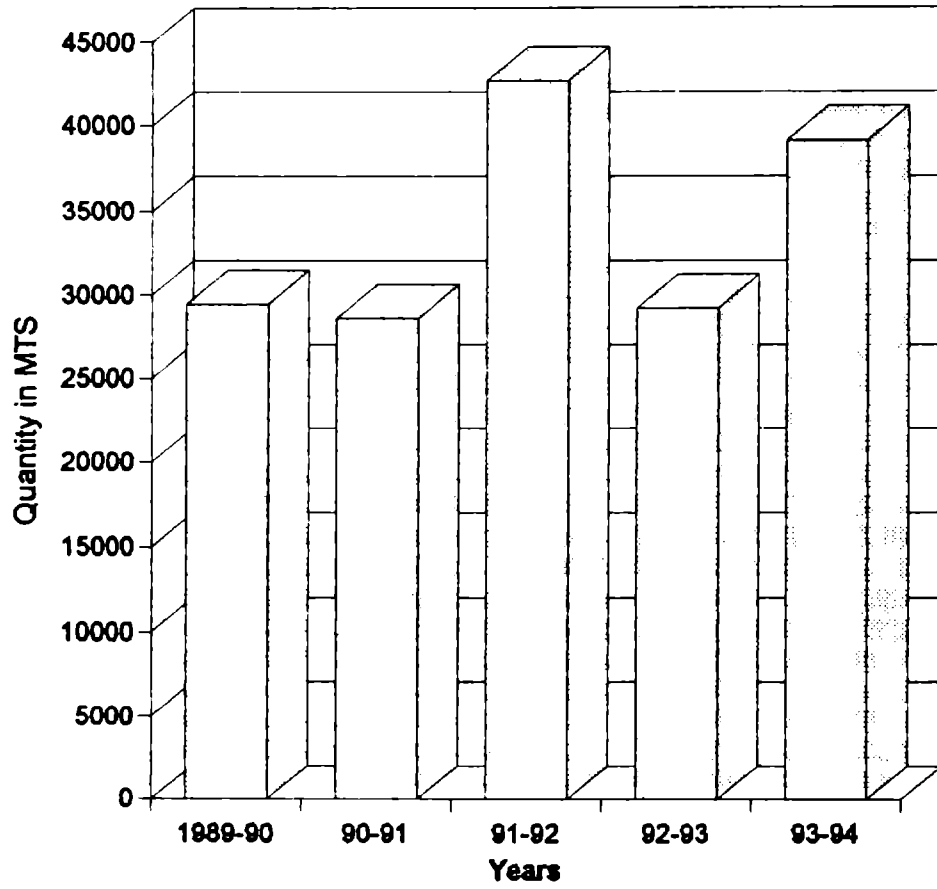


Table 6.13 analyses the sales activities of the Federation from 1979-'80 to 1993-'94. During 1980-'81 and 1981-'82 the sales activities showed a considerable decrease. But it went upto 29,500 MTS in 1988-'89. It was an increase of 189 per cent, taking 1979-'80 as the base year. The sales activities of the Rubber Mark increased remarkably during the 1980's. The increase was about 3 times. During 1989-'90 and 1990-'91, the sales activities again declined. But the sales was at its peak in 1991-'92 and again declined in 1992-'93. In 1993-'94 the total sales reached 39,135 MTS.

2. FERTILIZER MIXING AND DISTRIBUTION

Apart from marketing rubber, the Rubber Marketing Federation helps the rubber growers through the supply of necessary inputs like fertilizers, pesticides etc., at reasonable prices. For the supply of fertilizers, the Federation has two fertilizer mixing units, one at Palai and the other at Calicut. The NPK mixture known as 'Rubber Mark' is highly popular among the rubber growers. All the different types and grades of fertilizer mixtures for rubber and straight fertilizers are distributed to the rubber growers through these units. The following table shows the details of fertilizer mixing and distribution from 1979-'80 to 1993-'94.

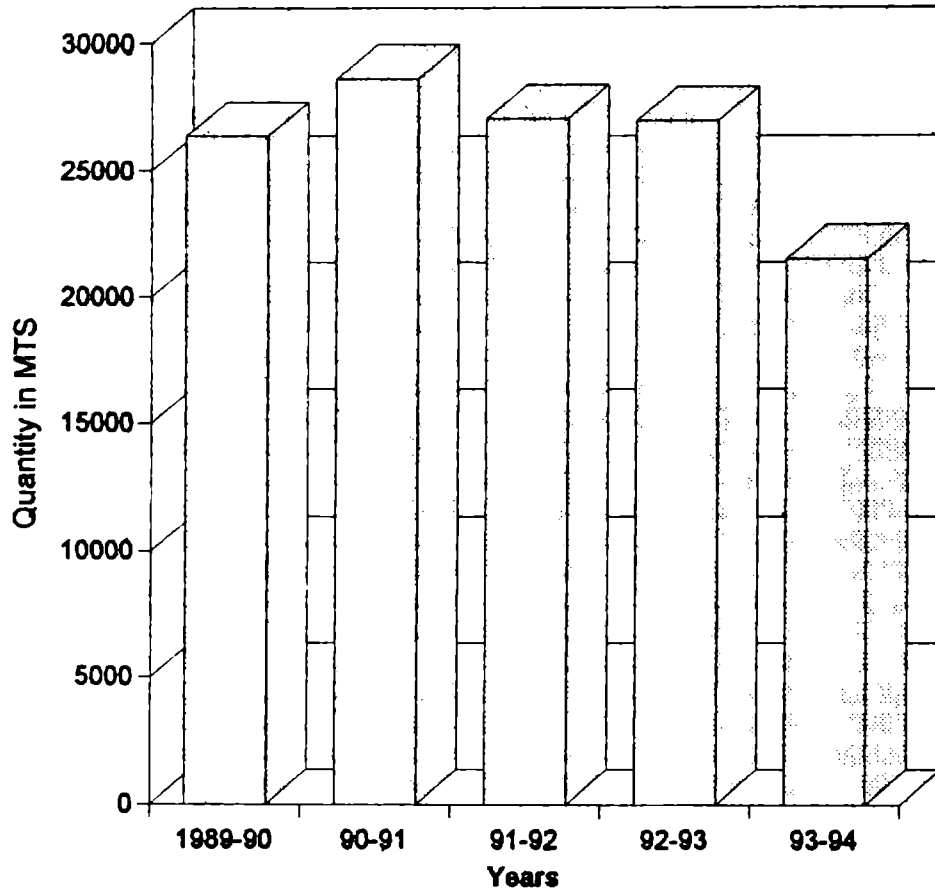
Table 6.14
Details of Fertilizer Mixing and Distribution from 1979-'80 to 1993-'94

Year	Quantity in MTS	Index
1979-'80	4,100	100
1980-'81	4,000	97
1981-'82	3,100	76
1982-'83	7,100	171
1983-'84	9,700	234
1984-'85	11,400	275
1985-'86	14,200	344
1986-'87	16,500	397
1987-'88	15,000	362
1988-'89	27,400	660
1989-'90	26,352	534
1990-'91	28,609	589
1991-'92	27,052	551
1992-'93	26,937	548
1993-'94	21,480	415

Source : Annual Report of Rubber Marketing Federation for the year 1979-'80 to 1993-'94

On examination of Table 6.14, it is clear that there has been a spectacular increase in its fertilizer mixing and distribution activities. During 1979-'80, the Federation's mixing unit produced 4,100 MTS fertilizer and the entire product was distributed. Except in the year of 1980-'81 and 1981-'82, there has been a consistent improvement in the production and distribution of fertilizers. Taking 1979-'80 as the base year, there is an increase of 560 per cent in the matter of production and distribution of fertilizers. In 1990-'91, the production went upto the peak point of 28,609 MTS. In 1993-'94, the figure again came down to 21,480. The following diagram gives the details of fertilizer mixing and distribution from 1989-'90 to 1993-'94.

Diagram- 6.5 Fertiliser mixing and distribution of the Rubber mark from 1989-'90 to '93-'94



3. DISTRIBUTION OF CHEMICALS, FUNGICIDES AND AERIAL SPRAYING

Usual pesticides like copper sulphate, spraying oil and other chemicals are necessary for protection of rubber trees from the attack of fungus. The Federation has undertaken the distribution of such fungicides to the rubber growers at subsidised rates. The following table shows the details of distribution of agricultural inputs.

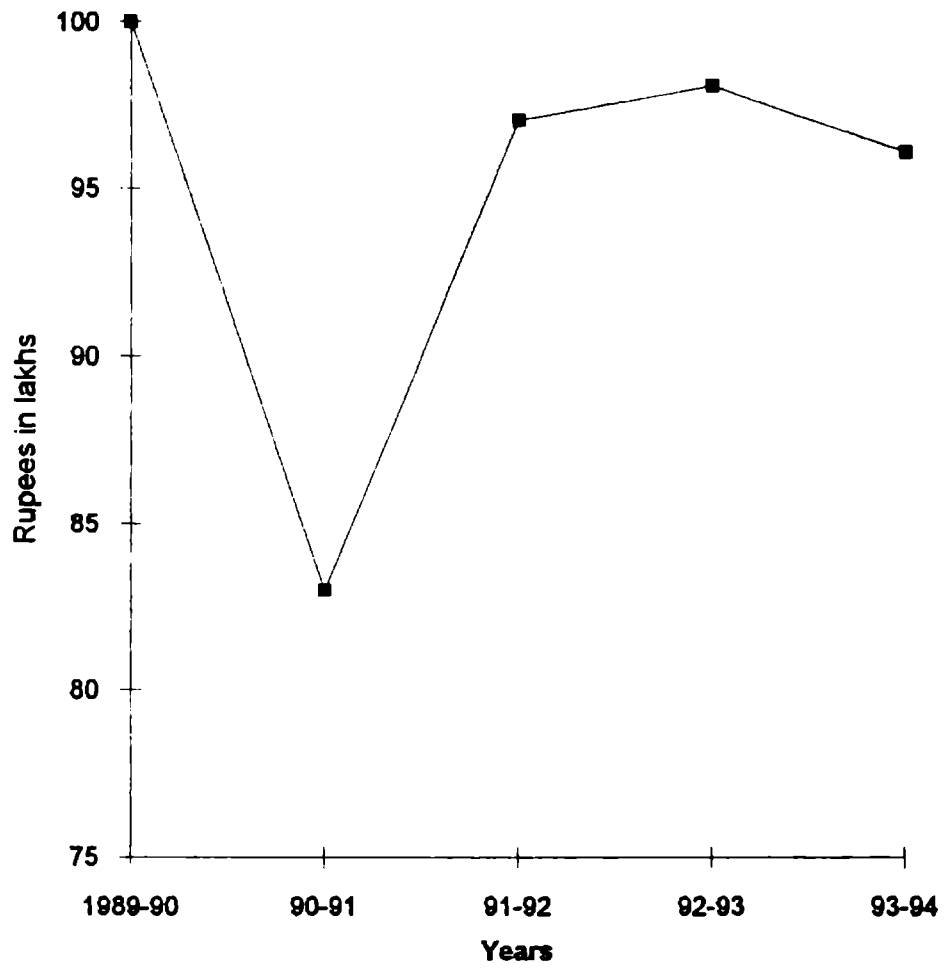
Table 6.15
Details of Distribution of Agricultural inputs from 1979-'80 to 1993-'94

Year	Value of inputs Rs. in lakhs	Increase or decrease in percentage of value over 1979-'80
1979-'80	59	
1980-'81	42	-28.81
1981-'82	45	-23.72
1982-'83	44	-25.42
1983-'84	45	-23.72
1984-'85	63	6.77
1985-'86	67	13.55
1986-'87	58	-1.69
1987-'88	84	42.37
1988-'89	93	57.62
1989-'90	100	69.48
1990-'91	83	40.67
1991-'92	97	64.39
1992-'93	98	66.08
1993-'94	96	62.70

Source Annual Report of Rubber Marketing Federation for the period from 1979-'80 to 1993-'94.

The details of distribution of agricultural inputs from 1989-'90 to 1993-'94 are illustrated in the following diagram.

Diagram- 6.6 Distribution of agricultural inputs by the Rubber mark from 1989-'90 to '93-'94



The table 6.15 shows the distribution activities of various agricultural inputs like copper sulphate and spraying oil by the Federation. During 1979-'80 the Federation distributed agricultural inputs worth Rs. 59 lakhs. In 1988-'89 it went upto Rs. 93 lakhs. It was an increase of 57.62 per cent over the base year. In 1989-'90 the value was at its peak amounting to Rs. 100 lakhs. During the year of 1993-'94 the total value was Rs. 96 lakhs.

4. RUBBER PROCESSING

The Federation was the most important participant in the rubber processing component of the Kerala Agricultural Development Project, financed by IDA of the World Bank in establishing six modern processing units for the production and marketing of Technically Specified Rubber. In this capacity, the Federation established a Crumb Rubber Factory at Chenappady near Kanjirappally, with a production capacity of 10 tonnes per day to process small growers' rubber. The rubber processed in this factory and in the five other factories coming under the project has been marketing by the Federation.

In 1979-'80, 5.22 acres of land was purchased at a cost of Rs. 2.50 lakhs at Chenappady for the establishment of a manufacturing unit. In 1980-'81, the Federation started a Crumb Rubber Factory at Chenappady with the financial assistance of the World Bank. During 1981-'82 the factory building was completed and machines were purchased. The switch on function of the factory was on 18th of December, 1983. It commenced production on a commercial basis with effect from 1.1.1984. The following is the list of the main processing units of Rubber Mark at present.

1. Centrifuged Latex	2
2. Cream Latex	5
3. Speciality Rubber	2
4. C.V. Rubber	1
5. G.P. Rubber	1
6. Latex Crumb Rubber	1
7. Oil Extended Natural Rubber	1
8. Thermoplastic Natural Rubber	1
9. Pre-vulcanised Latex Compound	10

PROFITABILITY

The Rubber Marketing Federation made a loss on the deal for some years. The following table presents the profit or loss made by the Federation from 1983-'84 to 1993-'94.

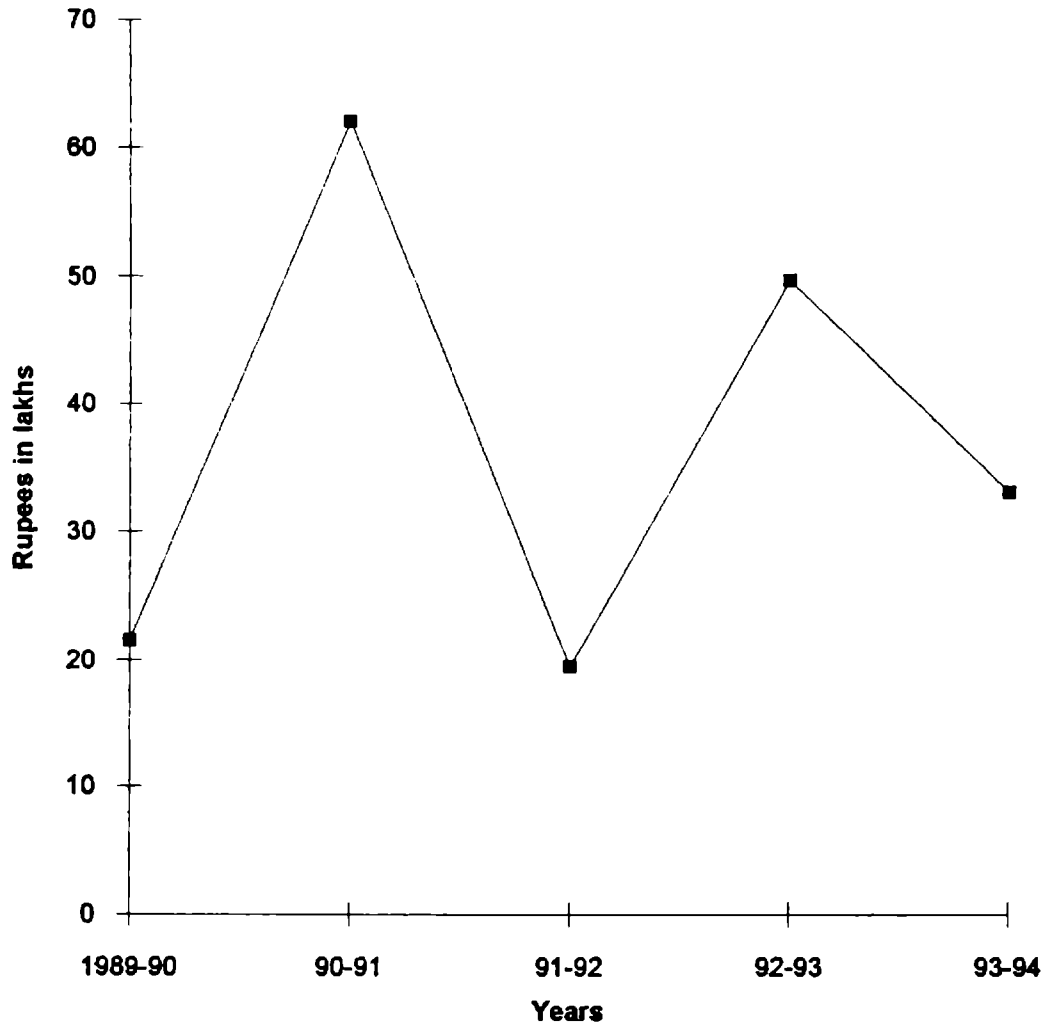
Table 6.16
Details of Profit or Loss made by Rubber Marketing Federation
from 1983-'84 to 1993-'94

Year	Profit/Loss in Rupees (lakhs)
1983-'84	0.45 (Profit)
1984-'85	4.08 (Loss)
1985-'86	4.91 (Loss)
1986-'87	4.27 (Loss)
1987-'88	4.90 (Profit)
1988-'89	4.72 (Profit)
1989-'90	21.55 (Profit)
1990-'91	61.92 (Loss)
1991-'92	19.34 (Profit)
1992-'93	49.41 (Profit)
1993-'94	32.82 (Profit)

Source :Compiled from the Profit and loss accounts of the respective years of Rubber Marketing Federation, Emakulam

The following diagram shows the profitability of the Rubber Mark from 1989-'90 to 1993-'94.

