REPORT
ON
COCONUT ENQUIRY IN INDIA.

Selected by
Dr. Bhagavan

IMPERIAL COUNCIL OF AGRICULTURAL RESEARCH

REPORT

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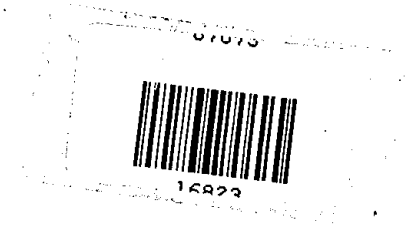
BY

DR. J. S. PATEL, M. SC., PH. D.



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INTRODUCTION

The discussions on the Ottawa Agreement brought into prominence two conflicting views :—

(*a*) that the supply of copra is insufficient to meet the demand of the Indian oil crusher and

(*b*) that the prices of coconut products in South India are unduly low.

It was, therefore, decided by the Imperial Council of Agricultural Research to conduct an enquiry in order that the facts of the situation in South India may be ascertained. The terms of reference of the enquiry were as follows :—

1. The prices now obtained by the cultivators for coconuts and coconut products.
2. The prices paid for copra by oil crushers in South India.
3. The extent to which the coir industry interferes with the copra supply.
4. Whether the shortage of coconut products in South India is local or general; if the former, the difficulties in getting supplies to the oil crushers.
5. The extent of the increase of coconut cultivation during the last few years.
6. The area of new coconut gardens not in bearing.
7. The extent of first class coconut land already planted and the scope there is for expansion.
8. The cost of cultivation and general agricultural practices.
9. The yields of coconuts in the different tracts in various conditions.

The enquiry covered Travancore, Madras, Mysore, Cochin, Bombay, Bengal, Bihar and Orissa and Ceylon. The States of Mysore, Travancore and Cochin readily and cordially responded to the invitation of the Imperial Council of Agricultural Research for participating in the enquiry, and rendered valuable assistance to the Enquiry Officer. The State of Travancore, the premier coconut growing State in India, placed Mr. M. K. Varghese, B.A., B.Ag., Mycologist to the Government of Travancore, on special duty to accompany the Enquiry Officer. The itinerary is given in Appendix I.

Methods of enquiry.—During the enquiry, numerous gardens were visited, cultivators were consulted and contact was established with the copra crushers and traders dealing in coconut

products. All opportunities for collecting information and obtaining views were availed of when offered. The Chambers of Commerce at Aleppey, Cochin and Calicut supplied very valuable figures for shipments of coconut products and their prices. It must, however, be admitted that there was a lack of evidence in support of the opinions expressed by most of the chambers and associations.

Excepting in one case, all statements for the cost of production of coconuts are based on oral information obtained from the cultivators and landlords. It is of course recognised that this method of ascertaining the cost of production is not as satisfactory as actual costing experiments or information based on regular accounts, but since none of these were available, the Officer in charge of the enquiry had to depend on verbal statements. The fact that such information was obtained from a gathering in one and the same place and was generally corroborated by the local agricultural officers, materially *adds* to the correctness and usefulness of the data. An effort was also made to check up this evidence by cross examination and by ascertaining the labour required for various operations connected with copra production and crushing.

The quantity of copra crushed in the oil mills was ascertained by enquiries made of factory owners about the amount of copra crushed and this information was verified with the data that were furnished regarding the working hours. Undoubtedly the enquiry would have been more satisfactory if the crushers had taken the special officer into confidence and responded to his request to present their books for examination.

Sources of Statistics.—The statistics regarding the area are based on the figures supplied by the Revenue authorities. In some cases these district figures have been slightly altered by the Provincial Governments in the light of additional information before submission to the Director-General of Commercial Intelligence and Statistics. The figures for the shipment of nuts, copra and oil and coir products were obtained from the several Chambers of Commerce, Collectors of Customs and the Government of Travancore. The charts for the prices are based on the information supplied by the Chambers of Commerce and firms dealing in the commodities.

CHAPTER I

AREA UNDER COCONUT

1. The coconut—*Cocos nucifera Linn*—commonly known as *thengai* in Tamil and *narikelam* in Sanskrit, is an important crop to the inhabitants of Southern India and particularly of the West Coast. Every part of the tree is utilised in one manner or the other. Raw nut and edible copra are important articles of food and the indispensable items of divine oblation, and the oil from the copra is utilised in cooking and in the manufacture of vegetable ghee, soaps and toilet requisities. Opinions vary as to the original home of the coconut plam but it is generally admitted that coconuts spread across Polynesia from the Indian Ocean. In India the palm is popularly believed to have been introduced from Ceylon.

2. Large areas of this palm are met with in India, Ceylon, Phillippine Islands, the Dutch East Indies, South Sea Islands and the Straits Settlements. It is also to be found on a smaller scale in the Cape Verde Islands, Guam and numerous small islands in the Pacific, French Guiana, Ecuador, Venezuela Paragua, Columbia, Brazil, Belgian Congo, Italian Somaliland and Eritrea. The world area under coconut in 1930 was estimated at 7·3 million acres. In table I the acreage under coconut for the important coconut producing countries are presented. India, Philippine Islands, Ceylon, Dutch East Indies and Malaya are the most important coconut growing countries of the world.

TABLE I

Acreage under coconut in the principal coconut producing countries of the world

Name of the country	Acrea	Year	Source of information
	Acres		
British South Sea Islands.. ..	568,450	1929-30	E. M. B. 61.*
Ceylon	1,100,000	1929	Census of 1929 (*a*)
British Malaya	599,747	1930	E. M. B. 61.
Trinidad and Tobago	50,000	1929	,,
Jamaica	38,618	1930	,,
St. Vincent	3,000 to 3,500	1930	,,
British Guiana	21,760	1931	,,
Zanzibar	50,000	1930	,,
North Borneo	46,527	1930	,,
Seychelles	28,240	1929	,,
Kenya	8,121	1932	,,
India	1,387,773	1932-33	*Vide* table III.
Foreign countries.			
The Phillippine Islands	1,361,126	1930	E. M. B. 61.
The Dutch East Indies	950,000	1917	,,
The Marianne, Caroline and Marshall Islands.	68,946	1929	,,
Siam	134,000	1930	,,
Total ..	6,416,558		

* Empire Marketing Board's Bulletin No. 61, 1932.

(*a*) Annual General Report for 1932 on the Economic, Social and General conditions of the Island.

(*b*) Taken as 3,250 acres in the total.

3. *The total area in India.*—In table II the total acreage under coconuts in India for the past twelve years is given. The figures for 1932-33 are in the neighbourhood of 13,88,000 acres practically the whole of the coconut area is concentrated in South India which has about 94 per cent. of the total area in India. Of the total Indian area 40 per cent., 38 per cent. and 12 per cent. are located in the Madras Presidency, Travancore and Mysore State, respectively. The areas for the provinces and the States for the past thirteen years are given in table III. Excepting the Madras Presidency and the States of Travancore, Mysore and Cochin the remaining coconut growing provinces are commercially unimportant.

TABLE II

Acreage under coconuts in India (a)

(In thousands of acres.)

Year ending 30th June	British India	Indian States	Total Area
1920-21	626	575	1,201
1921-22	638	597	1,235
1922-23	636	606	1,242
1923-24	639	652	1,291
1924-25	604	653	1,257
1925-26	641	664	1,305
1926-27	634	716	1,350
1927-28	635	692	1,327
1928-29	650	731	1,381
1929-30	654	723	1,377
1930-31	640	764	1,383
1931-32	618	763 (*b*)	1,381
1932-33	635	753 (*b*)	1,388

(*a*) *Source.*—" Agricultural Statistics of India". These figures exclude certain of the Indian States for which returns are not rendered.

(*b*) Based on table III.

TABLE III

Acreage under coconut in the Provinces and States in India.

TABLE

Acreage under coconut in the

(In

Province or State	1920-21	1921-22	1922-23	1923-24	1924-25
Provinces.					
Bengal	..	700	600	600	600
Madras	549,446	559,404	543,263	546,960	525,445
Bombay	35,708	38,004	50,676	50,689	38,006
Sind	12	45	..	..	..
Bihar and Orissa	28,500	28,500	28,500	28,500	28,500
Burma	12,741	..	12,611	11,820	11,350
Indian States.					
Mysore	109,995	124,346	122,970	122,414	127,170
Puddukkottai (*a*)	109	225	159	352	231
Cochin	8,350	17,100	17,650	28,423	28,627
Travancore	455,970	454,811	465,594	500,686	496,592

* Figures from the Agricultural

(*a*) For want of figures the area after 1927-28 has been taken as

III

*Provinces and States in India**

acres)

1925-26	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33
600	11,500	11,600	13,600	12,300	12,500	12,800	12,300
555,465	552,815	557,102	570,330	576,083	561,272	539,031	556,827
45,239	31,297	26,998	26,640	26,645	26,691	27,088	27,689
..	..	..	..	..	..	..	..
28,500	28,500	28,500	28,500	28,500	28,500	28,500	28,500
11,040	10,160	10,384	10,695	10,583	10,702	10,439	9,873
128,355	138,783	132,070	139,606	142,273	146,430	147,509	162,583
82	67	29	29	29	29	29	29
29,750	65,762	57,986	58,113	59,015	67,348	67,317	67,349
505,932	511,612	511,726	521,950	542,042	544,190	548,106	522,623

Statistics of India.

29 acres, presuming that there has been no change in the area.

4. In Madras, the district of Malabar with an area of over 300,000 acres is the most important centre of coconut production. South Kanara with an area of about 50,000 acres, East Godavari with an area of about 52,000 acres, and Tanjore with an area of about 33,000 acres are next in importance. The remaining districts of Madras, even though commercially unimportant, contribute over 90,000 acres of coconuts to the Provincial figure *vide* table IV. In the district of Malabar, Kurumbranad, Chirackal, Calicut, Kottayam, Ponnani and Ernad are the most important coconut growing taluks. In South Kanara, Kasaragod taluk is the only important taluk. In Tanjore District, Pattukkottai taluk with an area of over 11,000 acres under coconut stands foremost in importance. Razole and Amalapuram taluks lead in the acreages under coconut in East Godavari. The talukwar figures for areas under coconut in Malabar and South Kanara are furnished in tables 1 and 2 in Appendix II.

TABLE IV

Acreage under coconut in the Madras Presidency

(In acres)

Year ending 31st March	Malabar	East Godavari	South Kanara	Tanjore	Other districts	Total
1920-21	323,967	(a)	46,801	30,666	148,012	549,446
1921-22	337,486	(a)	47,029	31,134	143,755	559,404
1922-23	321,117	(a)	47,462	32,574	142,050	543,263
1923-24	329,927	(a)	47,656	31,473	137,904	546,960
1924-25	328,825	(a)	48,659	31,439	116,522	525,445
1925-26	333,582	50,397	49,040	31,503	90,943	555,465
1926-27	326,864	51,853	49,202	34,623	90,273	552,815
1927-28	334,031	50,833	47,509	33,598	91,131	557,102
1928-29	343,906	52,564	47,819	34,914	91,127	570,330
1929-30	348,052	50,591	47,916	35,001	94,523	576,083
1930-31	337,956	54,023	48,810	35,890	84,593	561,272
1931-32	312,483	52,101	48,449	33,885	92,113	539,031

(a) For the years figures for East Godavari are not available separately being lumped with the figures under "Other Districts."

In Travancore, according to the official figures for 1932-33, there were 522,623 acres under coconuts. From the talukwar figures in table 3, Appendix II, it is clear that Minachil, Thiruvella, Sherthalai, and Nayyatinkara are the most important coconut producing taluks.

Out of 147,508 acres under coconut in Mysore in 1931-32, 33,832 and 60,041 acres were located respectively in Hassan and Tumkur districts, *vide* table 4, Appendix II.

In Cochin State, Cochin-Kanayannur and Mukundapuram taluks lead in the extent of coconut cultivation, *vide* table 5, Appendix II.

Out of 28,500 acres under coconut in Orissa, 25,500 acres are found in the district of Puri, while the remaining coconut growing districts of Cuttack and Balasore have respectively, 2,500 and 500 acres under coconut.

Almost the entire coconut area in Bombay is located in the districts of Ratnagiri and Kanara each of which has about 12,000 acres under coconut out of the total of about 26,000 acres. Kunta and Honavar taluks of Kanara district, and Malwan and Vengurla taluks of Ratnagiri district are the most important coconut growing centres.

In Bengal, Khulna, Noakhali and Bakarganj districts are the most important in the cultivation of the coconut palm; but only in Khulna one comes across with unmixed coconut groves. According to the official figures, there are about 7,500 acres under coconut in Khulna. In Noakhali and Bakarganj, there are 68,417 and 172,751 acres of "fruit trees" principally betelnut palms. In these areas coconut palms are grown mixed with areca palms and other orchard trees. Taking a very low estimate of five coconut trees per acre of an orchard about 1·2 million coconut trees or 20,000 acres of coconut remain unaccounted for in Bengal. The total area for Bengal is quite probably about 32,000 acres instead of 12,000 acres.

In Burma there are about 10,000 acres under coconut cultivation.

5. *Increase in the area.*—In Bihar and Orissa the area has remained constant for the past twelve years. The figures for Bombay indicate a reduction of fifty per cent. in the area. Since in Ratnagiri and Kanara districts—the most important coconut growing districts, where almost all the coconut cultivation of Bombay is located—there has been no decrease in the area during the past ten years, it would appear that this reduction is rather due to the rectification of records. Practically there has been no increase in the area under coconuts in Bombay. In Bengal the figures show an increase in the area from 600 acres in 1922-23, to 12,500 acres in 1930-31. Since one comes across here with large areas of coconut planted at least 25 years ago, one is led to conclude that this increase is rather due to correct recording of the area than to extensive new plantation. Outside of Travancore, Madras and Mysore, the coconut areas are relatively unimportant and as such, the figures for acreage in other provinces are not likely to be satisfactorily collected. In Burma there has practically been no change in the area.

6. In Cochin the area under coconuts has increased from 65,762 acres in 1926-27 to 67,317 acres in 1931-32—an increase of 1,555 acres. The statistics regarding area of coconut cultivation prior to 1926-27 are unsatisfactory.

7. The area under coconuts in Mysore has steadily risen from 90,236 acres in 1917-18 to 1,62,582 acres in 1931-32—an increase of about 80 per cent. during the last fifteen years. Assuming that this increase is due to new plantings and not to more efficient reporting of the figures for area, it is expected that 34,228 acres (1932-33 area minus 1925-26 area) are still to come to bearing.

8. The area under coconut in Madras rose from 549,446 acres in 1920-21 to 576,083 acres in 1929-30; but by 1931-32 it had fallen to 539,031 acres. This reduction in the area in partly due to the rectification of records and also partly to the fall in the area in the districts of Malabar and Tanjore which were visited by two cyclones, one in the first week of May 1930 and the other in the third week of May 1931. During cyclones, generally old and heavy bearing palms which carry a heavy load on the crown are uprooted and the damage to the young palms is comparatively very small. It follows that after a cyclone the

reduction in the production of nuts is much more than the reduction in the area. Since the old plantations are usually underplanted the records may not show much reduction in the area. However, the fall in the production may be much more than can be gauged from the decrease in the area. It was estimated by a reliable person that ten per cent. of the trees near Calicut were uprooted by the cyclone in 1931. Almost every garden lost some trees. In Tirur town (Malabar district) the owner of a garden containing 3,000 trees suffered a loss of 280 trees on account of the cyclone.

In Tanjore the area under coconut fell from 35,988 in 1930-31 to 33,885 in 1931-32 and in Malabar the area fell from 348,052 acres in 1929-30 to 337,956 and 312,483 acres in the two succeeding years respectively.

About 20,500 acres (1929-30 area *minus* 1925-26 area) *plus* 17,500 acres replanting and fresh plantings which might have taken place from 1929-30 onwards, are still to come to bearing in the Madras Presidency. Between 1931-32 and 1932-33 about 17,500 acres of coconut were planted in the Madras Presidency. Thus the total area which is still to come into bearing may be estimated at 38,000 acres.

The area under coconut in Travancore increased from about 456,000 acres in 1920-21 to 548,000 acres in 1931-32 but it fell to 522,623 acres in 1932-33. Between 1925-26 to 1931-32 the area in Travancore increased by about 45,600 acres. This figure of 45,600 may be taken to represent the area which is still to come into bearing.

9. In Travancore 45,600 acres, in Madras 38,000 acres, in Mysore State 34,200 acres, and in Cochin State about 1,500 acres, making a total for the whole of India of about 119,000 acres of coconut are still to come into bearing—an increase of 8½ per cent. Too much reliance cannot be placed on this figure which is the sum of a number of 'differences' which are not known accurately.

CHAPTER II

Cultivation

10. *Soils.*—Along the sea coast, a narrow strip of land consisting of loose white sand, to all appearance quite barren, supports some of the best coconut gardens on the West Coast. In these soils the palms obtain their nutrients from the under ground water which moves slowly from the hills to the sea. When the water table (of the under ground water) falls low during the dry season, the palm really suffers from drought and requires to be irrigated, as is done in some places like Alleppey, Sherthalai and Ponnani. Around the backwaters, the rivers, and lowlands the soil is a rich alluvium and the coconut thrives very well in these regions. In the interior mostly laterite soil is met with. The hills and the hill slopes where the coconut is grown are all gravelly and made up of laterite rock. The major areas under coconut are located in red sandy loams.

11. *Rainfall.*—On the West Coast fully three quarters of the rainfall is received during the South-West Monsoon and ten to fifteen inches of rainfall during the North-East Monsoon mostly in October and November. Showers during January to May are uncertain and inadequate. In the major coconut areas in Ceylon, the rain fall is better distributed than on the West Coast. The Coconut is grown in Mysore even where the rainfall averages at about twenty-seven inches ; but in these regions there is considerable supply of seepage water.

12. *Varieties of coconut.*—The cultivators recognise several varieties which are mainly based on the colour, shape, size of the nut, height and girth of the stem, fullness of the crown, the age at which the palm commences to yield and the length of the leaf. With reference to the yield, the distinction between the " dwarf " and the " tall " type is most appropriate. The " dwarf " commences to yield in four to five years ; the size of the nut is very small and the copra made out of such nuts is leathery in quality. The " dwarf " variety needs more water and is less adapted to the varying conditions of climate and soil. It is, therefore, not surprising to find that the " dwarf " variety is rarely met with on a plantation scale. The palms of this variety are mainly grown along the banks of canals in Valapad and Chowghat areas of Ponnani taluk. Elsewhere, it is commercially unimportant as the nuts are mainly used as tender nuts.

13. *Planting and maintenance of coconut gardens.*—Haphazard attempts are made to select nuts from heavy yielders and often the selection of seed nuts is based on the size rather than on the yield. The seedlings are either raised by the cultivators or by the professional nursery men. The age at which the seedling is utilised for planting in the field, depends upon the nature of the soil, time of planting, and the occurrence of floods. In most cases one year old seedlings are utilised for planting, but in places where the fields are subject to floods, three to five-years old seedlings are planted. The size of the pit for planting varies according to the nature of the soil, water table, and the age of the seedlings ; but the most common practice is to plant seedlings in three feet cubical pits. The seedlings are planted in May-June or October-November. The number of seedlings which are planted per acre varies from 55 to 100. While planting, generally ashes and sand are added and occasionally salt and organic matter also. The seedlings are often watered during the first three summers or four to five months each summer. During the first three to four years after

planting subsidiary crops like *Colacasia*, tapioca, yams, and plantains or hill paddy are grown on the West Coast, and in Godavari, onions, chilllies and brinjals may be grown. The young seedlings as well as grown up trees are manured with ashes, river silt, and cattle, sheep or goat manure. The practice of ploughing in green manure crops is common in Godavari. Green manures which act also as cover crops are commonly grown on the plantations in Ceylon, and husk and coir dust are buried in alternate rows or in semi-circular pits around the trees. The soil in the gardens is either dug up twice or ploughed four to six times in a year. Clean cultivation is best practised in Mysore and East Godavari. But in Ceylon, ploughing and harrowing are less common than in India. These differences in the cultural practices between Ceylon and the West Coast are accounted for by the better distribution of rainfall in Ceylon which more or less does away with the problem of conservation of soil moisture. To afford aeration to the water-logged soils and to prevent the growth of the roots on the surface, the soils in some of the gardens on the West Coast are dug and heaped up in November; these heaps are levelled before the commencement of summer. The practice of making beds or basins around the trees combines pruning of the roots with manuring. Generally no subsidiary crops are grown in a bearing plantation; but occasionally one comes across 'inter crops like* *ragi*, *cholam* and pulses as in Mysore, and turmeric as in East Godavari.

14. *Pests and diseases.*—The most common pests of the coconut are the Rhinoceros beetle, and *Nephantis serinopa*; the latter is found even at Puri, and is more or less under control at present; it is however very difficult to control the rhinoceros beetle. There has been no serious outbreak of any pest which effected appreciable reduction in the coconut area or in the production of nuts.

15. Bud-rot disease is not generally prevalent in South India. It was met with in Chiplun in Ratnagiri District. The stem-bleeding disease is generally confined to those places where the drainage conditions are poor. Of the coconut palm diseases, only the so called 'wilt disease' has affected a large area in Travancore and reduced the production of nuts to some extent. It is, however, not possible to estimate the exact degree of reduction in production on account of the wilt disease. Kayamkulam tract of Karthigapalli taluk is badly affected by this disease. The Travancore Agricultural Department is concentrating its attention on the disease with a view to check it. Some of the workers on this disease are inclined to attribute it to mere physiological causes. It is said that systematic cultivation and regular manuring keep the disease under control. In recent years nowhere has it been necessary to cut down palms over a large area, and excepting for the wilt disease, the damage done by other diseases cannot be considered appreciable.

16. *Fruiting.*—If the trees are planted on the bunds of paddy lands or in the backwater areas or in the places where the water table is high, the trees commence to yield in five to six years and bear well by the tenth year. In other areas the trees yield in seven to ten years after planting and yield well after twelve to fifteen years. The trees in the backwater areas are said to have a very short span of life of thirty to forty years; and the explanation offered for the exceptionally short life is, that the trees commence to yield very early

* *Ragi*—Elcusine Coracana *Cholam*—Sorghum vulgore.

and exhaust themselves very soon. In other areas trees continue to yield well up to fifty or sixty years after planting. Even though the life of a coconut tree is said to extend over one hundred years, most of the trees die out by the eighteth or the nintieth year. The old trees in some places are allowed to die a natural death and fall down ; while in other places they are cut down and removed. Though the acknowledged time for underplanting is when the trees are forty to fifty years old the general practice is to *underplant* a garden when it is twenty to thirty years old. The under planted trees commence to yield in about twelve to fifteen years time but the maximum yield can be obtained only when the old trees are removed.

17. *Quality of nuts.*—The general belief is that the nuts on the coast are bigger in size than the nuts produced in the interior, and that the latter are sweeter and contain more oil than the former. Well matured nuts keep for a longer period than immature nuts. It is the opinion of traders, that the shells of the Mysore nuts crack during transport, whereas the nuts from the West Coast do not.

18. *Harvest.*—The general practice on the West Coast is to harvest the nuts six to twelve times in a year, but eight harvests are most common. In Orissa, nuts are harvested four times in a year and in Bengal, peculiarly enough, the nuts are harvested only once or twice in a year. In Ceylon six harvests are made in a year.

On the West Coast the summer harvests are heavy but the crop is poorer during the rainy season. The cost of harvesting is either met in kind or in cash ; if the former, it varies from five to ten per cent. of the nuts harvested, or one nut per harvest for every three trees. Throughout India, excepting the coastal tracts of Tanjore, men climb up the palms and cut the bunches, but in Ceylon and parts of Tanjore the bunches are cut down with a knife attached to a long bamboo pole.

19. *Yield.*—Near the coast, along the backwaters, and river and canal banks, the yields are usually heavy. On the hills and hill slopes the yields are comparatively poor. In table V the yields for various places as estimated by the cultivators are given.

TABLE V

Number of trees per acre and average yield of nuts per tree

(As estimated by the cultivators.)

Name of the place	Number of trees per acre	Average yield per tree	Average yield per acre (calculated)
Travancore State			
Thamaraiculam	100	39	3,900
Kovalam	75	30	2,250
Ettamuzhi	80	23	1,840
Kovilam	60	60	3,600
Thegaipatnam	100	25	2,500

Name of the place	Number of trees per acre	Average yield per tree	Average yield per acre (calculated)
Oruvadalkottai	90	30	2,700
Kadaikavur	80	50	4,000
Adoor	55	30	1,650
Thangacherry	100	100	10,000
Karunagapalli	75	26	1,950
Kayamkulam	100	20	2,000
Haripad	80	28	2,240
Mavelikkarai	75	40	3,000
Thiruvella	70	43	3,010
Shertallay	70	70	4,900
Vaikom	70	60	4,200
Parur	80	50	4,000
Cochin State			
Kumblingi	60	42	2,520
Cranganore	80	75	6,000
Irinjalakuda	65	40	2,600
Mannalur	60	42	2,520
Andicad	65	31	2,015
MADRAS PRESIENCY			
Malabar District			
Valapad	60	25	1,500
Chowghat	70	25	1,750
Ponnani	80	25	2,000
Tirur	70	22	1,540
Badagara	80	20	1,600
Nammanda	40	25	1,000
South Kanara District			
Charvathur	80	14	1,120
Tanjore District			
Adiramapatnam	60	35	2,100
Papanasam	100	25	2,500

These estimates must be accepted with caution. It was not possible to check up these estimates since no proper records were forthcoming: but in table VI the actual recorded yields as extracted from the books maintained by some of the garden owners are given.

TABLE VI

Yield of the coconut in backwater and inland areas of the West Coast

TABLE

Yields of coconuts in backwater

Number of nuts

(Actual records of yields from

Name of place	1923	1924	1925	1926
Inland (precarious) area				
Kasaragod	66	55	64	77
Ernakulam	..	..	..	..
Padiyur	..	..	..	..
Vallivattam	..	..	..	..
Padiyur. (1st garden)	..	..	..	..
Padiyur. (2nd garden)	..	..	..	..
Average	..	..	..	..
Backwater or Canal area				
Poomangalam (Changanacherry) ..	74	97	8?	84
Aymanum	..	..	..	..
Anjengo	49	63	46	59
Vallopalli	49	52	40	55
Valikakam	49	63	46	60
Average	..	..	..	..

VI

and inland areas of West Coast

per tree per annum

garden owners' books)

1927	1928	1929	1930	1931	1932	1933	Average
48	67	84	82	69	58	56	..
..	42	37	43	37	34	..	..
..	..	62	53	66	42	46*	..
..	..	31	31	16	22	24	..
..	..	50	49	58	31	32*	..
..	..	42	43	51	34	35*	..
..	..	*51*	*50*	*50*	*37*	..	*47*
84	88	81	84	99	90	84	..
60	59	60	52	57	57	..	..
61	61	67	66	72	66	66	..
54	65	67	61	66	63	54	..
62	54	69	66	62	47	63	..
..	..	*69*	*65*	*71*	*65*	*67*	..

From this table it would appear that in backwaters and canal areas the yields in 1932 were normal, but in the dry areas, where the coconut suffers from drought, the yield was much below the average. Over eighty per cent. of the coconut area on the West Coast is located outside of backwater and canal areas. Therefore over a large area, the production of coconuts in 1932 was most probably below normal. For purposes of comparison the average yields the backwater areas and inland areas which do not receive any benefit of seepage water from the canals are given below. It is interesting to note that in 1932 the yields for inland plantations in Ceylon were also low.

TABLE VII

Yields of coconuts

Number of nuts per tree per annum

Locality	1929	1930	1931	1932	1933	Average for 1929 to 1931	Yield in 1932 as percentage of average
West Coast Canal and backwater areas ..	69	65	71	65	67	68	95
West Coast inland area (precarious) ..	51	50	50	37	..	50	74
Ceylon inland area (precarious) ..	64	68	68	53	69	66	80

From the above table it would appear that the production on the West Coast was subnormal in 1932. This partly accounts for the comparatively low exports of coconut products from the West Coast. In the following table, taking the average exports of nuts, copra and oil, expressed in terms of nuts, for the three years ending 1930-31 as 100, the exports for 1931-32 are given for Travancore State, Ceylon, and for the West Coast ports including Alleppey and Cochin. The exports from Travancore represent exported surplus but the exports from West Coast ports do not represent the total exported surplus as both rail and road exports are not included. In the case of Ceylon the exports are given for calendar years commencing with 1929 and ending with 1933. For comparison taking the average exports for the three years ending 1930-31 as 100, the exports for 1931-32 also are shown.

TABLE VIII

Total exports of copra, coconut oil and nuts in terms of nuts

(In millions)

From	1928-29	1929-30	1930-31	1931-32	1932-33	Average for 1928-29 to 1930-31	Exports in 1931-32 as percentage of average
Travancore* .. (By all routes).	374	404	454	334	361	408	81
West Coast of India* (By sea only).	416	541	551	361	328	501	72
Ceylon† (By sea)	1,076	985	1,068	1,042	1,002	1,042	80

*1 ton of copra=6,250 nuts ; 1 ton of oil= 10,150 nuts.

†1 ton of copra=4,800 nuts ; 350 lbs. of desiccated coconuts=1,000 nuts ; 1 ton of oil=8,000 nuts.

20. It is very difficult to estimate the average yield for all coconut areas, and the estimates, therefore, are subject to limitations. However, it is necessary to make an attempt at estimating the yields for the main areas. The following annual, acre yields are estimated to be the average for the respective areas.

Locality	Average yeild per acre	Average number of tree per acre	Average yield per tree
	No. of nuts	No. of tree	No. of nuts
Travancore State..	1,750	75	23
Cochin, Malabar and South Kanara	1,600	80	20
Mysore State	2,000	50	40
Tanjore District—			
Delta	3,000	150	20
Coastal	1,750	55	32
East Godavari	2,000	50	40
Orissa	1,200	80	15
Kanara and Ratnagiri Districts	1,600	80	20
Bengal (Khulna District)	2,000	70	29
Ceylon	2,000	60	33

CHAPTER III

Cost of production of Coconuts

21. *Limitations of the study.*—In estimating the cost of production, I have mainly to depend on the estimates supplied by the cultivators and these naturally will not be quite accurate. The figures, therefore, of the cost of production in Table I in Appendix III can only be approximate. In the case of an estate in the hilly tracts at Thodupuzha (Travancore State) the actual figures of the accounts are furnished. And for the plantations in Ceylon, the cost of producing 1,000 nuts as obtained from the accounts is given in Table X.

Since the cost of land is a very variable factor, it has not been taken into account and the figures only for bringing up and maintaining an acre of coconut garden are given. In no case, excepting in Table IX, are the interest on the capital investment and the land tax included in the accounts.

The cost of fencing and repairs to fences has also been excluded from these estimates since the size of the plots, the availability of fencing material and the type of fencing material used are varying factors. In most cases the whole area is fenced but somtimes individual fences are put up for each of the seedlings and very rarely both individual and general fencing are combined. Usually, a fence is necessary only for a period of five years for the protection of seedlings from stray cattle, but often it becomes a permanent feature of the houses if they are located in the gardens.

22. *Cost of land.*—It is very hard to estimate the value of the land as it is affected by many factors ; and it is specially difficult in the case of the coconut, where a garden is also very often useful as a house site in addition to its productive value. In the past some coconut lands fetched as much as Rs. 5,000 per acre, and in those times of high prices paddy lands were converted into coconut gardens at a very high cost which involved the filling up of paddy lands. One of the factors—a very important one—which raised the cost of production of coconuts was the high cost of land which was artificially made up partly by the scarcity of suitable land and partly on account of the high prices of coconuts which prevailed several years ago. According to the figures furnished by the Registration Department in Travancore, the average price per coconut garden varied between Rs. 300 to Rs. 900 in 1930 per acre. The cost of land since then has depreciated considerably. Lands suitable for developing into coconut gardens with easy access to roads are very difficult to obtain and if they can be had, the prices range between Rs. 200 to Rs. 300 per acre in Travancore and on the West Coast. The Government waste lands which will have to be cleared and brought under cultivation may be obtainable for about Rs. 50 to Rs. 100 per acre.

In Ceylon, coconut gardens bearing nuts have been sold recently for Rs. 250 to Rs. 300 per acre; but the normal price is about Rs. 700 per acre. Government waste lands can be had in Ceylon for about Rs. 40 to Rs. 50 per acre.

The average size of the coconut plantations on the West Coast is below two acres. In Ceylon over fifty per cent. of the coconut area is in holdings of over ten acres. Organised large scale plantations which are noticeable in

Ceylon are completely absent in India. As the size of the holding in India is small the return expected from a unit area is more in India than in Ceylon. The majority of the agricultural holdings on the West Coast are so small that the cultivators could attend to the farming operations themselves without the help of hired labour, but the cultivators do not like to do the manual work in the field and hence they employ agricultural labourers.

23. *Cost upto commencement of bearing.*—In calculating the cost of bringing an acre of coconut garden into bearing, a period of five to eight years has been taken into account. In Table I in Appendix III the cost of bringing and maintaining an acre of coconut garden is shown for sixteen places in the Travancore State, five in the Cochin State, and four in the Malabar District. If the figures are examined, it will be noticed that the most variable items are watering, manuring and cultivation. The cost of bringing up an acre of coconut garden varies between about Rs. 100 and Rs. 500 per acre. The cost of raising a coconut garden is generally below Rs. 200 in the Cochin State and Malabar, and generally below Rs. 300 in Tanjore and it is about the highest in Travancore State.

TABLE IX

(Actual cost from garden owner's account)

Cost of bringing up and maintaining of coconut garden in Thodupuzha, Travancore State

	Rs. a. p. Per acre.
First year—	
Land value	100 0 0
Felling and clearing	10 0 0
Heaping and burning	4 0 0
Survey	1 0 0
Roads and drains	5 0 0
Lining	2 0 0
Holing (3′×3′×3′)	4 0 0
Filling (Surface soil)	2 0 0
Planting	0 8 0
Fencing	5 0 0
Shading	3 0 0
Up-rooting stumps	4 0 0
Weeding (10 rounds)	25 0 0
Trenching	5 0 0
Tools	3 8 0
Seedlings	9 0 0
Management	1 0 0
Total	184 0 0

	Rs.	a.	p.	
Second year—	Per acre.			
Roads and drains (repairing)	1	8	0	
Supplying	2	0	0	
Repairing holes	1	0	0	
Boundaries and watchman	1	0	0	
Fencing	2	8	0	
Shading	1	0	0	
Tools	3	0	0	
Weeding (10 rounds)	25	0	0	
Contingencies	1	0	0	
Land Tax	1	0	0	
Management	1	0	0	
Total	40	0	0	
Third and Fourth years—				
Roads and drains	3	0	0	for 2 years.
Supplying	2	0	0	do.
Repairing holes	2	0	0	do.
Boundaries and Watchman	2	0	0	do.
Fencing	4	8	0	do.
Shading	0	8	0	for 1 year.
Tools	6	0	0	for 2 years.
Weeding	30	0	0	do.
Contingencies	2	0	0	do.
Land Tax	2	0	0	do.
Management	2	0	0	do.
Total	56	0	0	
Fifth to Tenth year—				
Roads and drains	6	0	0	for 6 years.
Tools	18	0	0	do.
Weeding	12	0	0	do.
Boundaries and Watchman	6	0	0	do.
Round fencing	3	0	0	do.
Tilling	18	0	0	do.
Thadams (taking and filling)	17	0	0	do.
Pests and Blights	12	0	0	do.
Stone *Kayala* (revetment)	10	0	0	do.
Contingencies	6	0	0	do.
Land Tax	6	0	0	do.
Management	6	0	0	do.
Total	120	0	0	
Grand total for an acre for ten years	400	0	0	

24. *Cost of maintenance.*—The cost of maintaining an acre of coconut averages at about Rs. 25 on the West Coast. It is lower in Malabar than in Travancore.

In Table X the cost of producing a unit of thousand nuts in some of the best coconut plantations in Ceylon is given. The figures for the cost of production do not include the interest on capital investment but include the cost of supervision. It is interesting to note that the cost of production has been reduced year after year with the fall in the prices. An experienced planter estimated that the cost of production, including the cost of transport and marketing charges, but excluding the interest on capital, when the plantations are not manured with artificial manures is Rs. 12-8-0 for Madampe, Negombo, Colombo and Kaltura districts and Rs. 15 to Rs. 18 for Batticola estates, Rs. 18 for Kurunegalla and Rs. 15 for Puttalam districts.

TABLE X

(From actual records of planters)

Cost of production—per 1,000 nuts—in Ceylon

Year.	Estate				Average price per 1,000 nuts
	A.	B.	C.	D.	
			With manure / Without manure		
	Rs.	Rs.	Rs. / Rs.	Rs.	Rs.
1930	16·85	..	16·26 / 12·77	21·88	..
1931	9·61	11·43	10·29 / 8·99	13·73	..
1932	11·27	16·38	.. / 10·03	15·52	44·60
1933	10·23	12·28	.. / 7·31	14·16	29·36

25. Not taking into consideration the interest on the investments on gardens and taxation of coconuts, the following assumptions have been made on the basis of the material available, to facilitate comparison between the income of the producers in Ceylon and those in India.

(*a*) That the average yield in Ceylon is 2,000 nuts per acre.

(*b*) That the average yield in Travancore State is 1,750 nuts per acre.

(*c*) That the average yield in Malabar is 1,600 nuts per acre.

(*d*) That the cost of production in Ceylon averages Rs. 15 per 1,000 nuts.

(*e*) That the cost of maintenance of coconut in Travancore averages Rs. 25 per acre.

(*f*) That the cost of maintenance of coconut gardens in Malabar averages Rs. 20 per acre.

(*g*) That the average price of nuts in Travancore during October 1933 was Rs. 20 per 1,000 unhusked nuts.

(*h*) That the average price during October 1933 in Malabar was Rs. 22 per 1,000 unhusked nuts.

(*i*) The average price during October 1933 in Ceylon was Rs. 22 per 1,000 unhusked nuts.

The income therefore, per acre in Ceylon would be Rs. 44 ; in Travancore State and Malabar District Rs. 35.

Since an acre in Ceylon is taken to yield 2,000 nuts and the cost of production per 1,000 nuts is assumed to be Rs. 15, it is obvious that the cost of maintenance per acre in Ceylon is Rs. 30. The income from an acre of garden land after deducting the cost of maintenance for an acre from the value realised out of the sale of nuts will therefore be Rs. 14 in Ceylon, Rs. 10 in Travancore, and Rs. 15 in Malabar District.

26. *Taxes on coconut.*—Excepting in Travancore which levies an export duty on coconut products, nowhere in India are coconuts indirectly taxed. The land assessment rates for the Government *Janmam* lands are higher than the private *Janmam* lands. The Government have recognised the interest of landlords in private *janmam* lands, and in determining the assessment therefore an allowance is made for the shares of the landlord as well as the cultivating tenant, in the produce of the land. The assessment on both these kinds of tenures are however, subject to revision. Very few of the private *Janmam* lands are available for planting coconut and future expansion must take place mainly on Government lands. In the Cochin State as well as in Travancore the assessment on garden lands is of a mixed character. It is made up partly of tree assessment and partly of ground assessment, one being exclusive of the other ; that is to say gardens fully planted with assessable bearing trees have been subjected only to the tree assessment, those containing no taxable trees have been charged ground assessment only. The assessment has been determined by taking the productive trees and assessing the rest of the garden at the appropriate dry rates applicable to the land. A coconut garden in Travancore is considered fully planted up when it contains one hundred bearing trees ; and in Cochin with sixty bearing trees. In the Cochin State most of the gardens would not be required to pay any ground assessment since generally an acre contains more than sixty bearing trees, but in Travancore most of the gardens bear ground assessment in addition to the tree taxes as the average number of bearing trees per acre is only seventy-five which accounts for seventy-five cents of the land. The remaining twenty-five cents of the land is subject to " Ground Assessment " at ordinary dry rates. It is therefore necessary to add the " ground assessment " to the tree tax in order to obtain the incidence of taxation on coconut lands in Travancore. It is not enough to add only the tree tax and the ground assessment since there is indirect taxation in the form of export duties on coconut products. It has been elsewhere estimated that the average yield per acre in Travancore is in the neighbourhood of 1,750 nuts. If the copra and coir yarn from these 1,750 nuts are to be exported a duty of roughly Rs. 6-3-0 will have to be paid which ultimately falls on the producer. Adding the export duty, the tree assessment, and ground assessment we find that an acre of coconut in Travancore would bear taxation of Rs. 9 to about Rs. 17-8-0 *vide* table XI. The incidence of taxation on non-Government lands would be less but since about eighty per cent. of the coconut gardens are Government lands, the figures given in the tables represent the incidence of taxation on the major area.

TABLE XI

Rates of assessment for various kinds of lands on the West Coast

Class of land	Pandaravagai Verumpattam						Pandaravagai Kanom						Puthuvagai					
	Per tree			Per acre			Per tree			Per acre			Per tree			Per acre		
	Rs.	a.	p.	Rs.	as	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.
Cochin State																		
Class I	0	3	6	13	2	0	0	2	4	8	12	0	0	0	10½	3	4	6
„ II	0	3	0	11	4	0	0	2	0	7	8	0	0	0	9	2	13	0
„ III ..	0	2	0	7	8	0	0	1	4	5	0	0	0	0	6	1	14	0
„ IV	0	1	0	3	12	0	0	0	8	2	8	0	0	0	3	0	15	0

Class of land	Tax per tree			Tree tax per acre containing 75 trees			Ground assessment for the balance 25 cents			Total including indirect taxation*			Remarks
	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	
Travancore State													
Class I	0	2	3½	10	12	0	0	8	5	17	7	5	* Export duty of
„ II	0	2	0	9	6	0	0	7	5	16	0	5	Rs. 6-3-0 per acre
„ III ..	0	1	8	7	13	0	0	6	5	14	6	5	on copra and yarn
„ IV	0	1	5	6	10	3	0	5	7	13	2	10	obtainable from
„ V	0	1	3	5	13	9	0	4	9	12	5	6	1,750 nuts, *i.e.*,
„ VI	0	1	1	4	15	11	0	3	11	11	6	10	estimated acre yield
„ VII ..	0	0	10	3	14	6	0	3	4	10	4	10	for Travancore.
„ VIII ..	0	0	7	2	11	9	0	2	10	9	1	7	

In Cochin only twenty per cent. of the land is *Pandaravagai Verumpattam* (Government land) and twenty-six, forty-three, eighteen and thirteen per cent. of the assessed Government lands bear respectively land assessments of Rs. 13-12-0, 11-4-0, 7-8-0 and 3-12-0 per acre including the tree tax.

In Malabar almost all the coconut gardens are on private *Janmam* lands, the assessment on which varies from Rs. 1-3-0 per acre to Rs. 8-5-0 per acre as shown in table XII. For Government *Janmam* garden lands, the land assessment varies from Rs. 2-6-0 to Rs. 16-10-0 per acre.

TABLE XII

Rates of assessment for various kinds of lands on the West Coast

Class of land	Rate for Private Janmam land per acre			Rate for Government Janmam land per acre		
	Rs.	a.	p.	Rs.	a.	p.
Malabar District.						
Class I	8	5	0	16	10	0
„ II	7	2	0	14	4	0
„ III	5	15	0	11	14	0
„ IV	4	12	0	9	8	0
„ V	3	9	0	7	2	0
„ VI	2	6	0	4	12	0
„ VII	1	3	0	2	6	0

On account of the low prices of the nuts the remissions of the land tax for the year 1932-33 have been granted varying from 6½ to 25 per cent. in Malabar and in the States of Cochin and Travancore.

