AN ANALYSIS OF THE MARKETING AND PRICE FORMATION OF CARDAMOM IN KERALA

Dissertation submitted in Partial fulfilment of the requirements of the Degree of Master of Pihlosophy of Jawaharlal Nehru University

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1985

ACKNOWLEDGEMENTS

I am a hopeless bankrupt when it comes to indebtedness. My greatest debt is to my supervisors. D. Narayana, with an indepth knowledge of cardamom economy, and P.K. Michael Tharakan, with a historian's perspective, enabled me to formulate the problem and guided me in pursuing it with ample academic freedom.

My thanks to Dr. P.S. George who always welcomed me for thought provoking discussions. Dr. Chandan Mukherjee showed keen interest in the problem and helped me in the different stages of the study. My boundless thanks to all those who have participated in the seminar which I presented on the problem and gave me useful suggestions.

I will be failing in my duty if I don't thank Mr.N.E. Cheriyankunju, Mr. Bharadhan Pillai, Mr. Sethuraj, Mrs. Vijayalakshmi and other staff of Cardamom Board who provided me with all the available data. I am thankful to the Manager of Cardamom Marketing Corporation, Vandanmettu, the cardamom growers, dealers and exporters who were happy to respond to my queries.

I remember with thanks, the librarian and other staff of the library and other non teaching staff of Centre for Development Studies for all their timely assistance. Mr. J. Muraleedharan Nair and Mrs. E. Sujana Bai were exceptionally helpful in the computer work. I am grateful to them.

Coming to my friends, Haseeb A. Drabu spend a lot of his time, ofcourse a very scarce factor of production, for insightful discussions. S. Raju, Kesbananda Das, Nata Duvvury and Sunil Mani were also helpful at the different stages of the work.

Above all I am grateful to my mother and sister who are always a source of encouragement and inspiration.

Last, but not least, I am thankful to Mr. N. Suresh Chandran for his skillful typing and Mr. Solmon for the neat reprographic work.

K.J. JOSEPH

I hereby affirm that the research for this dissertation titled "An Analysis of the Marketing and Price Formation of Cardamom in Kerala" being submitted to the Jawaharlal Nehru University for the award of the Degree of Master of Philosophy was carried out entirely by me at the Centre for Development Studies, Trivandrum.

Trivandrum,
8--7--1985.

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Certified that this dissertation is the bonafide work of Sri K.J. Joseph and has not been considered for the award of any other degree by any University. The dissertation may be forwarded for evaluation.

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CHAPTER 1

INTRODUCTION

Economic historians concur that there is no case of successful development of a country in which a rise in agricultural productivity had not preceded or accompanied industrial development. Every economy has an agricultural and non-agricultural sector and one of the most important aspects of development is the changing complex but intimate relation between the two.[1/] The role of agricultural growth assumes added importance in an economy like India where three quarters of the population is engaged in agricultural sector and though industrialisation has been taken as a means of attaining rapid development this no way reduces the dependence of the economy on agriculture. Simon Kuznets, in his classic analysis, emphasised the role of agricultural sector in less developed economies as being potentially capable of making four types of contributions -- product, market, factor and foreign exchange -- to overall development.[2/]

The importance of cardamom for the Indian economy is mainly due to its role as an earner of foreign exchange. Nearly 62 percent of the production finds its way into exports fetching considerable foreign exchange. Though its share in the total export earning from spices has remained constant, its relative importance among spices as a foreign exchange earner has improved significantly. In the 1920's the export earning from cardamom bore a ratio of 1:5 with the export

earning from pepper; in the late 1970's the ratio was 1:1.2[3]. It is known to have been a commodity of international commerce ever since the Greek and Roman periods. Rome was importing cardamom and it was listed among the spices liable for duty in Alexandria as early as in 176 A.D. All the cardamom of international commerce is of the small variety — as distinguished from the large cardamom (Amomium) grown in Sikkim, Indonesia and Mainland China — and its traditional home is suposed to be the evergreen forests in the western ghats of South India.[4]

1.1 Area under Cultivation

Over the past six to seven decades the area under cardamom as well as the production and export have shown significant increases. The estimated area under the crop, which was about 40 thousand hectares in the 1930's increased to 94 thousand hectares by 1984.[5] Though cardamom is cultivated in the three South Indian States of Kerala, Karnataka and Tamil Naud, Kerala alone accounts for about 60 percent of the total area and 70 percent of the production. The basic feature of the cardamom economy is a highly skewed distribution of area under cultivation, where small number of holdings account for most of the area under cultivation and a large number of holdings account for a very small proportion of area under cultivation (See Table 1.1)

In Kerala the number of small holdings in cardamom is likely to have increased in recent years. According to the cardamom settlement survey (1964-65) the number of holdings below 2 hectares was slightly higher than 2000 and constituted 8 percent of the total area in Kerala. By 1981-82 the number of small holders (less than 2 hectares) increased to 12,675 constituting 23 percent of

Table 1.1: Distribution of Registered Cardamom Estates in India: 1982

Size of Holdings (hectares)	Number of Estates	Percentages in Total	Area (ha)	Percentage in total
0 - 2	19933	68	18220	21
2 - 4	5064	17	13993	16
4 - 8	2752	9	14848	17
8 - 20	1107	4	12883	15
20 - 40	255	1	6527	8
40 and above	186	1	20014	22
Total	29297	100	86485	100

Source: Government of India, Ministry of Commerce, Cardamom Statistics 1981-82, Cardamom Board, Cochin, 1984.

the total area. It is the growth of these small holdings which accounted for the major part of the increase in number and area of cardamom estates from the mid sixties (See Table 1.2). This growth of small holdings may be viewed as a response to the significant upswing in price (See Table 1.3)

1.2 Trend in Production and Price

The changes in production are mainly due to two factors. First by

Table 1.2: Trend in Cardamom Estates in Kerala

Year	Number of holding less than 2 hectares	as % of total holdings	Enumerated area under less than 2 ha.category	As a % of total	Total number of Estates	Total enumerated Area
1939-40	594	28.3	754	3.8	2096	19930
1964-65	2120	28.0	3040	8.0	7571	38000
1973-74	5550	56.3	5880	14.3	9844	41000
1975-76	9817	62.8	9959	19.6	15643	50751
1976-77	10407	63.6	10570	20.3	16374	51830
1981-82	12675	67.0	12353	23.0	18990	54516

Source: Data for 1939-40 is obtained from Government of India, Directorate of Marketing and Inspection, Report on the Production and Marketing of Cardamom in India, Marketing, Series No.59, 1947.

1981-82 same as Table 1.1

For other years: Narayanan Nair.K et.al (1983)

increases in area and secondly by increases in yield per acre. Because of the gestation period in production, changes in the planted area will get reflected in output only after an interval of about 5 to 6 years. Both the changes in planted area and productivity of plantations, apart from weather and other market forces, are basically a function of farmers' response to changes in price.

Table 1.3: Trend in Production and Price of Cardamom

Year	Production (M.T)	Price (Rs/kg)
1964-65	2200	20
1965-66	2000	42
1966-67	2700	46
1967-68	2400	48
1968-69	2100	54
1969-70	2300	89
1970-71	3120	53
1971-72	3785	30
1972-73	2670	55
1973-74	2780	61
1974-75	2900	77
1975-76	3000	86
1976-77	2400	157
1977-78	3900	134
1978-79	4000	166
1979-80	4500	135
1980-81	4400	99
1981-82	4100	116
1982-83	2900	161
1983-84	1600	373

Source of Data: Compiled from Government of India, Ministry of Commerce, Cardamom Statistics Vol.1 to Vol.VI and Current Cardamom Statistics, 1982-83 and 1983-84, Cardamom Board, Cochin.

Table 1.3 shows that during the last 20 years the production experienced three clear jumps and when the jumps in production are seen along with the movement of prices it is observed that the jumps in production are marked by sharp decreases in prices. Such an association points to the force with which demand and supply factors govern the prices.[6/]

1.3 Trend in Export of Cardamom

For centuries India has remained the major supplier of cardamom to the world's major markets in the Middle East. Even now 80 percent of Indian export is directed towards the Middle East (See Table 1.4). This regional concentration

Table 1.4: Export of Cardamom to the Middle East Countries

Year	Quantity (M.T)	Share in total Export
1970-71	1313	77
1971-72	1690	79
1972-73	991	72
1973-74	1525	84
1974-75	1022	63
1975-76	1607	83
1976-77	602	67
1977-78	2491	90
1978-79	2487	86
1979-80	2208	84
1980-81	1964	84
1981-82	1789	77
1982-83	629	61

Source: Government of India, Ministry of Commerce, Cardamom Statistics 1981-82, Cardamom Board, Cochin, 1984.

is basically because of the high quality of Indian cardamom compared to the cardamom of other producing countries like Guatemala, Tanzania and Sri Lanka. However as the indices of export from India and Guatemala shows India has not been able to increase its export as the world export increased (See Fig. 1.1) Even in absolute terms India's export shows a decreasing trend in the early 1980's.

The demand from the Middle Eastern countries forms about 60 percent of the world demand. The demand in this market has been increasing because of the enormous rise in the per capita income of these countries as a result of the oilboom. This fact is evident from the doubling of the world trade in cardamom during the seventies. However, paradoxically at the same time the share of Indian export in the world trade has declined (See Table 1.5). The possible reasons for this are (a) India's production of cardamom was not keeping pace with the world trade (b) India could not compete successfully with its major competitor - Guatemala - increasing production yield and quality of the product and (c) Indian trade policy[7] has failed to keep pace with the world market conditions.

The rapid increase in world export during this period was mostly due to substantial increase in export from Guatemala, India's major competitor in the world market (See Fig.1). During the early seventies Guatemala accounted for 23 percent of the world trade; its share has increased to nearly 60 percent in 1982. The production in Guatemala which had been about 970 M.T. in 1970 increased to 5007 M.T in 1980 (See Table 1.6). Such a phenomenal increase in production was achieved through expansion of area under the crop and enhancement of yield through adoption of improved cultivation techniques. The lower cost of cultivation

Fig 1.1: Indices of Export from India Guatemala to and total World Export (1971 = 100)

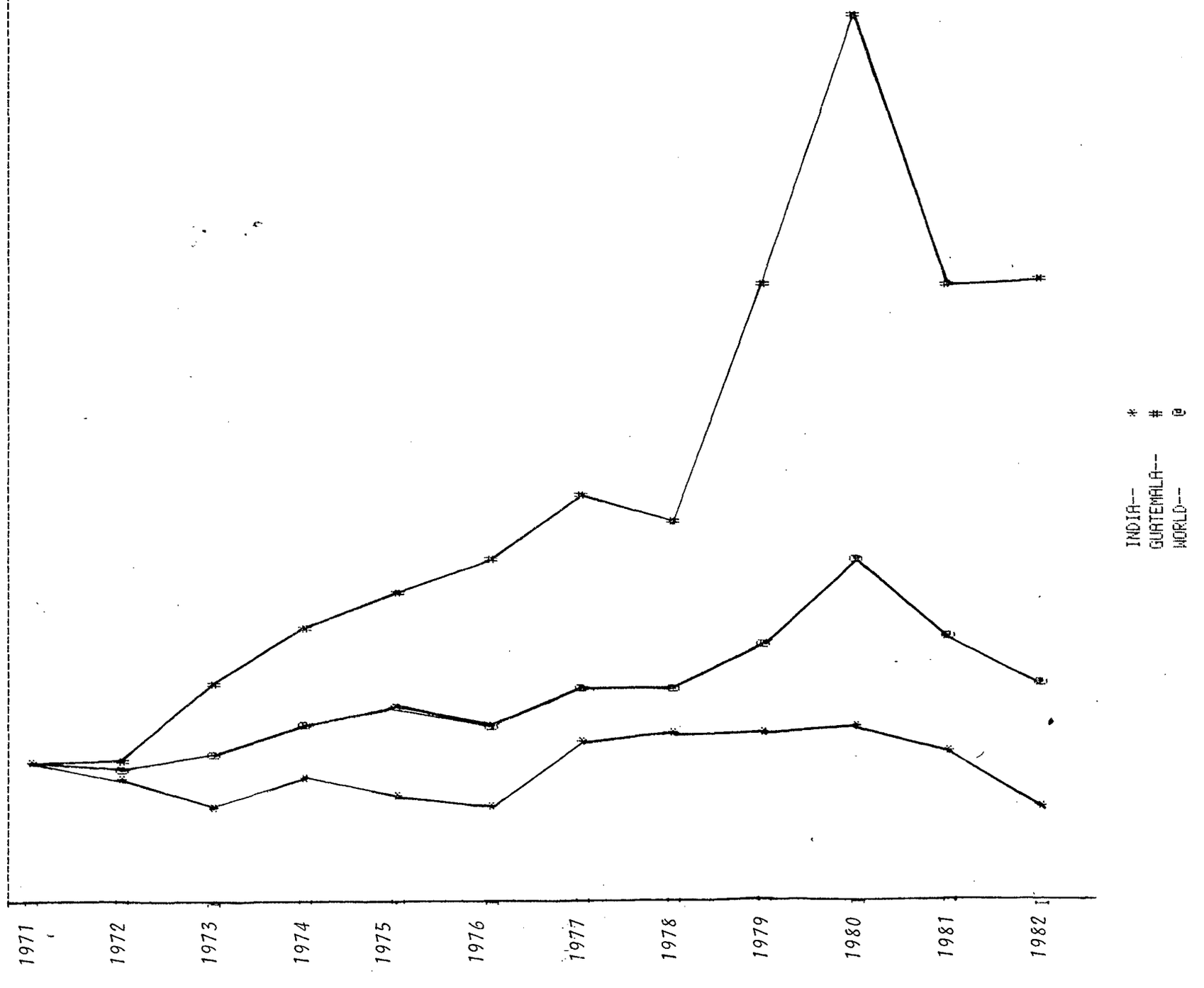

Table 1.5: India's share in World Cardamom Trade

Year	World Trade (M.T)	Export from India (M.T)	Percentage share of Indian Export
1971	3220	2127	66.05
1972	2849	1840	64.58
1973	3419	1357	39.69
1974	4178	1814	43.42
1975	4600	1579	34.32
1976	4056	1420	35.01
1977	5156	2408	46.90
1978	5099	2527	49.56
1979	6275	2657	42.25
1980	8367	2792	33.36
1981	6400	2347	36.67
1982	5100	1311	25.70

Note: Figure of 1982 are provisional

Source: Government of India, Ministry of Commerce, Cardamom Statistics 1981-82, Cardamom Board, Cochin, 1984.

as compared to India, consequent upon better techniques of production and higher yield enabled Guatemala to compete successfully with India in the world market as is evident from the supply price of cardamom from Guatemala

Table 1.6: Area and Export of Cardamom from Gautemala

Year	Area (hectares)	Export (M.T)	Unit value (Rs/kg)
1970	3424	979	36.87
1971	3494	719	41.15
1972	3564	658	31.16
1973	3913	1200	34.24
1974	4332	1472	46.89
1975	5380	1700	52.65
1976	6708	1904	72.84
1977	7546	2264	1006.38
1978	N.A	2107	115.73
1979	N.A	3445	126.99
1980	N.A	5007	98.71
1981	N.A	3440	67.66
1982	N.A	3500	N.A

Source: Same as Table 1.4

Note: N.A — Not available

which has been 3 to 7 dollars (U.S) lower per kg than that from India. Such advantages enabled Guatemala to undersell India in many of its prime markets for cardamom.

1.4 Trend in Auction Sales

Bulk of the cardamom procured by the exporters flows from the producers through the auction centres in a regulated market. In this sense the primary marketing of cardamom is different from other agricultural commodities such as pepper, rubber or coffee; here dealers bid for individual lots (quantity offered for sale by an individual seller) registered in auction centres where the entry of all functional categories, i.e. auctioneers, dealers, and producers is regulated by licencing.

Table 1.7: Trend in Auction Sales of Cardamom

Year	Production (M.T)	Auction Sales (M.T)	Sales other than through auction	Share of auction sales in production
1970-71	3170	2608	562	82
1971-72	3785	3024	761	80
1972-73	2670	2048	622	77
1973-74	2780	1728	1052	62
1974-75	2900	1910	990	66
1975-76	3000	2174	826	72
1976-77	2400	1291	1109	54
1977-78	3900	2997	903	77
1978-79	4000	3353	647	84
1979-80	4500	3123	1377	69
1980-81	4400	3357	1043	76
1981-82	4100	3118	982	76
1982-83	2900	1997	903	69

Source: Same as Table 1.4

It is interesting to observe that though more than two-thirds of the production in sold through auction centres in any year (column 5, Table 1.7) a constant volume (nearly 1000 M.T) has always been flowing through the trade channels without coming to the auction system (column 4, Table 1.7). The reason for the entry of such a large volume of the output to the auction system seems to be the evolution of a well-developed system of marketing over the decades.

As the product is exposed to a large number of bidders and the anonymity of the seller is maintained; it should be interesting to investigate whether the prices obtained are fair. If prices do vary accross lots, can it be explained by the differential quality of the lots or is there any price discrimination? Also it would be worthwhile to analyse the whole question of the evolution of the marketing system itself. These are the broad questions to which this study is addressed to.

1.5 An Approach to the Study

Though marketing is a highly researched area, most of the studies deal with marketing of food grains and the marketing of cash crops is studied only to a limited extent, the only exception being crops like cotton and groundnut. Also the issues discussed in the case of these two categories of agricultural commodities are slightly different.

The literature on food grains marketing can be divided into two categories; (a) those which deal with marketed-(able) surplus functions and (b) marketing efficiency. The former deals with issues like (a) the relation

between marketed-(able) surplus and economic development, (e.g. Paul Zarambaka[8], Vinod Dubey[9] and Utsa Patnaik[10]) distribution of marketed surplus across different size classes (e.g. D. Narain[11], Nadkarni[12] and Khusro[13]) and response of marketed-(able) surplus to price (e.g. T.N. Krishnan[14] and V.M. Dandekar[15]). The latter deal with marketing margins and analyse the structure and performance with a view to explore the sources of inefficiencies in the system.

The question of marketed surplus or the relationship between marketed surplus and size classes is not relevant as far as cash crops are concerned. What is important in the study of cash crops is the question of marketing efficiency.

The marketing margin studies assessing efficiency, are concerned with the estimation of the share of producers in the consumers' rupee and probe whether the existing marketing costs are excessive in relation to the services rendered.[16] Generally three methods are used in computing marketing costs and margins; (1) following specific lots of produce through the marketing system, noting prices and charges at each stage; (2) calculating gross sales and outlays of each handler along a specific channel and dividing these by the number of volume-units handled; and (3) computing broad margins from the average prices obtaining at each stage between producer and consumer. Most of the margin studies have used either the first or the third method. One of the major problems of these kind of studies is that of valueing the services rendered by the middle men. The size of the margin might be able to provide some idea regarding the producer's share in the consumers' rupee. But what is missed in this exercise is the

specificities of the crops and the implication of the associated turnover periods. For instance, a low margin with a high turnover against a higher margin with lower turnover would leave the share of the trader undisturbed but would make considerable difference to the producers' share in the consumers' rupee. As Kahls[17] observes a higher marketing costs and a more prosperous agriculture are compatible ideas". But a careful comparison of market margins for homogenous products marketed under alternative marketing institutions may be able to provide useful insights regarding the relative economic efficiency of the various institutions involved.