Diagram 6.7 Profit/loss made by the Rubber mark from 1989-'90 to 1993-'94



The table 6.16 shows the profit or loss made by the Federation from 1983-'84 to 1993-'94. The Profit and Loss account of the respective years reveals that during 1983-'84 there was a profit of Rs. 45,000/-. For the consecutive three years, the Federation was running at a loss. Again it started to generate profit from 1987-'88. During 1987-'88, the Federation made a profit of 4.9 lakhs and it remained more or less stagnant during 1988-'89. In 1990-'91 the Federation suffered a loss of Rs. 61.92 lakhs. From 1991-'92 onwards the Federation was making profit and it is estimated that in 1994-'95 the Federation will make a record profit of Rs. 1.2 crores.

THE FUNCTIONAL ACTIVITIES OF KERALA STATE CO-OPERATIVE RUBBER MARKETING FEDERATION.

In 1970, when there were more than 30 primary rubber marketing societies in the State, an apex body of these societies, namely the Kerala State Co-operative Rubber Marketing Federation, popularly known as 'Rubber Mark' was formed to guide, co-ordinate and strengthen the activities of the primary societies with its headquarters at Cochin.

In 1988, the Rubber Mark had 22 primary co-operative rubber marketing societies and 11 general marketing societies dealing in rubber as its members. The total individual members of these societies are more than 50,000 small growers. At present there are 35 marketing societies affiliated to the Federation and membership has grown to about 62,000 small growers.

The growers sell their produce to the societies, and the societies after grading the rubber, give a premium for the graded rubber to the members. Rubber thus collected is entrusted with the Federation for selling to the

terminal points and to the consuming industry. Since there is no exploitation by middlemen or other agencies, the societies can fetch the maximum possible price for their produce. The profit generated by the Federation is divided among the member societies and the societies will give a share of this to the members. Besides profit sharing, primary societies help their members by distributing agricultural inputs and other requirements supplied by the Federation and Rubber Board under various schemes. Plant protection operation is also undertaken by the Federation on nominal charges. Educating the growers on making grade rubber, manuring in time and imparting knowledge of scientific management in small holding etc., are also undertaken by the Federation at different levels among the societies and members.

The Rubber Board and the Federation are solely responsible for ensuring a remunerative price for scrap rubber, which was being sold at throw away price by small growers. Establishment of six Crumb Rubber factories created awareness among small growers about the worth of the scrap and this has enabled them to feel that their small holdings are economically viable units.

Apart from the main activities, Rubber Mark adopts latest marketing techniques to meet the challenges from more than 5,000 dealers and their intermediaries. Rubber Mark also undertakes sale promotion activities and advertisements. It has a network of sales branches in New Delhi, Bombay, Faridabad, Ghaziabad, Jullundur, Ahmedabad and Bangalore and purchase depots in Trivandrum, Vithura, Punalur, Anakkunnam, Nilambur, and Iritty. In order to achieve a better market share and to serve the consumers better, the Rubber Mark has started an Agency Division in December, 1985 at Bombay.

The Co-operatives and the Federation have played a very important role in the price support operations of the Government implemented through State Trading Corporation (STC). The STC appointed the Rubber Mark as its agent to store rubber from November, 1988 onwards. In order to serve the remote rubber growing areas, where the services of the marketing societies are yet to reach, the Federation has chalked out a scheme whereby the services of good working Primary Agricultural Co-operatives are also utilised, to procure rubber by appointing them as agents without affecting the procurement operations of the marketing societies. When this scheme is developed in proper times and the primary societies gain sufficient experience, the Federation will entrust this procurement scheme with the local marketing societies.

Though the rubber marketing societies and the Federation were formed for the purpose of gaining control in the rubber market on co-operative lines, 34 years of their working show that they could handle only 15 per cent of the rubber produced in Kerala and 12 per cent of that produced in the country as a whole last year. The co-operative sector altogether covers only less than 20 per cent of the marketing of natural rubber.

Price Protection Activities

The Kerala State Co-operative Rubber Marketing Federation Ltd. achieved the procurement target of natural rubber during 1992-'93. During the last year the Rubber Mark procured about 41,000 tonnes.

The 'Rubber Mark' stores the surplus natural rubber procured during the peak season for releasing it during the lean season to protect the prices. Thus the price stabilisation can be achieved in the marketing of natural rubber. This

will safeguard the interest of the small rubber growers by avoiding speculative trade in rubber by dealers. The rubber industry is also protected by avoiding artificial shortage of rubber in the rubber market. But this trade practice cannot be managed for a long period of time by the Federation on account of lack of storage facilities.

In the year 1987, the rubber dealers in Kerala were on indefinite strike for one month i.e., from 20th September, 1987 to 28th October, 1987. During this period, the Rubber Mark gained the name 'as the sole marketing source' of natural rubber. The Rubber Mark sold rubber to manufacturers directly at Rs. 1,770 per quintal for ungraded rubber and thus protect the manufacturers by stabilising the price at that critical time. Rubber Mark also helps the co-operative marketing and processing societies to export various value-added rubber-products to other countries.

The Federation and the member societies can achieve the good name as 'organisations safeguarding interests of the small holders,' only if they can procure and market at least 50 per cent of the rubber produced by the small holding sector. The future policies of these agencies should be streamlined with this end in view.

Now Rubber Mark, the largest supplier of natural rubber in the country is also the single biggest marketer of crumb rubber manufactured in co-operative sector at the following factories:

1. Rubber Mark Crumb Rubber Factory, Chenappadi, Kanjirappally.
2. Indiar Crumb Rubber Factory owned by Palai Marketing Co-operative Society Ltd., Palai.
3. Mannarcadu Crumb Rubber Factory owned by Palghat District Co-operative Rubber Marketing Society.

4. Malabar Crumb Rubber Factory owned by Kozhikode District Co-operative Rubber Marketing Society Ltd., Calicut - 1.
5. MRM Crumb Rubber Factory owned by the Muvattupuzha Taluk Co-operative Rubber Marketing Society Ltd.
6. Corubber Crumb Rubber Factory owned by the Thodupuzha Taluk Co-operative Rubber Marketing Society Ltd., Thodupuzha.

Intermix Project

An Intermix factory was started at Kaduthuruthy in March 1994. This project envisages manufacture of 'mother compound' which is a new concept developed in industrially advanced countries of America and Europe. 'Mother compound' is manufactured incorporating all the latest technologies, so that tiny, small and medium scale end product manufacturers can straight away use this as a ready mix to get their product in desired specification. This value-added compound will ensure staying power and better market realisation for the growers.

This project with a total outlay of Rs. 2.20 crores has been designed based on the most modern technology in the field with the guidance of the Rubber Board.

EXPORT OF RUBBER

The Federation entered into an MOU with M/s. Harrison Malayalam Ltd, for exporting rubber during the year 1993-'94. The basic objective in entering into the export business was to ensure a fair and reasonable price for rubber especially ISNR grades. The Rubber Mark exported 136.20 MTS of ISNR - 10/20 to M/s. Goodyear Orient, Singapore and 19.20 MTS to Netherlands. All the materials were accepted and the companies have shown interest in repeated purchase.

RUBBER MARK AT A GLANCE

1. Date of Registration	16-03-1971
2. Date of Commencement of work	30-04-1971
3. Head Office	Cochin
4. Authorised Share Capital	Rs. 5,00,00,000
5. Paid up Capital	Rs. 1,75,83,000
6. Member Societies	35 Nos.
7. Purchasing Branches	16
8. Sales Branches	08
9. Agent Societies	100
10. Rubber Producers' Societies	850
11. Sales Branches:	12. Purchase Branches:
a. Bombay	a. Trivandrum b. Puthuppady
b. Calcutta	c. Vithura d. Poovathilappu
c. Delhi	e. Nilambur f. Kaduthuruthy
d. Jullundur	g. Arakkunnam h. Cherpunkal
e. Ghaziabad	i. Irity
f. Faridabad	j. Thaikoottamparamba (West hill)
g. Ahmedabad	k. Koottickal l. Calicut
h. Bangalore	m. Pandalam n. Kottayam
	o. Karuvarakundu p. Neezhoor
13. Processing Units	
a. Centrifuged Latex	2
b. Cream Latex	5
c. Speciality Rubber	2
d. C.V. Rubber	1
e. G.P. Rubber	1
f. Latex Crumb Factory	1
g. Oil Extended Natural Rubber	1
h. Thermo Plastic Natural Rubber	1
i. Pre-vulcanised Latex Compound	10
14. Turnover (1993-'94)	Rs. 115 Crores
15. Net Profit (1994-'95)	Rs. 1.20 Crores

CHAPTER VII
SUMMARY OF CONCLUSIONS
AND SUGGESTIONS

This study focuses on the analysis of the various marketing channels of natural rubber with special reference to co-operative rubber marketing in Kerala. It examines the natural rubber production, processing, consumption, marketing channels and problems of marketing natural rubber. The total population of the study comprises the small rubber growers, dealers and marketing co-operatives all over the State of Kerala.

The marketing problems in relation to natural rubber are: assembling, processing, grading, packing, storing, transporting and financing. Assembling is the procurement of different types of produce from the growers spread over a vast area. Processing involves the preparation of latex and other value added products ready for the market. Grading is done for the easy determination of the quality of the produce. Packing is to facilitate easy transportation. Storing refers to the keeping of the produce till it is sold. Transporting is the movement of goods from one place to another. For all these activities finance is a must.

The study also analyses some glaring problems of marketing natural rubber in Kerala. Following are the main problems faced by the rubber growers, especially small growers in the distribution of their produce at the right time for the right price.

1. Indebtedness of farmers and forced village sales

It is often stated that an Indian farmer is destined to take birth in debt, live in debt and die in debt. This picture is not different in the case of the small rubber grower. He is in need of money for purchasing the seedlings, manure and to meet all expenses incidental to agricultural operations. The subsidies and other advances from the Rubber Board are not received in time and the alternative sources available to meet the financial requirements are the village money-lenders and the rubber traders. This ready-made source of finance from money lenders and rubber traders forces the rubber growers to sell their produce in the villages at an unfavourable place and time and get the lowest price which is agreed in advance at the time of the receipt of the loan. The study reveals that about 75 per cent of the growers sell their produce to village dealers. The table below indicates the nature of sale by small growers.

Table 7.1
Sale of Natural rubber to dealers by small growers

Nature of dealers	No. of growers	% share of growers
Sale to village primary dealers	750	75
Sale to middle dealers	200	20
Sale to big dealers	50	5
Total	1000	100

Source Field Survey

2. Lack of waiting capacity

Rubber is a semi-processed industrial raw material. It is also highly seasonal. So there is often price fluctuations in the market. Since the small rubber growers are hard pressed for cash, they are forced to dispose off the

produce immediately after processing. Subsequently a glut is created in the market, which results directly in the fall of prices by at least 15 to 20 per cent. Thus the growers get lower prices. Small growers have no resistance power to hold the stock of goods and to reap the advantage of the price rise in the off season. Weekly sale of produce is the practice of 61 per cent of growers. Monthly sale is possible only by financially sound growers and it accounts for 4 per cent. The following table shows the waiting capacity of small growers.

Table 7.2
Periodicity of sale by small rubber growers

Periodicity of sale	No. of growers	% share of growers
Twice in a week	170	17
Weekly	610	61
Bi-weekly	180	18
Monthly	40	4
Total	1000	100

Source Field Survey

3. Excessive middlemen and multiple market charges

The market study made in major rubber markets shows that the rubber marketing is characterised by the existence of excessive middlemen or intermediaries between the producers and consumers. Primary rubber dealers, who mostly concentrate in village areas, exploit the growers by making numerous deductions from the price of the produce. To get better prices, some growers carry their produce to the distant markets, where they are again cheated by the middle dealers and big dealers.

The presence of such a large army of middlemen who operate in the village rubber market cut the bits both from producers and consumers. They cut off a larger share of the cake and as a result neither the producers nor the consumers are happy. It is estimated from the survey that most of the village traders take an average of 10 per cent commission from the rubber growers. The table below shows the rate of commission taken by rubber dealers.

Table 7.3
Rate of Commission taken by dealers

Rate of Commission	No. of growers	% share of growers
Less than 3%	40	4
3% to 5%	80	8
5% to 7%	110	11
7% to 9%	140	14
9% to 11%	470	47
Above 11%	160	16
Total	1000	100

Source Field Survey

Malpractices are common in the rubber market. The traders in the village market cheat the poor growers by using the non-standard weights and measures. To quote the experience of many village small rubber growers, the primary dealers use one kind of measures and weights while buying, and entirely different measures and weights while selling. Various arbitrary deductions are made from the prescribed price. While selling rubber, certain portions of the rubber is taken as samples and no price is paid for it. The persons who help in loading, unloading and weighing do charge heavily for their services. The dealers deduct heavily for impurities in the produce, owing to lack of proper grading facilities.

4. Lack of grading facilities

Rubber grading was first practised in New York by the New York Rubber Manufacturers' Association (RMA). In India, we are also following the same principles followed by RMA. But in 1960, at Singapore, the International Rubber Conference fixed some basis for grading the rubber. It is known as Ribbed Smoked Sheet Grading (R.S.S). All rubber producing countries including India are now following the R.S.S. grading system.

In India there are twenty two grades for sheet and crepe rubber under seven groups. In addition, there are three groups of concentrated latex. Recently three additional grades have been prescribed for technically specified rubber. The top grade of sheet is called RSS IX. Usually for marketing convenience, there are five broad grades of rubber which are dealt with in the Kottayam and the Cochin rubber markets. They are R.S.S. I, R.S.S. II, R.S.S. III, R.S.S. IV and R.S.S. V.

Natural rubber grading is based on visual inspection. The quality of rubber decreases with the increase in the percentage of mould, sand, bark or blemishes and also according to the colour of rubber. Pale Latex crepe is priced higher than any other grades of rubber. Since grading of rubber is visual in nature, it creates difficulties to producers and consumers. Downgrading is a serious problem stemming from the visual nature of grading and it reduces the price realised by the growers. The real benefits of grading is wholly taken by the middle and big dealers who do the grading. So, it is highly essential to educate the small growers to grade rubber as per specifications which were introduced by the International Standards Organisation. Grading facility is enjoyed by 16 per cent of the respondents as shown in the table below.

Table 7.4
Grading facilities available to growers

Grading facilities	No. of growers	% share of growers
Sale by grading of sheet rubber	240	16
Sale by non-grading of sheet rubber	660	44
Sale in the form of latex where there is no grading	600	40
Total	1500	100

Source Field Survey

5. Inadequate storage facilities

The storage facilities available with the farmers are deplorably poor. In most villages, the rubber growers store the produce in open space. Loss due to the inadequate storage facilities is estimated to be 5 to 10 per cent in weight and quality. Loss due to fungi is also happening on account of bad storage facilities. Rubber production shows peak and slack periods which would involve the storing of rubber for some period to get better prices. Therefore, storing of the produce till it is sold at favourable prices is an important problem faced by growers. Co-operative rubber marketing societies help the growers by providing common warehousing facilities to its members. But their help too is inadequate due to the lack of adequate warehousing facilities.

6. Problem of processing raw rubber

Even though natural rubber is a vital raw material for various products, it can be used only after processing. Marketing of rubber is usually done after processing. Processing at the producers' level involves the preparation of latex into any one or more of the following, viz. smoked sheet, preserved latex

and various forms of crepe rubber or technically specified rubber. In Kerala most of the small growers convert their produce into smoked sheet. This is an expensive and difficult task. It is estimated that the processing of a kg. of rubber sheet would cost around paise 90. For making smoked sheet, four days of smoking is generally sufficient under normal condition, but during rainy seasons five to seven days are required for satisfactory drying of sheets. Smoked sheets are prepared in smoke houses. Rubber Board has recently started giving assistance for the construction of smoke houses. Blue prints of various types of smoke houses are available for sale at the Rubber Research Institute of India. For the purpose of making other forms of rubber, growers have to depend on processors or sell the latex at a lower price to processors. In order to avoid the exploitation of processors, co-operative rubber processing societies are established in different parts of Kerala.

7. Lack of well developed means of Packing and Transportation

Packing and transporting are the two main problems in rubber marketing. The purpose of packing is to ensure external appearance and finish. Packing is considered the fifth 'P' in marketing. Rubber is generally packed in rubber sheets itself coated with chalk powder. Sometimes wooden cases are used for packing. Polythene sheets have been introduced for packing technically specified rubber. Drums are used for packing concentrated latex. All these methods can be afforded only by large holders. Small growers cannot do this because it is costly and can be done only with the help of trained persons.

Conveyance is another crucial problem. As sheet rubber is bulky, it is very difficult to move it without the aid of transporting system. Lack of good roads is another drawback. Most of the villages in hilly areas, where rubber is largely

grown, lack good road facilities. The major transportation systems in rubber marketing are road, rail and shipping. The study shows most of co-operative rubber marketing and processing societies have their own transportation means. But during peak season, the existing transportation facilities are inadequate.

8. Lack of financial services at low rate of interest.

The financial institutions involved in rubber marketing are indigenous bankers, commercial banks and co-operatives. Banks provide overdraft and loans on hypothecation of produce and allow discounting of bills of exchange. The village farmers are financed by the local money lenders. These people charge exorbitant rates of interest to the extent of 50 to 60 per cent. They take security of either gold ornaments or the rubber farms and follow the method of compound interest.