In Ceylon there is no land tax but there are death duties and agricultural income is not free from income-tax as in British India. The minimum taxable income is Rs. 4,800 per annum. An export duty on the exports of coconuts and conconut products was levied at the following rates—

	Rs.
Desiccated coconuts	0·55 per cwt.
Coconut oil	0·65 „
Copra	0·50 „
Cake	0·20 „
Fresh nuts	2·00 per thousand.

The duty has recently been abolished as the industry has been suffering from a slump in prices.

For want of detailed information regarding taxation in Ceylon, it is not possible to compare the incidence of taxation in India and in Ceylon.

CHAPTER IV

Trade in Fresh Nuts

27. *Marketing of nuts.*—If the nuts are to be sent up-country, the middlemen purchase the nuts from the ryots and sell to the agents of the up-country merchants, generally on a commission basis of Rs. 2/8 per 1,000 nuts. Even though the prices are generally quoted per 1,000, the ryots have to give more than 1,000 nuts to the dealer or the up-country merchant. The excess is supposed to cover losses caused by breakages, dryage and the presence of empty or undersized nuts. On the West Coast the producer frequently parts with 1,020 to 1,060 nuts when he is paid for 1,000 nuts. In Tanjore the cultivator generally hands over 1,050 to 1,250 nuts when he is paid for 1,000 nuts. In some cases the unit of trade at the consuming centre is different from the unit of trade at the producing centre. In the Bombay market, the unit of trade is 1,250 nuts and in Orissa it is 720 nuts. Generally, when the purchaser selects the nuts, he is not paid any extra nuts. In Tanjore the following units are current at different places.

Name of the place	Number of nuts actually sent to Madras unit	Number of nuts sent to other places unit
Adiramapatnam	1,100	1,100
Thambikkottai	1,100	1,100
Muthupet	1,100	1,020
Kumbakonam	1,050	1,050
Ayyampet	1,200	..

28. *Husking.*—The agents or up-country merchants purchase either husked or unhusked nuts. It is believed that if husked nuts are stored, they dry up quicker than the unhusked nuts. The nuts which are intended for local consumption and short distance transport are fully husked. The nuts intended for transport by wagons and boat loads to far off places, are partially husked. The presence of the fibre on the nuts reduces breakage and dryage during handling and transport. The markets at Broach and Bhavnagar require slightly husked nuts where only the rind is removed. The cost for Broach type of husking is Rs. 1/12 per 1,000, for partial or half husking as required in Bombay, North Indian and Madras markets, it is Re. 1 per 1,000. For full husking it generally costs 10 annas per 1,000. A man husks fully about 720 nuts per day ; but there are instances where about 1,000 nuts have been husked in a day.

29. *Types of nuts.*—Two distinct types, the dry and fresh or green, are recognised by trade. The dry nuts, what are commonly known as "*kottai*", are the nuts which are stored for generally eight to twelve months. This type of nuts possesses some advantages over the fresh nuts which are generally known as "*panicha*". The former is less heavy for transport purposes and can be kept for a longer period without deterioration. The demand for stored nuts is mainly confined to the Punjab and United Provinces and the supply of

dry nuts is mainly from Malabar and Mysore. The Bombay market prefers fresh nuts. The price for stored nuts is generally Rs. 5 per 1,000 higher than the price for fresh nuts. During the storage about 5 per cent. of the nuts gets spoilt.

30. *Grades of nuts.*—In Malabar, the agents of the up-country merchants grade the nuts according to the size. A standard bag such as is generally used for shipping the husked nuts will hold from 110 to 400 nuts according to the size. Each of the grades of nuts is known by the number of nuts per bag; 110, 120, 150, 200, 300 and 400 are the most common grades of nuts. The following prices were quoted at Ponnani for the first four grades of nuts for delivery at Bombay godown :—

	Price for 1,250 nuts on 27th October 1933
	Rs.
110 nuts per bag	50
125 nuts per bag	41
150 nuts per bag	36
200 nuts per bag	32

31. *Trade centres.*—The main centres of trade in nuts are Calicut, Badagara, Ponnani, Tellicherry, Cannanore, Cochin, Nagercoil, Alleppey on the west and Mangalore coast. In Mysore, Arsikere and Tiptur are the centres for trade in nuts with up-country merchants. In Ratnagiri district, Ratnagiri and Malwan, and in North Kanara, Kumta and Honavar are business centres. In Orissa, Puri, Sakhigopal and Kujang; in Bengal, Khulna, Barrisal, Chowmohini, Sandwip, Lakshmipur, Ramganj and Bakgerghat; in Godavari Ambazipeta, Razole, Narasapur, Rajahmundry and Coconada are the main centres of trade. In Tanjore, Adiramapatnam, Thambikkottai, Muthupet, Kumbakonam, and Ayyampet are the chief centres.

32. *Transport and freight.*—Almost all the nuts which are sent out from the West Coast are transported in country crafts and rarely in steamships. Twenty standard bags make a shipping ton. The freight for this from the West Coast to Bombay is Rs. 6, to Karachi Rs. 8-8-0, to Calcutta and to Rangoon Rs. 25. The freight for 1,000 unhusked nuts to Broach or Bhavnagar is Rs. 12 to Rs. 13 when carried loose in country crafts. For the nuts which are husked. the freight for Kathiawar ports is Rs. 8-8-0 per ton; but if the shipping involves transhipment the charge is Rs. 12 for 1,000 nuts. In addition, port dues, insurance, husking charges, the cost of handling, and transport have to be taken into consideration. Internal long distance transport of nuts is wholly by rail excepting in Bengal where facilities for water transport exist. When the nuts are sent in wagons they are generally loaded loose; but when small consignments are to be sent they are packed in gunny bags. A twelve ton wagon generally carries 12,000 big sized partially husked nuts. Watching the nuts at the Railway Station, counting and loading of nuts into wagons and other incidentals are generally done on contract basis, the cost of which varies from Rs. 4 to Rs. 6 per wagon

33. *Prices of nuts.*—The prices of stored nuts are based on the prices of edible copra ; and the prices of fresh nuts which are intended for up-country consumption are slightly higher than the prices of fresh nuts which are converted into crushing quality of copra. The price which a cultivator receives for the fresh unhusked nuts is affected by three factors: the proximity of the market from the village, the copra content of the nuts, *i.e.*, the number of nuts required to yield a unit weight of copra, and the price of husk. Since the summer nuts are generally bigger in size and contain more copra than the nuts harvested in the rainy season, the prices for the summer nuts are naturally higher.

Markets obtain their supplies from more than one centre of production and therefore the price of any one centre of production is affected by changes in the prices in other centres of production. Bengal and Orissa, Godavari, Mysore and Malabar supply fresh nuts to North Indian markets. The prices in Bengal are affected by the prices in Orissa which depend upon the prices in the Godavari districts. The prices in the Godavari districts also affect the prices in Tanjore and in turn are affected by prices in Mysore. The prices in Mysore must be competitive with the prices in Malabar. Thus the prices all over India are governed by the prices on the West Coast.

The prices of coconuts on the West Coast for a number of years are not available. In 1928-29 the price of coconuts was Rs. 60 per 1,000; but in 1931-32 it averaged Rs. 33 per 1,000. In the accompanying table the prices which prevailed in the various places at the time of the enquiry are given. They generally indicate that the cultivator receives a reasonable share of the prices. In Travancore the prices of nuts with husk varied from Rs. 15 to 20 per 1,000, the most common price being Rs. 20. The price of fresh nuts in the husk in Cochin, Malabar and South Kanara varied from Rs. 16 to 22 per 1,000.

TABLE XIII

Price of coconuts current at the time of the enquiry

Place	Nuts in the husk per 1000	Green husks per 1000
	Rs. A. P.	Rs. A. P.
Travancore State		
Thamaraicolam	20 0 0	2 8 0
Kovalam	20 0 0	..
Ettamuzhi	20 0 0	2 8 0
Nagercoil	..	..
Kovilam	15 to 18	2 8 0
Thengaipatnam	15 to 18	2 to 4
Oruvadalkottai	20 0 0	5 12 0
Attingal	..	5 0 0
Adoor	15 0 0	1 4 0
Kottarakara	15 0 0	2 8 0

TABLE XIII—*contd.*

Place	Nuts in the husk per 1,000	Green husks per 1,000
	Rs. A. P.	Rs. A. P.
Travancore State—contd.		
Karunagapalli	20 0 0	3 8 0
Kayamkulam	20 0 0	3 8 0
		5 0 0*
Haripad	20 0 0	3 0 0*
		5 0 0*
Mavellikkara	15 to 20	2 8 0
Changanacherry	17 8 0	3 0 0
Shertallay	18 0 0	3 0 0
Vaikom	19 0 0	2 0 0
Parur	20 0 0	4 8 0
Idapally	20 0 0	2 8 0
Cochin State		
Kumblingi	22 8 0	4 12 0
Cranganore	20 0 0	5 0 0
Irinjalakuda	18 0 0	..
Mannalur	22 0 0	4 0 0
Andicad	23 0 0	3 0 0
Malabar District		
Valapad	19 0 0	4 12 0
Chowghat	19 0 0	..
Ponnani	21 0 0	..
Tirrur	18 0 0	..
Pantalyini	20 0 0	..
Badagara	16 0 0	..
South Kanara District		
Charvathur	15 to 16	..
Kasaragod	20 0 0	...
Tanjore District		
Adiramapatnam	15 0 0(*a*)	..
Thambikkottai	15 0 0(*a*)	..
Muthupet	13 0 0(*a*)	..
Kumbakonam	15 0 0(*b*)	..
Tanjore	17 0 0(*b*)	..
Nannilam	14 0 0(*c*)	...
Ayyampet	15 0 0(*d*)	

* Wholesale price.
(*a*) For 1,100 nuts.
(*b*) For 1,200 nuts.
(*c*) For 1,050 nuts.
(*d*) For 1,250 nuts.

In Ratnagiri and Kanara the price for unhusked nuts at the time of the enquiry was Rs. 20 to Rs. 25. In Bengal the price varied from Rs. 18 to Rs. 20 per 1,000, and in Orissa fresh nuts fetched Rs. 18 to Rs. 19 per 1,000 while the stored nuts fetched from Rs. 22 to Rs. 23. In East Godavari the nuts are purchased from the ryots at a price of Rs. 16 to Rs. 18 per 1,000. In Mysore the cultivators receive between Rs. 20 to Rs. 25 per 1,100 fresh or green nuts. The wholesale prices per 1,000 nuts in Mysore for the past nine years are given below.

Year	Price per 1,000 nuts in July
	Rs. a. p.
1914	44 0 0
1925	82 12 0
1926	64 6 0
1927	54 4 0
1928	61 11 2
1929	57 6 5
1930	43 12 0
1931	36 0 0
1932	54 12 0
1933	40 12 10

In Tanjore the cultivator obtained the lowest price of Rs. 13 to Rs. 15 for 1,100 to 1,200 nuts. In Ceylon the price for 1,000 nuts respectively averaged Rs. 44·60 and Rs. 29·36 for 1931 and 1932. During the last three months in 1933, the price of nuts at Colombo fluctuated from Rs. 20 to Rs. 27. The prices in Ceylon are not comparable with the prices in India quoted above, as Ceylon prices represent the prices at the exporting centre while the Indian prices are those which a cultivator receives at his garden. The copra content of Ceylon nuts is also more than the copra content of Indian nuts and therefore 1,000 Indian nuts are not comparable with the same number of Ceylon nuts.

34. *Trade in nuts.*—Nuts from the West Coast are sent to Bombay' Karachi and to parts of the Madras Presidency. The East Godavari District supplies nuts to Hyderabad State, Delhi, Cawnpore and Sholapur. Mysore State despatches nuts to Hyderabad, to the Bombay Presidency as far as Poona, and to Delhi and Cawnpore, while the Bombay districts of North Kanara and Ratnagiri send nuts to the adjoining Belgaum and Dharwar districts. Orissa supplies nuts to Central Provinces and Bihar. Coconuts from various parts of Bengal find their way to Calcutta, Cawnpore, Delhi, Patna, United Provinces, North Bengal and North Bihar. In addition to the nuts produced in Bengal, coconuts are imported into Calcutta from the Maldives. Burma receives her supplies of nuts from Bengal, the Straits Settlements and from the Andamans and Nicobar Islands. The South Indian requirements of nuts are met by such of the districts as are in a position to supply them.

35. *Railborne traffic in nuts.*—Excepting the figures for the Mysore State and the Tanjore District, no reliable data are available for the transport of nuts. In East Godavari the figures for the transport of nuts and copra are not

separately maintained and therefore cannot be made use of. Nearly complete figures for the transport of nuts by rail available for Tanjore District and Mysore State which are given in Tables XIV, XV, XVI.

TABLE XIV

Railborne exports in thousands of nuts for the first seven months of each year from important trade centres in Tanjore District

Year	Adirama-patnam	Thambi-kkottai	Muthupet	Total	Kumba-konam	Total
		To Madras Beach				
1930	1,238	2,190	1,344	4,772	..	..
1931	2,118	2,836	2,570	7,524	80	7,604
1932	156	696	671	1,523	60	1,583
1933	1,386	1,860	2,516	5,762	650	6,412
		To other places				
1930	134	150	123	407	..	..
1931 . ..	66	171	378	615	605	1,220
1932	184	175	164	523	315	838
1933	12	27	443	482	155	637
		Total				
1930	1,372	2,340	1,467	5,179	..	..
1931	2,184	3,007	2,948	8,139	685	8,824
1932	340	871	835	2,046	375	2,421
1933	1,398	1,887	2,959	6,244	805	7,049

TABLE XV

Railborne exports in thousands of nuts for the calendar year

From important trade centres in Tanjore District

Year	Adirama-patnam	Thambi-kkottai	Muthupet	Total	Kumba-konam	Total
		To Madras Beach				
1930	2,882	3,837	3,775	10,494	..	..
1931	2,916	3,514	3,102	9,532	115	9,647
1932	497	1,236	1,861	3,594	135	3,729
		To other places				
1930	290	271	215	776	..	..
1931	461	646	533	1,640	1,085	2,725
1932	197	223	169	589	930	1,519
		Total				
1930	3,172	4,108	3,990	11,270	..	..
1931	3,377	4,160	3,635	11,172	1,200	12,372
1932	694	1,459	2,030	4,183	1,065	5,248

36. *Tanjore district.*—From tables XIV and XV it is clear that most of the consignments of nuts from Tanjore are to Madras City only. It is interesting to note that the despatches of nuts in 1932 were not even half the total number of nuts despatched in 1930, 1931 or 1933. This must be attributed to the short crop in 1932, as Tanjore exports no copra and no coconut oil. It is estimated that normally about 175 lakhs of nuts are sent from Tanjore mostly to various parts of the Madras Presidency.

TABLE XVI

Railborne exports and imports of coconuts from and into the Mysore State

(In maunds of 82 2/7 lb.)

Year	Exports	Imports
1914-15	106,441	24,246
1915-16	144,943	25,077
1916-17	150,240	27,138
1917-18	75,186	37,386
1918-19	163,006	38,240
1919-20	297,260	18,214
1920-21	204,267	17,786
1921-22	247,813	31,246
1922-23	186,807	45,295
1923-24	203,515	24,820
1924-25	181,091	35,101
1925-26	79,293	62,290
1926-27	121,848	49,397
1927-28	307,363	18,263
1928-29	127,505	43,849
1929-30	150,285	35,514
1930-31	199,447	20,606
1931-32	250,676	18,297
1932-33	242,940	18,978

37. *Mysore State.*—The average annual railborne exports for the last five years from the Mysore State amounted to 194,170 railway maunds or, say, 11·6 million nuts valued at about 7½ lakhs of rupees. The exports of nuts fluctuate from year to year and these are mainly consigned during June and July when the supply of nuts from Malabar is reduced owing to monsoon. Small quantities of nuts are also imported into Mysore by road mostly from the neighbouring districts of South Kanara, North Kanara and Coimbatore. On an average for the past five years ending March 1933 about 1·7 million nuts valued at 1¼ lakhs of rupees were imported into the Mysore State. In recent years the imports of nuts appear to be on the decline and exports on the increase *vide* table XVI.

TABLE XVII

Export of coconuts, copra and oil in terms of nuts from Travancore State (By all routes)

(In thousands)

Year—Mid. August to Mid. August	Exports as whole nuts	Exports as copra (In terms of (nuts*)	Exports as coconut oil (In terms of nuts†)	Total exports (In terms of nuts)
1912-13	8,642	139,000	101,200	248,842
1913-14	11,953	189,800	115,300	317,053
1914-15	13,679	119,200	138,400	271,279
1915-16	16,375	132,300	154,200	302,875
1916-17	14,413	115,800	162,700	292,913
1917-18	14,520	104,200	174,000	292,720
1918-19	19,905	186,900	148,500	355,305
1919-20	19,815	108,500	156,200	284,515
1920-21	15,010	119,000	193,200	327,210
1921-22	17,068	176,600	205,900	399,568
1922-23	14,741	113,600	199,000	327,341
1923-24	15,110	95,300	214,900	325,310
1924-25	16,418	111,900	204,200	332,518
1925-26	16,129	151,000	205,300	372,429
1926-27	18,976	142,800	212,900	374,676
1927-28	19,400	144,300	217,600	381,300
1928-29	22,146	131,600	220,200	373,946
1929-30	23,431	105,300	275,700	404,431
1930-31	18,822	120,700	315,200	454,722
1931-32	22,581	81,600	229,900	334,081
1932-33	21,160	93,850	245,700	360,710

* One ton of copra is assumed to be obtained from 6,250 nuts.

† One ton of oil is assumed to be crushed out of copra got from 10,150 nuts.

38. *Travancore State.*—In 1852-53 about 4¼ million nuts were despatched from the Travancore State, but by 1932-33 the exports had increased to over 21 million nuts—an increase of about 500 per cent. During the last twenty years the consignments of nuts have doubled but the ratio of exported nuts to the total exports of copra, oil and nuts in terms of nuts has not appreciably changed. In 1913-14 the exports of nuts were 4·75 per cent. of the exports of all commodities (nuts, copra and oil) expressed in terms of nuts, and in 1931-32 this percentage was 6·76 (*vide* table 11 Appendix IV).

TABLE XVIII

Export of coconuts from the Travancore State

(In thousands By all routes)

Exporting Customs House	Year—Mid August to mid August					Five year average	Porcentage of average to total average
	1927-28	1928-29	1929-30	1930-31	1931-32		
Alleppey	17	95	6	26	1,381	305	1·4
Aramboli	8,090	7,182	7,903	8,154	8,648	7,996	37·6
Arukutti	2,373	2,586	2,533	1,030	410	1,786	8·4
Trivandrum-Tinnevelly Railway	1,306	3,740	4,611	1,314	4,107	3,016	14·2
Cochin-Shoranur Railway ..	393	296	244	212	211	271	1·3
Others	7,221	8,245	8,133	8,084	7,823	7,901	37·1
Total ..	19,400	22,144	23,430	18,820	22,580	21,275	100·0

On an average for the last five years out of the 21 million nuts exported per year, 33 per cent. of the nuts or about 8 million nuts per year were sent through Aramboli Customs House to the Tinnevelly District. About 3 million or 14 per cent. of the total exports of nuts were carried through Trivandrum-Tinnevelly Railway mostly to the Tinnevelly District. About two million nuts are annually sent to Cochin, partly for export and partly for conversion of the nuts into Copra. The shipments of nuts from the port of Alleppey are very meagre (*vide* table XVIII).

TABLE XIX

Seaborne Export of coconuts from the West Coast Ports

(In thousands of nuts)

Year—1st July to 30th June	Alleppey	Cochin	Ponnani	Calicut	Badagara	Tellicherry	Cannanore	Mangalore	Total* Malabar and South Kanara (Columns 4 to 9)	Total* (Column 2 to 9)
1916-17	1	50	7,494	23,520	7,044	3,457	1,105	3,854	46,474	46,525
1917-18	..	46	3,549	22,621	6,039	2,949	939	2,583	38,682	38,729
1918-19	1	13	2,726	14,154	2,214	1,620	846	1,004	22,564	22,578
1919-20	1	37	6,391	17,145	4,542	3,775	1,429	1,567	34,849	34,887
1920-21	..	10	5,821	18,884	5,079	2,182	2,695	933	35,594	35,604
1921-22	10	59	10,031	26,533	5,112	7,217	7,396	730	57,019	57,089
1922-23	132	432	12,568	41,755	4,665	8,640	8,400	713	72,741	73,304
1923-24	10	482	14,169	28,006	5,096	4,438	5,219	459	57,392	57,884
1924-25	20	584	15,583	36,296	11,746	7,669	5,242	613	77,149	77,753
1925-26	1	46	12,881	38,202	11,550	5,113	4,512	1,019	73,277	73,323
1926-27	..	415	11,874	35,672	10,287	5,393	4,642	485	68,353	68,768
1927-28	..	761	12,502	42,569	13,510	5,777	2,960	677	77,995	78,755
1928-29	108	1,021	12,819	37,326	18,096	9,943	4,777	574	83,535	84,663
1929-30	..	1,523	11,945	57,638	24,243	10,838	7,302	443	112,409	113,932
1930-31	..	2,350	10,673	54,007	17,859	7,867	5,085	148	95,639	97,989
1931-32	737	1,811	13,462	41,673	12,234	12,889	4,372	882	85,513	88,061
1932-33	1,814†	5,982	15,840	47,303	22,363	9,963	4,858	197	101,524	108,320

* The totals have been obtained before rounding of the figures into thousands.

† For Mid-August to Mid-August year.

39. *West Coast ports.*—In table XIX the shipments of nuts from the West Coast ports are given for the past seventeen years. The figures indicate a phenomenal increase in the exports of nuts which averaged for the past five years 98 million nuts per annum. Of the shipments of nuts from the West Coast ports during the last four years, those exported in 1931-32 were the lowest. Calicut with an average export of about 48 million nuts per annum leads in the export of nuts and is followed by Badagara—19, Ponnani—13, Tellicherry—10, Cannanore—5, Cochin—2 and Mangalore—0·4 millions of nuts. Out of about 98 millions of nuts which are shipped from the West Coast ports about 95 million nuts are from the ports in Malabar and South Kanara. While about 7 per cent. of the total exports of copra, oil and nuts in terms of nuts from Travancore, are in the form of nuts, as much as 42 per cent. of the total exports from Malabar and South Kanara (copra, oil and nuts expressed in terms of nuts) are shipped as nuts only. This indicates that the export duties in Travancore operate against a large increase in the exports of nuts.

TABLE XX

Distribution of the shipments of coconuts from the West Coast Ports

(In thousands of nuts)

Year ending 30th June	to Bombay	Madras	Burma	Other ports
1916-17	24,641	362	2	619
1917-18	37,559	670	2	496
1918-19	21,364	701	..	563
1919-20	32,710	1,141	..	975
1920-21	34,264	439	..	900
1921-22	53,942	143	10	2,994
1922-23	73,931	452	..	4,880
1923-24	89,761	34	9	4,519
1924-25	72,691	248	..	4,793
1925-26	68,580	102	..	4,808
1926-27	63,158	29	..	5,497
1927-28	73,689	..	..	5,067
1928-29	79,160	..	..	4,475
1929-30	107,668	..	1	5,151
1930-31	76,741	..	18	5,223
1931-32	83,115	..	..	4,946

NOTE.—The exports to Europe are not included under "other ports". Most of the exports of nuts shown under "other ports" are shipped to Karachi.

Most of the nuts from the West Coast ports are consigned to Bombay from where they are transhipped by rail or boat. As most of the nuts are carried in country boats or small coasting vessels, it is found necessary to tranship the nuts at Bombay for ports in Kathiawar and Gujerat. On an average for the

past five years, 84 million nuts were sent to Bombay and five million nuts were sent to other ports, most of which were to Karachi, *vide* table XX. There are practically no shipments of nuts from these ports to the ports in Burmah, Madras, Bengal or any other foreign country. The small number of nuts which is sometimes shown as having been consigned to America or Europe mostly represents the number of nuts taken for ships' stores.

40. *Godavari.*—Sea-borne shipments of coconuts from the port of Coconada.

Year	No. of nuts (In thousands)
1926-27	4,514
1927-28	4,130
1928-29	2,580
1929-30	1,662
1930-31	4,741
1931-32	5,509
1932-33	1,992

The nuts which are sent out from Coconada are chiefly consigned to Burma and are the produce of Godavari.

TABLE XXI

Shipments of coconuts from the ports in the various provinces in India

(In thousands of nuts)

Years.	Sind			Madras*			Burma			Bengal			Bombay			Grand total for India		
	Coastwise	Foreign Exports	Total	Coastwise	Foreign Exports	Total	Coastwise	Foreign Exports	Total	Coastwise	Foreign Exports	Total	Coastwise	Foreign Exports	Total	Coastwise	Foreign Exports	Total
1923-24 ..	5	..	5	69,956	42	69,998	102	..	102	2,683	23	2,706	15,777	230	16,007	88,523	295	88,818
1924-25 ..	4	..	4	83,894	35	83,929	97	..	97	2,512	133	2,646	13,632	206	13,838	100,139	374	100,513
1925-26 ..	3	..	3	91,326	12	91,338	76	..	76	850	1	851	12,413	128	12,541	104,668	141	104,809
1926-27 ..	6	..	6	84,561	15	84,576	74	..	74	3,778	5	3,783	16,040	122	16,162	104,459	142	104,601
1927-28 ..	2	..	2	90,918	25	90,943	68	..	68	2,903	2	2,905	14,065	131	14,196	107,956	158	108,114
1928-29 ..	26	5	31	84,802	26	84,828	..	..	..	1,832	2	1,834	16,360	111	16,471	103,020	144	103,164
1929-30 ..	28	11	39	126,325	7	126,332	96	..	96	1,416	8	1,424	17,510	134	17,644	145,373	160	145,533
1930-31 ..	23	22	45	122,431	20	122,451	9	..	9	590	7	597	13,585	120	13,705	136,638	169	136,807
1931-32 ..	7	10	17	103,061	1	103,062	2	..	2	836	11	847	19,556	105	19,661	123,462	127	123,589
1932-33 ..	21	5	26	116,944	2	116,946	1	..	1	1,538	1	1,539	18,870	106	18,976	137,374	114	137,488
Average ..	21	11	32	110,713	11	110,724	22	..	22	1,242	6	1,248	17,177	115	17,292	129,152	143	129,295

* Shipments from Madras ports include the shipments from Cochi and Travancore ports.

TABLE XXII

Imports of coconuts into the ports of the various provinces of India

(In thousands of nuts)

(By Sea)

Year	Sind			Madras			Burma			Bengal			Bombay			Grand Total		
	Coastwise	Foreign Imports	Total	Coastwise	Foreign Imports	Total	Coastwise	Foreign Imports	Total	Coastwise	Foreign Imports	Total	Coastwise	Foreign Imports	Total	Coastwise	Foreign Imports	Total
1923-24 ..	3,004	..	3,004	3,111	179	3,290	8,474	4,342	12,816	355	2,235	2,590	88,070	..	88,070	103,014	6,756	109,770
1924-25 ..	2,838	..	2,838	5,073	273	5,346	8,635	4,979	13,614	576	2,494	3,070	100,383	8	100,391	117,505	7,754	125,259
1925-26 ..	2,887	..	2,887	2,970	389	3,359	8,556	7,122	15,678	400	4,344	4,744	89,220	3	89,223	104,033	11,858	115,891
1926-27 ..	3,561	..	3,561	3,098	181	3,279	10,389	6,204	16,593	274	3,483	3,757	97,465	..	97,465	114,787	9,868	124,655
1927-28 ..	3,008	..	3,008	2,435	387	2,822	10,919	9,313	20,232	77	3,555	3,632	103,822	2	103,824	120,261	13,257	133,548
1928-29 ..	3,578	..	3,578	3,599	412	4,011	8,782	6,920	15,702	144	3,246	3,390	101,531	3	101,534	117,634	10,581	128,215
1929-30 ..	4,090	2	4,092	1,987	1,784	3,771	8,217	7,065	15,382	546	2,079	2,625	132,829	2	132,831	147,669	10,932	158,601
1930-31 ..	3,742	..	3,742	2,305	451	2,756	9,302	7,345	16,647	95	2,097	2,192	117,823	..	117,823	133,267	9,893	143,160
1931-32 ..	3,800	3	3,803	2,775	2,671	5,446	11,205	6,844	18,049	18	2,166	2,184	113,918	7	113,925	131,716	11,691	143,407
1932-33 ..	3,366	8	3,374	2,245	7,075	9,320	7,620	9,014	16,634	9	1,288	1,297	136,326	..	136,326	149,566	17,385	166,951
Average ..	3,715	3	3,718	2,582	2,479	5,061	9,025	7,438	16,463	162	2,175	2,337	120,485	3	120,488	135,990	12,086	148,076

41. *Madras ports.*—In tables XXI and XXII the exports of nuts from, and imports into the ports in Madras Presidency are given. The figures show that the exports to Indian ports have increased considerably and the imports from foreign ports have also increased during the last five years. The total shipments of nuts averaged for the last five years 110·7 million nuts per annum and the imports averaged for the same period 5·1 million nuts. During the last four years the coastwise shipments of nuts were the lowest during 1931-32. Almost all of the exports from the ports in Madras are to Indian ports mainly Bombay and Karachi. Of the imports into the ports in Madras Presidency, about 50 per cent. are from the ports in India and the remaining 50 per cent. are from the ports outside India. The imports of nuts from foreign countries in 1932-33 amounted to a little over seven million nuts, the highest on record. Out of these seven millions, about six millions were imported into the port of Dhanushkodi alone and the balance into the ports of Madras and Tuticorin, evidently from Ceylon.

TABLE XXIII

Seaborne Imports of coconuts into the Bombay Presidency (excluding Sind)

(In thousands of nuts)

From	1926-27	1927-28	1928-29	1929-30	1930-31
Coastwise					
Madras—Other ports ..	79,397	79,023	81,854	114,741	100,645
Other Presidencies	12	..	4	..	63
British ports within the Presidency	8,138	7,521	7,842	8,502	6,344
Kathiawar	15	143	168	911	277
Goa	9,819	17,111	11,467	8,459	10,418
Other Indian ports not British	84	24	197	216	76
Total—Coastwise ..	97,465	103,822	101,531	132,829	117,823
Foreign					
British Empire	..	2	3	2	..
Total—Foreign ..	..	2	3	2	..
Grand Total ..	97,465	103,824	101,534	132,821	117,823

42. *Bombay ports.*—On an average for the past five years Bombay imported about 120 million nuts and exported about 17 million nuts (*vide* tables XXIII and XXIV). The imports are mainly from Coastal ports in Madras, and in Ratnagiri, Kanara and Kolaba districts of the Bombay Presidency and from Goa.

TABLE XXIV

Shipments of coconuts from Bombay Presidency

(In thousands of nuts)

(By Sea)

Where sent	1926-27	1927-28	1928-29	1929-30	1930-31
Coastwise					
Sind—Chief port	47	54	50	3	..
Other Presidencies	3	..	1	9	6
British ports within the Presidency	11,757	9,121	10,480	11,417	7,826
Kathiawar	3,510	3,805	4,786	4,675	4,764
Gaikwar's Territory	310	389	548	643	383
Cambay	383	682	434	755	601
Other Indian ports, not British	29	15	54	7	5
Total—Coastwise ..	16,040	14,065	16,354	17,509	13,585
Foreign	(Less than a thousand.)				
Grand Total ..	16,040	14,065	16,354	17,509	13,585

The nuts are mainly sent from Bombay to the ports in Kathiawar and Gujerat. Practically no nuts are brought into the Bombay Presidency from foreign countries. All of the nuts which go to ports in Bombay are not intended for consumption in the Bombay Presidency, since a large number of these nuts are despatched to upper India by rail.

TABLE XXV

Seaborne Imports of coconuts into Sind

(In thousands of nuts)

From	1926-27	1927-28	1928-29	1929-30	1930-31
Coastwise					
Bombay—					
Chief port	34	4	30	2	..
Other ports	14	37	..	..	14
Madras—Other ports ..	3,496	2,963	3,529	4,066	3,737
British ports within the Province	2	4	2	4	4
Goa	..	..	..	16	..
Other Indian ports, not British	15	..	17	2	..
Total—Coastwise ..	3,561	3,008	3,578	4,090	3,742
Foreign.					
British Empire	..	..	..	2	..
Total—Foreign ..	..	..	..	2	..
Grand total ..	3,561	3,008	3,578	4,092	3,742

43. *Sind ports.*—The ports in Sind import about 3·7 millions nuts all from Indian sources. There are practically no exports from the ports in Sind.

TABLE XXVI

Seaborne Imports of coconuts into Bengal

(In thousands of nuts)

From	1926-27	1927-28	1928-29	1929-30	1930-31
Coastwise					
Bombay	..	..	..	1	..
Burma—Chief port	68	33	..	110	3
Bengal—All ports	206	44	144	435	92
Total—Coastwise ..	274	77	144	546	95
Foreign					
British Empire—					
From Maldives	3,483	3,555	3,246	2,079	2,097
Other Countries ..	..	..	..	..	..
Total—Foreign ..	3,483	3,555	3,246	2,079	2,097
Grand Total ..	3,757	3,632	3,390	2,625	2,191

44. *Bengal ports.*—The ports in Bengal import very few Indian nuts but on an average for the last five years about two million nuts were imported from foreign countries mostly the Straits Settlements. The exports of nuts to other Indian ports from Bengal averaged 1·2 million nuts. These exports are for the Province of Burma. There is considerable river and rail traffic of nuts in Bengal. From Khulna annually about 15 lakhs and from Phultala about 2 lakhs of nuts produced in Bengal are sent to up-country merchants by rail.

TABLE XXVII

Seaborne Imports of coconuts into Burma

(In thousands of nuts)

From	1927-28	1928-29	1929-30	1930-31	1931-32
Coastwise					
Bengal—					
Chief port	2,285	1,455	1,241	309	507
Other ports	3,266	3,498	3,228	2,519	3,216
Bombay—Chief port ..	..	2	..	..	..
Madras—					
Chief port	11	92	..	..	..
Other ports	5,357	3,736	3,747	6,474	7,482
Provincial ports	444	194	290	439	144
Total ..	11,363	8,977	8,506	9,741	11,349
Foreign					
British Empire—					
Straits Settlements ..	9,304	6,918	7,061	7,287	6,836
Other British Possessions	..	..	..	..	6
Foreign countries—					
Siam	9	2	4	58	2
Total—Foreign ..	9,313	6,920	7,065	7,345	6,844
Grand total ..	20,676	15,897	15,571	17,086	18,193

45. *Burma ports.*—The arrivals of nuts from the Indian ports into Burma averaged 9 million nuts and the imports of foreign nuts into Burma averaged about 7½ million nuts. The exports of nuts from Burma are insignificant. The imports of nuts into Burma are from Bengal and Madras. The imports of nuts from foreign countries are chiefly from Straits Settlements (*vide* table XXVII).

46. *Increase in the traffic in nuts.*—That the traffic in nuts in the recent years has increased remarkably is evident from the tables XXI and XXII where consolidated statements for the shipments and arrivals of nuts are given :—

During the five years ending 31st March 1933 the total arrivals of nuts into the ports of India amounted to about 148 million nuts, out of which about 135 million nuts came from the ports in India and about 12 million nuts from foreign countries. In tables XXI and XXII the coastal shipments of nuts average 129 millions while the coastal arrivals amount to 135 millions. This difference of seven millions of nuts is due to the arrivals of nuts from Goa, which are classed as Indian merchandise but for which no export statistics are available.

Without studying the conditions in the consuming markets it would be hazardous to venture any opinion regarding this phenomenal increase in the demand for nuts.

47. That India has been importing coconuts from foreign countries mainly into Bengal and Burma even when she was exporting large quantities of oil is evident from the following figures :—

Net imports of coconuts into India from foreign countries.

Average for the five years	No. of Coconuts
1902-03 to 1906-07	—11,758,31
1907-08 to 1911-12	—9,296,039
1912-13 to 1916-17	—7,868,066
1917-18 to 1921-22	—6,417,747
1922-23 to 1926-27	—8,198,712
1927-28 to 1931-32	—11,123,643

The recent increase in the coastal trade of nuts even when there is a shortage of Indian supplies of copra and oil suggests that as might be expected the sale and the trade of nuts is more profitable than the sale and trade in copra.

48. *Total Quantity of nuts handled by trade.*—In addition to an average of 136 million nuts which find their way into the Indian coastal trade 21 million nuts which are exported from Travancore, 11 million nuts from Mysore and about 17 million nuts from Tanjore have been ascertained to find their way out of the respective tracts by rail or road. It should also be added that over and above this quantity which makes a total of about 185 million nuts per annum, there are other consignments of nuts which find their way from one tract to the other by rail and road and for which no accounts are available.

CHAPTER V

MANUFACTURE OF COPRA

49. *The number of nuts required.*—The number of nuts required to yield a unit weight of copra varies considerably from season to season and from locality to locality; from 1,200 to 2,500 nuts are required to yield a candy of 654 lb. of copra. The summer nuts are big in size and therefore about 1,500 to 1,800 nuts are required to make a candy of copra from the summer nuts. The nuts of the rainy months are small and generally 2,000 to 2,500 nuts are required to yield a candy of copra. On an average about 6,250 nuts will yield a ton of copra on the West Coast, while in Ceylon about 4,800 nuts are required to yield a ton of copra. In East Godavari about 8,300 nuts are required to yield a ton of copra and in Mysore 7,700 to 9,800 with an average of 8,750 nuts. Thus it is clear that the Indian nuts are not so rich in copra content as the Ceylon nuts.

50. *Manufacture.*—In South India, edible copra is prepared both from stored and fresh nuts. If the nuts are stored the yield of edible copra is greater. The milling grade of copra is largely made from unstored fresh nuts. But in Ceylon the unhusked nuts, particularly the green ones are stored for about a month, generally in the open under the palms. The copra manufactured out of the stored nuts is considered to be better. This method of storing has a peculiar advantage in that the nuts ripen during the storage.

When the fully ripe nuts are stored for one or two months they yield fifty per cent. white copra and the balance of *vettumeni* or *rashi* quality. Unripe nuts are usually converted into copra within a few weeks of the purchase. They yield mostly *rashi* copra. When the coconut is allowed to remain with the husk till it is dead dry and all the water in the nut is absorbed by the meat the copra naturally detaches itself from the shell and almost rattles inside the shell. There is no need for expensive and laborious drying. But it must be remembered that the storage of unhusked nuts is not possible in many parts of the West Coast since the husk is required for the manufacture of coir. The professional copra manufacturers consider that it is not possible to store unhusked nuts for a long time. It is in this manner that the coir industry interferes with the manufacture of fresh quality copra.

In Travancore and East Godavari copra is chiefly manufactured by the professional copra makers who purchase nuts, convert them into copra and sell it. In Malabar and South Kanara even though the major portion of the copra is manufactured by these professional copra makers still a considerable quantity is manufactured by the cultivators themselves. In Ceylon big planters generally make their own copra but those having small holdings sell the nuts to the middlemen for converting into copra. The copra made by the planters is much better than the copra made by the middlemen.

In handing over the nuts to the professional copra makers, the cultivator loses the employment which he otherwise would have if he were to manufacture copra himself, and he is liable to receive lower prices for his commodity if the copra manufacturer does not make a high grade product.

[illegible] *of copra.*—The nuts are husked, broken into two, and the shell with the meat is dried till the copra gets loose from the shell. [illegible] West Coast copra is generally dried in the sun for four to five days. The best quality can be obtained after seven days sun-drying. In the northern and central parts of Travancore, when there are no facilities for sun-drying in the rainy season, the copra is dried in a smoke chamber; but the copra obtained by this method is sooty and yields smoky flavoured oil. Some of the millers state that the oil obtained from such copra is yellowish in colour. The practice of smoking copra appears to be firmly established in Ponnani taluk of Malabar District and parts of Cochin State. The manufacturer thinks that by resorting to smoking he can gain in weight since smoking expedites the subsequent drying without removing the moisture from the inner portion of the copra. The copra prepared in this manner is not free from mildews. This practice is resorted to even when the weather is favourable for sun-drying. The adverse effect of this practice on trade cannot be over emphasized.

ii. *Kiln-drying.*—Ceylon copra is usually sun-dried on the first day and kiln-dried in the successive four days. It will be seen that in Ceylon, the drying is more prolonged than in parts of the West Coast where smoking is adopted. In kiln-drying the copra receives slow drying on the first and last days with quicker heat in the intervening period. The fire in the kilns does not smoke as only dried up shells are burnt. The kilns are so designed as to conserve heat and prevent irregular draught which cause smoke and 'cold and hot' spots within the kiln. The temperature in the kilns generally ranges between 50 to 60 degrees Centigrade and it is adjusted by spacing the lines of burning shells. The copra is continuously stirred during the process of drying, and on the drying platform the bed of copra normally does not exceed eighteen inches in depth.

The copra kiln consists of a fire place over which there is a platform made up of bamboo slats and rarely with smooth wire mesh. Through a side hole the fire place is being fed with shells which are kept stored in a verandah nearby. The depth of the fireplace from the copra platform ranges from six to eight feet. Through another opening on the opposite side of the fireplace the hot air escapes, and the opening is about two feet below the copra platform. The walls of the kiln are made of bricks about fifteen inches deep; and the roof of tiles or galvanised zinc sheets. Oftentimes, the fireplace is partitioned by a thin brick wall to prevent too much of cold air from rushing inside and creating unevenness in the temperature. From the outside level of the verandah the copra drying platform is only about three to four feet so that it has a very easy access.

In East Godavari the copra is sometimes dried in a kiln where coconut shell material is burnt and this type of kiln yields the best quality of copra next to sun-drying.

iii. *The quality of copra.*—Generally the copra which is brought to the millers' yards contains considerable moisture and this in turn adversely affects the prices which a middleman obtains. The estimation of dryage of copra is a very difficult task and it is here that the middleman is likely to suffer loss. Before the inauguration of the mill industry nuts were generally stored for sometime before copra was made as the export trade preferred copra

of good quality ; but after the development of the mill industry the practice of storing nuts has been generally given up, since the oil millers are not very particular to have the best grade of copra. In fact they prefer to purchase *rashi* copra for milling, because they are not willing to pay the higher price for *office pass* copra. Another factor which has affected the quality of the copra is the fact that there is now ready sale available for copra at any time of the year. Formerly when the copra was mainly exported there was brisk demand for copra only during October to June when the ships called at Alleppey frequently and the facilities for sun-drying were available.

The sun-dried white copra is superior to the kiln-dried Ceylon copra. But the copra which is made during the rainy season with the aid of the smoking chamber is not as good in quality as the Ceylon copra. On the whole, the copra made in Malabar and in South Kanara is superior to the copra in Travancore. Copra from Mysore and East Godavari is of relatively good quality.

The oil millers prefer Indian copra to Ceylon copra as the latter is more fibrous and contains less oil than the Indian copra.

54. *The cost of manufacture of copra.*—The cost of making one candy (654 lb.) of copra in Malabar, Cochin State and Travancore ranges from Rs. 1/8 to about Rs. 2/8 (*vide* table 2, Appendix III). The cost decreases as the size of the nuts increases, for the husking and breaking charges would be reduced when a smaller number of nuts are required to yield a unit weight of copra.

