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THE STATE AND THE CINNAMON INDUSTRY IN SRI LANKA

M.P. Moore

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by

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F O R E W O R D

Cinnamon is the most important spice grown in Sri Lanka. Sri Lanka has been famous for cinnamon from the dawn of historical records, as it was the principal source of export for wealth and barter. It is believed that the plant was first raised on commercial lines by the Dutch during the period 1765 - 1770 in Negombo. The history of cinnamon exports from Sri Lanka actually date back to the days of ancient Egypt where cinnamon was in great demand.

At present there are about 40,000 acres under cinnamon. The major portion of this acreage is in small holdings and the neglect and poor management of these holdings have resulted in ill-nourished stands of the crop in many parts of the cinnamon growing areas. Its contribution to our foreign exchange earnings is negligible but the cinnamon industry provides considerable employment opportunities.

The State has been alive to the problems of the cinnamon industry for a long time and certain policies and programmes have been introduced for its development. In this paper the author examines the patterns, causes and effects of State intervention in this industry while focussing attention on the socio-economic consequences of such programmes.

It has been pointed out that although several problems have arisen mainly due to the very nature of the crop, there are also other important structural and technical problems which contribute to the poor productivity in the industry specially with regard to the production of cinnamon oil. Several recommendations have been made to overcome these problems.

At a time when the Government is paying special attention to the upliftment of the industry it is hoped that this publication will be helpful to the policy makers and others who have some interest in the cinnamon industry.

T.B. Subasinghe
Director

ACKNOWLEDGEMENTS

The author first became interested in this subject while doing field research on agricultural employment patterns in a cinnamon-growing area. That research was supported by the Agrarian Research and Training Institute and by the Economic and Social Committee for Overseas Research, Ministry of Overseas Development, U.K. This was followed by a sample survey of the effectiveness of the cinnamon replanting and rehabilitation subsidies, undertaken at the request of the Director, Department of Minor Export Crops, and with the assistance of the Department and the A.R.T.I. U. A. Hemachandra, W. M. Wijepala and P. M. Wimalasiri displayed great commitment in helping to collect and tabulate data for these two surveys. In addition, a number of persons involved in cinnamon production and trading in private or official capacities have provided much valuable information. Since some of them would prefer to be anonymous, it is perhaps better that all should remain so. John Farri gton, Richard Heaver and Dr. S. T. W. Kirinde gave very useful comments on an earlier draft.

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PART ONE: INTRODUCTION

1. Objectives

The purpose of this paper is not to describe the cinnamon industry for its own sake, but to examine the patterns, causes and consequences of state intervention in an industry which remains largely in the private sector. However, the conclusions derive in large part from institutions and practices peculiar to the production, processing and trading of cinnamon. It is therefore necessary to devote a considerable part of this paper, Part Two, to a fairly extensive description of the industry. Fortunately, this is not without a certain fascination of its own. It is hoped that the conclusion of the paper will interest two rather different audiences. On the one hand some very specific suggestions are made about government policies affecting cinnamon production and trading. On the other hand, and with a more 'academic' audience in mind, an attempt has been made to examine the institutional and political causes and consequences of state intervention. These conclusions have a much wider relevance to other sectors of the economy, and to other countries. These two objectives are in no sense incompatible. Much the same information and analysis serves both, and both point towards the same general conclusion: the gaps between high expectations about the legitimacy and appropriateness of state intervention on the one hand, and on the other hand, the ability of the state to intervene effectively.

2. Sources

Cinnamon has played an important role in the history of Sri Lanka, and its own history is therefore fairly well recorded (1). While there is no satisfactory account of the current state of the industry, a number of publications provide much useful information. The results of a 1971 national sample survey of cinnamon producers are given in S. de Silva, A Report on the Sample Survey of the Cinnamon Industry of Sri Lanka, Ministry of Plantation Industries, Colombo, n.d. This provides very useful statistical background, but was rather hurriedly conducted, and is not always completely clear. A more complete description of the structure of the industry can be found in D. J. Connell and G. K. Upawansa, The Spice Industries of Sri Lanka (Ceylon). 2. Industry Structure and Production Economics, Farm Management Report No. 2, UNDP/SF-FAO Agricultural Diversification Project, Peradeniya, 1972. This contains some detailed analysis of production economics based on data from a sample of fifty large estates. Most of their conclusions about desirable government policies are shared by the present author. A summary of the technical characteristics of cinnamon and its cultivation is contained in Cinnamon Cultivation and Processing, Technical Bulletin No. 8, Department of Minor Export Crops, Colombo, 1973.

This report is based on these and other published sources, on interviews with a wide range of people professionally concerned with cinnamon, and on two surveys conducted by the author. The first is an economic survey of small cinnamon producers conducted during a twelve month period in 1976-77 in Batapola, a village within the area of concentration of cinnamon production and cinnamon peelers around the town of Ambalangoda. The information collected in the Batapola Survey is almost certainly the most accurate of its kind available. Details are given in Appendix One. The other survey relates to the effectiveness of the cinnamon replanting and rehabilitation subsidies, and will be termed the Subsidy Survey. Details are given in Section 10.

PART TWO: CHARACTERISTICS OF THE CINNAMON INDUSTRY

3. The Plant and Its Products

In its wild state cinnamon grows into a tree. The useful part is the bark, which is stripped and dried. This retains its pungent flavour for many years and has a wide variety of applications as a flavouring in food and pharmaceutical products. It was this tree bark which formed the main attraction for Portuguese colonisation of the South-West lowland of Sri Lanka which commenced around the end of the sixteenth century. Cinnamon in its wild state is however extremely rare today. After wresting control of the cinnamon growing areas from the Portuguese, the Dutch began to cultivate the crop on a plantation basis, and this is the form in which it is now produced. A number of seedlings are planted together. They grow into a small clump comprising a number of shoots which rarely exceed the thickness of a thumb or the height of seven feet. These shoots are cut off from the base and the bark peeled. New shoots take their place.

Peeling is by far the largest single operation in cinnamon production. In the Batapola Survey, 72% of the time spent on cinnamon production was devoted to cutting and peeling.

"Peeling is performed with a small round knife having a point on one side for ripping. After scraping the sticks clean the peeler rubs them with a brass block, then draws a longitudinal slit from end to end and works the knife between the bark and the wood till he has raised it about half an inch wide. He then turns the stick and draws another slit paralalled to the former and, by working the knife on that side, detaches the bark from the wood. These 'quills' or pipes are packed one under the other until 3½ ft. long quills are made. Packing has to be done with the greatest care using chips to fill the quills. These quills or pipes are then dried on rope strands indoors. They are air dried till they are fit for handling.

In the above process of quill-making the final job in

handling consists of pressing in the edges of the outside piece where necessary and trimming the ends with a pair of scissors." (2)

From the point of view of present concerns there are three points to be made about the peeling process. One is that it is a highly skilled job. The second is that it demands patience and endurance - working hours are long - but not a great deal of physical strength. It is difficult for persons habituated to peeling to switch to other manual jobs. The third is that the peeler has a wide discretion over the quality of the product. There is a direct trade-off between quality and quantity. A peeler in a hurry to produce a given weight of quills may pack them with poorer quality chips and shavings, and not take the time to produce the clean, straight and neat looking quills which, although not at all superior in flavour, are flavoured by foreign buyers and command higher prices.

The quills whose production is described above are one of several cinnamon products. Oddments of bark produced during peeling and pruning, variously described as quillings, chips and featherings, are also exported. Cinnamon leaf oil and bark oil are distilled from leaves and bark respectively. In addition the sticks remaining after peeling are used for firewood, and occasionally traded. These are especially useful in areas where firewood is in short supply. In comparison with quills the other products are of minor importance; in 1976 quills accounted for 91% of all foreign earnings from cinnamon. (3) Accordingly, most of the discussion and statistical information in this paper relate to quills. Most of the analysis and conclusions are however applicable to the whole industry.

After drying quills are graded, sometimes more than once. They are bleached in the smoke of burning sulphur. This effects fumigation and produces the colour favoured by foreign buyers. Finally they are packed into 100 pound bundles and sewn into gunny bags. In this state they may be stored without deterioration for several years. All these processing operations are carried out by shippers or by the larger dealers.

As is evident from the above paragraphs, the cinnamon quill is not a homogeneous product. There are eleven officially-recognised grades, defined according to the thickness of the quill and the maximum extent of discolouration ('foxing'). There are other aspects of the appearance of the quill which weight with the buyer but cannot be codified into official standards. The thinner quills have a finer flavour. Overall quality depends in part on location. The finest quills, which are also the least prone to foxing, come from a small area of white sand in Ja-Ela and Ekala just to the north of Colombo. The bulk of the quills from this area are of the finest grade - C.5 Special. This fetches almost twice as much per pound as the most commonly produced grade, H.2, the main product of the Ambalangoda area and the

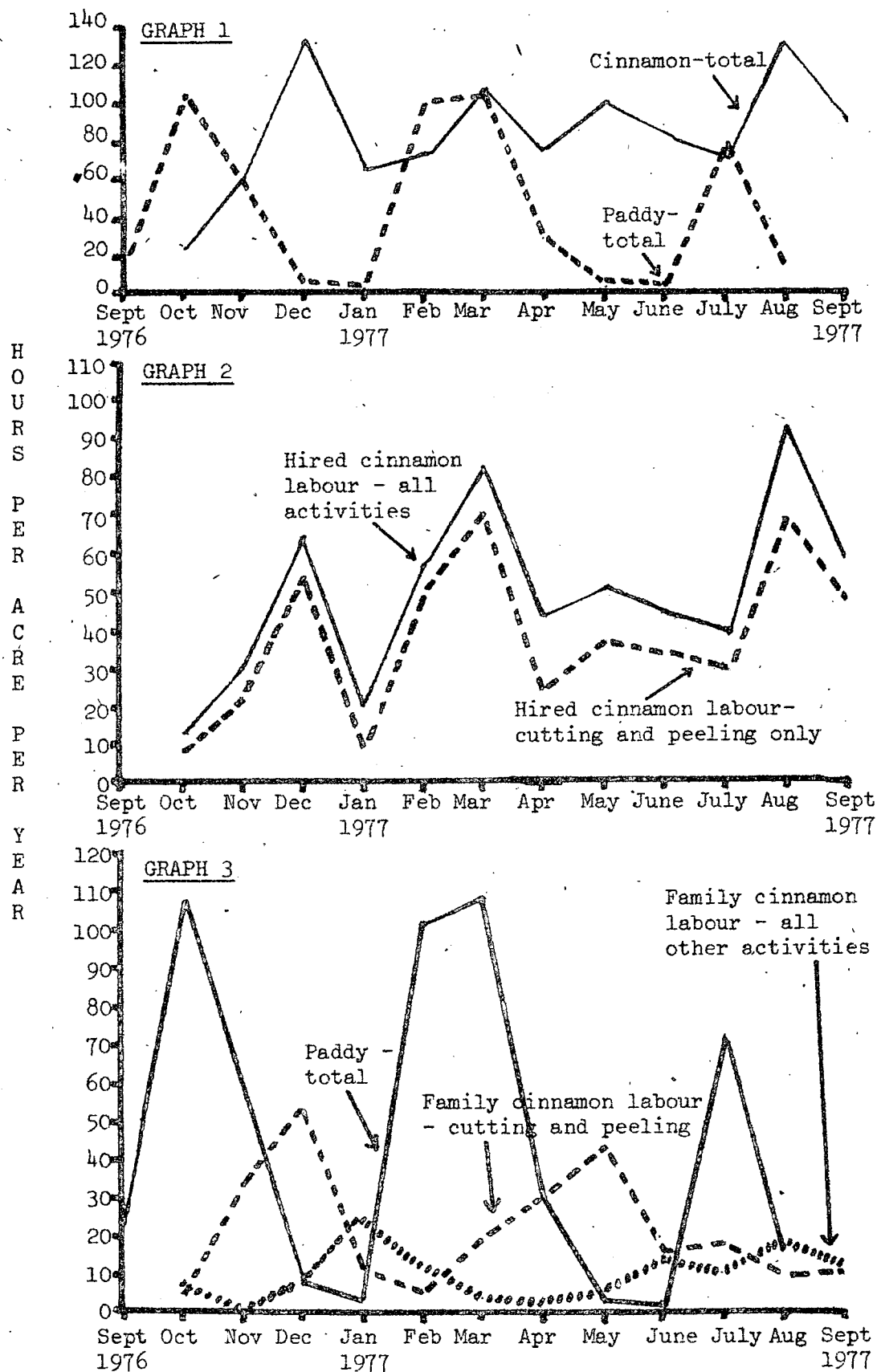
southern districts generally. The two southern districts of Galle and Matara account for 72% of the total acreage (4), while virtually all the remainder is found in the adjoining districts of Hambantota, Ratnapura and Kalutara.