The co-operative marketing societies try to solve the problems to some extent. But what the study shows is that most of the co-operative marketing societies are suffering from serious financial difficulties due to the lack of financial support from the government.

The Rubber Board gives assistance only to new planters and re-planters and that too, just upto the period of maturity. Afterwards the Board is providing no assistance in any form. The recent step taken by the Board to withdraw cash subsidies to rubber growers holding more than 5 hectares of land is another serious blow to the medium rubber growers. The need for the time is financial assistance at low rate of interest to co-operative societies and rubber growers.

9. Price fluctuations

The most crucial and dangerous problem faced by all types of rubber growers is the fluctuations in the price of natural rubber. The price of the natural rubber was brought under control by the issue of the Indian Rubber Control and Production Order, 1942. On 30th September 1946, the Rubber Control and Production Order expired. The fixation of the price was statutorily provided in the Rubber Act, 1947. Under this Act, the Government of India could fix both the minimum and the maximum price for various grades of rubber. Now the fixation of rubber price is undertaken by the Tariff Board or its successor, the Tariff Commission. Between 1947 and 1985, rubber prices were fixed or revised on several times. At present only the minimum prices are notified. The statutory minimum prices for various grades of natural rubber which were in force from 6th August 1977 were revised upwards on 17th April 1979 for a period upto 30th June, 1980. The revised price of RMA grade rubber was Rs. 825 per quintal as compared with Rs. 655 in force prior to the revision. However, during 1978-'79 and 1979-'80, the market was ruling above the minimum prices.

The International price of natural rubber recorded a steady increase in 1978 and 1979. In Malaysian market, the price of R.S.S.I grade was M\$ 239.50 (Rs. 881) at the end of the year 1978 and by the end of 1979 it further increased to M\$ 297.50 (Rs. 1,089). The trend in average price of R.S.S.I grade rubber in India was Rs. 671 in 1977, Rs. 934 in 1978 and Rs. 1,071 in 1979.

In early 1975, there was run away price of rubber in the domestic market. Instability of rubber price gives a great blow to the rubber growers. But on the other side, fluctuations in rubber price is often advantageous to rubber dealers. What the growers want, is a stable price which will fetch the cost of

production and a reasonable margin. Steady fall in price really puts the growers in great trouble. Likewise, heavy rise in price results in heavy financial burden on rubber consuming industries. Both these sectors need a stable price. A price increase of Rs. 1,000 per tonne on rubber makes an annual financial burden of Rs. 22 crores on the rubber consuming sector. Nearly 4,000 rubber-based manufacturing units, most in small scale and tiny sector are affected by the high fluctuations in rubber price. High rise in price of rubber ultimately affects the production of rubber goods and in turn the demand of rubber. This will spoil the entire economy of rubber. That is why rubber growers are demanding a sustained price rather than high fluctuations in rubber price. In November 1985, the rubber price declined to a great extent. This was due to the release of stock by STC and the pressure of rubber consuming sectors in the market.

During April 1986, rubber price in the leading market Kottayam rose sharply. The price (ex-Kottayam) of the R.M.A.IV variety fluctuated around Rs. 1,750 per quintal during the major part of the month. In the major consuming centres like Bombay, Calcutta and Delhi the price for the corresponding variety was higher - around Rs. 2,000 per quintal. The prices of better varieties were usually higher by nearly Rs. 75 to Rs. 150 per quintal over that of R.M.A.IV in these markets. In the international market (Malaysia), the ruling price for R.S.S. IV was only Rs. 1,000 per quintal during the same period.

But the second half of 1986 showed a sharp decline in rubber price. Rubber growers were again in real trouble due to the fall in the price of rubber as well as increase in the price of manure, wage-rates, pesticides, etc. The price of inputs like formic acid also increased which worsened the situation. The decline in price was mainly due to the action of the STC. The STC imported 36,000 tonnes of rubber during that period. This resulted in crashing of the rubber price from Rs. 18 per kg. to Rs. 15 per kg.

On account of repeated request from all corners, especially from the Government of Kerala and Rubber Growers' Association, the Central Government had taken various steps to stabilise the rubber price. From January 1987, rubber price increased and touched at the level of Rs. 18 again in April 1987.

The price of natural rubber which registered a sharp rise the world over during the latter half of 1994, is likely to continue in the rising trend in 1995. While some traders in Singapore and Malaysia have expressed the view that the present price rally, which started in 1993 will be in force for three more years, like the last price rise in 1987 ¹

To quote the traders and growers in Thailand, the demand for rubber was strong and prices had reached all time high in 1995. They described 1995 as a 'golden year for rubber'

The 26 member International Natural Rubber Organisation (INRO) is to resume its efforts for a new pact on rubber prices on February 6, 1995. The effort made at the last years meeting in Geneva failed to reach an agreement on the minimum price. Prospects of an agreement in the next meeting seems very remote, in view of the sharp rise in rubber prices in the intervening period. A failure would signal the deathknell of the International Agreement on rubber which was first concluded in 1970 to 'stabilise' rubber price ².

During the last one and a half years, the international price has been higher than the domestic price as is evident from the table given below.

1 John S. Powath, Bright out look for rubber in 1995, Rubber Asia November - December 1994, p. 104.

2. Ibid.

Table 7.5
Domestic and International prices of Rubber from 1990 to 1994

Year	Malaysia	India Rs./Kg.
1990	14.32	21.47
1991	18.02	21.08
1992	24.87	24.63
1993	25.53	24.16
1994 (Jan - Aug)	30.82	28.17

Source Rubber Asia, November - December 1994, p. 68

The following tables give the weekly average price of Natural Rubber in Kuala Lumpur market and Kottayam market

Table 7.6
Weekly average price of Natural Rubber in Kuala Lumpur market
(In Malaysian dollars per quintal)

Week ending	RSS 3		SMR 20	
	M\$	Rs.	M\$	Rs.
5-11-1994	338.65	4155.00	338.60	4150.00
12-11-1994	339.40	4160.00	337.00	4125.00
19-11-1994	340.70	4170.00	337.70	4135.00
26-11-1994	342.80	4200.00	341.60	4185.00
3-12-1994	350.00	4295.00	354.60	4351.00
10-12-1994	360.50	4410.00	375.80	4596.00
17-12-1994	372.00	4550.00	397.90	4866.00
25-12-1994	383.40	4689.00	418.00	5112.00

Source Rubber Asia November - December 1994, p. 102

Table 7.7
Weekly average price of Natural Rubber in Kottayam market
 (Rs. per quintal)

Week ending	RSS 4	Ungraded
5-11-1994	3350	3200
12-11-1994	1150	2900
19-11-1994	3100	2900
26-11-1994	Bundh	
3-12-1994	3550	3300
10-12-1994	3800	3650
17-12-1994	3850	3375
26-12-1995	3950	3710

Source Rubber Asia, November - December 1994, p. 106

A comparative study of natural rubber price in major international markets like London, Tokyo, New York, Kuala Lumpur and Singapore is given below.

Table 7.8
Natural Rubber Prices, monthly averages per tonne

	August 1993	June 1994	July 1994
London sterling			
RSS 1, cif	597.3	771.7	878.5
RSS 3, cif	581.5	766.0	872.6
Tokyo, '000 yen			
RSS 3	82.9	121.1	131.7
New York, US Dollars			
RSS 1	966.8	1215.7	1377.6
TSR 20	840.3	1129.1	1216.7
Kuala Lumpur, ringgit			
RSS 1	2094.0	2714.0	3237.0
RSS 3	2046.0	2660.0	3216.0
Singapore, S'pore dollar			
RSS 1	1340.0	1676.0	1973.0

Source Rubber Asia, November - December, 1994, p. 144

The early part of 1995 showed a remarkable hike in natural rubber price. The price of the natural rubber reached at Rs. 62/Kg.³ during the first week of June for ungraded rubber in Kottayam. The market sources predicted this tempo to continue in the coming days on account of fall in production of natural rubber in Thailand, Indonesia and Malaysia and strong demand from China and Japan. The recovery of global economy in general too will naturally push up rubber prices.

10. Lack of Organisation

The absence of collective organisation among small scale rubber growers was considered a problem for marketing rubber at a reasonable price. The survey shows that 74 per cent of the small growers are having holdings less than one hectare. The following table illustrates this.

Table 7.9
Distribution of Rubber Growers by the size of Holdings

Area in hectares	No. of growers	% share of growers
Less than 0.5	705	47
0.5 to 1.0	465	31
1.0 to 1.5	195	13
1.5 to 2.00	135	9
Total	1500	100

Source Field Survey.

Small scale rubber growers being scattered, unity of thought, purpose and action cannot be made possible easily. However, a union of rubber growers is a must for protecting their interests through collective bargaining. Large rubber estate owners have their own associations. United Planters' Association of South

³ The Malayala Manorama, Kottayam, June 3, 1995, p. 2

India (UPASI) is the largest Association of Planters in Rubber, Coffee and Tea, with its headquarters at Conoor. But in the case of petty, small and medium rubber growers, they are still not united and are mostly non co-operative in their activities. The 'Kerala Karshaka Sanghom' is an organisation of small scale cultivators. The 'Rubber Growers' Association' is another association of small scale rubber growers. These associations are now mostly inactive.

It is high time for the rubber cultivators to understand the real meaning of the statement 'united we stand and divided we fall'. The starting of co-operative rubber marketing societies in different regions of the State improved the position of small rubber growers to a considerable extent. But what is needed is a strong organisation covering all types of growers, both large, medium and small, to protect the interests of the rubber producing community.

The present study relating to the various marketing channels of natural rubber with special reference to co-operative rubber marketing in Kerala leads to the following findings:

Rubber cultivation in our country is no more the monopoly of the very large holders. Now the dominant partner is the emerging small holder. There is a common belief that estate holders have economy of scale and low cost of production and, therefore, their returns are high as compared to small growers. The study shows that this is not the true picture. The small growers are very successful in competing with large holders in increasing their output and maintaining the cost of production reasonably low. Rubber is considered a 'small holder crop'

In the processing of rubber, 90 per cent of the small growers, who are not members of co-operative societies, convert their produce into smoked sheets. To process a kg. of sheet, it is estimated that the cost would be around paise 90. During rainy season, the cost would be even higher. The members of the co-operative society, on the other hand, sell their produce mainly in the form of latex. Latex products should be given top priority as the local use of latex have many advantages including the freight factor and avoiding the difficulties in making smoked sheet rubber.

An important aspect of rubber marketing channel is the multiplicity of intermediaries. It paves the way of unhealthy competition among themselves. Private dealers are predominant in the marketing of natural rubber. About 80 per cent of rubber trade is now controlled by them. The study on the marketing channels of natural rubber shows that 75 per cent of the small growers sell their produce to village primary dealers, 20 per cent to middle dealers and only 5 per cent to big dealers. (Table 7.1)

Rubber is a semi-processed industrial raw material. It is also seasonal in nature. So there is often price fluctuations in the market. The small farmers have no resistance power to withhold the stock of produces and to reap the advantages of the price rise in the off-seasons. The advantage of the record price rise of natural rubber during the current off-season is really enjoyed by dealers withholding their stock. The field survey shows the periodicity of sale by 61 per cent of small growers as weekly and only 4 per cent held the stock for more than one month. (Table 7.2)

Lack of proper grading facility makes the marketing of natural rubber more complex. Grading facility is enjoyed by 16 per cent of the small growers.

(Table 7.4). The present system of grading of rubber is visual in nature, and it creates difficulties to growers. Downgrading is a serious problem stemming from the visual nature of grading and it reduces the price realised by the small growers.

The estate holders face only very little marketing problem, as they have their own marketing facilities and are also financially sound. The study shows that there is direct sale made by them to large tyre manufacturers. Some of the estate holders are themselves dealers as well.

The study shows that the co-operative rubber marketing in Kerala covers only less than 20 per cent of the marketing of natural rubber. In Kottayam and Pathanamthitta districts, 54 per cent and 52 per cent of the members of the co-operatives feel their functioning good, 34 per cent and 32 per cent satisfactory and 12 per cent and 14 per cent unsatisfactory. (Tables 6.8 and 6.9). The use of rainguarding is more common among the members of co-operative societies than non-members in Kottayam and Pathanamthitta districts. Some Co-operative Rubber Marketing and Processing Societies in Kottayam district distribute the surplus generated by way of bonus to the members.

The special services rendered by the co-operatives in Kerala include the supply of agricultural inputs at reduced prices and the provision of grading, storage and transportation facilities at cheaper rates. Some non-financial services like demonstrations and study classes regarding modes of tapping, use of pesticides, manuring, rainguarding and weeds control are also provided.

The private dealers still flourish in the midst of co-operative channels on account of some special types of services such as giving advances to growers

during off-seasons and offering facility to settle the value of the rubber supplied from time to time at any point of time preferred by rubber growers. The marketing costs of private dealers are very low. But on examination of the books of accounts of the marketing societies, the marketing costs are three times higher than that of private dealers. The study shows the members who sell through the co-operatives at times bypass the co-operatives and sell their produce to the private dealers.

The co-operative sector is in a better position to avoid the wide fluctuations in the price of natural rubber. Majority of the members of the co-operatives have the opinion that when the prices are falling down the co-operatives are the best channels. But, on the other hand, when prices are going up, private dealers are more beneficial to growers because of the speculative prices they offer.

The study on price fluctuations shows that the rubber price is high during the off-season and low at the time of peak season. So the advantage of price fluctuations can be enjoyed by the dealers and other intermediaries. The 'in between agencies' are getting the cream of the rubber trade and growers are exploited by them. For instance, during the first week of June 1995, the price of natural rubber was quoted at Rs. 62 per kg⁴ for ungraded rubber in Kottayam market; where as the price was only around Rs. 32 per kg⁵ on first week of December 1994. This price advantage is really enjoyed by strong intermediaries who have the ability to stock goods. Excessive price rise of natural rubber in the long run may affect rubber growers by the introduction of substitute of the natural rubber and the widespread use of synthetic rubber. This may lead to unforeseen consequences in the marketing of natural rubber.

4. Ibid

5 Price on 1/12/1994, Rubber Asia, November - December, 1994, p 106

The functioning of the Rubber Producers' Societies is appreciated by the members on account of lack of outside interferences. The existence of the large number of RPSs in Kottayam and Pathanamthitta districts has revealed this positive approach. (Tables 6.6 and 6.7)

The survey regarding tapping cost shows that there is tremendous increase during the last five years from 1990-'91 to 1994-'95. During 1994-'95 the rate of increase is 267 percent. The following table shows the rise of the cost of tapping.

Table 7.10
Cost of tapping from 1990-'91 to 1994-'95

Year	Cost per 100 trees	% increase
1990-'91	Rs 7.5	100.00
1991-'92	Rs 8.0	106.67
1992-'93	Rs 10.0	133.34
1993-'94	Rs 15.0	200.00
1994-'95	Rs 20.0	266.67

Source: Field survey

Lack of proper communication regarding the price of different grades of rubber is another serious matter. Most of the growers have to depend on newspaper price. The growers feel that baseless newspaper reports affect the rubber price. A mere report regarding import of natural rubber may affect the smooth fixation of rubber price in the market. The vast and scattered nature of rubber trading centres in Kerala also necessitates the need of proper communication. The important rubber trading centres in Kerala are Payannur, Tellicherry, Nilambur, Palghat, Trichur, Perumbavoor, Kothamangalam, Adimali,

Moovattupuzha, Thodupuzha, Palai, Mundakayam, Kanjirapally, Kottayam, Manimala, Mallappally, Ranny, Kozhencherry, Pathanamthitta, Konni, Quilon and Nedumangadu.

The study on Rubber Mark shows that they handle only less than 10 per cent of the total rubber marketed. The procurement activities should be improved and more financial facilities should be arranged through the member societies.

SUGGESTIONS BASED ON THE STUDY

1. The study suggests that a possible solution for the problems faced by small rubber growers is to make the operation of the co-operative rubber marketing system more effective. The present marketing structure of rubber shows that the rubber produced by small holders goes through a chain of agencies like primary dealers, middle dealers, big dealers, processors, auctioneers, brokers and agents acting in between them, before it reaches the final consumer. The more the number of agencies, the higher will be the total marketing cost. The effect is vast difference between the farm gate price received by the grower and the price paid by the ultimate consumer. Various taxes, cesses, trade charges, deduction in weighing and lack of proper grading are also a part of this difference. The study shows that under the present marketing system, the ideal method to ensure a better return to the growers is to minimise the number of marketing agencies to a considerable extent. The suitable remedy for this is co-operative marketing.

2. The primary rubber marketing societies at the village level can buy the produce from the rubber growers and can arrange its sale through the apex organisation, which has built up sales infrastructure in the terminal market.

This ensures maximum price realisation. The operation of co-operatives also help, indirectly, to maintain the price level. But unfortunately co-operative rubber marketing sector handles only less than 20 per cent of the marketing natural rubber.

3. The role of the developmental agencies should be streamlined to rescue the small holders in times of difficulty. The Rubber Board has initiated a massive programme for organising Rubber Producers' Societies in rural areas. The RPSs in the villages are being fully managed by rubber growers themselves. This programme needs to be strengthened by providing required professional support through appropriate agencies.

4. The Rubber Marketing Federation (Rubber Mark) should provide market intelligence guidance and also monitor the working of the primary processing and marketing societies. Rubber Mark should also streamline the financial planning, budgetary system and cash management.

5. To boost the morale of the co-operative societies and also their members, it is suggested that the Federation should not purchase from any sources other than the co-operative sector.

6. The management information system should be strengthened in order to provide the senior officials of the Federation to take timely decision which is very essential for reaping optimum benefit from export market operation, which is very limited now.

7. The governmental policies should be ones which are long standing and firm. Policies regarding import of natural rubber should be framed only

after proper consultations with all corners including the small rubber growers and all types of rubber consumers.