The market structure approach to the study of marketing efficiency is based on the belief that the more the existing system of marketing satisfies the requirement of a perfectly competitive model[17], the more efficient it is. There is a growing volume of literature from the American economists like Mellor[18] Cumming[20] and their Indian counterparts like Uma.J.Lele[21] who opposed the view prevalent in India and other under developed countries that looks up on trade as an unproductive activity and income of traders as arising from exploitation of the rest of the community[22]. All these studies suggest the existence of competition in India product market. As Lele observes "the number of intermediaries seems much too large to permit monopolistic practices in trade. Intermarket and intramarket competition among large number of intermediaries greatly limit the profit that can be earned in trade. There is reason to believe that by and large collusion, either tacit or overt, is uncommon in the Indian grain traders. High profit earned by a few traders are not monopolistic returns, but can be attributed to large volume of operation resulting from their command of capital".[23] The criteria they have adopted

in examining the competitiveness of the market deserves attention. Inorder to indicate market integration they have correlated the intermarket price of the same product. The competitiveness between markets and overtime was analysed by correlating transport cost with intermarket price differences at a point of time and seasonal price fluctuations and storage cost. Thus the statistical exercise that is carried out was that of simple correlation co-efficients. Large number of such coefficients for pairs of prices at different points in the market in time and space are presented. The high numerical values of the co-efficients are, then, interpreted as indicating high degree of competition. This approach was criticised by Rudra.[24] He observes, "it is a simplistic procedure; two prices can, indeed, differ by a large margin and yet they may move together in such a way as to give a correlation coefficient of 1.0".

The major concern of the studies on cash crop marketing is also to analyse the competitiveness of the existing system and to estimate the traders' margin. Dantwala[25] analysed the functioning of the cotton market and its competitiveness and concluded that there is no exploitative character in the cotton market organisation. Jasdanwala[26] in her analysis of cotton and groundnut markets concluded that these markets are efficient in the sense that they satisfy the conditions of perfect competition. In a study of tobacco market Purushotham[27] analyses the domestic and export market of tobacco and concludes that the nature of the market is oligopolistic. Sunil Mani[28] in his analysis of the Indian natural rubber market takes a historical approach and analyses the factors that influence the price movement overtime. Most of these studies emphasise the efficiency of the existing marketing system. But

a better understanding of the present marketing system and its inherent dynamism calls for a historical investigation. As Breimyer[29] correctly puts it the historical record of the marketing system helps to explain the contemporary institutions and to interpret the marketing system of our day. Moreover these studies seem to have neglected the formation of farm gate prices, which directly affect the producers, and their variation across sellers and accross seasons. Keeping these gaps in literature in mind, the present study purports to;

a. trace the evolution of cardamom cultivation and marketing in Kerala,

b. analyse the structure of the present marketing system by examining the functions of different agents of marketing and the market power that these agents have, and

c. analyse the formation of prices at the primary level taking account of variation accross sellers, accross seasons and — accross years.

1.6 Source of Data

The present study is primarily based on data collected from one of the major auction centres in India for the last five years. The rationale behind the selection of this centre are that (a) this centre accounts for nearly 47 percent and 70 percent of the auction sales in India and in Kerala respectively and (b) the detailed account of the quantity sold, price received etc. for the last five years, i.e. after the introduction of the Cardamom(Marketing and Licensing) Rules 1977, is available only with this Centre. As per the

Cardamom rules (1977), the auctioneers are expected to send an auction report to the Cardamom Board after each auction. An auction report incroporates the following information regarding each lot, (a) the name address and registration number of the seller[30] (b) quantity registered for auction, (c) quantity sold (d) price per kg (e) value of sample refunded (f) deductions like commission and handling charges (g) sales tax collected and (h) the name address and license number of the buyer.

For our purpose, we have collected the weekly auction reports of two peak season and two slack season months from each year. By peak season we mean the months in which market arrivals are maximum and slack season means the months in which the market arrivals are less (peak season means the months of August to December and slack season means the months of January to July). Data for the two seasons were collected inorder to throw some light on the seasonal variation of prices and the factors underlying the variation of prices across the two seasons. The selection of the two months in each of the seasons was guided by two major factors; (a) the percentage of annual sales covered in these months was about 60 percent which was thought to be adequate to draw some valid conclusions; (b) addition of some more months would have increased the volume of data to be analysed without adding much to the conclusions.

The above data was supplemented with the data obtained from different publications of Cardamom Board.

It is necessary here to point out two important limitations of the study. First, the available information on prices of lots does not contain any information on the size of holdings of the seller. Therefore, serious limitations has been imposed on drawing meaningful conclusions regarding the prices received accross size groups of producers.

Secondly, as the data regarding the quality of the lots sold is available only for the crop year 1983-84 the quality analysis of price variations across lots pertains to a single year.

1.8 An Outline of the Study

The study has five chapters including an introduction and a conclusion. The second chapter opens with an investigation in to the genesis of the present marketing of cardamom in Kerala. It examines the evolution of cultivation and marketing from the monopoly period to the present. The trends in production and export during the monopoly period is analysed and the reasons for the abolition of the State monopoly in cardamom are explained. Then a discussion of the circumstances favouring the emergence of the present marketing system is taken up.

The third chapter throws light in to the contemporary Market Structure by examining the role of different functionaries like auctioneers, dealers and exporters. In this chapter an examination of the concentration of market power in the different functional categories is attempted followed by an analysis of the interstate and intrastate variation in price.

The fourth chapter tries to understand the formation of prices at the primary (auction) level and then goes on to investigate the factors governing the variation of prices across lots sold through the auctions. Moreover an attempt is made to analyse the inter year and interseasonal variation in price and its implications on the cardamom economy.

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6. For a detailed account of the effect of area yield and price on output of cardamom See Narayanan Nair (1983) et.al.

7. An example of the unimaginative export policy of the Government of India may be seen in the interference in the export trade in 1977. In January 1977, the Government impossed an export duty of Rs.50 per kg of cardamom. This sudden imposition of export duty upset the whole trade circles leading to an almost stand still of the export in the next three months. The export picked up only when the duty was reduced to Rs.10 per kg.

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CHAPTER 2

HISTORY OF CARDAMOM CULTIVATION AND MARKETING IN KERALA

Introduction

In this chapter an attempt has been made to trace the history of cardamom cultivation and marketing in Kerala with a view to understand the emergence of the present system of marketing. A historical approach to the study of marketing enables us further to interpret the present marketing system and its inherent dynamism. In tracing the history, our main focus is Cardamom Hills[1/] which is supposed to be the traditional home of this spice. Cardamom Hills were the part of erstwhile State of Travancore. As cardamom was an important source of revenue, the state enacted and implemented, from time to time, different policies regarding its production and marketing. On the basis of the State's policy one can divide the history into two phases. Accordingly, the present chapter is divided into two sections. In the first section we deal with the history of cardamom when it was under State monopoly and in the second section we trace the history after the abolition of cardamom monopoly up to the present times.

2.1 Cardamom Under State Monopoly

The early commercial policy of the government of Travancore was one of perpetuating the State's monopoly of trade in almost all commodities of commercial

importance.[2] Cardamom, being a major item of trade and main source of revenue, naturally, came under the monopoly of the State. Until the first quarter of the 19th century the government used to collect cardamom for trade purposes from the wild growth as well as from ryot's plantations. After the first geographical survey conducted by Lieutenants Ward and Conner (1817-1820), the State re-inforced the official machinery for both collection and procurement, initially by appointing a Conservator of Forests and then in 1823 by the creation of a special Cardamom Department.[3] Thus the cultivation of cardamom seems to have been first encouraged by the government in 1823.[4]

During the early period of monopoly there was no systematic cultivation and hence it had only the status of a wild crop. If the crop happened to be good, the ryot would initiate the weeding and other cultural operations. The next visit to the garden would be by the time of December for harvesting. The harvesting was done only once in a year by cutting the pinnacles, rather than by plucking the capsules intermittently as practised at present. The ryots never attempted to collect the crop from the first blossom which was eventually lost. On the other hand, the crop from the last blossom collected was immature and its full weight and value was not obtained. Thus, the traditional system of harvesting the entire crop together was most wasteful as compared to the present system. Even then the cultivation was profitable because price was relatively high[5] and cost of cultivation low.

Once the harvesting and drying[6] was over, the product was taken to the Thavalam[7] peon by the cultivators, each sack being marked by the ryots with his name and number. When all the crop was gathered the ryots were summoned for weighing. This was always conducted personally by the Superintendent and the

Assistant Superintendent of the Cardamom Hills. The crop of each ryot was weighed separately and entered in an account. Then the product was transported to Alleppey where the product was garbled and sorted into 'white', 'black', thakolam and seeds.[8] The product was transported from the Cardamom Hills to Kottayam or Vaikom by the bullock-carts and then from there to Alleppey by boats through the back waters. When the entire crop was brought the government fixed a day and announced quantity available for sale. As in the case of any other forest product, the sale was done through auctioning. The bidders included large number of merchants both from different parts of the country and the Middle East. The share of each ryot was arrived at after making deductions of the advances he had received from the value of the product. The value of the product was reached by multiplying the quantity with kudivilay.[9]

The system of procurement by the government was not at all satisfactory in the sense that there was a long delay in the payment of kudivilay to the ryots as the transportation of the product from the production centre to the marketing centre (Alleppey) was a time consuming process because of poor transportation facilities. Further, the kudivilay was arbitrarily fixed by the government.

Table 2.1 reveals the fluctuations in the kudivilay over time. The rate paid during 1841-1870 was lower than that during 1823-1841. Consequent upon a series of complaints filed by the ryots against the non-remunerative price paid in 1870, a change was made[10] in the system of fixing ryots' share. Accordingly kudivilay was fixed as one third of the Alleppey auction price. This share amounted to Rs.11.6 per thulam (about 10 kgs) and this continued upto

Table 2.1: Trend in Kudivilay (1823-1896)

Year	Kudivilay (Rs/10 kgs)
1823-1841	8.36
1841-1870	7.66
1870-1886	11.60
1886-1892	11.50
1892-1896	6.92

Note: The above rate refers to the high quality cardamom

Source: Compiled from different volumes of Travancore Land Revenue Manual

1886. From 1886 there was a decline in the price of cardamom, which in conjunction with the rise in wage rates[11] made the existing share uneconomic to the ryots and, therefore, the kudivilay was raised to two-fifth of the Alleppey auction price in 1886. It is interesting to note that though the ryots' share was raised from time to time the actual amount that they received in 1892 was much less than what they received in 1823. This can be explained in terms of declining trend in the price of cardamom (See Table 2.3)

While the Travancore under monarchy followed a policy of monopoly in almost all commodities of commercial importance by procuring the product

directly from the cultivators, there were well-developed market centres in the neighbouring State of Tamil Nadu (then in Madras Presidency). The low rate of kudivilay and the opportunities of marketing in Tamil Nadu prompted many of the cultivators of Tamil origin and their British and local counterparts to smuggle the product from Travancore to Tamil Nadu. Therefore, the Travancore government had to take preventive measures. From 1849 to 1896 a detachment of Nayyar Brigade (infantry) and large number of watchmen were posted around the cardamom growing areas.[12] These watchmen were paid every month by the government and the cost was eventually recovered from the ryots. For a better administration of Cardamom Hills, the Cardamom Department was detached from Forest Department and J.D Munro[13] was in charge of it under the designation of Superintendent of Cardamom Hills. The Cardamom Department, in addition to collecting cardamom from ryots, was given other responsibilities like preventing smuggling and extending the area under cultivation.[14] As a precautionary step against smuggling, the chaff or the light cardamom was burnt so that the ryots would not hold of them and make use of them to cover smuggling of the superior product. In 1877 the inferior produce was also sold at Alleppey and due attention was paid to see that the produce was shipped off from Travancore without any possibility of its finding way back to the ryots.[15] In addition to these measures, a Preventive Inspector was appointed in 1891 with a small staff under him, to prevent smuggling. Thus the prevention of smuggling became a costly game to the government.

2.1.1. Trend in Cardamom Procurement

Table 2.2 presents the data regarding cardamom procured from kanni

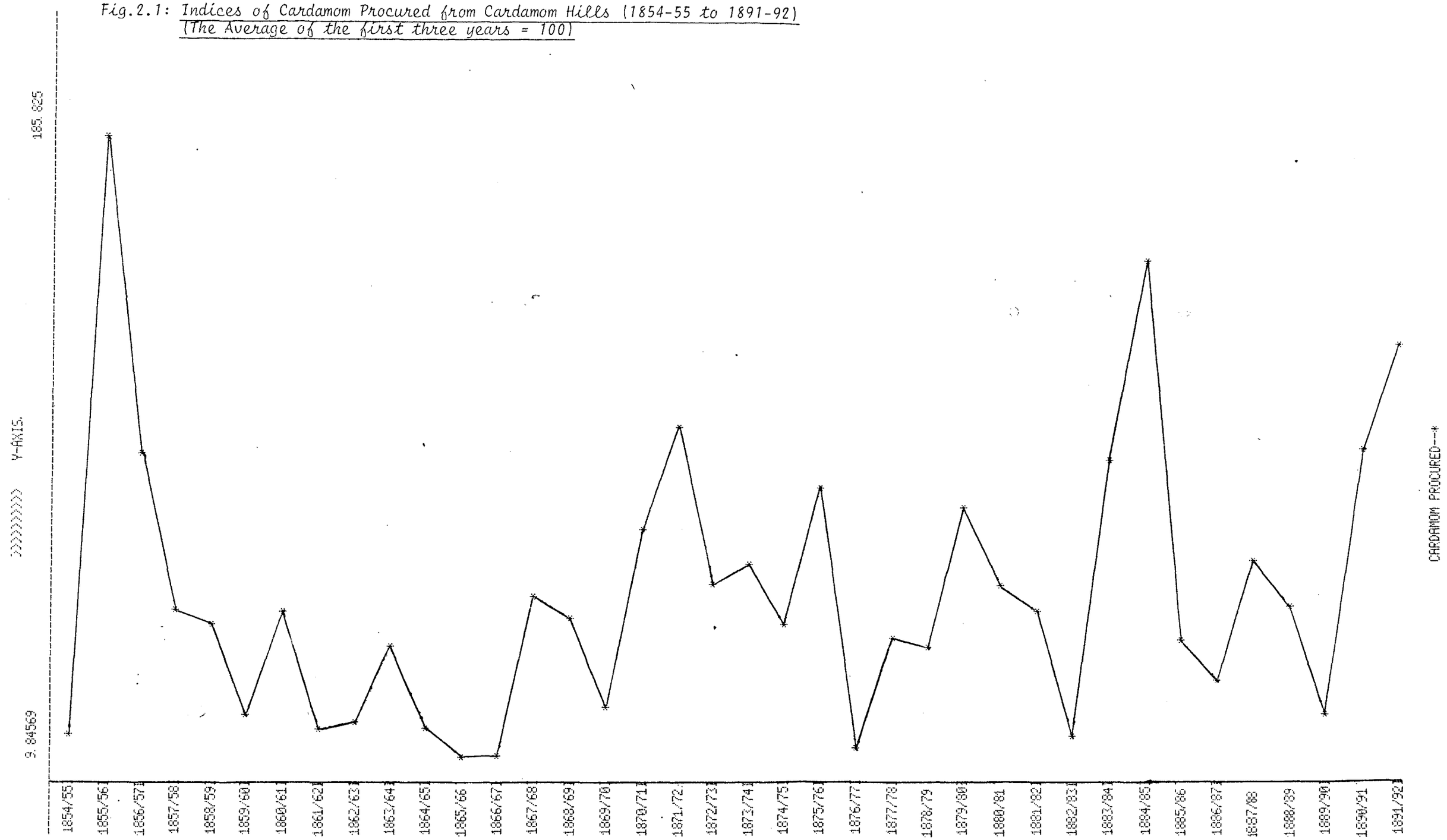
Table 2.2: Trend in Procurement of Cardamom from the Cardamom Hills

(in thulams)

Year	Kanni elam Tract	Makara elam Tract	Total
1854-55	214	1244	1458
1855-56	573	15564	16137
1856-57	327	8130	8457
1857-58	301	4253	4554
1858-59	261	3940	4201
1859-60	210	1734	1944
1860-61	447	284	4518
1861-62	120	1548	1668
1862-63	284	1556	1840
1863-64	354	3353	3707
1864-65	209	1407	1616
1865-66	89	766	855
1866-67	158	759	917
1867-68	289	4516	4805
1868-69	169	4229	4397
1869-70	213	1960	2173
1870-71	377	6131	6508
1871-72	211	8914	9125
1872-73	182	5063	5215
1873-74	385	5316	5701
1874-75	364	3867	4137
1875-76	664	6975	7639
1876-77	336	856	1192
1877-78	498	3274	3772
1878-79	1069	2622	3691
1879-80	737	6241	6978
1880-81	923	4289	5212
1881-82	889	3609	4498
1882-83	556	974	1530
1883-84	1417	6764	8181
1884-85	1899	11274	13173
1885-86	820	3043	3863
1886-87	1145	1644	2789
1887-88	1717	4151	5868
1888-89	1262	3342	4604
1889-90	732	1285	2017
1890-91	1814	6698	8542
1891-92	1769	9306	11055

Source: Bourdillon, T.F., Report on the Forest of Travancore, 1892.

Fig.2.1: Indices of Cardamom Procured from Cardamom Hills (1854-55 to 1891-92)
(The Average of the first three years = 100)



and Makaram elam[16] tracks from 1854-55 to 1891-92. It can be seen from the table that more than 90 per cent of the quantity is procured from the Makara elam tract. The instability in the procurement can be clearly seen from Fig.2.1. To estimate the magnitude of the instability we have calculated the coefficient of variation and it shows a value of 73.89% in Makara elam tract and 69.24 percent for the total procurement. The lower value of coefficient of variation for total procurement is due to the fact that, the procurement from kanni elam tract showed an upward trend after an initial decline for a few years. This was because of the fact that, the gardens in the kanni elam tract was mostly government owned and therefore the gardens were well maintained in the years of good and bad crop. The instability in the total procurement was mainly due to the instability in the procurement from Makara elam tract which accounted for bulk of the procurement. This instability in the Makara elam tract can be attributed to the different pattern of ownership. The gardens in this tract were cultivated by the private tenants and they never settled in their own gardens because of the unhealthy climate. They paid only occassional visits to their gardens and initiated the weeding and other cultural operations only if the crop was found to be good. Moreover, there was a rapid rise in the wage rate in the Makara elam tract. Therefore, the ryots would harvest the crop only if it was found to be exceptionally good; otherwise the whole crop was lost.