Although cinnamon is concentrated in one region of the country, some of it is in relatively inaccessible spots. This is largely because it is a 'last resort' crop grown in soil too poor or too steep for other cash crops like tea, rubber and coconuts. It appears to have spread in recent years into poor hilly areas which were formerly under jungle and which have been opened up for settlement and cultivation as a result of population growth. This probably helps to explain why quill production has more than doubled in the last decade despite stagnant or declining prices (Section 4). One consequence of location is that many cinnamon producers are not easily contactable by extension officers or other public officials who have to travel by public transport and on foot. Another is that, along with poorly maintained tea, cinnamon is associated with soil erosion. Even when closely planted it provides little soil cover, especially as it has to be clean-weeded if production is to reach reasonable levels. A great deal of cinnamon is however poorly maintained (Section 6), and, as weak or old plants are not replaced, more soil is exposed to the full force of rainfall and run-off. The rapid growth of cinnamon leaf oil production exacerbates the problem, for leaves and twigs formerly cut and left as a mulch are now collected and sold to distilleries. All these problems are worse where cinnamon is planted on steep slopes. An indication of the extent of the problem can be gleaned from the information recorded about the topography of the eighty one sample plots originally drawn for the Subsidy Survey. Eight were on land described as flat, seven on undulating land, thirty-one on hilly land, and thirty two on steep slopes. It appears that most cinnamon is grown on land subject to soil erosion. Were it possible to do a proper social cost-benefit analysis taking into account the costs of soil erosion, it is possible that the cinnamon industry would be shown to be of very little net benefit to the nation as a whole.

The attractions of growing cinnamon are of a somewhat negative nature in at least two senses. One is that it is almost the only crop fit for poor hilly land. The other is that it is relatively aseasonal; the work can be fitted into the needs of other crops with less flexible time schedules. This is especially important for the smallholder. Since about three quarters of cinnamon work is in cutting and peeling, the timing of this operation is all-important. By tradition the main peeling season lasts from May until September, with a minor season in January. Each season follows one of the annual monsoons. One commonly hears the claim that peeling cannot be undertaken at other times because of insufficient moisture to remove the bark easily. Reality, especially in the smallholder sector, is more complex. Graphs 1 - 3, relating to the

MONTHLY PATTERN OF LABOUR INPUTS (HOURS PER ACRE PER YEAR)
INTO CINNAMON AND PADDY; SEPTEMBER 1976 TO SEPTEMBER 1977;

BATAPOLA SURVEY.



Batapola Survey, demonstrate that some peeling takes place throughout the year (5). They also illustrate a number of factors which influence the timing of peeling and other work in cinnamon. In the first place, most cinnamon work is timed to fit into the slack periods in the paddy fields. This is especially true for family labour, and less so for hired labour. In the second place, cinnamon work other than peeling - i.e. weeding, pruning, applying fertiliser, and constructing and cleaning drainage - is generally carried out when no peeling is being done. Thirdly, there is a peak in peeling in March as both peelers and owners build up their stocks of cash in order to celebrate the Sinhala New Year in April. Many smallholders tend to treat their cinnamon as a stock of liquid cash, peeling when money is required for a regular annual event or some extraordinary need. Whether or not it is technically the best time to peel is not the only consideration. Another factor is prevailing prices. As we shall see below, these fluctuate widely. Producers respond by peeling as much as possible when prices are high, and perhaps delaying peeling when prices are low. Rational as this may be from the point of view of the individual, it tends to exacerbate price instability in the market as a whole. When prices are high, many producers peel smaller shoots which might otherwise have been left to grow. Short of green leaf, the plant will take some time to recover (6), and there may be a very long delay until the next harvest. Thus a worse shortage may occur, and prices reach an even higher peak to be followed by a crash once large supplies begin to come into the market.

It follows from the above discussion that the timing of cinnamon work tends to vary from year to year even on the same holding. The technical factors which affect the growth of plant and thus the frequency of peeling are moisture availability (amount and distribution of rainfall and moisture retentiveness of the soil) and fertiliser application. Some producers tend to peel almost continuously throughout the year. These are either family farmers who use family labour only on their own land and have no outside jobs, or estate owners who have enough land to keep peelers regularly employed. The majority of producers, who have to peel either by calling in casual hired peelers or by taking off time from other work, tend to peel either once a year, once in six months, or once in eight months. These are however often statements of ideals rather than exact description of actual behaviour. Actual timings are affected by the kinds of circumstances listed in the paragraph above. In Table 1 information is given on the number of times the plots in the Batapola Survey were peeled during the reference year October 1976 to September 1977. One category of producers, almost all family farmers, peeled continuously. The great majority peeled once or twice, while three plots were not peeled at all.

Table 1: Frequency of peeling of plots in the Batapola Sample during the reference year.

Number of times peeled	0	1	2	3	4	Continuously	Total
Number of plots	3	23	30	2	1	18	81

4. The Market for Cinnamon Products

Domestic consumption of cinnamon products is so small that exports are normally treated as equivalent to total production. The fortunes of all those concerned with the industry depend almost entirely on the international market. This has not always been the case. Although cinnamon has, as far as history tells us, always been virtually 100% an export crop, the rewards accruing to the producers have been directly determined by the state during much of history. Under the Portuguese, Dutch and early British colonial regimes cinnamon was the main source of government revenue; its trade was usually either a monopoly of the state or shared with a small number of colonial officials operating in a private capacity. Supplies were obtained by forcing certain groups to deliver fixed annual quantities in lieu of taxes. Out of these groups emerged the Halagama caste, which is now associated with cinnamon peeling. It was the exaction of high monopoly profits which lead to the loss of much of the market to Chinese cassia, and the eventual freeing of the trade (7).

Like all the other spices which attracted Europeans to Asia, cinnamon has lost its former economic importance. In the period 1972-1976 it accounted for about one per cent of Sri Lanka's export earnings (8). However, many of the behaviour patterns established during the period of cinnamon's pre-eminence persist. Most peelers are still of the Halagama caste. Overseas demand for Sri Lanka's cinnamon comes from very long-established markets. The main market is in the Spanish-speaking world, comprising Spain and the countries of Spanish America. In official statistics this group of countries account for more than half of Sri Lanka's cinnamon exports. The real figure is higher since a considerable proportion of the cinnamon shipped to the USA is known to be smuggled into Mexico. Mexico consumes perhaps about a third of Sri Lanka's production, much of it in a preparation known as 'cinnamon tea'. The high level of consumption in the Spanish-speaking world has its origin in pre-colonial times when Spain, the world's leading trading nation, spread the cinnamon habit to its colonies in Latin America. Interestingly, none of the European nations which were attracted to establish their rule in Sri Lanka by the potential profits of the cinnamon trade - Portugal, the Netherlands and the UK - are especially fond of the product themselves. The rich industrial nations of Europe and North America however between them consume most of the cinnamon not destined for the Spanish-speaking world.

Our concern with the world cinnamon trade is less with its past than with its future. This must be the prime consideration when making policy for the industry. The structure of the international market is a little complex. There is a hierarchy of products, each produced only in one or two countries, which are partial substitutes for one another. At the top, in quality and price, stands Sri Lanka's cinnamon. This has always been the best. Only two other countries export cinnamon: the Seychelles and Malagasy. However between them they produce only a fraction of Sri Lanka's total. Malagasy has preferential access to the European Economic Community. Ranking below cinnamon in quality and price, but often aggregated with it in official trade statistics, is cassia. Although a different plant from cinnamon, it has a similar taste and a similar range of uses. The two main exporters of cassia are China and Indonesia. Each produces a distinguishable product. Importers of cinnamon and cassia are purchasing a taste, yet only in the Spanish-speaking world does there exist a definite and widespread public demand for that particular taste. Thus, generally speaking, all cinnamon and cassia products are potential substitutes for one another depending on price and availability. Particular varieties are however much preferred for certain uses in certain countries.

It has been estimated that in the period 1960-1972 world imports of cinnamon increased at an average rate of 0.9% per annum (9). However, this average conceals very wide short-term and medium-term fluctuations in prices and export volumes, especially at the level of the individual exporting country. One could take the statistics and construct a range of price and production trends, depending on the reference years chosen. The past gives very little firm guidance on future market prospects. It may however be useful to give a picture of what has happened over the last decade. In Table 2 we give indices of the monetary and real prices received by shippers since 1977 and the volume of quills and chips exported. The price data are given in rupees. It is extremely difficult to convert the available data into foreign currency prices both because of general exchange rate fluctuations and because of the existence during most of this period of a dual exchange rate for the rupee: cinnamon shippers received the premium rate, but this was altered thrice. Information is given only for those years during the last decade when the exchange rate was not altered. A number of considerations must be borne in mind when drawing conclusions from Table 2. The first is that the base year, 1967, was a year of low prices compared with the years preceding and following it (10). The choice of another base year (or combination of years) would have resulted in a more depressing picture of price trends over the decade. The second point is that a minimum export price scheme (Floor Price - see Section 13) was introduced in late 1974. One of the aims was to prevent under-invoicing of export prices, which is practiced by shippers as a way of accumulating illegal overseas holdings of foreign currency. If under-invoicing did formerly take place on any significant

scale, then actual prices received before late 1974 were higher than those appearing in the table, and the recent price recovery less marked than it seems. The third point is the Mexico-Sri Lanka state monopoly in cinnamon trade which was introduced in 1975 has resulted in very large increases in shippers' profit margins (Section 13). Producers have benefitted less from the recent price recovery than is suggested by the data as prices received by shippers. Each of these three points indicates that producers have fared less well in the last decade than the figures in Table 2 imply. Conversely, the table does not take account of the marked surge in producer and export prices which took place in late 1977 and has been largely maintained up until the time of writing (August 1978). On balance, real producer prices for quills in mid-1978 were probably at about the same level as they were ten years before. Meanwhile, between 1967 and 1977 the volume of chips and quills exported almost doubled.

Table 2: Cinnamon Exports by Volume and Value, 1967-1977*

	1967	1970	1971	1973	1974	1975	1976	1977
Exports of quills and chips (Th.cwt)	60.7	82.7	87.8	128.1	151.0	74.1	114.2	113.0
Index of export volume, quills and chips	100	136	145	211	249	122	188	186
Average export price (Rs.per cwt. of quills)**	564	406	353	356	513	589	657	700
Index of export prices, quills	100	72	63	63	91	104	116	124
National price index ***	100	119	121	145	182	197	210	n.a.
Index of real price of quills	100	61	52	43	50	53	55	n.a.

* The source of the data is The Bulletin of the Central Bank of Ceylon, various issues, Table 32.

** Whether these are c.i.f. or f.o.b. prices is not stated.

*** This is in fact the 'GDP deflator', the only credible price index available publicly covering the relevant years. Because it gives a high weight to export prices, it is not equivalent to a domestic wholesale or retail price index. The source is the Annual Reports 1976 and 1977 of the Central Bank of Ceylon, Table 1.

These figures do not suggest a very bright future for the cinnamon producer. Current market forecasts are also gloomy. Demand in the importing countries is not much affected by increases in income levels, and the main source of increased demand is population growth (11). As with most spices, the demand for cinnamon is constantly under threat from new technologies for food processing. And a synthetic cinnamon has appeared. Not all observers share this view of the market. The optimist might point to the possibility of a permanent decline in the supply of cassia to the world market, and to the alleged benefits to be obtained from product promotion, especially perhaps in the oil-rich nations. The most likely future of the world cinnamon market is relatively stagnant demand. Sri Lanka occupies a dominant place as a supplier in the international cinnamon/cassia market: she produces 60-70% of world cinnamon exports and 35-45% of combined cinnamon/cassia exports (12). If she continues to expand production at the rate of the last decade, she will continue to force down world prices. Then larger and larger quantities of land, labour, fertiliser, fuel and other resources will be required to earn the same, or even a lower, quantity of foreign exchange. The rewards from cinnamon production, which are already low, especially for peelers (Section 6), will fall further.

This pessimistic view of cinnamon's future may not be fulfilled. The problem is that so much is uncertain. But, even if one took the view that a buoyant market was just as likely as a depressed market, there is still a general presumption against expanding production. If production were expanded and more land, labour and fertiliser distribution facilities became tied up in cinnamon, then the costs of a depressed market and thus low prices would be very high. Conversely, if prices increased and production was not expanded, then Sri Lanka would benefit from a high income, at the relatively small risk of losing part of the market to competing products.