CHAPTER VI

Trade in Copra

55 *Marketing of copra* —Usually there are not more than three middlemen between the cultivator and the miller or the exporter of copra. But the cultivator does not manufacture copra himself; he sells the nuts to a middleman who manufactures copra and sells it through the broker. Keen competition between the middlemen cuts the profit and on the whole middlemen do not make profits out of proportion to the risks they run. When a middleman happens to be the money lender and the cultivator his debtor, the former is a source of danger to the latter. The middleman who deals in copra runs a risk since the commodity is usually in his hands for two to three weeks during which he has to withstand fluctuations in prices.

In the Arsikere and Tiptur markets of Mysore, a number of middlemen and agents of up-country merchants, meet on the evenings preceding the market and fix prices for copra and nuts at which the purchases will be made throughout the next day. Sometimes these agreements are not adhered to. The cultivators who bring their produce to these weekly markets sell them through the brokers who charge six pies per rupee as brokerage. Brokers obtain also a commission of one per cent. from the purchasers. From table 2, Appendix III, it is clear that the cost of marketing copra including the transport and commission charge and incidentals is generally between two annas to six annas per cwt. of copra.

56. *Weights and measures.*—The Dutch *rathal* (42 tolas) which is still current in Travancore as well as the Avoirdupois pound (38 8/9 tolas) have caused considerable confusion regarding the weights of candy of copra and oil. Middlemen themselves know neither the exact weight of a candy nor whether the pound or the *rathal* is used. While 600 Dutch *rathals* or 654 Avoir. lb. make a candy of copra and oil, 672 lb. or 6 cwt. make a candy of coir. There are at east the following four different candies on the West Coast:—

Cochin and Travancore candy	..	654 lb. for copra, oil and cake.
		672 lb. for coir.
Calicut candy	..	700 lb. for copra, oil, cake and coir.
Mangalore candy	..	560 lb. for copra, oil, cake and coir.
Ponnani candy	..	770 lb. for copra, oil, cake and coir.

The adoption of a standard pound and a 6 cwt. candy would considerably reduce the confusion which prevails among the middlemen and the general public and facilitate comparison of prices in different markets of the West Coast.

57. *Grades of copra—Crushing grades.*—Some confusion prevails regarding the different grades of copra as the names of these grades change often and definite names of these standards exist only for the edible and *vettumeni* copra which are exported. The latter grade which is also known as "*Officepass*" is intended for the millers in Karachi and Bombay. There is a common notion, which is true to a certain extent, that the quality of copra depends upon the length of drying, but this does not take into account the maturity of the nuts. As the

moisture content of the copra is alone taken into consideration in fixing the period of drying, the price is considered most important. Some people maintain that *rashi*, which means " bad " in Hindustani, includes *kazhippu* (which means " rejected " in Malayalam). A large number of traders makes a difference and distinction between *rashi* and *kazhippu*. *Rashi* is sometimes also known as *mudapady*. A grade named *thirurashi* meaning " Selection from the bad " is also met with. Thus there are five grades of copra ; edible white, *Vettumeni* or *Officepass*, *thirurashi*, *rashi* and *kazhippu*, the last four being the milling grades. Among the milling grades, *vettumeni* is the best, and it fetches Re. 1 to Rs. 2 more than the *rashi*. *Kezhippu* is the worst sort of copra, having a rubbery quality and plenty of moulds. The price of *kazhippu* is Rs. 2 to Rs. 4 less than the price of *rashi*. *Kazhippu* copra is mostly obtained from the unripe nuts.

58. *Edible grades.*—When the miller purchases bulk copra of mixed quality, he usually dries it for two to three days and separates the edible copra. The agents of the upcountry merchants grade edible copra into five or six grades, depending upon the diameter of the cut kernel. The grades are, from the smallest to the biggest : *Poo*, *mungi*, *lavingi*, *special*, *elchi* and *dala* with the biggest kernel. The smaller grades of edible copra are preferred in Marwar and Rajputana where I am told the custom is to present a cut kernel filled with sugar on ceremonial occasions such as marriages, etc. Since a small kernel which is lighter in weight requires less quantity of sugar than a bigger and a heavier kernel the former is preferred. Generally the price of the smallest type of copra is the highest. The edible white copra is the best in quality and it usually fetches on an average about Rs. 5 per candy more than the *vettumeni* ; but this difference sometimes varies from Rs. 2 at the lowest to Rs. 25 at the highest. On the 23rd of September 1933, the prices for the various grades at Alleppey were as follows per candy of 654 lb. :—

	Rs.
White dala	52
Lavingi	63
Vettumeni	42
Rashi	40

59. In addition to the above mentioned grades which are current in Travancore and Cochin, Calicut and Badagara markets recognise several different grades. *Vettumeni* or *officepass* is known in the markets as *ross*. Among the edible grades of copra there is *dhilpasand*, *boll* or *kottai* and *Madras nottam*. *Madras nottam* is further sub-divided into red and black according to the colour of the testa. Generally when the fully matured nuts are stored they yield copra with black rind or testa and partially matured nuts yield copra of a red rind. The " *bolls* " are prepared out of nuts which are stored after harved for eight to twelve months but they are not cut into to halves. *Madras nottam* is obtained on cutting the " *bolls* " into two halves. *Dhilpasand* copra is obtained by selecting copra out of the *officepass* or *ross* grade. The prices for the various grades of copra are given below. On the whole the copra produced in the North Malabar District and South Kanara appears to be better in quality

than the copra made in Travancore and at Cochin. During crushing, copra generally losses 5 to 7 per cent. of its weight as dryage.

Grade of copra	Calicut price for 700 lb.	
	On 25th May 1933	On 17th November 1933
	Rs. A. P.	Rs. A. P.
* Ceylon copra	59 12 0	48 8 0
* *Office pass*	59 12 0	48 8 0
Dhilpassand	67 0 0	57 8 0
Boll	76 0 0	69 0 0
Madras nottam (Calicut)	77 8 0	70 0 0
Do. (Small)	81 0 0	75 8 0
Do. (Badagara)	..	77 8 0

* These two are milling grades and the rest are edible grades.

60. In Mysore *Bolls* are obtained from stored nuts. Wholesale dealers who send copra to up-country merchants generally grade their copra into three grades according to the diameter of the boll. A maund (31¼ lb.) of copra is generally made up of about 120 small *bolls* or 90 medium *bolls* or 64 to 70 *bolls*. The demand for the small grade is keen and the price therefore is high as may be seen from the following prices :—

Grades	Prices for 10 maunds in the first week of December 1933
	Rs.
Mixed	36
Big	36
Medium	37
Small	40
Broken bits	22
Spoilt bits	10

Practically no cut copra is prepared in the Mysore State. All the Mysore production of copra is of edible quality and spoilt bits and broken good bits are only utilised for crushing.

61. In East Godavari, copra is made from stored nuts and from fresh nuts by kiln drying. Copra made from the stored nuts is divided into three grades : Whole *bolls*, cut into two and cut into four. Both kiln dried copra and that made from stored nuts is used for edible purposes.

62. *Centres of trade.*—In Travancore there are five chief centres of copra trade—Kottar for places south of Nayyatinkara ; Trivandrum for places north of Nayyatinkara and surroundings ; Quilon ; Sherthalai and Alleppey. The last three are comparatively large centres for trade in copra but Alleppey is the biggest market. The copra which comes to Kottar is generally crushed in country *chekkus*. The middlemen do not have much confidence in Quilon and Sherthalai as they fear that they may not obtain adequate prices in these two places. Considerable quantities of copra are therefore taken to Alleppey from all over Travancore. Quilon annually sends about 1,800 cwt. of copra to Alleppey. Alleppey is the only centre of trade for edible copra. Next to Alleppey on the West Coast, Calicut and Badagara are important trade centres. An exporter with considerable experience in copra trade estimated 20,000, 12,000, and 9,000 cwt. of copra respectively as stocks held over for rainy months at Alleppey, Calicut and Badagara Even though Ponnani, Mangalore and Can-

nanore export copra they are not as important as Alleppey, Calicut and Badagara. Though Cochin is a centre for copra crushing industry, the shipments of copra from Cochin are not appreciable.

In Godavari, Ambazipetta, Razole, Narasapur and Coconada are the main trade centres for edible copra.

In Mysore, Arsikere and Tiptur are the main centres of trade in "boll" type of whole copra.

63. *Freights.*—The following freights are current from West Coast ports and from Colombo to Cochin, Karachi, Bombay and Calcutta :—

	Freights from Cochin			
	To Bombay	To Karachi	To Calcutta	To Rangoon
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Copra in bags per ton ..	6 12 0	9 4 0	20 0 0	20 0 0

	Freights from Colombo.			
	To Cochin and Malabar	To Bombay	To Karachi	To Calcutta
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Copra in bags per ton ..	7 8 0	7 8 0	10 0 0	15 12 0
				To Rangoon 15 0 0

64. *Prices of copra.*—The price of edible copra more or less depends upon the supply and demand thereof; but during the summer when the supply of good quality copra is in excess of its requirements, the price of edible copra falls almost as low as the price of milling copra or *officepass* copra. The prices in Mysore for edible copra for the past nine years are given below:—

Years	Prices in July per 25 lb. Rs. A. P.
1914	7 8 0
1925	7 10 4
1926	6 11 7
1927	6 11 2
1928	7 5 10
1929	6 6 8
1930	6 0 10
1931	3 6 4
1932	5 4 3
1933	5 10 3

On the whole the fall in the prices of the Mysore edible copra is not so great as in the case of crushing copra from Malabar.

The prices of crushing copra depend upon the prices for coconut oil and coconut cake. Since the volume of *officepass* or first quality milling grade of copra handled by trade is the largest, it is essential to examine the course of prices for this grade of copra. In July 1910 the price for *vettumeni* or *officepass* copra in Travancore stood at Rs. 98 per candy of 654 lb. In 1922 it varied between Rs. 85 to Rs. 92 till it suddenly rose to Rs. 108 in November. The prices rose to a maximum of Rs. 137 about the end of December 1923 and then gradually fell to Rs. 99 in May 1924. It rose to Rs. 128 by August 1924 and to Rs. 132 by October only to drop down again to Rs 98 by February 1925. After November 1927 when the price was Rs. 122 it steadily declined in August

1928 to Rs. 112, in July 1929 to Rs. 88, in July 1930 to Rs. 60, and to Rs. 50 in 1931. With the depreciation of the currency in India consequent on the devaluation of the pound in September 1931, the price suddenly rose to Rs. 83 in November but it fluctuated between Rs. 75 and 84 for the following three months. The price again declined to Rs. 46 in April 1933, to Rs. 37/8 in December 1933, and to Rs. 36 in the first week of January 1934. The average prices for the past eleven years are as follows :—

Average prices per candy (654 lb.) of copra in Alleppey

Year—From Mid August to Mid August	Rs.	A.	P.
1921-22	95	15	4
1922-23	100	10	8
1923-24	112	8	9
1924-25	112	10	8
1925-26	105	2	6
1926-27	89	14	4
1927-28	110	12	8
1928-29	95	3	10
1929-30	75	8	1
1930-31	57	8	8
1931-32	52	8	10

The prices of the same grade of copra at Cochin and at Calicut are higher than the prices at Alleppey because the Travancore export duty on copra (Rs. 16 per ton) lowers the prices of copra in Travancore State.

In the following table the average monthly prices of copra per ton at Alleppey, Cochin, Colombo and London for the past three years are given for purposes of comparison :

TABLE XXVIII

Average monthly prices of copra at different markets, Rupees per ton

Month	1931				1932				1933		
	Alleppey	Cochin (b)	Colombo	London(c)	Alleppey	Cochin(b)	Colombo	London (c)	Alleppey	Cochin (b)	Colombo
January ..	191	212	163	207	267	(a)	182	207	223	234	169
February ..	196	212	159	202	262	(a)	202	225	194	205	149
March	198	233	126	208	257	291	191	217	173	178	134
April	182	215	154	198	227	257	168	202	164	(a)	122
May	175	188	135	170	222	223	156	193	173	195	125
June	172	178	126	162	223	236	146	185	172	195	129
July	173	178	128	169	238	226	153	190	177	188	116
August	178	178	117	158	258	259	155	193	169	164	108
September ..	178	192	113	158	259	247	163	198	151	164	102
October ..	186	212	136	190	251	260	173	193	142	161	92
November ..	217	230	152	201	247	259	173	200	138	154	95
December ..	243	(a)	167	205	237	(a)	174	195	129	(a)	89
Average ..	174	203	140	186	246	251	170	200	167	184	119

(a) Prices not available.

(b) Cochin prices are those which were current on the first or the earliest date of each month and not as in the case of others the average monthly price.

(c) Quotations from Frank Fehr and Co., London.

Charts I and II show the fluctuations in the prices of crushing quality of copra at Alleppey and Calicut.

CHART I.

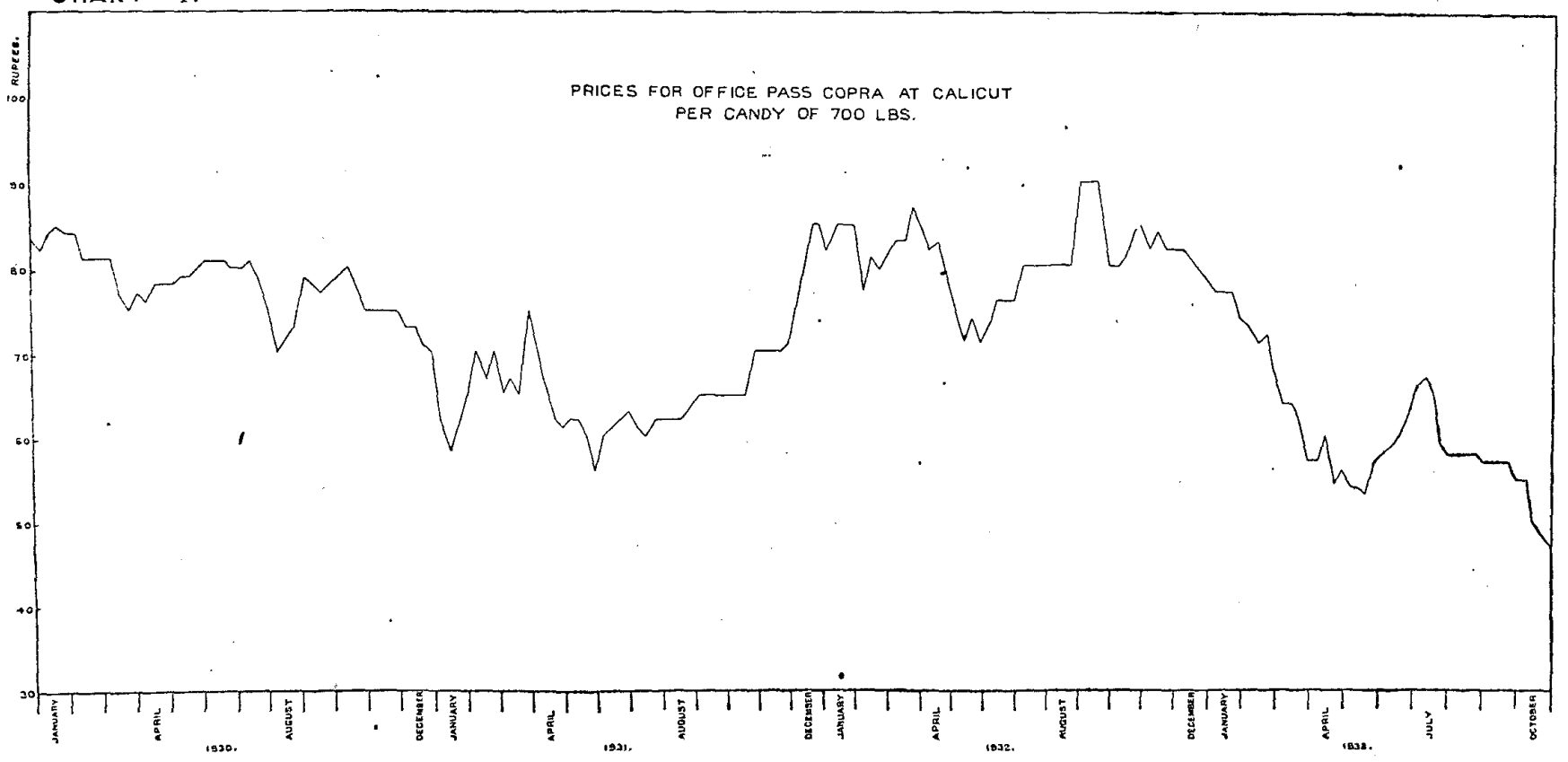
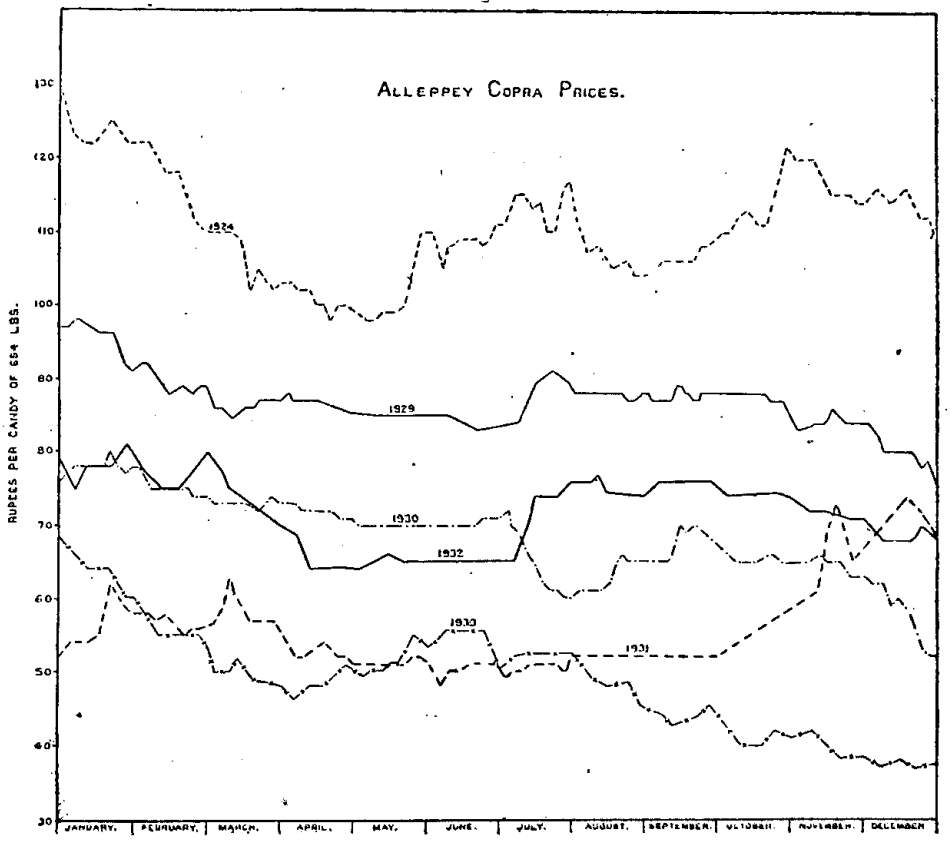

PRICES FOR OFFICE PASS COPRA AT CALICUT
PER CANDY OF 700 LBS.
RUPEES.
100
90
80
70
60
50
40
30
JANUARY
APRIL
AUGUST
DECEMBER
1930.
JANUARY
APRIL
AUGUST
DECEMBER
1931.
JANUARY
APRIL
AUGUST
DECEMBER
1932.
JANUARY
APRIL
JULY
OCTOBER
1933.

CHART II.


ALLEPPEY COPRA PRICES.
RUPEES PER CANDY OF 654 LBS.
130
120
110
100
90
80
70
60
50
40
30
1924
1929
1930
1932
1933
1931
JANUARY.
FEBRUARY.
MARCH.
APRIL.
MAY.
JUNE.
JULY.
AUGUST.
SEPTEMBER.
OCTOBER.
NOVEMBER.
DECEMBER

65. *Trade in copra.*—No statistics regarding the various grades of copra which are despatched from the different copra producing countries are available. Mysore and East Godavari produce only edible grades of copra, while the West Coast produces both edible and the crushing quality of copra. Since practically no copra is made outside the West Coast, Mysore and East Godavari, it can be taken for granted that all the copra which is produced in Mysore and East Godavari represents the least quantity of edible copra available for rtade as the figures for edible copra on the West Coast are not available.

No figures are available as to the volume of trade in copra in East Godavari. Most of the East Godavari copra finds its way to the Hyderabad State and parts of Bombay. There are practically no shipments of copra from the port of Coconada. During the seven years ending 31st March 1933, only 127 tons of copra were shipped from Coconada in 1929-30.

TABLE XXIX

Railborne exports from and imports into Mysore State of copra

(In Maunds of 82-2/7 lb.)

Year	Exports	Imports
	Mds.	Mds.
1914-15	103, 615	1,009
1915-16	163,056	32
1916-17	115,289	1,110
1917-18	106,110	2,507
1918-19	116,911	2,600
1919-20	242,927	2,128
1920-21	203,469	2,807
1921-22	217,137	1,495
1922-23	195,646	1,945
1923-24	178,312	2,082
1924-25	212,502	1,292
1925-26	176,511	2,315
1926-27	95,765	5,406
1927-28	201,609	3,018
1928-29	204,827	2,175
1929-30	154,101	5,777
1930-31	250,916	2,454
1931-32	346,180	266
1932-33	214,825	1,595

66. *Mysore.*—The copra from Mysore is sent to Delhi, Agra, Cawnpore, Amritsar and Benares. In table XXIX the exports of copra from the Mysore State by rail are given. This would represent almost the total quantity of copra consigned out of the State. The despatches of copra from Mysore have doubled during the last twenty years having risen from about 73,000 cwt. to about 172,000 cwt. valued at 42 lakhs of rupees on an average for the last five years. These exports represent an equivalent of about 53 million nuts. Copra is mainly consigned from Tiptur and Arsikere during July to November when the supplies of edible copra are low from the West Coast. In 1931-32 the despatches of copra from Mysore were over 40 per cent. of the normal exports which indicate that Mysore supplemented the shortage of copra from the West Coast by exporting unusually large quantities of copra. Small quantities of copra of about 1,750 cwt. are imported into the borders of

Mysore. It has not been possible to ascertain the purpose for which this copra is imported into the State.

67. *Travancore.*—In 1852-53 about 107,000 cwt. of copra were sent out of the Travancore State. The exports of copra steadily rose to 489,000 cwt. in 1892-93 and to 531,000 cwt. in 1902-03 ; but in 1922-23 they had fallen to 364,000 cwt. This reduction in the export of copra is mainly due to the increased activity of the local oil mills stimulated by the differential export-duties on copra and oil from Travancore.

TABLE XXX

Trend of exports (by all routes) of copra and coconut oil from the Travancore State.

Year From Mid August to mid August A. D.	Export of copra	Export of coconut oil converted into copra at 12½ cwt. of oil as equivalent to 1 ton of copra in cwt.	Total exports in terms of of copra columns 2 *plus* 3.	Percentage of total exports (column 4) exported as	
				Oil	Copra
1912-13	446,683	318,939	765,622	41·65	58·35
1913-14	607,344	363,550	970,894	37·44	62·56
1914-15	381,399	436,270	817,669	53·35	46·65
1915-16	423,478	486,254	909,732	53·46	46·54
1916-17	370,725	512,958	883,683	58·05	41·95
1917-18	333,518	548,411	881,929	62·19	37·81
1918-19	597,915	468,043	10,65,958	43·89	56·11
1919-20	347,079	492,277	839,356	58·65	41·35
1920-21	380,566	608,906	989,472	61·53	38·47
1921-22	565,039	649,120	1,214,159	53·47	46·53
1922-23	364,369	627,569	991,965	63·28	36·72
1923-24	304,883	677,542	982,425	68·96	31·04
1924-25	357,863	643,830	1,001,693	64·31	35·69
1925-26	483,122	647,296	1,130,418	57·28	42·72
1926-27	456,818	671,661	1,128,479	59·57	40·43
1927-28	461,889	686,240	1,148,129	59·77	40·63
1928-29	421,064	694,228	1,115,292	62·27	37·73
1929-30	337,171	869,982	1,207,153	72·09	27·91
1930-31	386,157	993,584	1,379,741	71·99	28·01
1931-32	261,091	724,730	985,821	73·50	26·50
1932-33	300,321	774,447	1,075, 068	71·82	28·18

During the last five years, the exports of copra from Travancore averaged 341,000 cwt. per annum, the exports in 1931-32 being the lowest—about

254,000 cwt. In 1912-13 the exports of copra amounted to about 59 per cent. of the total exports (Nuts, copra and oil) in terms of nuts; but by 1931-32 this percentage had fallen to 24 per cent. even though on the whole there has been an increase in the total exports *vide* table XXX. If the exports of copra in 1912-13 are taken as 100 he index for 1931-32 would be 58.

TABLE XXXI

Exports of copra from Travancore State

(In cwt.)

By all routes

Exporting Customs House*	Year—From mid August to mid August					Five year average	Average percentage to total average
	1927-28	1928-29	1929-30	1930-31	1931-32		
Alleppey	313,265	301,367	231,814	290,125	189,612	265,237	71·0
Arukutti (To Cochin) ..	83,980	59,812	51,428	48,250	32,835	55,261	14·8
Trivandrum-Tinnevelley Railway	32	26	14	16	22	22	..
Cochin-Shoranur Railway ..	2,412	3,058	3,033	2,796	2,633	2,786	0·7
Others	62,200	56,801	50,882	45,970	35,989	50,368	13·5
Total ..	461,889	421,064	337,171	387,157	261,091	373,674	100·0

* No copra was exported through Quilon, Trivandrum, Colachel, and Aramboli (to Tinnevelly) Customs House.

On an average 71 per cent. of the total exports of copra from Travancore is sent through the port of Alleppey and 15 per cent. through Arukutty to Cochin. In 1921-22 about 50 per cent. of the total exports was shipped from Alleppey and about 40 per cent. was sent through Arukutty to Cochin.

The reduction in the exports of copra from Travancore has mainly affected the exports to Cochin and the supplies of copra to Cochin oil millers have been reduced.

Most of the shipments of copra from Alleppey are for Bombay and the balance is to Karachi with very little exports to Bengal and other ports of India. In 1931-32 out of the total exports of 189,612 cwt. from Alleppey about 120,000 and 65,000 cwt. of copra were shipped to Bombay and Karachi respectively.

68. *West Coast.*—The West Coast as a whole shipped on an average for the past five years, 569,000 cwt. of copra out of which about 250,000 cwt. were from Alleppey and 307,000 cwt. from the ports in Malabar and South Kanara. The shipments of copra from Badagara averaged 185,000 cwt., from Calicut 123,000, from Mangalore 4,000 cwt. and from Ponnani 2,500 cwt. *vide* table XXXII. An examination of the table reveals that the exports from Badagara and Calicut have gradually increased even though the despatches for 1931-32 and 1932-33 were rather low, the latter being the lowest on record during the past seventeen years for the ports in Malabar and South Kanara. The exports from Cochin have practically disappeared. Even though Cochin is shown as exporting small quantities of copra she imports more by road and canal than what she exports, so that the net exports from Cochin average —57,000 cwt.

TABLE XXXII

Seaborne Exports of copra from West Coast Ports

(In cwt.)

Year. 1st July to 30th June		Alleppey	Cochin	Ponnani	Calicut	Badagara	Tellicherry	Cannanore	Mangalore	Total Malabar and S. Kanara (Columns 4 to 9)	Total (Columns 2 to 9)
1		2	3	4	5	6	7	8	9	10	11
1916-17	..	78,991	169,862	18,918	88,020	54,200	13,450	191	80,665	255,444	504,297
1917-18	..	112,556	50,893	12,108	62,658	104,086	..	141	42,979	221,972	385,421
1918-19	..	111,172	134,435	12,814	113,671	140,521	5,900	572	65,746	329,224	574,831
1919-20	..	108,399	109,642	9,985	71,970	91,425	107	256	29,617	203,360	421,401
1920-21	..	154,871	38,059	5,731	108,309	82,301	207	760	22,405	219,713	412,643
1921-22	..	269,477	170,225	18,065	183,580	212,760	37,560	280	14,408	466,653	906,355
1922-23	..	185,122	41,080	9,480	47,242	79,200	39,460	860	10,658	186,900	413,102
1923-24	..	229,890	23,420	8,440	110,740	130,440	3,580	1,360	11,780	266,340	519,650
1924-25	..	275,067	4,500	7,800	89,580	145,340	460	1,020	8,820	253,020	532,587
1925-26	..	392,583	7,283	10,900	157,560	145,760	540	2,140	6,120	323,020	722,886
1926-27	..	372,089	26,064	4,180	92,900	201,000	..	9,840	8,661	316,581	714,734
1927-28	..	310,753	1,630	540	124,992	133,100	..	1,000	5,227	264,859	517,242
1928-29	..	293,605	200	3,060	110,720	139,000	..	300	6,060	259,140	552,945
1929-30	..	288,408	2,060	1,200	149,720	271,540	..	2,900	3,580	428,940	664,883
1930-31	..	233,883	920	6,220	167,520	232,280	20	1,040	2,560	409,640	698,968
1931-32	..	184,909	1,100	1,980	98,920	238,980	..	660	5,400	345,940	531,949
1932-33	..	249,999	4,100	97	89,064	44,340	..	1,320	5,900	140,721	394,820

If the despatches of copra from the ports in Malabar and South Kanara for 1916-17 are taken as 100 the shipments for 1930-31 and 1931-32 become 160 and 137 respectively. Treating all the ports of the West Coast together as in column 13 of table XXXII, and taking the shipments of 1916-17 as 100 one observes that the consignments of copra for 1930-31 and 1931-32 amount to only 128 and 105 respectively. It is therefore evident that the exports of copra from the districts of Malabar have increased but the shipments of copra from Cochin have dwindled down in volume. On an average for the past five years 28,400 tons of copra or copra from about 178 million nuts have been made available from the ports on the West Coast for the places outside of Southern India. As against this, the foreign imports of copra into India in 1932-33 amounted to 12,800 tons and the imports of oil and copra from foreign sources expressed in terms of copra came to about 68,500 tons.

TABLE XXXIII

Distribution of the shipments of copra from the West Coast Ports

(In thousands of cwt.)

Year ending 30th June	To Bombay	To Bengal	To Europe	To other Ports
1916-17	206	..	233	121
1917-18	296	..	..	19
1918-19	331	..	79	47
1919-20	267	1	63	51
1920-21	259	4	33	78
1921-22	347	1	384	133
1922-23	169	..	153	69
1923-24	328	..	25	157
1924-25	330	..	..	184
1925-26	400	..	32	279
1926-27	400	2	136	167
1927-28	321	1	1	175
1928-29	343	2	..	208
1929-30	171	172	..	143
1930-31	510	169	..	179
1931-32	368	1	..	163

NOTE.—Other ports do not include Madras, Burma and Ceylon. Most of the shipments which are classed as under other ports are for Karachi.

Of the shipments of copra from the West Coast 58 per cent. is consigned to Bombay and about 30 per cent. to other ports mainly to Karachi and Kathiawar the former importing more. Bombay takes most of the Indian copra from Alleppey and Badagara, while Bengal purchases her requirements of Indian copra from Alleppey and Calicut markets. The imports of Indian copra into Karachi originate from Alleppey, Calicut and Badagara.

TABLE XXXIV

Arrivals of copra by Sea into the ports in various Provinces of India

(In tons)

Years	Sind			Madras			Burma			Bengal			Bombay			Grand total for India		
	Coast-wise imports	Foreign im-ports	Total	Coast-wise imports	Foreign im-ports	Total	Coast-wise imports	Foreign im-ports	Total	Coast-wise imports	Foreign im-ports	Total	Coast-wise imports	Foreign im-ports	Total	Coast-wise imports	Foreign im-ports	Total
1923-24 ..	7,494	..	7,494	1,501	57	1,558	386	..	386	352	..	352	16,816	596	17,412	26,549	653	27,202
1924-25 ..	10,134	54	10,188	1,237	63	1,300	667	..	667	118	2	120	19,384	1,544	20,928	31,540	1,663	33,203
1925-26 ..	13,478	192	13,670	1,222	55	1,277	1,051	..	1,051	64	35	99	18,108	2,823	20,931	33,923	3,105	37,028
1926-27 ..	13,228	..	13,228	1,645	7	1,652	900	..	900	378	20	398	22,864	136	23,000	39,015	63	39,178
1927-28 ..	10,884	..	10,884	913	8	921	822	..	822	199	6	205	16,425	1,423	17,848	29,243	1,437	30,680
1928-29 ..	11,815	..	11,815	1,062	45	1,107	1,082	..	1,082	150	4	154	18,448	1,511	19,959	32,557	1,560	34,117
1929-30 ..	14,444	1	14,445	1,332	1	1,333	691	..	691	481	110	591	21,532	40	21,572	38,480	152	38,632
1930-31 ..	13,182	..	13,182	1,270	14	1,284	603	..	603	490	48	538	20,105	436	20,541	35,650	498	36,148
1931-32 ..	12,481	1,324	13,805	1,108	117	1,225	760	..	760	782	14	796	19,535	767	20,302	34,666	2,222	36,888
932-33 ..	7,098	6,927	14,025	856	5,853	6,709	975	..	975	241	20	261	18,139	3,408	21,547	27,309	16,208	43,517
Average ..	11,804	1,650	13,454	1,126	1,206	2,332	822	..	822	429	39	478	19,552	1,232	20,784	33,733	4,127	37,860

69. *Share of provinces.*—The ports in Sind imported on an average for the last five years 13,450 tons of copra out of which 11,800 tons came from Indian ports and the remaining 1,650 tons came from foreign ports.

TABLE XXXV

Seaborne Imports of copra into Sind

(In tons)

From	1926-27	1927-28	1928-29	1929-30	1930-31
Coastwise					
Bombay—Chief port.. ..	170	598	1,329	323	29
Madras—Other ports ..	9,257	5,895	5,567	10,802	7,976
British ports within the Province	..	..	..	..	..
State of Travancore	3,801	4,391	4,919	3,318	5,177
Other Indian ports, not British	..	..	..	1	..
Total—Coastwise ..	13,228	10,884	11,815	14,444	13,182
Foreign			*Nil*		
GRAND TOTAL ..	13,228	10,884	11,815	14,444	13,182

Burma obtains all of her requirements of copra which average 822 tons from India.

TABLE XXXVI

Seaborne Imports of copra into Burma

(In tons)

From	1927-28	1928-29	1929-30	1930-31	1931-32
Coastwise					
Bengal—Other ports.. ..	777	1,068	679	585	742
Bombay—Chief port.. ..	1	14	12	18	18
Other Provinces	44	..	..	..	..
Provincial ports	..	6	..	175	..
Total—Coastwise ..	822	1,088	691	778	760
Foreign			*Nil*		
GRAND TOTAL ..	822	1,088	691	778	760

TABLE XXXVII

Seaborne Imports of copra into Bengal

(In tons)

From	1926-27	1927-28	1928-29	1929-30	1930-31
Coastwise					
Bombay	..	11	..	..	..
Madras—Chief Port	32	..	..	..	..
Madras—Other ports ..	231	130	43	284	187
Burma—Chief port	4	8	5	4	1
Burma—Other ports	..	..	..	48	..
Bengal—All ports	111	50	102	145	302
Total—Coastwise ..	378	199	150	481	490
Foreign					
British Empire—					
Ceylon	20	3	4	110	48
Zanzibar, etc.	..	3	..	..	..
Total—Foreign ..	20	6	4	110	48
GRAND TOTAL ..	398	205	154	591	538

Bengal also obtains most of her requirements of copra from Indian ports. Her total imports average 478 tons out of which 39 tons are from foreign sources.

TABLE XXXVIII

Seaborne Imports of copra into Bombay Presidency (excluding Sind)

(In Tons)

From	1926-27	1927-28	1928-29	1929-30	1930-31
Coastwise					
Madras—Other ports ..	10,981	6,455	5,858	12,000	11,922
Other Presidencies	18	..	3	7	2
British ports within the Presidency.	539	592	613	496	997
Cutch	..	..	..	15	50
Kathiawar	14	13	..	20	2
State of Travancore	11,309	9,561	11,972	8,994	7,132
Other Indian ports, not British	3	4	2	15	..
Total—Coastwise ..	22,864	16,425	18,448	21,532	20,105
Foreign					
British Empire—					
Ceylon	6	1,271	538	19	6
Straits Settlements (including Labuan).	..	..	..	2	..
Zanzibar and Pemba ..	..	..	5	..	..
Seychelles	130	102	968	19	429
Foreign countries—					
Java	..	50	..	..	..
Other countries ..	..	..	..	..	1
Total—Foreign ..	136	1,423	1,511	40	436
GRAND TOTAL ..	23,000	17,848	19,959	21,572	20,541

TABLE XXXIX

Shipments of copra from Bombay Presidency by Sea

(In tons)

Where sent	1926-27	1927-28	1928-29	1929-30	1930-31
Coastwise					
Burmah—Chief port ..	6	10	17	16	18
Sind—Chief port	205	591	1,114	339	31
Other Presidencies	..	3	..	..	2
British ports within the Presidency.	513	524	587	457	439
Cutch	23	33	37	14	19
Kathiawar	175	107	113	81	142
Foreign, Konkan	37	22	31	23	38
Goa	10	..	1	22	2
Other Indian ports, not British	2	..	1	..	..
Total—Coastwise ..	971	1,290	1,901	952	691
*Foreign** ..	112	184	125	107	62
GRAND TOTAL ..	1,083	1,474	2,026	1,059	753

* These foreign exports are mainly to Iraq and Persia.

The ports in Bombay import on an average 20,784 tons of copra out of which 19,552 tons come from Indian ports and the balance 1,232 tons from foreign countries. The imports into the ports of Madras average 2,300 tons out of which about half comes from foreign countries and the remaining half from Indian ports. The total coastal trade of Indian copra averages 33,700 tons, and India imports from foreign countries on an average 4,100 tons making a total of 37,800 tons.

TABLE XL

Shipments of copra by sea from the ports in the various Provinces in India

(In tons)

Years	Sind			Madras, including Alleppey and Cochin			Burma			Bengal			Bombay			Grand total for India		
	Coastwise	Exports to Foreign countries	Total	Coastwise	Exports to Foreign countries	Total	Coastwise	Exports to Foreign countries	Total	Coastwise	Exports to Foreign countries	Total	Coastwise	Exports to Foreign countries	Total	Coastwise	Exports to Foreign countries	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1923–24	..	4	4	26,331	3,906	30,237	75	..	75	..	..	..	1,000	75	1,075	27,406	3,985	31,391
1924–25	..	3	3	27,347	292	27,639	69	4	73	..	..	..	902	111	1,013	28,318	410	28,728
1925–26	..	2	2	32,434	1	32,435	243	..	243	..	..	..	1,506	110	1,616	34,183	113	34,296
1926–27	..	1	1	37,994	2,034	40,028	12	3	15	..	..	..	971	112	1,083	38,977	2,150	41,127
1927–28	..	1	1	28,560	197	28,757	3	3	6	..	..	..	1,290	184	1,474	29,853	385	30,238
1928–29	5	3	8	25,195	..	25,195	4	7	11	..	..	..	1,901	125	2,026	27,105	135	27,240
1929–30	3	..	3	37,068	1	37,069	58	6	64	..	..	..	952	107	1,059	38,081	114	38,195
1930–31	3	3	6	33,005	..	33,005	..	10	10	..	..	..	691	62	753	33,699	75	33,774
1931–32	3	..	3	29,929	..	29,929	2	1	3	..	..	..	1,259	31	1,290	31,193	32	31,225
1932–33	..	..	..	23,873	..	23,873	5	..	5	..	..	..	1,292	38	1,330	25,170	38	25,208
Average	3	1	4	29,814	..	29,814	14	5	19	..	..	..	1,219	73	1,292	31,050	79	

The exports of copra from the ports in Sind, Bengal and Burma are negligible. The ports in Bombay Presidency shipped on an average for the past five years 1,280 tons of copra to Indian ports mostly to Kathiawar and Gujerat and 73 tons to foreign countries. The shipments of copra from the Madras ports averaged 17,306 tons all of which were to the Indian ports.

Seaborne trade in copra at the Indian ports

(Average for the five years ending 31st March 1933)

(IN TONS)

Province	Arrivals			Shipments		
	Coastwise	Foreign	Total	Coastwise	Foreign	Total
Madras including Alleppey port ..	1,126	1,206	2,332	29,814	..	29,814
Bombay	19,582	1,232	20,784	1,219	73	1,292
Sind	11,804	1,650	13,454	3	1	4
Burma	822	..	822	14	5	19
Bengal	429	39	478	..	..	..
Total ..	33,733	4,127	37,860	31,050	79	31,129

Elsewhere it has been mentioned that 130,000 tons of copra are crushed on the West Coast by the power driven mills and 8,600 tons of copra are exported out of the Mysore State. Adding these quantities to the coastal shipments of 31,000 tons, a total of about 170,000 tons is obtained which represents the least quantity of copra being handled by traders in India.

70. *The reasons for exporting copra from the West Coast.*—Travancore oil mills, as mentioned elsewhere in the report, are working at about two-thirds of their capacity but Travancore is still exporting copra to Cochin and also to Bombay and to Karachi. The most important point to consider first, however, is as to why Travancore should export copra to Cochin, if the mills in Travancore itself are partially idle. Some of the northern parts of Travancore are much nearer to Cochin than the copra markets in Travancore and it is therefore natural that copra produced in these parts will always reach Cochin as the freights to Alleppey would be too heavy. Part of the copra which comes to Cochin from Travancore and which is exported from Travancore to Bombay and Karachi is of edible quality and therefore too expensive to be crushed, in the mills.

With reference to the exports of copra from the West Coast (including Travancore) to Bombay and Karachi, it must be mentioned that a fairly large portion probably exceeding 50 per cent. of the total exports from the West Coast are of edible grade of copra and the balance may be taken to represent the copra for crushing.

In Karachi there are eight expellers with an estimated crushing capacity of about 50 tons of copra per day. Assuming that these mills are working for 200 days in a year the quantity of copra consumed by these mills may be estimated at 10,000 tons. The copra crushing capacity of the mills in Bombay is estimated at 100 tons per day, *i.e.*, 20,000 tons in a year of 200 days. Thus about 30,000 tons of copra may be estimated to have been crushed in Bombay and Karachi. It is a question for consideration as to how the mills in Karachi and Bombay are able to obtain supplies of copra from the West Coast when the supplies of copra for the West Coast mills are inadequate. The freights on copra in comparison with the freights on oil and cake from the West Coast to Bombay and Karachi are so favourable that the shipments of copra from the West Coast are encouraged rather than the shipments of oil and cake. It has been elsewhere mentioned that one of the main markets for the West Coast coconut cake are Bombay and Karachi. These two places require oil also. There are markets at Bombay and Karachi for the disposal of both the cake and oil, unlike at Calcutta and Rangoon where there is a market for oil only. The freights on copra are lower than the freights on cake. It is shown below how it is worthwhile for the millers at Karachi and Bombay to import copra rather than to import oil and cake. The millers in Bombay and Karachi stand to gain to the extent of Rs. 3-15-10 and Rs. 3-9-10 respectively by purchasing copra from the West Coast instead of obtaining oil and cake from the West Coast.