2.1.2. Trend in Export and Price

Table 2.3 presents the trends in export and price of cardamom from 1873-74 to 1891-92. As in the case of procurement export was also subjected to instability (see Fig.2.2). It can be seen from the table that when export

Table 2.3: Trend in Export and Price of Cardamom from Travancore

Year	Export (candies)	Price (Rs./candy)	Export earning (Rs. lakhs)
1873-74	192	1048	2.00
1874-75	144	1034	1.49
1875-76	275	838	2.30
1876-77	47	1600	0.75
1877-78	133	1719	2.30
1878-79	140	2353	3.28
1879-80	248	1966	4.88
1880-81	188	1833	3.44
1881-82	158	1427	2.26
1882-83	62	1825	1.33
1883-84	303	1018	3.09
1884-85	484	769	3.72
1885-86	148	682	1.01
1886-87	88	863	0.75
1887-88	256	492	1.26
1888-89	176	776	1.36
1889-90	84	590	0.50
1890-91	326	534	1.74
1891-92	400	519	2.08

Source: Same as Table 2.2

DATA FOR 1 VARIABLE
192 144 275 47 133 140 248 188 158 62 303 484 148 88 256 176 84 326 400
DATA FOR 2 VARIABLE
1048 1034 838 1600 1719 2353 1966 1833 1427 1825 1018 769 682 863 492 776 590 534 519

>>>>>>>>>> Y-AXIS

47 2353

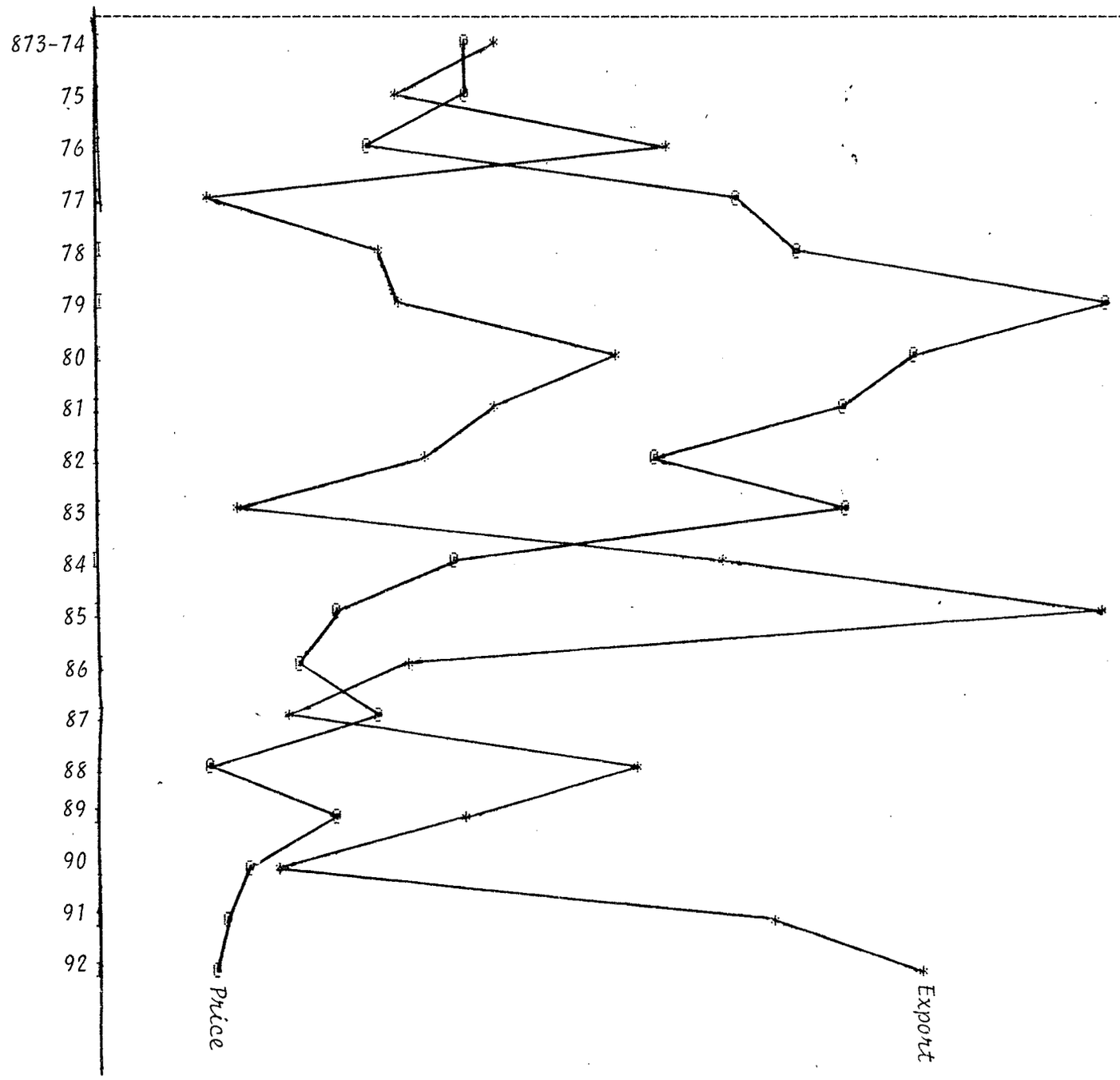


Fig.2.2: Trend in Export and Price of Cardamom from Travancore (1873-74 to 1891-92)

was low, the price was very high during 1873-74 to 1882-83. After that price shows a downward trend. The initial high price was because of the fact that, during the said period Travancore was the major supplier of cardamom to the international market. The high level of prices prompted cultivation of cardamom in Ceylon.[17] This, in effect, changed the condition of excess demand in the world market into a situation of excess supply. As a result of this price started declining after 1982-83 onwards.

The government could realise that the undivided attention of the ryots in cultivation was highly imperative for, it would ensure increased production and hence a steady flow of revenue. Therefore a number of policies to this effect were implemented to induce the ryots to settle in their own gardens.[18] The various land revenue and allotment rules framed during 1862, 1863 and in 1895[19] were mainly meant to attract more people in the process of expansion of commercial cultivation. As a result of the allotment by the above rules and sanction through Wasteland Rules there was a flow of cultivators from Tamil Nadu to the Cardamom Hills in the late 19th century. Thus, the large scale cultivation of cardamom in the Cardamom Hills was initiated by people from outside Travancore, i.e., from Tamil Nadu. Similar to coffee and tea, there were European planters[20] (usually heirs of the colonial officers and missionaries) who also invested in cardamom cultivation.

Inspite of these measures, there was instability in the output because of the sensitivity of the crop to the variations in climate and other reasons that we have already seen. (see Section 2.1). Under these conditions of uncertainty, government found it unprofitable to continue the monopoly. This was aggravated by the wide-spread smuggling, the prevention of which involved

a lot of trouble. Besides this, as the unit price of cardamom began to show a downward trend the fixed share of two-fifth of the export value accruing to the growers ceased to give any incentive for increasing production. Above all, the government found it impossible to ensure a satisfactory system of procurement, a situation which further accentuated a feeling of uncertainly among the growers as well as the government. Under these circumstances, the state monopoly was abolished in 1896.[21]

2.2 Post Monopoly Period

2.2.1 Land Tax System

The abolition of cardamom monopoly in 1896 was followed by the introduction of Land Tax System. This was tentatively for a period of five years and it was left to the government to decide after the fifth year whether to continue or not with the new system. The new system was applicable only to the makara elam[22] tract consisting of 9,635[23] acres of land and was subjected to an annual assessment of Rs.6.25 per acre payable in four monthly instalments, viz., Alpasi, Karthigai, Maragali and Thye.[24] By the rules passed in July 1899[25] government effected certain changes to the above system by which it was laid out that, at the end of fifth year, for which the land was originally given, government would grant a renewal of occupancy right for seven years so as to make the occupancy one of twelve years inclusive of the initial five years. In addition to this, because of the increasing demand for cardamom lands, the annual assessment was raised from Rs.6.25 to Rs.8.00 per acre.

The above rules were applicable to the following divisions of Cardamom

Hill reserves, viz. Pooppara, Udumbanchola and Vandanmettu. Since the produce of the holding and the buildings therein were regarded as the security for assessment, the cultivators were expected to take the produce immediately after harvest to the godown of the division and were to keep it till the assessment was paid in full. At the same time government was not responsible to any loss that might happen while it was under the custody of the officer in charge of the 'Bank Shall' (godown where the product is kept until the full payment of the land tax). The cultivators with more than hundred acres could, at the discretion of the Superintendent of Cardamom Hills, be exempted from the above rule.[26] It should be borne in mind that many of the European planters were large holders with more than hundred acres each.

2.2.2 Emergence of Private Trading

Needless to say, the abolition of Cardamom monopoly resulted in certain changes in the marketing system also. Once the ryot had paid the annual assessment the produce of the holding became the property of the ryot concerned. This led to the emergence of private trading in cardamom. The Nattukotta Chetties,[27] the major dealers in cardamom, purchased all the cardamom from the Makara elam region. As it was a profitable business it attracted a number of traders. Their number increased from 183 in 1891, 118 of them chetties, to 277 in 1901.[28] These traders also acted as money lenders. Also, they possessed large cardamom estates in Cardamom Hills. The interlocking of their role as money lenders and traders often resulted in the disadvantage of the farmers who dealt with them. At the same time many of the large holders were either traders or used to sell the

product in Tamil Nadu. Thus the large holders were free from the exploitation of the traders. Hence, in the wake of abolition of cardamom monopoly and development of private trading, there was no arrangement to ensure fair price to the growers, especially to the small holders. With the domination of Tamil traders the marketing centre was shifted from Alleppey in Travancore to Bodinaikanmur in the Madras Presidency. The small town of Bodinaikanmur assumed subsequently the status of a 'Cardamom City' on account of the large scale trade of cardamom in that centre.

2.2.3 Changes in the Land Tax System:

The period immediately after the abolition of monopoly witnessed a downward trend in the yield and price of cardamom. The price had fallen from Rs.40 per thulam (10 kg) in 1897 to Rs.20 per thulam in 1899 and to Rs.14 in 1904. The yield had declined from 1.16 thulam per acre in 1899 to 0.63 thulam in 1904. Given the above yield and price, the cultivators received only Rs.3.9 per thulam after deducting the land tax. Thus it can be seen that, even though the ryot's share was raised from time to time, the actual revenue thatthe ryots received after deducting the payment to the State in 1904 was less than what the ryots received in 1823 (See Table 2.1). The natural result of this was to place large number of cultivators under heavy indebtedness to the money lenders. As the ryots had no property right in the holding and the produce was kept with the government stores as security for payment of tax, the ryots had no alternative but to resort to borrowing from money lenders at very unfavourable terms. This hampered the ryots from maintaining the gardens in a state of efficiency and from bestowing care and attention which was necessary to prevent deterioration.

Consequently, the cultivators, both native and foreign, organised under Cardamom Hill Planters Association met the Dewan of Travancore and demanded reduction of assessment of Rs.8 per acre which they urged was more than the industry could bear. Accordingly in 1901 it was decided to give up the assessment of Rs.8 per acre and retain the original rate of Rs.6.25 per acre.[29/]

The annual meeting of the Cardamom Hill Planters Association held on 22nd December 1903, passed the resolution that, at the current depressed state of cardamom industry, the prevailing assessment was a burden that would shortly wipe out the cultivation of cardamom in Travancore. As a remedy they put forward the proposal that the government should sell out to the cultivators their holdings at the rate of Rs.10 per acre giving them in return a proper title to their holding with a relative reduction in the annual tax.

The result was, the appointment of Mr. Sealy, the Superintendent of Cardamom Hills, to study the condition of the cardamom industry and to make suggestions. In his report No.1513 dated 2nd July 1904, Sealy furnished elaborate statistics relating to the yield of cardamom gardens and price realized for a series of years before and after the abolition of cardamom monopoly; compared the rates of assessment with those prevailing in British India, Mysore and Ceylon. On this basis he made the following conclusions:

"a. The yield of cardamom in Travancore is very much less than in any other cardamom district.

b. Price realized is very much less than in any other cardamom district and consequently there is an even greater disproportion in the value per acre.

c. Cultivators in Travancore are paying a higher rate of assessment than any of their counterparts else where.

d. Finally, the price of cardamom which was Rs.40 per thulam in 1897, with the exception of the year 1901, has fallen steadily and in 1904 the price was only Rs.14 per thulam".[30]

As a result of the continued complaints by the cultivators and the recommendations made by Sealy, the following proposals were sanctioned in the year 1905:

"i. The property right was granted to the holders of cardamom on payment of Rs.10 per acre, the same being payable in ten annual instalments of Rs.1 each.

ii. The annual rate of assessment of Rs.6.25 per acre was reduced to Rs.2 per acre.

iii. Land for wet and dry cultivation was granted to the cardamom cultivation on an assessment of 8 annas per acre for five years and Rs.1 per acre thereafter in the case of former and 2 annas per acre for five years and 4 annas per acre after that period in the case of latter.

iv. A limit of 2 acres was fixed as a minimum for each holding".[31]

Thus, the State took a benevolent stand towards cardamom cultivation even after the abolition of monopoly. Though there were rules for promoting cultivation, there were no rules to promote the marketing of cardamom. The Cardamom Hill Planters Association, an association of large estate owners, was keen in getting resolved the problems of cardamom cultivation and seems

to have had a deaf ear towards the problems of marketing which was basically a small holders' concern.

In accordance with the Travancore agricultural policy, the government implemented several policies to encourage the production of cardamom. As a consequence, both the area under cardamom and the number of 'pattas' increased significantly. For instance, 656'pattas' were issued and 9,435 acres were registered for cultivation in 1897. By 1904-05 the total area under assessment was 13,693 acres distributed among 1,105 pattas. The area and number of 'pattas' further increased to 19,022 acres and 1,515 respectively, by 1908-09.[32/]

The early decades of twentieth century witnessed the large scale migration of both cultivators and labourers (from the low wage areas of Tamil Nadu and high land value areas of central Travancore) to the high range division. In addition to large capitalist cultivators who were attracted by reinvestment possibilities in high valued plantation crops the migrants included small and medium farmers and also labourers. In Travancore, during the perio 1911 to 1951 the percentage increase in population was the highest[34/] in the high ranges, the highest rate of increase being in the decade of 1921-31.[35/]

Because of the mounting pressure on land in the high ranges government introduced a series of rules and procedures stipulating the prohibition on the registration of land, restricting the extent of land possessed, duration of lease and right over other forest produce, especially the tree growth. By the rules passed in 1935 under Section 7 of the Travancore land assignment regulation government provided for the registration of land for cardamom cultivation without auction on payment of tharavila (land value), concessional registry to hillmen without auction and without payment of tharavila subject

to a maximum of three acres. The rate of tharavila was Rs.85/- per acre in the Cardamom Hills and Rs.60/- per acre in the Pallivasal forest reserve area. Except in the case of concessional registry to the hillmen, there was no ceiling on the holdings. But in 1942, by an executive order, it was directed that no single applicant need to be given more than 60 acres.[36] In 1944, under Kuthagapattom lease rules, the lease period was raised to 20 years and the individual ceiling of 60 acres was reaffirmed. On account of the scarcity of land in the Cardamom Hill reserve, government reduced the individual ceiling to 25 acres in 1959 and stayed the leasing out in 1972 to resettle the evicts from the hydroelectric project areas and lifted it in 1979.

2.2.4 Cardamom Cultivation and Encroachment of Forest Lands

As we have seen in Section 2.3 the large scale migration of cultivators and labourers to the high ranges was a regular phenomenon of the early decades of twentienth century. During the early fifties allotment of land in various high land villages was made under the Grow More Food Programme[37] and High Range Reclamation Scheme.[38] Attracted by these opportunities large number of people migrated to the high ranges and some of them resorted to encroachment of forest lands. The encroached land was mainly cultivated with crops other than cardamom, leading to large scale clearing of forests. Thus, by 1955-56 about 35,000 acres of occupied land in Cardamom Hills were to be declared as non-revertible and set apart to the occupants. The process of encroachment continued in the sixties and seventies.[39]

2.2.5 Trend in Area and Yield of Cardamom

After the lifting of cardamom monopoly, there was a steady upward trend in the area under the crop (see Table 2.4). The table shows that

Table 2.4: Area and Yield of Cardamom in the Cardamom Hill Reserve

Year	Area (in '000 acres)	Yield (kg/acre)
1900-06	15.0	20.2
1911-16	21.0	22.6
1919-22	24.6	29.3
1929-32	51.8	N.A
1935-39	56.6	35.9
1942-46	59.1	49
1952-56	60.1	20.4
1961-66	88.7	16.5

Source: Data upto 1939 — various issues of Administration Reports of Travancore

1942 — 46 — Government of India, Directorate of Marketing and Inspection, Report on the Production and Marketing of Cardamom in India, Marketing Series, No.59, 1947.

April 1946 — Estimated from the Season and Crop Reports.

upto late 1940's the yield per acre moved upwards and after that it declined steadily. This initial rise in productivity may be attributed to the tre-

mendous improvement in the cultural operations and curing technique[40] during the period, following the European cultivators. Further, unlike the absentee cultivators of nineteenth century, the tenants used to settle in their own gardens which in turn enabled them to give proper care needed to the crop. The downward trend in productivity after the forties can be explained in terms of large scale clearing of forests and consequent adverse effect on the eco-system[41] of the cardamom growing areas. The substitution of other crops for cardamom and the wide spread incidence of '<u>katte</u>' (mosaic) disease also caused declining yield.

2.2.6 Emergence of Auction System:

As the area and production of cardamom increased the number of traders also increased. They were mainly Chetties during 1920's, but the 1930's witnessed the domination of another caste in cardamom trade, Nadars by name[42] (see Table 2.5). Though there was no organised marketing system in Travancore, there were ten auction centres spread over the cardamom growing areas of Tamil Nadu and Karnataka. In all these centres sale was through auctions organised both by planters' associations and by individual auctioneers. The produce from Cardamom Hill region was mainly sold in Bodinaikannur. The Bodinaikannur Cardamom Co-operative Sale Society Ltd. worked in co-operation with Cardamom Co-operative Bank, Bodinaikannur. The bank used to advance 60 per cent of the market value at 7 per cent interest when the cardamom was deposited in the go-down of the society. The members of the Cardamom Co-operative Sale Society were mainly large scale cultivators from Tamil Nadu. The stock was held for a period of three months during which it could be auctioned. Open bids were made by buyers after examining samples. While no auction fee was charged from

Table 2.5: Distribution of Cardamom Dealers and Exporters on the basis of caste in 1943

Market Centre	Total dealers and exporters	Nadars
Bodinaikannur	13	7
Virudhanagar	11	11
Tuticorin	8	6
Mangalore	12	4

Source: Government of India, Directorate of Marketing and Inspection, Ministry of Food and Agriculture, Report on the Production and Marketing of Cardamom in India, Marketing Series No.59 New Delhi, 1947.

the members of the society, 2 annas per thulam was collected from non-members. The cardamom was delivered to buyers only when the price was completely paid. A sample of 2 lbs was taken from lots less than 10 thulams and 3 lbs from lots with more than 10 thulams. Out of the sample taken nearly half was given to the bank and the rest to the buyer.[43] Since the quantity taken as sample was fixed on the basis of the quantity sold, we can see that the effective price (i.e. price after deductions) received was proportional to the price quoted for all the sellers irrespective of the lot size. As we will see in the following chapter, the practice of taking a fixed quantity as sample from all sellers at present makes the sale of small lots through auction disadvantageous. In the other auction centres,

instead of taking any sample, the auctioneers used to charge marketing fees on the basis of the quantity sold. Therefore, in other centres also, the effective price was same for all sellers. Because of the favourable marketing conditions in Bodinaikannur, the large producers from Cardamom Hills used to sell the product in Bodinaikanmur, and the small producers used to sell their produce to the dealers from Tamil Nadu.

As more and more area was brought under cardamom in the Cardamom Hills and, thus, production increased, a few marketing centres sprang up in the pockets of large scale production in the Cardamom Hills. Due to the corruptive practices and very low price realised none of them succeeded. An organised system of marketing was started in 1959 in Vandanmettu (presently in Idukki District) under Vandanmettu Cardamom Marketing Corporation, an organisation of large growers of cardamom. They played the role of an auctioneer by acting as an agent between sellers and buyers. Being a profitable business some of the progressive cardamom growers formed another concern called Cardamom Marketing Corporation in 1962. In 1965, these two organisations were amalgamated into Cardamom Marketing Corporation, Vandanmettu. This auction centre, at present, is the leading auction centre in India.

The widespread depression in the cardamom economy due to low yield, lower price and increased number of competitors in the world market in the mid-twentieth century necessitated the formation of an agency to promote the cultivation and marketing of cardamom. Accordingly, in 1963, Government of India constituted the Cardamom Development and Marketing Advisory Committee. An executive Director was also appointed to implement the recommendations of the Advisory Committee. The Directorate undertook limited procurement of

cardamom in 1964 to stabilise the market prices.[44] After two years of functioning, the need for an autonomous statutory body was felt. Thus, the Cardamom Act was passed in 1965 and the Cardamom Board came into existence on 15th April 1966.[45] The Board was entrusted with the responsibility of promoting and regulating the production and marketing of cardamom.

Thus, when the Cardamom Board came into existence, there existed a well established system of marketing through auctioning. But there were no such rules to regulate the operations of either the auctioneers and dealers or the sellers. At the same time, in the early years of establishment, Cardamom Board concentrated mainly in stimulating production rather than in regulating marketing. In 1977, Cardamom Board passed the Cardamom (Licensing and Marketing) Rules with a view to regulate operations of those who are dealing with cardamom marketing viz., cultivators, dealers, auctioneers and exporters. Hence, at present cardamom is having a regulated market by restricting the entry of persons into different functional categories. The purpose of this regulation is to ensure a fair price and timely payment of the sale proceeds to the sellers. Therefore, the main thrust of our next chapter will be to analyse the working of the present marketing system.