In order to make the best of Sri Lanka's dominant position in a relatively stagnant international market, there are two alternative strategies which the government could pursue. The first is the most extreme: to deliberately restrict output in order to force up prices. At present this is not feasible because of the lack of the necessary institutions to enforce such a policy and compensate those forced to find other livelihoods. In addition, a careful assessment would have to be made of the danger of losing the market to alternative products before deciding whether or not even to discuss publicly such a strategy. The alternative second strategy is to refrain from subsidising or otherwise encouraging the expansion of cinnamon production. This is well within the government's competence. Until recently it has been policy not to encourage new planting, but to upgrade existing land to bring into full production all of the 40,000 or so acres

reckoned to be under cinnamon. However, the response to the likely loss of cinnamon acreage to coconuts and, more importantly, the infrastructure of the Free Trade Zone north of Colombo, is likely to be the introduction of a subsidy for new planting. This would seem to be a poor use of resources. The same may be said of subsidies on cinnamon fertiliser and fertiliser distribution facilities (Section 11).

5. Price Instability

Those who gain an income from cinnamon are obliged to focus more of their attention on short-term price fluctuation than on long-term trends. At the producer and dealer levels the former may fairly be described as chronic. The great bulk of cinnamon products are traded through private contracts, and may pass through several hands before reaching the shipper. Quills must be processed, completely dried, and bundles broken up and re-graded at least once while in the hands of dealers. It is thus not easy to find a useful and reliable weekly or monthly price series. Such a small amount is auctioned publicly that auction prices are not at all representative. For the years 1965-1972 monthly dealer prices, supplied by the Chamber of Commerce, are given by McConnell and Upawansa (Figure 1.2). These show wide fluctuation. In Batapola the average price received by quill producers almost doubled between January and October 1977, while a few months later it had fallen back to about two thirds of its latter level. Complete uncertainty rules in the market. At the time of applying fertiliser, growers have little idea of what price levels will be when they peel six months later. The trade is a happy hunting ground for those with skills in speculating or manipulating the market.

Price instability arises from several factors, which may be categorised as basic and secondary. There are basic sources of instability on both the demand and supply sides of the market. On the demand side instability is generated at two levels. In the first place, international demand is irregular. It varies according to levels of stocks with importers and, more importantly, with physical interruption in the supply of competing cinnamon and cassia from other countries. Physical supply interruptions are especially common in the cassia market; some importers then turn to cinnamon. The volumes exported from Sri Lanka vary considerably from year to year. For the period 1967 to 1977 the year-to-year percentage changes in the volumes of quills and chips exported were as follows: + 12%, - 5%, + 6%, + 17%, + 24%, + 18%, - 51%, + 54%, - 1%.

Instability is also generated at the level of the shipment. Shippers do not usually hold large stocks, but buy to meet an order. The urgency with which this is done will depend on the availability of shipping space. For example, an order may be lost or greatly delayed if the consignment

cannot be loaded in a ship leaving in two weeks. To keep the order the shipper may buy up supplies rapidly and be prepared to bid up the price considerably. Since there are only about half a dozen major shippers in Colombo, any one can affect the market. If dealers realise the urgency they may be able to hold back supplies for a few days and force the price up further. In a similar way, the market may decline if one or two large shippers have no orders in hand and withdraw completely from the market.

On the supply side, instability arises from the causes described in Section 3 above. In the first place, there is a certain degree of regular seasonality in peeling. Since most producers are smallholders who cannot afford the risk of holding on to their produce in the hope of a price rise, prices tend to fall during the peak peeling months. Dealers may be able to anticipate such regular patterns of price fluctuation, but if rain does not fall in the expected quantities at the expected times, then calculations are upset. Again, as was mentioned above, there is an interaction between the level of prices and the amount of cinnamon peeled which may lead to further instability in certain circumstances. An unusually high price may lead many producers to cut their cinnamon stands very thoroughly in order to peel the maximum quantity. It may take longer than usual for these stands to reach a stage when they may be peeled again. Thus in succeeding months supplies coming onto the market may be lower than usual. If demand remains buoyant, prices may reach a new height. This may be followed by a slump if importers cut back an order because prices are too high and production begins to pick up again.

These basic causes of price instability are exacerbated by three secondary factors. Two of them, alluded to above, are themselves in part a consequence of price instability. The first is that few dealers or shippers hold large stocks, partly because of the unpredictableness of prices and the danger of large losses. The second is that traders speculate and manipulate the market. The market is sufficiently small for one or two people to manipulate it, either through their own trading operations or by misleading other traders as to their intentions. The third factor is peculiar to the local business environment: forward contracts to buy or deliver are commonly broken if it becomes advantageous for one party to do so. A dealer may contract to supply a given volume of quills to a shipper two months ahead at a given price. If however the price increases and another shipper is willing to pay more, then the first contract will be ignored. Similarly, a substantial proportion of the export contracts registered by shippers are never fulfilled. Thus forward trading is mostly nominal and it cannot fulfill its objective of introducing more certainty into the market.

For technical reasons private trading in cinnamon products

may be preferable to state trading (Section 13). The results of private trading are however far from optimal. The individual pursuit of private interest by producers and traders leads to serious price instability and thus, as we shall see below (Section 6), damages the industry as a whole. The basic reasons for price instability are structural: the smallness of the industry and thus the fact that single large traders can manipulate the market nationally or internationally; the existence of shipping bottlenecks; and the fact that, for a combination of technical and economic reasons, supplies from producers are irregular. Even if were the international market more smooth, price fluctuations would still occur because of internal factors. The cinnamon industry is poor material for believers in the virtues of unregulated private trading.

6. Standards of Husbandry

In the above section it was demonstrated that price fluctuations are in part the result of the structure of the cinnamon industry. In a similar way, the structure of the industry is one of the causes of low levels of productivity. Standards of husbandry are often poor, and average yields far below potential or local 'best practice'. The best evidence for this is that of one's eyes when travelling through the cinnamon areas. A proportion of the land is eroded, irregularly weeded, and scattered with stunted plants or gaps where plants have died. Some cinnamon has been more or less completely abandoned. Other evidence comes from statistics. Although most producers are aware of the benefits of using fertiliser, only a minority do so. In the 1971 national survey, conducted at a time when cinnamon products were fetching low prices, it was found that chemical fertiliser was applied to only 11% of the cropped acreage. The proportion was much higher on larger holdings. Although the Batapola Survey covered only smallholders, the proportion of the area fertilised was 27%. The fact that this is higher than the 1971 national figure probably reflects an increase in fertiliser use as prices have recovered in the last couple of years. More recent figures on fertiliser use at national level are not available because cinnamon growers commonly use fertilisers designated for coconuts or other crops (Section 12). Overall yields are low. A yield of 400 pounds of quills per acre per year may be considered respectable, and indeed a rough calculation suggests that this is about the average yield (of quills and chips) for the period 1973-1977. Many producers obtain much higher yields. In 1971, when national average yields were probably around 300 pounds an acre, a survey of fifty large estates found a declared average yield of 410 pounds, with one estate achieving more than 1,100 pounds (13). The national survey in the same year came up with an average yield figure of 242 pounds per acre (14).

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one might expect, this involves considerable under-reporting. It cannot otherwise be reconciled with export figures, unless total acreage figures are also severe under-estimates. What is more useful about this survey is the demonstration that average yields tend to increase markedly on larger holdings. This accords with a great deal of other evidence, visual, verbal and written. For example, in 1976-1977 when national average yields were in the region of 400 pounds per acre (see above), smallholders in Batapola produced only 180 pounds per acre, and 215 pounds on those plots where cinnamon was not mixed with other crops.

There are several reasons why standards of husbandry and thus yield levels are generally low, and especially so in the smallholding sector. For convenience they may be categorised as market factors and structural factors. There are two main market factors. The first is the long-term price depression (Section 4), which discourages producers from paying too much attention to cinnamon. The second is the price fluctuation problem (Section 5), which encourages growers and peelers to turn to other activities if they are available. The grower who invests in fertiliser, drainage and soil conservation is taking a risk with his capital. The peeler who specialises in cinnamon alone may find his income and job prospects cut right down if prices fall very low. The poor have a stronger aversion to risky activities than the rich.

Turning now to structural factors, there are four which tend to depress average standards of husbandry and yields:

- (i) Cinnamon is predominantly a smallholders crop. According to 1969 data, holdings of less than three acres account for 97% of the total number of holdings, and for 62% of the area under cinnamon. A very small number of holdings exceed ten acres, and they account for 18% of the area (15). The area covered by large holdings has probably declined since these figures were compiled as a result of the land reforms of the early 1970s.

In cinnamon as in the case of other crops, many smallholders are simply too poor to make the investments required to produce good yields. Living to a large extent from hand to mouth, they may feel a more pressing need to find a wage job than to spend some time clearing drainage channels on their own plots, or preparing a nursery and re-planting old or sick bushes. More importantly, although recognising that the use of chemical fertilisers normally pays for itself, poverty prevents many smallholders from buying them (16). The best results from cinnamon fertiliser are obtained if it is applied regularly. Thus, even

if a poor household has the cash to buy fertiliser one year, it may be constrained from doing so by the knowledge that it may not be able to do so regularly. Further, the smaller the cinnamon holding, the greater the proportionate cost of obtaining fertiliser. Cinnamon fertiliser is not normally available in the villages. The grower must travel to town to obtain supplies (Section 12). Estate owners will send their lorries or hire them. The time, trouble, bus fares, etc. involved in obtaining supplies do not differ much whether one is buying a hundredweight or a ton. The small-holder who requires only a bag or two may find that the effort required is too much. Thus various factors combine to make it easier and relatively cheaper for the larger growers to use fertiliser.

- (ii) A significant minority of cinnamon growers are absentees living in Colombo or other towns. In the case of paddy, absentee owners give their land on lease to tenants. Where other crops are concerned, owners maintain a local labour force of some kind, depending on the size of the estate. However, in the case of cinnamon most absentees do no more than pay a local person a small sum to keep a watchful eye on the land. The owners make occasional trips to the village to arrange for peeling and weeding. Cinnamon is the ideal crop for the absentee owner who wishes to make a regular profit for little outlay or trouble. He is very unlikely to take an active interest in the land and obtain high yields. Two factors militate against this. One is that this means more work to be done on the land, and more frequent trips on his part. The second factor is that standing cinnamon is an easy target for local people to cut and peel on their own account, especially if it belongs to a Colombo man who is not there to guard it and has little moral claim on the goodwill of his neighbours. The better cultivated the crop, the greater the temptation for thieves.

According to the 1971 national survey, only 4% of growers were absentees. They are however concentrated in the larger holding sizes, and thus account for a higher proportion of the land area (17). It is the author's impression that the actual extent of absenteeism is higher than this.

- (iii) The absentee owner discussed above in a sense represents an extreme case of a phenomenon characteristic of almost all cinnamon growers: part time involvement. Very few appear to depend entirely or even principally on cinnamon to make a living. Almost all the larger growers appear to be relatively well-off people with other main sources

of income. For smallholders, one of the big attractions of cinnamon is that it is a part-time activity which may be pursued when other work is slack (Section 3). If a smallholder has adequate land to make a living from cinnamon alone, he would need help from family members to do the peeling. This would involve tying up all or most of the potential earners in an activity in which rewards fluctuate widely. Few smallholders are unwise enough to do this if they have an alternative.

Part-time farmers are not necessarily bad farmers. But it seems that households involved in two or more income-earning activities part time, often tend to concentrate on one (or two if there are several), and let the others drift. Because of the instability of prices, cinnamon is especially likely to be the crop allowed to drift.

Thus a substantial proportion of cinnamon land is owned by growers whose attentions, energies and investible cash resources are devoted to other activities.

- (iv) The peeling contract is also a disincentive to the grower intending to develop his cinnamon to produce high yields. Since the peelers take a share of the output, a certain proportion of the extra output generated by investment in fertiliser, drainage, etc. will not accrue to the owner. Share-cropping thus acts as a disincentive to owners of cinnamon plots in the same way as it affects tenants of paddy fields. The situation is not quite so bad as it sounds, since there is a certain scope for negotiating the division of the output between owner and peeler. In principle, the owner of a plot of good cinnamon could attract peelers by offering them a higher value raw material as compensation for their receiving a lower than usual share of the output. In practice this option does not seem to affect the general practice of a fixed rate or the general belief among growers that peelers benefit disproportionately from the growers' efforts. It is possible that peelers are reluctant to make too many exceptions to the rule of a fixed share for peeling lest this open the way for a general re-negotiation of their shares in a downward direction.