8. The purchase practices followed by the marketing co-operatives especially out right purchases and advances against stocks are not effective. Advances against stock should be popularised in all marketing co-operatives. The study shows the main suggestion given by the members of the co-operatives for improving the working of the co-operative rubber marketing societies in Kottayam and Pathanamthitta districts is to provide more financial help. (Tables 6.10 and 6.11).

9. The need of the hour is the importance of healthy competition between the private and co-operative sector in the marketing of rubber. The setting up of more rubber processing centres and warehouses for ensuring proper storage is also important.

10. Eventhough the co-operative sector has the government backing, at times it fails to honour the commitments because of its inherent weaknesses like

- a. politicisation
- b. lack of spirit of co-operation among the members
- c. lack of professionalism
- d. less accountability
- e. mis-management and corruption
- f. financial difficulties, and
- g. excessive competitions from private dealers.

Inspite of these drawbacks, rubber marketing co-operatives are the only organised agency involved in solving the marketing problems of small

rubber growers. By removing the above shortcomings, the co-operative movement in rubber marketing can be made an effective tool for the general upliftment of the small rubber holding community.

These weaknesses of the rubber marketing co-operative societies can be removed by adopting the following measures;

- a. by providing timely and adequate finance to the societies from the apex organisation and from the government agencies.
- b. by making the management more efficient and accountable.
- c. by avoiding local politics and political interference and
- d. by strictly observing the co-operative principles.

The study suggests that the Rubber Board and the Government should take special efforts to increase the financial assistance given to the rubber growers, especially the small growers, and should see that the assistance reaches them in the right time in right quantities. The Rubber Marketing Societies and the Rubber Producers' Societies (RPSs) should go hand in hand and avoid unnecessary competition. Unhealthy competition from dealers can be removed by following a strict licencing policy by the Rubber Board.

Irrespective of these difficulties and sufferings, the future of the small rubber growers is bright. We can definitely wipe every tear from every eye of the rubber growers by a proper linking of the three elements - the growers, the middle-men and the consumers - and if professional management is made available in the establishment and running of the co-operatives.

BIBLIOGRAPHY

A. BOOKS

1. Audry, Donnithorne. G,
British Rubber Manufacturing, London, Gerald, Buckworth
and Company, 1958.
2. Bauer. P.T.,
The Rubber Industry - A Study in Competition and Monopoly,
London, Longman Green and Company 1948.
3. Bendre and Kumar,
Economic Botany, Rastogi Publications, Meerut, 1982-83.
4. Bert Rosenbloom,
Marketing Channels - A management view, The Dryden Press,
Hinsdale, Illinois.
5. Edward. W.Cundiff and Richard. R. Still,
Basic Marketing, Prentice-Hall of India Pvt. Ltd., New Delhi,
1972, II Edition.
6. Fay. C.R.,
Co-operation, Home and Abroad, Rainbow Publications, 1986.
7. Herbert Calvert,
The Law and Principles of Co-operation,
8. Kochhar. S.L.,
Economic Botany in the Tropics, Mc Millan India Ltd., 1989.
9. Mathur. B.S.,
Co-operation in India, Sahitya Bhavan, Agra 1984.
10. Maurice. I. Mandell and Larry .J. Rosenberg,
Marketing, Prentice - Hall of India Pvt. Ltd., New Delhi, II
Edition.
11. Pandey. B.P.,
Economic Botany, S. Chand and Co. Ltd., New Delhi, 1984.
12. Patnaik. C. Umesh, Roy K. Anantha,
Co-operation and Co-operative Management, Kalyani Publishers,
Ludhiyana 1988.

13. Philips. C.F. and Duncan D.J.,
Marketing Principles and Methods 1976.
14. Philip Kotler,
Marketing Management Analysis, Planning and Control,
Prentice - Hall of India Pvt. Ltd., New Delhi, V Ed.
15. Philip Kotler,
Principles of Marketing, Prentice Hall of India Pvt. Ltd.,
New Delhi, II Ed.
16. Pillai. K.M.,
A Text Book of Plantation Crops, Vikas Publishing House,
New Delhi.
17. Schidrowitz. P. and Dawson T.R., (Ed),
History of the Rubber Industry, Cambridge. W. Heffer and Sons
Ltd., 1952.
18. Sharma. A.N.,
Economic Structure of India, Himalaya Publishing House,
Bombay 1984.
19. Sivarama Prasad. A.,
Agricultural Marketing in India, Mittal Publishers, New Delhi.
20. Speer. S.G. (Ed),
UPASI 1893-1953. United Planters' Association of South India,
Conoor 1953.
21. Sripati Ranganadha,
Text Book of Marketing Management, S. Chand & Co. Ltd.,
New Delhi.
22. Subbi Reddy. T.,
Marketing Management, S. Chand & Co. Ltd., New Delhi,
I Edition.
23. Tousely R.D., Clark. E, Clark. F,
Principles of Marketing, Mc Millan Co., New York.
24. Uma Devi. S.,
Plantation Economy of the Third World, Bombay, Himalaya
Publishing Company, 1989.

B. REPORTS AND JOURNALS

1. **Abdullah. T.M.,**
Report of the Rubber Small Holdings, Economic Enquiry Committee, Rubber Board, Kottayam, 1968.
2. **Annual Report, 1973-74, National Co-operative Development Co-operation.**
3. **Bhat. M.D.,**
Report on the Revision of Prices of Raw Rubber, Manager of Publications, Govt. of India, Delhi 1953.
4. **Chew. T.A.,**
Measuring the Rate of Technological Changes in Chinese Rubber Small Holdings - A Micro - Economic Approach, Journal of Rubber Research, Institute of Malaysia, Vol. 32, Part III, 1984.
5. **Daud Mohd. Napi Bin,**
A Forecasting Methodology as Applied to Rubber Prices. Journal of Rubber Research Institute of Malaysia, Vol. 31, Part 3, 1983.
6. **Dey. H.L.,**
Report of the Indian Tariff Board on the Prices of Raw Rubber and Protection and Assistance to the Rubber Plantation Industry, Manager of Publications, Govt. of India, Delhi, 1951,
7. **District Hand Book, Kottayam, Department of Public Relations, 1988-89.**
8. **Economic Review, 1993, State Planning Board, Trivandrum, p. 26.**
9. **Elsamma Job,**
Economics of Rubber Cultivation by Small Holders in Kottayam District, Kerala Agricultural University, Trichur, 1981.
10. **Facts for your, August 1994.**

11. Facts for you, May 1994.
12. Facts for you, Market Survey, Rubber Industry, Growing Growth Potentialities, May 1994.
13. Govt. of Andhra Pradesh, Hand Book of Statistics, Hyderabad, 1989.
14. Hand Book of National Rubber Production in India, Rubber Board, Kottayam 1980.
15. Haridasan. V,
Early History of Rubber Plantation in India, Rubber Board Bulletin, Vol. 12, 1925, Rubber Board, Kottayam.
16. Indian Rubber Statistics, Vol. 20, Rubber Board, Kottayam.
17. Irani. J.R.,
Regulated Markets in Mysore, Eastern Economist, March, 1968.
18. Jose Thomas,
The Economics of Rubber Plantations in Kerala, 1979.
19. Kanbur. M.G. and Morris. J.L.,
Measurement of Cycles of Natural Rubber Prices, Indian Economic Review, Vol. XV, No. 1, 1980.
20. Manorama Year Book 1994.
21. Menon and Madhava. P,
Report of the Plantation Enquiry Commission, Part III, Rubber, Manager of Publications, Govt. of India, New Delhi, 1956.
22. Menon Mukundan. P,
Report of the Rubber Production Commissioner, The National Seminar on Rubber, New Delhi, 1983.

23. **Mirchandani. R.T.,**
Marketing Programmes and their Evaluation, Agricultural Marketing, Vol III, No. 1, January - April 1960.
24. **Pai M.P.,**
Report of the Fixation of Raw Rubber Price, Manager of Publications, Govt. of India, Delhi, 1968.
25. **Reddy D.V.,**
Report on Marketing Organisation of Rubber, Rubber Board, Kottayam, 1950.
26. **Registration Records of various issues, Rubber Board, Kottayam.**
27. **Reports of Plantation Enquiry Commission, Ministry of Commerce, Govt. of India, 1956.**
28. **Rubber and its Cultivation 1995, Rubber Board, Kottayam.**
29. **Rubber Plantation Development Scheme Rules, Rubber Board, Kottayam.**
30. **Rubber Research Institute of India, Hand Book of Natural Rubber Production in India, Kottayam 1980.**
31. **Rubber Spectrum, January - February 1990, Rubber Board, Kottayam.**
32. **Seasons and Crop Report of Kerala 1979-80 and 1980-81, Govt. of Kerala Publication, Department of Economics and Statistics, March 1985.**
33. **Stifel Lawrence. D,**
Imperfect Competition in a Vertical Market, Net Work. The Case of Rubber in Thailand, American Journal of Agricultural Economists, November 1975.
34. **Sundaram. S.G.,**
Rubber Revolution, Rubber Spectrum, January - February, 1985, Rubber Board, Kottayam.

35. Sundaram. S.G.,
Rubber Revolution, Rubber Spectrum, January - February
1987, Rubber Board, Kottayam.
36. Tansuan,
World Rubber Market Structure and Stabilisation - An Econometric
Study, Washington, World Bank Staff Commodity Paper 10, 1984.
37. Tharian George. K. and Tom Joseph,
Economic and Political Weekly, February 1994.
38. The Rubber Growers' Companion 1990, Rubber Board, Kottayam.
39. The Economic Times, Bombay, Mid-week Review, Rubber
Goods February 25, 1993.
40. The Wealth of India Hevea, Council of Scientific and Industrial
Research, New Delhi, 1984.
41. Yee. Y.L., et. al.,
Impact of Technological Changes on Input demand and Cost
Functions in the Malaysian Rubber Industry, Journal of
Rubber Research, 1983.

NEWS PAPERS

1. The Economic Times
2. The Financial Express
3. The Times of India
4. The Indian Express
5. The Hindu
6. The Malayala Manorama

APPENDIX - I
SCHEDULE FOR COLLECTING INFORMATION
FROM SMALL RUBBER GROWERS

1.0 GENERAL

1.1 Name of the Grower

1.2 Full Address

1.3 Age

1.4 Sex M/F

1.5 Educational Qualification

- | | |
|---------------------|----------------------|
| a. S.S.L.C. & below | b. P.D.C |
| c. Degree | d. P.G. |
| e. Technical Edn. | f. Professional Edn. |

1.6 Main Occupation

- | | |
|----------------------|---------------|
| a. Agriculture | b. Business |
| c. Salaried Employee | d. Profession |

1.7 Annual Income from Main Occupation : Rs.

1.8 Own land in hectares

- | | |
|-----------------------------|------------------------------|
| a. Up to 1 hect. | b. Between 1 hect. to 3 hec. |
| c. Between 3 hec. to 5 hec. | d. More than 5 hec. |

1.9 Main Crops

- | | |
|-----------|--------------|
| a. Rice | b. Coconut |
| c. Rubber | d. Cocoa |
| e. Pepper | f. Any other |

1.10 Road Facility

- | | |
|---------------|---------------------|
| a. Pacca Road | b. Mud Road |
| c. Lane | d. No road facility |

2.0 RUBBER CULTIVATION

2.1 Area under rubber cultivation

- | | |
|----------------------------------|-------------------------------|
| a. Less than 0.5 hect. | b. Between 0.5 to 1.0 hect. |
| c. Between 1.0 hect. to 1.5 hec. | d. Between 1.5 hec. to 2 hec. |

2.2 Whether the holding is registered or not

- | | |
|---------------|-------------------|
| a. Registered | b. Not Registered |
|---------------|-------------------|

2.3 What is the planting material used

- | | |
|------------------|-----------------|
| a. High yielding | b. Low yielding |
|------------------|-----------------|

- 2.4 What is the nature of cultivation a. Mono-crop b. Inter-crop
- 2.5 State the nature of tapping a. Daily b. Alternative days
c. Any other form specify
- 2.6 Cost of tapping for 100 trees
- | | |
|----------|-----|
| 1990-'91 | Rs. |
| 1991-'92 | Rs. |
| 1992-'93 | Rs. |
| 1993-'94 | Rs. |
| 1994-'95 | Rs. |
- 2.7 Do you use rainguarding a. Yes b. No
- 2.8 Cost of rainguarding Rs.
- 2.9 Nature of your plantation a. ancestral property
b. purchased property c. Lease hold property
- 2.10 Is any assistance is received from the Rubber Board a. Yes b. No
- 3.0 PROCESSING AND GRADING**
- 3.1 How do you process the raw rubber: a. Latex
b. Smoked Rubber Sheets c. Any other form specify
- 3.2 How do you make sheet rubber a. By owned Roller
b. By Roller owned by Societies c. Roller owned by others
- 3.3 How much you have to spend to process a kg. of raw rubber Rs.
- 3.4 Do you know grading of sheets a. Yes b. No
- 3.5 Is proper grading done at the time of sale a. Yes b. No
- 3.6 If 'Yes' by whom a. By Grower himself b. By Grower's workers
c. By Purchaser d. By Purchaser's workers
- 4.0 STORAGE AND TRANSPORTATION**
- 4.1 Do you have your own storage facility a. Yes b. No
- 4.2 How long you can retain your produce for a better price

- 4.3 Is your retaining capacity affected by
- a. Storage facility
 - b. Financial requirements
 - c. Fear of fall in price
 - d. Fear of deterioration in quality
 - e. Others
- 4.4 Do you get any storage facility in your locality
- a. Yes
 - b. No
- 4.5 How do you transport your produce
- a. Collected by the purchaser
 - b. Delivered at the purchaser's premises
- 4.6 Do you pay any transportation charges for selling your produce
- a. Yes
 - b. No
- 4.7 Is any loading or unloading charges taken by the purchaser
- a. Yes
 - b. No
- 5.0 SELLING**
- 5.1 How do you sell your produce
- a. Smoked sheets
 - b. Wet sheets
 - c. Latex
 - d. Any other form specify
- 5.2 To whom you sell the produce
- a. Village Primary Dealers
 - b. Middle dealers
 - c. Big dealers
 - d. Co-operative Societies
 - e. Rubber producers' societies
 - f. Unlicensed dealers
- 5.3 Why do you prefer to the present mode of sale
- a. Easy transportation
 - b. Better prices
 - c. Immediate need for cash
 - d. Financial obligations
 - e. Any other reason specify
- 5.4 Periodicity of sale
- a. Twice in a week
 - b. Weekly
 - c. Bi-weekly
 - d. Monthly
- 5.5 What is the basis for fixing the price of your produce
- a. News paper price
 - b. Based on quality
 - c. Bargaining
 - d. Any other basis specify
- 5.6 Mode of settlement of price
- a. Cash
 - b. Credit
 - c. Part payment
 - d. Any other form specify
- 5.7 Do the purchaser take any allowance for loss in weight, defective grade, etc.
- a. Yes
 - b. No

- 5.8 Have you got a regular purchaser of your produce a. Yes b. No
- 5.9 Why you sell in that way
- 5.10 Do you get any advances from the dealer a. Yes b. No
- 5.11 Does the dealer take any arbitrary reduction in price as commission a. Yes b. No
- 5.12 If 'Yes' what is the rate of commission
- | | |
|-----------------|--------------|
| a. Less than 3% | b. 3% to 5% |
| c. 5% to 7% | d. 7% to 9% |
| e. 9% to 11% | f. Above 11% |
- 6.0 **CO-OPERATIVES**
- 6.1 Are you a member of any rubber marketing society a. Yes b. No
- 6.2 How long have you been a member
- 6.3 Do you sell the produce to the society a. Yes b. No
- 6.4 If 'No' the reasons thereof
- 1.
 - 2.
 - 3.
- 6.5 Are you a member of any rubber producers' society a. Yes b. No
- 6.6 Is the rubber producers' society is functioning effectively a. Yes b. No
- 6.7 Form in which the produce is sold to the society
- | | |
|-----------------|-------------------|
| a. Latex | b. Sheet rubber |
| c. Scrap rubber | d. Any other form |
- 6.8 Mode of settlement of price
- | | |
|-----------------|-------------------|
| a. Cash | b. Credit |
| c. Part payment | d. Any other form |
- 6.9 On what basis the price is fixed
- | | |
|---------------------|--------------------------------------|
| a. News paper price | b. Quality determined by the society |
| c. Bargaining | d. Any other basis specify |

- 6.10 Is grading resorted to on sale to society
a. Yes b. No
- 6.11 Who bears the transportation cost
a. Grower b. Society
- 6.12 Is there any deduction in weighing and state the nature of deduction
- 6.13 Is any commission taken by the society and state the percentage
- 6.14 Do you get any warehousing facility from the society
a. Yes b. No
- 6.15 Whether the whole produce is sold to society, if not, to whom and why?
- 6.16 State the form of assistance from the society
a. Financial b. Non-financial
c. Both d. Any other form specify
- 6.17 Which sector is dominant in your locality
a. Co-operative b. Private
- 6.18 Do you get any bonus or ex-gratia payment and, if so, how it is determined ?
- 6.19 What is the opinion about the services of the society
a. Good b. Satisfactory
c. Unsatisfactory d. No opinion
- 6.20 Give suggestions for improvement of the working of the society
a. Provide more financial help b. Provide storage facilities
c. Provide transportation facilities d. Provide advance payment of price
e. No suggestion

7.0 GENERAL OBSERVATIONS

QUESTIONNAIRE FOR RUBBER MARKETING SOCIETIES

1.0 GENERAL

- 1.1 Name and Reg. No. of the Society
- 1.2 Date of Registration
- 1.3 Date of Commencement of Business
- 1.4 Authorised and paid up capital Rs.
- 1.5 Number of members with class
- 1.6. Constitution of Board of Directors
- 1.7 Area of Operation a. Panchayat b. Municipality
- 1.8 Whether affiliated to the Rubber Mark a. Yes b. No