2.3 Conclusion

The objective of this chapter, as we stated at the beginning, was to trace the history of cardamom cultivation and marketing in Kerala from early nineteenth century to the present times. We found that cardamom was under

State monopoly upto 1896 and during this period the Travancore Government had taken many steps to promote the cultivation of cardamom as it was a major source of export earning to the government. During the monopoly period all the produce was procured from the cultivators by the government and the share of the cultivators was fixed by the government itself. Though the ryot's share was revised from time to time, on the basis of the export price, the value accrued to the cultivators in 1892 was found to be less than what they received in 1823. Because of the instability in export earning consequent on the instability in production and price, the monopoly was abolished in 1896. The abolition of monopoly led to the private trading in cardamom. Till the middle of the present century there were no marketing centres in Kerala and the marketing procedure existing in the auction centres of Tamil Nadu was such that the small scale cultivators could not make use of it. By the middle of the twentieth century a few marketing centres were started in the Cardamom Hills consequent upon the increased area and production. Though Cardamom Board came into existence in 1966, its major concern was with the production of cardamom rather than marketing. In 1977, the Cardamom (Licensing and Marketing) Act was passed which brought different functionaries like auctioneers, dealers and exporters under the control of the Board. Thus, cardamom, at present, is having a regulated market by restricting the entry of different functional categories with a view to ensure fair price and timely payment of the sale proceeds to the growers.

Notes and References

1. Cardamom Hills is a range of hills lying between 9°27' and 10° 4' N.Lat. and between 76° 52' and 77° 17' E. long. With an average height of 2000 to 4000 feet above the sea level. The hills are divided in to Makara elam and Kanni elam tracts consisting of an area of 962.4 K.M . At present this region consists of the geographical area of Udumbanchola, Peermedu and Devikulam taluks in Idukki district.

2. Dasgupta, Ashim., Malabar in Asian Trade 1748-1800, Cambridge, C.U.P. 1967

3. This was attached to the Forest Department and was under the Conservator of Forests since its inception under the Conservator of

4. Nagam, Aiya, V., Travancore State Manual, Vol.III, pp.84

5. Velu Pillai, S.T.K., Travancore State Manual, Vol.III

6. The ryots used to dry the product by spreading it on the rocks. The modern system of drying was initiated by the Europeans by the middle of the 19th century.

7. Thavalams were the places in the Cardamom Hills where the harvested cardamom was brought for transportation under the state monopoly

8. These are different grades of cardamom. It depends on how the product is used. The grades are determined on the colour and weight. The cardamom will be white if it is dried in sun light, black if the crop get wet during drying due to rain. Thakolam means light cardamom or the immature product.

9. It is the share of the value of the produce paid to the ryots for collecting the spice under the monopolu system and it may also be called production price.

10. Nagam Aiya,op.cit.

11. Bourdillon, T.F., The Report on the Forests of Travancore, 1892.

12. Nagam Aiya, V., op.cit.

13. The Munro was the first Superintendent and Magistrate of Cardamom Hills and he continued upto 1876. He was followed by Robert Baker but he died in 1878 and Bensly took his place and was followed by Mr. Grants and J.S. Sealy.

14. Bourdillon, T.F., op.cit.

15. Velupillai, S.T.K., op.cit.

16. Makara elam Tract is the area under cardamom in the Devikulam, Peermedu and Udumbanchola taluks in Idukki district. This includes the Cardamom Hill reserves which is in terminous with the 12 revenue villages of Udumbanchola taluk, the Periyar reserve and the Pallivasal reserve. Kanni elam tract is the area under the reserve forests in the Thodupuzha taluk falling under the Kottayam and Malayattoor Forest division.

17. Bourdillon, T.F., op.cit.

18. Most of the ryots were from Cumbun, Kombay, Gudallur, Thevaram and other places of Tamil Nadu. During the early 19th century may families migrated to the neighbouring villages of Udumbanchola and made huts, but the attempts failed because of the unhealthy climate.

19. These rules consisted of many concessions like financial assistance and allotment of land far rice cultivation etc.

20. Lovatt Heather, A Short History of the Peermedu, Vandiperiyar District (mimeographed), Vandiperiyar, 1972.

21. The abolition of Cardamom monopoly was a point of controversy. Bourdillon, in his memorandum to the government on 17th November 1888 strongly argued for continuing the monopoly on several grounds. By quoting the collapse of pepper cultivation after the abolition of monopoly, he argued that the continuation of monopoly would benefit the government by ensuring a steady source of revenue and ryots by providing a sense of security. He made the following recommendations for reforming the existing system.

    1. Ryot's share should be raised from two fifth to one-half.
    2. Malvarem and other deductions should be discontinued.
    3. The price should be announced to the ryots before the beginning of each harvest; and
    4. Payment to the ryot's should be made promptly avoiding the delay that existed.

22. In the kanni elam tract monopoly continued even after 1896. This may be because, unlike the other region, Kanni elam tract was mostly cultivated by the government and ensured a stable source of revenue. The considerable increase in the area under cardamom in Makara elam tract after the abolition of monopoly as a result of deliberate policies taken by the government convinced the government that the new system is equally successful in extending cardamom cultivation. Over and above the rapid increase in the number of leases might have ensured a stable source of revenue to the government through land tax system. Possibly because of these reasons, monopoly in the Kanni elam tract was also abolished in 1906.

23. Travancore Administration Reports M E 1071 to 1084.

24. There are months in Tamil era. As the cultivators were minaly of Tamil origin, one can see large number of Tamil terms in the rules regarding cardamom cultivation.

25. Travancore Land Revenue Manual, Vol.II, pp.229-233.

26. Once the ryot paid the due to the government in full, the Superintendent of Cardamom Hills issued an export pass to the ryot which was, infact, a licence to the ryot to transport the product the product to any where or to sell to any one he likes.

27. Nattukkotta Chettisare a caste of traders engaged in cardamom trade

28. Census of Travancore 1891 and 1901

29. Velu Pillai, S.T.K., op.cit.

30. Travancore Land Revenue Manual Vol.II pp.229-233.

31. There were, infact, the demands putforward by the cultivators in a conference at Cumbum to the Dewan on 30th March, 1905.

32. Travancore Administration Report ME 1071-1084.

33. See for details Tharakan, Michael, P.K. ,Migration of Farmers from Travancore to Malabar, from 1930 to 1960: An Analysis of its Economic Causes, Centre for Development Studies, Trivandrum 1976.

34. Because of the very poor medical facilities and incidence of epidemics, the death rate was also high in this region. Therefore, the increase in population was mainly due to large scale migration.

35. Narayanan Nair.K. et.al. (1983)

36. Ramkrishnan, K.V., Report on Cardamom, 1975

37. Cardamom is included in the definition of food crops under the Kerala Land Utilization Order which was made under the section 3 of the Essential Commodities Act.

38. During the early 1956 large number of families from Central Travancore were settled in Kallare (at present in Udumbanchola Taluk), for, that area was dominated by Tamil people. This was necessitated when the division of states was made on the basis of language. This was a policy taken to get there Tamil dominated areas for Kerala. At present that place is called Pattom Colony after Pattamthanu Pillai, who was Chief Minister.

39. Large scale encroachment of forest land was facilitated by the following factors. The Cardamom Hill reserves was under the duel control of both forest department and revenue department. The basic responsibility of preventing encroachment vested with forest department but they could not effectively discharge this responsibility as the land in the Cardamom Hill reserves remained under the revenue department and the former can in fa only if the forest is destroyed. Therefore, in a situation where unauthorised occupation of forest lands is not considered an offence and regularisation is eventually made by revenue department irrespective of the regularity of occupation, effective action as envisaged in the Forest Act against mear felling of trees has become almost impossible. The State's policy of regularising, at frequent intervals, the unauthorised settlings also encouraged encroachment.

40. Unlike their counterparts of 19th century who used to cure the product in sunlight, the cultivators in 1930's started to cure their produce in the curing houses which ensured green colour and better prices for the product.

41. Cardamom requires a temperature of 20° C and a well distributed rainfall of 200 C. It is incapable of resisting winds. The distruction of forests in the neighbouring areas adversely affected all these requirements.

42. An investigation into the causes of change in the domination of caste is beyond the scope of this chapter.

43. Government of India, Directorate of Marketing and Inspection, Report on the Production and Marketing of Cardamom in India, 1947.

44. Indian Institute of Foreign Trade,'Seminar on Cardamom,Conclusions and Recommendations', Bangalore, 1967.

45. Government of India, Cardamom Act 1965 and The Cardamom Rules 1966. Cardamom Board, Cochin.

CHAPTER 3

THE PRESENT MARKETING STRUCTURE -- AN ANALYSIS

3.1 Introduction

In the previous Chapter we traced the evolution of the cultivation and the system of marketing of cardamom. We have seen that the auction system was prevalent even in the days of cardamom monopoly at the export level and the same system of marketing continued, even after the abolition of monopoly, at the primary level. Moreover we found that till 1957 there were no auction centres in Kerala and it was not advantageous for the small holders to make use of the auction centres in Tamil Nadu while the large growers, mainly people from Tamil Nadu who had their estates in Kerala, made use of those auction centres. As the number of cultivators, (mainly from Travancore) area under cardamom and production increased in Kerala a few auction centres were started at the initiative of the local cultivators. Thus, when the Cardamom Board came in to existence in the year 1966, there was a well established system of marketing. At present it takes the form of a regulated market. In this Chapter our major focus is to examine the structure of the present marketing system and examine its influence on the interstate and intrastate variation in prices.

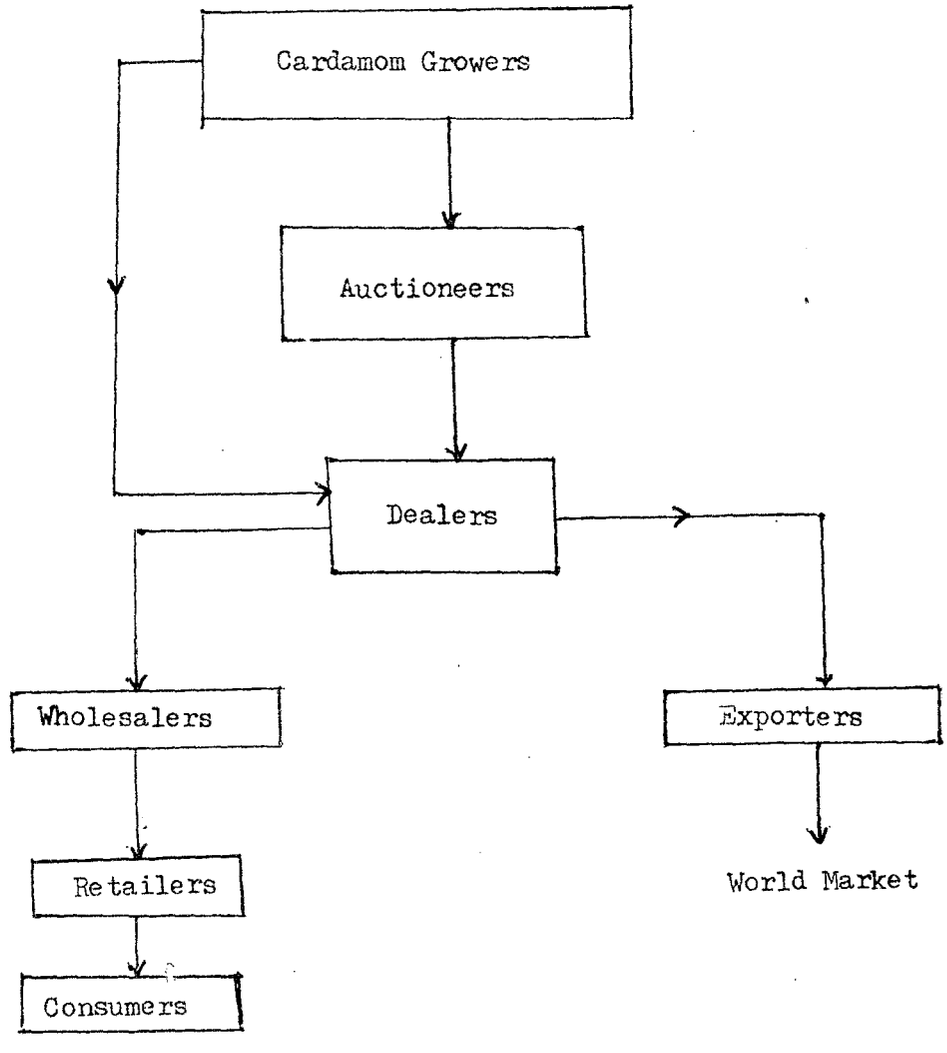
3.2 Structure of the Market

The present marketing structure at the primary level is of a regulated nature, as was mentioned earlier. A market is said to be regulated when the government establishes it under some enactment, and frames rules and regulations to conduct business there in.[1] Thus the formation of a regulated market is an attempt at organising market inorder to protect the interests of farmer-producers at minimum cost to the State.[2] "The legislation provides for a machinery[3] for regulating trade by providing a common place where facilities would be furnished by way of space, buildings and storage, where correct weighment would be ensured and all weights and scales periodically checked ...., where disputes are settled, where daily prevailing prices would be available to the growers and where quality standards would be fixed."[4]

The structure of the regulated market varies from crop to crop depending on its specificities. In the case of cardamom regulation is in the form of restricting the entry of persons into the different functional categories, viz. auctioneers, dealers, and exporters. The declared objective of such a regulation is to ensure a fair price and timely payment of sale proceeds.[5] The structure of cardamom market is characterised by a small number of exporters — many of them are dealers and few of them in addition to being dealers are growers as well — a large number of dealers and a few auctioneers.

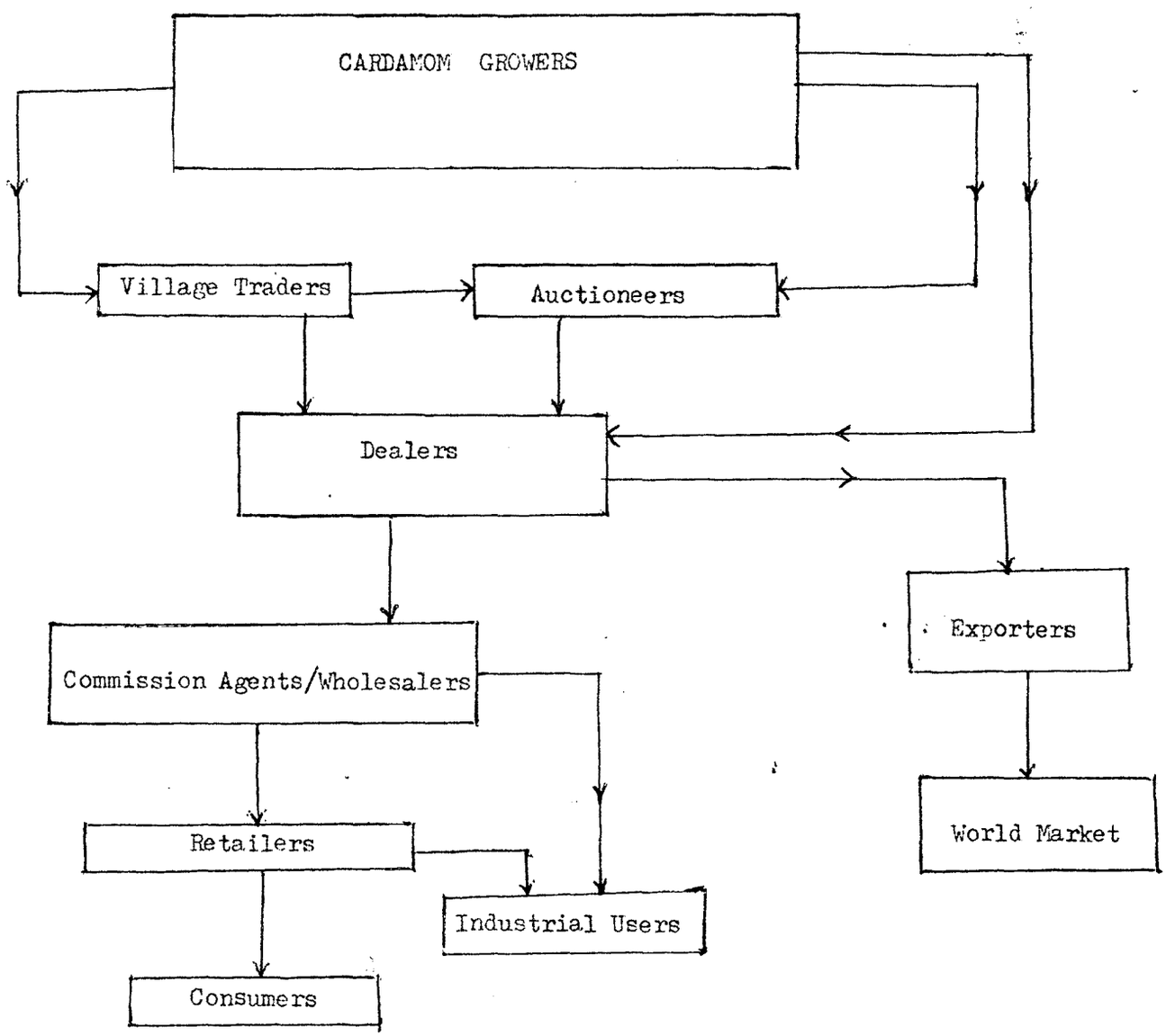
As per the rules of regulated market, the structure of the market ideally should have been as depicted in Fig.3.1. But in actual practice the structure is significantly different (See Fig.3.2). A better understanding

Fig.3.1: The Structure of the Cardamom Market according to the rules of Regulated Market



Note: the arrow shows the direction of the flow.

Fig.3.2:Diagrammatic Representation of the Actual Structure of Cardamom Marketing



Note: the arrow shows the direction of flow

of the structure of the market and its influence on price formation calls for a discussion of the functionaries of the regulated market, their spread and their functioning. This is what is attempted in the following sections.

3.3 The Functionaries

3.3.1 Auctioneers

Auctioneers are one of the major participants in the marketing of cardamom. Most of the auctioneers are organisations of large scale cultivators and dealers. There are, at present, 14 auction centres in India spread over the cardamom growing States, viz. 5 in Kerala, 2 in Tamil Nadu and 7 in Karnataka. Vandanmettu in Kerala, Pattiveeranpatty in Tamil Nadu and Sakalespur in Karnataka are the major auction centres in India.

It is interesting to note that though there are 5 auction centres in Kerala, one of them accounts for more than 70 percent of the product sold through auctions. (See Table 3.1). Because of the availability of large supply, leading exporters and dealers participate in this auction centre. As we will see at the end of this Chapter, the availability of large supply attracts large number of bidders and the consequent increased degree of competition pushes the price up. The realisation of higher price in the particular centre induces more sellers to register their product with that Centre.

During the last 14 years, it is observed that, only two auctioneers remained permanantly in business and they together accounted for nearly 90 percent of the total sales in Kerala. It should also be noted that all these auction centres are located in the cardamom growing areas of Idukki District covering an area

Table 3.1: Share of Different auctioneers in total Auction Sales in Kerala

Year	Vandanmettu	Santhanpara	Kallar	Cochin	Pampupara	Udumbanchola	Nedumkandom	Parathode	Kanjanapara	Kumily
1970-71	51.3	25.0	5.7	1.6	6.2	5.0	5.2	-	-	-
1971-72	65.1	22.6	3.6	0.9	-	2.3	5.5	-	-	-
1972-73	74.3	18.0	2.7	0.6	-	2.2	2.2	-	-	-
1973-74	79.4	15.7	2.5	2.4	-	-	-	-	-	-
1974-75	75.6	20.0	3.0	0.3	-	1.3	-	-	-	-
1975-76	73.6	17.8	3.9	-	-	3.7	-	-	-	-
1976-77	78.5	12.4	6.5	0.3	-	1.2	-	-	-	-
1977-78	80.0	8.6	5.0	1.4	-	5.0	-	-	-	-
1978-79	65.9	19.1	6.6	1.4	-	4.4	2.8	-	-	-
1979-80	78.4	16.4	3.6	1.1	-	0.3	0.2	-	-	-
1980-81	75.2	21.8	1.3	1.1	-	0.4	-	-	-	-
1981-82	59.0	19.1	-	0.3	-	0.3	0.2	-	0.3	20.1
1982-83	67.2	20.0	0.3	1.5	-	-	-	-	-	11.0
1983-84	56.3	16.3	-	2.9	-	-	-	-	-	24.3

Source: Government of India, Ministry of Commerce, Cardamom Statistics 1981-82 and Current Cardamom Statistics 1982-83 and 1983-84, Cardamom Board, Cochin, 1985.

of 45,172 hectares in 18,585 estates. The only exception is the auction centre at Cochin. In Wyanad there are no auction centres though there are 270 estates with an area of 4,247 hectares.