7. The Rewards from Cinnamon Production

In general "the average productivity of resources in cinnamon growing is low" (18), and thus the profits accruing to those involved in the industry are not large. However, it appears that the income which is earned from cinnamon is divided somewhat unequally between the two

main categories of persons involved - landowners and hired peelers. The profits accruing to landowners appear to be fairly high, especially in view of the low fertility and limited alternative use of much land used for cinnamon. We may illustrate this with some data from the Batapola Survey. Taking only those plots on which no fertiliser was applied, about half of them plots where cinnamon is mixed with tree crops, one has a sample which represents plots with very low production levels. The average yield in the year September 1976 to September 1977 was 164 pounds per acre. It was assumed that all labour was hired, and that the cinnamon was sold at a median price of Rs.5.50 per pound. Under those circumstances the land owner would net a clear profit of about Rs.460 per acre on quills alone, with perhaps another Rs.100 from the sale of leaves to the cinnamon leaf oil distillery, and a good supply of firewood for home use from the dried sticks. Thus, under conditions of minimum inputs and minimum effort on the part of the landowner, the land yields a profit of perhaps Rs.600 per year. On fertilised plots, and at recent higher price levels for quills, profits can be much higher. Making the same assumptions as above, but applying them to fertilised plots in the Batapola Survey and using Rs.9.00 as the median price of a pound of quills (i.e. current prices), the returns to land ownership from the sale of quills alone came to Rs. 960 per acre, with another Rs.160 from sale of leaves for distilling. These kinds of returns are far higher than those normally obtained from an acre of paddy land in the same village. For the landowner cinnamon is a profitable crop, especially as it demands little care or investment, and there is no danger of a complete crop loss. The only real risk lies in fluctuating quill prices.

Unfortunately, those who do most of the work in cinnamon production, the peelers, profit from the industry considerably less than do the landowners. Figures on actual earnings are very difficult to obtain since they are affected by two variable factors. One is the share of the crop to be given to the peeler as his reward. The second is the market price for which that share can be sold. With very few exceptions all peelers are paid on a crop-share basis. Outside the Ambalangoda area they receive 50% of the output (or the cash equivalent) in almost all cases. Within the Ambalangoda area they receive somewhat less. The reason for the difference is that a large proportion of peelers have their homes in the Ambalangoda area. They work for a lower rate within walking distance of home because they can eat at home relatively cheaply. When working outside their home village they must pay for meals, which is more expensive than eating at home, and so a higher rate is demanded (19). Since a large proportion of peeling outside the Ambalangoda area is done by itinerant groups of peelers from that area, they tend to set the rates.

Table 3: Range of Hourly Earnings of Cinnamon Peelers in the Smallholder Sector

		Cinnamon grown in pure stands	Cinnamon grown in mixed stands
Acreage		15.00	18.88
Average yield of quills (pounds per hour of peeling)		0.32	0.35
Assumptions about peelers share of output	Assumptions about market price of quills	Peelers' hourly earnings	
50%	Rs. 5.0 per pound	0.73	0.80
50%	Rs. 9.0 per pound	1.31	1.45
35%	Rs. 5.0 per pound	0.51	0.56
35%	Rs. 9.0 per pound	0.92	1.02

Source: Data relate to those plots in the Batapola Survey which were peeled solely by hired peelers.

The range of hourly earnings given in Table 3 is wide. In Batapola itself the normal peelers' share of output is 35% and until the surge in quill prices in late 1977, average prices were around Rs. 5.0 per pound. Under these conditions skilled professional peelers have earned between fifty and sixty cents an hour on average. This is equivalent to Rs. 4.0 - Rs. 4.80 for an eight-hour day. It is scarcely surprising that peelers normally work very long hours - up to sixteen hours a day - to earn a living. Even at current high prices earnings are only about one rupee per hour. Strict comparison of earnings with other hired jobs is not possible because the category of peelers includes a mixture of workers of different age and skill levels. Teams of hired peelers comprise, in about equal numbers, skilled adult men and younger boys who work as assistants in the less difficult parts of the peeling process. However, even after making an allowance for this, peelers are normally appreciably worse paid than other manual labourers. In Batapola the other main avenues of hired manual employment for men are work in paddy fields and timber sawing. In the former job, workers earn a minimum of Rs.8 per eight-hour day plus food and refreshments worth perhaps another Rs.3-4. Timber sawyers tend to earn a little more.

There is no reason to think that the situation in Batapola is not broadly typical of the smallholder areas as a whole. The figures for daily production per peeler are somewhat lower than those given elsewhere (20). Part of the reason may be that on larger holdings the raw material is somewhat better and more of the peelers are skilled full timers than in Batapola. Average earnings may therefore be somewhat higher. The fact however remains that peelers are on the whole poorly rewarded. This probably reflects the basic situation of land and job scarcity. Cinnamon peeling is a job open to any unemployed male prepared to spend some time learning the technique. Many people who would otherwise be unemployed have probably entered the profession, at least on a part-time basis. This certainly appears to have occurred in Batapola in recent decades. Persons from castes other than the cinnamon-peelers caste have taken to peeling in large numbers. This may be related to the common complaint that peelers are less skilled these days than in the past.

8. The Question of Quality

The various considerations entering into the classification of quills by quality are not all directly related to inherent use value. The official standards relate to the thickness of the bark, the extent of foxing and the amount of chips, featherings, etc. packed inside a quill. The smaller those factors, the higher the classification and the price per pound, and the more useful the quills to the final user. However, importers also take into

account colour and general neatness, which affect only appearance. The quality of the final product is affected at all stages of growing and processing. In the growing process mulching, soil conservation, and regular weeding and pruning all contribute to the production of quick-growing straight sticks with fine quality bark. The peeler decides the extent to which the thicker, mis-shapen pieces of bark are formed into quills, the amount of 'rubbish' stuffed into the quill to make up weight and the general neatness of the quill. Dealers may sort into grades more or less rigorously.

There is a general complaint at all levels of the trade that the quality of quills is poor, and much poorer than it need be. Further, cheating on quality is widespread. It is difficult to check on the quality of quills. At the producer level the peeler can pack a little extra 'rubbish' into the quill to make up weight and not be detected. At the stage of grading and baling the dealer may pack a bale nominally of H2 grade with a proportion of inferior H3 quills. It is time consuming for the buyer to check every bale in detail, especially as the line dividing one grade from the next is very fine. Bales are sewn into gunny bags each weighing 100 pounds. A dealer or shipper may slip half a dozen bales H3 into an order for sixty bales of H2. Only by opening and re-sealing a large proportion of bales - a time-consuming business - can purchasers of large consignments effectively check against this type of abuse. Even internationally-accepted certificates of quality issued in Colombo by Lloyds or General Superintendants Company are recognised to be incomplete protection.

There appear to be four main reasons why so much of the cinnamon exported is of a lower quality than it need be. One lies in the prevalence of the low standards of husbandry described in Section 6. Lack of soil conservation, mulching and regular weeding and peeling result in poor quality sticks which yield poor quality quills. The second lies in price variability (Section 5). The timing of peeling is influenced in part by price levels and expectation or hopes about changes. Low prices may lead peeling to be delayed until the bark becomes thick. High prices may lead to the packing of extra 'rubbish' into the quills in the expectation that, on a tight market, nothing will be refused. A less volatile market should lead to a finer quality product. The third reason lies in the peeling contract. Since most peelers are paid an agreed amount per pound of quills produced, they are encouraged to pack quills with 'rubbish' to make up weight. The system rewards quantity rather than quality. The fourth reason is the relative ease of cheating on quality and its widespread practice. If it is generally believed that most people are cheating on quality, then behaviour will be adjusted accordingly. Buyers will tend to assume that is what suppliers are doing, and adjust prices in anticipation.

The problem of quality does not affect all producing sectors equally. Just as larger estates produce more quills per acre than smallholders, they also produce quills of finer quality (21). The difference is such that dealers concerned to keep a reputation for supplying quills of reliable quality will purchase smallholder produce only with the greatest reluctance. They prefer to purchase direct from estates. One reason why estates produce better quality quills lies in their superior production practices (Section 6). There is a further reason related to the difference between estates and smallholders in the context in which they transact business. In general, there are two ways in which a buyer can ensure good quality purchases of cinnamon or any similar commodity. The first is to inspect each article at the time of purchase. For reasons given above, it is very difficult to do this satisfactorily in the case of quills. The second method is to take one's business regularly to the same supplier, and continue to do so provided that the commodities supplied prove satisfactory. This is effective only if the volume of business is sufficient to encourage and remind the supplier to keep his side of the implied contract. Cinnamon growers are involved in two transactions - hiring peelers and selling quills - in which this latter kind of bargain may be struck. The larger the volume of quills involved, the easier it is to establish a permanent business relationship. Thus the owner of a large estate may hire the same peelers regularly provided that it does not emerge that they have cheated in quality (22). By contrast, many smallholders depend on itinerant peelers who may or may not appear next year. Similarly, estate owners sell large volumes, usually to urban-based dealers. Each consignment may be transported specially in a truck belonging to either the buyer or the grower. An estate owner who produces poor quality goods one year will be remembered and offered a less favourable price next time. Smallholders sell small volumes, either to village level sub-dealers or to market-place traders who perhaps would not recognise them next day (23). Their bales are soon lost in larger consignments, and thus purchased on appearance alone. There is not the same basis, either in morality or self-interestedness, for maintaining quality.

One reaction to this lengthy discussion might be "So what? If foreign buyers find that Sri Lanka's cinnamon is not up to the standard they require, then they will offer more money for the better grades, and growers will then react by producing them.. Just leave it all to the market". There are several reasons why such a view is inadequate. One is that it ignores certain elements of vicious circularity which come into operation when people develop certain expectations. If at all levels of the trade, from grower to importer, there is a general expectation that suppliers (peelers, traders) will cheat on quality, then prices will be adjusted downwards accordingly, and

those suppliers who actually do offer the correct stated grade in a pure condition will tend not to be rewarded. Another reason is that the quality problem is not just a matter of, say, supplying H3 when one could supply H2. Actual cheating is involved. This is likely to damage Sri Lanka's reputation among importers. The third reason is perhaps the most important. Given the general characteristics of the international cinnamon/cassia market outlined in Section 4 and 5 - Sri Lanka's dominant position, the fact that she produces the best cinnamon, sluggish prices, an uncertain future, and the prevalence of supply interruptions - it makes sense for the country not just to react to the international market, but to pursue an active strategy designed to exploit it. The precise details of this strategy need to be worked out, but the main elements should be: avoidance of supply expansion unless demand increases steadily and securely; a certain degree of bolstering of the price against large falls (this is already being done in respect of international prices - see Section 13); product promotion with emphasis on the quality of Sri Lanka's product in comparison with competing products; emphasis on avoiding supply interruptions. Effective measures to prevent cheating on quality should be an integral part of such a strategy. Equally, they would be justified even if other elements in the strategy were not adopted. There are two measures which should help achieve this aim and which could be fairly easily implemented. One is the insistence that all quill exports be classified into one of the internationally-recognised grades. At present some exporters continue to use their own 'house grades'. The second measure is complementary: establishment of a more rigorous procedure for checking and grading export shipments. Government action has been promised on these fronts, but has not so far materialised.

9. Cinnamon - A Difficult Crop?

In the previous section it was observed that, in acreage terms at least, cinnamon is predominantly a smallholders' crop. However, larger holdings both produce much higher yields per acre and better quality quills. In value terms, the industry is far less of a smallholder crop than it first appears. In many senses the very existence of the smallholder sector is an embarrassment to the industry as a whole. It is the smallholders who contribute most to some of the industry's main problems: poor quality output and irregular supplies. And the causes are closely related to the very nature of smallholder production. Were cinnamon to be established as a new crop today, all the technical and economic arguments would suggest that it should be established purely as an estate crop and with a full time labour force. Well-managed estates could be run as follows:-

In the first place, they would, as a few of the largest

estate owners currently do, peel continuously. Sticks are cut just as they reach the optimum size. Regular application of both chemical fertilisers and mulch to protect the soil would lead to the conservation of moisture, rapid growth, high yields and quality produce. Peelers could be hired permanently and paid either a daily wage or a combination of a wage and a share of the profits. They would have the incentive to produce the finest quality quills. Supplies would come onto the market more regularly and help to stabilise prices. Insofar as prices continued to fluctuate, large estates would have sufficient reserves to weather periods of low prices without cutting back on fertiliser application. High yields per acre would allow other land currently under cinnamon to be put to other uses. As large producers, estates would be encouraged not to cheat on the quality of the quills they supplied.

Estate production appears to be absolutely superior to smallholder production. In the case of most crops smallholder production offers two advantages relative to estate production. The first is that it uses relatively large quantities of family labour which has few alternative employments and thus frees full-time members of the labour force, especially adult males, for other jobs. This does not apply to cinnamon because of the overwhelming importance of the peeling process in the pattern of labour use. The great majority of peelers are hired workers. At the 1971 national survey only 9% of holdings relied mainly on family labour for peeling (24). Even in the Batapola Survey, representing smallholders and mixed cinnamon stands especially, 63% of peeling was done by hired labourers. The great bulk of those who peeled their own family cinnamon were adult men who would otherwise have been employed elsewhere. The other advantage sometimes claimed for smallholdings is that they are worked more intensively than large estates, and yield higher returns per acre. This does not apply in the case of cinnamon. The dominant factor affecting yields is fertiliser use and standards of husbandry more generally. The best-maintained estates produce the highest yields and thus generate the highest level of demand for peeling labour (25). Estates appear to be incomparably superior.