2.0 RUBBER PROCUREMENT

- 2.1 State how long you have been in rubber procurement business
- 2.2 What is the nature of your procurement
- a. From member growers b. From non-member growers
- c. Outright purchase d. Acting as commission agent
- 2.3 State the mode of procurement
- a. Latex b. Dried sheet rubber
- c. Wet sheet rubber d. Scrap rubber
- e. Any other form specify
- 2.4 Periodicity of procurement
- a. Daily b. Weekly
- c. Bi-weekly d. Monthly
- 2.5 How do you procure raw rubber
- a. Growers supplying at main Depot b. Growers supplying at collection centres
- c. Field collection d. Collection through agents/sub depots
- e. Collection through RPSS f. Collection through service - co-operative bank's depots
- 2.6 Mode of settlement of price
- a. Cash b. Credit
- c. Part payment d. Any other forms specify

- 2.7 The basis for fixation of price of the produce
- a. Based on news paper price
 - b. Based on quality
 - c. Bargaining
 - d. Any other form specify
- 2.8 Do you give any assistance to growers
- a. Yes
 - b. No
- 2.9 If 'Yes' in what form
- a. Cash advances
 - b. Storage facilities
 - c. Supply of inputs
 - d. Any other form specify

- 2.10 How much is the quantity of different types of N.R. procured

Year	Sheels (MTS)	Scrap (MTS)	Latex (MTS)	Others (MTS)
1990-'91				
1991-'92				
1992-'93				
1993-'94				
1994-'95				

- 2.11 Do you face any competition in the procurement of N.R.
- a. Yes
 - b. No
- 2.12 If 'Yes' from whom
- a. Pvt. dealers
 - b. Other societies and RPSS
 - c. Processors
 - d. Others specify
- 2.13 Is grading resorted to on procurement and state the nature of grading
- 2.14 Is their any deduction in weighing and state the nature
- 2.15 Do you take any commission and state the percentage of commission

3.0 GRADING

- 3.1 Do you grade the produce of the growers
- a. Yes
 - b. No
- 3.2 If 'Yes' when do you grade
- a. During procurement
 - b. After procurement

- 3.3 If 'No' the reason for it
 a. Lack of facility
 c. Any other reason specify
 b. Lack for staff
- 3.4 How do you grade the rubber
 a. Visual
 c. Any other form specify
 b. Non-visual
- 3.5 Do you have qualified graders
 a. Yes b. No
- 4.0 STORAGE AND TRANSPORTATION**
- 4.1 Do you have own storage facility
 a. Yes b. No
- 4.2 If 'No' what is your storage facility
 a. Provided by Rubber Mark
 c. Service of private ware house
 b. Provided by the Govt.
 d. Any other forms specify
- 4.3 Does the shortage of storage facility affect your procurements
 a. Yes b. No
- 4.4 Do you have your own transportation facility
 a. Yes b. No
- 4.5 If 'No' transportation requirements are met by
 a. Hired vehicles
 c. Any other form specify
 b. Manual
- 4.6 Who bears the cost of transportation
 a. Members b. Society
- 5.0 PROCESSING**
- 5.1 Do you undertake any processing of N.R.
 a. Yes b. No
- 5.2 If 'Yes' what is the nature of produce
 a. Processed latex
 c. Estate brown crepe
 b. Pale latex crepe
 d. Any other form specify
- 5.3 How much is your installed capacity
- 5.4 Do you achieve the installed capacity every year
 a. Yes b. No

5.5 If 'No' the reasons for not achieving

- 1.
- 2.
- 3.

6.0 MANUFACTURING

6.1 Do you manufacture any rubber product

- a. Yes b. No

6.2 If 'Yes' give the name and value of the product

6.3 If you are not doing any processing or manufacturing give reasons

- | | |
|-------------------------------|-----------------------------------|
| a. Lack of technical know how | b. Lack of finance |
| c. Lack of skilled staff | d. Lack of demand for the product |
| e. Any other reason specify | |

7.0 MARKETING

7.1 How do you sell your rubber procured

- | | |
|--|----------------------------|
| a. Through agent | b. Through private dealers |
| c. Selling directly to large consumers | d. Through Rubber Mark |
| e. Any other form specify | |

7.2 Whether selling is done as

- | | |
|-----------------------------|-------------------|
| a. Totally Ungraded | b. Totally graded |
| c. Graded and ungraded both | |

7.3 Is your pricing based on

- | | |
|--------------------------|---------------------------|
| a. Kottayam market price | b. Cochin market price |
| c. Quotations | d. Any other form specify |

7.4 Whether any deduction in weighing on sale and state the nature

7.5 Whether packaging is resorted to on sale and state cost per Kg.

7.6 Do you pay any tax/cess to the Govt. and on what basis

7.7 How much is your turnover for

Year	Sheet rubber Rs.	Crepe rubber Rs.	Block rubber Rs.	Scrap rubber Rs.	Others
1990-'91					
1991-'92					
1992-'93					
1993-'94					
1994-'95					

7.8 Give particulars of marketing rubber plantation inputs for

Year	Fertilizers Rs.	Fungicides Rs.	Rainguarding materials Rs.	Others Rs.
1990-'91				
1991-'92				
1992-'93				
1993-'94				
1994-'95				

8.0 GENERAL OBSERVATIONS

SCHEDULE FOR RUBBER DEALERS

1.0 GENERAL

- 1.1 Name of the dealer
- 1.2 Full address with the licence number
- 1.3 How long have you been in rubber trading
- 1.4 State the approximate number of dealers in the area
- 1.5 Do you have any rubber cultivation :

2.0 BUYING

- 2.1 Which is your area of buying
 - a. Panchayat
 - b. Municipality
 - c. Corporation
- 2.2 From whom do you buy rubber
 - a. Small growers
 - b. Medium growers
 - c. Large growers
 - d. From collection agents
 - e. Small dealers
 - f. Any other form specify
- 2.3 Mode of settlement of price on buying
 - a. Advance payment
 - b. Cash down payment
 - c. Payment on later date
 - d. Any other form specify
- 2.4 The basis for fixation of price
 - a. News paper price
 - b. Basis of quality
 - c. Bargaining
 - d. Any other form specify
- 2.5 What are the different types of rubber in which you are dealing
 - a. Sheet rubber
 - b. Scrap rubber
 - c. Latex
 - d. Grade sheets
 - e. Crepe / Crumb rubber

- 4.3 Who is doing packaging work
- a. Own labourers
 - b. Contract labourers
 - c. Casual labourers
 - d. Others specify
- 4.4 Who bears the cost of transportation
- a. Purchaser
 - b. Dealer
- 4.5 How do you met your transportation requirement
- a. Own vehicle
 - b. Hired vehicle
- 4.6 What is your average transportation cost in a week/month
- Rs.

5.0 SELLING

- 5.1 To whom do you sell the rubber
- a. Agents
 - b. Directly to large consumers
 - c. Processors
 - d. Large scale dealers
 - e. Brokers/Auctioneers
 - f. Co-operative societies
- 5.2 What is the percentage of different grades of rubber marketed by you in an year
- a. RMA I
 - b. RMA II
 - c. RMA III
 - d. RMA IV
 - e. RMA V
 - f. Ungraded
- 5.3 How the selling price is fixed
- a. Contract basis
 - b. Kottayam market price
 - c. Cochin market price
 - d. Based on bargaining
 - e. Any other form specify

- 5.4 Do you find any difficulty in selling
- a. Yes
 - b. No

- 5.5 If 'Yes' specify the reason

- 1.
- 2.
- 3.

6.0 GENERAL OBSERVATIONS

APPENDIX - II

THE FIRST SCHEDULE

*(See Rule 2 [vi])***FORM A***(See Rule 38 [3])***THE RUBBER BOARD**

Application for registration of Estate.

To be filled up in duplicate and sent to the Secretary, Rubber Board, Kottayam, Kerala State.

The application should reach the Secretary on or before.....

(PLEASE TYPE OR WRITE IN BLOCK LETTERS)

Note:— Separate application should be submitted in respect of estates situated in different Taluks or Districts.

Reg. No.

(To be filled up By the Board)

- 1 Name of Estate.
2. Location of Estate:
 - a) State.
 - b) District.
 - c) Taluk.
 - d) Village or Pakuthy
 - e) Post Office.
 - f) Nearest Telegraph Office
3. Name and address of proprietor, lessee, or person appropriating the produce. (The particulars of the person having actual possession of the estate should be given here.)
4. Name and address of manager or agent.
5. Name and address of person to whom correspondence regarding the estate should be addressed.
6. a) Nature of title of the applicant.
(State whether title is claimed on deed or inheritance prescription, etc.)
 - b) If title is claimed on lease deed, state (i) The No., the date of registration, the date of expiry, and the name of the registry office where the document was registered.
 - (ii) Name and address of the person who executed the lease deed.

7. The No. and date of the licence issued by the Rubber Board under which the planting was carried out.

*7-A If the estate is or was a part of an existing estate, the registration number of the original whole estate.

8 Total area planted with rubber....				hectares §
Year or Years of planting	Exclusively planted in rubber § (hectares)	No. of trees in exclusively planted area	Rubber inter-planted with other corp (hectares)	No. of Rubber trees in inter-planted area
U. S. C S.B. G..	U. S. C. S. B. G.,	U S C S. B. G.	U. S. C S.B. G.	

Total:—

9. Is planted area surveyed or has the owner proof of the area § under rubber?

10. If planted area is not surveyed separately, give survey No. or Nos. in which plants exist.

I.....Proprietor, Lessee, Occupier, Duly Accredited Agent of..... Estate hereby declare that the statements contained in this return are true and accurate and that the estate books are available to support the figures given in this application.

Dated atthis..... day of.....
Signature of witness.

Signature
Superintendent, Proprietor,
Lessee, Occupier, Duly
Accredited Agent.

U.S.—Unselected (Ordinary) Seedlings.

C.S.—Clonal Seedlings.

B.G.—Bud-grafts.

* Inserted as per Notification No. G. S. R. 2402, date 2-9-1975 of the Government of India, Ministry of Commerce, (Published in the Gazette of India, Part II, Section 3, Sub-section (1), dated 20-9-1975).

§ Substituted as per Notification No. G. S. R. 2402 dated 2-9-1975 of the Government of India, Ministry of Commerce, (Published in the Gazette of India, Part II, Section 3(i) dated 20-9-1975).

FORM B*[See Rule 39-(1)]***THE RUBBER BOARD**

Application for the issue of a Special Licence to deal in rubber

- 1 Name of the firm (in Block Letters)
- 2 Address in full of the place of business.
- 3 Address in full of the place of storage.*
- 4 Full name, age and permanent address of proprietor, proprietors or partners of the firm.
- 5 (a) Have you been a licenced rubber dealer under the Rubber Board?
(b. If so, please quote your Dealer's Reg. No.
- 6 From what date have you been dealing in rubber?
- 7 Are you doing or proposing to do any business other than dealing in rubber?
- 8 Invested capital or financial standing of the firm.
- 9 Is there on the staff any person who knows grading or packing of raw rubber? If so, the names of such persons and their experience.
- 10 What was the total quantity of rubber purchased and sold by you during each of the previous five years?

RUBBER PURCHASED (in Kg.)** RUBBER SOLD (in kg.)

(If accurate figures are not available approximate figures may be given).

- * Inserted as per Notification No. G. S. R. 1000, dated the 18th June 1966, of the Government of India, Ministry of Commerce, Published in the Gazette of India, Part II, Section 3 (i), dated the 25th June 1966.
- ** In Forms B. C. D. D1, E, E1 H and K for, the abbreviation 'lds' wherever it occurs, the abbreviation 'kg' has been substituted as per G. O. I. Ministry of Commerce, Notification No. G. S. R. 65, dated 28th December, 64, (Published in the Gazette of India, Part II, Section 3 (1), dated the 9th January 1965).

I declare that the statements made above are true to the best of my knowledge and belief.

Date.....

Signature of applicant

* This application should be recommended by not less than two persons falling under any of the following categories:—

§ (1) Owners of rubber estates of not less than 15 hectares each;

(2) Registered dealers;

(3) Registered manufacturers;

1 Signature.

Name and address of the owner, dealer or manufacturer.
Register number of estate, or dealer or manufacturer.

2 Signature.

Name and address of the owner, dealer or manufacturer.
Register number of estate, or dealer or manufacturer.

Place.....

Date.....

Amended as per Notification No. S. R. O. 549, dated the 14th February 1957. of the Government of India, Ministry of Commerce and Industry, Published in the Gazette of India, Part II, Section 3, dated 23rd February 1957.)

§ Substituted as per Notification No. G. S. R. 2402, dated 2-9-1975. of the Government of India, Ministry of Commerce, (Published in the Gazette of India, Part II, Section 3 (i), dated 20-9-1975.)

FORM BI[See Rule 39A]***THE RUBBER BOARD**

Application for Special Licence to acquire rubber for processing
and for selling rubber acquired.

- 1 Name and full address of the applicant:
- 2 Status of the applicant; whether individual; partnership; Private Limited Company, Public Limited Company; Primary marketing Co-operative Society; or Apex Co-operative Society. }
- 3 Full name, age, and permanent address of proprietor, proprietors, partners or directors as the case may be. }
- 4 (a) Address in full of the location of the processing unit or the proposed location of the processing unit, as the case may be. }
- (b) Details regarding the site of the processing unit. Specify the availability of water and electricity and also the accessibility. }
- 5 Address in full of the place of storage, if any.
- 6 (a) Have you been a licenced dealer or manufacturer under the Rubber Act, 1947 (24 or 1947)? }
- (b) If so, please quote your Registration No.
- 7 Are you doing or proposing to do any business other than processing rubber. }
- 8 Invested capital or financial standing.

* Inserted As per Notification No. G. S. R. 2402, dated 2-9-1975, of the Government of India, Ministry of Commerce, (Published in the Gazette of India, Part II, Section 3 (1) dated 20-9-1975

- 9 What is the proposed capacity or installed capacity of the processing unit? }
- 10 What is the source of supply of raw materials?
- 11 State whether you are proposing to import the machinery or fabricate the same indigenously. }
- 12 What arrangements have you made for the necessary technical know-how? }
- 13 (a) Is there any person on the staff who knows technical grading and packing of latex and latex concentrates, solid black rubbers and masterbatches? }
- (b) If so, the names and address of such persons and their experience. }
- 14 What arrangements have you made for technical specification as per the Indian Standards institution's standards? }
- 15 What arrangements have you made for marketing?
- 16 What was the total quantity of rubber acquired, processed and sold by you during the previous five years? }

Year	Rubber acquired	Rubber Processed	Rubber sold
------	-----------------	------------------	-------------

(If accurate figures are not available, approximate figures may be given).

I declare that the statements made above are true to the best of my knowledge and belief.

Place:

Date:

Signature of Applicant.

(Strike off inapplicable items)

FORM C

(See Rule 39 [1])

THE RUBBER BOARD

Reg. No.....Licence No.....Date

Mr./ Messrs..... of.....

is/ are hereby authorised to buy, or otherwise acquire rubber from any registered estate or any licensed dealer and sell Rubber to another licensed dealer or licensed manufacturer subject to the following conditions:

This licence shall remain in force fromboth days inclusive, and it is not transferable.

Conditions

(1) No rubber shall be purchased from any person other than a licensed dealer or a registered estate and no rubber shall be sold to any person other than a licensed dealer or a licensed manufacturer.

(2) The licensee shall not purchase or sell rubber on behalf of any other person unless he is an authorised agent of such person, and such authorisation has been registered in the books of the Rubber Board.

(3) The licensee shall issue a purchase bill to the seller every time a purchase is made containing the following particulars;

- a) Licence number and address of the licensee.
- b) Licence number or registration number and address of the seller.
- c) Date of purchase.
- d) Grade of Rubber.
- e) Weight in kg.
- f) Rate for 100kg.
- g) Amount.

* Amended as per Notification No. S. R. O. 549, dated the 14th February 1957. of the Government of India, Ministry of Commerce and Industry, (Published in the Gazette of India, Part II, Section 3, dated the 23rd February 1957)

(4) * The licence shall be valid only in respect of the place of business and the place of storage mentioned in the application for the licence.

Kottayam, Kerala state,
Date.....

For the Rubber Board.
Secretary,

****FORM CI**

(See Rule 39 A)

THE RUBBER BOARD

Special Licence to acquire rubber for processing and for selling rubber so acquired.

Registration No.....Licence No..... .Date....

Mr. / Messrs.....

of..... is /are hereby authorised to buy, or otherwise acquire rubber from any registered estate or any licensed dealer for processing and to sell or otherwise dispose of rubber so acquired after processing or otherwise to any licenced dealer or licensed manufacturer subject to the conditions specified below:—

This licence shall remain in force from....

to.....both days inclusive and is not transferable.

Conditions

- (1) No rubber shall be purchased from any person other than a licensed dealer or a registered estate and no rubber shall be sold to any person other than a licensed dealer or licensed manufacturer.

* Inserted as per Notification No. G. S. R. 1000, dated 18-6-1966. of the Government of India, Ministry of Commerce, (Published in the Gazette of India, Part II, Section 3 (i), dated the 25-6-1966).

** Inserted as per Notification No. G. S. R. 2402, dated 2-9-1975, of the Government of India, Ministry of Commerce, (Published in the Gazette of India, Part II, Section 3 (i), dated 20-9-1975).