	Rs.	A.	P.
Freight on 12½ cwt. of oil from Cochin to Bombay at Rs. 12 per ton	7	8	0
Freight on 7 cwt. of cake from Cochin to Bombay at Rs. 9-4-0 per ton	3	3	10
Total ..	10	11	10
Freight on a ton of copra from Cochin to Bombay ..	6	12	0
	3	15	10
Freight on 12½ cwt. of oil from Cochin to Karachi at Rs. 14-8-0 per ton	8	12	0
Freight on 7 cwt. of cake from Cochin to Karachi at Rs. 11-12-0 per ton	4	1	10
Total ..	12	13	10
Freight on a ton of copra from Cochin to Karachi ..	9	4	0
	3	9	10

CHAPTER VII

The Manufacture of Coconut oil

71. *Importance of the oil milling industry.*—Out of 674,951 persons connected with the manufacture and refining of vegetable oils in India, according to the Census of 1931, 27,736 belonged to the States of Travancore and Cochin, and the districts of Malabar and South Kanara, *vide* Table XLI.

Table XLI

Number of persons employed in the manufacture and refining of vegetable oils on the West Coast

Districts or State	No. of persons following as principal occupation		Total of those following as principal occupation and subsidiary occupation and working dependents	
	1921	1931	1921	1931
Travancore	9,294	10,003	20,115	11,409
Cochin	2,067	2,808	4,101	3,288
South-Kanara	2,065	1,504	3,719	2,560
Malabar	3,550	3,219	9,917	4,079
Total ..	16,976	17,534	37,852	27,736

In addition to the bullock driven village *chekkus*, there are 1,438 power driven *chekkus* and two Jargon Expellers in the coconut growing tracts of the West Coast distributed as follows :—

State	Town or village	Number of oil mills*	Number of power driven *chekkus*
Travancore	....	22	587
	Alleppey	11	296
	Sherthalai	3	105
	Quilon	3	81
	Near Sherthalai	3	87
	Trivandrum .. .	1	14
		1	4
Cochin	....	28	651 *plus* two expellers.
	Ernakulam and Cochin ..	16	505 *plus* two expellers.
	Trichur	5	95
	Other places	7	51

District	Town or village	Number of oil mills*	Number of power driven *chekkus*
Malabar	....	10	162
	Calicut and Kallai	4	127
	Badagara	1	10
	Cannanore	2	13
	Other places	3	12
South Kanara ..	....	4	23
	Mangalore	1	15
	Karkal	3	8
North Kanara (Bombay)	Honavar	1	2
East Godavari ..	Amalapuram	3	13
	GRAND TOTAL ..	68	1,438 *plus* two expellers.

* Based on the information collected by the Special Officer.

Note.—There are combined rice and oil mills on the West Coast distributed as follows : 1 in Travancore, 10 in Cochin State, 5 in Malabar, 3 in South Kanara and 3 in East Godavari.—Total 22.

In Ernakulam and Cochin out of 508 *chekkus*, only 360 *chekkus* are working. In Trichur and Calicut 30 and 22 *chekkus* respectively are not working.

In the whole of the milling industry not more than 60 lakhs of rupees are invested and it affords direct employment to about 3,500 hands. If the whole of the West Coast is treated as a unit, we find that there are altogether 1,425 power-driven *chekkus* and 2 Jargon expellers with a crushing capacity of 272 thousand tons of copra per annum. If these mills worked at their maximum capacity, the crushing cost would amount to 6·8 lakhs of rupees and they would handle copra worth about 272 lakhs of rupees at a very low valuation of 120 rupees per ton of copra.

72. *Bullock driven oil mills.*—In South Travancore granite *chekkus* are mostly met with. An average village oil miller works on an investment of about Rs. 150 which consists of a *chekku* costing Rs. 60 to Rs. 70, a pair of bullocks costing Rs. 50 and some cash. Elsewhere, mostly wooden *chekkus* are met with.

In addition to crushing copra, the village oil millers crush *Gingelly seed* (*Seasamum indicum*) and kernels of *Calophyllum inophyllum*. When an oil miller is not crushing copra, he generally engages himself in making copra, and he usually works in small lots of 100 to 500 nuts. Copra from about 400 nuts or roughly 120 to 160 lb. of copra is crushed in a day. The general charges for crushing copra from 100 nuts are 4 to 5 annas without the cake and 2 annas with the cake. Cake is generally sold retail by the village oil miller and therefore he realises much higher value for his cake than the owner of a power driven mill in a town. The copra crushing activity is mainly confined to the dry months. The country oil millers find it profitable to convert nuts into copra and crush it " When the price of oil is not less than 1½ times the price of nuts ", *i.e.*, if 2,000 nuts are required to make a candy of copra and if the price of husked

nuts is Rs. 25 per 1,000, the price of oil should be Rs. 75 per candy to enable him to crush copra profitably.

No figures are available to show the number of bullock driven village *chekkus* and their output of oil. It is, however, possible to make a rough estimate of the number of bullock driven *chekkus* and the probable quantity of copra crushed in village oil mills. According to the Census of 1931, 27,736 persons made their living directly or indirectly through the manufacture and refining of vegetable oils. Deducting from this number 3,500 persons who are estimated to be employed in the power driven mills, the remaining 24,000 persons may be taken to be employed in bullock driven village oil mills. Assuming that an average family consisting of six members is employed in a *chekku*, the number of bullock driven *chekkus* on the West Coast may be estimated at 4,000. Presuming that the village miller works for 300 days in a year and that he crushes copra for 200 days and for the remaining 100 days he is engaged in crushing other oil seeds, such as *Gingelly* and *Calophyllum inophyllum* and assuming that he crushes on an average one cwt. of copra, it may be calculated that he would annually crush ten tons of copra. It may, therefore, be estimated that the bullock-driven village *chekkus* on the West Coast, crush 40,000 tons of copra per annum.

When the figures for 1922 and 1931 for the number of persons employed in the manufacture and refining of vegetable oil are compared, it is evident that even though the number of persons following this occupation as a principal occupation has not decreased on the West Coast, the number of dependents has decreased. It is therefore not likely that the number of village bullock-driven *chekkus* is reduced materially during the decade.

73. *Power driven oil mills.*—The earliest oil mills on the West Coast were established at Cochin and at Alleppey in Travancore in 1897. Most of the other mills have sprung up during the last ten to fifteen years. In Cochin and Malabar many of the mills are idle. In Travancore a number of the mills were idle four to five years ago but during the last three to four years practically all the mills have been working. A power driven *chekku* or *ghannie* can crush in a twenty-four hour day about 12 cwt. of copra.

74. *Equipment.*—Excepting the two expellers with the Tata Oil Mills at Ernakulam, no expellers and hydraulic crushers are to be found on the West Coast. In contrast to this, it must be mentioned that most of the oil mills in Ceylon are equipped with expellers and some even with hydraulic presses. On the whole the equipment of mills in Ceylon and the capital with which they work are on a much larger scale than those of the average Indian mills. That this factor will also bear heavily on the capacity of the Indian mills to compete with Ceylon mills should not be overlooked. Not a single mill in Travancore is equipped with an oil filter even though the sediment is returned if the oil is sold at Cochin. Generally, a mill is equipped either with a steam or an oil engine, two or three oil tanks of varying capacities, hand or a power pump and a cutter or chopper for copra and a battery of rotary *chekkus* where the pestle and scrapers are stationary and the mortar revolves. Copra can be added and cake can be removed without stopping the mill. These rotary oil mills which are now manufactured in India are quite cheap costing about Rs. 250 a mill. A mortar generally lasts for six to nine months, then it is turned and thereafter it will function for another six to nine months, so that

most of the equipment of a rotary mill has to be replaced within twelve to eighteen months. The oil flows through a sieve into a settling tank from where it is pumped into storage tanks. Sedimentation takes place even in the storage tanks.

Greater efficiency and reduction in the cost of crushing can be obtained by replacing steam engines by oil engines and *chekkus* by expellers, and the addition of a filter to the mill. Peculiarly enough excepting in one case there is not a single Joint Stock Company running an oil mill on the West Coast. On the whole the oil millers are working with inadequate capital.

Generally 62½ per cent. oil is obtained from the local copra and 60 per cent. of oil from Ceylon copra. Even though 35 per cent. of cake is generally calculated the miller receives the value for 37 per cent. of cake since the cake absorbs some moisture on standing.

In Cochin and Malabar it is a common practice to add 2 to 4 lb. of gum (*Acacia arabica*) previously soaked in water, for a six cwt. charge of copra. It is claimed that it facilitates the crushing of copra and binds the cake. It has been stated by some of the oil millers that Ceylon copra does not require the use of gum.

75. *Cost of crushing.*—The cost of crushing a candy of copra (6 cwt.) without including depreciation or interest on capital ranges between Rs. 3 to Rs. 3-8-0 in Travancore, but generally the crushing cost is calculated to be between Rs. 4 and Rs. 6. This would allow six per cent. interest and some profit. In Cochin and Malabar the cost of crushing copra averages at Rs. 3 for 6 cwt. and in some cases where the power driven oil mill was hired the cost was as low as Rs. 2 to Rs. 2-8-0. An oil miller expects a profit of Re. 1 for 6 cwt. of copra crushed. An owner of several mills in Travancore and Cochin stated that on an average for the last ten years he had earned 12 per cent. on capital and Re. 1 per 6 cwt. of copra crushed. In his opinion a miller suffered only when he speculated on the price of oil or copra and that if the purchase of copra was covered by the sale of oil and if the management was fairly efficient a miller should not incur any loss. Unfortunately many of the millers speculate on the rise and fall in the prices of the commodities which they handle. In calculating the purchase price of a candy of copra a miller arrives at the current price of 12½ maunds of oil *plus* 7 maunds of cake allowing half a maund of wastage (20 maunds make one candy). From the value of 12½ maunds of oil and 7 maunds of cake, the crushing cost and profit are deducted the balance giving the price for well dried copra per candy. If the local price of oil is Rs. 62 per candy and that for a candy of cake is Rs. 12 and the crushing cost per candy is Rs. 4, the price of copra will be Rs. 38-15-0 per candy, arrived at as follows :—

e.g.,

Receipts	Rs.	a.	p.
12½ maunds of oil at Rs. 62 per candy	38	12	0
7 maunds of cake at Rs. 12 a candy	4	3	0
Total	42	15	0
Less cost of crushing and profit	4	0	0
Calculated price per candy of copra	38	15	0

In purchasing copra the miller estimates the dryage and offers a price according to the moisture content of the copra. He has to dry the copra for two to three days, as the copra which he receives contains much of moisture. When a miller purchases a mixed grade of copra he picks out the various grades of edible copra and sells them to the up-country merchants, if the prices prevailing are high enough to cover his expense for selection and grading.

76. *Capacity of the power driven oil mills and the quantity of copra crushed.*— It has been elsewhere mentioned that a power driven *chekku* can ordinarily crush about 12 cwt. of copra in a twenty-four hour day, *i.e.*, 3,600 cwt. in a year of 300 working days. In order to ascertain whether the mills are fully occupied or not, a majority of the mills were visited and an attempt was made to ascertain the quantity of copra crushed in each one of these mills. In most instances the management were unwilling to show their books and they offered either estimates of copra crushed or particulars of their working time. On the basis of this information it may be estimated that last year the power driven mills on the West Coast crushed about 130,000 tons of copra, while their crushing capacity is 272,000 tons per annum, arrived at as follows :—

Total number of *chekkus* on the West Coast (excluding 2 *chekkus* in North Kanara	1,423	
Crushing capacity per *chekku* crushing 12 cwt. of copra in a twenty-four hour day, for 300 days in a year	180	tons.
Total quantity of copra that can be crushed by the above *chekkus*	256,140	,,
Add the crushing capacity of the two expellers	15,900	,,
Total crushing capacity of the West Coast Oil Mills*	272,000	,,

77. The following table shows the capacity of the mills and the quantity of copra crushed in the mills of the various areas :—

Name of the tract	Capacity	Quantity crushed	Percentage of full capacity
	Tons of copra	Tons of copra	
Travancore	106,000	69,000	65
Cochin	133,000	47,000	35
Malabar	29,000	13,000	45
South Kanara	4,000	1,200	30
Total ..	272,000	130,000	48

That, while the mills in Cochin and South Kanara are working at only one-third of their full capacity, the mills in the neighbouring State of Travancore are working at two-thirds of their capacity is a point that needs careful examination. This situation in which the Cochin mills find themselves is brought about by (*a*) the differential export duty on oil in Travancore which gradually reduced the supplies of copra to Cochin mills and (*b*) the keen internal competition among the oil millers in Cochin State.

* The copra crushing capacity of the oil mills at Karachi and Bombay is estimated at 50 tons and 100 tons per day respectively.

78. *Differential export duty on copra and coconut oil from the Travancore State.*—On the exports of coconuts and coconut products five per cent. export duty is levied by the Travancore State on the following tariff valuations for the respective products :—

Tariff valuations since August 1931

Commodity.	Per	Tariff valuation Rs. a. p.
Unhusked coconuts	1,000	48 0 0
Copra	cwt.	16 0 0
Coconut oil	cwt.	12 0 0
Coconut cake	cwt.	5 0 0

An examination of the table reveals that there is practically no difference between the export duty on copra and nuts. The duty on 312·5 nuts which would yield one cwt. of copra is 12 annas and the export duty on a cwt. of copra is 12 annas 10 pies. In the case of oil, however, the export duty is preferential, since the duty on 12½ maunds of oil is Rs. 2-3-1 and the duty on 7 maunds of cake is Re. 0-8-2 making a total of Rs. 2-11-3 for cake and oil which are obtainable from a candy (654 lb.) of copra. If a candy of copra is exported as copra, only a duty of Rs. 4-10-9 will have to be paid and if copra is exported in the form of oil and cake a saving of Rs. 1-15-6 (Rs. 4-10-9 *minus* Rs. 2-11-3) is effected. In other words, the oil milling industry in the Travancore State is subsidized to this extent.

The duty on exports has existed for more than 100 years but this concession to the oil milling industry was first introduced in 1906-07 and it is from that year onwards that the exports of copra from Travancore have gradually diminished while the export of oil has remarkably increased (*vide* Chart VI and Table XXX).

This concession has varied in the past as follows (there is a very slight difference in the amounts of preference given below, since for the purpose of calculating the measure of subsidy a candy of 6 cwt. is utilised instead of the current candy which is 654 lb.).

From	To	Difference per candy of 6 cwt. between the export duty on copra and that on oil *plus* oil cake Rs. a. p.
1906-07	1919-20	1 9 6
1919-20	1926-27 January ..	2 10 9
1926-27 January	1926-27 June	1 5 2
1926-27 June	1928-29	2 0 5
1928-29	1930-31	2 10 0
1930-31	Onwards	1 15 10

79. *Export duty on oil and cake from imported copra.*—In 1911 the Government of Travancore with a view to further encourage the milling industry sanctioned, as a tentative measure, the export free of duty of cake and oil manufactured from the imported copra, but since no mill owner availed himself of this concession the arrangement was not made permanent. This concession was again granted with effect from 11th October 1932, as a tentative measure upto the 16th August 1933 and has been withdrawn after the expiry of the period. Whilst in existence the concession was worth Rs. 2-11-3 per candy (654 lb.) of copra crushed. The mill industry availed itself of this concession in 1932-33 by importing 42,293 cwt. of copra into Travancore mostly from Ceylon*. Thus the milling industry in Travancore has benefited doubly on the one hand by the differential export duty on coconut oil and on the other by the concession derived from having been permitted to export, free of duty, the oil and cake crushed from imported copra.

80. *Opinions regarding the differential export duty.*—Both cultivators and the exporters argue that the export duty specially in view of the present high tariff valuations are serious handicaps to them, and they maintain that but for these there would have been keen competition for Travancore copra from Cochin, Bombay and Karachi millers which would have resulted in better prices. They contend that the export duty and the rates of freight combine to place Travancore copra at a disadvantage as compared with the Malabar copra. The millowners on the other hand argue that the export duty is not only necessary but also is in the interest of the producers themselves, who benefit through the internal competition of the mills. The export duty falls on the producer and it cannot be denied that the miller benefits at the expense of the cultivator. The removal or even the equalisation of the export duty would, in the long run, benefit the agriculturist who is the producer of coconuts, and in an answer to my question the members of the Travancore Chamber of Commerce stated that the Travancore ryot, in fact, gets less ; but in the interest of the milling industry in Travancore, the Chamber has been in favour of the retention of the export duty. When the average price during the year ending 30th June 1933 was Rs. 15, 9 and 3½ respectively per cwt. of coconut oil, copra and cake, the tariff valuations during 1932-33 were as high as Rs. 12, 16 and Rs. 5 respectively for the same products. It is peculiar to note that the tariff valuation per cwt. of oil is only Rs. 12 whereas it is Rs. 16 per cwt. of copra.

81. *The millers' claim for concessions.*—The mill owners contend that the preferential duty is necessary to enable the oil millers to sell their oil in Cochin market which, for various reasons, happens to be the central market for oil trade. On behalf of the Oil Millers' Association, the basis on which the Travancore oil millers were demanding protection was kindly explained to me. According to them, the Alleppey oil miller is at a disadvantage to the extent of Rs. 3-7-0 per candy calculated as follows :—

A mill having 15 *chekkus* and crushing 30 candies of copra per day and night in a month of 20 working days will require 7,200 candies of copra which will yield 4,500 candies of oil. Out of this, about 3,000 candies have to be sold at Cochin on which an expenditure of Rs. 3-7-0 per candy has to be incurred. Four-hundred candies of copra will have to be stocked by the mills

* This incidentally shows the shortage of copra on the West Coast.

at the rate of Rs. 75 per candy, *i.e.*, Rs. 30,000. He must have at least 250 casks at Rs. 20, costing Rs. 5,000. A Cochin merchant need not have any casks because he delivers the oil in the buyer's casks. An expenditure of Rs. 3-7-0 is accounted for as follows :—

	Rs.	A.	P.
Commission for remittance of money	0	1	6
Repairing charge on casks	0	6	0
Boat-hire on casks either way	0	12	0
Shortage	0	4	0
The expenditure of the man who goes with the casks ..	0	1	8
Agent's (at Cochin) expenditure	0	6	6
Telegrams	0	1	0
Interest on stock of Rs. 35,000	1	6	4
Total ..	3	7	0

An oil miller in Cochin even though he uses the buyer's casks, is required to bring the empty casks from the buyer's godown and to deliver oil at the godown of the buyer. The expenditure that a Cochin miller incurs on this double transport of casks is not much less than what the Travancore miller incurs. When the Travancore miller has to incur the agent's expenditure, the Cochin miller has to meet the brokerage charges on the transaction of oil. As far as the interest on the stock of Rs. 35,000 is concerned, a miller in Cochin is obliged to maintain bigger stocks of copra than a miller in Alleppey, where large quantities of copra arrive daily, because the Cochin miller has to depend partly upon the supplies of copra from Travancore State, unless the price of imported Ceylon copra is favourable.

As previously mentioned oil millers purchase copra on the basis of the prevailing prices at Alleppey. The Alleppey prices of oil take into account the cost of transporting oil to Cochin and the duty thereon. When the purchase of copra is based on the price of oil at Alleppey, it would be unjustifiable to calculate the cost of transport of oil. On an average the price of oil at Alleppey is lower by about Rs. 5 than the price of oil at Cochin This difference of Rs. 5 should include Rs. 3-8-1 duty per candy, the purchaser's profit and the cost of transport.

The difference in the prices of copra between Alleppey and Cochin averages Rs. 4 per candy. If a miller at Cochin wants to purchase copra from Alleppey he must incur an expenditure of about Rs. 5 including Rs. 4-10-9 duty per candy. Table XLII shows (*a*) that copra from Travancore is imported into Cochin for crushing and (*b*) that the supplies from Travancore are getting reduced. Thus it would appear that the Cochin oil miller is more at a disadvantage than the Alleppey oil miller.

TABLE XLII

Imports of copra into Cochin, from Travancore

(In cwt.)

(*By all routes*)

Years	Through Arukutty	Through Cochin-Shoranur Railway	Total	Exports from Cochin port (by sea)
1918-19	378,968	1,199	380,167	134,435
1919-20	148,333	1,038	149,371	109,642
1920-21	145,748	1,244	146,992	38,059
1921-22	157,700	1,298	158,998	170,225
1922-23	114,637	1,326	115,963	41,080
1923-24	20,351	1,364	21,715	23,420
1924-25	20,226	1,534	21,760	4,500
1925-26	40,426	1,757	42,183	7,283
1926-27	31,779	3,200	34,979	26,064
1927-28	83,980	2,412	86,392	1,630
1928-29	59,812	3,116	62,928	200
1929-30	51,428	3,033	54,461	2,060
1930-31	48,250	2,796	50,046	920
1931-32	32,771	2,633	35,404	1,100
1932-33	3,865	2,524	6,389	4,100

It must also be admitted that the producer in Travancore at present obtains 8 annas to one rupee per candy of copra more on account of the internal competition among the Travancore oil millers. This would indicate that the protection afforded to him is so adequate that the miller is prepared to pass a share of it to the ryot when it is to his advantage to crush copra. If the industry was at a disadvantage, as it is made out to be, there would not have been such rapid expansion of the oil milling industry which is evident from the increased exports of oil from Travancore.

82. *The margin of profit for the oil millers in Cochin and Travancore.*—The margin for the oil miller can be calculated by deducting the price of one candy of copra from the total value of 12½ maunds of oil and 7 maunds of cake. On the 4th October 1933, there was a margin of Rs. 1-15-0 (arrived at as follows) for the oil miller at Alleppey and this was not sufficient to enable him to purchase copra and crush it :

	Rs.	A.	P.
Prices of 12½ maunds of oil at Rs. 62 per candy	38	12	0
Prices of 7 maunds of cake at Rs. 12 per candy	4	3	0
Total	42	15	0
Less price of one candy of copra	41	0	0
The miller's margin	1	15	0

When the margin for the miller is not adequate to meet the crushing cost (Rs. 3 to Rs. 3/8 per candy of copra), he either does not purchase copra or if he purchases copra at all, he does it to meet his obligations arising out of the forward contracts, or he purchases it in anticipation of a rise in the price of oil. This disparity between the prices of copra and oil arises either through the fluctuations in the demand for cake or as a result of speculation in the oil market, as is mostly the case, or very rarely, from the keen demand for copra from Bombay and Karachi. Taking into consideration the prices of copra, oil and cake for sixty-four and twenty-five dates at random for Alleppey and Cochin respectively, I have calculated the margins for oil millers. In some cases, if the copra was purchased and the oil was sold on the same day a miller would have incurred a loss of about Rs. 2 per candy. On an average for the sixty-four observations Alleppey oil millers had a margin of Rs. 4-2-0 per candy while the Cochin oil miller had a margin of Rs. 3-9-0 per candy. In both cases the margin is fair enough, to meet the crushing cost. It would appear that the Alleppey miller has a better margin than the Cochin miller.

Alleppey oil millers do not send all their oil to Cochin. Out of about 69,000 tons of copra, which the power driven oil mills crush, the oil from about 30,000 tons of copra is utilised in Travancore, for which also they obtain the concession ; and sixty-six per cent. of the total exports of oil go to Cochin. The exports of oil through Tirvandrum-Tinnevelly Railway have increased from 17 per cent. of the total exports of oil in 1927-28, to 26 per cent. of the total exports in 1931-32. Some of the oil passing through Arukutty Chowkey is directly sent to various places in Southern India through Ernakulam Railway Station.

TABLE XLIII

Exports of coconut oil from the Travancore State

(In cwt.)

(By all routes)

Year mid August to mid-August	Through Arukutty Chowky to Cochin	Through Trivandrum-Tinnevelly Railway	Through other Customs Houses	Total exports from the State
1918-19	215,629	59,324	17,574	292,527
1919-20	149,173	96,151	62,349	307,673
1920-21	266,825	35,745	77,996	380,566
1921-22	282,152	70,616	52,932	405,700
1922-23	289,710	85,004	17,517	392,231
1923-24	307,610	91,816	24,038	423,464
1924-25	286,974	90,030	25,390	402,394
1925-26	292,222	82,567	29,771	404,560
1926-27	284,921	117,519	17,308	419,748
1927-28	301,617	109,663	17,620	428,900
1928-29	301,572	123,897	8,424	433,893
1929-30	355,553	135,795	52,089	543,437
1930-31	408,113	121,231	91,647	620,991
1931-32	280,272	157,036	15,649	452,957
1932-33	292,867	158,961	32,389	484,217

Thus the Alleppey oil miller does not wholly depend on the Cochin market for the disposal of the oil. On the whole the Travancore oil millers obtain subsidy of about 2½ lakhs of rupees per annum calculating at the rate of Rs. 2 per candy for 132,000 candies of copra, the oil from which is exported out of Travancore. Even assuming that out of the subsidy of Rs. 2, they return to the grower Re. 1 per candy in the form of higher prices the oil millers of Travancore still derive the benefit of about 1·4 lakhs of rupees per annum for a capital investment of only 20 lakhs of rupees. In places like North Parur, far off from the oil mills, the agriculturists have to export their copra to the adjoining State of Cochin or British territory and they do not practically derive any benefit from the higher prices which the oil millers might be able to give. It is only natural to expect that the free competion between oil millers in the different places would lead to increased efficiency in the management of the mills to the advantage of both the producer and the consumer.

83. *Internal competition of the mills.*—The earliest mills were established in Cochin and Ernakulam since in those days they were the main copra markets, and they afforded facilities for the transport and ready disposal of the oil. The development of small mills at Trichur, Irinjalakuda, Cranganore, Mannalur, and Puthanpetiya—places around Cochin—cut off the supplies of copra to the millers. The small capital required to add a few *chekkus* to an already existing rice mill has led to an increase in the number of mills, at the main centres of copra manufacture; even though this may be a distinct advantage to the producer of copra it has adversely affected the pioneer oil mills at Cochin.

84. *Shortage of copra.*—Taken as a whole, the mills on the West Coast have been working at about 50 per cent. of their full capacity. That this partial idleness of the mills is not due to lack of demand for oil, is evinced by the large quantities of oil which are being imported into India.

Imports of oil and copra into India

Year ending 31st March	Coconut oil	Copra	Oil expressed in terms of copra	Copra and oil expressed in tems of copra
	Gallons	Tons	Tons	Tons
1927-28	1,449,724	1,437	9,704	11,141
1928-29	2,393,392	1,580	16,020	17,580
1929-30	1,565,109	152	10,470	10,622
1930-31	1,209,430	498	8,095	8,593
1931-32	3,331,140	2,222	22,290	24,512
1932-33	7,803,305	16,208	52,240	68,448
1933-34	6,020,840	29,160	40,310	69,470

In 1932-33 oil from as much as 52,000 tons of copra was imported into India and in 1931-32 oil from 22,000 tons of copra was imported. This phenomenal increase in the imports of oil can be either due to the shortage of copra supplies on the West Coast or increased consumption of oil and copra in India or by a combination of both these factors. Nowhere on the West Coast are there held exceptionally large stocks of oil, copra or nuts and if the stocks on the West Coast were unable to move, the prices on the West Coast would fall to such a level as to encourage the disposal of these stocks. None of

these phenomena have happened. Actually the exports of copra and oil from the West Coast have decreased during the last two years.

Exports of oil and copra in terms of copra

Year	From the ports in Malabar and South Kanara	From Travancore State	Net exports from the port of Cochin	Total
	Cwt.	Cwt.	Cwt.	Cwt.
1927-28	301,062	1,148,129	—49,492	1,399,699
1928-29	279,054	1,115,292	—64,631	1,330,315
1929-30	447,893	1,207,153	829	1,655,875
1930-31	432,156	1,379,741	—108,726	1,703,171
1931-32	369,863	985,821	—284,568	1,071,115
1932-33	163,161	1,075,063	—252,489	985,740

It has been previously mentioned that the 1932 crop was rather poor, being only about 72 per cent. of the normal. Since only surplus of oil and copra after meeting the local South Indian requirements would be available for export, it is to be expected that in lean years the export would be reduced considerably. The fact that there was a shortage of copra in 1932 is further borne out by the fact that, during August and September 1932, the price for *officepass* copra in Alleppey was Rs. 75 per candy, while the price for imported copra at Alleppey or at Cochin including duty and landing charges came to about Rs. 72 per candy. After 15th November 1932 the Alleppey prices of copra came down and ever since have remained more or less on a level with the prices of imported copra.

85. The shortage of the crop and increased consumption of coconut products in India, particularly in nuts and coconut oil, have both combined to stimulate the imports of these commodities into India. In tables LIII, XLIV and XLV the imports of coconut products into Mysore, H. E. H. the Nizam's State and Gwalior are given. The figures generally indicate the increase in the consumption of nuts and oil. A similar increase in the arrivals of oil and nuts into the ports of the provinces has taken place.

TABLE XLIV

Imports into H. E. H. the Nizam's State

Years*	Coconuts	Coconut oil	Copra
	Maunds †	Maunds †	Maunds †
1928-29	159,381	36,759	144,348
1929-30	168,651	38,424	133,791
1930-31	165,649	41,036	109,720
1931-32	170,714	46,680	95,672
1932-33	220,682	53,535	109,959

*These years commence from the first week of October.
† The maunds consist of 40 seers each.

TABLE XLV

Exports from and imports into Gwalior State

Years	Coconuts		Copra	
	Exports	Imports	Exports	Imports
	Maunds*	Maunds*	Maunds	Maunds*
1926-27	170	46,874	14	2,948
1927-28	228	25,036	18	3,142
1928-29	234	49,830	30	4,132
1929-30	247	50,017	36	4,014
1930-31	..	..	42	5,554

*The maunds consist of 40 seers each.

Increase in the Indian consumption of coconut oil can partly be accounted for by the rapid progress made by the Indian soap and vegetable ghee industry. Statistics regarding the production of soaps and vegetable ghee in India are not available but an indication of the rapid development of these industries can be observed from the following figures of imports of soaps and vegetable ghee into British India.

Imports of soaps and vegetable ghee into India

Year	Soaps	Vegetable ghee
	Cwt.	Cwt.
1927-28	412,429	444,431
1928-29	405,885	458,184
1929-30	447,939	321,126
1930-31	332,322	296,026
1931-32	309,784	116,849
1932-33	296,341	36,659

When the prices for coconut oil are low the comsumption of the coconut oil in the soap industry is stimulated, for then the cold process manufacturer of soap becomes very active at the expense of those who use other oils in manufacturing soaps by the " boiled process ".

86. *Surplus capacity of the mills.*—Elsewhere it has been estimated that the total crushing capacity of the West Coast oil mills is 272,000 tons but the quantity of copra actually crushed is only about 130,000 tons. The following calculations will indicate that the copra crushing capacity at present is fully equal to and possibly in excess of the Indian requirements of coconut oil. The exports of copra from the West Coast—which is the centre of production of copra averaged in round figures 30,000 tons, including edible copra, which is far too expensive to crush. Within the past six years, the imports of copra and oil from Ceylon were the highest during 1932-33, being 68,448 tons in terms of copra.

The capacity of the West Coast oil crushing industry is ..	272,000	tons of copra
Estimated amount of copra crushed	130,000	,,
Balance of copra required for crushing	142,000	,,
Exports of copra from the West Coast	30,000	,,
The imports of copra and oil into India from foreign countries in 1932-33 in terms of copra	68,000	,,
Total	98,000	,,
Surplus capacity of mills	44,000	,,

87. *Advantages of importing copra instead of oil.*—Taking the total quantity of copra and copra equivalent of oil imported into India as 100 the proportion of each of these products to the total is shown below.

Percentages of the total imports of copra and oil into India in terms of copra

Year	As copra	As oil
1927-28	12·9	87·1
1928-29	8·9	91·1
1929-30	1·4	98·6
1930-31	5·8	94·2
1931-32	9·1	90·9
1932-33	23·7	76·3
1933-34	42·0	58·0

The figures show that the major portion of the imports consists of oil and not, as it should be, of copra. For the first time in 1932-33 a substantial quantity of copra was imported. If instead of importing oil, this amount of oil is imported as copra, and the copra crushed in India itself it would give occupation to the partially idle oil mills.

In importing this oil in 1932 a sum of 5·2 lakhs of rupees, which represents the crushing cost, is lost to the nation and this sum might as well have been saved for the country. It will, therefore, be evident that any measure designed to encourage the imports of copra rather than the imports of oil will benefit the country.

88. *Factors which encourage imports of oil.*—It is appropriate to examine why India imports both copra and coconut oil instead of copra alone, inspite of the facts that there is a shortage of copra, that the consumption of coconut oil in the country has increased, and that the mills do not have sufficient work to engage themselves fully throughout the year. This state of affairs has been brought about by the combined action of British Indian duties, the differences in the coastal freights and freights from Ceylon, and the comparative low efficiency of some of the oil mills.

TABLE XLVI

Import duties in British India

Year	Copra and Oil						
	Tariff Valuation per cwt.	Duty Percentage	Tariff Valuation per cwt.	Duty Percentage	Import duty on a ton of copra	Import duty on 12 cwts. of oil, *i.e.*, oil equivalent of copra	Difference (Cols. 6-7)
1	2	3	4	5	6	7	8
	Rs. a. p.		Rs. a. p.		Rs. a. p.	Rs. a. p.	Rs. a. p.
5th April 1929 ..	23 0 0	15	30 0 0	15	69 0 0	54 0 0	—15 0 0
4th April 1930 ..	17 0 0	15	26 0 0	15	51 0 0	47 13 0	—3 3 0
5th April 1931 ..	16 0 0	20	21 8 0	20	64 0 0	51 10 0	—12 6 0
1st January 1932 ..	11 12 0	25	16 0 0	25	58 12 0	48 0 0	—10 0 0
16th January 1933 ..	10 0 0	20*	15 8 0	25*	40 0 0	46 8 0	+6 8 0
1st January 1934 ..	9 0 0	20*	12 8 0	25*	36 0 0	37 8 0	+1 8 0

*Preferential duty to United Kingdom or British Colony.

89. *Effect of import duties on oil mills.*—In table XLVI the tariff valuations, the rates of duties and the duty payable in importing into India a ton of copra and its equivalent (12 cwt.) of oil are given. The difference between the import duties on a ton of copra and its equivalent in oil is shown in column 8. It is evident that upto the beginning of 1933 it was advantageous to import oil instead of copra—the difference in duty being as much as Rs. 15 in 1929. In 1933 however, the position improved and it became worthwhile to import copra. As a result, for the first time, a fair quantity of copra was imported in that year and the imports of oil declined, even though the total imports, in terms of copra, had not materially altered.

Foreign imports of oil and copra into India for calendar years

Commodity	1931	1932	1933
Copra—tons	1,095	14,769	26,394
Oil—gallons	2,352,577	7,319,126	6,379,688
Oil in terms of copra—tons	24,970	48,985	42,705
Total for oil and copra in terms of copra—tons ..	26,065	63,754	69,099

The prices for imported coconut oil in 1933 when compared with the prices of copra in the same year were low, as a result of which the tariff valuations of copra and oil in 1934 are also low. The margin between the import duty on copra and its equivalent of oil is not a sufficient inducement for the crusher to import copra.

Year	Preferential import duty per ton of copra	Preferential import duty for 12 cwt. of oil	Difference
	Rs. a. p.	Rs. a. p.	Rs. a. p.
1933	40 0 0	46 8 0	6 8 0
1934	36 0 0	37 8 0	1 8 0

It would not be therefore surprising if in the year 1934 the imports of oil tend to increase and the imports of copra tend to decline. During 1933 in Ceylon the average prices per cwt. of oil and copra were 10·47 and 5·95 rupees respectively. In the following statement the average prices of oil and copra and the tariff valuations are given.

Prices in rupees during 1933

Place	Price of oil	Price of copra	Price of copra as percentage of the price of oil	Remarks
Colombo	10·47	5·95	57	
Alleppey	12·80	8·36	69	
Cochin*	13·55	9·02	67	*Average of the prices on the first or the nearest date for which the quotation is available excepting in the months of April and December.
Indian tariff valuation ..	12·50	9·00	72	

If it be assumed that the price of cake covers the cost of crushing, the value of copra per ton should be 60 and 62½ per cent. of the value of oil per ton for Ceylon and India respectively. It is not possible to explain exactly how there is such a difference between the prices of oil and copra in Colombo and India. Such difference can exist only under one of two conditions : either when the price of the Indian cake is higher than the price of Ceylon cake or when crushing cost in India is lower than that in Ceylon. Since both India and Ceylon are exporting cake to the continental markets it is hardly possible that the price of the two cakes could be different.

90. *Difference between coastal freights and freights from Ceylon.*—The following table of freights shows clearly how the freights on oil from Colombo to Karachi, Calcutta and particularly to Bombay are lower than the freights from the ports on the West Coast. The lower rates of freights encourage the export of Colombo oil into the ports of Calcutta, Rangoon, Bombay and Karachi. In the case of copra the freights from the West Coast ports to Calcutta are higher by about Rs. 4-4-0 per ton than the freights from Colombo

TABLE XLVII

Coastal freights and freights from Ceylon

Port to which sent	Freight on oil per ton		
	From West Coast Ports	From Colombo	Difference
	Rs. a. p.	Rs. a. p.	Rs. a. p.
Karachi	14 8 0	12 8 0	2 0 0
Bombay	12 0 0	7 8 0	4 8 0
Calcutta	12 4 0	9 0 0	3 4 0
Rangoon	16 4 0	12 8 0	3 12 0
Cochin and Malabar Ports ..	..	10 0 0	..

Port to which sent	Freight on copra per ton (in bags)		
	From West Coast Ports	From Colombo	Difference
	Rs. a. p.	Rs. a. p.	Rs. a. p.
Karachi	9 4 0	10 0 0	0 12 0
Bombay	6 12 0	7 8 0	0 12 0
Calcutta	20 0 0	15 12 0	4 4 0
Rangoon	20 0 0	15 0 0	5 0 0
Cochin and Malabar Ports ..	..	7 8 0	..

91. *The effect of differential freights on Bombay oil mills.*—The freight on oil as compared with that on copra from Colombo to Bombay are such that they make the import of oil more worthwhile than the import of copra. Oil carried from Colombo to Bombay at the same rate as copra, *viz.*, Rs. 7-8-0 per ton. If an oil miller at Bombay imports 33 cwt. of Ceylon copra—(enough to

yield a ton of oil) he has to pay Rs. 12-4-0 as freight but if he imports a ton of Ceylon oil he has to pay a freight of only Rs. 7-8-0.

The following calculation shows how he loses if he imports Ceylon copra instead of Ceylon oil.

	Rs.	a.	p.
Freight for 33 cwt. of copra from Colombo to Bombay	12	4	0
Import duty on above	59	7	6
Total	71	11	6
Freight for one ton of oil from Colombo to Bombay	7	8	0
Import duty on above	62	8	0
Total	70	0	0
Loss on importing copra	1	11	6

92. *The effect of differential rates of freight on the West Coast oil mills.*—It has been mentioned in an earlier place that the West Coast is the biggest copra crushing centre in India and that the mills there are partially idle in spite of the heavy import of foreign coconut oil into India. The Indian markets for the West Coast oil are Bengal, Bombay, Sind and Burma in addition to the markets in South India. But among all the markets Bengal consumes the largest share of the foreign imported oil as will be evident from the table below. Any attempt, therefore, to promote the copra crushing industry in India must provide for shipping oil to Calcutta from the West Coast under more favourable conditions.

Imports of Foreign coconut oil into Ports in

Year	Bengal	Bombay	Sind	Madras	Burma
			Gallons		
1927-28	1,156,063	169,862	..	2,000	121,799
1928-29	2,063,419	229,879	..	23,630	76,464
1929-30	1,506,945	5,547	617	407	51,591
1930-31	1,173,166	12,577	12	1,817	21,858
1931-32	3,047,288	24,844	2,449	36,028	220,531
1932-33	4,716,089	1,273,939	179,425	364,370	969,482

As it is, at present, the freights are very unfavourable for shipping oil from the West Coast to Calcutta. If shipments of oil to Calcutta are to be encouraged the oil milling industry needs a difference of at least Rs. 12-2-0 in import duties per ton in favour of copra. This figure is arrived at as follows :—

	Rs.	a.	p.
The freight per ton of copra from Colombo to Malabar or Bombay, whichever is higher	7	8	0
Handling charges, incidentals, port dues and insurance for a ton of copra ..	2	8	0
The freight from Malabar to Calcutta per 12 cwt. of oil obtained on crushing a ton of imported copra	7	8	0
Total	17	8	0
Less freight from Ceylon to Calcutta on 12 cwt. of oil	5	6	0
	12	2	0

Similarly the following margin is needed for exporting oil extracted from imported copra from the West Coast to Bombay, Karachi and Rangoon.

	Rs.	a.	p
Bombay	12	11	3
Karachi	11	3	3
Rangoon	12	4	0

As things are, at present, the difference between the duty on 12 cwt. of oil and that on a ton of copra is a paltry sum of Rs. 1-8-0 only.

The calculations by which the above mentioned margins are arrived at in regard to the aforesaid ports are shown below :—

Margin necessary for shipping oil to Bombay from the West Coast

	Rs.	a.	p.
Freight from Colombo to Malabar per ton of copra	7	8	0
Port dues, insurance, handling charges and incidentals	2	8	0
Freight from Malabar to Bombay for 12 cwt. of oil at Rs. 12 per ton	7	3	3
	17	3	3
Less freight from Ceylon to Bombay on 12 cwt. of oil at Rs. 7-8-0 per ton ..	4	8	0
	12	11	3

Margin necessary for shipping oil from West Coast to Karachi

	Rs.	a.	p.
Freight from Colombo to Malabar per ton of copra	7	8	0
Port dues, insurance, handling charges, and incidentals	2	8	0
Freight from Malabar to Karachi for 12 cwt of oil at Rs. 14-8-0 per ton ..	8	11	3
	18	11	3
Less freight from Ceylon to Karachi on 12 cwt. of oil at 12-8-0 per ton ..	7	8	0
	11	3	3

Margin necessary for shipping oil from West Coast to Rangoon

	Rs.	a.	p.
Freight from Colombo to Malabar per ton of copra	7	8	0
Port dues, insurance, handling charges and incidentals	2	8	0
Freight from Malabar to Rangoon for 12 cwt. of oil at Rs. 16-4-0 per ton ..	9	12	0
	19	12	0
Less freight from Ceylon to Rangoon on 12 cwt. of oil at Rs. 12-8-0 per ton ..	7	8	0
	12	4	0

93. To enable the West Coast crushers to sell coconut oil made from imported copra at competitive rates with the imported oil in Bombay, Calcutta, Karachi and Rangoon markets, a difference of at least Rs. 12-12-0 in import duties per ton in favour of copra would be required, *i.e.*, the duty on 12 cwt. of oil needs to be more by Rs. 12-12-0 than the duty on a ton of copra. At present the import duty on 12 cwt. of oil, *i.e.*, the oil equivalent of 1 ton of copra is Rs. 37-8-0 while import duty on a ton of copra is Rs. 36, the margin being only Rs. 1-8-0. If the copra crushing industry is to be encouraged, the duty on 12 cwts. of oil should be Rs. 48-12-0, *i.e.*, Rs. 4-1-0 per cwt. when the import duty per ton of copra is Rs. 36 or Rs. 1-12-10 per cwt. of copra. In other words, the duty on

a ton of oil should be Rs. 81-4-0 instead of Rs. 62-8-0 as it is at present. This can be achieved without altering the tariff valuation by raising the preferential import duty on oil to 32·5 per cent.