All the problems of the cinnamon industry cannot however be attributed to the smallholders. There are other important structural and technical problems - instability of supply, demand and prices, part-time involvement of landowners, and ease of cheating on quality - which help to explain why the industry is relatively unproductive. It is however the prevalence of smallholders which often interacts with these latter factors to make the overall situation so difficult. It is difficult in two senses. In the first place earnings from the resources used to

produce cinnamon are much below their potential. In the second place, it is very difficult for the government to intervene effectively to improve the situation. It is to this question of state intervention that we now turn.

PART THREE: CINNAMON AND THE STATE

10. The Institutional Context

In Part Two above a general case was made for state intervention in the cinnamon market to increase the income accruing to Sri Lanka from cinnamon production. The general aims of this intervention should be to improve quality, reduce price fluctuations and supply interruptions, and boost the prices received from foreign buyers, by restricting supplies if necessary and feasible. The depressed and unstable market is an important cause of the poor performance of the industry, and it is here that the attention of government should be concentrated.

It is easy to talk of what 'government' should or does do. However, as we shall see below, that which we call 'government policy' in relation to cinnamon does not comprise a series of decisions, practices, procedures and intentions based on a consensus of views about what needs to be done. 'Government policy' is in fact a somewhat random collection of procedures, decisions and views adopted by the policy makers or staff officers of a number of separate government departments. Each is concerned with an aspect of the cinnamon industry, not with cinnamon per se. Further, each segment of the public service is subject to the pressures of different departmental views and traditions, differing forms and levels of contact with the industry, and different political forces. We attempt to analyse below how the structure of decision-making in relation to the state's role in the cinnamon industry results in a set of decisions which are collectively uncoordinated and individually sometimes regrettable.

Let us first briefly list the various government agencies concerned with the cinnamon industry. The agency which has the greatest amount of contact with growers is the Department of Minor Export Crops. The Department, which is under the authority of the Ministry of Agriculture and Lands, was established fairly recently to promote minor export crops (i.e. all agricultural export crops except the 'big three' of tea, rubber and coconuts) as part of a general attempt to diversify sources of export earnings. Cinnamon is by far the largest of the minor export crops and therefore accounts for a large proportion of the Department's work. The most important single job of the field officers is to administer the cinnamon replanting

and rehabilitation subsidies (Section 11). The other government department having extensive contacts with the industry is the Department of Commerce, under the Ministry of Trade, which is responsible for recording and regulating cinnamon exports, and especially with the operation of the Floor Price Scheme (Section 13). Also under the authority of the Ministry of Trade is the Sri Lanka State Trading (Consolidated Exports) Corporation, a state trading corporation which has a monopoly in cinnamon exports to Sri Lanka's largest single market, Mexico, and thus has considerable leverage in the domestic and international markets (Section 14). The Ministry of Industries and Scientific Affairs controls the Bureau of Standards, which lays down official quality standards for export products, and the Fertilizer Corporation, which draws up fertilizer specifications and supplies fertiliser. The main channel for distribution of fertiliser to smallholders is the multipurpose cooperative network (Ministry of Food and Cooperatives), but those in charge have successfully resisted pressure to handle cinnamon fertiliser (Section 12).

The succeeding sections contain some discussion and evaluation of a few of the main programmes of these various state agencies concerned with the cinnamon industry. The intention however is not only to undertake a technical evaluation of government policy and suggest modifications. Emphasis has been placed on obtaining the views of the people concerned - peelers, growers, traders and public officials - on the effectiveness of policy measures and on desirable alternative policies. By this means, although admittedly in a somewhat fragmentary fashion, it has been possible to develop some understanding of what might be called the 'political culture' of policy towards the cinnamon industry. What do the various categories of people concerned consider to be legitimate and possible roles for government? What are the pressures brought on government agencies when making policy? What is the role in this of public officials? The intention is thus not only to evaluate policy, but to understand how it came about.

11. The Replanting and Rehabilitation Subsidies

The most important single activity of the Department of Minor Export Crops is to administer replanting and rehabilitation subsidies given to cinnamon growers. The main stated purpose in setting up the Department early in the life of the 1970-1977 government was to diversify export earnings. In this a certain success has been obtained. The creation of the Department filled what was perceived as a gap in departmental coverage of crops. The traditional export crops - tea, rubber and coconuts - each have their specialised government departments, while the Department of Agriculture concentrates on paddy and other field crops. The minor export crops - cinnamon,

pepper, cloves, nutmeg, cardamoms, cocoa, papain and citronella - may have been considered rather as 'cinderellas'. A view has certainly developed, if it did not exist before, that on grounds of fairness growers of all crops should receive more or less equal treatment from government. "Why should a man suffer just because he happened to be born in a cinnamon area?" This notion of fairness perhaps entered also into the decision about the precise form of encouragement to be given to growers of minor export crops. The subsidies for new planting, replanting and rehabilitation of permanent tree crops are modelled exactly on those given to growers of the traditional export crops of tea, rubber and coconuts.

In the case of cinnamon it was recognised that acreage expansion was undesirable. Only replanting and rehabilitation subsidies were made available, the difference between them lying in the proportion of old plants to be uprooted. In general, two arguments are put forward for government assistance in replanting permanent tree crops. One is that because new plants take some years before they yield an income, growers in general, and smallholders in particular, are reluctant to replant without assistance as they cannot afford to be without income for several years while the new plants are growing. The second, related, argument is to encourage the spread of new high-yielding varieties produced in research stations. In the case of cinnamon the first argument is weak: new plants begin to yield quills between 2½-3 years of age. The second argument does not apply at all, since no high yielding cinnamon varieties are available, and indeed the amount of research into cinnamon is very small (26). It is possible that the weakness of the case for assistance in replanting is part of the reason for the low levels of subsidies offered. The rehabilitation subsidy, offered if these are estimated to be more than 800 healthy bushes to the acre, involves only the provision of free seedlings. The replanting subsidy is given if the stand of healthy bushes is less than 800 per acre. It involves free seedlings and a cash grant of Rs.300 - payable in three instalments on completion of land preparation, replanting, and post-planting maintenance. A field officer must inspect the work at each stage. Compared to either the actual costs of replanting or the level of grants given to tea, rubber and coconut growers, this grant is very low.

The author evaluated the effectiveness of the cinnamon replanting and rehabilitation subsidies early in 1977 by interviewing a sample of applicants selected from the files. Sixty five persons were contacted out of a total sample of eighty five applicants distributed among the five cinnamon-growing districts in proportion to the total number of applications from each district. The main findings are easily summarised. In certain very important respects the subsidies are ineffective, inconvenient, inappropriate, biased, open to corruption,

and possibly damaging to the objective they are supposed to achieve. Each of these points is discussed briefly in a separate paragraph below.

The term "ineffective" indicates that the majority of applicants do not in fact receive the subsidy. Out of a sample of thirty-three applicants for the rehabilitation subsidy, only five had actually received free plants, and two of these complained that the number was insufficient. Eight applicants had heard nothing since lodging their application, and a further ten had been visited once by the field officer and had expected to receive plants, but heard no more. Eight persons had rejected the offer of free plants because they had been asked to travel too far to collect them, and found it easier to grow their own or purchase locally. One man had been too ill to do the necessary work. Another had only ever wanted subsidised cinnamon fertiliser, and made an application in the hope of getting this. In the case of the replanting subsidy, five of the thirty-two sample applicants had obtained the full subsidy and six had obtained one or two cash instalments and would presumably receive the rest eventually. Five people had been asked to prepare their land and had not yet started, while six had done so on the field officer's instructions, only to find that he failed to come and inspect it in time for replanting to begin during the rainy season. Seven applicants had heard nothing since applying, and three had been visited by the field officer and, despite alleged promises of a subsidy, had heard no more. Note that out of sixty-five applicants, forty-nine had been received in the years 1972-1974 and only five in the most recent year (1976). The field staff of the Department of Minor Export Crops are clearly unable to keep up with the work, despite the fact that the administration of the subsidy constitutes their single most important activity. Field officers have to travel by public transport; the norm is that they should do one field visit in a day. This is realistic given that many cinnamon cultivators live in relatively remote areas (Section 3). A very crude calculation suggests that, in the case of the replanting subsidy, the cost of administration is perhaps roughly comparable to the cash value of the subsidy; in the case of the rehabilitation subsidy it must exceed it several times.

The procedures are inconvenient to the applicants in several senses. Some have wasted time and a small amount of money in making fruitless applications. More annoyingly, a substantial minority of applicants for the replanting subsidy had cleared their land on the officer's instructions only to find that he failed to come to inspect it at the correct time. The applicants either went ahead and replanted without the subsidy, or allowed the land to grow over and all the work to go to waste. We heard tales of applicants who had experienced this frustration in two consecutive years; at least one case led to a

physical assault on the field officer when he finally appeared. The third kind of inconvenience is not related to the excessive workload of field officers, but is inherent in the very nature of the procedures. Cultivators normally replant or rehabilitate their cinnamon land piecemeal, putting in a few plants each year according to the time they have available. The procedures of the subsidy require that they complete the whole job at once. Not only does this sometimes represent an unusual concentration of effort, especially for poorer people who must earn their daily living in other activities, but it is inherently risky. A man may fall ill half-way through the job and be left with no bearing cinnamon, no new plants and no subsidy. One of the interviewees had replanted an entire fourteen acre block at once because of the availability of the subsidy, and lost all his investment in an ensuing drought.

The charge of inappropriateness arises out of the information given in the preceding paragraph. The supply of free planting material is inappropriate because cultivators can and do raise their own seedlings or purchase locally. Many of the applicants find it not worth their while to travel to collect the free plants offered. More generally, the very concept of large-scale block replanting is not appropriate to smaller and poorer cultivators who cannot afford to hire labour to do the work, cannot easily bear the risk of failure to obtain the subsidy or loss of young plants, and cannot afford to be entirely without cash income during the three years it takes for seedlings to reach maturity.

The bias in the subsidy arises from the fact that both the general sample of applicants, and, more noticeably, the successful applicants, owned much more land than the average cinnamon cultivator. Even more striking is the difference in social status between successful and unsuccessful applicants. All applicants were assigned either to the "ordinary class" (small farmers, labourers, one watchman), or the "middle class" (businessmen, teachers and other government employees). The "middle class" applicants were much more successful than those of the "ordinary class" in actually obtaining the subsidy (especially the cash). All "middle class" occupations bring regular daily contact outside the village with other persons of professional status. Persons of this class are best equipped, by virtue of their personal contacts as well as their culture and education, to follow up their applications and ensure that they receive the service.

Any subsidy of this nature is open to corruption. It is to the credit of the field staff of the Department concerned that the author did not even hear any allegations of corruption on their part. There was however one case of a nominal "cooperative", actually run by one man, who made a profit both by distributing and forwarding

application forms for a small charge, and maintaining a "cooperative" seedling nursery for which he was paid.

Our final point is that the subsidies are possibly damaging to the objective they are supposed to serve. It seems possible that the nominal availability of the subsidies combined with long delays in actually receiving them have resulted in reducing the rate of replanting below what cultivators would have achieved by their own efforts had the subsidies not existed.

There are two basic reactions to the evidence summarised above about the actual working of the subsidy scheme. The first, to which the author subscribes, is that, given the conditions under which the scheme is implemented, it can never be expected to work much more effectively. If one also accepts the view that the basic problems of the cinnamon industry are to be traced to low and variable prices, then the logical conclusion is that the subsidy should be abolished. The distortions, biases and costs which it generates would be acceptable only if they were aimed at the correct objective and stood a good chance of achieving it. This does not seem to be the case. The reactions of the cinnamon growers and the public officials concerned with the industry are however different. The growers are, quite naturally, in favour of subsidies even if some aspects, like free plants, are really of little net value. The shortcomings in the implementation of the subsidies are generally attributed to personal defects - laziness, etc. - of government officers. There is an implicit assumption that, with the correct staff, all would be well. Thus the growers do not constitute a source of fundamental questioning of the appropriateness of subsidies. They rather tend to favour the argument that they deserve government support just as much as growers of tea, rubber, coconuts, etc.