3.3.2 Cardamom Dealers

The auctioneer brings together the producers holding registration certificate of the Cardamom Board and the dealers (also refered to as 'bidders') holding licence to deal in cardamom. As per the cardamom rules, the dealers shall not purchase cardamom from an estate owner who has not registered his estate or from an auctioneer who has not been licenced by the Cardamom Board. Further no dealer shall solicit or accept any amount in cash or in kind from cardamom producers or auctioneers whether by way of discount or commission. A dealer participating in auction shall pay full value for the entire quantity of cardamom in the lot purchased by him.[6/]

In 1983-84 there were 528 licenced dealers in India. Table 3.2 shows the distribution of production and the number of dealers in the three cardamom growing states in 1983-84.

Table 3.2: Distribution of Cardamom Dealers in the Cardamom growing States in 1983-84

State	Production (M.T)	Number of Dealers
Kerala	110 (68.7)	169 (32)
Tamil Nadu	100 (6.3)	226 (43)
Karnataka	400 (25.0)	133 (25)
Total	1600 (100)	528 (100)

Source: From the files of Cardamom Board

Note : Figures in the bracket shows percentages

As is evident from Table 3.2, while Kerala accounts for 69 percent of the total production, only 32 percent of the total dealers belong to Kerala. There is a clear domination of Tamil Nadu in cardamom trade. That is, Tamil Nadu, with 6 percent of the total production accounted for 43 percent of the dealers. As we have seen in the previous chapter, historically the activities of the traders were confined mainly to two major markets of Tamil Nadu, viz. Bodinaikanmur and Viruthnagar. An enquiry in to the reasons for the domination of Tamil traders is beyond the scope of our study.

The dealers buy cardamom mainly at auctions and directly from growers. Eventhough all the traders are licenced to deal in cardamom marketing at every stage, all of them are not equally involved in trade. Only a few of them, about 125, deal in auction business. This may be because of the need for huge capital and risk associated with auction. Therefore, many of these dealers prefer to buy directly from growers. The dealers perform an important function of grading the product. They grade and pack it according to the demand from different consumers within the country and outside.[7]

With a view to understand the concentration of market power at the primary level, we analysed the data obtained from a major auction centre in Kerala. It is found that on the average 29 dealers bought cardamom from this auction centre during 1979-80 to 1983-84 (See Table 3.3). Out of this, the share of top 5 dealers was found to be 58 percent in 1979-80 and it increased to 65 percent in 1983-84. Similarly, the share of top 2 bidders also increased during the same period. It was 34 percent in 1979-80 and it increased to 39 percent in 1983-84. This may be partly accounted for by the decline in the number of bidders participating in the auction. All the top 5 bidders are

found to be exporters. Of these five, one dealer is found to be dominating in all the years.

Table 3.3: The share of Dominant Dealers participating in Auction at Vandanmettu

Year	Average number of dealers participating in auction	Share of Top 5	Top 2
1979-80	31	57.8	34.0
1980-81	31	54.3	33.0
1981-82	29	57.5	32.8
1982-83	28	62.1	37.9
1983-84	28	65.5	39.4

Source: Cardamom Marketing Corporation, Weekly Auction Reports, Vandanmettu, 1979-80 to 1983-84.

3.3.3 Cardamom Exporters

The cardamom exporters are another important link in the marketing channel of cardamom. According to the Cardamom (Licensing and Marketing) Rules of 1977, the exporters shall not procure cardamom directly from a grower or from an auctioneer unless he is in possession of a licence as dealer. The number of exporters vary from year to year as the licence is issued for an year after which it should be renewed to carry on business.

Since cardamom is an export oriented crop,[8] the price realised in the

internal market depends to a great extent on the market strategy adopted by the exporters. This is more so, as the export trade is controlled by a few exporters. Table 3.4 shows the quantity exported and the share of leading exporters since 1976-77.

Table 3.4: Export of Cardamom and the share of Leading Exporters

Year	Quantity exported (M.T)	Total number of exporters	Average Export by an exporter	Share of top 10	Share of top 5
1976-77	893	80	11 (1.23)	67.7	51.5
1977-78	2763	110	25 (0.90)	69.2	45
1978-79	2876	119	24 (0.83)	69.6	47.8
1979-80	2636	131	20 (0.76)	65.4	46.9
1980-81	2345	N.A	N.A N.A	N.A	N.A
1981-82	2325	101	23 (0.99)	75.9	52.4
1982-83	1032	65	16 (1.65)	74.0	52.4

Note: 1. Figures in the bracket shows the share in total
2. N.A. Not Available

Source: Files of Cardamom Board

Table 3.4 shows that the export in 1976-77 was 893 [9] M.T and it increased to 2876 M.T in 1978-79 and showed a marked decline [10] in 1982-83. With increase in the quantity exported the total number of exporters increased and as quantity exported declined the number of exporters also decreased. The interesting point to note is that while the average share of an exporter was nearly one percent, the top 10 exporters accounted for more than 60 percent of the total and some of

these leading exporters are found to be the dominant buyers in certain important auction centres. Moreover, their share in the total export increased considerably during the period under consideration. Eventhough the export was subjected to yearly fluctuations, the share of top 5 exporters was reasonably stable at 50 percent in all the years under consideration.

Thus the foregoing discussion reveals that the present market structure is characterised by the concentration of market power in the hands of a few at all levels. A few auctioneers account for bulk of the quantity sold through auctions and a few dealers accounts for bulk of the quantity bought through auctions. At export level also a handful of exporters control most of the quantity exported. The concentration of market power in the hands of a few may lead to the formation of collusive ring in auctions and may influence the price setting. However, an investigation into these aspects is beyond the scope of our study.

3.4 The Functioning of the market

Having examined the structure of the market and the spread of the functionaries and the concentration of market power in them, let us proceed to examine the functioning of the market. The growers register their produce with the auction Centre, sufficiently before the auction, and may get an advance[11] from the auctioneer which will be deducted from the sale proceeds. The auctioneer maintains a godown where the produce is kept till the time of auction. If the product is withdrawn from the auction, (the seller can withdraw the product if the price quoted is unsatisfactory) the seller is liable to pay the godown charges at the rate of 15 paise per kg per day.

At the time of registering the produce for auction, the auctioneer mixes the produce thoroughly and takes a sample from each lot.[12] The Cardamom (Licencing and Marketing) rules (1977) describes the procedure of taking the sample as follows:

"The auctioneer shall draw 500 grammes out of each lot of cardamom offered for sale as sample. Expose 350 grammes out of it for bidders to examine at the place of auction four hours before the commencement of the auction and circulate a list indicating quantity of each lot, weight in grammes per litre [13] and reserve price.[14] The 100 grammes out of the sample shall be given to the highest bidder and the balance of 50 grammes shall be kept by the auctioneer in a sealed polythene bag for a period of seven days for verification in case of any dispute. On expiry of the said period or on settlement of the dispute, as the case may be, the owner of the cardamom shall be entitled to receive back the cardamom from the auctioneer".[15]

But the actual procedures of taking sample and auctioning are different from what is stipulated by the rules. The auctioneers in Kerala take a sample of 750 grammes of which 500 grammes is paid at the rate at which the rest of the quantity is sold. 100 grammes is given to the highest bidder and the rest 150 grammes is appropriated by the auctioneer in addition to the one per cent commission.[16] Further, the auction report[17] shows that 8 percent of the sales tax is taken from the seller as handling charges. Thus from each lot, whatever may be its size, 250 grammes is lost by the seller in addition to 8 per cent of the sales tax as handling charges. As we shall see later in this chapter these deductions and the delay in payment force many sellers (especially the small ones) to keep away from the auction centres.

The auction procedure is as follows. The dealers (bidders) will be seated and a small tray will be kept in front of each of them and out of the 750 grammes of cardamom taken as sample from each lot, 500 grammes will be spread in all the trays for examining the lot. Then the intending buyers bid upwards for individual lots and the highest bidder will be given the lot. The process of bidding starts with the announcement of the lot number and lot size. It is a quick process and each lot takes hardly a minute to get auctioned. It should be noted in this context that the seller can withdraw his lot from auction before the bidding is over. Once the price is determined through bidding, the seller loses his right over the produce.

Once the bidding is completed, only a slip showing the weight of the lot and the agreed price is given to the seller by the auctioneer. The slip also shows all the deductions and charges to be paid by the seller. The payment is made later, usually after 20 to 45 days as the case may be. There is, thus, an in-built credit facility extended by the growers which in turn is guaranteed by the auctioneers.[18] The possible explanation for this delay may be the huge capital requirement on the part of the dealers because of the high unit value of the product. Therefore, they will have to wait for the product to be exported or to be despatched to the consuming centres. Some of the growers are of the view that the delay in payment is pepetuated both by the dealers and the auctioneers. The auctioneer can refrain from paying to the sellers for the single reason that a few of the dealers have not made the payment eventhough all the others have paid.

A perusal of the auction procedure described above, already reveals that there exists certain inherent problems faced by the growers. From our discussion

with the growers we came to know that they are forced to sell their produce at the auction centres, even at an unsatisfactory price, because of the inability to repay the advance already received by them. If they withdraw the product they will have to pay the godown charges at the rate already mentioned. Thus the practice of giving advance at the time of registering the product for auction seems to have the effect of tying the sellers with the auctioneers and place them in a disadvantageous position.

Since the auctioneers are interested in getting maximum commission, which in turn depends on the quantity sold, they may not insist on the Cardamom Registration Certificate[19] from the seller and this leads to bogus registration and causes harassment of the cultivators by the tax authorities.

It is pertinent to note that, the system of taking sample which prevailed in the auction centres in 1940's was on the basis of quantity sold. For example, in Bodinaikanmur, a sample of 2 lbs was taken from lots up to 10 thulams and 3 lbs from the lots above 10 thulams and the payment was made at the time of sale. Therefore, the effective price realised was proportional to the price quoted for all sellers. In other auction centres rather than taking any sample, a service fee of 8 annas per thulam was charged. Needless to say, since the service charge was fixed per unit quantity, irrespective of the size of the lot, the effective price received by the sellers was proportional to the auction price.

Now, the relevant question is as to why the old system was replaced with the new system of taking a fixed quantity as sample and charging one percent of the sale proceeds as commission. As the price of cardamom increased, the auctioneers found that it is advantageous for them to take a fixed quantity

as sample and all the auctioneers followed this practice. Because of the market power that they enjoyed they could enforce this practice, though the rules permit them to take 1 percent commission only, even after the implementation of the Cardamom(Licencing and Marketing) Rules of 1977.

The present practice of deducting 500 grams from each lot, irrespective of the lot size as sample, make the effective price (the price that the sellers get per kg after all deductions) much less than the actual price (the price quoted in auction). This discrepancy between actual price and effective price reduces as the lot size increases. To illustrate, consider a lot size of 10 kgs of cardamom sold at the auction centre at a rate of P per kg. The value realised by the seller is (10 — .25) P(.99) less an allowance for delay in payment (r) and the effective price goes up as the lot size increases.

Table 3.5 is based on the example given above by taking the price per kg as Rs.200 and 30 days delay in payment. Since the auction slips are discounted by the banks at a rate of 18 percent per annum we have taken the value of r as 18 percent. It is evident from Table 3.5 that the effective price per kg is directly proportional to the lot size up to a certain level. From our discussion with the cultivators we learnt that, generally the price outside the auction centre is less by two to four percent. If we take the price outside the auction centre as four per cent less than the auction price (i.e. Rs.192/- kg) we can see that for sellers with less than 16 kgs it is not profitable to sell through auctions. If the lot size is higher than 17 kgs the effective price per kg at auction centre will be higher than the price outside the auction centre. Therefore, it would be profitable to sell through auction.

Table 3.5: Changes in Effective Price Received by Different lot sizes: A hypothetical case

Lot Size	Effective Price per kg
1	146.27
2	170.65
4	182.82
6	186.90
8	188.92
10	190.15
12	190.53
14	191.54
15	191.78
16	191.98
17	192.16

From the above discussion one can infer that the registered sellers with a lot size below a certain minimum quantity of about 16 kgs will not find it profitable to sell their produce through the auction centres. In addition to these registered sellers, the other categories of sellers who are forced to keep away from the auction centre are the unregistered sellers, whatever may be their lotsize, who are prohibited by the rules to make use of the auction facility. Moreover, as we pointed our earlier, in certain cardamom growing areas, like Wynad, do not have auction facilities to sell

their produce.

The alternative open to these sellers is to either sell their produce to a licenced dealer or to the village traders. But as per the rules, a licenced dealer can purchase only from a registered seller and, therefore, this option is also restricted. The only option that these growers have is to sell their produce to the village traders. The village traders' business is further promoted by the inability of certain growers to cure their cardamom. The price obtained in this wetsales is less than 60 to 65 percent of the price obtained in the auction centre. This explains the proliferation of the village traders. The village traders, in turn, sell the produce directly or through the auction centres in their name (if they have registered cardamom estates) or in the name of their customers.[20/]

Thus, the present structure of cardamom market is characterised by the domination of a few auctioneers, dealers and exporters. The present functioning of the market leads to a situation in which the profitable sale through the auction calls for a certain minimum lot size. Consequently, the growers with smaller lots will have to sell their produce outside the auction centres. Further, the absence of auction centres in certain cardamom growing areas and the existence of a large number of unregistered holdings leads to the proliferation of village traders.

In addition to the auctioneers, dealers and exporters, there are wholesalers, retailers and commission agents who act as a major link in the internal marketing of cardamom. Since they do not come under the purview of regulated market and are not directly related to the growers, we consider it as a further area of research.

3.5 Inter-state variation in Price

Having discussed the different aspects of the operation of the market, we will now proceed to examine the influence of the market structure and its operation on the prices across states and within states. As mentioned earlier, cardamom is produced in the three South Indian States of Kerala, Karnataka and Tamil Nadu. Because of the differences in curing procedures and regional specificities, the variety of cardamom produced in these states are different. While Kerala and Tamil Nadu produce Alleppey green variety, that of Karnataka is Coorg green and Bleached Cardamom. With a view to analyse the price variation across these states we have given weighted average price of cardamom in these states. Inorder to compare the prices we have calculated the indices of prices taking price in Kerala as the base (See Table 3.6).

It is evident from Table 3.6 that there exists considerable price variation across different states. The weighted average price of Kerala is found, to be, on the average, 15 per cent higher than the price in other States during the period under consideration.

This variation in price may be explained in terms of the quality differences in the cardamom produced in these States. While the Alleppey green variety commands a higher demand in the oil rich countries and fetches a higher price the coorg green and bleached variety command a lower price. The difference in the price in Karnataka may be found to be moving in consonance with the export price of Coorg green and bleached cardamom (See Table 3.7)

While the price difference between Kerala and Karnataka can be explained in terms of quality difference, the price variation between Kerala and Tamil Nadu

Table 3.6: Weighted Average Price of Cardamom in the Producing States

(Rs/Kg)

Year	Kerala	Karnataka	Tamil Nadu
1970-71	53.23 (100)	45.27 (85)	40.76 (77)
1971-72	30.33 (100)	26.33 (87)	25.88 (86)
1972-73	54.93 (100)	38.14 (69)	43.30 (79)
1973-74	60.54 (100)	59.83 (99)	56.80 (94)
1974-75	76.93 (100)	75.06 (98)	70.06 (91)
1975-76	89.47 (100)	78.67 (88)	81.23 (91)
1976-77	164.20 (100)	145.04 (88)	143.09 (87)
1977-78	142.55 (100)	104.93 (74)	116.61 (82)
1978-79	178.71 (100)	133.98 (75)	136.86 (77)
1979-80	141.98 (100)	118.93 (84)	113.55 (80)
1980-81	108.51 (100)	78.66 (72)	75.46 (70)
1981-82	120.76 (100)	104.90 (87)	105.25 (87)
1982-83	158.29 (100)	161.08 (101)	158.12 (100)
1983-84	379.73 (100)	364.76 (96)	348.89 (92)

Note: Figures in the parenthesis show the price indices

Source: Government of India, Ministry of Commerce, Cardamom Statistics 1981-82 and Current Cardamom Statistics 1982-83 and 1983-84, Cardamom Board, Cochin.

Table 3.6: Weighted Average Price of Cardamom in the Producing States

(Rs/Kg)

Year	Kerala	Karnataka	Tamil Nadu
1970-71	53.23 (100)	45.27 (85)	40.76 (77)
1971-72	30.33 (100)	26.33 (87)	25.88 (86)
1972-73	54.93 (100)	38.14 (69)	43.30 (79)
1973-74	60.54 (100)	59.83 (99)	56.80 (94)
1974-75	76.93 (100)	75.06 (98)	70.06 (91)
1975-76	89.47 (100)	78.67 (88)	81.23 (91)
1976-77	164.20 (100)	145.04 (88)	143.09 (87)
1977-78	142.55 (100)	104.93 (74)	116.61 (82)
1978-79	178.71 (100)	133.98 (75)	136.86 (77)
1979-80	141.98 (100)	118.93 (84)	113.55 (80)
1980-81	108.51 (100)	78.66 (72)	75.46 (70)
1981-82	120.76 (100)	104.90 (87)	105.25 (87)
1982-83	158.29 (100)	161.08 (101)	158.12 (100)
1983-84	379.73 (100)	364.76 (96)	348.89 (92)

Note: Figures in the parenthesis show the price indices

Source: Government of India, Ministry of Commerce, Cardamom Statistics 1981-82 and Current Cardamom Statistics 1982-83 and 1983-84, Cardamom Board, Cochin.

Table 3.7: Weighted Average Price of the Different varieties of Cardamom Exported from India (Rs./Kg)

Year	Alleppey Green	Coorg Green	Bleached
1970-71	59.4 (100)	55.6 (94)	48.0 (81)
1971-72	38.6 (100)	37.1 (96)	31.2 (81)
1972-73	56.7 (100)	51.9 (92)	45.6 (80)
1973-74	69.0 (100)	68.0 (98)	62.5 (90)
1974-75	89.9 (100)	85.2 (95)	30.5 (89)
1975-76	103.9 (100)	104.7 (101)	88.2 (85)
1976-77	171.2 (100)	N.A	137.5 (80)
1977-78	176.2 (100)	149.8 (85)	132.2 (75)
1978-79	201.3 (100)	N.A	148.8 (74)
1979-80	179.2 (100)	163.3 (91)	138.8 (77)
1980-81	138.3 (100)	130.1 (94)	96.2 (69)

Note: 1. N.A means Not Available

2. Figures in the parenthesis shows the indices (Alleppey Green = 100)

Source: Same as Table 3.6

cannot be explained on the same lines given the fact that both produce the same variety i.e. Alleppey Green. The close proximity of the two States,

would rule out a price differential based on geographical distance and the fact that Kerala's produce also finds its way into Tamil Nadu before export. It can be hypothesised that the volatile oil content in the Kerala's Alleppey green variety is higher than its counterpart in Tamil Nadu and it is this that can possibly explain this price difference.