94. It is, however, desirable to levy a specific duty, so that the duty on 12 cwt. of oil is always higher by Rs. 12-12-0 than the duty on a ton of copra. If the percentage only of import duty on oil is increased, the " margin " between the duties on oil and its equivalent of copra will be subject to fluctuations with the changes in the tariff valuations of oil and copra. If the values of oil and copra were to fall, and if the duty on oil and copra were to remain at the same level, it would reduce the margin between the import duties on oil and copra even as it happened in 1934. In 1933, the margin for the miller was Rs. 6-8-0 but in 1934, it fell to Rs. 1-8-0, with the revised tariff valuations which happen to be low, even though no change has been effected in the percentages of duty.

95. *Competition of oil mills at Bombay and Karachi.*—It has been previously mentioned that Bombay and Karachi purchased from the West Coast on an average 119,000 cwt. and about 24,000 cwt. of oil respectively in addition to the large quantities of copra. The copra crushing capacity of the oil mills in Bombay and Karachi are respectively about 50 and 100 tons of copra per day, *i.e.*, 45,000 tons for a year of 300 working days. These mills are better equipped than most of the mills on the West Coast, and are, therefore, able to compete with the West Coast mills.

96. *The difficulty in the disposal of the cake.*—At least one third of the cake produced by the power-driven mills on the West Coast has to be shipped to the places outside South India. Bombay, Gujerat and Kathiawar are very big markets for the coconut cake. Bombay alone purchases (about 10,000 tons or 75 per cent. of the exported surplus of the West Coast, and about 20 per cent. is mostly taken by Kathiawar and Karachi. Thus it is clear that the mills on the West Coast depend to a large extent both for the disposal of the cake and oil on Bombay and Karachi markets. While the oil millers at Bombay and Karachi are in the proximity of the markets for both the cake and oil, the West Coast oil millers have to ship their commodities over a long distance. The freight from Cochin to Bombay on a ton of copra is Rs. 6-12-0 and on its equivalent of oil and cake (for 12½ cwt. of oil Rs. 7-8-0, and for 7 cwt. of cake Rs. 3-3-10) the freight is Rs. 10-11-10. Similarly the freight from Cochin to Karachi on a ton of copra is Rs. 9-4-0, but that on the equivalent quantity of oil and cake is as much as Rs. 12-13-10 (Rs. 8-12-0 for 12½ cwts. of oil and Rs. 4-1-10 for 7 cwt. of cake). This naturally promotes the shipments of copra to Bombay and Karachi, rather than the shipments of oil and cake.

The question of the disposal of coconut cake is one of the main factors, which limits the working of the West Coast oil mills. In table LXV the calculated amount of cake released while expelling the exported quantity of oil from Travancore is given for the past twenty years and it is observed that most of the cake obtained is sent out of Travancore. It is therefore evident that the rapid development of the oil milling industry in Travancore has not materially increased the consumption of cake in the State. Almost every district in India has its own supply of local cake, and the demand for cake as a cattle feed is only keen, when there is well established dairy industry as in Bombay and Gujerat.

CHAPTER VIII

Trade in Coconut Oil

97. *Marketing of coconut oil.*—The oil produced by the country mills is either disposed of locally or sold to a middleman who, in turn, sells it to the wholesale dealer generally with a profit of one anna per tin of 36 lb. net. And the latter disposes it of for a profit of one to four annas per tin. The owners of power driven mills either sell the oil to the exporters or the wholesale dealer or export it to the Cochin market, or send it to up-country merchants on receipt of orders. The millers do not generally maintain any agents to dispose of the oil in the consuming centres ; but they have agents at the centres for trade in oil to market their oil.

98. *Packing.*—When the oil is sent in carts or by railway, four gallon kerosine tins (containing 36 lb. net of oil) are used. Drums are also used when the oil is sent by rail to nearby places like Mangalore and Palghat from where the cost of returning empty drums is not prohibitive. Up-country merchants who do not handle very large quantities of oil prefer kerosine tins. The oil which is sent to Bombay, Calcutta or Karachi is carried in drums. Casks are mainly used for sending oil to Cochin from Alleppey.

Coconut oil imported into India from Ceylon is mainly in 5 cwt. galvanised iron cylinders, and rarely in $3\frac{3}{4}$ cwt. cylinders.

99. *Grades of oil.*—There are two main grades of oil on the West Coast : mill oil and country mill oil. In rural parts people prefer country oil and are prepared to pay a small premium for it : but in urban centres, consumers generally prefer mill oil. When large quantities of oil are handled wholesale dealers make a distinction between the two grades of clear and 'unclear' oil ; the difference in the price of the two grades ranges from eight annas to one rupee per candy more for the clear oil.

Unlike in India, there are definite and well established grades of oil in Ceylon. Commercially three grades of oil, *white, ordinary* and *parings* are recognised. *White oil* is made from No. 1 copra and is guranteed to have a free fatty acid content of under one per cent. and generally it averages to 0·7 per cent. *Ordinary oil* is prepared from No. 1, No. 2 and No. 3 copra, the latter two grades generally forming only about 5 per cent. *Ordinary oil* is required to have free fatty acid content not exceeding 3 per cent. and it is slightly yellowish in colour. *Parings oil* which is generally dark red, is obtained by crushing the shavings of brown testa obtained during the preparation of desiccated coconuts. *Parings oil* has a high free fatty acid content varying between 5 and 10 per cent. and it is mostly used for the manufacture of soap and for lubrication. Occasionally *white oil* is converted into *ordinary* by mixing with it, a small quantity of *parings oil*. Rangoon and Bombay markets import *white oil*, but Calcutta purchases mostly *ordinary oil* and small quantities of *parings oil*. The minimum difference between the price of *ordinary* and *white oil* is Rs. 1/4 per ton, and the maximum Rs. 2/8. The difference in the prices of *ordinary* and *parings oil* ranges very widely from Rs. 5 to Rs. 20 per ton.

In addition to these three main grades of oil in Ceylon, there are two other grades also known as *Water white oil* and *drain oil*. *Water white* coconut oil can be obtained by crushing desiccated coconuts but it is at present uneconomically. Drain oil a low grade of oil is prepared by boiling the accumulated coconut milk which is obtained as a by product during the preparation of desiccated coconuts. Since there are no desiccated coconut factories at present in India and since the manufacture of copra is not carried out by any individual on a scale, large enough to collect adequate quantities of coconut milk, there is no possibility for the production of *drain oil* on a fairly large scale.

100. *Trade centres.*—On the West Coast, Cochin occupies a high place in the matter of the volume of trade in coconut oil. Alleppey oil market is next to Cochin in importance followed by Calicut, Trichur, Quilon, Trivandrum and Kottar.

101. *Freights.*—It costs six annas for transporting a candy of 654 lb. of oil from Alleppey to Cochin by boat. The following rates of freight are current from the West Coast ports and Colombo to Bombay, Karachi and Calcutta.

	Freights from Cochin			
	To Bombay	To Karachi	To Calcutta	To Rangoon
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Oil in cases and tins 40 c. ft. ..	9 4 0	11 12 0	14 0 0	12 4 0
Oil in small drums not over 4½ cwt. per ton	12 0 0	14 8 0	12 4 0	12 4 0

		Freights from Colombo			
	To Cochin & Malabar	To Bombay	To Karachi	To Calcutta	To Rangoon
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Oil per ton ..	10 0 0	7 8 0	12 8 0	9 0 0	12 8 0

102. *Prices of oil.*—During the five years before the war the average price of coconut oil at Alleppey ranged from Rs. 150 to Rs. 160 per candy of 654 lb. In 1918-19 the price was nearly Rs. 160 per candy and it rose to Rs. 200 in 1919-20. Then it declined to Rs. 140 and gradually rose from Rs. 158 from November 1922 to Rs. 204 in December 1923—the highest price during the last fifteen years. During the two months following the maximum, it dropped to Rs. 155 and in October 1924 the price was Rs. 190. In the second half of 1928 the price commenced to decline and it fell to Rs. 122 in July 1929 to Rs. 97 in 1930, and Rs. 80 in July 1931. After Great Britain went off the Gold Standard, the price of oil rose to Rs. 115 in November 1931 but after February 1932, when the price was Rs. 121, a gradual decline in the price commenced. It fell to Rs. 72 by the end of June 1933 ; to Rs. 60 in October 1933 and to Rs. 55/8 by the end of December 1933. That the price of oil has reached the lowest level within the last thirty years cannot be denied.

The average prices of coconut oil for the last three years, for Alleppey Cochin, Colombo and London are given in Table XLVIII. The prices of oil at Alleppey are lower than the prices at Cochin, on account of the Travancore export duty of Rs. 12 per ton of coconut oil.

CHART III.

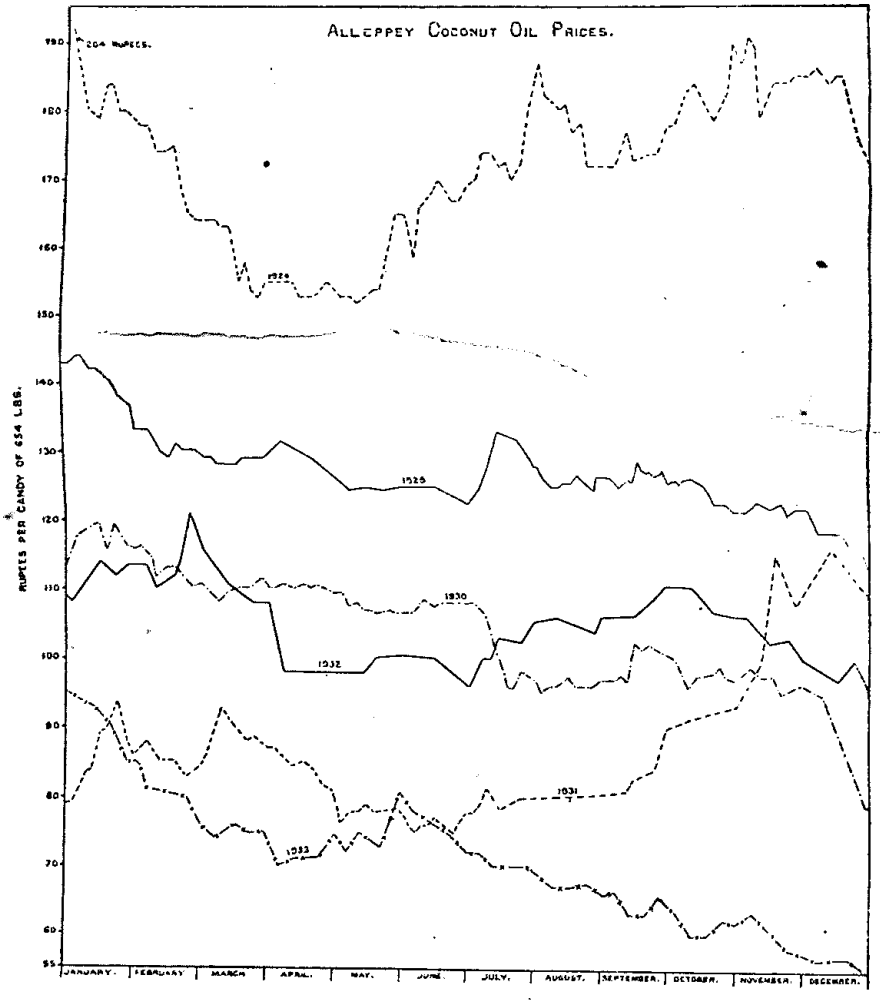

ALLEPPEY COCONUT OIL PRICES.
RUPEES PER CANDY OF 654 LBS.
1929
1928
1930
1932
1931
1933
JANUARY.
FEBRUARY
MARCH
APRIL
MAY.
JUNE
JULY.
AUGUST.
SEPTEMBER.
OCTOBER.
NOVEMBER.
DECEMBER.

TABLE XLVIII

Average monthly prices of coconut oil in different markets

Rupees per ton

Month	1931				1932				1933		
	Alleppey	Cochin	Colombo	London	Alleppey	Cochin	Colombo	London	Alleppey	Cochin	Colombo
anuary ..	293	319	288	320	381	399	328	353	315	324	274
February ..	293	316	282	313	390	412	337	353	279	299	249
March	303	331	285	320	380	402	334	347	258	274	229
April	289	315	275	310	343	360	283	300	245	277	211
May	269	293	242	267	338	354	263	293	253	277	217
June	260	281	219	253	340	358	248	287	264	280	226
July	271	289	241	277	344	359	257	300	242	262	211
August	274	289	215	250	362	370	263	310	232	247	198
September ..	281	297	212	255	366	378	275	317	221	241	185
October ..	314	331	241	283	373	381	280	323	211	228	173
November ..	351	348	280	317	357	371	285	320	209	226	174
December ..	385	397	296	333	339	347	289	317	195	215	165
Average ..	299	317	256	292	359	384	287	318	244	263	209

* These London quotations are from Frank Fehr & Co., London.

The movements of oil prices at Alleppey are shown in Chart III facing this page.

The wholesale prices of oil in the Mysore State, a consuming centre, are given below :—

Years	Price in July per 25 lb. Rs. a. p.
1924	7 8 0
1925	7 10 4
1926	6 11 7
1927	6 11 2
1928	7 5 10
1929	6 6 8
1930	4 5 11
1931	3 12 9
1932	5 6 0
1933	3 10 9

The price of oil in India, at present, depends upon the price of imported oil, *i.e.*, the price in Ceylon. The prices in Ceylon are regulated by the prices of coconut oil in the London market, where the prices of coconut oil fluctuate in relation to the prices of a number of other oils and oil seeds.

103. *Fall in the price of coconut products.*—A tremendous fall in the prices of coconut oil, copra and nuts has no doubt occurred, but to say that this fall is peculiar to coconut products alone is not correct. The market for other oil seeds is equally depressed, if not worse. In table XLIX the prices in the first week of January are given for gingelly or *til*, groundnut, copra (Alleppey and Ceylon prices), coconut oil, linseed and castor seed for the five years. The prices for coconut oil have fallen from Rs. 123 in 1930 to Rs. 61—a fall of 50 per cent., *i.e.*, equal to the fall in the prices of gingelly, and copra during the same period. Groundnut and linseed have suffered a fall in the prices to the extent of 60 and 57 per cent. respectively. Copra and coconut oil are but two materials in the oil and fat markets of the world and take their places, not merely with other oil seeds like palm kernel, groundnut, cotton, seed and soya bean, but also with animal fats, the most important of which is whale oil. The fact that substitution to a very large degree can take place between most of the fats and oils subjects the coconut oil prices to the fluctuations which the prices of other oils are subject to. It is not merely in oil seeds that this tragic decline in the price level has occurred. World market prices are the factors which the producer must bow to at present.

TABLE XLIX

Prices in the first week of January for different oil seeds, coconut oil and other commodities

Commodity	1930	1931	1932	1933	1934	Percentage fall from 1930 to 1934
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Gingelly seed—White Bold—Bombay price per cwt.	10 12 0	6 8 0	7 14 0	7 6 0	5 6 6	49·7
Groundnuts—Madras price per candy of 500 lb. ..	48 0 0 to 52 0 0	23 0 0 to 24 0 0	9 4 0	30 0 0 to 30 12 0	19 8 8	60·9
Copra—Alleppey price per candy of 654 lb. ..	76 0 0	52 0 0	79 0 0	68 0 0	36 0 0	52·6
Copra—Ceylon price per candy of 5 cwt. ..	52 6 0*	39 0 0 to 41 12 0	42 4 0 to 43 0 0	41 4 0 to 41 12 0	22 0 0 to 22 4 0	57·7
Coconut oil—Cochin price per 654 lb.	123 0 0	93 0 0	115 0 0	96 8 0	61 0 0	50·4
Coconut oil—Alleppey price per 654 lb. ..	116 0 0	87 0 0	112 0 0	91 0 0	56 0 0†	51·7
Linseed—Bold—Bombay price per cwt. ..	13 8 0	6 14 0	6 4 0	6 2 0	5 13 0	56·9
Castor—Bombay price per cwt.	9 5 0	6 3 0	6 14 0	6 3 6	4 14 6	47·3
Raw Jute—Calcutta price—Firsts—per bale of 400 lb.	56 8 0	28 4 0	37 0 0	25 0 0	26 8 0	53·1
Raw cotton—Bombay price—M. G. F. G. Broach—Fully pressed—per candy of 784 lb. ..	306 12 0	173 8 0	200 0 0	200 8 0	191 8 0	37·6

	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	
White rice—Rangoon price—Big mills special —per 100 baskets of 75 lb. each	369	0	0	210	0	0	207	8	0	167	8	0	142	8	0	61·4
White wheat—Lyallpur price—2 per dirt. 2 per cent. barley—per maund f. o. r. Lyallpur	4	5	6	2	0	0	2	10	6	3	1	6	2	2	0	51·1

* Average price for 1930 ; the price for the first week in 1930 could not be obtained.

† Price on the last day of 1933.

104. *Railborne trade in coconut oil.*—Recent figures for the railborne exports of oil from the Madras Presidency and the States of Cochin and Travancore to other Provinces and States in India are not available. However, the figures for internal trade, and imports into and exports from these territories by rail are available from 1915-16 upto 1920-21.

TABLE L

Average railborne imports of coconut oil from other Indian Provinces and States into Madras Presidency including the sub-ports.

Average for 1915-16 to 1919-20.

(In cwt.)*.

From	To Madras Port	To other sub-ports	To Northern Circars	To Deccan Districts	To other blocks	Total
Calcutta	3	9	3	..	..	15
Bengal	..	..	..	..	..	..
Bombay port ..	59	..	..	26	6	91
Bombay	..	..	..	48	30	78
Mysore	57	1	..	223	..	280
Hyderabad	..	..	..	96	3	99
Karachi	..	..	20	..	..	20
Bihar and Orissa ..	..	..	171	..	..	171
Total ..	119	10	194	393	39	755

* Railway maunds have been converted into cwt. at the rate of 82-2/7 lbs. per maund.

From the table it is evident that the imports into the Madras Presidency from other Indian provinces and States are negligible and they are mainly into the districts which border other provinces and states.

TABLE LI

Railborne exports of coconut oil from different "blocks" of Madras to various "blocks" in Madras, and to places outside of Madras

(In cwt.)*

Exports by rail from "blocks" in Madras.	To Madras Presidency including sea ports					Exports to places outside the Madras Presidency					Total exports from Madras "blocks."				
	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.
Madras port ..	14,090	14,630	15,220	1,043	140	3,321	2,115	2,005	447	163	17,411	16,745	17,225	1,490	303
French ports ..	5	1	..	..	13	4	40	8	4	..	9	42	8	4	13
Deltas	3,625	5,099	3,820	2,710	2,580	1,581	2,080	1,441	3,496	1,887	5,206	7,179	5,261	6,206	4,467
Deccan districts ..	32	182	18	42	130	154	659	731	95	1,065	186	841	749	137	1,195
North Carnatic ..	142	282	1,647	448	1,063	7	15	204	193	219	149	297	1,851	641	1,282
South Carnatic ..	162	1,033	613	631	692	..	10	5	26	950	162	1,043	618	657	1,642
Central ..	409	671	1,897	237	2,347	252	158	708	1,891	855	661	829	2,605	2,128	3,202
Southern districts ..	730	2,118	2,138	4,192	5,805	46	4	..	65	..	776	2,122	2,138	4,257	5,805
Northern Circars ..	16	10	9	..	..	64	32	112	460	62	80	42	121	460	62
Hills	..	..	..	21	..	..	..	165	619	..	..	..	165	640	..
Other sub ports ..	27,370	32,550	36,830	77,070	68,470	100,200	154,800	167,500	93,070	61,300	127,570	187,350	203,880	171,040	129,770
West Coast ..	28,930	31,920	33,960	61,270	57,850	6,583	4,695	39,420	12,190	14,690	35,513	36,615	73,380	73,460	72,540
Total for other sub-ports and West Coast.	56,300	64,470	70,790	138,340	126,320	106,783	159,495	206,920	106,160	75,990	163,080	223,965	277,260	244,500	202,310
Grand Total ..	75,511	88,496	96,152	147,664	139,090	112,212	164,608	212,299	113,456	81,191	187,723	253,104	308,451	261,120	220,281

*Railway maunds have been converted into cwts. at the rate of 82 2/7 lb. per maund.

In table LI the railborne exports of coconut oil from different blocks of Madras to various blocks in Madras and to places outside Madras are given. The figures show that most of the oil which is consigned for consumption in the Madras Presidency as also that which is sent out of the Madras Presidency originates from the West Coast and " other sub-ports " which are mainly located on the West Coast. Immediately prior to 1920-21 the internal trade of Madras, *i.e.*, the quantity of oil consigned from blocks to blocks within Madras averaged 110,000 cwt. out of which 90,000 cwt. came from the West Coast and " other sub-ports ". During the same period of 1915-16 to 1919-20 the railborne exports of oil from the Madras Presidency to places outside have averaged 136,000 cwt. and out of this quantity, 130,000 cwt. came from the West Coast and " other sub-ports ". It is, therefore, clear that the West Coast and other sub-ports export the largest quantity of oil and that the consignments within the Presidency were then almost as large as the consignments to places outside the Presidency. It is probable that, if anything, the internal consignments of coconut oil in Madras have increased, but as the railborne trade returns which were discontinued in 1921-22 have only ecently been re-continued it will at least be one year before this important question can be satisfactorily answered. In Table LII are given the exports of oil by rail from Madras sub-ports and the West Coast blocks with the destinations.

TABLE LII

Railborne exports of coconut oil (from Madras sub-ports, West Coast "blocks", and Madras Presidency as a whole) to other Indian Provinces and States

(In cwt.)*

Wither Exported	Exported from other sea ports in Madras					Exported from West Coast Block					Total exports from Madras Presidency					
	1915-16	1916-17	1917-18	1918-19	1919-20	1915-16	1916-17	1917-18	1918-19	1919-20	1915-16	1916-17	1917-18	1918-19	1919-20	1920-21
Sind and Baluchistan	5,809	4,435	1,161	3,160	567	1,268	..	380	249	..	7,077	4,435	1,540	3,425	568	384
Karachi port ..	..	..	..	..	..	..	..	..	..	..	8	..	..	..	..	..
Bengal	..	..	..	316	..	..	..	..	173	..	..	4	22	863	76	..
Calcutta port ..	59,290	105,200	109,200	43,800	21,830	1,759	9,585	8,202	2,430	2,708	60,660	106,300	117,800	46,860	24,530	27,610
Bihar and Orissa ..	5,722	6,665	9,931	5,855	7,752	131	..	382	173	..	8,859	9,303	11,950	6,398	7,773	7,025
Punjab	..	..	389	2,209	4,660	..	..	..	311	332	..	..	511	2,696	5,037	1,742
Central Provinces and Berar ..	..	329	333	415	256	..	..	..	..	..	7	330	465	2,578	395	263
Rajputana and Central India	..	..	..	..	..	..	..	..	..	..	..	..	..	..	123	118
Hyderabad State ..	1,592	2,445	5,475	2,053	2,103	587	554	1,155	1,077	2,538	3,607	4,941	8,865	4,443	6,642	4,116
Mysore State ..	1,199	2,022	3,661	59,600	5,884	2,156	2,251	4,144	3,275	2,190	3,885	4,489	7,912	9,456	8,650	8,110
Bombay Port ..	4,476	5,144	2,453	15,200	1,850	..	..	..	..	..	4,478	5,170	2,586	16,850	2,178	506
Bombay	22,630	28,560	34,430	14,790	16,380	713	932	24,740	4,667	6,847	23,740	29,820	60,010	19,660	25,162	29,210
United Provinces and Agra and Oudh.	..	..	371	185	..	..	..	247	..	..	..	..	818	220	..	16
Grand total ..	100,718	154,800	167,404	147,583	61,282	6,614	13,322	39,340	12,355	14,615	112,321	164,792	212,479	113,449	81,123	82,588

* Railway maunds have been converted into cwt. at the rate of 82 2/7 lb. per railway maund.

The figures indicate that most of the oil which was sent to Bengal and Bombay was from the sub-port block. The consignments of oil were the heaviest to Bengal and Bombay, and Mysore and Hyderabad purchased relatively small quantities of oil, as is evident from the following figures :—

Province	Average exports of coconut oil for the five years ending 31st March 1921
Bengal	64,400 cwt.
Bombay	38,000 „
Bihar & Orissa	8,600 „
Mysore	8,100 „
Hyderabad	5,800 „
Sind and Baluchistan	2,900 „
Other Provinces	6,200 „
Total	134,000 „

Thus only ten per cent. of the oil was then exported to Mysore and Hyderabad States, and ninty per cent. was sent to other provinces out of which the share of Bengal constitutes above forty-eight per cent. and the share of Bombay about twenty-seven per cent.

It is not possible to say whether the same quantity of oil is now sent from the Madras Presidency by rail to Bombay, Bengal, other Provinces and States as was sent in 1920-21.

105. The figures for imports of coconut oil into the Mysore State show that as the imports of oil into the State have increased from 4,800 cwt. in 1916-17 to 47,000 cwt. in 1932-33, an increase of about 1,000 per cent., *vide* table LIII. The source of these imports is not known. During 1916-17 to 1920-21 Mysore purchased almost all her requirements of coconut oil from the Madras Presidency, *vide* table LIII. In view of the proximity of the Mysore State to the Madras Presidency it is very likely that this State obtains her requirements of oil only from the Madras Presidency even now.

TABLE LIII

Railborne imports of coconut oil into Mysore

(In cwt.)

Years	From Madras Presidency	From other sources	Total
1916-17	4,489	323	4,810
1917-18	7,912	10	7,920
1918-19	9,456	320	9,997
1919-20	8,650	215	8,859
1920-21	8,110	323	8,435
1928-29	Not available		25,360
1929-30			25,040
1930-31			31,550
1931-32			37,400
1932-33			47,200

106. The position, however, with regard to the Hyderabad State is quite different. During 1916-17 to 1920-21 Hyderabad purshased half of her requirements of oil from the Madras Presidency and the other half from other Provinces mostly from Bombay. It is, therefore, difficult to include the imports of oil into the Hyderabad State among the exports from the Madras Presidency. It must be remembered that the Westren border of the Hyderabad State is near Bombay and the Southern border near Madras. The imports of oil into the Hyderabad State have increased from about 10,001 cwt. in 1916-17 to about 39,000 cwt. in 1932 33, *i.e.*, an increase of about 400 per cent., *vide* table LIV.

TABLE LIV

Railborne imports of coconut oil into the Hyderabad State

(In cwt.)

Years	From Madras Presidency	From other sources*	Total
1916-17	4,941	5,301	10,242
1917-18	8,865	7,802	16,667
1918-19	4,443	4,768	9,211
1919-20	6,642	6,531	13,173
1920-21	4,116	6,507	10,623
1928-29			27,010
1929-30			28,220
1930-31	Not available		30,150
1931-32			34,300
1932-33			39,330

* Mostly from the Bombay Presidency.

Assuming that in 1932-33 Madras still supplied all of Mysore's requirements of oil and half of Hyderabad's requirements of oil, a total of 66,000 cwt. (47,000 cwt., *plus* one half of 39,000 cwt.), it seems clear that her capacity to supply Bengal and Bombay has markedly decreased.

107. In table XLIII the exports of coconut oil through Trivandrum-Tinnevelly Railway and to Cochin from Travancore State are given. The consignments of oil through this railway are both to places in the Madras Presidency and to places outside the Madras Presidency. It is evident that the despatches of oil through this railway have consistently increased from 59,000 cwt. in 1918-19 to about 159,000 cwt. in 1932-33, an increase of 169 per cent. During the same period the total exports of oil from the State, have increased from 292,000 cwt. to 484,000 cwt., in 1932-33, an increase of only 34 per cent. That even when the exports of oil from the State in 1931-32 were rather low, the consignments of oil through this railway were high, is a most pertinent point to note. It is to be expected that after meeting the requirements of oil for Southern India, the remaining balance would be shipped to other provinces in India. Whether this remarkable increase in the despatches of oil from Travancore by rail has reduced the consignments of oil by rail from Cochin and Calicut, is not possible to state.

108. In table LV the rail and riverborne imports and exports of coconut oil from the various provinces and States in India are given for the five years ending 1920-21. Unfortunately later figures are not available.

TABLE LV

Railway and Riverborne imports and exports of coconut oil

(In cwt.)

Province or State	Imports					Exports				
	1916-17	1917-18	1918-19	1919-20	1920-21	1916-17	1917-18	1918-19	1919-20	1920-21
Assam	7,691	8,013	6,906	7,919	9,598	70	78	49	248	83
Bihar and Orissa	19,332	22,359	17,420	26,495	19,703	993	1,572	2,481	1,335	1,099
U. P. of A ra and Oudh ..	7,592	9,393	9,679	9,403	7,725	526	1,126	735	457	878
Punjab	9,607	22,566	37,971	26,364	12,594	1,047	492	949	438	506
C. P. and Berar	11,988	15,708	15,779	17,140	16,224	591	56	367	86	46
Rajputana*	2,931	3,028	2,965	1,046	880	22	40	80	52	80
Central India*	..	..	..	2,456	1,910	..	..	..	15	42
Nizam's Territory ..	10,243	16,671	9,214	13,172	10,634	70	782	409	430	262
Mysore	4,813	7,924	9,996	8,861	8,437	2,447	2,829	441	1,418	1,926
Kashmir	..	9	..	..	11	..	..	7	..	..
Bengal	190,704	206,666	124,528	109,974	111,999	102,953	108,885	97,370	120,691	110,388
Sind	36,824	50,290	61,386	44,012	28,917	30,632	40,212	48,697	22,936	78,132
Bombay	76,750	111,024	73,019	63,507	66,369	75,055	105,926	104,551	101,869	79,790
Madras	42,580	64,067	87,765	78,367	59,338	206,649	275,715	200,492	158,741	141,107
Total	421,055	537,713	456,628	408,716	354,339	421,055	537,713	456,628	408,716	354,339

*Not separately recorded prior to 1st April, 1919.

109. The West Coast is the biggest producer of coconut oil in India. Copra is crushed both at Karachi and at Bombay but no figures regarding the output of oil in these cities are available. The capacity of these mills is said to be 150 tons per day. Very small quantities of copra are also crushed in East Godavari and Mysore, but this oil is mostly used up at the centres of production.

As stated in another chapter of this report, it is estimated that about 130,000 tons of copra are crushed in the power driven mills on the West Coast; this quantity would yield about 81,000 tons of oil.

110. *Travancore.*—The following quantities of oil were exported from Travancore in the years shown against each :—

Year—Mid August to mid August	Quantity Cwt.	Percentage rise in the exports over the previous figure
1852-53	8,207	..
1872-73	11,096	35
1882-83	11,728	6
1892-93	31,730	171
1902-03	96,386	204
1912-13	199,337	107
1922-23	392,231	97
1930-31	620,991	58
1931-32	452,957	—27
1932-33	484,217	7

These figures show a phenomenal increase in the exports of oil and a very rapid development of the oil milling industry in the Travancore State. In 1912-13, oil from 319,000 cwt. of copra was sent out of this State, but in 1931-32 725,000 cwt. of copra were required to produce the oil that was exported. If the quantity of the oil which is exported is converted into copra and added to the exports of copra, a rough measure of the copra production can be obtained.

In 1912-13, 42 per cent. of the copra was exported in the form of oil and 58 per cent. as copra, *vide* Table XXX but in 1931-32, 72 per cent. of the copra was exported in the form of oil and 28 per cent. in the form of copra. In 1912-13 the exports of oil formed 40 per cent. of the total exports in terms of nuts, *vide* table II, Appendix IV and in 1932-33 the exports of coconut oil formed as much as 68 per cent. of the total exports in terms of nuts. If the exports of oil in 1912-13 are taken as 100, the indexes for 1930-31 and 1932-33 exports of oil are found to be 311 and 227 respectively.

TABLE LVI

Exports of coconut oil from Travancore State by all routes

(In cwt.)

Exporting Customs House	Year—mid August to mid August					Five year average	Average percentage to total average
	1927-28	1928-29	1929-30	1930-31	1931-32		
Alleppey	51	117	38,513	69,907	4,990	22,716	4·6
Aramboli	16,247	7,167	11,586	20,067	19,010	12,815	2·6
Arukutti	301,617	301,572	355,553	408,113	280,272	329,425	66·4
Trivandrum-Tinnevelly Railway.	109,963	123,898	135,796	121,287	157,038	129,597	26·1
Coobin-Sheranur Railway ..	180	193	75	223	299	194	..
Others	842	946	1,914	1,394	1,348	1,289	0·3
Total	428,900	433,893	543,437	620,991	452,957	496,036	100·0

On an average for the last five years the exports of oil from Travancore, averaged about 500,000 cwt. Out of this quantity about 66 per cent. passed through Arukutty chowky to Cochin and Ernakulam, from where it is mainly re-exported. About 26 per cent. of the oil passed by the Trivandrum-Tinnevelly Railway mainly for consumption in South India; and about three per cent., *i.e.*, 13,000 cwt. per annum was sent out through Aramboly for consumption in the Tinnevelly district. Only 4½ per cent. of the total exports of oil was shipped through Alleppey port, which were mainly intended for Bengal and other ports. The exports of oil from Travancore are therefore mainly confined to South India. The consignments of oil railway are apparently increasing. In 1921-22 only 70,634 cwt. of oil or 17 per cent. of the total exports of oil were sent out of Travancore railway, but after ten years in 1932-33 this very same Railway carried outside Travancore, about 33 per cent. of the total exports of oil or 158,961 cwt. Whether this increase is due to the increase in the consumption of coconut oil in South India or merely on account of the decreased production of oil at Cochin cannot be surmised, in the absence of the figures of railborne traffic of oil from Cochin

TABLE LVII

Exports of coconut oil from the West Coast ports by sea only

(In thousands of gallons)

Year—1st July to 30th June	Alleppey	Cochin	Ponnani	Calicut	Badagara	Tellicherry	Cannanore	Mangalore	Total* Malabar and S. Kanara. (Columns 4 to 9)	Total.* (Columns 2 to 9)
1916-17	..	4,282	2	152	19	39	42	145	398	4,691
1917-18	..	5,116	2	166	15	13	14	14	224	5,340
1918-19	..	6,064	7	152	7	25	42	32	266	6,330
1919-20	1	4,822	6	89	6	39	99	30	269	5,092
1920-21	..	5,266	19	193	10	10	65	24	321	5,587
1921-22	13	6,618	6	244	103	18	34	30	436	7,067
1922-23	4	5,077	19	207	133	35	163	17	574	5,655
1923-24	13	4,368	10	163	226	37	256	21	715	5,096
1924-25	9	3,776	3	184	..	15	138	46	446	6,232
1925-26	1	3,765	2	126	91	21	17	44	302	4,067
1926-27	22	4,744	3	93	17	1	23	41	180	4,946
1927-28	1	3,880	1	136	8	1	..	58	204	4,086
1928-29	..	3,610	8	102	..	..	..	39	149	3,760
1920-30	376	4,682	4	106	..	..	..	32	142	5,199
1930-31	844	4,444	9	125	..	..	..	34	169	4,457
1931-32	134	2,257	9	132	2	..	1	35	179	2,570
1932-33	415	1,701	5	116	2	..	..	44	168	2,284

* These totals have been obtained before rounding of the figures into thousands.

TABLE LVIII

Seaborne Exports of copra and oil from the West Coast Ports expressed in cwt. of copra

Year—1st July to 30th June	Alleppey	Cochin	Ponnani	Calicut	Badagara	Tellicherry	Cannanore	Mangalore	Total Malabar and S. Kanara (Columns 4 to 9)	Total (Columns 2 to 9)
1	2	3	4	5	6	7	8	9	10	11
1916-17	78,997	740,864	19,149	108,258	56,689	18,666	5,748	100,033	308,543	1,128,404
1917-18	112,574	732,974	12,385	84,788	106,079	1,765	1,980	44,913	251,910	1,097,458
1918-19	111,174	943,025	13,817	133,953	141,403	9,218	6,231	70,050	374,672	1,428,871
1919-20	108,565	752,609	10,850	83,909	98,730	5,276	13,492	33,665	245,922	1,107,196
1920-21	154,897	740,195	8,341	134,013	83,654	1,491	9,455	25,571	262,525	1,157,617
1921-22	271,181	1,052,648	18,848	216,215	226,515	39,941	4,806	18,442	524,767	1,848,596
1922-23	185,626	708,068	11,927	74,825	96,936	44,149	22,564	12,934	263,335	1,157,029
1923-24	231,597	605,870	9,817	132,444	133,647	8,567	35,523	14,633	334,631	1,172,098
1924-25	276,259	508,036	8,227	114,109	145,340	2,533	19,394	14,918	304,521	1,088,816
1925-26	392,714	509,234	11,161	174,400	157,874	3,365	4,474	11,968	363,242	1,265,190
1926-27	374,899	658,633	4,637	105,234	203,235	171	12,940	14,197	343,414	1,375,946
1927-28	310,951	519,017	615	143,119	143,172	117	1,005	13,034	301,062	1,131,030
1928-29	293,605	481,612	4,081	124,319	139,031	. . .	312	11,311	279,054	1,054,271
1929-30	282,153	626,297	1,799	163,834	271,540	..	2,928	7,792	447,893	1,350,343
1930-31	401,960	593,474	7,473	184,140	232,280	..	1,111	7,152	432,156	1,426,590
1931-32	202,765	302,000	3,185	116,538	239,211	..	854	10,075	369,863	874,628
1932-33	303,279	222,700	760	104,054	44,563	..	1,386	11,549	162,312	688,291

111. *Cochin.*—On an average for the five years ending 1932-33, 328,000 cwt. of oil were received in Cochin from the Travancore State. Out of this quantity the exports of oil from the Cochin port for the same period averaged 268,200 cwt. (or 3,339,000 gallons) of oil. The consignments of oil in 1931-32 from Cochin by rail mostly to places in South India are estimated to be about 375,000 cwt. of oil.

112. *West Coast.*—Cochin is the biggest exporter of oil among the West Coast ports. The despatches of oil from the West Coast ports averaged for the past five years over 293,600 cwt. (3,654,000 gallons) per annum. Of these only about 12,930 cwt. (161,000 gallons) were from the ports in the districts of Malabar and South Kanara, *vide* table LVII. The shipments of oil from the ports of Malabar and South Kanara have fallen off, remarkably during the past six years and this tendency is evident even in the case of Cochin. Badagara, Tellicherry and Cannanore have ceased to ship oil. Whether this is due to the diversion of the trade to places served by the railways, I am unable to state for want of railway statistics. The total shipments of oil from the ports in the West Coast represent on an average about 175 million nuts.

Little less than 50 per cent. of the consignments of oil are to Bengal averaging 133,000 cwt. (1,656,000 gallons) for the five years ending 1931-32. The shipments of oil to Bombay are almost as large as they are to Bengal, averaging 119,000 cwt. (1,482,000 gallons) for the five years ending 1931-32. During the same period Burma took from the West Coast on an average about 54,000 cwt. (674,000 gallons) of oil. Madras ports which were formerly taking about 20,080 cwt. of oil have ceased to import oil by sea, which is evidently due to the diversion of oil through the railways. On an average for the five years ending 31st March 1932, Europe, America, and other ports mostly Karachi, imported from the West Coast 3,600, 2,000 and 24,300 cwt. of oil respectively.

TABLE LIX

Distribution of shipments of coconut oil from the West Coast Ports

(In thousands of gallons)

Year ending 30th June	Consigned to					
	Bombay	Burmah	Bengal	Madras	Europe	Other ports
1916-17	1,380	724	153	134	1,998	174
1917-18	1,679	267	27	137	2,676	205
1918-19	2,364	529	4	137	2,904	196
1919-20	1,526	591	525	220	1,987	191
1920-21	1,465	658	1,243	166	1,735	230
1921-22	1,821	888	2,537	187	1,220	203
1922-23	1,502	783	2,520	312	99	252
1923-24	1,313	927	1,935	545	120	236
1924-25	1,256	814	1,512	257	68	308
1925-26	1,056	832	1,771	162	137	236
1926-27	1,141	795	2,653	100	125	120
1927-28	1,444	639	1,677	..	51	270
1928-29	1,592	707	1,133	..	88	235
1929-30	1,500	759	2,646	..	23	266
1930-31	1,691	740	2,592	..	43	343
1931-32	1,384	525	234	..	21	403

NOTE.—The exports to Ceylon and America are not included under other ports. Most the exports of oil shown under other ports are consigned to Karachi.

The shipments of oil from the West Coast were the lowest in 1932-33 during last seventeen years, the exports from Cochin being reduced most.

That this tremendous reduction in the shipments of oil from the West Coast is at least partly due to the diversion of oil by rail to points in South India, is evident from the fact that the railborne imports of oil into Mysore State have increased from 4,800 cwt. in 1916-17 to 47,000 cwt. (585,500 gallons) in 1932-33.

TABLE LX

Shipments of coconut oil from the Ports in the various Provinces of India

(In thousands of gallons)

Years	Sind Ports			Madras Ports including Cochin and Alleppey			Burma Ports			Bengal			Bombay			Grand Total		
	Coastal	Exports to foreign countries	Total	Coastal	Exports to foreign countries	Total	Coastal	Exports to foreign countries	Total	Coastal	Exports to foreign countries	Total	Coastal	Exports to foreign countries	Total	Coastal	Exports to Foreign countries	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1923–24 ..	5	1	6	4,797	153	4,950	2	..	2	17	7	24	147	12	159	4,968	173	5,141
1924–25 ..	3	3	6	4,105	112	4,217	1	..	1	18	5	23	166	5	171	4,293	125	4,418
1925–26 ..	2	2	4	3,511	117	3,628	1	..	1	47	2	49	148	5	153	3,709	126	3,835
1926–27 ..	4	2	6	4,805	186	4,991	6	..	6	9	..	9	140	5	145	4,694	193	5,157
1927–28 ..	3	1	4	3,701	69	3,770	..	..	..	12	..	12	134	8	142	3,850	78	3,928
1928–29 ..	8	2	10	3,790	78	3,868	30	..	30	7	..	7	124	8	132	3,959	88	4,047
1929–30 ..	9	2	11	4,994	66	5,060	47	..	47	11	..	11	113	7	120	5,174	75	5,249
1930–31 ..	11	3	14	5,433	43	5,476	3	..	3	18	..	18	123	5	128	5,588	51	5,639
1931-32 ..	13	2	15	3,502	31	3,533	14	..	14	8	..	8	83	4	87	3,620	37	3,657
1932–33 ..	22	3	25	2,084	20	2,104	72	..	72	15	..	15	310	6	316	2,503	29	2,532
Average ..	13	2	15	3,961	47	4,008	33	..	33	12	..	12	150	6	156	4,169	55	4,224

TABLE LXI

Arrivals of coconut oil in the various Provinces in India by Sea

(In thousands of gallon)

Years	Sind			Madras			Burma			Bengal			Bombay			Grand total		
	Coastal	Foreign	Total	Coastal	Foreign	Total	Coastal	Foreign	Total	Coastal	Foreign	Total	Coastal	Foreign	Total	Coastal	Foreign	Total
1923–24 ..	254	..	254	103	7	110	1,198	7	1,205	2,326	112	2,438	1,594	..	1,594	5,475	126	5,601
1924–25 ..	172	2	174	167	13	180	1,116	2	1,118	1,788	546	2,334	1,338	1	1,339	4,581	564	5,145
1925–26 ..	160	..	160	89	17	106	973	3	976	1,571	1,129	2,700	1,168	3	1,171	3,961	1,152	5,113
1926–27 ..	60	..	60	82	..	82	1,047	4	1,051	2,814	51	2,865	1,222	..	1,222	5,225	55	5,280
1927–28 ..	86	..	86	168	2	170	740	121	861	2,282	1,156	3,438	1,248	170	1,418	4,524	1,449	5,973
1928–29 ..	9	..	9	144	24	168	834	76	910	912	2,063	2,975	1,737	230	1,967	3,636	2,393	6,029
1929–30 ..	42	1	43	123	..	123	876	52	928	2,469	1,507	3,976	1,644	6	1,650	5,154	1,566	6,720
1930–31 ..	173	..	173	124	2	126	920	22	904	3,172	1,173	4,345	1,628	13	1,641	6,017	1,210	7,227
1931–32 ..	230	3	233	108	36	144	792	221	1,013	1,497	3,047	4,544	1,596	25	1,621	4,223	3,332	7,555
1932–33 ..	194	180	374	155	364	519	169	969	1,138	308	4,716	5,024	1,284	1,574	2,858	2,110	7,803	9,913
Average ..	130	37	166	131	85	216	718	268	986	1,672	2,501	4,173	1,578	369	1,947	4.228	3.261	7,489

113. *Total shipments and arrivals.*—The exports of coconut oil to coastal ports in India from the ports in South India averaged 318,200 cwt. (3,961,000 gallons) during the five years ending 31st March 1933. The shipments of oil from the ports in Bombay to the coastal ports—mostly in Kathiawar and Gujerat—averaged 12,000 cwt. The exports of oil from the ports in other provinces are insignificant as is evident from the following figures, which are averages for the five years ending 31st March 1933 :—

Province	Arrivals			Shipments		
	Coastal	Foreign	Total	Coastal	Foreign	Total
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Bengal ..	134,300	201,300	335,600	964	9	973
Bombay ..	126,800	29,640	156,440	12,050	482	12,532
Burma ..	57,680	21,530	79,210	2,651	..	2,651
Madras ..	10,520	6,828	17,348	317,800	3,776	321,576
Sind ..	10,440	2,973	13,413	1,044	161	1,205
Total ..	339,740	262,271	602,011	334,509	4,428	338,937

The shipments of oil to the coastal ports in India average about 334,500 cwt. (4·1 million gallons) per annum and to foreign ports about 4,400 cwt. (55,000 gallons) making a total of little over 338,900 cwt. (4·2 million gallons).