The officers who implement the subsidy scheme are much better informed than the general public about the practical difficulties of operating the scheme effectively. Yet they were also not inclined to suggest abolition. The cynic might attribute this to fear of abolishing their own jobs. There seems however to be much more to it than this. There is a genuine desire, stemming no doubt from the normal human desire to feel that one is doing a worthwhile job, to find a scheme which will work better. Unfortunately, in the mind of the public officer "working better" seems too easily to be equated to "better supervised". "Farmers do not really replant correctly. We need to keep a closer eye on them, and perhaps distribute the subsidy in a larger number of instalments." If indulged, such views would lead to more complicated procedures and, almost certainly, more of the kinds of problems discussed above.

For the reasons given above, government officers tend not

to make radical critiques of their own department's programmes, especially subsidies. And, given the strong 'departmentalism' of government, officers from other departments are most unlikely to interfere, especially in matters which are apparently technical and therefore outside the scope of, say, the budgeting process. Subsidies thus tend to survive. The cinnamon replanting and rehabilitation subsidies continue to survive (27), despite the fact that, because of the problems discussed above, the number of applications has fallen to a very low level in recent years (28).

12. The Supply of Fertiliser

It was suggested above that senior public officers sometimes appear to give a high weight to the apparent neatness and professional detail of their programmes and a correspondingly low weight to practical implementability. An example can be found in the policies adopted by the Ceylon Fertilizer Corporation and the Minor Export Crops Department with respect to the supply of fertiliser for cinnamon and other minor export crops (29). The general policy has been for fertiliser specialists to draw up separate specifications for each crop, the number depending on the range of environments in which the crop is grown. The differences in composition between many of these mixtures are often very small, and far smaller than the range of error arising in mixing and handling. Further, fertiliser particles of different specific gravities settle at different levels in the bag during transport, and thus the mixtures applied to the fields may differ considerably from specifications. In principle, the Fertilizer Corporation supplies over a hundred mixtures, although the demand for many of them is so small that they are rarely produced. The adoption of very fine and precise technical specifications is totally at variance with the actual physical conditions of mixing and handling. Not only do crops not receive the finely-specified mixtures drawn up, but the existence of so many formulae complicate the handling and marketing procedures. A system paying less attention to the professional pride of agronomists and more to the practical problems would be more effective. Minor export crops are some of the worst offenders. There are in principle sixteen mixtures made available to the Minor Export Crops Department by the Fertilizer Corporation. Minor export crops are reckoned to cover about 50,000 acres in total, but almost 38,000 acres are accounted by cinnamon alone, for which two fertiliser mixtures are produced. Thus cinnamon has one mixture for each 14,000 acres, while other minor export crops have one for each 850 acres. In contrast, there is one mixture for each 26,000 acres of tea, one for each 58,000 acres of coconut, and one for each 118,000 acres of paddy.

It is not surprising that some cinnamon producers find coconut mixtures as good, or better, than cinnamon mixtures. Both crops grow on sandy soils, and both require relatively large amounts of potassium. It is questionable whether there is any need for special cinnamon mixtures. But the existence of separate mixtures finds support not only in the enthusiasms of agronomists, but also in the departmental structure of government. Coconut, like rubber and tea, has its own extension staff, its own fertiliser mixtures, and its own fertiliser distribution network. It is natural that the Minor Export Crops Department should wish to set up parallel sets of organisations for cinnamon, the crop which comprises the bulk of its work. There are in fact only a small number of depots in large towns where cinnamon fertiliser may be obtained. The Multi-Purpose Cooperative Societies, which are the main agents for the distribution of paddy fertilisers, have consistently refused to stock cinnamon fertilisers. Because the demand is small and does not conform to a regular marked seasonal pattern, there is a danger that, if they were to handle cinnamon fertiliser, the cooperatives would regularly become saddled with deteriorating and unsaleable stocks. Cinnamon fertiliser is therefore available only in a few urban depots. It is only the larger growers requiring relatively large amounts who can obtain it easily. If they have no transport of their own they can hire a lorry to fetch their requirements from town. Smallholders must make a bus trip and bring back a bag or two. For very many, especially in remote areas away from bus routes, the cost in time and money is excessive. In such a situation the proposal to establish a local network of fertiliser depots for cinnamon and other minor export crops has a superficial appeal. It is however hard to find any economic justification. If the network is to be dense enough to make fertiliser locally available to a large proportion of cinnamon growers then, since overall turnover is relatively small, it must be a loss-making enterprise. Rather than duplicating institutions along departmental lines, it would seem better to find some way of persuading the cooperatives to be cooperative in this matter. They have a very dense retail distribution network already in existence. Some system of guaranteeing them against losses would seem workable.

However, before attempting to improve the system of fertiliser distribution there is a prior question which should be asked. Is the use of fertiliser on cinnamon a good thing? The point behind this question is that, like all other fertilisers, cinnamon mixtures are heavily subsidised, and retail at only 50% of their cost to the government. Does the nation as a whole get sufficient return from the use of cinnamon fertiliser to make this subsidy worthwhile? Appendix Two contains some evidence which suggests that it may not be worthwhile. In the

first place, the evidence suggests that, when fertiliser and labour are priced at their true scarcity values, the cash value of the extra output obtained from using fertiliser is worth little more to the nation than the cost incurred. In the second place, extra cinnamon is worth less to the nation than is indicated by its cash value in international markets; extra output tends to drive down prices in a market where demand is relatively stagnant. The results reported in Appendix Two are far from conclusive. The method used to estimate the returns to fertiliser use is crude; the data base is small; and the conclusions relate only to the smallholder sector. It is probable that estates make better use of fertiliser since they use more of such complementary inputs as timely operations and skilled peelers. At the very least, the results do suggest that, without further investigations, it would perhaps be unwise to invest scarce resources in encouraging greater use of cinnamon fertiliser, especially among smallholders. The overall benefits of fertiliser use are very doubtful, while they go mainly to a small relatively wealthy section of the population owning larger acreages. The use of fertiliser does not improve the quality of the quills produced. The common view among growers is that fertiliser increases yields but results in a poorer quality product. Data from the Batapola Survey suggest the same thing.

The subsidy on cinnamon fertiliser tends to benefit the foreign buyers rather than the nation. This problem arises because, alone of Sri Lanka's important agricultural products, cinnamon faces an international market which is both stagnant and dominated by Sri Lanka as the main supplier. Similar problems do not arise with other crops. Cinnamon is a difficult crop because it is not at all clear, even in principle, what government ought to do about supplying fertiliser. Perhaps the strongest general conclusion possible is that changes in fertiliser availability, price and specifications are of marginal relevance to the main problems of the industry, and that attention should be focused first on more important areas of concern.

13. The Floor Price Scheme

Since late 1974 the Department of Commerce has been operating a 'Floor Price Scheme', i.e. establishing a minimum price at which shippers may enter into export contracts for cinnamon. There is a minimum price for each grade, and prices are adjusted weekly. Previously there had been a certain amount of administrative inspection of export contracts, but this was not considered to be very effective. At that time there was particular concern about under-invoicing by exporters, a common enough practice in conditions of tight exchange control. The shipper officially receives payment at

rates which are somewhat lower than prevailing market rates for his goods. A proportion of the difference is credited to a foreign bank account held by him or on his behalf. In this way he is able to build up illegal holdings of foreign currency. Such a practice was formerly easy in the case of cinnamon since export contracts are private transactions. Unlike in the case of such crops as tea, rubber or coconuts, there are no public auctions to inform exchange control authorities of prevailing prices. Under the Floor Price Scheme, minimum prices were set at what were considered to be prevailing market prices at the time of introduction. Apart from small adjustments to take into account changes in previous exchange rates, they have scarcely been altered since. Apart from preventing under-invoicing, it is claimed that the scheme is intended to serve two other purposes: to prevent the export of very poor quality cinnamon - which will in effect be priced out of the market - and the prevention of excessive price competition among shippers to win export contracts. Thus the scheme is intended to prevent any substantial fall in export prices. It has not been used in a more aggressive way to push prices substantially above market levels, and there is no intention of doing so. It is however an instrument which could potentially be used in this way, either to push up prices in general, or to push up the prices of certain grades (the poorer ones?) in order to divert demand in the direction of finer grades. So far the prices of export contracts have been very closely aligned with the minimum price. If the system is to continue, the export price of Sri Lanka's cinnamon will become more and more to represent an administered rather than a market price. Since Sri Lanka is the sole producer of finer cinnamon and the dominant supplier in the whole cinnamon/casia market (Section 4), the whole international price structure cannot but be affected by the level of Sri Lanka's Floor Price. The longer the scheme continues, the more difficult it will be, in practice as well as in principle, to set minimum prices in accordance with impressions of what the free market price would be. The free market is beginning to disappear. If the Floor Price is not to remain at one level for reasons of inertia or because there exist no guidelines on how it ought to be changed, those who set the price must think very seriously about evolving a positive pricing policy.

14. State Trading

In terms of a trade protocol signed between Sri Lanka and Mexico consequent to the visit of President Echeverria in 1975, the Sri Lanka State Trading (Consolidated Exports) Corporation (better known as Consolidated Exports) became the sole exporter of cinnamon from Sri Lanka.

Consolidated Exports has not proved popular amongst the majority of cinnamon traders. This is not so much because it has acquired a substantial volume of the business of private shippers, since shippers' profit margins have increased very appreciably since that time. Two main allegations are made. One is that Consolidated Exports lacks subtlety in its buying policy: it buys up rapidly when a shipment has to be prepared and then withdraws completely from the market, thus exacerbating price fluctuations. The other is that it purchases and passes on to Mexico a great deal of very poor quality produce. Apart from the difficult conditions under which Consolidated Exports has to operate, its experience serves to illustrate the very great difficulties in the way of state trading in cinnamon. It is impossible to buy according to a set of written quality and price specifications. Sellers will always try to get accepted produce which is of poor quality, loaded with 'rubbish', or incompletely dried and thus heavier than its true weight. Private sector purchasers are obliged to be alert and tough-minded; this, as much as genuine malpractice, may explain their generally poor reputation among growers. Buyers from the state corporation do not appear to be as tough minded as those from the private sector. They tend as a result to buy poor quality produce.

15. Demands from the Growers

When asked about government policy in relation to cinnamon, the great majority of growers quickly ask for cheaper fertilisers to be made locally available. In the context of the replanting/rehabilitation subsidies, a higher cash grant is demanded on the grounds that the present subsidy does not cover the full cost of replanting. Another common request is for the establishment of state-run purchasing depots for cinnamon offering fixed published prices. The problem which this is intended to alleviate is alleged malpractice among traders. How far this occurs this author cannot say. It is however clear from conversation that price fluctuations are commonly blamed on traders. There is a certain tendency to equate stable prices with fair prices. This may be considered fairly normal in a society where a large proportion of goods are either subject to price control or sold at fixed prices through agencies of the public sector. Traders thus receive the blame for phenomena like fluctuating prices which in some other societies would be considered as

evidence of the existence of healthy market competition between traders (30). The mechanism chosen to deal with this alleged problem - the state cinnamon purchasing depots - is a direct borrowing from the rubber purchasing depots set up to protect rubber smallholders. Unfortunately, there is the obstacle in the way of effective state purchasing of cinnamon which seems insurmountable: the quality control issue. Even in the case of rubber, corruption and cheating on quality take place within the state purchasing scheme. Since it is far more difficult both to check on and to specify meaningfully on paper the quality of cinnamon quills, the problem in this case is likely to be far worse. State purchasing would be totally inconsistent with any attempt to improve quality and quality control in the industry as a whole.

There is a widespread feeling among growers that the quality of peeling has deteriorated over recent years. This has been used, probably by local politicians rather than by the growers themselves, to justify a demand for state-run training centres for peelers. The ultimate objective is perhaps public sector jobs for those involved in the cinnamon industry. It is in any event unlikely that such a programme would benefit the industry. The complaint about poor peeling is made in relation to the main producing areas of the South, and not about the white sand area north of Colombo where the finest cinnamon is produced. This suggests that the poor workmanship in the South is related to the general stagnation of the industry and the poor incomes earned by peelers. The peelers in the white sand area produce fine cinnamon and are better paid; they have more incentive to work well. To organise training programmes in the South would be to tackle a symptom, not the basic cause.

16. Political Culture and Policy

Although fragmentary, the above discussion of policy towards the cinnamon industry indicates some of the main interests, values and perceptions which collectively constitute the environment from which policy emerges.

In the first place, there is a widespread view that it is the role of the state to "do something" for cinnamon in the sense of giving some kind of relief or assistance to the growers and others in the industry. This appears as a separate concept from that of promoting the development or efficiency of the industry. The two objectives do not necessarily conflict with one another, but they do not necessarily coincide either. If the long-term prospects for the industry are poor, then any kind of "relief" or assistance to people in it will tend to do harm by discouraging them from moving into more promising activities. A discriminating attitude between different crops is discouraged by a strong sense of equity - a feeling that all crops (= people) should be treated alike.