- (2) The licensee shall not open purchase depots or branches and additional units and shall not appoint agents without the same being registered in the books of the Rubber Board.
- (3) The Licensee shall not purchase or sell rubber on behalf of any other person without obtaining the prior approval of the Rubber Board.
- (4) The licence shall be valid only in respect of the place of business and place of storage mentioned in the application for licence and in respect of the places registered with the Board under condition (2), above.
- (5) The licensee shall grade and market rubber in accordance with rule 48 of the Rubber Rules, 1955.
- (6) The licensee shall issue a purchase bill every time a purchase is made containing the following particulars, namely:—
 - (a) Licence No. and address of the purchasing Licensee
 - (b) Licence No. or registration number and address of the seller
 - (c) Date of purchase.
 - (d) Total quantity of rubber purchased (in kgs.)
 - (e) Form and grade in which rubber is purchased.
 - (f) Estimated dry rubber content (in kgs.) in case of latex.
 - (g) Rate per 100 kgs. of dry rubber.
 - (h) Total amount paid.
- (7) The licensee shall obtain a purchase bill from the person to whom he sells rubber, every time a sale is made, containing the following particulars, namely:—
 - (a) Licence Number and address of the selling Licensee
 - (b) Licence Number and address of the buyer.
 - (c) Date of sale.
 - (d) Grade of Rubber.
 - (e) Quantity in kgs. or D. R. C.
 - (f) Rate per 100 kg. or D. R. C.
 - (g) Total sale proceeds.

Kottayam, Kerala State.

For Rubber Board,

Date.....

Secretary.

FORM D
(See Rule 40)
THE RUBBER BOARD

Application to purchase or otherwise acquire rubber.

Application for Special Licence.

Name and address of applicant

Year	1 st	2nd	3rd	4th	Total tonnage
	quarter	quarter	quarter	quarter	
	Grade Tons	Grade Tons	Grade Tons	Grade Tons	

1 Quantity of rubber applied for and the period for which it is required.

2 Estimated quantity of rubber required for the year.

3 Purpose for which the rubber is required.

4 Actual consumption during the year	Grades	Tons	kg
--------------------------------------	--------	------	----

5 Stock of rubber held on (date of application or purchased and in transit or awaiting delivery.

Date.....

Signature of applicant

***FORM 'DI'**
[See Rule 40A]
THE RUBBER BOARD

Application for the issue of a Special Licence to sell rubber to licensed manufactures in emergencies

- 1 (a) Name and address of the applicant.
 (b) Register No. and date of the licence in Form E.
- 2 (a) Name and address of the manufacturer to whom rubber is proposed to be sold.
 (b) Reg. No. and date of the licence in Form 'E' issued to the manufacturer.
- 3 Stock of rubber held on date of application including that purchased and in transit or awaiting delivery:-

(a) By the applicant	(b) By the purchase
Grade Tons Kg.	Grade Tons Kg.

- 4 Quantity proposed to be sold:-

Grade	Tons	Kg.
-------	------	-----

- 5 Price at which each grade of rubber proposed to be sold was purchased.

Grade	Rate for 100 kg.
-------	------------------

- 6 Price at which each such grade of rubbers proposed to be sold.

Grade	Rate for 100kg.
-------	-----------------

- 7 Reason for difference, if any, between the two prices noted in column 5 and 6.

- 8 Reason for the transaction.

* Inserted as per Government of India, Ministry of Commerce and Industry, Notification No. S. R. O. 2824, dated the 30th August 1957. (Published in the Gazette of India, Part II, Section 3, dated 7th September 1957).

Declaration of the applicant

I declare that the Statements made above, so far as they relate to me, are true to the best of my knowledge and belief.

Date:

Signature of the applicant

Declaration of the purchaser

I declare that the statements made above, so far as they relate to me, are true to the best of my knowledge and belief.

Date:

Signature of the purchaser.

***FORM E**
(See Rule 40)
THE RUBBER BOARD
Licence to acquire rubber

Licence No..... Date.....

Mr./Messers.....is/are hereby authorised to purchase or otherwise acquire the undermentioned quantities of rubber from registered estates or licensed dealers in India subject to the conditions specified below:-

Grade	Tons	Kg.
-------	------	-----

This licence is valid from.....to.....both days inclusive, ** and is not transferable

- * Inserted as per Government of India, Ministry of Commerce and Industry, Notification No. S. R. O. 549, dated the 14th February 1957. (Published in the Gazette of India, Part II, Section 3, dated the 23rd February 1957)
- ** Inserted as per Government of India, of Commerce and Industry, Notification No. G.S.R, 620 dated the 15th July 1958. (Published in the Gazette of India, Part II, Section 3 (1), dated the 19th July, 1958).

Conditions.

- (1) No rubber shall be purchased from any person other than a licensed dealer or a registered estate, or authorised agent of such dealer or registered estate holding an authorisation registered in the books of the Board.
- (2) If any rubber is purchased through the licensee's authorised agent, the authorisation of such agent should have been registered in the books of the Rubber Board.
- (3) The licensee shall issue a purchase bill to the seller or obtain a sales bill from the seller every time a purchase is made containing the following particulars:
 - a) Licence number and address of Licensee.
 - b) Licence number or registration number and address of the seller.
 - c) Date of purchase
 - d) Grade of rubber
 - e) Weight in kg.
 - f) Rate for 100kg.
 - g) Amount.

Kottayam, Kerala State,
Date:

For the Rubber Board,
Secretary.

***FORM 'EI'**
 [See Rule 40 A]
THE RUBBER BOARD

Reg. No..... Date.....
 Licence No.....

Mr./Messrs.....holding purchase Licence No.....
 dated.....in Form E valid up to and including.....
 is/are hereby authorised to sell the undermentioned quantities of
 rubber at one sale to Mr./Messrs.....holding

- * Inserted as per Notification No. S.R.O. 2824, dated the 30th August 1957, of the Government of India, Ministry of Commerce and Industry (Published in the Gazette of India, Part II, Section 3, dated the 7th September 1957).

Purchase Licence No.....dated.....in Form E valid up
 to and including..... due to an emergency subject to the condition
 specified below:—

Grade	Tons	Kgs.

The licence is valid for a period of fifteen days only from the date of issue and is not transferable.

Condition.

As soon as the sale is completed but not later than one week from the date of expiry of the licence, the licensee shall return the licence to the Board with the form appended here to duly filled in.

Kottayam, Kerala state,

For the Rubber Board.

Date.. ..

Secretary.

APPENDIX

- 1 Date of Sale.
- 2 Date of delivery to the purchaser
- 3 Particulars of rubber sold:—

Grade	Tons	Kgs.	Rate per 100kgs.	Amount Rs. Ps
Total				

Declaration

I declare that the statements made, above are true to the best of my knowledge and belief.

Date:

Signature of the applicant,

FORM F
(See Rule 41 [1])
THE RUBBER BOARD

Application for licence for new planting/replanting of rubber

- 1 Full name and address of applicant.
- 2 Area intended to be new planted/replanted *
- 3 District, Taluk, Village or Pakuthy in which the land is situated, and the survey numbers.
- 4 If for replanting, registration number of the estate.

**4A If for new planting, registration number of the estate, if any.

- 5 Nature of applicant's title to the land.
- 6 The route to the land from the nearest public road.
- 7 Planting materials proposed to be used and the source of supply
- 8 Number and date of the money order receipt for the licence fee (Re. 1) remitted.

Station.....

Date.....

Signature of the
applicant.

FORM G

[See Rule 41(2)]

THE RUBBER BOARD

New Planting Licence

Licence No..... Date of issue
Name and address of applicant.
Registration number of estate.
Registered area of estate hectares.
Description of area where rubber is permitted to be planted.

* Strike out the word not applicable.

** Inserted as per Notification No. G.S.R. 2402, dated 2-9-1975. of the Government of India, Ministry of Commerce, (Published in the Gazette of India, Part II, Section 3, Sub-section(i), dated 20-9-1975).

Permission is granted to plant..... hectares with planting materials approved by the Chairman of the Rubber Board. In the case of field buddings, unapproved planting materials may be initially used for stock plants, but the same shall be budded with approved material or replaced with budded stumps or seedlings of approved material within a period of three years from the date of initial planting. On failure to comply with the above conditionst the registration of the estate is liable to be refused or cancelled if already registered besides attracting other penalties under the Ac, and Rules. This licence is valid for a period up to

A return in the form attached should be submitted so as to reach the Secretary, Rubber Board, not later than the 31st December 19

Kottayam, Kerala State,
South India.

For the Rubber Board,
Secretary.

Return of New Planting

Registration No.....
New planting licence No..... Dated.....
The area planted:—

Planting Materials

• Hectares

- (i) unselected (ordinary) seedlings for field budding, and the approved material proposed to be used for budding.
- (ii) Varieties of approved clonal seedlings.
- (iii) Varieties of approved budgrafts.
- (iv) Sources of planting material used.
(Strike out the words not applicable).

Notes:— 1 In the case of unselected ordinary seedlings, state the area that would be budded later.

2 If no area has been planted, that fact should be stated

Date.....

Signature.....

To

The Secretary, Rubber Board,
Kottayam, Kerala State.

* Substituted as per Notification No. G.S.R. 2402, dated 2-9-1975. of the G. O. I. Ministry of Commerce. (Published in the Gazette of India, Part II, Section 3, Sub-section (i) dated 20-9-1975)

*FORM H

(See Rule 43 (1))

Monthly Return by Rubber Estate
(The return for each month should be sent so as to reach the Secretary, Rubber Board, Kottayam on or before the 20th of the Succeeding month)

THE RUBBER BOARD

Name of Estate.....

Full address.....

Register No

1 Statement of Rubber production, sales and stock

Groups and Grades	Stocks of grades of rubber as at	Production during the month	Stock disposed of during the month to			Stock at the end of the month	Stock in transit for which sales bills have not been received
	the end of last month (kg)	(kg)	Manufacturers (kg)	Others (kg)	Total (kg)	(kg)	(kg)
(i)	(ii)	(iii)	(iv) a	(iv) b	(iv) c	(v)	(vi)
RMA IX RMA 1 RMA 2	}	Group 1					
RMA J							
Cuttings No. 1		Group 2					

*Inserted as per Notification No. G.S.R. 2402, dated 2-9-1975 of the G O I Ministry of Commerce. (Published in the Gazette of India, dated 20-9-1975)

(i)	(ii)	(iii)	(iv) a	(iv) b	(iv) c	(v)	(vi)
Precoagulated Creps Pale Latex Crepe IX Pale Latex Crepe 1 Pale Latex Crepe 2 Pale Latex Crepe 3 FAO	}	Group 4					
Estate Brown Creps Super IX Estate Brown Crepe IX Estate Brown Crepe 2X Smoked Blanket Remilled Crepe 2							
Estate Brown Crepe 3X Remilled Crepe 3 Remilled Crepe 4	}	Group 6					
Flat Bark Crepe (Eanh Scrap Crepe) Scraps (Dry Weight) Sole Crepe				Group 7			

(i)	(ii)	(iii)	(iv) a	(iv) b	(iv) c	(v)	(vi)
Preserved Latex (Dry Rubber content) (State percentage of concentration).	i) ii)	Normal Centrifuged concentrate Creamed concentrate					
Masterbatches (State percentage of Dry Rubber Content).	i) ii) iii)	Rubber Carbon Black Masterbatches Any other Masterbatches					
Technically Specified Rubber (Specify the type and grade.)	i) ii) iii) iv) v) vi) vii)						
Oil extended Rubber (Specify the type and grade and percentage of Dry Rubber Content, in each).	i) ii) iii)						

TOTAL

- 2) Area under tapping and number of tapping days
a) Area under tapping during the month [hectares]
b) If the area under tapping differ appreciably from that given for last month, please explain the difference. [eg. area abandoned, sold, cut out for replanting additional area opened for tapping etc.]
c) Number of days on which tapping took place.

- 3) Losses of rubber
a) Destruction as a result of terrorist activity.
b) Losses by accident, fire etc (not included in 3 (a) above.
c) Estimated losses from factory stores and field due to theft
d) Any other Loss not included above.

e) Total

I declare that the above is true and correct account in respect of

(state here the name of the estate.)

Place.

Date

SIGNATURE OF THE OWNER OF THE ESTATE

FORM HI[See Rule 43 (1)]***Annual return by Rubber Estate**

(The return for each year should be sent, so as to reach the Secretary, Rubber Board, Kottayam, on or before 30th day of April of the succeeding year).

THE RUBBER BOARD

Registration No. of the Estate.....

Name of the Estate

Location (Taluk and District)

Full Address of the Estate

I Distribution of total area at the end of the year

Area in hectares

- (a) Area under Rubber
 (b) Area under other crops
 (c) Area cultivable with rubber but not yet cultivated }
 (d) Waste land, area occupied by buildings, rock etc. }
 (e) Total

II. Details of changes in the area under rubber

Area in hectares

- (i) Area under rubber destroyed (other than for replanting with rubber) during the year and reason (s) for the same }
 (ii) Area under rubber lost during the year and reason (s) for the same }
 (iii) Area new planted during the year }
 (iv) Area intended to be new planted during the next year }
 (v) Area replanted during the year }
 (vi) Area intended to be replanted during the next year }

* Inserted as per Notification No G. S. R. 2402, dated 2-9-1975. Government of India, Ministry of Commerce, (Published in the Gazette of India, dated 20-9-1975).

III Tappable area and production

Average area under tapping during the year (hect)	Number of rubber trees in the tapped area	Number of rubber trees under tapping	Production during the year (D. R. C. of all Grades) kg.	Tappable area at the end of the year (hect)
(1)	(2)	(3)	(4)	(5)
(a) Unselected				
(b) Budded				
(c) Clonal				
(d) Mixed Stands 2				
(e) Interplanted with other crops.				

TOTAL

- [i] If the total production of the estate is less than that of the previous year, reason (s), if any, for the same. }
- [ii] Number of tapping days obtained during the year. }
- [iii] Tapping system (s) adopted.
- [iv] Area tappable but not tapped during the year and reason (s) if any for the same. }

IV-Immature rubber area

Planting materials used	Area at the beginning of the year		Area planted during the year	
	New planted [Hectares]	Replanted [Hectares]	New planted [Hectares]	Replanted [Hectares]
[1]	[2]	[3]	[4]	[5]
[1]				
[2]				
[3]				
[4]				
[5]				
[6]				

TOTAL

V- Manuring

	Mature	Immature	Total
(1)	(2)	(3)	(4)
			(Area manured in hectares)
[a] Unselected			
[b] Budded			
[c] Clonal			
[d] Mixed Stands			
[e] Interplanted with other crops			
TOTAL			

VI-Plant Protection

Un-selected	Budded	Clonal	Mixed	Stands	Interplanted with other crops	Total
[1]	[2]	[3]	[4]	[5]	[6]	[7]
						(Areas sprayed/dusted in hectare)
Mature						
[a] Dusting						
[b] Spraying						
Immature						
[a] Dusting						
[b] Spraying						
Total						

VII-Labour

[A] Average daily employment during the year^d

Category [1]	Permanent [2]	Temporary [3]	Casual [4]	Contract [5]	Total [6]
1-Executive & Supervisory Staff Men Women					
2-Tappers Men Women Adolescents					
3-Factory workers Men Women Adolescents					
4-Artisans Men Women Adolescents					
5-Others Men Women Adolescents					
<hr/>					
TOTAL					
<hr/>					

- [B] Number of permanent workers at the end of the year.
- [C] Total resident workers at the end of the year.
 - Men
 - Women
 - Adolescents
 - Total
- [D] Total resident population at the end of the year.
- [E] Number of resident families in the estate at the end of the year.

Instructions

- 1) 'Year' wherever mentioned in the form means the year, ending on the 31 st March.
- 2) 'Mixed-Stands', mean mixed planting of unselected budded and clonal rubber or any two of them. To be considered only if the predominant planting materials is less than 75%.
- 3) 'Planting materials' under this heading give the variety of planting materials used etc., Tjir 1, RRIM 600 etc.
- 4) The 'average daily employment' should be calculated by dividing the aggregate number of man—days with the number of working days in the year. Suppose 100 persons are employed for 200 day, 50 persons for 100 days and 10 persons for 30 days. Then the aggregate number of man days 25300.

Let the number of working days in the year be 300. Then the average number of workers employed $\frac{25300}{300} = 84.3$ or say 84.

I declare that the above is a true and correct account in respect of.... for the year ending.....

(State here the name of the Estate)

SIGNATURE OF THE OWNER OF THE ESTATE

Place:

Date:

***FORM H2**

(See Rule 43 (2))

Monthly Return by Licensed Dealer

(The return for each month should be sent so as to reach the Secretary, Rubber Board, Kottayam on or before the 20th of the succeeding month)

THE RUBBER BOARD

Name of Dealer Full address..		Registration No									
Groups and Grades	Stocks of all grades of rubber as at the end of last month	Rubber acquired during the month from				Rubber disposed of during the month to				Stocks of rubber at the end of the month	Stock in transit for which receipt notes have not been received
		small		Large		Manufa-					
		growers	growers	others	Total	cturers	Others	Total			
(i)	(ii)	(iii)a	(iii)b	(iii)c	(iii)d	(iv)a	(iv)b	(iv)c	(v)	(vi)	
RMA IX	}	Group 1									
RMA 1		Group 2									
RMA 2											
RMA 3		Group 3									
Cuttings No. 1											
RMA 4	Group 3										
RMA 5											
Cuttings No. 2											
* Inserted as per G. O. I. Ministry of Commerce, Notification No. G S R 2402, dated 2-9-1975 (Published in the Gazette of India, dated 20-9-1975).											
(i)	(ii)	(iii)a	(iii)b	(iii)c	(iii)d	(iv)a	(iv)b	(iv)c	(v)	(vi)	
Precoagulated Crepe	}	Group 4									
Pale Latex Crepe IX											
Pale Latex Crepe 1											
Pale Latex Crepe 2											
Pale Latex Crepe 3											
FAQ											
Estate Brown Crepe	}	Group 5									
Super IX											
Estate Brown Crepe IX											
Estate Brown Crepe 2X											
Smoked Blanket											
Remilled Crepe 2											
Estate Brown Crepe 3X	}	Group 6									
Remilled Crepe 3											
Remilled Crepe 4											
Flat Bark Crepe {Earth Scrap Crepe}		Group 7									
Scraps [Dry Weight]											
Sole Crepe											
(i)	(ii)	(iii) a	(iii) b	(iii) c	(iii) d	(iv) a	(iv) b	(iv) c	(v)	(vi)	
Preserved Latex (Dry Rubber content) (State percentage of concentration)	}	i) Normal									
Masterbatches (State percentage of Dry Rubber Content)		ii) Centrifuged Concentrate									
		iii) Creamed concentrate									
Technically Specified Rubber (Specify the type and grade)	i) Rubber Carbon Black Masterbatches										
	ii) Any other Masterbatches										
Oil extended Rubber (Specify the type and grade and percentage of Dry Rubber Content. n each).	iii)										
	i)										
	ii)										
	iii)										
	iv)										
	v)										
	vi)										
vii)											
TOTAL	i)										
	ii)										
	iii)										

I declare that the above is a true and correct account in respect of my business for the

month of..