114. *Share of Provinces.*—Bengal leads in the imports of coconut oil with an average import of 335,600 cwt. (4·2 million gallons) out of which about 134,300 cwt. (1·7 million gallons) were of Indian origin. The imports of coconut oil into Bengal from foreign sources have increased greatly since 1931. In 1932-33, she obtained only about 24,700 cwt. of oil from the Indian ports, while she purchased 379,000 cwt. from foreign countries. Bombay with an average import of 156,400 cwt. of oil stands second to Bengal in imports of oil. Just like Bengal, Bombay also obtained in 1932-33 a large proportion of her requirements of oil from foreign countries. Even Madras, the home of the coconut, imported in 1932-33 about 29,200 cwt. of oil from foreign countries.

Coconut oil for Bengal, United Provinces, Assam, Bihar and Orissa is supplied from Calcutta. Central Provinces obtains her supplies from Bombay and Madras, and the Punjab is supplied by Karachi and Bombay markets. Sind and Baluchistan receive coconut oil from Karachi. Bengal purchases oil from the West Coast, Burma and Ceylon. Bombay, Sind and Burma buy coconut oil from the West Coast and Ceylon (*See* Appendix XIV).

CHAPTER IX

Trade in Cake

115. *Marketing of cake.*—The cake produced by the country mills is mostly disposed of locally and consumed in Travancore. The cake which is released by the oil millers is mainly sold through the commission agents to the up-country merchants at a commission of eight annas per candy of 654 lb. Cochin is the chief centre of trade in cake followed by Alleppey, Mangalore, Calicut, Cochin and Trichur. The following statement shows the freights on cake from the West Coast ports to Bombay, Karachi and Calcutta.

	From Cochin		
	To Bombay	To Karachi	To Calcutta and Rangoon
	Rs. a. p.	Rs. a. p.	Rs. a. p.
Cake per ton	9 4 0	11 12 0	30 0 0

116. *Prices of cake.*—In May 1922 the price of the cake was Rs. 28 per candy of 654 lb. but it gradually rose to Rs. 48 in January 1923 and in May 1923 the price had fallen to Rs. 23. Generally, the prices of cake are the highest during September, October and November and the lowest during May and June. The price in 1924 ranged between Rs. 42 and Rs. 21. The prices during 1926 ranged between Rs. 31 and Rs. 21. But the price rose back to Rs. 46 during September 1927. The fall in the price of cake commenced in October 1929 when the price was Rs. 30-8-0 and it had fallen to Rs. 11 in July 1931. It stood at Rs. 12 per candy during October and December 1933.

117. *Trade in coconut cake.*—The cake produced in the oil mills on the West Coast is partly locally disposed of in the markets at Mangalore, Palghat, Coimbatore, Tiruppur, Salem, Mysore and Coorg and it is shipped to Bombay, Kathiawar and to Europe. The total production of cake on the West Coast must at least be 45,000 tons, *i.e.*, the quantity obtainable from 130,000 tons of copra—the amount estimated to have been crushed in 1931-32 by the power driven *chekkus*; out of which about 15,000 tons are anually shipped from the West Coast ports leaving a balance of at least 30,000 tons for local consumption in South India.

The shipments of cake in 1931-32 and 1932-33 were rather below the normal. Cochin tops the exports of cake. Alleppey, Mangalore and Calicut export comparatively small quantities of coconut cake.

TABLE LXII

Seaborne Exports of Oil Cakes (all kinds) from West Coast Ports

(In cwts)

Year from 1st July to 30th June	Alleppey	Cochin	Calicut	Ponnani	Badagara	Tellicherry	Cananore	Mangalore	Total Malabar and S. Kanara (Columns 4 to 9)	Total (Columns 2 to 9)
1	2	3	4	5	6	7	8	9	10	11
1916-17 ..	6	221,099	..	..	..	..	..	1,078	1,078	222,183
1917-18 ..	..	304,471	..	..	..	..	..	2,365	2,365	306,836
1918-19 ..	..	216,457	..	..	..	..	..	1,876	1,876	218,338
1919-20 ..	1,181	146,560	..	..	..	..	..	2,599	2,599	150,340
1920-21 ..	11,134	329,687	..	..	..	..	449	2,648	3,097	343,918
1921-22 ..	13,054	277,529	..	..	..	..	..	5,579	5,579	296,162
1922-23 ..	18,775	337,431	..	..	..	..	..	25,717	25,717	381,923
1923-24 ..	35,553	219,500	..	..	..	..	..	3,020	3,020	258,073
1924-25 ..	40,773	199,120	..	..	..	..	..	4,120	4,120	244,013
1925-26 ..	46,193	242,549	..	..	..	..	..	3,900	3,900	292,642
1926-27 ..	36,731	211,220	..	..	..	..	..	4,160	4,160	252,111
1927-28 ..	70,663	211,898	2,620	..	..	..	..	4,093	6,713	289,274
1928-29 ..	88,108	204,620	27,780	..	..	..	..	4,180	31,960	324,688
1929-30 ..	69,573	248,620	400	..	80	..	60	6,740	7,280	325,473
1930-31 ..	76,361	211,300	660	..	..	..	..	2,060	2,720	290,381
1931-32 ..	44,042	172,820	380	140	..	..	..	1,340	1,860	218,722
1932-33 ..	39,643	204,660	316	..	..	..	..	2,200	2,516	246.819

In able LXII the exports of oil cakes from the ports on the West Coast are given. The figures are not purely for the coconut cake, but since very little quantities of other cakes are exported from the West Coast, this may be taken to indicate the fluctuations in the shipments of coconut cake. The exports of oil cakes from Cochin average 10,500 tons out of which about 10,050 tons were for coconut cake alone.

Most of the cake which is exported from Cochin comes from Travancore State. After deducting from the total exports from Cochin the imports into Cochin by road and canal from Travancore State, a balance of 3,750 tons is left which represents the net quantity of cake exported from Cochin. The shipments from Alleppey average about 3,500 tons, *i.e.*, 20 per cent. of the total despatches of cake from the West Coast. About 75 per cent. of 10,700 tons of cake from the West Coast is shipped to Bombay from where it is mostly reshipped to Kathiawar ports (*vide* tables LXIII and LXIV). About 20 per cent. of the total exports of cake goes to other ports and only about 1,300 tons of cake are exported to Europe. The shipments of cake to Europe have declined in recent years. Burma and Bengal do not take any coconut cake from the West Coast.

TABLE LXIII

Distribution of shipments of oil cake from the West Coast Ports

(In cwt)

Year ending 30th June	Consigned to—			
	Bombay	Madras	Europe	Other ports*
1916-17	171,483	23,058	..	27,642
1917-18	268,499	22,055	..	16,282
1918-19	158,932	13,482	7	45,919
1919-20	88,155	19,551	62	42,572
1920-21	242,865	14,652	63,011	23,390
1921-22	193,697	21,364	68,360	12,741
1922-23	223,380	16,280	102,600	16,531
1923-24	195,312	21,920	10,640	30,200
1924-25	182,633	30,200	12,320	18,860
1925-26	226,624	19,026	28,298	18,700
1926-27	179,309	27,960	10,902	32,940
1927-28	206,127	..	35,863	50,012
1928-29	214,033	..	41,902	152,840
1929-30	241,546	..	38,947	41,640
1930-31	228,078	..	11,861	49,642
1931-32	180,343	..	2,000	36,379

* These exports are mostly to Kathiawar and Karachi.

TABLE LXIV

Shipments of coconut cake from the Bombay Presidency by Sea

(In tons)

Where sent	1926-27	1927-28	1928-29	1929-30	1930-31
Coastwise					
British ports in other Presidencies	4	15	24	..	..
British ports within the Presidency	84	131	183	203	17
Cutch	68	13	6	15	14
Kathiawar	5,711	4,361	4,302	5,593	5,257
Other Indian ports not British	8	..	..	..	2
Total—Coastwise ..	5,875	4,520	4,515	5,811	5,290
Foreign*	..	8	292	124	177
Grand total ..	5,875	4,528	4,807	5,935	5,467

* These foreign shipments are mainly to Belgium.

118. From Travancore 117,811 cwt. or 5,890 tons of cake were exported in 1912-13 and this quantity gradually increased to 15,000 tons in 1930-31 ; but the exports fell short in 1931-32 to 227,620 cwt. or 11,380 tons, *vide* table LXV. In Table LXV the calculated amounts of cake released while expelling the exported quantity of oil from Travancore are given for the past twenty years and it is observed that most of the cake obtained is sent out of Travancore. It is, therefore, evident that the rapid development of the oil milling industry in Travancore has not materially increased the consumption of cake in Travancore. This is a factor which might perhaps limit the expansion of the oil crushing industry in Travancore, since they have to find markets outside of Travancore not only for oil but for cake also.

TABLE LXV

Trend of exports of coconut Cake from the Travancore State

(By all routes)

Year—Mid August to Mid August	Calculated amount of cake released while expelling the quantity of oil exported*	Actual quantity of cake exported	Difference. Column (3) *minus* (2)	Percentage exports = Column (3) × 100 / Column (2)
1	2	3	4	5
	Cwt.	Cwt.	Cwt.	
1912-13	111,600	117,811	—6,211	106
1913-14	127,300	123,049	4,251	97
1914-15	152,700	139,217	13,483	91
1915-16	170,200	158,840	11,360	93
1916-17	179,500	158,890	20,610	89
1917-18	192,000	171,259	20,741	89
1918-19	163,800	132,788	31,012	81
1919-20	172,300	130,662	41,638	76
1920-21	213,100	185,493	27,607	87
1921-22	227,300	206,848	20,452	91
1922-23	219,649	214,865	4,784	98
1923-24	237,139	229,999	7,140	97
1924-25	225,341	208,812	16,529	93
1925-26	226,554	204,886	21,668	90
1926-27	235,081	224,690	10,341	96
1927-28	240,184	227,537	12,647	95
1928-29	242,080	231,301	11,679	95
1929-30	304,493	301,679	2,814	99
1930-31	347,753	300,200	47,553	86
1931-32	253,656	227,620	26,036	90
1932-33	271,100	247,663	23,437	91

* NOTE.—When one ton of copra is crushed about 12½ cwt. of oil and 7 cwt. of oil cake are released.

On an average for the past five years the exports of cake from Travancore amounted to 257,000 cwt. or 12,800 tons p r annum. Out of this quantity 52 per cent., *i.e.*, about 134,000 cwt. o 6,700 tons was despatched through Arukutty to Cochin and about 27 per cent. was exported through Alleppey port and only about seven per cent. of the total exports was consigned through Trivandrum-Tinnevelly Railway and practically no cake was exported through Aramboly to Tinnevelly. This indicates that the coconut cake is not much used in the eastern districts of the Madras Presidency, namely. Tinnevelly, Ramnad, Madura, Trichinopoly and Tanjore.

TABLE LXVI

Exports of coconut cake from the Travancore State, by all routes

(In cwt.)

Exporting Customs House	Year mid August to mid August					Five year average	Average percentage to total average
	1927-28	1928-29	1929-30	1930-31	1931-32		
Alleppey	69,980	84,513	74,020	69,788	45,017	68,663	26·7
Aramboli	327	45	227	31	15	139	
Arukutti	82,196	89,610	181,573	180,384	138,039	134,360	52·2
Trivandrum-Tinnevelly Railway	14,419	15,779	19,998	20,725	16,111	17,406	6·7
Cochin Shoranur Railway ..	11	9	3	62	71	31	
Others	60,604	41,345	25,858	29,210	28,367	37,077	14·4
Total ..	227,537	231,301	301,679	300,200	227,620	257,676	100·0

CHAPTER X

Coir Industry

119. *Importance of coir industry.*—The importance of the coir industry can be gauged by the fact that about 2¼ lakhs of persons are engaged in this industry alone.

Table LXVII

Number of persons employed in rope and twine industry (mostly coir industry)

(From the Census report of India, 1931)

State or District	Earners as principal occupation		Working dependants		Those following as subsidiary occupation		Total		Percentages		Total number of persons
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
Cochin	9,247	20,190	796	4,440	1,527	1,257	11,570	25,887	30·88	69·12	37,457
Travancore	38,129	38,598	7,808	37,568	7,009	6,619	52,946	82,785	39·02	60·98	135,731
Malabar	3,426	32,752	223	7,372	970	1,033	4,619	41,157	10·09	89·91	45,776
South Kanara	482	3,474	68	337	791	672	1,341	4,483	23·02	76·98	5,824
Total ..	51,284	95,014	8,895	49,717	10,297	9,581	70,476	154,312	31·22	68·78	224,788

The coir industry is most developed in Travancore and least developed in South Kanara. Outside the West Coast, in India, very little coir is manufactured. In Mysore Orissa and parts of Bombay coir yarn and coir ropes are manufactured to a small extent. On the West Coast about 70 per cent. of the workers employed in the coir industry are women who prefer to work indoors and assist the men by preparing coconut fibre and spinning coir yarn. Throughout the West Coast husk from more than 750 million nuts is annually utilised for the manufacture of coir goods. In 1931-32 the export of both manufactured and unmanufactured coir goods amounted to 1,543 thousand cwt. Taking a very low value of Rs. 5 per cwt. this quantity represents about 80 lakhs of rupees.

120. *Raw materials.*—For the manufacture of coir, mainly the green husk is used, but an inferior grade of coir is also made from the dry husk and also from the green husk which is beaten and converted into yarn without retting. The quantity of coir manufactured from the two latter types of husk is very small and commercially not worth consideration and therefore this report confines itself to retted husk only.

121. *The effect of coir on the quality of copra.*—Husk of a particular stage of maturity is necessary for the best grades of coir. At this stage the nuts are not fully matured. Harvesting of nuts at this stage in itself is not unwise, provided that the nuts can be matured by storage. It is not possible to store the husked nuts for a long tine, since deterioration sets in among the husked nuts much earlier—particularly when the nuts are not fully ripe—than in the unhusked nuts or the ripe husked nuts. Without allowing the husk to dry up the nuts have to be husked immediately since the best grades of coir can be made only of husks which have not dried. It is not, therefore, possible to store for a long time unhusked nuts of this particular stage of maturity. This drawback from the point of view of storage for the ripening of nuts and the harvesting of immature nuts combine to lower the quality of copra particularly of the crushing grade.

122. *Economics of coir and copra production.*—It is pertinent to examine whether the loss sustained by the production of comparatively low quality of copra is adequately compensated for by the gain in the sale of green husk for the manufacture of coir. Since the producer generally sells his nuts as well as the green husk to the professional copra makers and coir manufacturers he is not aware of this aspect of the question. It is very rarely that the manufacturer of copra happens also to be the professional manufacturer of coir goods. This situation renders it difficult to assay accurately the gain from the sale of green husk and loss on account of the low quality of copra. The whole question, however, needs to be examined fully by a series of experiments.

123. The average price of 1,000 green husks during October-November 1933 was Rs. 2-8-0, and for 1,000 dry husks which can be utilised for fuel it was As. 10. Thus there is a difference of Rs. 1-14-0 per 1,000 husks in favour of green husks. Copra made from stored nuts generally fetches Rs. 2 more (per 6 cwt.) than the copra made from unstored nuts. Since 1,000 nuts yield about 3 cwt. of copra, the loss due to the low quality of copra amounts to one rupee per 1,000 nuts. The gain therefore due to the sale of green husks

would amount to about 14 annas per 1,000 nuts (Rs. 1-14-0 *minus* Re. 1-0-0= Rs. 0-14-0). It must however be pointed out that the quantity of copra obtained from unstored nuts is likely to be less than the quantity of copra obtained from the stored nuts.

Manufacture of Coir Goods

124. *Retting.*—After the nuts are harvested or husked the husks are not allowed to remain too long in the sun. The husks are usually brought to the retting pits from villages and towns where there are no facilities for retting. The soaking is done in saline backwaters, but rarely in fresh water. There are professional men who purchase the husks from the petty collectors and soak them. They may manufacture yarn from the retted husks or sell the retted husks as such.

Sometimes, as for example near Anjengo, the husks are placed in a coir net and kept floating for a few days. Afterwards they are covered over with cadjans and clay and sunk down. In other places the husks are not placed directly in the backwaters but they are buried in a pit which is connected with the backwaters through canals. In other centres, for example near north Parur, they are simply buried in the mud in the fields near backwaters. It is considered that the gentle tide and ebb to which the backwaters are subject to, are very helpful in removing the by-products of fermentation. Even though saline water is not absolutely necessary for retting, proper retting can only be obtained if *optimum* concentration of salts and chlorides is available in the water to allow for the normal bacterial development and the bleaching of the fibre. When the husks are retted in fresh water, the separation of the fibre from the pith is incomplete and the colour of the fibre is not golden yellow. In the whole of Travancore, the best quality of fibre is produced near Anjengo and Paravur. Where good fibre is produced the value of one hundreth of an acre of backwater varies from Rs 10 to Rs. 40 and the groundrent is very high.

125. *The duration of retting.*—After rejecting the brown and dried husks the husks are buried and occasionally examined to see if the retting is going on properly. The time required for retting varies with the temperature of the water and its salinity. It takes longer for husks to properly ret during the rainy and winter seasons and the retting period is always short during the summer. In fresh water the husk is generally kept for four months. An average retting period is eight to ten months but the husks can be kept in saline backwaters for as long as two years without any change in the quality of the resulting fibre. If the husks are kept for a period longer than two years the fibre becomes bleached in colour.

In some parts of India, the husks are retted in fresh water only for a month; and in the East Godavari dry husks are soaked in fresh water only for a few hours and fibre is beaten out of them.

126. *Cost of retting.*—The cost of retting three to four thousand husks ranges from Rs. 2-8-0 to Rs. 6. The prices for retted husks depend upon the prices of coir yarn. Since it takes a very long time for the husks to ret very often there occurs a wide disparity between the prices of retted and green husks.

127. *Manufacture of fibre.*—To obtain a candy of 6 cwt. of yarn, three to four thousand green husks are required. During retting 5 to 10 per cent. of the husks is liable to get spoilt. After the husks are properly retted, the retting bed is opened up and the husks are removed, washed, and transported for beating them into fibre. The retted husks should not be kept exposed to the sun too long as the colour gets darkened and the removal of the fibre becomes difficult.

128. To separate the fibre from the pith and incidentally remove the rind, the husks are, without damaging the fibre, beaten on a block of wood with a small stick. The fibre is then dried well, lightly beaten again with a stick and occasionally passed through a cleaner. Properly retted fibre does not lose its colour on exposure.

129. The cost of beating and cleaning that quantity of fibre which is required to make 6 cwt. of yarn varies from Rs. 8 to Rs. 16 mainly depending on the distance to which the soaked husk will have to be transported for beating (*vide* Table 3, Appendix III). In many parts of Ceylon, coir fibre is prepared for export. Mills for the separation of the fibre are located mainly in Colombo and Negombo districts. The fibre is used for making brushes, mattresses and yarn. In factories, the dry husks are soaked and crushed in cement tanks for eight to ten days. About 1,150 nuts yield 1 cwt. of bristle fibre and 2 cwt. of mattress fibre. While the cost of manufacture of bristle fibre and mattress fibre is Rs. 6·40 and 0·90 per cwt. respectively, the prevailing market rates in the third week of January 1934 were Rs. 3 per cwt. of bristle fibre and Rs. 175 per cwt. of mattress fibre. In India no bristle fibre is manufactured from coconuts but palmyrah fibre is exported from the ports of Tuticorin, Colachel and Coconada.

130. *Manufacture of yarn.*—Most of the fibre which is produced on the West Coast is converted into yarn. The twisting of yarn is mainly carried on in the homes, either with *charka* or hand. It is estimated that a family of three, working a pair of *charkas* can ordinarily produce in a year about 24 cwt. of yarn, *i.e.*, 8 lb. a day and gets an income of Rs. 40 to Rs. 100 per year depending upon the evenness of the twist, fineness of the yarn and freedom from pith. The cost of twisting 6 cwts. of yarn varies from about Rs. 10 to Rs. 20 (*vide* Table 3, Appendix III). If a middleman gets coir manufactured either on contract or immediately under his supervision with hired labour he makes a profit of Rs. 2 to Rs. 2-8-0 per 6 cwt. of yarn.

131. *Ropes.*—In Southern Travancore the ropes are made from the yarn and exported to Sivakasi, Vridhunagar and Madura, the former two places send out ropes to up-country merchants. The cost of manufacturing 250 lb. of ropes was Rs. 11-8-0 and the market price was Rs. 12-8-0.

Near Calicut marine ropes are made from coir yarn, for export to Burma, China and other places.

132. *Mats.*—The manufacture of door mats from coir yarn and fibre is being carried out to a fairly large extent as a cottage industry, but high grade coir mats are usually made in factories mostly with hand labour. West Coast and particularly Travancore has practically the monopoly for the supply of mats for the whole world.

133. *Matting.*—Matting is made in organised factories on hand looms, from coir yarn. For superior grades of matting, the weft is of inferior yarn and the warp is of superior yarn. And the name of the matting goes by the name of the warp. The quality of the matting is also determined by the number of warps required for a standard width of 36 inches. The number of warps required for a thirty-six inch wide matting divided by 20 gives the score of the yarn, *i.e.*, 320 warps are required for a thirty-six inch wide matting when a sixteen score ($16 \times 20 = 320$) yarn is used for its manufacture. A sixteen score is considered superior.

134. *Other articles.*—Beautiful rugs and carpets are also made from coir yarn. The designs are continuously changing and the manufacturers are very alert to cater to the tastes of their European and American customers. Travancore supplies all the tea estates in Ceylon and South India with coir bags for drying tea leaves. Coal mines of Bengal, Assam and Central India use Travancore coir bags made out of double strings for lifting up coal from the mines. During the war, coir belting also was made.

135. *Coir Factories.*—Alleppey is the centre for the manufacture of coir goods. The manufacture of coir goods at Cochin and Calicut is not on so large a scale as at Alleppey. There are eighty-three coir factories at Alleppey out of which twenty-three are shipping their goods to foreign countries.

CHAPTER XI

Trade in Coir

136. *Middlemen.*—Coir is collected by the middlemen from the petty manufacturers. Before the coir reaches the markets (Alleppey, Cochin, Calicut Ponnani or Mangalore), it passes through the hands of more than one middleman. Among the coconut products, coir is the only product for which too many middlemen exist between the exporter or the manufacturer and the producer of coir. As the manufacture of coir is a cottage industry, the middleman appears to be necessary. Mr. Heyden, Chairman of the Travancore Chamber of Commerce says, "There are far too many middlemen who make profits before the yarn reaches the merchant." Mr. Jourdean has pointed out the necessity for middlemen in the following statement: "My firm has for sometime been endeavouring to eliminate the middlemen by establishing depots in the yarn producing districts, through which the spinner is encouraged to bring his yarn. But on the whole I am afraid that we have to admit failure and I consider that middlemen are necessary."

137. "*Damping*".—Usually the yarn which comes to Alleppey market is very damp and it often loses 15 to 35 per cent. of its weight on drying. I am told that sea water is led into the interior over a considerable distance with a view to moisten this yarn as the salt in the sea water has hygroscopic properties. The yarn damped with the sea water does not lose much water due to evaporation during the transport.

138. *Grades of coir yarn.*—The numerous grades of coir yarn originally arose from the names of places where the coir was produced but now the same grades of coir can be had from places far apart. In Travancore and Cochin markets, *Alapat*, *Anjengo*, *Ashtamudi*, *Araturoi*, *Vaikom*, *Karuva* and *Beach* are the main grades of coir yarn. *Alapat*, *Vaikom* and *Beach* yarns are generally hand spun while the other varieties are spun with the aid of a spinning wheel. *Anjengo* yarn, which is considered to be the best, is further subdivided into superior and ordinary grades. The following were the average prices for different grades of coir yarn during 1st July 1931 to 30th June 1932 :—

	Rs.	
Alapat real	9½	per candy of 6 cwts.
Anjengo, superior	9½	,,
Anjengo, ordinary	8	,,
Vaikom	8	,,
Ashtamudi	7½	,,
Araturoi, superior	7½	,,
Karuva	7	,,
Araturoi, ordinary	6	,,
Beach	5½	,,

In addition to these grades, the following grades are also current at Cochin Ponnani and Calicut. The prices of these grades as it stood on one of the days during the last week of October 1933 are given to facilitate comparison wit

reference to the quality. Yarn made from unsoaked or green husks is known as unsoaked yarn.

	Price per 6¼ cwt. Rs.
Soaked yarn—	
Quilandi	50 (thin).
Kadalundi	45 (harder twist).
Beypore	42/8 (Medium loose twist).
Ponnani	40
Chowghat	40
Ariyalur	35
F. U.—Fine unsoaked yarn—	
Kallai	25 (Hard twist).
Parapanangadi	20

The producers usually do not grade their yarn. The grading of yarn is done by the exporting firms and manufacturers. It is essential to establish definite and standard grades of coir yarn as has been done in the case of *Manilla* ropes in the Philippines.

139. *Sales of yarn.*—The middlemen arrange for sales through brokers who are paid a commission from Re. 1 to Rs. 2 per 6 cwt. which covers also the ware-house charges. The yarn is sold at Alleppey on spot-cash basis or stock system. The manufacturers of European firms usually buy yarn on cash basis. The yarn which is sent to the Indian markets is purchased by the agents or representatives of the buyers in Rangoon, Calcutta and Bombay on cash basis or seven to ten days credit. When the yarn is handled on stock system, the yarn dealer advances 75 per cent. of the current market price as the security of the yarn placed in his godown, at 12 per cent. interest per annum; and when the yarn is sold by the yarn dealer he remits to the middlemen the balance after deducting the interest charges. The yarn which is exported to foreign markets is supplied by contractors who deliver the yarn at the firm's godown and receive money without interest. The contractors supply yarn on "Baled weight" basis and when the bales are passed according to the firms's grades, their accounts are finally adjusted. The cost of marketing yarn varies from As. 8 to 11 per cwt.

140. *Trade centres.*—Coir yarn finally arrives at important centres for export, namely Alleppey, Cochin, Calicut, Ponnani, Mangalore and Cannanore. Of these, the first three are the most important centres for trade. In addition to coir manufactured in Cochin, Malabar and South Kanara, coir from Travancore comes to Cochin from where it is re-exported. The coir produced in Chowghat and Valapad areas of Ponnani taluk also finds its way to Cochin through canals and backwaters. And the coir from the rest of the parts of Malabar reaches Calicut, Cannanore or Ponnani. There is very little of coir manufactured in South Kanara. Most of the coir which is exported from Mangalore comes from Amindivi Islands and the coir from Laccadive Islands generally goes to Calicut port. The purchase and sale of coir goods from these islands is a Government monopoly. .. ..

141. *Coir yarn prices.*—The prices of all grades of coir yarn have gone down considerably even though the fall in the prices of coir yarn is not as great

as the fall in the price of copra and oil. It is not easy to ascertain the correct prices for coir yarn as the producer and the middleman know very little about the grades they handle, and as such a comparison between the prices which the producer receives and the wholesaler pays is not possible.

The fluctuations in the prices of ordinary *Anjengo* yarn at Alleppey only are mentioned below, bu it cannot be said that the prices of other grades of yarn fluctuate in the same proportion. Before the War, the average price was about R . 60 for six cwt. and in 1918 it ranged from Rs. 60 to Rs. 45. In December 1919 and 1920 the price rose to Rs. 102 and Rs. 112 respectively. During 1921 the price was fairly steady between Rs. 100 and Rs. 105. In the two succeeding years the price level ranged between Rs. 90 and Rs. 100 but it steadily rose to Rs. 112 in December 1924 and Rs. 122 in March 1925. In 1926 and 1927 the price had ranged between Rs. 70 to Rs. 80 but it gradually rose to Rs. 104 in February 1930 and fell heavily to Rs. 72 by the end of that year. The highest price recorded in 1931 was Rs. 60 but the lowest level of Rs. 36 was reached in June 1931. The average for 1931-32 was Rs. 48 per candy; the price had fortunately risen again to Rs. 40 about the end of September 1933.

In charts IV and V, the prices for the three grades of coir yarn at Calicut are shown from 1922 to about the end of 1933. Where two different grades exist the average price for the two sub-grades only is given. The price for *Quilandy* has always been higher than the price for *Beypore* quality and the price for *fine unwaked yarn* has generally remained lower than the prices for *Beypore No. 1*. At the beginning of 1925 the prices for *Quilandy* and *Beypore* yarns were the highest being about Rs. 96 and Rs. 95 per candy of 700 lb. but they had fallen to Rs. 42 for *Quilandy* and Rs. 36 for *Beypore* by about the end of September 1933; and since then there has been a slight improvement in the prices of coir.

The annual average market prices of yarn in Ceylon from 1928 to 1932 were Rs. 17·45, 14·34, 12·73, 10·20, and 8·42 per cwt respectively for each year.

142. *Other coir commodities.*—The annual average market prices in Ceylon from 1928 to 1932 for the top grades of bristle fibre and mattress fibre are given below :—

Year	Bristle fibre	Mattress fibre
	Rs.	Rs.
1928	8·53	3·07
1929	9·01	2·23
1930	8·23	1·40
1931	6·65	1·41
1932	7·95	1·25

The following were the average prices at Alleppey for diffrent commodities of coir between the first July 1931 to 30th June 1932 :—

	Rs.
Coir rope	20 per cwt.
Coir fibre	5 ,,
Coir mats	20 ,,
Coir matting	As. 10 ,,

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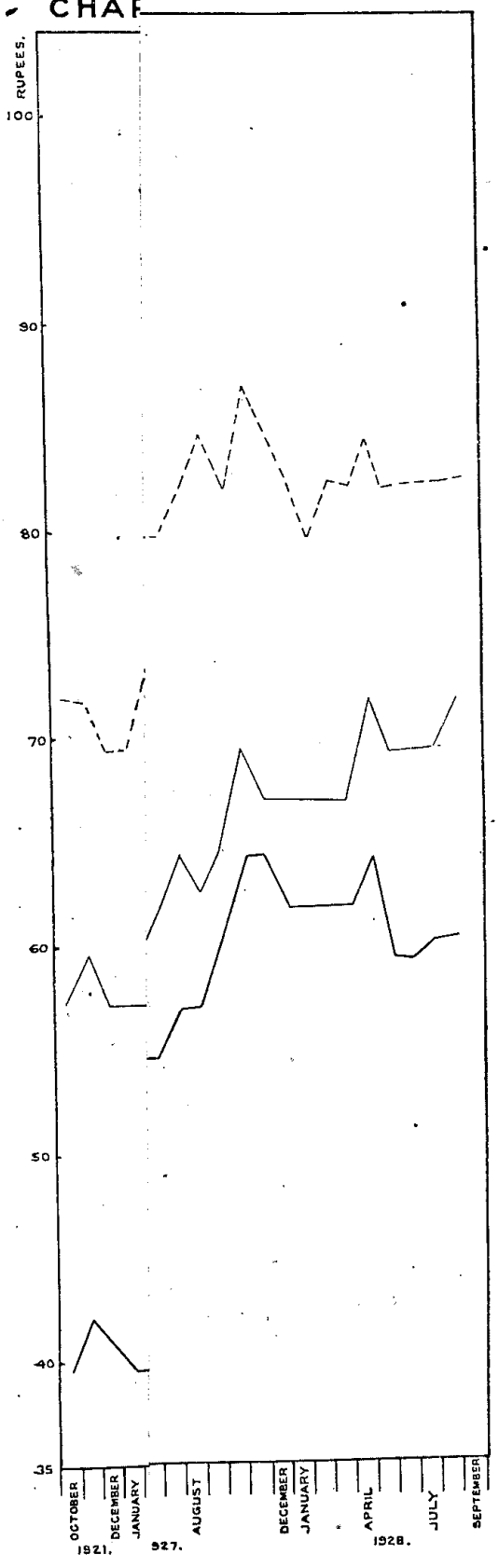
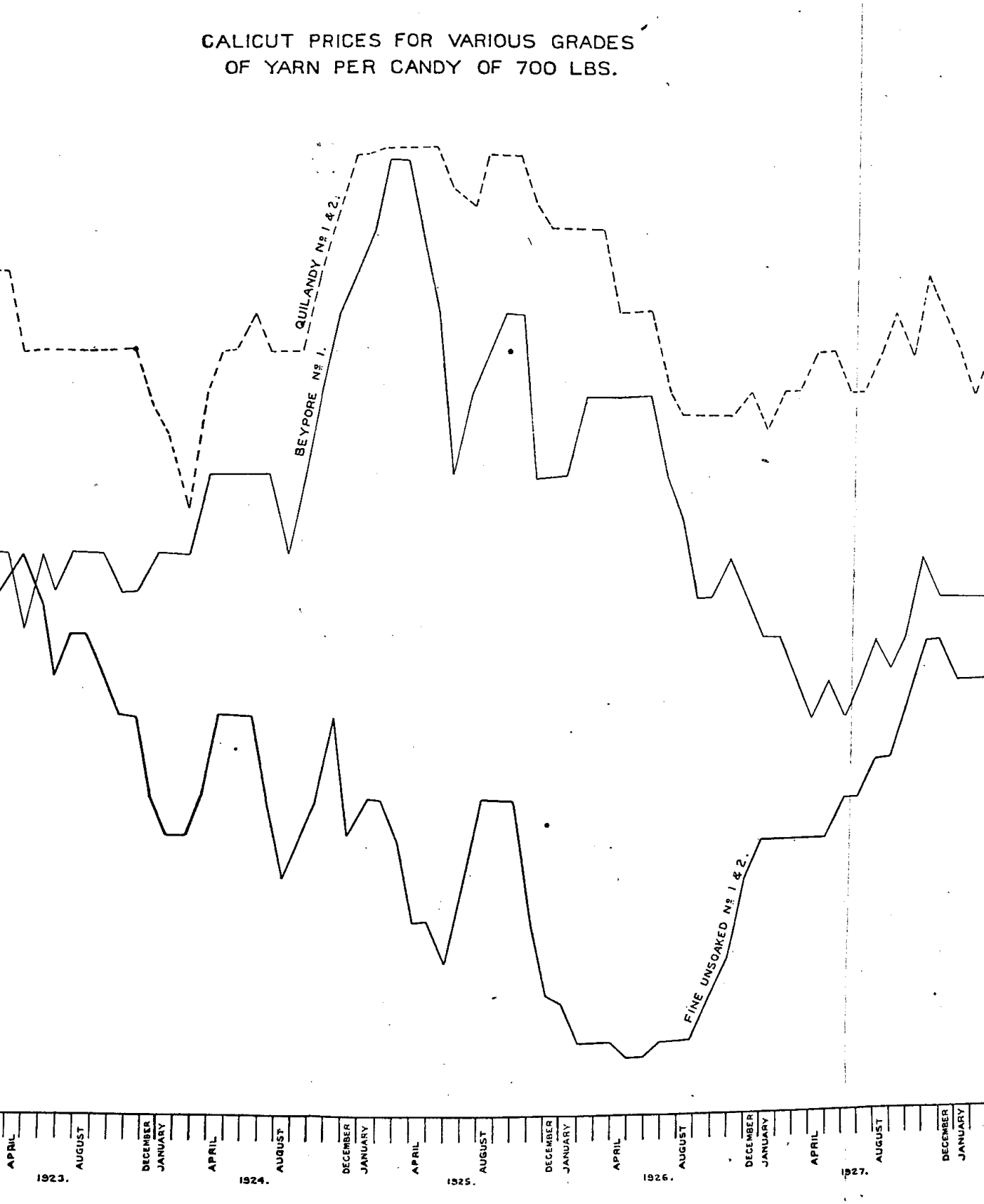
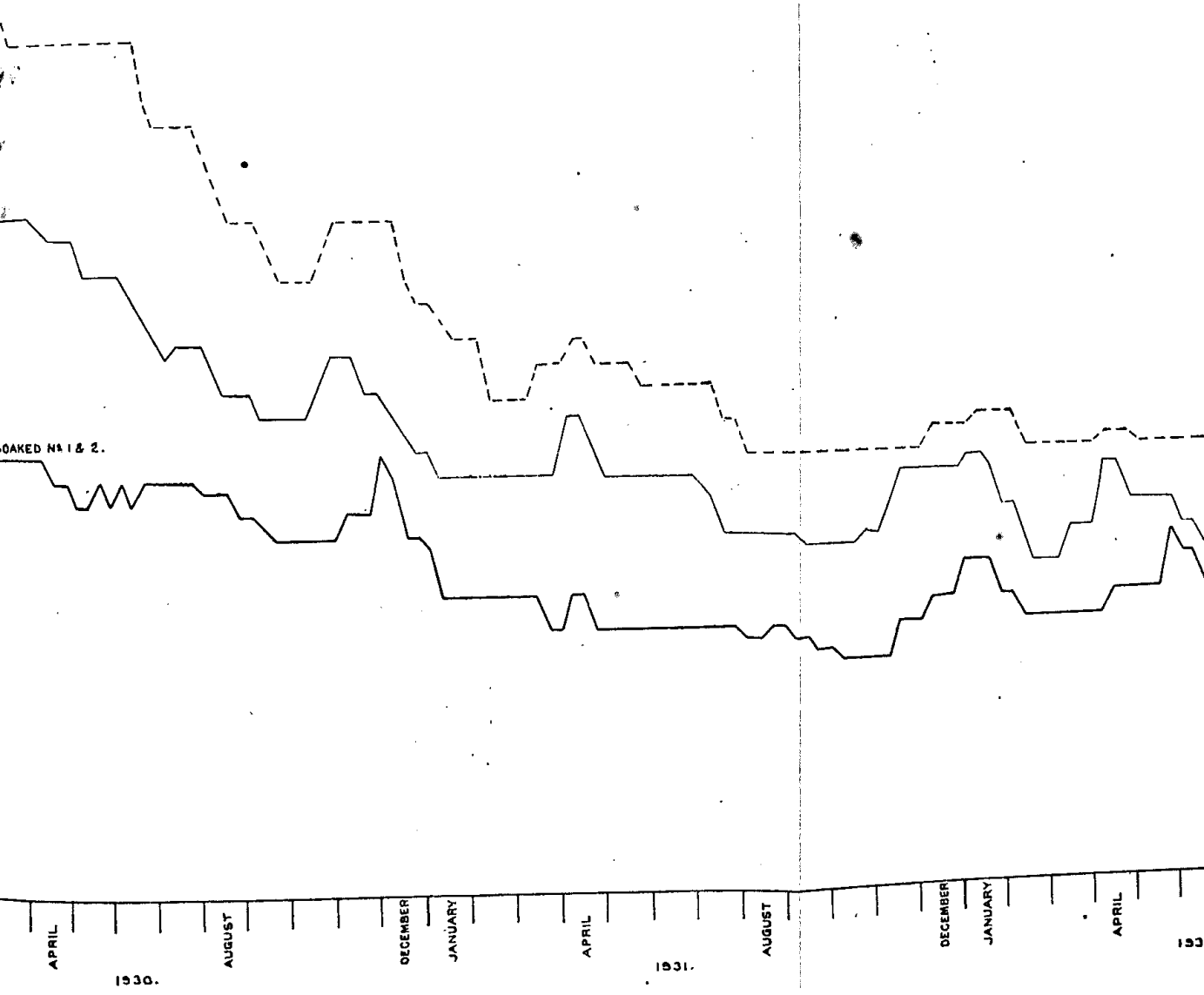

RUPEES.
100
90
80
70
60
50
40
35
OCTOBER
DECEMBER
JANUARY
1921.
AUGUST
1927.
DECEMBER
JANUARY
APRIL
1928.
JULY
SEPTEMBER

CALICUT PRICES FOR VARIOUS GRADES OF YARN PER CANDY OF 700 LBS.



CALICUT PRICES FOR VARIOUS GRADES
OF YARN PER CANDY OF 700 LBS.



143. *Coir trade Imports.*—Travancore imports practically no coir. In 1931-32 altogether 86 cwt. of unmanufactured and manufactured goods were imported. Small quantities of coir yarn are being imported into Alleppey from Calicut, for the last two to three years, for " filling " the mats with the low grade yarn which is made out of green unretted husks. Considerable quantities of coir yarn, mats and matting are imported into Cochin from Travancore for re-export. The ports in Malabar and South Kanara import practically no coir and the coir which comes from Laccadives, Amindivi and Minicoy islands cannot be treated as foreign coir, since these islands are under the administrative control of the Collectors of these two districts.

TABLE

Exports of coir goods from

Year—mid August to mid August	Coir yarn cwt.	Coir yarn cwt.	Coir mats cwt.
1852-53	30,005	61	..
1861-62	86,692	4,544	..
1871-72	118,156	9,283	..
1882-83	163,767	1,142	..
1892-93	278,836	452	..
1902-03	324,292	1,197	..
1912-13	659,868	1,603	134,034 rolls.
1922-23	572,409	3,445	110,527
1923-24	581,152	5,136	175,650
1932-33	549,019	4,967	296,017

LXVIII.