To repeat the quotation in Section 11, "Why should a man suffer just because he happened to be born in a cinnamon area?" Such sentiments are strengthened by a departmental structure of government in which, in effect, different crops or groups of crops are the responsibility of different government agencies. Each separate agency is normally responsible for extension, re-planting and new planting subsidies, research and fertiliser supply in relation to its own crop. Thus each of the three traditional export crops, tea, rubber and coconuts, has its own set of government agencies. The Department of Agriculture is primarily concerned with paddy, and the Minor Export Crops Department with a defined set of crops. Not only do the growers of one crop tend to demand "fair" treatment in the form of provision of facilities similar to those granted to growers of other crops, but the same cry may be echoed in the departments.

Both the self-interest of government employees and the departmental structure of the government machinery tend to lead to departments becoming 'locked into' a commitment to their existing concerns, programmes and policies. There is little incentive for the department itself to generate fundamental critiques of its own programmes. External criticism may be met by undertaking new programmes or amending those already in existence, but such radical steps as abolition of ineffective programmes are rarely taken.

It is almost inevitable that several government departments should be concerned with a single crop or a single sphere of government activity. The result may be a very fragmentary approach to the issue, each department examining it from the point of view of its own concerns. Yet none of these fragmentary views may reveal the basic issues and problems involved. In the case of cinnamon the fundamental issues which need tackling are price trends and fluctuations. These do not fall squarely into the court of any of the departments which have a finger in the cinnamon pie. They may tend to establish or continue programmes, like replanting subsidies or fertiliser depots, which can only tackle symptoms of underlying problems, not the problems themselves.

In the case of programmes of subsidies or similar assistance, the public - mainly the growers - may be relied on to support continuation or expansion. This is natural as they expect to benefit. They do not however constitute an effective check on the actual performance of subsidy administration. This is partly of course because they are unorganised and uninformed. But it seems also due to a reservoir of faith in the potential efficacy of state action, despite adverse experience. Few of the unsuccessful applicants for replanting subsidies who were interviewed appeared to be very sceptical of the possibilities of the system of subsidy administration.

There is of course criticism, but that is almost always directed at the behaviour of individual officers. There is a common assumption, more or less openly articulated, that all would be well if better officers were appointed. Our own conclusion about the replanting subsidy is that the officers have performed at least as well as one could reasonably expect, and that the system itself is responsible for the near-failure of the subsidy.

Aside from the 'political culture' - the kinds of values and perceptions about the role of the state discussed above - there are of course identifiable pressure groups which attempt to influence government policy. Cinnamon growers, being nearly all part timers and/or smallholders, are not politically well organised, although they do have the advantage of geographical concentration. The evidence suggests that organised pressure group activities are largely confined to a small number of larger land-owners and traders (they are often the same persons) living in or around Ambalangoda town. Their demands, such as training schemes for peelers or exemption from Business Turnover Tax for cinnamon traders (31), do not appear to closely reflect the interests of the mass of small producers. However, organised pressure groups have not, as far as we can tell, had a great deal of influence in policy. The influence of the general political culture is more readily visible.

PART FOUR: IMPLICATIONS FOR GOVERNMENT POLICY

17. A Buffer Stock?

Our analysis suggests that, if effective action is to be taken to promote the industry, this should be in the area of prices (levels and fluctuations) and quality control. The possibility of action to boost prices should be considered carefully; it is not an urgent matter (Section 4). Measures to improve quality control can and should be taken quickly (Section 8). The most nagging unresolved problem is that of price fluctuations. The author can envisage only one possible way of tackling this effectively. Since fluctuations in supply and in international demand cannot be controlled, the solution must be in the maintenance of larger buffer stocks. This could serve two purposes. Firstly, if cinnamon were purchased when prices were low and the stocks used to supply the market when demand was high, this would reduce the magnitude of price fluctuations. Secondly, the existence of stocks should ensure that all international demand could be met. At present the fluctuations in prices and export volumes are such that export orders have occasionally to be turned down or postponed because supplies are simply not

available.

Buffer stocks of course sound excellent and are in fashion. This is not the first time that such an idea has been mooted for cinnamon. At the time of writing, the government is committed to the general idea of buffer stocks of all minor export crops. Prima facie cinnamon is the obvious crop: it needs a buffer stock because of price and export volume fluctuations, and, since it can be stored for years without deterioration, the crop is very suitable. However, in the case of cinnamon as for other crops, it is difficult to devise a buffer stock system which will actually achieve the stated objectives. It appears to the author that there is only one kind of buffer stock system which could actually work effectively. The main outlines are as follows:

- (i) The stocks would be supervised jointly by a cooperative and by the state.
- (ii) The cooperative would be made up of any trader who wished to join. In practice only a few large dealers and shippers would wish to do so.
- (iii) Purchasing and selling into and out of the stock would not be conducted by the cooperative, but by the individual members acting entirely on their own behalf.
- (iv) Cinnamon stored in the cooperative warehouse would be identified on entry as the property of an individual member. Members would thus take in and out of the buffer stock only their own cinnamon.
- (v) The incentive to use the buffer stock would be a financial subsidy to meet part of the financial cost of storage - i.e. the cost of keeping cash tied up in physical stocks.
- (vi) This financial subsidy could be met by a small levy ('cess') on cinnamon exports.
- (vii) The cess could also be used to meet the costs of administration and construction and maintenance of the store.

The central feature of this proposal is that traders should only take in and out of the store their own produce. (They could presumably also be permitted to sell to one another produce in the store.) The intention is to avoid the quality control problem. If there were a common stock managed by some kind of state or cooperative body, then there would inevitably be a great deal of corruption and cheating on quality. Aided by the problem of effective quality control and by corruption, suppliers

would put in lower quality produce than that for which they were paid. The stock would soon accumulate a large supply of poor quality cinnamon which would either be unsaleable or saleable only at a loss. The buffer stock would become very expensive and the general quality of cinnamon produced would probably deteriorate. Such an outcome would without doubt be worse than doing nothing at all.

At present traders do not hold large stocks because of the cost and, secondarily, because of the risk of loss in a totally unpredictable market. The very existence of an effective buffer stock would help alleviate the latter problem. The intention of the subsidy would be to make it profitable for traders to hold stocks if they expected the price to increase. The genius of the private trader would be harnessed to wider social objectives than purely the pursuit of private profit. The intention should not be to meet the full financial cost of maintaining stocks, since that might encourage hoarding of stocks in the hope of forcing up the price. There are a number of different ways of deciding on the actual level of subsidy to be given. One could for example assume that the financial cost of holding stocks is equal to the current bank deposit rate, and decide to meet half the cost. Thus if the bank rate were 10% and the value of stocks held Rs.10,000, one would pay at an annual rate of $\frac{10\% \times 10,000}{2}$ for the

period over which stocks were held. How to value stocks? If we allow for different qualities, then it becomes necessary to get involved in inspection. Otherwise members might claim a subsidy for storing high quality produce when stocks were all low quality. Inspection is troublesome, expensive and open to corruption. Better to do rough justice and value each bale equally for purposes of calculating the storage subsidy. One could, for example, choose the current floor price for the middle grades of quills. Precision does not matter, as the general intention is only to give some incentive for private traders to hold stocks. In order to prevent traders from abusing the system by hoarding stocks and forcing up prices, there would presumably have to be some physical or financial limit on the amount of stocks for which any one member could receive a subsidy at any moment in time. A few approximate calculations by the author suggest that the costs of subsidising a stock equal to about 20% of average annual exports would be very small, requiring a cess on exports so small as to be almost invisible.

There is of course a question of whether the potential members of such a scheme - who do not exceed about twenty shipping and dealing firms at the most - would welcome such an idea. There would certainly be a great deal of suspicion, both because of the taint of state involvement and because the idea would necessitate a change in the trading environment. At present speculative profits

weigh heavily in traders' income, and the successful trader is the one who is able to out-smart his fellows. Secrecy is very important. The existence of a buffer stock - whose firm-by-firm contents would of necessity have to be made public - would inform the trade what view each trader was taking of the future market. This would change the framework of trading considerably, and for this reason might incur psychological resistance. Considerable effort and encouragement might be required initially to obtain the cooperation of the trade.

Even if this proposed scheme works well, it would not solve all problems. It should however have considerable long-term benefits largely by making cinnamon production a more predictable activity, thus encouraging more interest and effort from the growers. Unlike all the other schemes suggested, it does not involve any financial cost to the state, and very little administrative supervision. However, if it were to be operated badly, it would be better to have no scheme at all.

18. Summary of Policy Implications.

- (i) The long-term market prospects for Sri Lanka's cinnamon are poor. In so far as it is possible, growers and peelers should be encouraged to shift to more promising activities. No encouragement should be given for additional resources - land, labour or fertiliser - to be shifted into cinnamon production.
- (ii) Price instability is an important obstacle to the improvement in standards of cultivation and the efficiency of resource use in cinnamon production. There is a prima facie case for measures to stabilise domestic producer prices.
- (iii) A buffer stock can be an effective way of stabilising producer prices but, unless organised along the lines suggested in Section 17 above, it will tend to do more harm than good.
- (iv) Rigorous quality control of cinnamon exports would be beneficial.
- (v) There is little or no justification for continuing to give subsidies for replanting and rehabilitating cinnamon because the actual circumstances under which subsidies are obtained and disbursed tend to nullify most of the potential benefits. If subsidies of some kind are to continue, they would be most useful if given solely or mainly for soil conservation work on cinnamon land.

- (vi) The subsidy on cinnamon fertiliser is probably of no net economic benefit to the nation. No resources should be used in any attempt to improve the distribution network for cinnamon fertiliser.
- (vii) Serious consideration should be given to the possibilities of controlling and reducing the supply of cinnamon to the international market in order to boost market prices.
- (viii) Any measures to restrict supplies should probably be aimed at the poorer qualities of quills, and combined with vigorous market promotion of Sri Lanka's cinnamon as a quality product.

19. Parallels from Other Crops

Cinnamon is a crop of only minor importance in the Sri Lankan economy and, even more so, in international trade. However, several of the main themes and arguments of this paper are relevant to other sectors of the Sri Lankan agricultural economy.

In the first place, the structure of the cinnamon industry is very similar to that of many other minor export crops. Common features are the absolute smallness of the industry, the prominence of a few large traders, unstable patterns of supply, of export demand and of market prices and a widespread resentment at the alleged manipulations of traders. It is official policy to establish state-run buffer stocks for every crop in this category. It is likely that in many cases this would be no more appropriate than in the case of cinnamon.

In the second place, the concept of the crop-specific government department (or set of departments) is well established in Sri Lanka, most notably in the case of the three major export crops - tea, rubber and coconut. This may lead to much the same kind of problems as in the case of the Department of Minor Export Crops.

In the third place, the kinds of planting subsidies given to cinnamon producers are available, usually on a more generous scale, for all important tree crops. The same problems of efficiency and bias are likely to be found in all cases.

Finally, the gaps between small and large producers in respect of cultivation practices and yields which is evident in cinnamon production is found in the case of all the main export tree crops. The difference is that larger cinnamon estates have in no sense a colonial origin. Our analysis suggests a number of structural factors which make it unlikely that, however great the degree of assistance given, smallholders will ever be as efficient as estate producers.

APPENDIX ONE: THE BATAPOLA SURVEY

Batapola lies about five miles from Ambalangoda town, which is the main centre of the cinnamon industry in the Island. Although the people of Batapola are not from the traditional cinnamon-peeling caste, they have been growing and peeling cinnamon for a long time. A survey of the economies of cinnamon production was carried out in an area of Batapola for the twelvemonth period, October 1976 to September 1977. The author and field assistants had been resident in the village for three months before the survey began, and continued to be so for most of the period. Sample households were visited between once and thrice a week. During the last few months of the survey literate members of the sample households were paid to keep diaries of cinnamon-related activities, and were visited fortnightly. The researchers were also collecting information on paddy cultivation and employment patterns, and the respondent households had no reason to think that the researchers were especially interested in cinnamon. Households suspected of supplying inaccurate information have been removed from the sample. The information used in the analysis is, to the best of our knowledge, extremely accurate, and certainly much more reliable than that obtained from a single interview conducted by interviewers unknown to the respondents.

The sample was intended to represent only smallholders. As can be seen from Appendix Table 1, it is fairly representative of smallholders at national level. The national figures relate to 1969, and the average size of holding has almost certainly decreased a little since then as a consequence of recent land reforms. Our sample includes no estates - the largest cinnamon holding is eight acres - and no absentee owners. It also includes a relatively high proportion of holdings in which cinnamon is inter-mixed with other crops: 58% of the total acreage, as opposed to the national figures of 30% (32). There is no reason to think that the conclusions are not generally applicable to the smallholder producers throughout the Island.