3.6 Intra-state Variation in Price

As there are different auction centres in each State,[21] the price obtained in each centre has a role in determining the income of the growers. Inorder to analyse the price variation across different auction centres we examined the weighted average price per kg of cardamom in different auction centres in each State. Table 3.8 shows indices of price obtained in each of the auction-centres in Kerala by taking the price at Vandanmettu as the base.

In almost all the years, the price in Vandanmettu is found to be higher than that of other centres in Kerala. The exceptions are 1971-72 and 1979-80 when the auction centre at Udumbanchola reports the highest price and during 1976-77 and 1983-84 the weighted average price at Cochin was higher than, the price at Vandanmettu. It should be noted that, during the period under consideration, Vandanmettu accounted for more than 70 percent of the auction sales in Kerala. While the interstate price variation is attributed to difference in quality, a thorough investigation is called for to examine whether there exists intra-state quality variation. The intra state price variation may possibly be due to the difference in the extent of competition in each Centre. During 1979-80 to 1983-84 30 to 35 bidders participated in the auction at Vandanmettu (6 of them were leading exporters), where as in the auction centre at Santhanpara

the average number of bidders was found to be 13 and only one or two leading exporters were found to be participating. Therefore the relatively higher price realisation in an auction centre with higher quantity sold and large number of bidders may be attributed to the high degree of competition in these centre. To put it more clearly, since there are weekly auctions in each of the auction centres, the leading exporters may not be able to participate in all the centres. Therefore, they would choose those centres which would ensure them

Table 3.8: Indices of Price obtained and quantity sold in Different auction centres in Kerala (Vandanmettu = 100)

Year	Vandanmettu		Santhanpara		Kallar		Cochin		Udumbanchola	
	Price	Quantity	Price	Quantity	Price	Quantity	Price	Quantity	Price	Quantity
1970-71	100	(100)	65.8	(49)	64.6	(11)	50.0	(3)	71.9	(10)
1971-72	100	(100)	96.7	(35)	106.7	(5)	86.7	(1)	116.7	(4)
1972-73	100	(100)	92.8	(24)	87.5	(4)	87.5	(4)	91.1	(2)
1973-74	100	(100)	88.7	(20)	82.2	(3)	83.8	(a)	83.8	(3)
1974-75	100	(100)	92.3	(27)	89.7	(4)	N.A		96.2	(2)
1975-76	100	(100)	87.0	(24)	82.7	(5)	95.6	(1)	88.2	(5)
1976-77	100	(100)	93.9	(16)	91.0	(8)	103.6	(2)	96.4	(2)
1977-78	100	(100)	86.9	(11)	82.8	(6)	87.6	(2)	93.8	(6)
1978-79	100	(100)	92.8	(29)	90.2	(10)	93.9	(2)	93.9	(7)
1979-80	100	(100)	97.8	(21)	103.5	(5)	85.9	(1)	115.5	(a)
1980-81	100	(100)	87.5	(29)	72.3	(2)	91.1	(1)	87.5	(a)
1981-82	100	(100)	88.6	(32)	N.A		91.8	(1)	92.6	(a)
1982-83	100	(100)	90.7	(29)	85.8	(a)	96.2	(2)	N.A	
1983-84	100	(100)	88.0	(29)	N.A		104.6	(5)	N.A	

Note: N.A means no auction a — means negligible

Source: Same as Table 3.6

adequate supply. Thus the availability of large quantity for sale attracts more bidders to that centre which inturn increases the degree of competition and pushes the price up and the higher price realisation in a particular centre prompts more sellers to register their produce in that Centre.

Now let us look at the prices in different auction centres in Karnataka and Tamil Nadu. We have calculated the price indices for Karnataka by taking Sakalespur as the base. (See Table 3.9)

Table 3.9: Indices of Price obtained in Different Auction Centres in Karnataka (Sakalespur = 100)

Year	Sakalespur	Merara	Mangalore	Sirsi
1970-71	100	89.4	97.8	N.A
1971-72	100	88.9	88.9	77.8
1972-73	100	113.5	108.1	81.0
1973-74	100	103.3	93.3	75.0
1974-75	100	96.1	86.8	92.1
1975-76	100	93.75	85.0	97.5
1976-77	100	102.1	94.4	93.1
1977-78	100	92.3	112.4	100.0
1978-79	100	107.5	105.3	90.2
1979-80	100	105.0	92.4	99.1
1980-81	100	103.8	103.8	93.5
1981-82	100	104.8	101.9	106.7
1982-83	100	99.4	108.4	89.2
1983-84	100	100.2	87.1	105.8

Source: Same as Table 3.8

The picture that we get for Karnataka is slightly different from that of Kerala. Though the auction centre at Sakalespur accounts for nearly 77 percent of the total auction sales in Karnataka, the price in Sakalespur is not consistently higher than other centres as in the case of Vandanmettu in Kerala. There are four auctioneers in Sakalespur and the data we have regarding price and quantity are the total of these four centres. Therefore, the explanation of price variation across different auction centres in Karnataka on the basis of quantity sold may not be meaningful. Since Karnataka produces two varieties (Coorg green and bleached) of cardamom and there exists a considerable difference in their export prices, (See Table 3.7) the more reasonable explanation for price differential may be in terms of quality differences.

In Tamil Nadu, there are only two auction centres and the price indices are calculated by taking the price obtained in Pattiveeranpatty as the base (See Table 3.10) though Bodinaikannur was a major auction centre in the early decades of this century, the auction started for recent times only in 1978-79. During 1978-79 to 1983-84 Pattiveeranpatty accounted for more than 75 percent of the total sales and the price in this Centre is found to be nearly 20 percent higher than in Bodinaikannur.

As in the case of Kerala one could explain the price difference in the auction centres in Tamil Nadu in terms of the quantity sold. But, as we have seen Bodinaikanur was historically an important marketing centre (See Chapter 2) Moreover, at present most of the dealers and exporters are from Bodinaikannur and it is a major despatching centre of cardamom to other consumer centres. It is observed that, on the average, the quantity despatched from Bodinaikanur

Table 3.10: Indices of Price obtained in the Auction Centres of Tamil Nadu

Year	Pattiveeranpatty	Bodinaikanmur
1978-79	100	84
1979-80	100	103
1980-81	100	71
1981-82	100	87
1982-83	100	78
1983-84	100	74

Source: Same as Table 3.9

is more than the auction sales in India (See Table 3.11). The fact that the quantity despatched from one despatching Centre is greater than the all India auction sales lends support to our argument that a considerable portion of total production is not coming to the auction centres as certain sellers are kept out of the auction centres. Under these conditions one would expect a higher price in Bodinaikanur. However, the available data doesnot lend itself to any reasonable explanation for such a price behaviour.

3.7 Conclusion:

In the foregoing discussion we have attempted to examine the structure of the present marketing system and its influence on interstate and intra-state

Table 3.11: Auction Sales in India and Despatches from Bodinaikanur to Different Centres in India

Year	Auction Sales	Quantity Despatched from Bodinaikmur
1974-75	1910	3137
1975-76	2174	2689
1976-77	1291	1383
1977-78	2997	2972
1978-79	3353	2968
1979-80	3123	3483
1980-81	3357	2782
1981-82	3118	2462

Source: Same as Table 3.10

variations in price. We found that though cardamom is having a regulated market, the actual market structure is much different from what is postulated by the rules. From our examination of the functioning and regional spread of the different functionaries, it emerged that, the present market structure is characterised by the concentration of market power in the hands of a few. At the auction level, a few auctioneers handle bulk of the quantity sold. At the level of exporter's and dealers' the condition is not different.

While a few dealers buy the bulk of the quantity sold through auctions, a few exporters account for more than 60 percent of the quantity exported irrespective of the total quantity exported. Also major exporters are found to be the major dealers in auctions. Further, the sale through auctions calls for certain deductions, like a fixed quantity as sample, irrespective of the lot size, consequently the sellers with less than a certain lot size find it disadvantageous to sell through auctions. An analysis of the interstate and intrastrate variation in price revealed that, while the former is mainly due to differences in quality, the latter in Kerala may be explained in terms of the quantity sold. In Bodinaikanur the major despatching centre of cardamom to other consuming centres, the price is found to be nearly 20 percent less than in the other auction centre. However the available data does not lend itself to any reasonable explanation for such a price difference. The available data shows that the price differential across different auction centres in Karnataka is because of the quality differential.

Notes and References

1. Gupta, A.P., Marketing of Agricultural Produce in India, Vora & Co., Bombay, 1975.

2. Harris, Barbara., State and Market — A Report to ESCOR of The Overseas Development Administration of the U.K. Government on State Intervention in Exchange in a Dry Region of South India, 1981.

3. This machinary generally takes the form of a market committee consisting of the representatives of growers, traders, local bodies, cooperative marketing society, State/Local warehousing corporation and government nominees.

4. Harris Barbara., "Regulated Food Grain Market; A Critique", Social Scientist, Volume 8, March 1980.

5. Narayanan Nair.K, Narayana. D., and Sivanandan. P, Development of Cardamom Plantations in the High Ranges of Kerala, Centre for Development Studies, Trivandrum, 1983.

6. Government of India, Ministry of Commerce, Cardamom (Licencing and Marketing) Rules 1977, Cardamom Board, Cochin 1977.

7. Grading for internal trade in different from that for export. For internal trade, the different grades are Alleppey Green Extra Bold, Alleppey Green Bold, Medium, Sick Bold, Sick Medium, Bulk and Sick. The high grades are included in the first four grades. In the export trade there are 17 grades under 5 varieties like Alleppey Green, Coorg Green, Bleached or Bleachable, Seeds and other Mixed Varieties. The connotation of Alleppey with Cardamom is a legacy of the past, inspite of the fact that now Alleppey is neither a trading nor an exporting centre.

8. On the average 60 to 70 percent of the domestic production finds market outside the country.

9. 1975-76 with a production of 3000 M.T, the export was 1941 M.T. The sudden decline in export during 1976-77, inspite of a production of 2400 M.T, was due to the imposition of the export duty of Rs.50/- per kg on cardamom. The export picked up only when the duty was reduced to Rs.10 per kg.

10. The decline in export during 1982-83 can be attributed to the sharp fall in production from 4400 M.T in 1981-82 to 2900 M.T in 1982-83 due to the wide spread drought in the cardamom growing areas.

11. From our discussion with the auctioneers we came to know that the size of the advance is nothing fixed but is determined on personal lines. That is in accordance with the cash requirement of the seller and the cash availability with the auctioneer. But generally it is found to be 20 to 25 percent of the sales value.

12. Here, lot means the quantity auctioned at a time. Thus the single seller can split his produce in to different lots.

13. Quality of the produce depends upon the colour aroma and boldness of the produce. The measurable variable is the boldness and the measure is weight per litre of cardamom. Generally it is found that a lot with high weight per litre also has good colour and aroma.

14. The reserve price is the minimum price, set by the seller, below which the product would not be sold.

15. Government of India, Ministry of Commerce, op.cit.

16. The Cardamom (Licencing and Marketing) Rules 1977 authorises the auctioneer to get one percent of the sale proceeds as commission.

17. The Cardamom (Marketing and Licencing) Rules, of 1977 insists that the auctioneer should send to the Cardamom Board a report about each auction including the following information regarding each lot. (a) Registration number of the seller and his address (b) Quantity put for auction (c) quantity sold (d) price per kg (e) deductions like, sales tax, additional salestax, handling charges, commission and (f) the name and address of the buyer.

18. From the sellers we came to know that there were instances in which the delay in payment extended beyond even four months. These were instances in which the sellers, desperately in need of money, get the auction slip discounted with the money leaders at very high rate of discount.

19. The cardamom rules of 1966 insists that every cultivator of cardamom should register his estate with the Cardamom Board. We happened to meet a cultivator who was asked to pay a huge amount by way of agricultural income tax by the tax authorities on the basis of the auction reports of a particular auctioneer. The grower holds that he has not sold any cardamom in that

auction centre at all for the last three years. This may be the result of bogus registration. Moreover, we came to know that there are eleven cases filed by an Association of Cardamom growers against an auctioneer in Kerala.

20. The existence of the large scale smuggling of the product to Tamil Nadu may also be attributed to the product flowing form the cultivators to the village traders.

21. As we have already seen, all the auction centres are not situated in the cardamom growing areas. For example, Mangalore in Karnataka and Cochin in Kerala. Therefore, the sellers in these centres may not be the actual producers.

CHAPTER 4

PRICE FORMATION AND VARIATION -- AN ANALYSIS

An analysis of the structure of the present marketing system in the previous chapter revealed that it is characterised by the concentration of market power in the hands of a few exporters, auctioneers, dealers and growers. The leading exporters are found to be the major bidders (dealers) in the auction centres and the leading auctioneers are the organisations of large scale cultivators. In the course of our analysis it was observed that the sellers with less than a certain quantity of cardamom find it disadvantageous to make use of auction centres given the fact that the sale through auction calls for certain deductions. The major focus of our analysis in the present chapter is to analyse the formation of prices in the present marketing set up for cardamom and its variation across different lots sold. We will also try to explain the intra and inter year variations in price.

4.1 The Market Structure and Price Formation

To analyse the influence of market structure on price formation we may look at the market forces operating from the buyers' and sellers' side, i.e, the growers and auctioneers on the one hand and the dealers and exporters on the other. Such a division of market forces, though too simplistic [1/] in the case of cardamom, will serve as an academic scaffolding to understand the

dynamism involved in the complex process of price formation. To begin with, the forces operating from the sellers side are two: the market power of the sellers (growers of cardamom), both the large and small, who could withdraw the product from auction if the price quoted in the auction is found to be unsatisfactory and the interest of the auctioneers. The auctioneers, similar to the sellers, are also interested in obtaining higher prices for the following reasons. First and foremost, since the auctioneers are also the growers of cardamom higher prices would lead to increase in their sale proceeds. Secondly, higher the price realised in auction higher the commission accruing to them and thirdly higher price quotation in a certain auction centre would attract more sellers to that centre thereby increasing the total revenue accruing to the auctioneers by way of taking sample.[2]

Coming to the market forces operating on the buyers' side it needs to be noted that exporters as a category consists of both large scale exporters and small scale exporters and the leading exporters who inevitably are the big exporters are found to be the major buyers in the auction centres.[3] Since the profit of the dealers and exporters depends on the margin between the export price and auction price, the dealers and exporters would try to depress the auction price with a view to increase their margin. This is because the export price is exogenously determined and therefore the exporters may not be able to manipulate the export price. This argument gets sustenance from our discussion with certain leading exporters where we learned that most of them come to the auction centres after negotiating with the importers the conditions like the price of the product, quantity to be exported and the time of export. Hence, in the bidding process in the auction centres, the exporters quote the price in accordance with their price agreements with the importers to other countries.

So we find that the export price determines the domestic price, in a way which is different from other export oriented commodities like pepper, cashew, etc. This is primarily because of the nature of the product, structure of the market and the role of the agents of marketing. Where as in the other agricultural commodities there are a series of intermediaries between the primary seller (producer) and the exporter, which prevents a strong relationship to exist between export price and farmgate price, in the case of cardamom it is such that the exporter and the primary seller come into direct contact with each other which account for the close correspondence between the export price and the farm gate price (auction price).

Though it is difficult to arrive at a precise relationship between export price and the auction price one can get an idea of this relationship by plotting the two sets of prices on a graph. From Fig.4.1a, 4.1b, 4.1c it could be discerned that the export price leads the domestic price with a lag of about one month. Since one cannot be sure of the nature and duration of lag, a month to month correspondence may not hold but the 'trend' synchronisation is maintained.[3a/] Also, it can be observed that a rise in the export price is not necessarily responded by a corresponding increase in the domestic price, whereas a fall in the export price is transfered entirely to the domestic price.

The upward sticky nature of the auction price can be understood in terms of the price fixation mechanism and the market power of the exporters,, who have no control over the export price once fixed. So, as pointed out earlier, they will try to depress the auction price to their interest. The

176.2 162.28 164.66 169.54 178.98 180.96 173.78 174.65 198.2 186.5 176.96 168.85
138.3 122.9 122.6 133.1 138.5 144.66 133.4 117.8 139.6 135.8 126.3 112.2

>>>>>>>>>> Y-AXIS

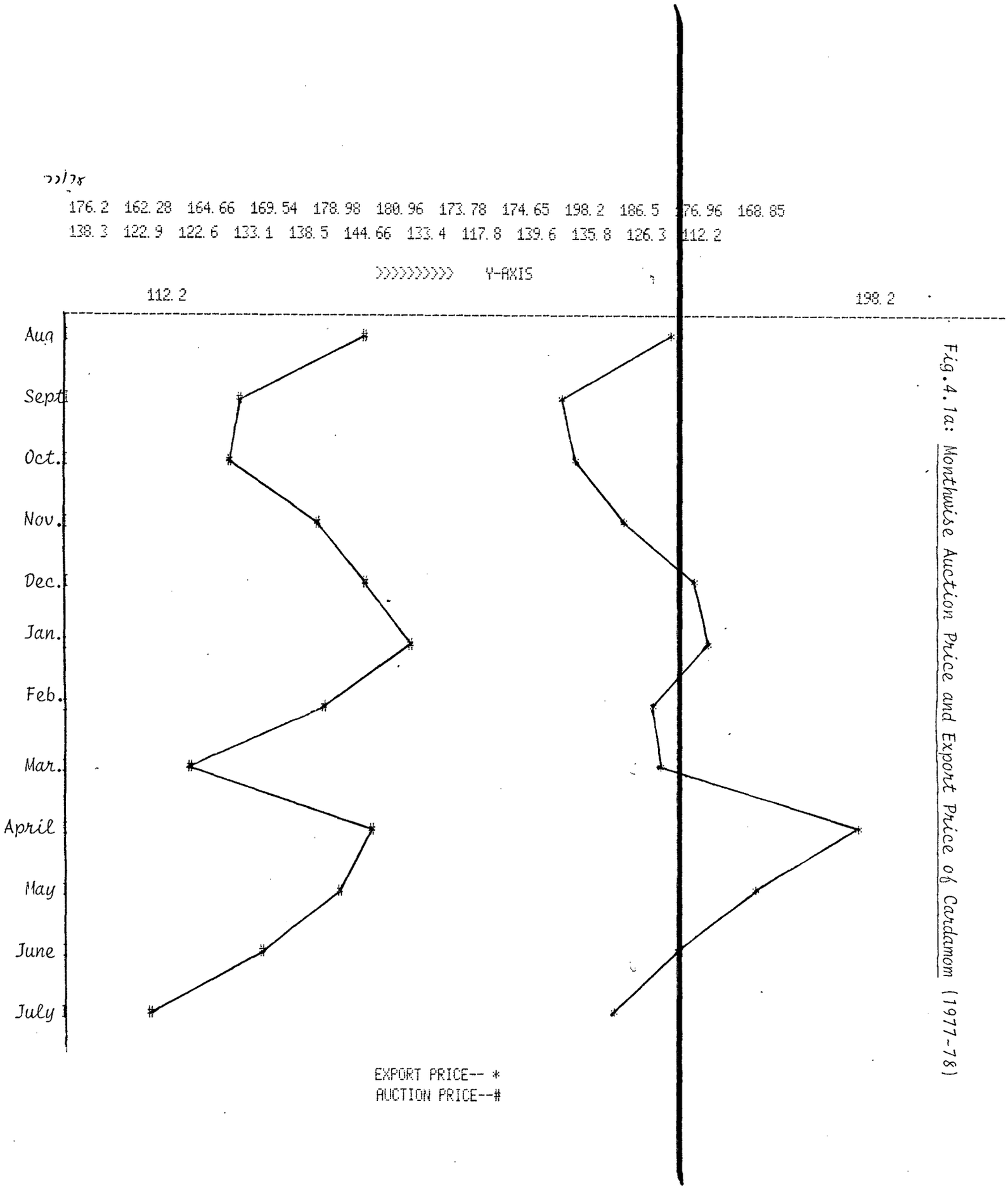


Fig.4.1a: Monthwise Auction Price and Export Price of Cardamom (1977-78)