Travancore State by al' rou'es

Coir matting Yds.	Coir druggets Yds.	Coir rugs Yds.	Coir cables cwt.
..	..	..	..
..	..	..	..
..	..	..	..
..	..	..	..
..	..	..	..
..	..	..	..
..	..	..	226
2,541,049	..	..	438
4,484,944	30,920	959,455	1,227
3,510,363	14,471	3,458,477	306

144. *Expansion in the production and trade of coir goods.*—About eight years ago, only 61 cwt. of coir fibre and 30,000 cwt. of coir yarn were being exported from Travancore. The industry has so rapidly developed that Travancore is now exporting about 600,000 to 725,000 cwt. of coir yarn and about 5 to 6 thousand cwt. of coir fibre, in addition to ropes, mats and matting. The table LXVIII shows the progressive increase in the exports of coir products and coir yarn for the last eight decades. During the last ten years the exports of coir manufactured and unmanufactured ranged from 825,000 cwt. to 1,095,000 cwt. *vide* table LXIX. For purposes of comparison the matting, rugs and druggets have been converted from yards into cwt. at the rate of 33·3 yards per cwt. This introduces a slight error as all the matting which is exported is not of a standard width, but this is the best approximate factor possible. Assuming that 3,000 husks yield a candy of coir, the exports of coir have been converted into the number of husks from which the exported quantity of coir goods have been extracted. Since very little quantity of coir is utilised within the State, the figures for exports of coir goods give a very good indication of the magnitude of the coir industry. In 1927-28 more than 548 million husks were utilised for the export of coir goods. The shipments of coir goods for 1930-31 and 1931-32 were rather low.

TABLE LXIX.

Export of coir goods from Travancore State, by all routes.

TABLE

Exports of coir goods from

Year—mid August to mid August	Coir fibre	Coir ropes	Coir yarn	Coir mats
	cwt.	cwt.	cwt.	cwt.
1922-23	2,712	541	623,93	145,021
1923-24	2,339	1,106	651,832	120,208
1924-25	2,753	868	831,923	140,992
1925-26	3,897	525	635,828	104,292
1926 27	2,091	478	759,383	213,175
1927-28	3,207	350	717,905	256,439
1928-29	3,389	485	728,592	173,382
1929-30	2,990	339	728,569	176,069
1930-31	1,608	280	589,723	173,390
1931-32	2,846	1,227	569,287	175,650
1932-33	4,967	306	549,019	296,017

Note.—Matting, rugs and druggets have been converted from yards into cwt. at the 6 cwt.

LXIX.

Travancore State, by all routes

Coir matting	Coir rugs	Coir druggets	Total matting, rugs and druggets converted to cwts.	Grand total	Number of husks required to manufacture these goods
yds.	yds.	yds.		cwt.	Thousands
2,597,350	..	..	77,970	850,177	425,088
2,617,736	..	..	78,540	854,025	427,012
2,629,807	..	..	78,939	1,055,466	527,733
2,635,843	..	..	79,110	823,652	411,826
3,621,503	1,250	..	108,700	1,083,827	541,913
3,938,870	14,305	..	118,600	1,096,501	548,250
4,275,873	327,656	..	138,100	1,043,948	521,974
4,299,637	910,966	97,641	159,209	1,067,167	533,583
3,749,358	575,923	33,905	130,890	895,801	447,900
4,484,944	959,455	20,920	164,000	913,010	456,505
3,510,363	3,458,447	14,471	209,709	1,060,018	630,009

rate of 33·3 yards per cwt. It is also assumed that 3,000 husks yield a candy of coir of

TABLE LXX

Exports of coir goods (both manufactured and unmanufactured) from Malabar and South Kanara ports (In cwts.)

(by sea)

Year ending 30th June.	Calicut	Ponnani	Badagara	Tellicherry	Connanore	Mangalore	Total	Number of husks required to manufacture the products
								Thousands of husks
1916-17	136,884	17,314	..	61	10	4,258	158,527	79,263
1917-18	60,823	37,860	2	..	162	..	98,847	49,423
1918-19	122,569	32,180	..	401	154	11,843	167,147	83,573
1919-20	189,641	31,209	6	17	519	8,803	230,195	115,097
1920-21	127,280	19,847	5	174	124	10,002	157,432	78,716
1921-22	339,808	22,673	101	442	140	9,561	372,725	186,362
1922-23	186,900	12,709	100	..	440	7,405	207,554	103,777
1923-24	201,700	11,660	..	480	620	9,818	224,278	112,139
1924-25	225,202	19,560	..	20	1,660	12,280	258,722	129,361
1925-26	175,558	6,800	..	40	1,860	9,760	194,018	97,009
1926-27	196,554	6,740	6	2	2,920	6,780	213,002	106,501
1927-28	256,228	5,740	..	..	2,184	4,607	268,759	134,379
1928-29	210,417	6,860	..	..	1,576	6,780	225,633	112,816
1929-30	199,400	9,540	..	..	562	8,100	217,602	108,801
1930-31	171,714	7,160	..	9	1,193	5,240	185,316	92,658
1931-32	191,738	10,068	21	1	77	3,143	205,048	102,524

Similar expansion though not at the same rate in the manufacture of coir goods has occurred in Malabar and South Kanara. The exports of coir goods from the ports in Malabar and South Kanara have increased from about 158,000 cwts. in 1916-17 to 205,000 in 1931-32 *vide* table LXX. Over 100 million husks are normally utilised in the manufacture of coir in the districts of Malabar and South Kanara. And on the whole of the West Coast the husks from over 750 million nuts are utilised in the manufacture of coir goods.

TABLE LXXI

(In millions of husks)

Total number of husks required for the exported quantity of coir goods

Year	For exports from Malabar and S. Kanara	For net exports from Cochin*	Total	For exports from Travancore	Grand total for export from the W. Coast
1922-23	104	173	277	425	702
1923-24	112	264	376	427	803
1924-25	129	235	364	528	892
1925-26	97	264	361	412	773
1926-27	106	290	395	542	938
1927-28	134	309	443	548	991
1928-29	113	290	403	522	925
1929-30	109	240	349	534	883
1930-31	93	201	294	448	742
1931-32	102	213	315	457	772

* Net exports from Cochin.

145. *Exports of fibre.*—About 4,000 cwts. of coir fibre from Cochin, about 5,000 from Alleppey, about 1,300 from Calicut, and about 1,200 from Ponnani are exported making a total of about 11,000 cwt. of fibre—unmanufactured coir goods—from the West Coast ports. For the same period the average shipment of manufactured coir goods—yarn, ropes, mats, matting, rugs and druggets—came to 1,681,859 cwt. or 84,000 tons. That the exports of raw materials is insignificant, is evident from the fact that the ratio between the unmanufactured and manufactured goods is 1 : 141 ; but it must be observed that a major portion of the manufactured coir goods consists of coir yarn which may perhaps be classified as raw material, since most of the coir yarn that is shipped is utilised in the manufacture of mattings and rugs.

Percentage of exports of the manufactured coir goods to the total exports of manufactured coir goods

Commodity	Calicut	Cochin State	Travancore
Cables	12·2	11·9	0·1
Yarn	87·3	85·3	66·9
Matting	0·5	1·4	14·1
Mats	..	1·4	18·9

Thus it is evident from the previous table that the shipments of yarn form a major portion of the shipments of coir goods. It would certainly be advantageous to develop the matting industry and to export mattings instead of exporting yarn. One of the factors which hinders the rapid development of the matting industry is the prevalence of very high tariff duties on the imports of matting into Canada, and United States of America where 800 to 2,000 per cent. duty is said to have been imposed on the imported coir matting, and the yarn is allowed to pass practically duty free.

TABLE LXXII

Net Sea-borne exports of coir goods from the Port of Cochin exclusive of the imports into Cochin from Travancore State

Year ending 30th June	Coir fibre	Coir ropes	Coir yarn	Coir mats	Coir matting	Matting converted into cwts	Grand total	Number of husks required to manufacture these products
	cwt.	cwt.	cwt.	cwt.	yds.	cwt.	cwt.	Thousands of husks
1924-25	7,241	75,107	3,66,534	4,042	576,820	17,305	470,229	235,114
1925-26	7,554	63,085	404,115	32,587	674,479	20,234	527,575	263,787
1926-27	4,814	65,039	474,753	20,976	571,300	17,139	580,721	290,360
1927-28	6,103	66,187	531,307	5,960	284.413	8,532	618.089	309,044
1928-29	4,790	65,405	492,605	4,891	443,122	13,294	580,985	290,492
1929-30	5,504	62,998	399,129	8,314	—4,290	—128	475,818	237,909
1930-31	1,559	52,460	331,213	9,422	227,862	6,836	401,490	200,745
1931-32	1,696	51,276	360,439	6,724	189,466*	5,684	425,819	212,909

* Includes 650 yards of rugs imported into Cochin.

146. *Exports of yarn.*—The separate figures for the exports of yarn are not available for the ports in Malabar and South Kanara excepting for Calicut and Cochin. But since practically no matting, mats or rugs are exported from the remaining ports, the exports of manufactured coir goods may be taken to represent the exports of yarn alone. From the districts of Malabar and South Kanara, and Cochin State, 621,000 cwt. of yarn were shipped on an average for the five years ending 1932 June. Out of this quantity about 423,000 and 184,000 cwt. of yarn were respectively despatched from Cochin and Calicut. Including about 675,000 cwt. of exports of yarn from Travancore, the total shipments of yarn from the West Coast amount to 1,296,000 cwt. or 64,800 tons. Of the exports of yarn from the Travancore State about 50 per cent. went to Europe, 25 per cent. to Bengal and 13 per cent. to ports in Burma. United Kingdom, Germany, Belgium, Holland, Italy, Bengal and Burma imported from Alleppey 50,000 ; 37,000 ; 20,000 ; 27,000 ; 27,0000 ; 81,000 ; and 39,000 cwt. respectively in 1931-32.

147. *Ropes.*—The exports of ropes from the port of Cochin, Calicut and the State of Travancore respectively average for the five years 60,000, 26,000, and 536 cwt. or a total of about 87,000 cwt. Burma and China are the big importers of ropes. About 15 per cent. of the total exports of ropes from Travancore go to Tinnevelly, Ramnad and Madura.

148. *Mats.*—Mats only are exported from Travancore and Cochin the exports from other ports being negligible. That Travancore is the biggest producer of mats is evident from the fact that she shipped on an average for the past five years about 191,000 cwt. of mats as against about 7,000 cwt. of mats from Cochin. Out of about 163,000 cwt. of mats shipped from Alleppey about 60 per cent. were consigned to Europe and 26 per cent. to America. The consumption of mats in India is very low. In 1931-32 out of the total exports of 158,000 cwt. of mats from Alleppey about 113,000 cwt. and 24,000 cwt. were respectively consigned to the United Kingdom and America.

149. *Matting.*—From Travancore, Cochin and Calicut, about 142,000, 7,000 and 500 cwt. of matting were respectively shipped on an average for the past five years thus making a total average of about 150,000 cwt. About 80 per cent. of the shipments from Alleppey were to Europe and the consignments for America were only four per cent. of the total shipments from Alleppey. Among the European countries the United Kingdom is the biggest consumer of coir matting and coir yarn.

150. *Rugs.*—Coir rugs are being exported only from 1926-27 but the shipments of this commodity have increased remarkably from 1,250 yards in 1926-27 to over 34 lakhs of yards in 1932-33. Rugs as well as druggets are mostly intended for European consumers.

151. Treating the West Coast as a whole the despatches of manufactured coir goods from the West Coast average for the last five years to Europe 926,000 cwt. *i.e.*, 63 per cent. of the total exports ; to Bengal 134,000 *i.e.*, 9 per cent. ; to Bombay 133,000—9 per cent.; to Burma 74,000—5 per cent ; and to America 69,000—5 per cent. The balance 8 per cent. is consigned to her Indian and foreign ports.

TABLE LXXIII

Distribution of the shipments of manufactured coir from the West Coast ports

(In thousands of cwt.)

Year ending 30th June	To Bombay	Burmah	Bengal	America	Europe	Other ports
1916-17	86	45	38	50	456	40
1917-18	113	52	38	56	50	41
1918-19	170	69	56	20	191	31
1919-20	92	73	70	80	517	26
1920-21	130	98	64	59	329	51
1921-22	124	87	88	57	498	66
1922-23	125	77	126	100	543	80
1923-24	138	82	118	72	631	92
1924-25	120	89	120	80	713	82
1925-26	132	99	163	75	557	82
1926-27	121	82	144	86	684	92
1927-28	151	89	124	79	1,011	130
1928-29	143	90	162	87	924	127
1929-30	134	66	146	75	946	125
1930-31	127	59	130	62	846	93
1931-32	110	64	110	40	904	112

Note.—The exports to Madras and Ceylon are not included under other ports.

152. The export of manufactured coir goods to Bengal, mostly originate from Alleppey while the consignments of these goods to Bombay are mainly from Cochin. Burma takes most of her requirements of coir from Alleppey. America purchases most of her requirements of manufactured coir from Alleppey only. The consignments to America appear to be on the decline.

CHAPTER XII

Foreign Trade in Coconut Products

153. *Indian foreign trade of copra, oil and nuts.*—In table LXXIV the net exports of coconut, copra and coconut oil into British India are given

Table LXXIV

Net Sea-borne Exports of coconuts, copra and coconut oil from British India

Years	Coconuts	Copra	Oil Gallons	Value in rupees			
				Coconuts	Copra	Oil	Total
	Nos	Tons					
Average of 5 years.							
1902-03 to 1906-07	—11,758,311	9,438	1,397,892	—523,132	2,373,683	1,879,428	3,729,979
1907-08 to 1911-12	—9,296,039	21,040	1,794,661	—464,101	6,737,624	2,732,411	9,005,934
1912-13 to 1916-17	—7,868,066	29,324	1,562,306	—397,051	11,302,596	3,157,808	14,063,353
1917-18 to 1921-22	—6,417,747	—2,259	3,410,370	—395,096	—815,413	8,310,473	7,099,964
1922-23 to 1926-27	—8,198,712	3,627	—92,905	—513,901	1,396,959	—234,334	648,724
1927-28 to 1931-32	—11,123,643	—870	—2,160,826	—811,138	—278,747	—4,065,843	—5,155,728
1927-28	—13,127,446	—1,054	—1,371,067	—1,044,830	—403,042	—3,363,596	—4,811,468
1928-29	—10,430,170	—829	—2,305,133	—773,927	—444,739	—5,290,174	—6,508,840
1929-30	—10,771,222	160	—2,318,557	—835,622	45,276	—4,331,270	—5,121,616
1930-31	—9,725,268	—429	—1,514,396	—781,975	—130,895	—3,129,723	—4,042,593
1931-32	—11,564,110	—2,195	—3,294,966	—619,335	—460,336	—4,214,451	—5,294,112
1932-33	—17,271,340	—16,173	—7,774,027	—872,991	—3,043,553	—9,270,826	—13,187,370
1933-34	—13,660,663	—29,127	—5,989,227	—648,983	—4,116,395	—5,691,672	—10,457,050

It is evident from the figures that India has been importing coconuts for the past thirty years but the imports have increased during the last fifteen years to the level of 1902-06 period. The net imports of coconuts averaged for the five years ending 1931-32 to 11 million nuts. It is only during the past six years, that India has commenced to import copra, and oil in large quantities. While the exports of both copra and oil from India have disappeared, the imports of both these commodities have increased. During 1922-23 to 1926-27 the net exports of copra from India amounted to 3,627 tons but during 1927-28 to 1931-32 period the Indian net imports amounted to 870 tons of copra. During 1917-18 to 1921-22 the net exports of coconut oil amounted to 270,000 cwt. (3·4 million gallons) but during the succeeding quinquennium the net imports averaged about 74,000 cwt. (0·9 million gallons) and the net imports rose to 174,000 cwt. (2,161,000 gallons, during 1927-28 to 1931-32 period). The net exports of coconuts, copra and oil during 1912-13 to 1916-17 were valued at 14 million rupees and in the two succeeding quinquenniums they fell to 7 millions and 0·6 million rupees respectively. During 1927-28 to 1931-32 period the net imports of these products were valued at 5·1 million rupees.

TABLE LXXV

Sea-borne Imports of Copra Into India

(In Tons)

Imports from	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33
Aden and Dependencies	..	..	12	..	88	761
Maldives	..	8	..	10	60	49
Ceylon	1,282	579	119	58	1,248	12,629
Straits Settlements ..	..	..	2	..	..	..
Zanzibar and Pemba ..	3	5	..	..	57	..
Kenya Colonies ..	..	..	..	..	15	3
Seychelles	102	968	19	429	751	2,749
Other British Possessions	..	..	..	..	3	5
Total ..	1,387	1,560	152	497	2,222	16,196
Java	50	..	..	..	..	..
Other Foreign countries	..	..	..	1	..	12
Total ..	50	..	..	1	..	12
GRAND TOTAL ..	1,437	1,560	152	498	2,222	16,208
Shares of						
Bengal	6	4	110	48	14	20
Bombay	1,423	1,511	40	436	767	3,408
Sind	..	..	1	..	1,324	6,927
Madras	8	45	1	14	117	5,853
Total ..	1,437	1,560	152	498	2,222	16,208

TABLE LXXVI

Sea-borne Imports of Coconut Oil into India

(In gallons)

Imports from	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33
United Kingdom ..	9,317	6,783	..	7,151	2,857	99
Ceylon	1,438,894	2,385,490	1,544,662	1,201,667	3,299,758	6,619,250
Straits Settlements ..	745	1,036	6,723	585	4,581	1,047,478
Federated Malay States	..	..	..	..	..	10,567
Other British Possessions	..	..	268	12	498	10
Total ..	1,448,956	2,391,309	1,551,653	1,209,415	3,310,694	6,677,404
Germany	..	..	1,509	..	..	..
Netherlands	747	..	10,733	..	771	..
France	..	73	613	..	..	..
Java	..	..	479	..	19,675	125,515
Other Foreign countries	21	10	118	15	..	386
	768	83	13,456	15	20,446	1,125,901
Total ..	1,449,724	2,393,392	1,565,109	1,209,430	3,331,140	7,803,305
Shares of						
Bengal	1,156,063	2,063,419	1,506,945	1,173,166	3,047,288	4,716,089
Bombay	169,862	229,879	5,547	12,577	24,844	1,573,939
Sind	..	..	617	12	2,449	179,425
Madras	2,000	23,630	407	1,817	36,028	364,370
Burma	121,799	76,464	51,591	21,858	220,531	319,482
Total ..	1,449,724	2,393,392	1,565,109	1,209,430	3,331,140	7,803,305

154. In table LXXV the sources of the foreign imports of copra are shown. Ceylon is practically our main supplier of copra followed by Seychelles. Almost the whole quantity of the copra which is imported is from countries in the British Empire. Similarly our import of foreign coconut oil is mainly confined to Ceylon. The benefit that Ceylon derives from the neighbouring market in India will be seen from table LXXVII where the distribution of exports from Ceylon are given.

TABLE LXXVII

Distribution of Exports from Ceylon—Countrywar.

Countries to which sent.	Copra—Cwt.				Cocoanut oil—cwt.				Desiccated cocoanuts—cwt.				Cocoanuts—thousands			
	1930	1931	1932	1933	1930	1931	1932	1933	1930	1931	1932	1933	1930	1931	1932	1933
1. United Kingdom ..	10,652	8,643	6,015	2,000	1,51,823	181,136	152,579	195,766	291,885	312,839	298,290	411,356	6,388	6,730	5,942	4,663
2. Australia	..	..	..	..	..	..	..	100	12,638	3,281	1,417	2,543	12	21	44	5
3. *British India*	1,355	22,518	287,518	475,286	73,175	189,958	514,366	351,901	377	579	661	843	950	1,263	6,922	3,123
4. British South Africa ..	..	..	..	..	20,289	53,174	13,140	45,589	6,877	8,363	7,600	10,701	..	..	..	..
5. Canada	..	..	..	..	11,045	13,784	11,608	20,857	23,406	14,799	10,400	8,711	..	..	..	..
6. Belgium	85,000	100,000	998	4,014	20,798	22,603	25,120	22,887	16,741	17,689	14,120	20.242	763	677	607	529
7. Egypt	35,542	34,000	2,033	3,007	87,715	80,552	39,289	52,424	1,031	770	1,076	1,635	5,289	4,772	3,462	4,631
8. Germany	345.544	298,714	111,048	93,078	23,952	23,948	41,548	17,437	128,513	111,645	120,235	139,413	4,891	5,192	4,299	5,685
9. Holland	71 500	192,321	161,227	219,003	13,050	25,781	6,712	13,816	48,847	43,084	30,776	46,198	1,699	1,569	1,082	1,848
10. Italy	689,162	632,281	189,934	334.898	86,606	60,886	27,306	80,702	19,240	17,483	13,257	14,513	464	500	500	7,131
11. Japan	..	..	..	..	..	..	..	..	403	699	520	746	..	..	1	2
12. Spain	..	..	..	..	..	200	..	..	27,658	23,969	27,116	27,533	3	16	97	185
13. United States of America	20,351	20,039	..	..	7,016	8,568	4,674	3,970	46,539	34,575	11,162	13,686	..	..	1	..

In 1933 India was Ceylon's best customer taking 36·9 per cent. of her total exports of copra and 33·5 per cent. of her exported surplus of oil and 14·3 per cent. of the exports of her nuts. That comparatively India takes a smaller percentage of the total exports of copra from Seychelles is evident from table LXXVIII which shows the distribution of exports of copra from Seychelles.

TABLE LXXVIII

Exports of Copra from Seychelles (a)

(In tons)

Countries	1909-13 (Average)	1924	1925	1926	1927	1928	1929	1930	1931
Union of South Africa	..	556	50	1,030	1,986	2,360	3,158	2,328	..
Norway	..	197	..	..	..	192	495	1,495	586
United Kingdom	238	1,873	3,035	2,327	919	731	272	1,087	3,346
France	1,988	289	727	1,115	263	114	..	386	22
India	(b)	225	1,001	1	96	938	18	330	619
Germany	277	..	..	890	1,290	568	566	187	153
Other countries	71	..	..	12	..	..	..	18	79
Total ..	2,574	3,140	4,813	5,375	4,554	4,903	4,509	5,831	4,805
Total exports in oil equivalent (in thousands of tons)	1·7	2·0	3·1	3·5	3·0	3·2	2·9	3·8	3·1

(a) The figures include small quantities of re-exports.
(b) Included in "Other Countries."

The reasons for this phenomenal increase in the imports of oil and copra as explained elsewhere may be sought in the rapid progress made by the Indian soap and vegetable *ghee* industries.

155. *World's exportable surplus of nuts, copra and oil.*—In table 6, Appendix IV the exports of fresh nuts from the main producing areas of the world are given. The figures show that the exports have remained more or less constant at about 120 million nuts during 1924—30 period and that Jamaica and Ceylon are the biggest exporters of nuts. The United States of America is the largest importer of fresh coconuts, taking about 50 per cent. of the exported surplus of nuts. United Kingdom, India and Canada take a major portion of the balance.

156. In table 7, Appendix IV the net exports of copra from the principal producing countries are given. The exported surplus amounts to over 1 million tons. Dutch East Indies are the biggest exporters of copra with the average exports of about 350,000 tons per annum. British South Sea Islands and British Malaya export on an average over 150,000 and 100,000 tons per annum respectively and Philippine Islands export about 175,000 cwt. of copra per annum.

157. The exports of coconut oil from the copra producing countries average over 200,000 tons per annum, *vide* table 8, Appendix IV. Philippine Islands lead in the exports of oil with an average export of about 150,000 tons of oil. In the exports of oil, Ceylon ranks second with an average export of about 40,000 tons per annum. Rapid increase in the exports of coconut oil indicates that the copra crushing industry in the producing country is successfully competing with the copra crushing industry in the consuming centre.

CHAPTER XIII

The Supply of Coconut Products

158. There are no statistics for the consumption of coconuts, copra or coconut oil and the traffic of these commodities by rail and road in the main producing areas is imperfectly known. The official figures for areas under coconut are subject to numerous limitations and errors, and the estimates of yields are equally difficult to get at. There are not even proper statistics of coconut oil production in the factories. It is therefore necessary to argue the production mainly from the exports statistics.

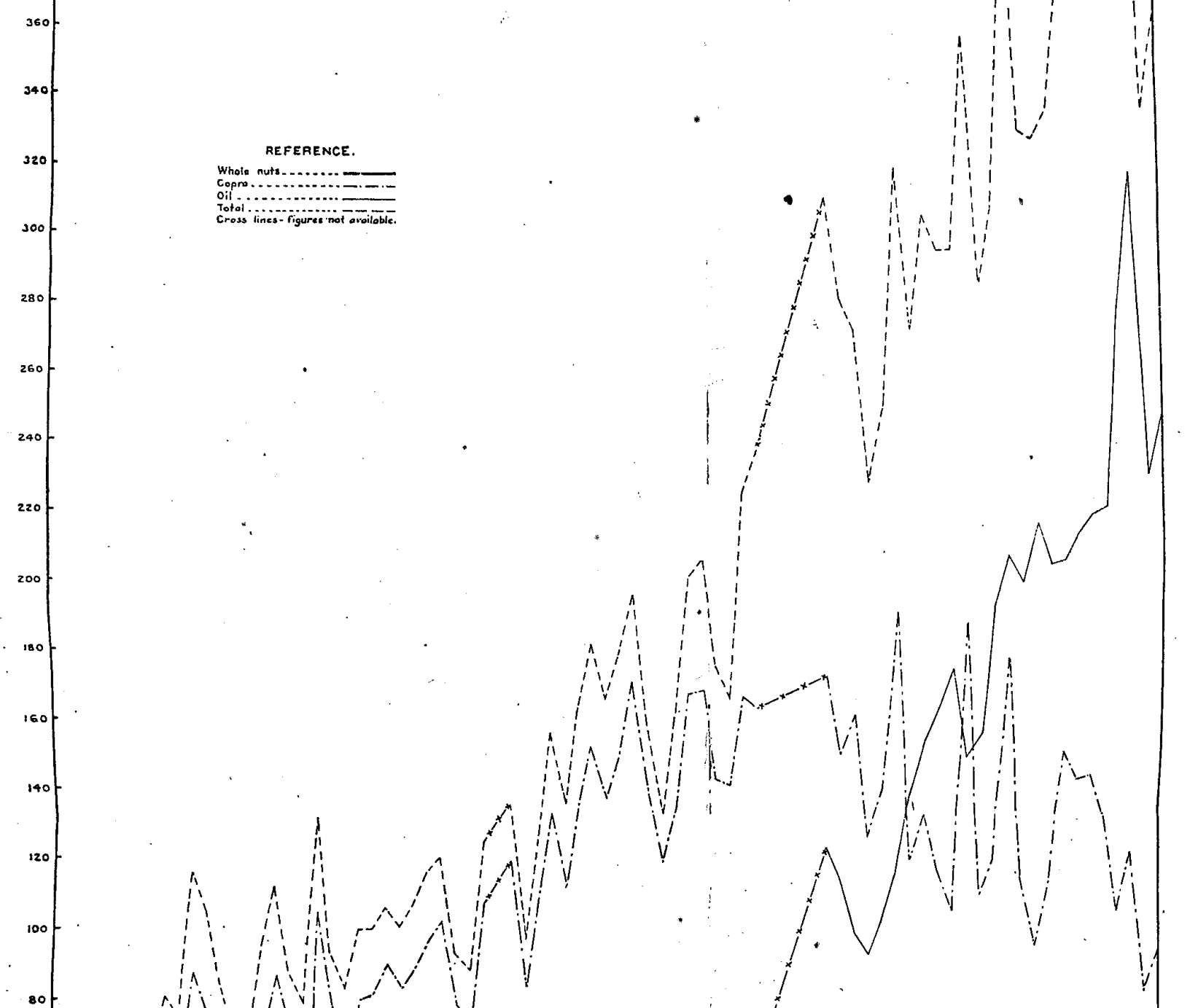

REFERENCE.
Whole nuts
Copra
Oil
Total
Cross lines- figures not available.
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80

CHART VII.

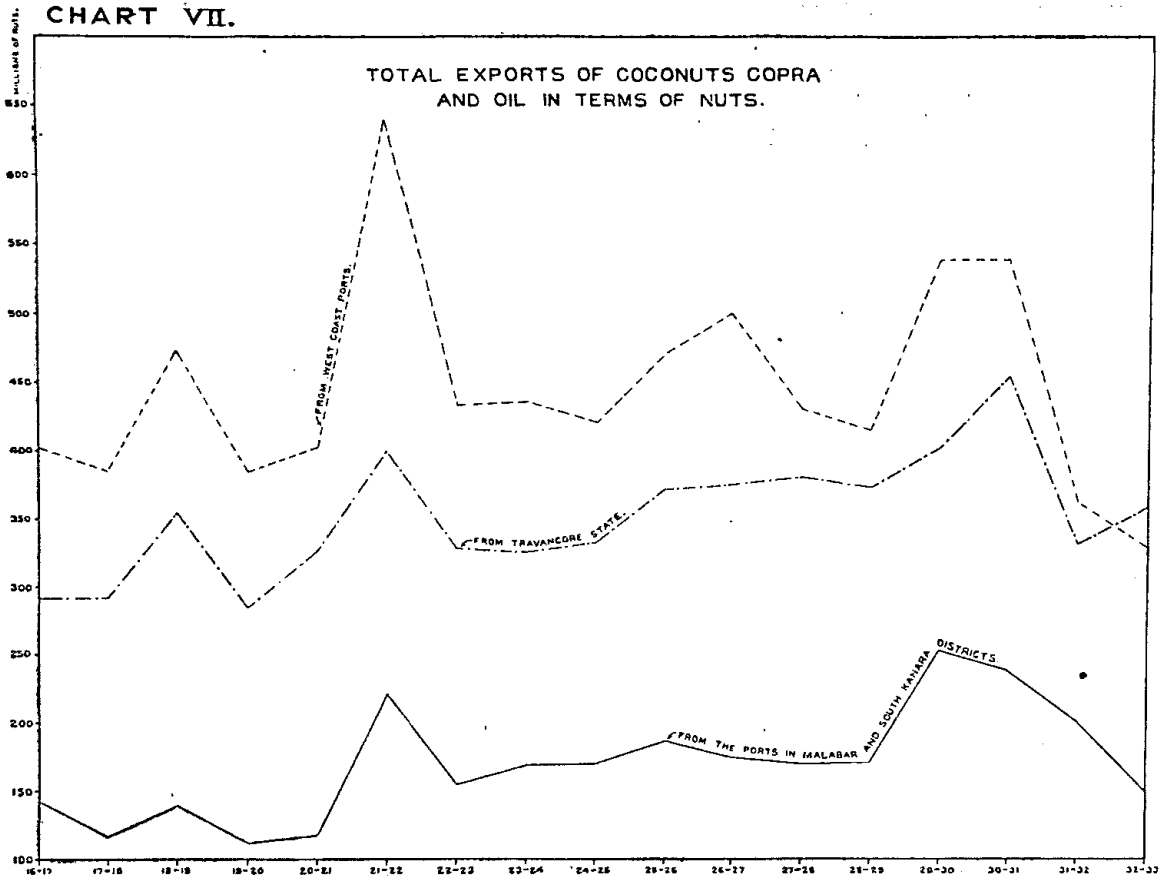

TOTAL EXPORTS OF COCONUTS COPRA
AND OIL IN TERMS OF NUTS.
MILLIONS OF NUTS.
FROM WEST COAST PORTS.
FROM TRAVANCORE STATE.
FROM THE PORTS IN MALABAR AND SOUTH KANARA DISTRICTS.
550
500
450
400
350
300
250
200
150
100
16-17
17-18
18-19
19-20
20-21
21-22
22-23
23-24
24-25
25-26
26-27
27-28
28-29
29-30
30-31
31-32
32-33

CHART VII.

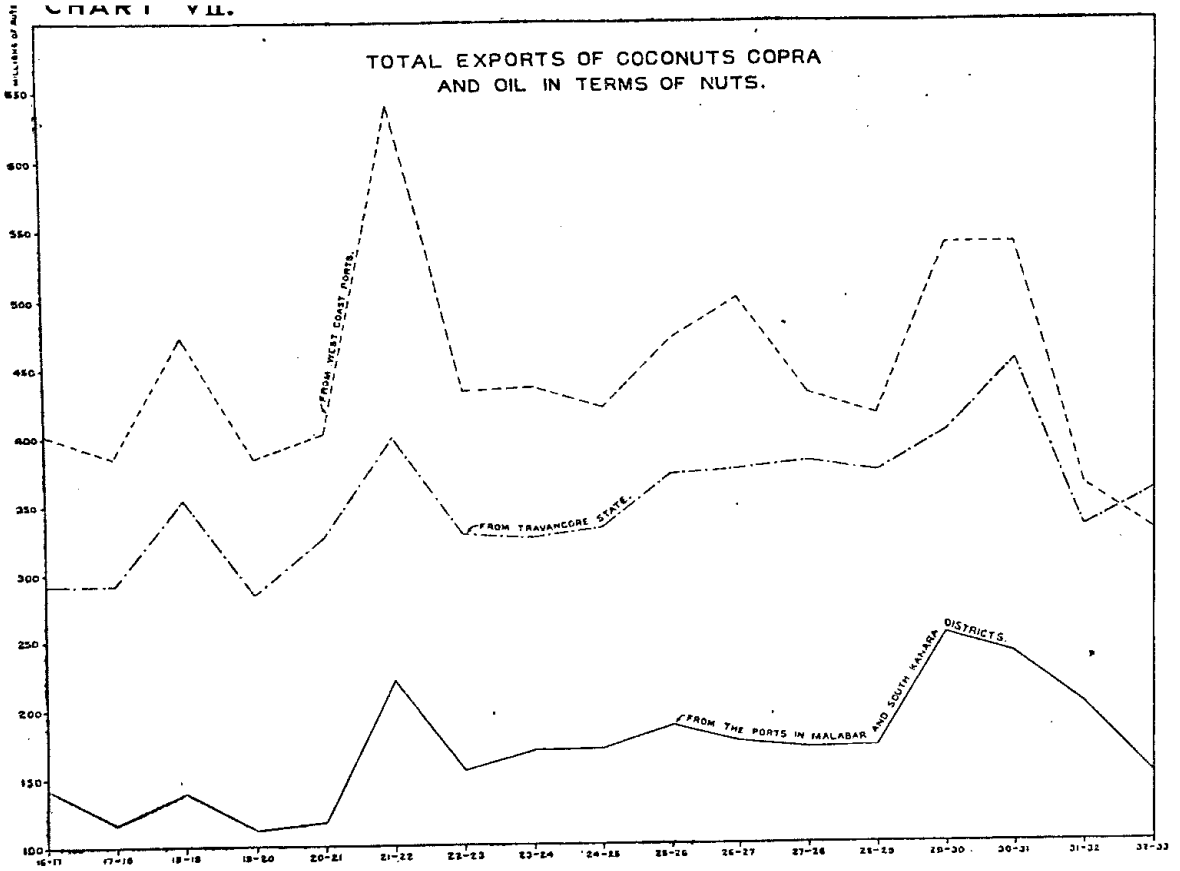

TOTAL EXPORTS OF COCONUTS COPRA
AND OIL IN TERMS OF NUTS.
MILLIONS OF NUTS
FROM WEST COAST PORTS.
FROM TRAVANCORE STATE.
FROM THE PORTS IN MALABAR AND SOUTH KANARA DISTRICTS.
100
150
200
250
300
400
450
500
550
600
650
16-17
17-18
18-19
19-20
20-21
21-22
22-23
23-24
24-25
25-26
26-27
27-28
28-29
29-30
30-31
31-32
32-33

TABLE LXXIX

Sea-borne Exports of coconuts, copra and oil from the West Coast Ports

(In thousands of nuts)

Year 1st July to 30th June	Alleppey	Cochin	Ponnani	Calicut	Badagara	Tellicherry	Cannanore	Mangalore	Total Malabar and S. Kanara (Columns 4 to 8)	Total (Columns 2 to 9)
1	2	3	4	5	6	7	8	9	10	11
1916-17	24,688	234,325	13,480	57,448	24,771	9,329	2,928	35,207	143,163	402,176
1917-18	35,180	232,392	7,421	49,225	39,298	3,509	1,567	16,628	117,648	385,220
1918-19	34,743	298,610	7,049	56,013	46,413	4,516	2,821	22,915	139,727	473,080
1919-20	33,928	238,330	9,786	43,424	35,747	5,448	5,709	12,107	112,221	384,479
1920-21	48,406	234,768	8,440	60,887	31,227	2,657	5,692	8,939	117,842	401,016
1921-22	84,763	333,270	15,924	94,257	75,865	19,710	8,920	6,512	221,188	639,221
1922-23	58,142	220,170	16,339	65,271	31,043	22,459	15,556	4,776	155,444	433,756
1923-24	72,393	192,627	17,243	69,500	55,444	7,139	16,486	5,045	170,857	435,877
1924-25	86,357	161,775	18,156	72,073	57,164	8,470	11,391	5,311	172,565	420,697
1925-26	122,725	161,610	16,370	92,783	60,944	6,178	5,922	4,787	186,984	471,319
1926-27	117,169	209,290	13,325	68,660	73,809	5,448	8,698	4,948	174,888	501,347
1927-28	97,173	165,450	12,694	87,281	55,444	5,815	3,274	4,788	169,296	431,919
1928-29	91,860	153,847	14,099	76,240	61,443	9,943	4,875	4,134	170,734	416,441
1929-30	88,398	200,253	12,510	108,904	109,099	10,838	8,217	2,897	252,465	541,116
1930-31	123,886	183,738	13,015	111,629	90,446	7,873	5,432	2,405	230,800	538,424
1931-32	64,183	98,275	14,463	78,174	86,988	12,890	4,640	4,053	201,208	363,666
1932-33	96,834	76,573	15,844	79,884	36,294	9,963	5,292	3,833	151,110	324,517

In 1851-52 the exports of coconut products in terms of nuts from Travancore amounted to 40 million nuts and in 1930-31 they were 454 million nuts, an increase of over 1,000 per cent. in a period of 80 years. The exports of coconut products from South Kanara increased from the equivalent of about 143 million nuts in 1916-17 to 230 million nuts in 1930-31, *i.e.*, an increase at the rate of about 3·9 per cent. per year. During the same period of 1916-17 to 1930-31 the exports of coconut products from Travancore have increased at 3·7 per cent. per annum. Thus the rate of increase in the exports of coconut products appears to be the same for all the tracts of the West-Coast. Assuming that this rate of the expansion is maintained in future, and that the 1932-33 imports of foreign oil and copra representing 68,000 tons of copra is the maximum requirement of India from the foreign countries to meet the full Indian demand of oil and copra, it would take, at least, another 15 years to meet this demand from the West Coast only.

159. *Production and fluctuations in the exports.*—From charts VI and VII it may be noted that the exports fluctuate considerably from year to year. In 1862-63 the exports from Travancore amounted to 116 million nuts. But the exports fell to 66 million nuts in 1865-66—a fall of 43 per cent. About once in five years there appears to be a regular rise and fall in the exports. In some years the exports have fallen by 20 to 30 per cent. of the exports of the preceding year. The exports of copra, oil and nuts in terms of nuts from Travancore by all routes fell from 454 million nuts in 1930-31 to 334 million nuts in 1931-32, a fall of 120 million or roughly 27 per cent. of (454 millions) the exports in 1930-31. Similarly the sea-borne exports of coconut products from the ports in Malabar and South Kanara by coastal steamers have fallen successively during the three years commencing from 1929-30. During this period the fall has been from 252 million nuts in 1929-30 to 151 million nuts in 1932-33—a fall of 40 per cent. During the last 80 years there have been marked falls in the exports from Travancore, 14 times or roughly once in five to six years. In some of the earlier years the exports have suddenly shot up to the extent 70 to 74 per cent. of the preceding year, but for the past ten years the fluctuations have not been so marked. Corresponding to this fourteen marked depressions there have been fourteen remarkable rises in the exports. Generally when the exports from Travancore are low the exports from the ports in Malabar and South Kanara are also low. These fluctuations may be either due to the fluctuations in the yields or due to the accumulation of stocks on account of speculation. If it is a matter of speculation, it is not likely to be confined to every fifth or sixth year. In some years, namely, 1908-09 to 1911-12, the fall in the exports is spread over two to three years. Since coconuts or copra cannot be stocked like pepper for over a year, the accumulation of stocks on account of speculation cannot go on continuously for two to three years. If it is assumed that these fluctuations are due to the stocks which are held over, it is necessary to assume also that it would be possible for the merchants to hold 25 per cent. of their stocks (compare 1930-31 with 1931-32). Presuming that the yields do not vary materially from year to year and postulating that these marked fluctuations are due to large stocks, the rise and fall in the exports must be more or less equal, which is not the case. In other words, if the exports in a year are low the succeeding year's exports must be high to the same extent but the fall in the exports in some cases persists for three consecutive years. It would therefore appear that these fluctuations in the

exports are due to the periodicity of production, which is a common phenomenon with fruit trees, and are also due to the effect of climatic conditions which conceal the increased surplus available for exports due to the gradual increase in the area.

160. *Increase in the area, and exports.*—In 1911 the bearing area in Travancore should have at least been 220,000 acres. Since the trees come into bearing within about eight years after planting, the area which is bearing now would be about 492,000 acres, *i.e.*, the area under coconut in 1924-25. Thus the area under bearing coconut trees has doubled during 1911 to 1933 and therefore the exports should have more than doubled during this period, but they have only approximatly doubled. In 1911 the exports from Travancore amounted to 252 million nuts in terms of nuts. But in 1932-33 the exports amounted to only 360 million nuts. During the same period the population of Travancore increased by 50 per cent. from 3,428,975 in 1911 to 5,095,973 in 1931. The question therefore that would naturally arise is as to why these exports have barely doubled when the bearing area has more than doubled and the population has increased by only 50 per cent. This to a certain extent is due to the improvement in the standard of living which would mean a greater consumption per head of the population, but it is mainly due to the fact that the recent expansion of the area has taken place in the midlands where the moisture has been the main limiting factor in the growth of coconut, and the yield has not correspondingly risen.

161. *Estimates of production of nuts.*—It is not only difficult but almost impossible to estimate the average yield per tree for the major coconut growing areas in the absence of complete statistics or of adequate experimental tests. It is, however, necessary to obtain some idea of the total production of nuts in the various tracts. Taking the average period for seedlings to come into commercial bearing as eight years, the whole area under coconut in 1924-25 would now be bearing and the area planted in 1932-33 would ordinarily come into bearing by about 1940. Estimating that the average yield in Travancore is 1,750 nuts per acre, in Madras and Cochin 1,600 per acre, and in Mysore 2,000 nuts per acre, the production of nuts in these territories will be as follows :—

Name of the Tract	Present bearing area	Estimated production in millions of nuts
Cochin	60,000 acres.	96
Madras	525,445 ,,	841
Travancore	492,666 ,,	861
Mysore	127,170 ,,	254
	1,205,281	2,053

Similarly, on the basis of the present area (1932-33), the production in South India in 1940 would be 2,440 million nuts arrived at as follows :—

Name of tracts	Area in 1932-33	Estimated production in millions of nuts
Cochin	67,300	108
Mysore	162,500	325
Madras	556,000	890
Travancore	522,600	914
	14,25,988	22,37

162. *Production of copra.*—It has been elsewhere mentioned that the power driven oil mills on the West Coast consume about 130,000 tons of copra. If to this quantity the shipments of copra from South Indian ports and the despatches of copra from Mysore are added, a figure of about 168,000 tons is arrived at which represents the major part of the production of copra in India.