Place

Date

Signature of the Dealer.

FORM B
(See Rule 43 (4))

(The return for each month should be sent so as to reach the Secretary, Rubber Board, Kottayam on or before the 20th of the succeeding month)

THE RUBBER BOARD

Name and address of the Processor
Registration No. or Licence No. as the case may be

Group and Grades	Closing Stocks of all rubber as shown in the last return Kg.	Rubber used out of own production and/or acquired for processing during the month				Rubber disposed of during the month				Balance of stocks on hand at the end of the month Kg.	Stocks in transit for which receipt notes have not been received Kg.	Shortage, if any Kg.
		used out of own production Kg.	acquired from small growers Kg.	acquired from Large growers Kg.	Oth-ers Kg.	Manu-facturers Total Kg.	Oth-ers Kg.	Total Kg.	Total Kg.			
(i)	(ii)	(iii)a	(iii)b	(iii)c	(iii)d	(iii)e	(iv)a	(iv)b	(iv)c	(v)	(vi)	(vii)
RMA IX RMA 1 RMA 2 RMA 3 Cuttings No. 1 RMA 4 RMA 5 Cuttings No. 2	}	Group 1										
		Group 2										
		Group 3										

* Inserted as per Notification No. G.S.R. 2402, dated 2-9-1975 of the G.O.I. Ministry of Commerce, (Published in the Gazette of India, dated 20-9-1975.)

(i)	(ii)	(iii)a	(iii)b	(iii)c	(iii)d	(iii)e	(iv)a	(iv)b	(iv)c	(v)	(vi)	(vii)			
Precoagulated Crepe Pale Latex Crepe IX Pale Latex Crepe 1 Pale Latex Crepe 2 Pale Latex Crepe 3 FAQ	}	Group 4													
Estate Brown Crepe Super IX Estate Brown Crepe IX Estate Brown Crepe 2X Smoked Blanket Remilled Crepe 2		}	Group 5												
Estate Brown Crepe 3 X Remilled Crepe 3 Remilled Crepe 4			}	Group 6											
Flat Bark Crepe [Earth Scrap Crepe Scraps [Dry Weight] Sole Crepe				}	Group 7										

(i)	(ii)	(iii) a	(iii)b	(iii) c	(iii) d	(iii) e	(iv) a	(iv) b	(iv) c	(v)	(vi)	(vii)
Preserved Latex (Dry Rubber content) (State percentage of concentration)	}	i) Normal										
		ii) Centrifuged Concentrate										
		iii) Creamed concentrate										
Masterbatches (State percentages of Dry Rubber Content)	}	i) Rubber Carbon Black Masterbatches										
		ii) Any other Masterbatches										
		iii)										
Technically Specified Rubber (Specify the type and grade).	}	i)										
		ii)										
		iii)										
		iv)										
		v)										
		vi)										
		vii)										
Oil extended Rubber (Specify the type and grade and percentage of Dry Rubber Content, in each).	}	i)										
		ii)										
		iii)										
TOTAL												

I declare that the above is a true and correct account in respect of my business for the month of.....
Place:
Date:

Signature of the Processor

***FORM K**

(See Rule 43(3))

Monthly return by manufacturer

(The return for each month should be sent so as to reach the Secretary, Rubber Board, Kottayam on or before the 20th of the succeeding month)

THE RUBBER BOARD

Registration No.

Name of Manufacturer:

Full Address:

(1) Position of Natural Rubber (Indigenous and Imported)

Groups and Grades Closing stock of all grades of rubber as shown in the last return (Indigenous & Imported)	Stock acquired during the month (Indigenous and Imported)				Stock consumed in manufacture during the month (Indige- nous & Imported)	Stock otherwise disposed of during the month (Indige- nous & Imported)	Balance of stock on hand at the end of the month (Indige- nous & Imported)	Stock in transit awaiting delivery (Indigenous & Imported)	Quantity of rubber for which general import licences received during the month
	Indi- genous	Imported		Total					
		Against general licences issued	Against licences issued under the export promotion schemes						
Kg. (2)	Kg. (3) a	Kg. (3)b(i)	Kg. (3)b(ii)	Kg. (3)c	Kg. (4)	Kg. (5)	Kg. (6)	Kg. (7)	Kg. (8)
RMA IX									
RMA 1									
RMA 2									
RMA 3									
Cuttings No. 1									
RMA 4									
RMA 5									
Cuttings No. 2									

* Inserted as per Notification No. G. S. R. 2402, dated 2-9-1975 of the G.O. I. Ministry of Commerce, [Published in the Gazette of India, dated 20-9-1975.]

(1)	(2)	(3) a	(3) b(i)	(3) b(ii)	(3) c	(4)	(5)	(6)	(7)	(8)
Precoagulated Crepe										
Pale Latex Crepe X	}									
Pale Latex Crepe 1										
Pale Latex Crepe 2										
Pale Latex Crepe 3										
FAO										
Estate Brown Crepe	}									
Super IX										
Estate Brown Crepe IX										
Estate Brown Crepe 2X										
Smoked Blanket										
Remilled Crepe 2										
Estate Brown Crepe 3X	}									
Remilled Crepe 3										
Remilled Crepe 4										
Flat Bark Crepe	}									
[Earth Scrap Crepe]										
Scraps [Dry Weight]										
Sole Crepe										
Latex (Dry Rubber content) (State percentage of concentration)	}									
i) Normal										
ii) Centrifuged Concentrate										
Masterbatches (State percentages of Dry Rubber Content)	}									
i) Rubber Carbon Black Masterbatches										
ii) Any other Masterbatches										
Technically Specified Rubber (Specify the type and grade).	}									
i)										
ii)										
iii)										
iv)										
v)										
vi)										
Oil extended Rubber (Specify the type and grade and percentage of Dry Rubber Content, in each).	}									
i)										
ii)										
TOTAL										

Place:

Signature of the Manager/Proprietor of the factory

Date:

(Name of the person signing should be given in the block letters)

2 POSITION OF SYNTHETIC RUBBER

Types of synthetic Rubber	Closing stock of each type of rubber as shown in the last return (Indigenous & imported)	Stock acquired during the month (Indigenous and Imported)			Total	Stock consumed in manufacture during the month (Indigenous & Imported)	Stock otherwise disposed during the month (Indigenous & Imported)	Balance of stock on hand at the end of the month (Indigenous & Imported)	Stock in transit awaiting delivery (Indigenous & Imported)	Quantity of rubber for which general import licences received during the month
		Indigenous	Against general licences issued	Imported						
(1)	Kg. (2)	Kg. (3)a	Kg. (3)b(i)	Kg. (3)b(ii)	Kg. (3)c	Kg. (4)	Kg. (5)	Kg. (6)	Kg. (7)	Kg. (8)
Styrene Butadiene										
Butyl										
Neoprene										
Polyisoprene										
Polybutadiene										
Nitrile										
Ethylene-Propylene										
Silicone										
Others (Specify)										
TOTAL										

3 POSITION OF RECLAIMED RUBBER

Type of reclaimed Rubber (Specify)	Closing stock of each type of rubber as shown in the last return (Indigenous & imported)	Stock acquired during the month (Indigenous and Imported)			Total	Stock consumed in manufacture during the month (Indigenous & Imported)	Stock otherwise disposed during the month (Indigenous & Imported)	Balance of stock on hand at the end of the month (Indigenous & Imported)	Stock in transit awaiting delivery (Indigenous & Imported)	Quantity of rubber for which general import licences received during the month.
		Indigenous	Against general licences issued	Imported						
(1)	kg. (2)	kg. (3)a	kg. (3)b(i)	kg. (3)(iii)	kg. (3)c	kg. (4)	kg. (5)	kg. (6)	kg. (7)	kg. (8)
TOTAL										

TOTAL

I declare that the above is a true and correct account in respect of.....

(State here the name of the firm)

for the month of.....

Place:

Date:

Signature of the Manager/Proprietor of the factory.

(Name of the person signing should be given in block letters).

***FORM KI**

(See Rule 43 (3))

Annual return by manufacturer

(The return for each year should be sent so as to reach the Secretary, (Rubber Board, Kottayam on or before the 30th of April of the succeeding year)

THE RUBBER BOARD

Registration No
Name of the manufacturer
Full Address

(1)	(2)	(3)	(4)	(5)	Actual consumption of rubber during the year				Estimated rubber consumption during the succeeding				Remarks
					Natural	Synthetic	Reclaimed	Total	Natural	Synthetic	Reclaimed	Total	

1. Tyres & tubes
 - a) Heavy duty tyres
 - b) Light tyres (car, van etc.
 - c) Motor cycle & Scooter Tyres.
 - d) ADV tyres
 - e) Tubes for the above types (a) to (d)
 - f) Cycle tyres & tubes

* Inserted as per Notification No. G.S.R. 2402, dated 2-9-1975 of the G.O.I., Ministry of Commerce, [Published in the Gazette of India, dated 29-9-1975].

(1)	(2)	(3)	(4)	(5)	(6)	(6)a	(6)b	(6)c	(6)d	(7)a	(7)b	(7)c	(7)d	(8)
II.	Camel Back													
III.	Rubber footwear													
IV.	Belting													
V.	Hoses													
VI.	Water proofed fabrics													
VII.	Latex foam													
	Sponge													
VIII.	Dipped rubber goods													
IX.	Rubber covered cables													
X.	Others [Specify]													
TOTAL														

Note: 'Year' wherever mentioned in this form means the year ending on the 31st of March.

I declare that the above is a true and correct account in respect of..
.....for the year ending.....
[State here the name of the firm]

Place:

Signature of the Proprietor/Manager of the factory.

Date:

(Name of the person signing should be given in the block letters).

FORM L

[See Rule 43]

** (The return for each month should be sent so as to reach the Secretary, Rubber Board, Kottayam, on or before the 20th of the succeeding month).

THE RUBBER BOARD

Name of estate/dealer/manufacturer
Reg. No./Licence No

Details of raw rubber acquired and or disposed of in the month of as per columns II and III of Form H in the case of estates and dealers, and col. 2 of Form K in the case of manufacturers.

(To be filled up by
dealers and manufacturers)

(To be filled up by
dealers and estates)

QUANTITY ACQUIRED

QUANTITY DISPOSED

Name & Reg. No. of estate/dealer	Quantity in kg. acquired from each estate or dealer	Name & Reg. No. of dealer/ Manufacturer	Quantity in Kg. disposed of to each dealer or manufacturer

Total

Total

Place

Date

Owner of the estate

Signature of the dealer

manufacturer

*Inserted as per Notification No. S.R.O. 549, dated the 14th February 1957 of the Government of India Ministry of Commerce and Industry, (Published in the Gazette of India, Part II, Section 3 [i], dated the 23rd February 1957)

**Substitute as per Notification No. G.S.R. 620, dated the 15th July 1958. of the Government of India, Ministry of Commerce and Industry, [Published in the Gazette of India, Part II, Section 3 [i], dated the 19th July 1958].

THE RUBBER BOARD
***FORM N1**

[See Rule 43 B]

(Declaration regarding inter - state transport of rubber by a registered owner of an estate)

Not transferable

Copy for
Book No.
Serial No.

Date of issue from the office
of the Rubber Board.

Valid upto

Seal of the Rubber Board

- (1) Name and description of the person to whom this declaration is issued by the Board [State whether individual, firm or company]:
- (2) Name, full address and register number of the estate on which the rubber was produced:
- (3) The full address from which the rubber is consigned:
- (4) Particulars of goods:

Sl. No.	Invoice details if any		Description of goods	Marks if any	Quantity		Value of goods	Remarks
	No.	date			No. of packings/ barrels	Weight in kgs. (D.R.C. weight) in the case of latex		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

- (5) Name, full address and register number of the dealer/processor/manufacturer to whom the rubber is consigned:

- (6) Full address to which the rubber is consigned:

* Inserted as per Notification No. G. S. R. 1497, dated 27-9-76. of the Government of India, Ministry of Commerce, Published in the Gazette of India, dated 23-10-76.)

- (7) State whether the consignment is under sale or transfer.
- (8) Name and full address of the transporting agent/
carrier, if any:
- (9) Mode of transport:
(a) Land: Registration No. of lorry or other vehicle.
(b) Rail: R. R. No.
(c) Sea: Name of the vessel and No. of Bill of Lading.
(d) Others: Name and number of vehicle or vessel.
- [10] I/We declare that to the best of my/our knowledge the information furnished above is true and correct.

Place: Signature and Designation of
the person signing this

Date: Declaration on behalf of the Consignor

- Note: (i) This form shall not be valid after the date specified above in this regard. The form, if not used by the said date, shall be returned (in quadruplicate) to the Board's Office at Willingdon Island, Cochin, immediately on the expiry of the said last date of validity. Any form which is spoilt or otherwise rendered unusable for any reason should forthwith be returned (in quadruplicate) with the reasons recorded thereon to the Board's Office at Willingdon Island, Cochin. Loss, if any, of the form should forthwith be reported to the Board's Office at Cochin.
- (ii) This declaration is to be completed in quadruplicate by the consignor, The original shall accompany the rubber during transport. The second copy shall be sent under certificate of posting or delivered to the Board's Office at Willingdon Island, Cochin, on the date of issue by the consignor. The third copy shall be despatched to the consignee and the fourth copy shall be retained by the consignor.
- (iii) The declaration shall be produced by the person transporting rubber and the consignee, on demand by any Officer of the Board authorised in that behalf by the Chairman of the Board, or any Officer of the Central or State Government authorised in that behalf by that Government.

THE RUBBER BOARD
***FORM N2**

{See Rule 43 (B)}

(Declaration regarding inter-State transport of rubber by
dealer licensed under Rule 39)

Not transferable

Copy for
Book No.....
Serial No.....

Date of issue from the Office
of the Rubber Board.....

Valid up to

Seal of the Rubber Board

- (1) Name and description of the person to whom this declaration is issued by the Board [State whether individual, firm or company]:
- (2) Name, full address register number and licence number of the dealer agent consigning the goods:
- (3) The full address from which the rubber is consigned:
- (4) Particulars of goods: .

Sl. No.	Invoice details If any		Description of goods	Marks if any	Quantity	Weight in kgs. (D R C. weight in the case of latex	Value of goods.	Remarks
	No	date			No. of packings/ barrels			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

- (5) Name, full address register number and licence number of the (dealer/processor/manufacture) to whom the rubber is consigned:
- (6) Full address to which the rubber is consigned:

* Inserted as per Notification of G. S. R. 1497 dated 27-9-78. of the Government of India, Ministry of Commerce, (Published in the Gazette of India, dated 23-10-76).

- (7) State whether the consignment is under sale or transfer:
- (8) Name and full address of the transporting agent, carrier, if any:
- (9) Mode of transport:
 - (a) Land: Registration No. of lorry or other vehicle.
 - (b) Rail: R. R. No.
 - (c) Sea: Name of the vessel and No. of Bilj of Lading
 - (d) Others: Name and number of vehicle or vessel.
- (10) I/We declare that to the best of my/our knowledge the information furnished above is true and correct.

Signature and Designation of the

Place:

person signings this

Date:

Declaration on behalf of the Consignor.

Note: (i) This form shall not be valid after the date specified above in this regard. The form, if not used by the said date, shall be returned (in quadruplicate) to the Board's office at Willingdon Island, Cochin immediately on the expiry of the said last date of validity. Any form which is spoilt or otherwise rendered unusable for any reason should forthwith be returned (in quadruplicate) with the reasons recorded thereon to the Board's Office at Willingdon Island, Cochin. Loss, if any, of the form should forthwith be reported to the Board's Office at Cochin

(ii) This declaration is to be completed in quadruplicate by the consignor. The original shall accompany the rubber during transport. The second copy shall be sent under certificate of posting or delivered to the Board's Office at Willingdon Island, Cochin, on the date of issue by the consignor. The third copy shall be retained by the consignor.

(iii) This declaration shall be produced by the person transporting rubber and the consignee, on demand by any any Officer of the Board authorised in that behalf by the Chairman of the Board, or any Officer of the Central or State Government authorised in that behalf by that Government.

THE RUBBER BOARD

***FORM N3**

(See Rule 43 B)

(Declaration regarding inter-State transport of rubber by processors licensed under Rule 39 A)

Not transferable

Copy for.....

Book No.....

Date of issue from the Office of the Rubber Board.....

Serial No

Valid up to..

Seal of the Rubber Board.

- (1) Name and description of the person to whom this declaration is issued from the Board (State whether individual, firm or company):
- (2) Name, full address register number and licence number of the processor agent consigning the goods:
- (3) The full address from which the rubber is consigned:
- (4) Particulars of goods:

Sl. No.	Invoice details if any		Description of goods	Marks if any	Quantity	Weight in kgs. (D. R. C. weight in the case of latex)	Value of goods	Remarks
	No.	Date			No. of packings/ barrels			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

(5) Name, full address; register number and licence number of the (dealer/processor/manufacture) to whom the rubber is consigned:

(6) Full address to which the rubber is consigned:

* Inserted as per Notification No G. S. R. 1497, dated 27-9-76. of the Government of India, Ministry of Commerce, (Published in the Gazette of India, dated 23-10-76).