GRAPH NO 1 DATA
184.01 190.6 215.56 218.54 209.07 219.45 212.98 195.36 171.08 167.73 171.43 196.81
134.9 159.9 182.4 184.7 170 8 165.8 160.8 144.2 134.4 132.4 129.4 130.7

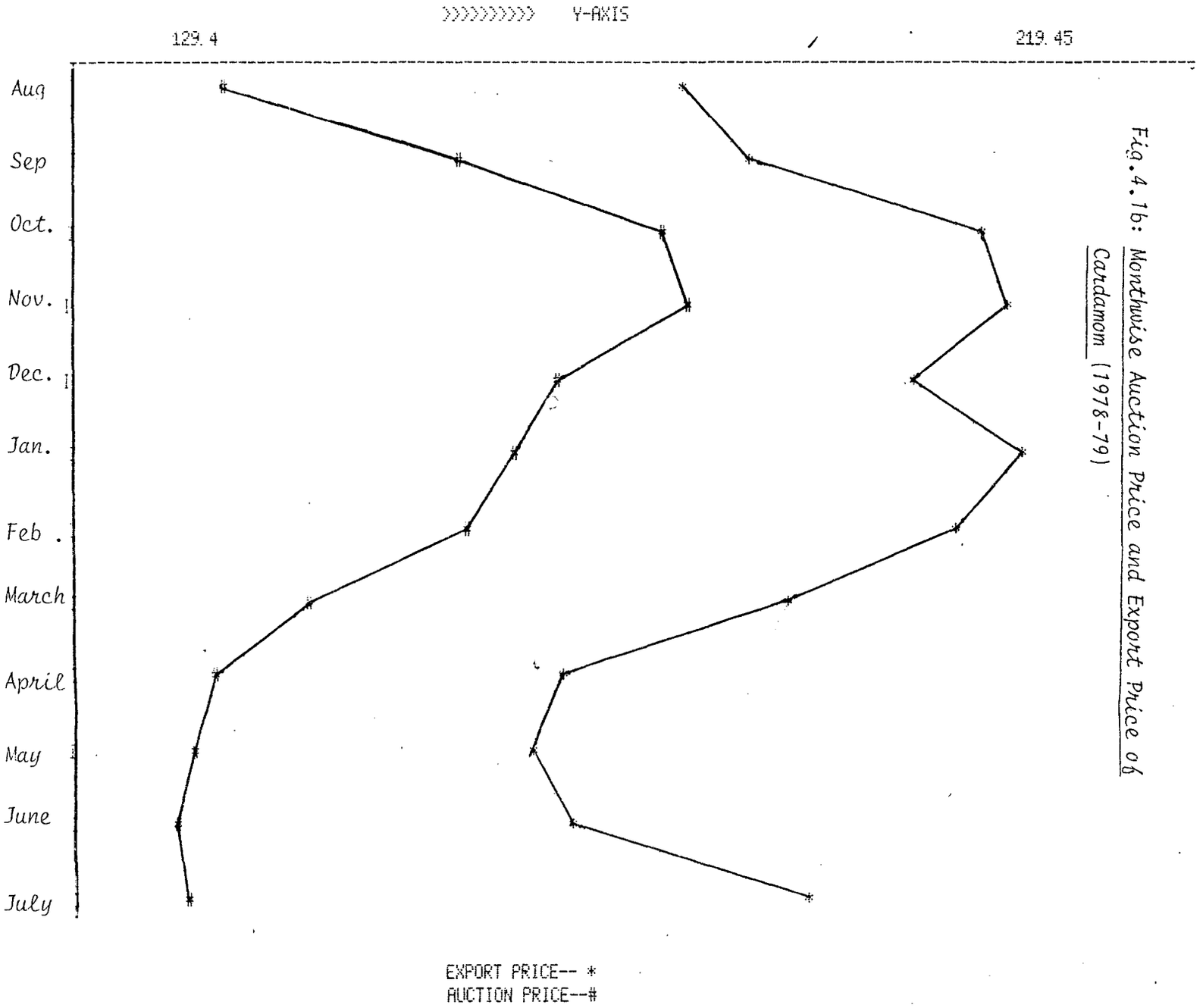


Fig.4.1b: Monthwise Auction Price and Export Price of Cardamom (1978-79)

GRAPH NO 1 DATA

173.27 178.37 206.29 203.5 186.52 179.03 169.67 172.4 187.8 191.09 177.46 176.5

90.86 150.5 162.9 165.1 137.4 125.4 134 117.5 105.4 113.6 106.8 92.2

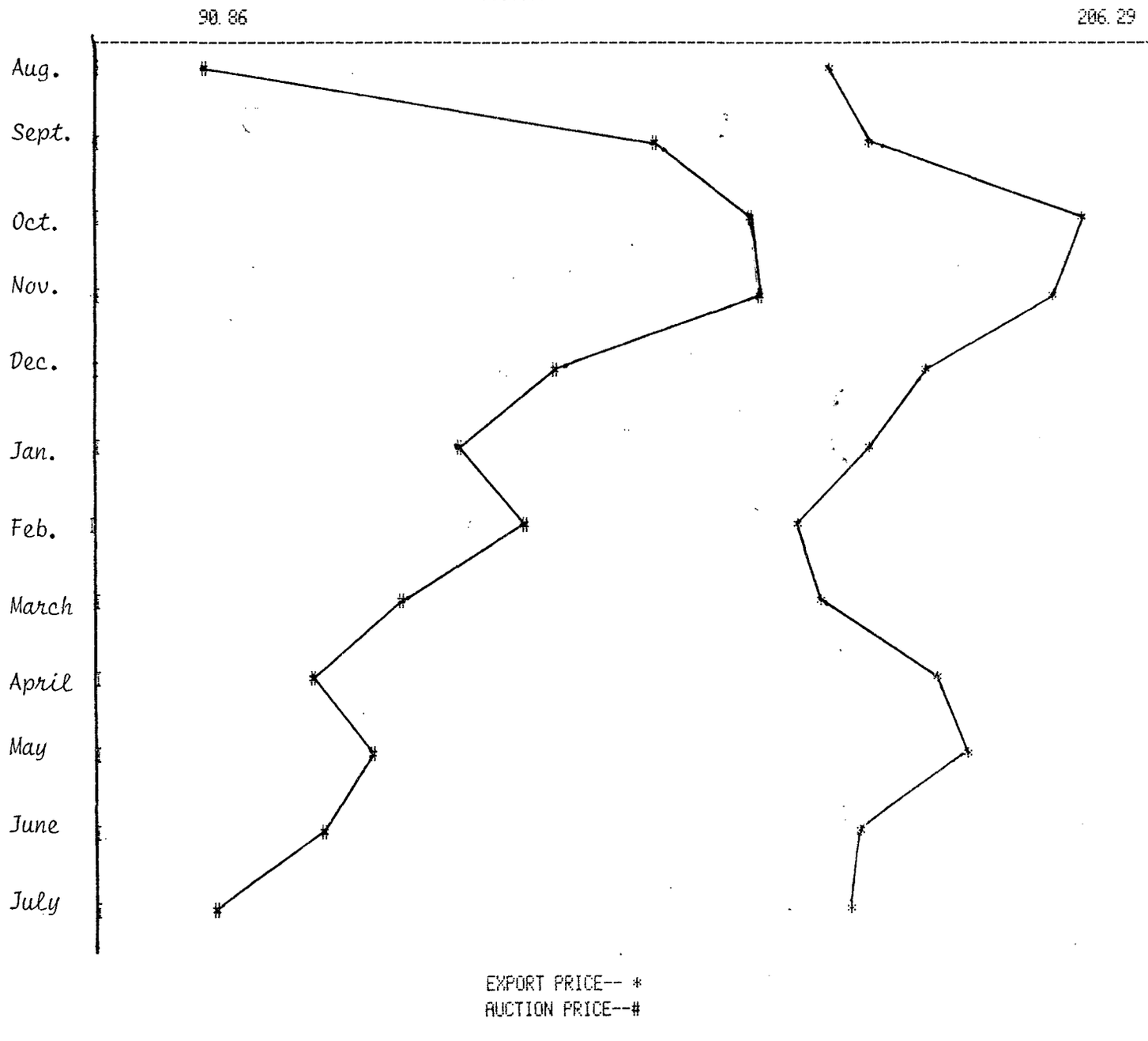


Fig.4.1c: Monthwise Auction Price and Export Price of Cardamom (1979-80)

exporters, in fixing the export price, take into account the following considerations: First the supply and demand conditions are taken into account. That means, on the basis of the intensity of summer drought, the availability of pre-monsoon rainfall and the quantum of rain during the June-July period the trade circles are able to forecast the crop prospects in the forthcoming season. As most of the leading exporters are in trade for long time, they have a fair knowledge of the size of their demand for their product in the different world market segments. In addition to these factors, their pricing decisions are influenced by the basic nature of the product characterised by its limited storability. This is because, if the product is stored for more time the green colour of the cardamom will fade and it is an important consideration in determining price in the prime market for cardamom i.e. the Middle-Eastern countries. This necessitates market clearence within the crop year and thereby rules out speculation.

Under these conditions one would postulate the process of price formation, in auction centres, in the following way: In the bidding process the bidders (the exporters and dealers) would endeavour to reduce the price, given the fact that they have already made commitment to their counterparts at a certain price, with a view to add to their margin. At the same time, the growers and the auctioneers would be interested in obtaining the maximum possible price to dilate their sale proceeds. If the price quoted is unsatisfactory the sellers would withdraw the product from auction. Now, the relevant question is, which category of sellers will be able to withdraw the product. Obviously, only those with adequate holding power and good

storage facility can withdraw the product.[5] On the other hand, those sellers without adequate holding power and who have already received the advance from the auctioneer will be forced to sell the product at the price quoted in the auction. Thus there is the possibility of price discrimination across different lots sold through auctions. That is, a situation where the smaller lots tends to get a lower and larger lots a higher price.

In this context the pertinent question is to what extent the bidders can discriminate across different lots? This is to be looked in terms of the available supply and demand conditions in the market. Given the export demand, if the domestic prdocution is higher than what the export demand warrants (excess supply) the price quoted in the auction centres will be low and the price discrimination tends to be higher. On the contrary, in a situation of low production (excess demand) the price quoted in the auction centres would be relatively high and the price discrimination across different lots may be low.

4.2 Different Aspects of Price Variation

Having examined the influence of market structure on price formation, let us proceed to analyse, with the available data, the price variation across different lots sold through auction. For this purpose, we have classified the lots sold through auction into different size classes viz. 0-20 kgs, 20-40 kgs etc. and calculated the average price obtained by each size class of lots during 1979-80 to 1983-84.[6] (See table 4.1). Table 4.1 throws light in to different interesting aspects of price variation. Firstly, there exists a positive relationship between lotsize and average price. That is, as we move from a smaller size class to a larger size class the average price obtained also rises. Secondly, the price

Table 4.1: Price Variation Across Different Lot Sizes (Rs/kg)

Size Class (Kg)	1979-80		1980-81		1981-82		1982-83		1983-84	
	Peak Season	Slack Season	Peak Season	Slack Season	Peak Season	Slack Season	Peak Season	Slack Season	Peak Season	Salck Season
0 — 20	145.01	86.45	80.17	69.15	106.07	101.82	137.23	187.04	362.10	346.28
20 — 40	159.93	88.77	91.89	76.79	109.74	112.82	140.83	174.87	346.98	363.46
40 — 60	169.23	96.31	100.50	94.81	118.60	119.79	143.61	182.70	353.12	375.75
60 — 100	174.25	100.39	108.26	89.84	124.45	122.45	149.50	185.21	351.89	385.26
100 — 150	178.87	116.30	120.76	109.23	134.02	132.12	148.73	213.99	372.68	412.41
150 — 200	179.51	135.80	127.76	111.38	135.07	135.42	152.84	202.85	363.88	408.72
200 — 250	185.76	136.50	132.87	113.59	136.35	138.60	153.81	187.58	359.06	421.08
250	187.49	142.63	133.56	129.61	132.84	158.44	168.49	202.67	387.65	426.99
Price Variation	7.7%	19.0%	16.7%	19.1%	9.0%	12.8%	6.1%	6.3%	3.3%	6.9%

Source: Cardamom Marketing Corporation Vandanmettu, weekly auction reports from 1979-80 — 1983-84

Note: 1. Price refers to average price

2. Peak Season September and October and Slack Season February and March

3. Price variation is measured by calculating the co-efficient of variation.

variation, represented by the co-efficient of variation, across different lots is higher during the peak season and lower during the slack season. Thirdly, as we move from a year with high production to a year with low production, the extent of price variation across different lots gets reduced and finally unlike any other agricultural commodity, the peak price is associated with peak season. In the following sections we will try to explain these aspects of price variation in detail.

4.2.1. Peak Price in Peak Season

Against the generally observed phenomenon of the coincidence of peak price and slack season in agricultural commodities, the peak price is found to be coinciding with peak season in the case of cardamom in all the years. The movement of auction price from the beginning to the end of the crop year is shown in Fig.4.1. It is observed that during the beginning and the end of the crop year (August to July) the price is low, while during the period October to January (the peak season) the price is higher. This uniqueness in the seasonal variation in the price of cardamom is to be explained in terms of the nature of the export demand. In the major international market for cardamom i.e. the Middle Eastern countries the green colour of the cardamom[7] is appreciated highly because it denotes the freshness of the product. Therefore, the fresh green coloured cardamom commands a higher price. The share of different months in the auction sales and export is shown in Table 4.2. and Fig.4.2. The graph shows that the peak export demand coincides with the peak season. This is because of the availability of green coloured cardamom in the peak seasons. Thus the coincidence of peak price in the peak season is because of the high export demand for the green coloured cardamom which is associated with the peak season.

GRAPH NO 1 DATA
1.6 8.8 21.8 21.9 16.9 11.6 6.8 6.3 2.8 1.8 .9 .6
2.3 2.7 7.4 13.9 18.6 13.5 8.9 9.8 8.1 6.3 4.9 3.6

>>>>>>>>>> Y-AXIS

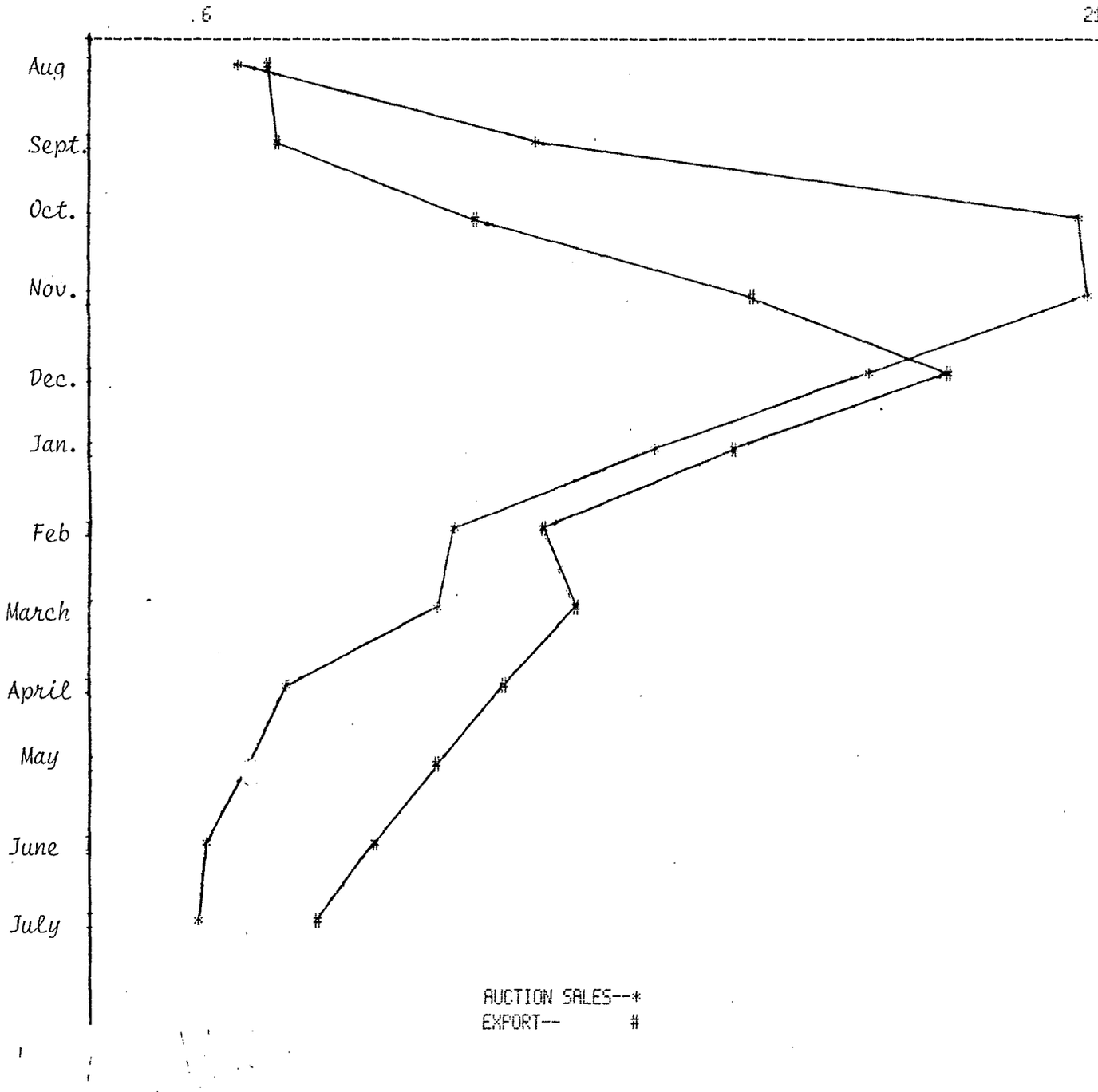


Fig. 4.2: Share of Different Months in Auction Sales and Export of Cardamom (1971-72 to 1983-84)

Table 4.2: Share of Different Months in Auction Sales and Export during 1971-72 to 1983-84

Months	Auction Sales	Export
August	1.6	2.3
September	8.8	2.7
October	21.8	7.4
November	21.9	13.9
December	16.9	18.6
January	11.6	13.5
February	6.8	8.9
March	6.3	9.8
April	2.8	8.1
May	1.8	6.3
June	0.9	4.9
July	0.6	3.6

Source: Government of India, Ministry of Commerce, Cardamom Statistics, Volume 1 to 6 and Current Cardamom Statistics 1982-83 and 1983-84, Cardamom Board, Cochin.

4.2.2 Intra-year Price Variation

By intra year price variation, we mean, the magnitude of price variation across lot sizes during the peak season and slack seaon of an year. Regardless

of the level of production it is observed that the magnitude of price differential (represented by the co-efficient of variation) is high during the slack season than during the peak season. This inter seasonal variation in the magnitude of price differential across different lot sizes are also to be explained in terms of the export demand and quality differential. As the export demand is weak during the slack season (See Table 4.2) it will be met by the larger lots itself or the exporters could buy their requirements fast by concentrating on the larger lots. Hence they would depress the price of the smaller lots. It also depend on the stocks held by the exporters. On the other hand during the peak season, given the fact that there is an exogenously determined high export demand (See the Table 4.2) and little stocks with the exporters, the higher demand by the exporters push up the price for both smaller and larger lots and in this process the extent of price differential across different lots get reduced. Further, during the peak season the quality variation, in terms of colour, would be less where as during the slack season one would expect a higher quality variation across different lots, given the fact that the colour of the product would deteriorate on storage. Thus the changes in the extent of intra year price variation across different lots sold through auctions are the result of the interaction of the market forces of demand and supply on the one hand and the quality differential across different lots and the market power enjoyed by the bidders on the other.