Appendix Table 1: Percentage Distribution of Cinnamon Producers
by Size of Holding

Sample	Size class of cinnamon holdings	Less than 0.5 acres	0.5-0.9 acres	1-2.9 acres	3-4.9 acres	5-9.9 acres	10 + acres	Total
National figures, 1969		31	39	27	2	1	neg.	100
Batapola sample, 1976-7		21	32	36	4	7	-	100

APPENDIX TWO: PRODUCTION FUNCTIONS FOR SMALLHOLDER CINNAMON IN BATAPOLA

The main inputs used in cinnamon production are land, labour and chemical fertiliser. Using data from the Batapola Survey, an analysis was conducted of the contribution to yields per acre of labour and fertiliser inputs. The simplest form of production function - a multiple regression equation - has been used. The specification is as follows:

$Y = f(x_1, x_2)$, where Y = yield of quills in pounds per acre, x_1 = fertiliser input in pounds per acre, and x_2 = labour input in hours per acre.

These are a number of questions about the specification and interpretation of this equation:

- (i) The reference period is the year October 1976 - September 1977. Since at the level of the individual household there is only a limited degree of seasonality in peeling activities, fertiliser application, etc., any reference period is fairly arbitrary. In many individual cases the reference year chosen is not the most relevant period: it may cover, for example, inputs in the form of chemical fertiliser, but not the associated output after peeling is conducted six months later. The situation is saved by the fact that there is considerable regularity in cultivation practices: those who apply fertiliser one year tend to do so the next. Thus we start with a data base which is poor but not hopelessly so. The fact that statistically significant relationships emerge is all the more pleasing.
- (ii) The benefits of regular fertiliser application to cinnamon are cumulative over the years. To attribute all the extra output on fertilised plots to the fertiliser applied in the reference year is to slightly over-estimate the benefits of fertiliser.
- (iii) It is likely that fertiliser tends to be used on land which is inherently of higher yield potential than average cinnamon land. Thus some of the extra yield associated statistically with fertiliser use cannot be attributed to fertiliser.
- (iv) On the plots where cinnamon is mixed with other crops, some of the fertiliser used (very little is

in fact used on such plots) benefits the non-cinnamon crops. Quite predictably, the extra yield associated with fertiliser application is lower for mixed than for pure stands of cinnamon (see regression equations). The latter is the relevant one to use in cost-benefit analysis of fertiliser use.

- (v) Our data relate only to smallholdings. It is likely that estates obtain more benefit per pound of fertiliser than do smallholdings since they are better at providing such complementary inputs as timeliness in operations and skilled labour.
- (vi) Labour is a very non-homogeneous factor. It comprises both young family members casually weeding the family plot and skilled adult male peelers. To deal with this problem labour has been categorised into two groups: 'prime labour' (comprising all hired labourers and all family male labourers aged twenty or more years), and 'non-prime' labour. We have weighted 'prime' against 'non-prime' labour with various different coefficients; they were used in a series of regression equations. Statistically speaking, the 'best' measure (i.e. the one most closely associated with yields) was where one hour of non-prime labour was weighted as a half an hour of prime labour. It is the regression equations using these coefficients which have been reproduced below and used to estimate the value of fertiliser use.
- (vii) The form of the regression equation assumes that there exists a linear relationship between inputs and outputs over the range of plots for which we have data. The relationship may in fact be somewhat different.

This list of warnings about the interpretation of the regression equations sounds fairly formidable, but some points tend to cancel out others. It seems reasonable to conclude that, where statistically significant, the coefficients in the equations below provide a fairly reliable indication of the relationships between fertiliser, labour and yields for smallholders in Batapola at least. There is no reason to suggest that other smallholders in the Southern areas (i.e. the great bulk of smallholders) are not in substantially the same situation.

Y = Quill yield in pounds per acre

X₁ = Fertiliser application in pounds per acre

X₂ = Labour input in adjusted hours per acre,
where one hour of non-prime labour =
0.50 hours of prime labour

For pure stands : $Y = 100.78787 + 0.26003^* X_1 + 0.10045 X_2$

R₂ = 0.294, n = 24 plots

For mixed stands: $Y = 59.07190 + 0.15893^{***} X_1 + 0.08987^{***} X_2$

R₂ = 0.593, n = 48 plots

* = significant at 2.5%; *** = significant at 0.5%

In the first equation (pure stands) only the coefficient on fertiliser application is statistically significant. For reasons given in point (iv) above, this figure is probably a more reliable indicator of returns to fertiliser use than the corresponding figure in the second equation. The regression coefficient tells us that an additional pound of chemical fertiliser is associated with 0.26003 extra pounds of quill output. The market price for that extra fertiliser is Rs.0.58. We shall assume an average quill price of Rs.5.50 per pound; the value of the extra quill output is then Rs.1.43017. Let us ignore the costs of transporting and applying fertiliser and of keeping capital tied up in the ground where it might alternatively have been earning interest in a bank. Further, assume that, as is typical of Batapola, the owner of the land hires peelers and gets 65% of the output. The private cost-benefit ratio of using fertiliser then becomes 0.58: (0.65 x 1.43017) = 1 : 1.60. Because we have ignored certain actual costs and a considerable risk of poor rainfall, the actual cost-benefit ratio is somewhat less than this. It is marginally attractive for households with spare cash; but the use of fertiliser would not be a paying proposition for a man who had to borrow the necessary cash on the private money market.

The returns to the nation of fertiliser use are very different, largely because fertiliser is subsidised to the tune of 50% of its actual cost to the government. The taxpayer must pay the difference. The social cost of a pound of cinnamon fertiliser is thus (2 x 0.58) = Rs.1.16. Let us first assume that the labour used to peel the extra output associated with using an entire pound of fertiliser

has no alternative productive uses, and is therefore valueless. In such circumstances, the social cost-benefit ratio of using fertiliser appears as $1.16:1.43017 = 1:1.23$. On this measure the benefits scarcely outweigh the costs to the nation. But we have both under-estimated the costs and over-estimated the benefits. The costs are greater because the cinnamon peeler has alternative productive uses; we must put a 'shadow cost' on using him in cinnamon peeling. Let us fairly arbitrarily assume that his 'shadow price', i.e. his potential value in other jobs, is only a half of what he earns in peeling cinnamon. If his share of the output is 35%, then by peeling the quills produced by an extra pound of fertiliser he does work of a social value of $(0.26003 \times 0.35 \times 5.50 - 2) = \text{Rs.}0.25028$. Incorporating this figure, the social cost-benefit ratio becomes $(1.41028 : 1.43017) = 1:1.01$. Social costs and benefits are approximately equal. But the actual benefit to Sri Lanka of producing an extra pound of cinnamon quills is less than the price fetched on the international market for that pound of quills. As is explained above, Sri Lanka occupies a dominant position in a sluggish world cinnamon/cassia market. By increasing her output she tends to force down the world market price. Each extra pound produced generates income itself, but reduces the income gained from the other quills put on the market. The magnitude of this relationship is unknown, and probably, given the nature of the market, incalculable in any precise way. But it is almost certainly sufficient to allow us to suggest strongly that, at the kinds of prices for quills which have prevailed until recently, the use of additional fertiliser in cinnamon is probably of little net benefit to the country, and possibly a net drain on national resources.

The main variable in all these calculations is the international price of quills. If we re-do the sums with a price of Rs.8.00 per pound of quills, which is typical of very recent price levels, we find the private cost-benefit ratio of fertiliser use to be 1:2.33, but the social ratio is still only 1:1.37. The wisdom of encouraging cinnamon smallholders to use fertiliser appears, from the point of view of the national interest, distinctly questionable.

Our second dependent variable in the regression equations is labour inputs. This coefficient takes approximately the same value in both equations, but it is statistically significant only in the case of mixed stands. This indicates that each extra hour of labour is associated with 0.09 pounds of quill output. At a market prices of Rs.5.50 for a pound of quills, each extra hour of work produces output worth Rs.0.49. When the price of quills reaches Rs.8.00, the value of marginal output per hour is Rs.0.72. These 'hours' are 'prime hours'; actual marginal output per hour is less than this. Taking

coefficients from the regression equation in which labour time is not adjusted for type of labour, we find that a marginal hour of labour produces output worth Rs.0.36 to Rs.0.53, depending on the market price of quills. Such low estimates for the marginal product of each hour of labour conform to impressions gained in fieldwork. Cinnamon production requires only manual labour, a few simple tools and, in the case of peeling, some skilled labour. Many producers use family labour, especially in non-peeling jobs, to a very large extent because it is costless and they would otherwise be unemployed. As a result cinnamon land tends to be 'saturated' with labour, and the actual returns per hour of work are in fact around the same as the hourly wage rates paid to unskilled female labourers engaged in weeding cinnamon. These rates are much lower than for any other manual job.

NOTES

1. For example, the place of cinnamon in the Portuguese colonial economy is discussed in T. Abeysinghe's, Portuguese Rule in Ceylon (1594 - 1612), Lake House, Colombo, 1966, and in Chandra Richard De Silva's The Portuguese in Ceylon (1617 - 1638), H. W. Cave and Co. Ltd., Colombo, 1972. A similar treatment for the period of early British rule can be found in Colvin R. De Silva, Ceylon Under the British Occupation (1795 - 1833), Volume 2, The Colombo Apothecaries Co.Ltd., Colombo, 1962.
2. Cinnamon Cultivation and Processing, p.5.
3. Central Bank of Ceylon, Bulletin, Colombo, December 1976, Tables 32 and 36. Apart from firewood, virtually 100% of all other cinnamon product are exported.
4. S. De Silva, p.17.
5. See also D. J. McConnell and G. K. Upawansa, Figure 3.7.
6. This is analogous to 'slaughter tapping' of rubber.
7. For all these points see the sources quoted in Note 1.
8. Central Bank of Ceylon, Bulletin, Colombo, May 1977, Tables 28 and 32.
9. Commonwealth Secretariat, Arrangements with EEC and GATT Multilateral Trade Negotiations - Spices, London, May 1975, p.9.
10. D. J. McConnell and G. K. Upawansa, Figure 1.2.
11. Commonwealth Secretariat, p.8.
12. Tropical Products Institute, London, private communication, January 1977.

13. D. J. McConnell and G. K. Upawansa, p.18 and Figure 3.1.
14. S. De Silva, p.40.
15. D. J. McConnell and G. K. Upawansa, p.3 and Figure 1.1.
16. S. De Silva, p.30. In the Batapola Survey it was found that there was no relationship between use of fertiliser and size of cinnamon holding. This is not surprising since there is no very clear relationship between size of cinnamon holding and wealth or income levels - cinnamon is but one of several main sources of income. There was however a clear relationship between use of fertiliser and family income. The richest third of cinnamon growing households were three times as likely to use chemical fertilisers as the poorest third.
17. S. De Silva, p.3 and p.23.
18. D. J. McConnell and G. K. Upawansa, p.45.
19. They may alternatively work for a lower rate if the landowner supplies food.
20. S. De Silva, p.36 and D. J. McConnell and G. K. Upawansa, p.24.
21. S. De Silva, p.42.
22. The author knows of one large producer who is able to carry this trust even further. He employs peelers permanently, and pays them a daily wage rather than a share of the output. Regular employment is exchanged for good work. It is significant that he produces only the finest grade of quills.
23. For differences between small and large growers in mode of disposal of quills, see S. De Silva, p.41.
24. S. De Silva, p.33.

25. Thus it was estimated that the large estates in Galle and Matara districts generate an average of 193 days of work (each of seven hours) per acre per year (D. J. McConnell and G. K. Upawansa, Figure 2.1 and p.24). For the smallholders covered by the Batapola Survey, the comparable figure was only 145 days per acre per year. According to these figures, estates generate one-third or more work than smallholdings per acre.
26. Improved varieties, especially varieties with a relatively high leaf oil content, may be available in a few years.
27. In the case of cinnamon and other minor export crops, replanting subsidies are likely to be increased greatly up to the magnitudes of those given for smallholder producers of tea, rubber and coconut. It is also proposed to increase the number of times the field officer must visit the applicant.
28. Ministry of Plan Implementation, Performance, January to March 1977, Colombo, July 1977, mimeo.
29. At the time of writing it appears likely that many of the policies and practices criticised here will be changed to bring about a more rational system. Most of the information in this section has kindly been supplied by Mr. J. Broersma.
30. For example, one grower told the author that the general wickedness of cinnamon traders was evidenced by the fact that in the same street different dealers were offering different prices for produce.
31. See "SUN", 30 August, 1977, Colombo.
32. S. De Silva, p 17.