(7) State whether the consignment is under sale or transfer.

(8) Name and full address of the transporting agent/ carrier if any:

(9) Mode of transport:

(a) Land: Registration No. of lorry or other vehicle.

(b) Rail: R. R. No.

(c) Sea: Name of the vessel and No. of Bill of Lading

(d) Others: Name and number of vehicle or vessel.

(10) I/We declare that to the best of my/our knowledge the information furnished above is true and correct.

Place: _____ Signature and Designation of the person signing this

Date: _____ Declaration on behalf of the Consignor.

Note: (i) This form shall not be valid after the date specified above in this regard. The form, if not used by the said date, shall be returned (in quadruplicate) to the Board's Office at Willingdon Island, Cochin, immediately on the expiry of the said last date of validity. Any form which is spoilt or otherwise rendered unusable for any reason should forthwith be returned (in quadruplicate) with the reasons recorded thereon to the Board's Office at Willingdon Island, Cochin. Loss, if any, of the form should forthwith be reported to the Board's Office at Cochin

(ii) This declaration is to be completed in quadruplicate by the consignor. The original shall accompany the rubber during transport. The second copy shall be sent under certificate of posting or delivered to the Board's Office at Willingdon Island, Cochin, on the date of issue by the consignor. The third copy shall be despatched to the consignee and the fourth copy shall be retained by the consignor.

(iii) This declaration shall be produced by the person transporting rubber and the consignee, on demand by any officer of the Board authorised in that behalf by the Chairman of the Board, or any Officer of the Central or State Government authorised in that behalf by that Government.

THE RUBBER BOARD

***FORM N4**

(See Rule 43 B)

(Declaration regarding inter-state transport of rubber by manufacturers.)

Not transferable

Copy for.....

Book No.....

Date of issue from the Office of the Rubber Board

Serial No.....

Valid upto

Seal of the Rubber Board.

- (1) Name and description of the person to whom this declaration is issued by the Board (State whether individual, firm or company);
- (2) Name, full address register number and licence number of the manufacturer / agent consigning the goods;
- (3) The full address from which the rubber is consigned;
- (4) Particulars of goods:

Sl. No.	Invoice details if any		Description of goods	Marks if any	Quantity		Weight in kgs. (D. R. C. weight in the case of latex)	Value of goods	Remarks
	No.	Date			No. of packings/ barrels				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	

- (5) Name, full address, register number and licence number of the manufacturer to whom the rubber is consigned.
- (6) Full address to which the rubber is consigned:

* Inserted as per Notification No. G. S. R. 1497, dated 27-9-76 of the Government of India, Ministry of Commerce, (Published in the Gazette of India dated 23-10-76.)

- (7) State whether the consignment is undersale or transfer.
- (8) Name and full address of the transporting agent/ carrier, if any:
- (9) Mode of transport:
 - (a) Land: Registration No. of lorry or other vehicle.
 - (b) Rail: R R. No.
 - (c) Sea: Name of the vessel and No. of Bill of Lading.
 - (d) Others: Name and number of vehicle or vessel,
- (10) I/We declare that to the best of my/our knowledge the information furnished above is true and correct.

Signature and Designation of

Place: the person signing this

Date: Declaration on behalf of the Consignor

Note: (i) This form shall not be valid after the date specified above in this regard. The form, if not used by the said date, shall be returned (in quadruplicate) to the Board's Office at Willingdon Island, Cochin, immediately on the expiry of the said last date of validity. Any form which is spoilt or otherwise rendered unusable for any reason should forthwith be returned (in quadruplicate) with the reasons recorded thereon to the Board's Office at Willingdon Island, Cochin. Loss, if any, of the form should forthwith be reported to the Board's Office at Cochin.

(ii) This declaration is to be completed in quadruplicate by the consignor. The original shall accompany the rubber during transport. The second copy shall be sent under certificate of posting or delivered to the Board's Office at Willingdon Island, Cochin, on the date of issue by the consignor. The third copy shall be despatched to the consignee and the fourth copy shall be retained by the consignor.

(iii) This declaration shall be produced by the person transporting rubber and the consignee, on demand by any Officer of the Board authorised in that behalf by the Chairman of the Board, or any Officer of the Central or State Government authorised in that behalf by that Government.

APPENDIX - III
LIST OF CO-OPERATIVES AFFILIATED TO
RUBBER MARK.

- | Sl.No | Name and Address of the Societies |
|-------|--|
| 01. | The Palai Marketing Co-operative Society Ltd., No: 4214, PALAI. |
| 02. | The Meenachil Rubber Marketing and Processing Co-operative Society Ltd., No: K-118, PALAI. |
| 03. | The Cannanore Dist : Co-operative Rubber and Agricultural Marketing Society Ltd., No: C-303, THALIPARAMBU. |
| 04. | The Pandalam Co-operative Marketing Society Ltd., No: A-268, PANDALAM. |
| 05. | The Ezhamkulam Agricultural Marketing Co-operative Ltd., No:2205, EZHAMKULAM, PARAKODE.P.O. |
| 06. | The Always Kunnathunadu Co-operative Rubber Marketing Society Ltd., No: E-221, PERUMBAVOOR. |
| 07. | The Palghat Dist: Co-operative Rubber Marketing Society Ltd., No: P-561 G.B.ROAD, PALGHAT. |
| 08. | The Thiruvalla Taluk Co-operative Rubber Marketing Society Ltd., No:K-253, CHUNGAPPARA. |
| 09. | The Kaduthuruthy Co-operative Rubber Marketing & Processing Society Ltd., No:1397, KADUTHURUTHY. |
| 10. | The Kozhikode Dist: Co-operative Rubber Marketing Society Ltd., No: F-1879, P.B.No:161, CHEROOTTY ROAD, CALICUT. |
| 11. | The Trichur Dist: Co-operative Rubber Marketing Society Ltd., No: R-285, TRICHUR. |
| 12. | The Moovattupuzha Taluk Co-operative Rubber Marketing Society Ltd., No: 3094, MOOVATTUPUZHA. |
| 13. | The Kottayam Co-operative Rubber Marketing Society Ltd., No: K-778, KOTTAYAM. |
| 14. | The Kottayam Co-operative Rubber Marketing Society Ltd., No: K-363, ETTUMANOOR.P.O. |
| 15. | The Venjaramoodu Co-operative Rubber Marketing Society Ltd., No: T-229, VENJARAMOODU.P.O. |

16. The Rubber Marketing Co-operative Society Ltd, No:, Q-374, CHADAYAMANGALAM.
17. The Thodupuzha Taluk Co-operative Rubber Marketing Society Ltd., No:E-222, THODUPUZHA.
18. The Kanjirappally Taluk Co-operative Rubber Marketing Society Ltd., No: K-157, KANJIRAPPALLY.
19. The Monippally Marketing Co-operative Society Ltd., No:4052, Monippally, KOTTAYAM DISTRICT.
20. The Ranny Rubber Marketing Co-operative Society Ltd., No:Q-296, RANNY. P.O.
21. The Adoor Taluk Co-operative Rubber Marketing Society Ltd., No:Q-3555, KOODAL.P.O, - 689 693.
22. The Pathanapuram Taluk Marketing Co-operative Society Ltd., No:3945, PUNALUR, P.O.
23. The Ponkunnam Marketing Co-operative Society Ltd., No:2945, PONKUNNAM. P.O.
24. The Arakunnam Co-operative Rubber Marketing Society Ltd., No:E-165, ARAKUNNAM.
25. The Changanacherry Co-operative Rubber Marketing Society Ltd., No:K-364. KARUKACHAL.P.O.
26. The Konny Marketing Co-operative Society Ltd., No:Q-434, KONNY.P.O.
27. The Malappuram Dist: Rubber Growers Co-operative Rubber Marketing Society Ltd., No: D-1945, NILAMBUR.P.O.
28. The Kasargod Dist: Co-operative Rubber Marketing Society Ltd., No: C-325, Chittarickal.p.o, via, NILESWER-670 326.
29. The Kothamangalam Co-operative Rubber Marketing Society Ltd., No: E-137, KOTHAMANGALAM.P.O.
30. The North Wynad Co-operative Rubber Marketing Society Ltd., No: E-348, KOTHAMANGALAM.P.O.

31. The Neyyattinkara Agricultural & Rubber Marketing Co-operative Society Ltd., No:T-730, KATTAKADA.P.O. 695 572
32. The Kattappana Marketing Co-operative Society Ltd., No: 328, KATTAPPANA. P.O.
33. The Tellicherry Taluk Rubber Marketing Co-operative Society Ltd., No: C-927, IRITTY.P.O.
34. The Mananadu Co-operative Rubber Marketing Society Ltd., No:I-167, UPPUTHARA. P.O., IDUKKI DISTRICT.
35. The Devikulam Taluk General Marketing Co-operative Society Ltd.No:1156, ADIMALI. P.O.

PURCHASE BRANCHES OF RUBBER MARK

1. RUBBER MARK
RKV Building Manalinal
Thakarapambu Road
Sreekanteswaram Ward
Thiruvananthapuram-23
2. RUBBER MARK
Manalinal.P.O
Poovathilappu
Kottayam
3. RUBBER MARK
Kalunku Junction
Vithura P.O.
Thiruvananthapuram Dist.
4. RUBBER MARK
Near St.Mary's College
Kaduthuruthy
5. RUBBER MARK
Nalakath Building
Near Post Office
Nilambur,Malappuram Dist.
6. RUBBER MARK
Fertiliser Mixing Unit
Cherpunkal P.O
Palai, Kottayam Dist.
7. RUBBER MARK
Fertiliser Mixing Unit
39/528A, Thaikoottamparamba
West Hill, Calicut - 5.
8. RUBBER MARK
C/o Arakunnam Co-operative
Rubber Marketing Society
Limited Ernakulam Dist.
9. RUBBER MARK
Regional Office
5/3420A, Noble Building
Indira Gandhi Road
Calicut - 4.
10. RUBBER MARK
Madakanakal Building
Yendayar, Koottickal
Kottayam Dist.
11. RUBBER MARK
Regional Office
XVI/477, Ozhathil Building
Near Railway Goodshed
Kottayam - 1.
12. RUBBER MARK
Irikkur Road
Iritty. P.O
Kannur Dist.

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|--|--|
| <p>13. INTERMIX FACTORY
Rubber Mark
Kattampack P.O.
Neezhoor
Kottayam - 686 612.</p> | <p>14. RUBBER MARK
C/o Pandalam Co-op. Rubber
Marketing Society Ltd.
Pandalam.</p> |
| <p>15. RUBBER MARK
Karuvarakundu
Malappuram Dist.</p> | <p>16. RUBBER MARK
Engappuzha
Puthuppady P.O.
Calicut - 673 573.</p> |

SALES BRANCHES OF RUBBER MARK

- | | |
|--|---|
| <p>1. RUBBER MARK
66, Uday Park
New Delhi - 49.</p> | <p>2. RUBBER MARK
C-3, Sagar Co-op.
Housing Society,
Vastrapur, Thalitej Road,
Ahmedabad - 380 054.</p> |
| <p>3. RUBBER MARK
Flat No. B-3 Bina Apartments
M.V. Road
Andheri(E)
Bombay - 400 069</p> | <p>4. RUBBER MARK
191, Udhani Lay Out
Ulsoor, Bangalore</p> |
| <p>5. RUBBER MARK
Flat No. 102, Ellora Apartments
2, Gariahat Road (South)
Calcutta - 700 068.</p> | <p>6. RUBBER MARK
390, Lajpet Nagar
Jullundur City
Punjab- 144 001.</p> |
| <p>7. RUBBER MARK
468, Sector 15A
Faridabad.</p> | <p>8. RUBBER MARK
Flat No. 102, Himagiri
Kaushambi Apartments
Ghaziabad- 201010.</p> |

APPENDIX - IV
LIST OF MAJOR RUBBER DEALERS

Sl.No.	Name and Address of Dealers	Sl.No.	Name and Address of Dealers
01.	ALEXANDER GEORGE & CO. Pathanapuram D.No-1403505 K.G.S.T-14151439.	07.	E.V MATHAI & SONS Kothamangalam D.No- 1400201 K.G.S.T - 24141164.
02	A & T RUBBER STORES Nilamboor D.No. 1402549 K.G.ST- 32161610	08.	GIGI RUBBERS Manarkadu Kottayam D.No- 1402096 K.G.S.T- 21121427.
03.	C.P.M. RUBBER CORPORATION Erumely D.No. 1400974 K.G.S.T- 21140576.	09.	K.K ISSAC & SONS Kothamangalam D.No- 1400197 K.G.S.T- 23180150.
04.	CONTINENTAL RUBBERS Kodimatha - Kottayam K.G.S.T-21111242	10.	IBRAHIM JALAL Kanjirappally K.G.S.T - 21140447.
05.	CLASSIC TRADERS Kottayam D.No: 1403540 K.G.S.T. 21111388.	11.	JAMES MATHEW Kothamangalam D.No- 1402080 K.G.S.T- 23180753.
06.	CHETTIPARAMBIL TRADERS Karimkunnam Thodupuzha D.No- 1401088 K.G.S.T- 22110357.	12.	C.C JOSEPH & CO. Palai K.G.S.T- 21151126.

- | | |
|--|--|
| <p>13. M.D. JOSEPH
Manimala
D.No: 1400186
K.G.S.T - 21140498.</p> <p>14. A.C. JOSEPH
Teekoy
D.No - 1401798
K.G.S.T - 21151117.</p> <p>15. JOHN JACOB & CO.
Jew Town-Cochin
D.No. 1401263
K.G.S.T - 24140255</p> <p>16. C.A. JOSEPH & CO.
Thodupuzha
K.G.S.T- 22110405.</p> <p>17. A.V.KURIAN
Teekoy
D.No- 1405752
K.G.S.T- 21151923.</p> <p>18. K.J.B & SONS
Manyapra-Kalady
D.No. 1405282
K.G.S.T- 24160998.</p> <p>19. K.I PAUL
Kothamangalam
Thankalam
D.No- 1401585
K.G.S.T. 23180387.</p> | <p>20. M.M. MATHEW & CO.
Poovarani
D.No. 1400441
K.G.S.T. 21150625.</p> <p>21. K.K MATHAI
Panachipara
Teekoy-poonjar
D.No. 1405832
K.G.S.T. 21151846.</p> <p>22. MATHAI ZHACARIAS
Plassanal
D.No- 1401005
K.G.S.T- 21150674.</p> <p>23. V.J.MATHEW
Teekoy
D.No-1403898
K.G.S.T. 21151643.</p> <p>24. NATIONAL TRADING SYNDICATE
Ponkunnam
K.G.S.T-21141594.</p> <p>25. PREMIER LATEX PVT LTD.
XY/34, Syrian Church Road
Alwaye
P. 14094
K.G.S.T - 24151438.</p> <p>26. PARAYIL RUBBERS
Panagarapally.P.O
Chelakkara
D.No. 1405044
K.G.S.T- 25201172.</p> |
|--|--|

27. PEEKAY GROUP
Kanjirappally
D.No. 1401222
K.G.S.T - 21141058.
28. RUBBEX INDUSTRIES
Alwaye
D.No. 1400447.
K.G.S.T - 24150567.
29. RUBBEX TRADING
Alwaye
K.G.S.T - 24151261.
30. RUBBER MARKETING ASSOCIATES
Kodimatha-Kottayam
K.G.S.T -24140332.
31. REGAL CREPE MILLS
Pallam
Kottayam
D.No. 14079
K.G.S.T - 21120968.
32. N. RADHAKRISHNAN
Cochin-16
D.No - 2906491
K.G.S.T - 12010896.
33. SAJAN STORES
Ezhamkulam
Adoor
D.No - 1401403
K.G.S.T -14150187.
34. SHINU RUBBER MART
Kadackal
D.No- 1401631
K.G.S.T - 12210463.
35. SANTHI TRADERS
Kuttichal
Nedumangadu T.v.m
D.No. 140227
K.G.S.T - 11151266.
36. SWARAJ RUBBERS
Nilamboor
K.G.S.T - 32160483.
37. P.SURESH
Palai
D.No. 1405119
K.G.S.T - 21151414.
38. THOMAS EAPEN
Parakode
Adoor
D.No- 1400115
K.G.S.T - 14150118.
39. THAMARA RUBBERS
Kallasserry .P.O
Chengannoor
P-14121
K.G.S.T - 13010412.

40. THOMAS VARGHESE & CO.
Kodimatha
Kottayam
K.G.S.T - 21010304.
41. J.J TRADING CO.
Vazhithala
D - 1401620
K.G.S.T - 22110436.
42. U.J. THARIAN & CO.
Alwaye
D.No-14088
K.G.S.T - 24150692.
43. VAIPANA RUBBERS
Palai
D.No. 1402167
K.G.S.T - 21151576.
44. V.S. NARAYANAN NAIR & CO.
Palai
K.G.S.T - 21150729.
45. V.N. RAJEEV
Palai
D.No -1402460
K.G.S.T - 21101651.
46. M.A. VARKEY & CO
Kodimatha
Kottayam
K.G.S.T- 21010244.
47. VEEJAY CORPORATION
Thodupuzha
K.G.S.T - 22110300.
48. NJAVALLIL LATEX PVT LTD
St. Martin Road, Palarivattom
Cochin-25
P.No. 14155
K.G.S.T - 23240646.
49. ALWAYS RUBBEX PVT LTD
Desham
Alwaye
P -14160
K.G.S.T - 24151852.
50. ROY KURIAN
Chennattumattam Traders
Pampady
D.No. 1404057