4.2.3 Inter year Price Variation across Different lots

Similar to the interseasonal differences in the extent of price variation we have observed that a year with higher production is characterised by

lower prices (for year wise production See Table 1.3) and higher price differential across different lots whereas a year with lower production shows higher prices and lower price differential across different lot sizes. Given the export demand, the lower production leads to a situation of excess demand during the year with low production consequently the price is pushed up whereas when production is high, as most of the export demand gets satisfied the price tends to be lower. Coming to the higher price differential in the years when production is higher one can see that as there is excess supply the exporters, given their market power, can depress the price of certain lots and results in higher price variation across lots. If the production in an year is low, given the increasing export demand, the choice open to the exporters is limited and both smaller and higher lots get a higher price and the price variation across lots gets reduced. Thus our analysis leads to the conclusion that the inter year price variation is the result of the interaction of the market forces of supply and demand on the one side and the market power enjoyed by the bidders on the other. Where as the intra year differences in the extent of price variation is the result of the interaction of (in addition to the above two factors) the quality differential across lots during the peak season and slack season.

4.3 Analysis of Price Formation

In the foregoing analysis we examined the different aspects of price variation and the direct relationship between lot size and price was implied in our analysis. For a clear understanding of the positive relationship between lot size and price one should examine how the price formation takes place in an auction. That is what is attempted in this section.

For our analysis of price formation we have identified the quality of the lot[8] and size of the lot as explanatory variables. The quality of the lot, in turn, depends on colour, aroma and boldness of the capsules. Since these variables are unquantifiable, we took the weight per litre of cardamom, as a proxy, to represent the quality of the lot. We run a linear multiple regression by taking the price per kg as the dependent variable and the weight per litre and lotsize as the independent variables.

$P = f(Q_T , Q_L)$ te where

P = Price per kg of cardamom

Q_T = lot size

Q_L = Weight per litre

e = error term

The expected relationship may be written as

$$P = + \beta_1 Q_T + \beta_2 Q_L + e$$

The estimated price equations are given in table 4.3.[9] The result of the regression analysis shows that the price is determined both by the quality of the product and the lot size.[10] What is interesting is the difference in the relative importance of the two variables during the peak season and slack season as depicted by the changes in the value of β_1 and β_2. Therefore to isolate the effect of quality and quantity on price, we estimated the partial correlation co-efficients (See Table 4.4).

The partial correlation coefficients show that while 68 percent of the price variation is explained in terms of quality (quality effect) in peak season,

Table 4.3: Estimated Price Equations

Month	No. of Observ-ations	β_1	β_2	R^2	F--value Degrees of Freedom	F--value Value
October	401	0.008 (0.8178)	0.364 (17.2416)*	0.462	2398	171.176*
November	317	0.035 (1.09)	1.025 (21.218)*	0.630	2314	267.745*
February	93	0.385 (5.2737)*	0.642 (6.3758)*	0.487	290	42.76*
April	133	0.503 (5.275)*	0.121 (1.2671)	0.225	2130	18.851*

Note: * indicates significance at 0.1 level

only 32 percent of the price variation is due to quality in slack season. On the other hand in peak season the quantity variation accounts for only 6 percent of price variation (quantity effect) where as it increases to 42 percent in slack season. It needs to be noted that the T-values for quantity are statistically insignificant during the peak season, whereas for quality they are statistically significant. Contrary to this; during the slack season, the quantity effect is statistically significant while it is insignificant in the peak season.

Thus the foregoing analysis leads to the conclusion that while the quality

Table 4.4: Estimated values of Partial Correlation Coefficients

Month	Quality and Price		Quantity and Price	
	Simple	Partial	Simple	Partial
October	0.679	0.633	0.247	0.030
November	0.793	0.728	0.317	0.037
February	0.573	0.557	0.506	0.486
April	0.243	0.098	0.464	0.348

explains the price variation across different lots during the peak season whereas it is due to the changes in the lot size which explain the price variation during the slack season.

4.4 Implications of the Analysis

Now, let us proceed to look at the implications of our findings regarding the relationship between price, quality and quantity of the lot sold through auctions. Our analysis showed that inorder to obtain a higher price during the peak season the sellers should offer a high quality product, whereas during the slack season the lot size should be large enough to attract the bidders. Given the exogeneously determined export demand, we can see that the different considerations of quality during the peak season and quantity during the slack season has been introduced in to the system by the bidders with high market power with a view to enhance their profit.

For the sellers (growers) of the product, given the fact that the product should be of high quality to obtain higher price during the peak season, they should necessarily grade their product. The grading will have the effect of splitting the lot. To illustrate, let us take the case of an ungraded lot with size T kgs and the proportion of good quality product as p. As a result of grading the initial lot of T kgs will be split in to at least two lots i.e. pT and (1—p)T. If we take T as 25 kgs and p as 52 percent.[11] the effective lot sizes are 12 kgs and 13 kgs. In view of our findings in the previous chapter that a profitable sale through auction necessitates a minimum lot size, one can see that either of these lots may not be profitably sold through auctions. On the other hand, during the lean seasons, since the lot size is the major consideration in determining the price these smaller lots may be getting a lower price consequently the sale through the auction centre become unprofitable. Thus, the sale of a smaller lot through the auction centres may not be resorted to during the slack season because of the deductions made in the auction centre on the one hand and the quantity consideration of the bidders on the other.

A question may arise in this context. It is possible that the seller of a small lot can compensate for the low price of the inferior quality lot by the higher price of the superior one. To answer this question, let us recall our earlier example of an ungraded lot of 25 kgs and the low quality and high quality lots of 12 kgs and 13 kgs respectively. Consider a price of Rs.200 per kg for the high quality and 35 per cent less price for the low quality and an average price of these two for the mixed lot. The sales revenue is found to be Rs.4083.75 and Rs.4077.5 respectively for the mixed lot and graded lot. Under these conditions the sellers with smaller lots are

pushed out of the auction centre. The above arguement get sustenance from Table 4.5 which shows the share of lots with less than 20 kgs in the total number of lots sold through auctions.

Table 4.6: The share of lots less than 20 kgs in the total number of lots sold through Auctions

Year	Average number of lots sold		Average number of lots less than 20 kgs		The Share of lots less than 20 kgs	
	Peak Season	Slack Season	Peak Season	Slack Season	Peak Season	Slack Season
1979-80	508	283	48	14	11.7	4.9
1980-81	514	278	29	22	5.6	4.3
1981-82	511	251	22	18	4.3	3.5
1982-83	304	198	17	7	5.5	3.5
1983-84	275	174	14	7	5.1	4.0

Source: Cardamom Marketing Corporation, Auction Reports, 1979-80 to 1983-84, Vandanmettu

As evident from the Table 4.5 the share of the lots less than 20 kgs is negligible. Moreover, the share of lots with less than 20 kgs is found to be higher in the peak season than in the slack seasons (That is during the peak season 7.44 percent of the sellers, on the average, are found to be in the group of less than 20 kg category, their share, on the average, is found to be only 4 percent during the slack season).

Given the distribution of cardamom holdings, i.e. the domination of small holdings in terms of the number of holdings and that of large holdings in terms of the area, one would, naturally, expect a higher share of smaller lots in the total lots sold. In Kerala the share of holdings less than one hectare in the total holdings is found to be 39.3 [13] per cent. At the yield per hectare of 62 kgs, distributed in five to six harvests the growers in the size class of less than one hectare may not be able to sell more than 20 kgs in an auction. Therefore the share of lots with less than 20 kgs should have been nearly 40 percent whereas the actual data shows that their share is only nearly 6 percent. Then the question is where do the rest of the produce go. Obviously, as the sale through auction centres is not advantageous to them, they keep themselves out of the auction centres. This poses the problem of, to what extent the present market regulations have succeeded in ensuring a fair marketing channels to all cultivators.

4.5 Conclusion

To sum up, the focus of the present chapter was to analyse the formation of prices in the present marketing system for cardamom and its variation across different lots. Our analysis showed that the concentration of market power with a few leads to a situation of price discrimination across different lots sold in the auction centres. The analysis of price variation has thrown light into certain interesting aspects of price variation. That is, for cardamom the peak price is associated with the peak season and it is found to be because of the high export demand during the peak season. Further, the extent of price variation is found to be high during the lean season than in the peak season

and as we move from a year with higher production to lower production the extent of price variation across different lots gets reduced. The former is found to be the outcome of the interaction of supply and demand on the one hand and the market power enjoyed by the bidders and the higher quality differential on the other. The latter is the result of the interaction of the forces of demand and supply on the one side and the market power of the bidders on the other. The analysis of price variation by taking the lot size and the quality of the lot revealed that during the peak season the price is determined by the quality of the lot where as during the lean season it is the differences in the lot size that determine the price variation. The different considerations of quality and quantity of the lot during the peak season and slack season makes the sale of smaller lots through auction unprofitable.

1. A rigid division of powers with the buyers and sellers may turnout to be simplistic because of the special structure of the market. As we have seen in Chapter 3, in cardamom, we find of a great extent of overlaping across different functionaries i.e. the exporters are found to dealers and growers, and the auctioneers are also the organisations of growers.

2. For details, please refer Chapter 3.

3. See Section 3.3.3.

3a. This is substantiated by plotting the average export price and auction price (See Fig.4.3)

4. Most of the export oriented agricultural commodities are not suceptible to deterioration of quality on storage. On the other hand, on storage, the quality of cardamom (mainly its colour) deteriorates and commands only a lower price. Therefore the possibilities of speculation are limited.

5. If the grower is having good storage facilities, the product can be stored for some time without much deterioration of quality.

6. This period covers years of high production and low production. For yearwise production See Table 1.3

7. In their attempt to deliver the green cardamom in the Middle Eastern Markets as fresh as possible, certain exporters even used to airlift the produce. This is to avoid the delay that will cause by shipping.

8. The quality of the produce depends on the colour, aroma boldness of the product. Of these only measurable variable in boldness of the product. Therefore, we took the weight per litre of cardamom as a measure of quality. That is from each lot sold, a litre of cardamom was taken and noted its weight in gramms.

9. The values of R^2 are to be considered along with the number of observations which is quite large. It is to be noted that all the F-values and T-values are highly significant indicating significant regression estimates.

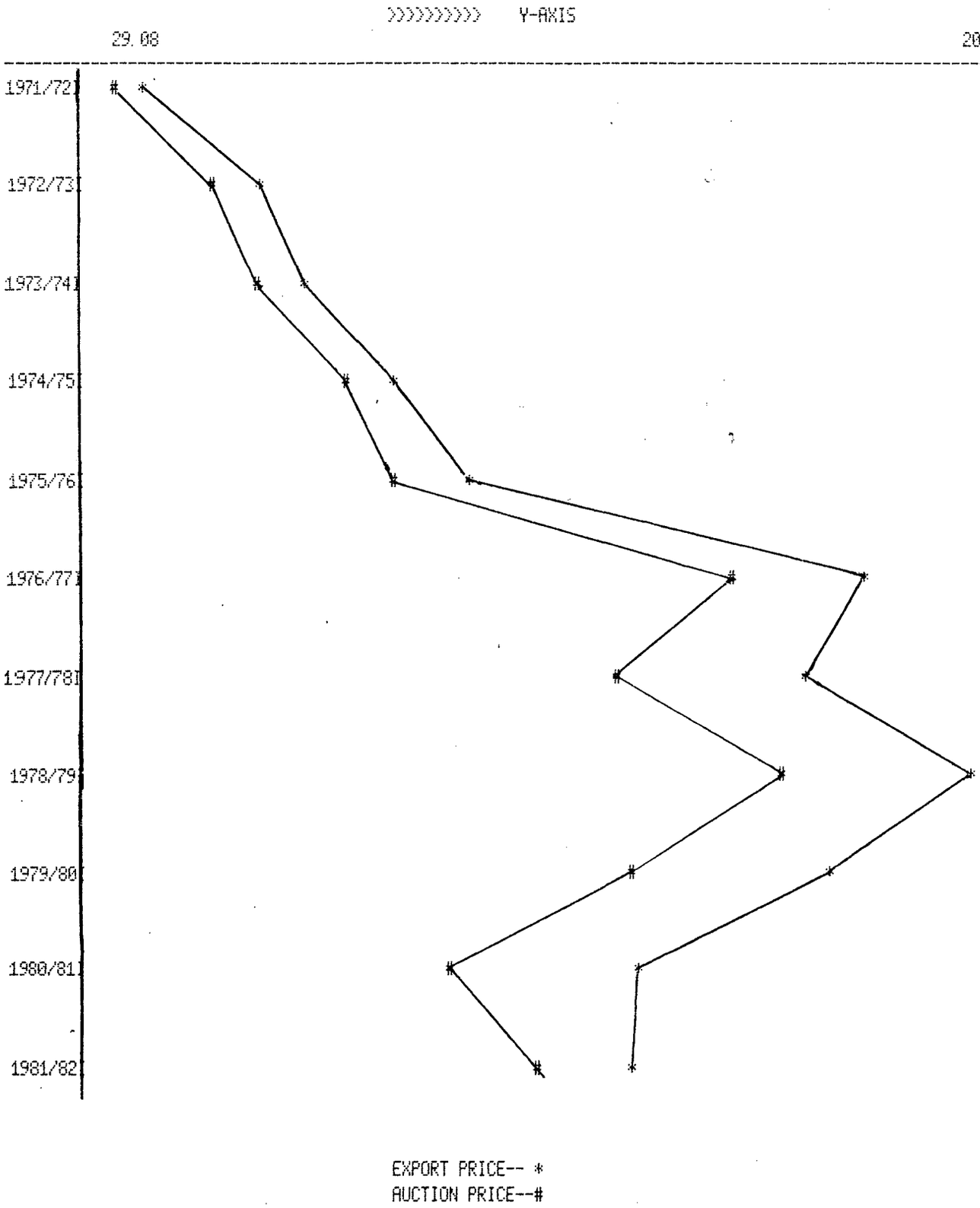


Fig. 4.3: Trend in Export Price and Auction Price of Cardamom (1972-72 -- 1981-82)

10. For the month of February, the result of the regression for the original data was as follows

$$\beta_1 = 0.445$$

$$\beta_2 = 0.3582$$

$$R^2 = 0.361187$$

Correlation Matrix

0.506	1.000	0.108
0.378	0.108	1.000

On a close examination of the data, we found that the lots included a few lots of seeds of cardamom, indicating very high weight per litre. Therefore we deleted these observations and it is this result ~~to~~ which is incorporated in Table 4.3.

11. We took 52 percent as the high quality because, the share of Alleppey Green Extra Bold variety exported in Kerala's production is found to be 52 percent during 1971-72 to 1982-83.

12. On the average the price variation between the lowest lot and highest lot is found to be 35 percent during 1979-80 — 1983-84.

13. Government of India, Ministry of Commerce, The Directory of Cardamom Planters 1974, Cardamom Board, Cochin, 1974.

CHAPTER 5

SUMMARY AND CONCLUSIONS

The purpose of the present chapter is to wind up the arguements made in the text and to present the concluding comments. As we have already noted in Chapter One, certain limitations of the available data and the very complex nature of the product marketing exert a sobering effect over any firm conclusions. However, we shall present succinctly some of the major findings in the following pages.

The major focus of the present study was to examine the issues related to the marketing of cardamom in Kerala. Because of the historical importance of the crop the problem has been tackled at two levels. First, we have examined the genesis of the present marketing system by looking historically at the growth and evolution of cardamom marketing in Travancore with a view to highlight the internal dynamism involved (Chapter 2). Then follows an analysis of the contemporary market structure. Here, we have looked into the present market structure and its influence on interstate and intrastate price variation (Chapter 3). Moreover we analysed the influence of the market structure on price formation and the inter-year, intra-year and inter-lot price variation (Chapter 4).

While tracing the development of cardamom cultivation and marketing, we noted that, as it was a major source of revenue to the State by way of export

earning, cardamom was brought under State monopoly by the middle of eighteenth century and it continued till the end of nineteenth century. During the monopoly period, the product was procured by the State and the cultivators were paid by the State. Initially, the share of the cultivators (kudivilay) (See Chapter 2) was determined by the state arbitrarily later, it was linked with export price. Though the ryot's share was raised from time to time in terms of export price there was no considerable improvement into the absolute amount accrueing to the ryots during the nineteenth century. Later, on account of certain inherent problems in the monopoly system like, large scale smuggling and consequent loss of revenue, instability in procurement on account of the lack of incentives the state monopoly was lifted in 1896.

The abolition of monopoly led to the emergence of private trading in cardamom. Though auction centres were in existence in the cardamom growing areas of Tamil Nadu and Karnataka, the cardamom trade in Travancore was controlled by the traders from Tamil Nadu. Unlike the present auction centres, these auction centres charged auction fees or took sample on the basis of the quantity sold so that the effective price was proportional to the price quoted in the auction. As the area and production of cardamom increased, a few auction centres were established in the cardamom growing areas of Cardamom Hills at the initiative of some progressive cardamom growers of Kerala. These auction centres used to take a fixed quantity from each lot as sample (irrespective of the lot size) and other centres also started the same practice. Thus, when the Cardamom Board came into existence in 1966 there was already in existence a system of marketing through auctioning. In 1977 the Cardamom (Licensing and Marketing) Rules were passed with a view to regulate the functioning of the different

participants in the market.

The present marketing system consists of cardamom growers, where the small holders dominate in terms of number and large holders dominate in terms of area, cardamom auctioneers, most of them are growers, dealers, a few of them are exporters and some of them are in addition to being dealers and exporters are growers as well. We noted that there is a concentration of market power in the hands of a few, in the sense that one of the auctioneers accounts for about 47 percent of the product sold in India and 70 percent of the production in Kerala and a few exporters (nearly five out of 120) accounts for bulk of the exports in all the years irrespective of the total quantity exported (See Chapter 3). Further these exporters are found to be the major bidders in the auction centres. The sale through auction calls for certain deductions which make the sale of small lots through auction unprofitable. Analysis of the inter state and intra state variation in price revealed that while former is due to quality difference, the latter may be attributed to the difference in quantity available for sale.

Our analysis of price formation and price variation across different lots sold through auction centres revealed that the market structure and the market power enjoyed by different functional categories influence the price. We found that the auction price moves in sympathy with the export price with about one months lag implying that the exporters come for bidding with a reservation price determined on the basis of their price agreements with importers. Under these conditions, with a view to increase their margin, the bidders attempt to depress the auction price. Ultimately the price of those without with-holding

power (obviously the small holders) get depressed and those with the withholding power get higher price. Thus it was brought out (Chapter 4) that the present sturcture fosters a positive relation between lot size and price.

The analysis of price variation across different lots revealed that, the extent of price variation across different lots are higher during the peak season than the slack season and as we move from a year with high production to low production the extent of price variation gets reduced in both seasons (See Table 4.1). Moreover, unlike other agricultural commodities, the peak price for cardamom is associated with the peak season.

The multiple regression and partial correlation analysis between price, quantity and quality of the lots sold through auction showed that price is a function of both quantity and quality. But the relative importance of quantity and quality varies across seasons. To put it more clearly, to get a higher price during the peak season, the seller should offer a high quality lot where as during the lean season the lot size should be high enough to attract the bidders.

Given the basic feature of the cardamom economy — the domination of small holders in terms of number and large holders in terms of area — the above findings have got some crucial implications. Since the profitable sale through auction perse calls for a certain minimum lot size and the quality consideration during the peak season which in turn calls for grading and consequent splitting up of the initial lot into different smaller lots ultimately leads to a situation where the sellers with small lots cannot make

use of auction at all. This is evident from the negligible share of the small lots (less than 20 kgs) sold through auction centres. The importance of our finding becomes more relevant when we recall that during 1930's all the auction centres (except Bodinaikannur) collected auction fee in accordance with the quantity sold there by making no difference in the actual price received by different sellers. Further, the different considerations of quality and quantity in determining price during peak season and slack season are imposed on the system by certain groups to their advantage. This leads to the basic question of to what extent the market regulation has succeeded in ensuring a fair marketing system to all sellers and what is the alternative. To that extent, our study explores this area and raises questions, which need to be looked into and may be taken up as a further area of research.

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