Estimated consumption of mills	130,000
Average shipments of copra from South Indian ports	29,214
Average despatches of copra from the Mysore State	8,530
	167,744

The total production of oil in India must exceed 81,000 Cwt. (20 million gallons), *i.e.*, the quantity obtained on crushing 130,000 tons of copra. Estimates of the production of copra in Travancore for the past 6 years are given in Table LXXX.

TABLE LXXX

Estimate of Copra production in Travancore

(In Tons)

	Years					
	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33
Export of Copra by all routes	23,094	21,053	16,858	19,308	13,055	15,016
Export of oil by all routes in tems of Copra ..	34,312	34,711	43,499	49,679	36,236	38,737
Total ..	57,406	55,764	60,357	68,987	49,291	53,753
Estimate of consumption of coconut oil in terms of copra	*48,700	48,700	48,700	48,700	48,700	48,700
	106,000	104,000	109,000	117,000	98,000	102,000
Foreign imports of copra and oil in India in terms of copra	11,141	17,580	10,622	8,593	24,512	68,448

* This figure is obtained in the following manner. According to the census of 1931, there were 11,000 persons who obtained their living by oil pressing, and out of these about 700 persons were employed in the power driven oil mills. Taking a family of six about 1,600 families would be engaged in crushing oil in bullock driven *Chekkus*. Assuming that a *Chekku* crushes copra for 200 days in a year, and that in a day one cwt. of copra is crushed in a *Chekku*, the amount of copra crushed in the village driven *Chekkus* may be estimated at 16,000 tons. To this quantity 69,000 tons of copra, which are estimated to have been crushed by power driven mills in 1931-32, are added. From this total of 85,000 tons, the copra equivalent (36,240 tons) of exports of oil from Travancore (by all routes) is deducted which gives roughly 48,700 tons of copra, consumed as oil within the Travancore State. It is presumed that the consumption more or less remained constant during the six years ending 1932-33.

163. *Possibilities for the increase in the production of coconuts.*—The production of coconuts can be increased either by planting new areas with coconut or by improving the yields of the existing plantations or by a combination of both the methods. As far as the expansion of the area is concerned, all available first class lands in Travancore, Cochin State and Malabar, have been planted up and therefore practically no increase in the area under coconut can be expected in good lands. The cultivators are not now likely to convert paddy lands and backwaters into coconut gardens at a very high

cost, as they have done in the past as they have been hit badly during the present economic depression. But the recent fall in the price of rice has brought into prominence the need for greater diversity of cropping and it may well be said that there are greater possibilities of expansion, especially if more fresh nuts can be marketed than done at present. The future line of extension must be in the midlands and on the fringe of highlands. There are possibilities for extension on the hills and hill slopes particularly in Muvatupuzha, Menachil and Thodupuzha taluks of Travancore. Rapid expansion has been taking place in these taluks but it has been arrested by the present depression. The lack of cheap means of communication in midlands and highlands reduces the prices which a cultivator receives since his product has to bear a comparatively heavy cost of transport.

164. In South and North Kanara there are fairly good second class lands available for planting coconut, without reducing the area under paddy. But here the general notion that the coconut requires irrigation even when grown up limits the possibilities for expansion. For 2½ acres of coconut a *pucca* well is necessary which involves an initial investment of about Rs. 1,000 which very few landlords or ryots are willing to incur. If the experiments in dry cultivation of coconuts, which are being conducted in these areas by the Provincial Departments of Agriculture, prove successful, it will open up vast possibilities for the expansion of the area. There is sufficient room in South Kanara alone for planting up at least about 200,000 acres of coconut. In addition to the lack of irrigation facilities the prevalent system of land tenure in South Kanara is also a limiting factor. Most of the landlords change the lease of their lands annually and under such tenure the cultivating tenant has not sufficient security to plant coconut trees in his lands. In the Malabar District and the Travancore and Cochin States the prevalence of the "Kanom" system of leasing, whereby a mortgage lease lasting for twelve years is possible between the landlord and tenant, has encouraged the planting of coconut. Under this system, the tenant advances to the landlord a nominal sum and pays the annually lease amount *minus* the interest for the nominal advances. This provides to the cultivating tenant a permanent tenure for a period of twelve years during which period he improves the land by planting coconut trees and consolidates his position. The landlord cannot easily eject the tenant as the former is liable to pay compensation for the improvement carried out by the cultivator. Thus, in practice, almost a permanent tenure is granted. Another factor limiting the expansion of the coconut area is the inability of the average ryot to wait to reap the result of what he plants, as there is a long interval between the time of planting and the time of bearing when he would have practically no income. Most of these difficulties could be overcome, by planting-companies or co-operative concerns with sufficient capital which would enable them to wait till the plantation commences to yield an adequate return for their investment. But unless the prices improve and the required initiative and capital are forthcoming to form organised large scale plantations, there is no possibility of substantially increasing the coconut area on the West Coast at least in the next ten years.

165. The admirable encouragement, which the Government of Mysore gives to the cultivation of coconut by offering lower water rates for the irrigation, by reserving areas fo coconut and by limiting the area under paddy, will ultimately result in the increase in the acreage under coconut. After the survey

of the Irwin Canal area is completed it will be possible to estimate the extent of area available for coconut. Some of the cultivators in Mysore would like to have a larger area released for planting coconut by reducing the Amrit Mahal grazing areas and the unprofitable date palm areas.

166. It seems to me that with adequate propaganda much headway in the cultivation of coconut might be made in the deltaic regions of lower Bengal. The net-work of waterways offer a very cheap means of communication and transport and the water table is generally high on account of the numerous rivers present. The cost of cultivation of coconut should be the lowest in Bengal, since there is no problem of conservation o. moisture and the manuring is done by nature during the periodical floods; with such facilities the trees in Bengal should come into bearing rather early. There appears to be a market for fresh nuts in Bengal and Burma. Both of these provinces import nuts from foreign countries.

CHAPTER XIV

Conclusions and Summary

1. The area under commercial coconut production in India has remained practically stationary for the past five years (table II).

2. There is considerable margin for expansion, particularly in North Kanara and South Kanara districts, but without detailed enquiry, it cannot be said that this would be economic as probably most of the good lands are already occupied, and with the fall in the prices, there is not much incentive for investing capital in new coconut gardens (paragraph 164). There are many difficulties in obtaining anything like accurate figures for the area under coconut production, but the area of young gardens still to come into bearing is not sufficient to affect the supply of coconut products materially during the next five years (paragraphs 9 and 161).

3. There is considerable scope for increasing the production of nuts from the existing area, but any advice regarding this point is at present a counsel of perfection, funds not being available for improving the existing gardens.

4. The demand for coconut products of all kinds in India has increased. Apart from the increase in population this is mainly due to the increased demand from Indian industries—particularly soap, and "vegetable ghee products" (paragraph 85).

5. The capacity of the oil mills on the West Coast is sufficient to supply the whole of the present Indian requirements of coconut oil. Many of these mills, however, are comparatively inefficient when compared to the mills in Ceylon. There is at present an undoubted shortage of copra for crushing in South India. The enquiry has fully established the fact that the millers on the West Coast are working at half of their capacity taken as a whole, and this is due to their inability to dispose of both oil and cake at competitive rates (paragraph 77).

6. The markets for the West Coast oil are Calcutta, Bombay, Rangoon and Karachi, in addition to the local South Indian markets. In the markets outside South India, the West Coast miller is unable to dispose of the oil at competitive rates either with the imported Ceylon oil, or with the oil, produced in the modern installations at Bombay and Karachi, even though, Bombay and Karachi millers crush largely imported copra after paying a duty of 20 per cent. This is due to the unfavourable coastal freights as against freights from Ceylon (paragraphs 90 and 92).

7. For complete tariff equality the actual amount of duty on imported copra should be 60 per cent. of the actual duty on coconut oil, *i.e.*, the actual import duty on oil should be 166 per cent. of the actual import duty of copra. In the calendar year 1933, the difference between the import duty on a ton of copra and its equivalent of oil (12 cwt.) was Rs. 6-8 0, but in 1934 this difference is reduced to Rs. 1-8-0, even though, the *ad valorem* rates have not been altered. This has brought about a greater fall in the price of imported oil than the price of imported copra. Even the difference of Rs. 6-8-0 was not a sufficient margin to enable the miller on the West Coast to import large quantities of copra and to ship oil to Calcutta, Rangoon, and other Indian ports, as the coastal freights from

the West Coast to the major Indian ports are higher than the freights on oil from Ceylon to the same ports. To enable an oil crusher to import copra and to ship oil at competitive rates with Ceylon, the freight on a ton of copra, from Colombo to the West Coast should be no more than the freight on 12 cwt. of oil from Ceylon to any of the major Indian ports. And in addition to this, the miller would need a margin of Rs. 2-8-0 per ton of copra to meet the handling charges. This amount has to be provided by correspondingly reducing the import duty on copra.

8. As the copra crushing industry in Bombay and Karachi is better equipped than that on the West Coast, where most of the mills have power-driven *chekkus*, whilst Bombay and Karachi millers have expellers or hydraulic presses, and because the West Coast miller cannot sell all the cake locally, it is very doubtful, if the West Coast oil industry will ever compete successfully with the oil millers in Karachi and Bombay. Normally about 40 per cent. of the shipments of oil by sea, and about 95 per cent. of the shipments of cake from the West Coast ports are to Bombay and Karachi. This shows the extent to which the oil millers on the West Coast depend for the disposal of cake and oil on Bombay markets. It is very likely that in future these two markets for oil and cake may be even further restricted for the West Coast, but on the other hand the South Indian market for oil is steadily expanding as the figures for the imports of oil into Mysore and Hyderabad indicate. Copra crushing at Bombay and Karachi at present appears profitable and if this tendency continues these centres will import copra rather than cake and oil. It will always be cheaper to ship copra to Bombay and Karachi rather than to ship oil and cake separately (paragraph 70). It is therefore natural that the millers in Bombay and Karachi will be able to buy copra from the West Coast at competitive prices with the West Coast oil millers. But the price which the Karachi and Bombay millers can pay for the West Coast copra will never be much higher than the import parity price, *i.e.*, the price for imported Ceylon copra at Bombay *minus* the freight from the West Coast to Bombay. At present the Bombay price of copra is the Ceylon price of copra *plus* the freight of Rs. 7-8-0 per ton *plus* the import duty. If the Karachi and Bombay oil millers are to purchase copra from the West Coast the price on the West Coast should be Ceylon price *p us* freight of Rs. 7-8-0 per ton from Ceylon to Bombay *plus* import duty *minus* the freight from West Coast to Bombay Rs. 6-12-0 per ton.

Peculiarly enough the prevailing price on the West Coast is often below the import parity price and sometimes equals it but practically never rises above it. One would expect that the prices of Indian copra to remain slightly above the price in Ceylon *plus* freight from Ceylon *plus* import duty, as Indian copra contains about 2½ per cent. of oil more than the Ceylon copra; but the prices of Indian copra at Cochin were either at or below the Ceylon price *plus* freight *plus* duty.

9. Evidently, the oil produced on the West Coast is in excess of the requirements of oil in South India since the average shipments of oil from the West Coast amount to over 290,000 cwt. per annum and the imports by sea into South India are only 18,000 cwt. Out of this quantity roughly 60 per cent. is shipped to Calcutta and Rangoon and 40 per cent. to Bombay and Karachi. The possibility of the loss of the markets for the West Coast

oil in Karachi and Bombay has already been explained. The freights to Calcutta and Rangoon markets are unfavourable as mentioned previously and outlets for the West Coast oil in these two markets can be obtained by increasing the margin between the duties on copra and coconut oil, but this might encourage the development of the copra crushing industry in Calcutta and Rangoon, which would use Ceylon copra and which would also increase the Indian surplus crushing capacity, leaving the West Coast miller no better. Assuming that the coastal freights from the West Coast to the major Indian ports and the freights from Colombo to Indian ports are not altered, adequate margin for the West Coast copra crusher can be provided for when the import duty on a cwt. of oil is Rs. 2-4-2* more than the present import duty on a cwt. of copra (paragraphs 93, 94).

10. Thus the situation in brief is that the oil miller on the West Coast cannot depend on the Bombay and Karachi markets for the disposal of all of his oil and cake and the freights to Calcutta and Rangoon are unfavourable for the sales of oil in these markets. The situation would ultimately adjust itself so that the prices of copra on the West Coast are the Ceylon prices *plus* duty or even slightly lower. Consequently it will become attractive to purchase copra from the West Coast markets and it would become worth-while for the West Coast oil millers to crush copra with a view to ship oil to Calcutta and Rangoon. This tendency would probably be exhibited if the crops on the West Coast are heavy.

So far, a further fall in the prices of copra on the West Coast has been checked by a reduction in the manufacture of copra and an increase in the sales of nuts which is a conspicuous feature for the past two or three years. In spite of the shortage of copra in 1932 the shipments of nuts on the West Coast have increased, *vide* table 10, Appendix IV. This is an attempt on the part of the producer to obtain a better price by the sale of nuts and he is obviously right. In the case of Travancore, however, this course is not open since the export duties discourage the export of nuts as well as that of copra. In favourable seasons when high yields are obtained the surplus of coconut products available for export will naturally increase, and if there is not a sufficient market for the disposal of nuts as such the price of copra will fall to such an extent so as to promote the shipments of oil to Bengal and to Rangoon and the shipments of copra to Bombay and Karachi.

11. A lowering of the import duty on copra would--

(*a*) encourage the imports of copra into the West Coast from Ceylon ;

(*b*) encourage the shipments of oil from West Coast to Calcutta and Rangoon ;

(*c*) place the Bombay and Karachi oil crushes in a still stronger position ;

(*d*) probably not affect the shipments of oil from West Coast to Bombay;

(*e*) probably increase the sales of whole nuts ;

(*f*) probably reduce the price which the Bombay crusher would be willing to pay for the West Coast copra, though this cannot be certain particularly as the supplies of copra are not equal to the demand.

* Rs. 4-1-0 — Rs. 1-12-10 = Rs. 2-4-2.

Provided that it does not lead to a decrease in the demand, a raising of the duty on coconut oil—

(*a*) would lead to an increase in the shipments of oil from West Coast to Calcutta and Rangoon;

(*b*) would increase the crushing on the West Coast from imported copra;

(*c*) would probably decrease the trade in nuts;

(*d*) would not materially affect the price of copra but in all probability it would slightly improve the prices of copra on the West Coast by creating a keener demand for copra, since the price then on the West Coast would at least remain at import parity;

(*e*) would increase the activity of the oil mills in Bombay and Karachi but would not increase the purchase of copra from the West Coast;

(*f*) would ultimately tend to develop the copra crushing industry in Calcutta and Rangoon since the margin between the import duty on copra and oil would be attractive.

12. As regards the difficulty in the disposal of cake, it must be mentioned that even now a small quantity of cake is exported from the West Coast to Europe and it will not be difficult to sell the cake to the continental merchants in view of the fact that the imports of copra from Ceylon might lead to a corresponding decrease in the exports of cake from Ceylon.

13. Throughout the course of the enquiry no positive evidence was available to show that there were large unsold stocks of copra.

14. The price of copra in Travancore is below the price of copra in Malabar, because in Travancore the export duty on copra is higher than that on coconut oil. The *ad valorem* rates are the same but the duty is levied on an arbitrary tariff valuation which bears no relation to actual prices, and is in effect a specific duty.

15. The determining factor in the price of coconut oil and copra at the producing centres is the world price of coconut oil *plus* the Indian import duty *minus* freight and incidentals. Ceylon sells her coconut oil at world prices which are greatly affected by the prices of other vegetable oils which compete directly or indirectly. For many industries other fatty oils are available as substitutes and if the coconut oil became disproportionately dear there would certainly be a contraction in its consumption. For example, the production of groundnut oil in India is increasing very rapidly and the prices of groundnut oil in India are already regulated by world prices and it might prove a serious competitor of coconut oil if the prices of the latter were unduly raised. There is no evidence to show that the fall in the prices of coconut oil and copra is due to the increased imports of foreign oil and copra into India. The fall in the prices of Indian coconut oil and copra is but a feature of the present economic depression. In some commodities the fall in the price has been much more than the fall in the prices of coconut products, *vide* table XLIX.

16. The manufacture of coir which is a very important industry on the West Coast interferes with the copra production, by reducing the period of storage of nuts. Long storage of nuts is likely to improve the quality and yield of copra. "Kiln-drying" yields a better grade of copra than "smoking" does.

17. For marketing of coconut products, better facilities should be afforded by opening licensed warehouse and by inaugurating organised markets. The producer, the dealer, and the consumer will in the long run be benefited by standardising the grades of copra and coir.

The adoption of a uniform standard candy of, say, 6 cwt. for all the coconut products throughout the West Coast would go a long way to prevent the confusion prevailing in these markets and will facilitate trade considerably.

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NEW DELHI.
25th March 1934.

J. S. PATEL.

APPENDIX I

The following centres in the respective territories were visited during the dates noted against each :—

Place visited	Date of visit
MADRAS PRESIDENCY	
Tanjore District	
Adiramapatnam	2nd and 3rd September 1933.
Thambikkottai	4th September 1933.
Muthupet	5th September 1933.
Kumbakonam	7th September 1933.
Papanasam	8th September 1933.
Tanjore	1st, 6th and 9th September 1933.
Malabar District	
Valapad	22nd and 23rd October 1933.
Chowghat	24th and 25th October 1933.
Ponnani	26th and 27th October 1933.
Tirur	28th and 29th October 1933.
Nammanda	30th and 31st October 1933.
Calicut	1st to 5th and 7th November 1933.
Pantalyini	6th November 1933.
Badagara	8th to 10th November 1933.
Tellicherry	11th to 13th November 1933.
Cannanore	14th to 15th November 1933.
South Kanara District	
Charvathur and Pilicode	16th November 1933.
Kasaragod	17th to 21st November 1933.
Mangalore	22nd to 25th November 1933.
Udipi	26th November 1933.
Moodbidri	27th to 28th November 1933.
East Godavari District	
Mukkamala and Ambazipetta	28th January 1934.
Komarigiripatnam and Odalrevu	29th January 1934.
Amalapuram	30th to 31st January and 1st February 1934.
TRAVANCORE STATE	
Agastisvaran taluk	
Thamaraikolam	12th September 1933.
Kovalam	Do.
Ettamuzhi	13th September 1933.
Colachel	Do.
Nagercoil	11th and 14th September 1933.
Nayyatinkara taluk	
Nayyatinkara	15th September 1933.
Kovalam	Do.
Thengaipatnam	Do.

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Place visited	Date of visit
Trivandrum taluk	
Trivandrum	16th to 17th September 1933.
Cheriyankil taluk	
Attungal	19th September 1933.
Cheriyankil	Do.
Kadaikavur	Do.
Anjengo	Do.
Quilon taluk	
Quilon	20th to 21st September 1933.
Kottarakara taluk	
Kottarakara	22nd September 1933.
Adoor taluk	
Kunnattur	22nd September 1933.
Karunagapalli taluk	
Karunagapalli	22nd September 1933.
Karthigapalli taluk	
Kayamkulam	24th September 1933.
Haripad	25th September 1933.
Thattarambalam	Do.
Mavellikkara taluk	
Mavellikkara	25th September 1933.
Tiruvella taluk	
Thiruvella..	26th and 30th September and 1st October 1933.
Changanacherry taluk	
Changanacherry	2nd October 1933.
Kottayam taluk	
Kottayam..	2nd October 1933.
Aymanum	3rd October 1933.
Kumaragam	Do.
Ambalapuzha taluk	
Alleppey	4th to 7th October 1933.
Sherthalai taluk	
Sherthalai	8th October 1933.
Yaikom taluk	
Yaikom	9th October 1933.
Kunnatnad taluk	
Alwaye	15th October 1933.
Parur taluk	
Idapally	15th October 1933.
Parur	16th October 1933.

Place visited	Date of visit
COCHIN STATE	
Ernakulam and Cochin	10th to 17th October 1933.
Trichur	18th to 22nd October 1933.
Cramganore and	
Irinjalakuda	
MYSORE STATE	
Elanthur	1st December 1933.
Chamrajnagar	2nd December 1933.
Narasambudhi and Bunthval	4th December 1933.
Arsikere	5th to 6th December 1933.
Tiptur	7th to 8th December 1933.
Bangalore	9th to 10th December 1933.
Chennapatna	11th December 1933.
BOMBAY PRESIDENCY	
North Kanara District	
Honavar	15th to 16th December 1933.
Kumta	17th to 19th December 1933.
Ratnagiri District	
Vengurla	20th to 21st December 1933.
Malvan	22nd December 1933.
Ratnagiri	23rd December 1933.
Chiplun	24th December 1933.
BIHAR AND ORISSA	
Puri District	
Puri	28th to 29th December 1933.
Sakhigopal	30th December 1933.
Cuttack District	
Cuttack	31st December 1933.
Kujang area	1st January 1934.
BENGAL	
Khulna	3rd January 1934.
Phultala	4th January 1934.
Barisal	5th January 1934.
Chaumohini	6th to 7th January 1934.
Noakhalli	8th January 1934.
CEYLON	
Colombo	14th, 20th to 22nd January 1934.
Bandirippuwa	15th January 1934.
Negomobo and Chilaw	16th January 1934.
Lunuwilla and Madampe	17th January 1934.
Veyangoda	18th January 1934.
Kandy	19th January 1934.
Kuruegnalla	23rd and 24th January 1934.

APPENDIX II

TABLE 1

The area under coconuts in each of the taluks of Malabar District (in acres)

Taluk	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32
1. Chirackal ..	34,939	34,950	33,226	34,081	34,724	34,747	35,519	35,882	35,902	36,780	37,077
2. Kottayam ..	29,364	29,464	30,586	30,676	30,700	30,800	30,900	30,943	30,940	32,342	28,568
3. Kurumbranad	81,920	82,300	93,200	93,200	94,700	86,211	91,819	95,617	96,825	97,180	97,929
4. Calicut ..	32,879	35,992	32,881	30,883	32,852	34,501	34,796	35,710	37,062	37,086	37,273
5. Ernad ..	47,475	28,161	28,703	28,906	29,500	30,000	30,200	32,574	32,980	47,471	32,622
6. Walluvanad ..	14,395	13,795	13,850	13,855	13,995	14,020	14,300	16,557	16,257	15,637	15,649
7. Palghat ..	7,327	7,196	7,196	7,778	7,806	7,431	7,580	7,673	7,884	7,871	8,020
8. Ponnani ..	83,467	83,538	83,560	83,720	83,600	83,460	83,569	83,601	84,853	58,240	54,695
9. Cochin ..	..	..	..	..	..	651	649	650	650	650	650
Total ..	3,317,766	315,396	323,202	323,099	327,877	326,520	329,332	339,207	343,353	333,257	312,483

NOTE.—In Wynad taluk there are no coconut plantations

TABLE 2

The area under coconuts in each of the taluks of South Kanara District (in acres)

Taluk	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33
1. Mangalore	4,855	4,865	5,015	5,020	5,023	5,028	5,030	5,029	5,330	5,331
2. Kasaragod	20,477	21,549	21,536	21,492	21,496	21,496	21,496	21,496	21,550	21,600
3. Puttur	1,721	1,721	1,775	1,842	1,848	1,862	1,972	1,975	1,976	1,976
4. Udipi	8,701	8,811	8,821	8,830	8,859	8,795	8,840	8,887	9,046	9,058
5. Coondapoor	6,929	6,925	7,180	7,182	5,549	5,944	5,929	6,553	5,903	5,872
6. Karkal	2,721	2,833	2,758	2,881	2,779	2,739	2,694	2,615	2,689	2,597
Total ..	45,404	46,704	47,085	47,247	45,554	45,864	45,961	46,855	46,499	46,434

APPENDIX II—*contd.*

TABLE 3

Area (in acres) under coconuts during the years 1922-23 to 1932-33 in the Travancore State shown according to taluke.

Years—From mid-August to mid-August.

No.	Name of Taluk	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33
1	Thovala	336	341	341	341	295	295	295	336	336	601	601
2	Agastisvaram ..	6,303	7,942	7,942	7,946	8,465	8,487	7,720	8,036	8,120	8,272	8,272
3	Kalkulam ..	6,086	6,154	6,154	8,916	8,915	10,553	11,347	11,347	11,416	11,416	13,123
4	Vilavancode ..	5,880	6,976	6,976	7,006	16,852	16,852	16,973	17,121	17,878	17,885	17,885
5	Nayyatinkara ..	32,274	32,281	32,474	32,474	32,474	32,474	32,474	32,474*	32,474	32,474	31,416
6	Trivandrum ..	22,280	22,280	22,280	22,280	25,279	22,279	22,279*	27,500*	22,854	23,854	22,755
7	Chirayankil ..	28,046	28,043	28,043	28,043	28,551	28,551	28,551	28,551	28,551	28,551	28,551
8	Nedumangad ..	6,231	6,231	6,231	6,231	6,230	6,230	6,230	6,231	7,587	7,588	7,694
9	Quilon	28,532	28,607	27,142	27,142	27,144	27,165	27,169	27,173	27,181	27,181	27,181
10	Karunagapalli ..	24,102	24,155	24,194	23,739	23,822	22,938	22,938	23,000	23,000*	27,629	23,791
11	Karthigapalli ..	16,858	13,286	16,986	17,495	13,881	13,917	14,108	16,969	16,249*	16,977	14,156
12	Kunnathur ..	9,522	9,522	9,522	9,522	9,522	9,522	9,530	9,522	9,394	9,492*	9,492
13	Kottarakara ..	17,142	17,816	16,856	18,856	17,869	10,374	15,958	16,249	23,795*	24,350	24,351
14	Ambalapuzha ..	20,599	20,631	20,650	20,841	20,841	20,841	20,659	20,680	20,680*	20,680	20,685
15	Mavelikkara ..	19,056	19,064	19,064	19,092	19,092*	19,112	19,145	19,160	19,099*	19,098	19,082
16	Pathanamthitta ..	11,402	11,415	11,420	11,500	12,000*	12,000	12,000	12,888*	12,530*	15,390	15,390*
17	Pathanapuram ..	5,911	5,813	3,075	3,075*	2,500*	2,336	2,387	2,437	2,010*	8,694	5,152
18	Shencotta ..	951	960	963	963	983*	989	995	995	996*	1,096	1,106
19	Changanachery ..	17,933	19,733	20,580	21,003	21,217	22,151	22,350	22,421	23,332	23,269	23,348
20	Thiruvella ..	32,715	49,159	49,137	49,162	49,182*	49,207	49,256	49,320	49,342*	45,317	32,780
21	Kottayam ..	20,870	21,605	21,783	21,921	22,225	25,603	25,641	25,067	26,009	25,932	20,125
22	Sherthalai ..	31,676	37,157	36,401	36,401	36,383	36,418	34,677	34,715	34,877	34,660	34,700
23	Vaikom	16,549	16,912	17,661	17,675	17,675	18,044	18,819	18,831	18,865	18,880	22,852
24	Meenachil ..	60,900	64,000	59,562	59,951	60,584	60,559	71,893	₹5,648	74,777	60,948	60,201
25	Muvattupuzha ..	1,418	1,428	1,427	4,356	6,340	6,481*	7,480	7,709*	8,376	9,768*	9,768
26	Kunnathunad ..	921	930	760	776	765	765	810	810	810	810	815
27	Thodupuzha ..	5,715	6,302	6,651	6,885	6,885	6,885	7,190	7,836	7,965	8,120	9,279
28	Parur	15,315	21,315	18,319	18,784	18,091	18,011	18,071	19,016	19,082	19,169	19,067
29	Devicolam ..	5	5	5	5	5	5	5	..	..	..	..
30	Peermede ..	66	66	66	70	..	..	..	..	5	5	5
*	Total ..	465,594	500,129	492,664	502,451	514,069	509,044	521,950	542,042	544,190	548,106	522,623

* These figures are revised in the light of the figures for the preceding and following years.

APPENDIX II—*contd.*

TABLE 4

Statement showing the area (in acres) under coconut in the several districts and taluks of the Mysore State

Years.	Bangalore District		Kolar District	Tumkur District					Mysore District			
	Channapatna	Bangalore		Tumkur	Gubbi	Tiptur	Chiknakanhalli	Tumkur District	Chamrajnagar	Gundupet	Nanjangode	Mysore
1	2	3	4	5	6	7	8	9	10	11	12	13
1922-23 ..	2,548	3,925	1,427	102	8,325	26,254	13,705	50,772	2,526	1,030	2,880	10,873
1923-24 ..	2,548	4,072	1,372	102	8,328	26,284	13,705	50,690	2,526	1,030	2,880	10,903
1924-25 ..	2,972	4,459	2,050	102	8,320	26,303	14,348	51,344	2,526	1,040	2,547	10,646
1925-26 ..	3,019	4,501	1,748	102	8,320	26,324	16,712	53,495	2,526	1,136	2,510	9,772
1926-27 ..	4,283	5,845	1,945	109	8,320	26,589	16,716	53,805	2,526	1,136	2,540	9,772
1927-28 ..	3,715	6,496	1,697	170	8,320	27,734	16,738	54,946	2,526	508	2,000	9,068
1928-29 ..	3,715	6,867	1,746	179	8,320	27,749	16,752	56,075	2,526	2,343	2,000	14,261
1929-30 ..	3,716	7,163	1,608	181	8,320	27,923	16,904	56,596	3,200	2,343	2,025	15,583
1930-31 ..	3,865	6,951	1,597	2,924	8,838	28,050	17,108	56,696	3,204	2,343	2,027	15,667
1931-32 ..	3,852	7,247	1,565	2,999	5,905	28,124	17,220	60,041	3,204	2,343	2,025	14,992

Years	Hassan District			Shimoga District	Kadur District			Chittaldurg District		Total for the State
	Arsikere	Channarayapatna	Hassan District		Kadur	Tarikere	Kadur District	Hosadurga	Chitaldrug	
	14	15	16	17	18	19	20	21	22	23
1922-23	18,036	9,815	29,465	149	9,950	5,740	15,899	7,936	10,460	122,970
1923-24	18,073	9,818	29,573	169	9,875	5,740	15,814	7,940	9,857	122,450
1924-25	18,073	12,655	32,426	117	9,950	5,740	15,885	7,940	10,243	127,170
1925-26	18,126	12,695	32,451	180	9,975	5,740	15,725	8,133	10,483	128,355
1926-27	18,210	12,700	32,864	153	9,975	5,746	15,916	8,133	10,483	130,783
1927-28	18,180	12,705	32,806	121	9,998	5,765	15,848	8,133	11,088	132,070
1928-29	18,310	12,716	33,022	140	10,712	5,472	16,374	8,133	11,121	139,606
1929-30	18,425	13,034	33,451	140	10,787	5,575	16,553	8,133	11,179	142,273
1930-31	18,520	13,150	33,662	620	10,810	5,848	16,827	8,135	11,410	146,430
1931-32	18,520	13,320	33,832	582	11,810	5,851	17,862	8,133	11,388	147,508
1932-33	..	..	..	..	..	..	..	..	..	162,583

APPENDIX II—*concld.*

TABLE 5

The area under coconut in each of the taluks of the Cochin State (in acres)

Taluks	Years from 1st July to 30th June									
	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32
1. Cochin-Kanayannur	..	7,813	7,827	8,270	28,292	28,308	28,330	28,336	28,336	28,336
2. Mukundapuram	2,500	2,500	2,600	2,600	12,500	12,500	12,600	13,500	13,525	13,525
3. Trichur	9,100	9,250	9,250	9,250	9,250	9,250	9,250	9,250	9,275	9,275
4. Talapally	..	..	..	..	6,000	6,000*	6,500*	7,000*	7,553	7,553
5. Cranganore	6,050	6,100	6,150	6,175	6,195	6,203	6,208	6,204	6,934	6,903
6. Chittur	..	2,760	2,800	3,455	3,525	1,725	1,725	1,725	1,725	1,725
Total ..	17,650	28,423	28,627	29,750	65,762	63,986	64,610	66,015	67,348	67,317

* Estimated areas.

APPENDIX III

TABLE 1

(Estimates from the cultivators)

COST OF PRODUCTION OF COCONUTS PER ACRE

Travancore State

Details of cost.	Thamaraiculam	Kovilam (Hills)	Thengaipatnam	Kadaikavur (Backwater and Lowlands)	Adoor	Kottarakara	Thangacherry	Karunagapalli	Kayamkulam	Haripad	Mavelikarai
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Cost of bringing up to bearing											
1. Cost of seedlings	12 0 0	8 7 0	25 0 0	11 8 0	6 4 0	18 12 0	12 0 0	10 0 0	14 5 0	5 10 0	10 8 0
2. Digging pits	12 6 0	7 8 0	9 6 0	1 3 0	1 7 0	2 2 0	3 15 0	1 2 0	1 0 0	3 0 0	1 1 0
3. Planting and manuring the pits at the time of planting.	31 4 0	7 8 0	18 12 0	20 0 0	..	6 4 0	7 0 0	3 1 0	3 0 0	15 0 0	4 0 0
4. Watering	200 0 0	225 0 0	262 8 0	..	..	268 6 0	315 0 0	78 2 0	27 8 0	77 8 0	167 8 0
5. Cultivation	60 0 0	111 4 0	120 0 0	36 12 0	66 0 0	49 14 0	100 0 0	31 8 0	39 4 0	40 8 0	33 12 0
6. Manuring	200 0 0	111 4 0	100 0 0	200 0 0	60 0 0	17 8 0	70 0 0	37 8 0	41 9 0	51 0 0	45 8 0
Total excluding watering charges	315 10 0	245 15 0	273 10 0	269 7 0	133 11 0	94 8 0	192 15 0	83 3 0	99 2 0	115 2 0	94 13 0
Total including watering charges	515 10 0	470 15 0	535 10 0	269 7 0	133 11 0	362 14 0	507 15 0	161 5 0	126 10 0	192 10 0	262 5 0
Cost of maintenance per acre per annum											
1. Tillage	6 0 0	11 2 0	15 0 0	6 2 0	7 4 0	7 8 0	18 0 0	5 10 0	9 0 0	7 8 0	6 12 0
2. Manuring	14 0 0	11 4 0	18 12 0	60 0 0	17 8 0	2 8 0	50 0 0	18 12 0	7 12 0	30 0 0	9 6 0
3. Harvesting and collecting ..	4 8 0	3 12 0	4 8 0	4 8 0	2 9 0	6 6 0	6 0 0	4 8 0	3 0 0	5 0 0	9 0 0
4. Watering and wrapping ..	..	..	..	..	2 8 0	..	..	4 11 0	..	10 0 0	4 0 0
Total ..	24 8 0	26 2 0	38 4 0	70 10 0	29 13 0	16 6 0	74 0 0	33 9 0	19 12 0	52 8 0	29 2 0

APPENDIX III—*contd.*

TABLE 1—*contd.*

Details of cost	Travancore State				Cochin State							Malabar District								
	Thiruvella	Changanacheery	Shertallai	Vaikom	Parur	Kumbalingi	Cranganore	Irinjalakuda	Mannalur	Andicad	Valapad	Chowghat	Ponnani							
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.								
Cost of bringing up to bearing																				
1. Cost of seedlings ..	7 0 0	9 6 0	17 8 0	35 0 0	13 12 0	30 0 0	10 0 0	5 8 0	6 0 0	5 8 0	6 0 0	4 8 0	10 0 0								
2. Digging pits ..	2 8 0	5 0 0	1 12 0	2 8 0	1 0 0	..	..	4 0 0	..	0 9 0	1 2 0	0 6 0	1 4 0								
3. Planting and manuring the pits at the time of planting	4 6 0	5 5 0	6 8 0	27 8 0	9 8 0	7 8 0	76 8 0	1 0 0	3 2 0	2 8 0	0 13 0	2 13 0	3 0 0								
4. Watering	131 0 0	75 0 0	62 8 0	40 0 0	10 0 0	84 0 0	30 0 0	65 0 0	18 0 0	45 0 0	11 4 0	42 0 0	60 0 0								
5. Cultivation	48 8 0	25 8 0	33 0 0	23 7 0	30 0 0	70 0 0	8 4 0	54 0 0	20 0 0	..	41 10 0	17 8 0	35 0 0								
6. Manuring up to bearing	89 0 0	78 12 0	..	96 4 0	17 8 0	16 0 0	..	77 3 0	48 12 0	48 12 0	..	46 0 0	30 0 0								
Total excluding watering charges	151 6 0	123 15 0	58 12 0	124 11 0	71 0 0	123 0 0	94 12 0	141 11 0	77 14 0	57 5 0	49 9 0	71 3 0	79 4 0								
Total including watering charges	282 6 0	198 15 0	121 4 0	224 11 0	81 12 0	207 8 0	124 12 0	206 11 0	95 14 0	102 5 0	60 13 0	113 3 0	139 4 0								
Cost of maintenance																				
1. Tillage	7 0 0	7 8 0	9 0 0	10 5 0	6 0 0	9 3 0	8 4 0	13 8 0	5 0 0	4 2 0	10 6 6	4 0 0	8 12 0								
2. Manuring	19 11 0	18 12 0	5 0 0	17 8 0	7 8 0	2 0 0	32 8 0	16 4 0	11 4 0	12 3 0	7 8 0	5 0 0	7 8 0								
3. Harvesting and collecting	4 0 0	4 8 0	6 0 0	6 0 0	7 0 0	5 0 0	5 0 0	6 0 0	6 0 0	4 0 0	2 13 0	5 0 0	6 0 0								
4. Watering and wrapping	..	..	12 8 0	..	7 8 0	12 0 0	..	..	..	..	..	..	10 0 0								
Total ..	30 11 0	30 12 0	32 8 0	33 13 0	28 0 0	28 3 0	45 12 0	35 12 0	22 4 0	20 5 0	20 11 6	20 0 0	32 4 0								

APPENDIX III—*contd.*

TABLE 1—*concld.*

Malabar District

Details of cost	Tirur Rs. a. p.
Cost of bringing up to bearing	
1. Cost of seedlings	7 0 0
2. Digging pits	0 8 0
3. Planting and manuring the pits at the time of planting ..	1 1 0
4. Watering	..
5. Cultivation	22 8 0
6. Manuring	13 4 0
Total excluding watering charges	44 5 0
Total including watering charges	44 5 0
Cost of maintenance	
1. Tillage	3 12 0
2. Manuring	..
3. Harvesting and collecting	..
4. Watering and wrapping	..
Total ..	3 12 0

APPENDIX III—*contd.*

TABLE 2

Cost of making and marketing copra—(Estimates furnished by the manufacturers)

Details	Travancore State									Cochin State			Malabar District
	Haripad	Kottarakara	Attingal	Adoor	Karunagapalli	Kayamkulam	Mavelikkara	Changanacherry	Parur	Kumblingi	Cranganore	Mannalur	Chowghat
Number of nuts required for a candy of 654 lb. of copra.* .. Nos.	2,500	2,500	1,500 to 3,500	1,800 to 2,000	2,500	2,000	2,000	2,500	2,200	2,000	2,000	2,200	2,400
Cost of making copra per 654 lb.	Rs. a. p.	Rs. a. p.	Rsi a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Ts. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Husking charge ..	0 11 0	0 14 0	1 2 0	1 0 0	0 11 3	1 6 0	1 8 0	0 14 0	0 12 0	1 8 0	0 10 0	0 11 0	1 0 0
Breaking	2 13 0	1 0 0	1 0 0	1 8 0	0 14 0	2 2 0		1 4 0	1 11 0	1 0 0	1 4 0	0 10 0	0 11 0
Drying			0 14 0									0 7 0	0 10 0
Total ..	3 8 0	1 14 0	3 0 0	2 8 0	1 9 3	3 8 0	1 8 0	2 2 0	2 7 0	2 8 0	1 14 0	1 12 0	2 5 0
Cost of marketing per 654 lb.													
Boat-hire	0 10 0	0 8 0	..	2 0 0	0 8 0	0 8 0	0 10 0			0 4 0	0 8 0	1 0 0	0 8 0
Porterage	..	..	..	0 4 0	0 2 10	0 4 0	0 6 0			..	..	..	0 2 6
Commission	0 6 0	..		..	0 12 0	0 10 0	0 8 0	2 0 0	0 8 0	..	..	..	..
Incidentals	0 4 0	1 0 0	..	1 0 0	0 8 0	0 3 0	0 2 0			0 2 0	..	..	..
Total ..	1 4 0	1 8 0	..	3 4 0	1 14 10	1 9 0	1 10 0	2 0 0	0 8 0	0 6 0	0 8 0	1 0 0	0 10 6

*Where only one figure is given it represents the number of nuts required during the rainy season and not in summer when smaller number of nuts will yield the same quantity of copra.

APPENDIX III—*concld.*

TABLE 3

Cost of making and marketing copra—(Estimates furnished by the manufacturers)

Details of cost	Travancore State						Cochin State				Malabar District
	Ettamuzhi	Attingal	Kadaikavur	Parur	Haripad	Paravur	Kumblingi	Cranganore	Mannalur	Andicad	Chowghat
Number of husks per candy of 6 cwt. Nos.	3,200	4,000	..	..	4,000	3,500	3,500	3,500	3,500	3,000	3,000
Number of husks split Nos. 3.	500	200	..	..	400	..	..	..	..	..	..
Cost of manufacture— per 6 cwt.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Transporting green husks	5 9 0	2 0 0				0 7 0 (Counting)	..	..	..	..	..
Covering		1 0 0				1 5 0	5 4 0	1 1 6	1 0 0	1 2 0	..
Ground-rent	0 10 0	2 0 0	4 0 0	..	3 0 0			1 0 0	1 0 0	0 12 0	..
Net	..	0 8 0				1 5 0		..	..	..	
Cadjans	..	0 4 0			3 0 0	0 8 0	..	0 10 6	0 10 0	0 9 0	..
Total ..	6 3 0	5 12 0	4 0 0	..	6 0 0	3 9 0	5 4 0	2 12 0	2 10 0	2 7 0	..
Removing, for transporting and beating ..	8 2 0	4 0 0			15 4 0	2 13 6	7 0 0	4 6 0	1 4 0	6 0 0	6 0 0
Beating, cleaning and drying		12 0 0	40 0 0	30 0 0		7 7 0		10 15 0	5 8 0		
Twisting	11 8 0	14 0 0			12 8 0	23 0 0	10 0 0	17 8 0	8 0 0	10 0 0	7 0 0
Total ..	19 10 0	30 0 0	40 0 0	30 0 0	27 12 0	33 4 6	17 0 0	32 13 0	14 12 0	16 0 0	13 0 0
Marketing cost.— per 6 cwt.											
Bundling	..	1 0 0	..	..	1 2 0		1 4 0	0 6 0	..	..	..
Porterage	..	0 10 0	..	..	0 2 0	1 10 0	0 4 0	0 8 0	..	..	..
Removal to the market ..	..	1 0 0	..	..	0 12 0	..	..	..	1 0 0	2 0 0	..
Commission and other expenses	..	1 8 0	..	..	..	2 8 0	2 8 0	1 10 0	1 8 0	1 0 0	..
Total ..	..	4 2 0	..	..	2 0 0	4 2 0	4 0 0	2 8 0	2 8 0	3 0 0	..
GRAND TOTAL ..	..	39 14 0	..	..	35 12 0	40 15 6	26 4 0	38 1 0	19 14 0	21 7 0	..

APPENDIX IV

TABLE 1

Sea-borne Imports of coconut oil into Bengal

(In thousands of gallons)

From	1926-27	1927-28	1928-29	1929-30	1930-31
Coastwise					
Bombay	..	..	..	2	9
Madras—					
Chief port	12	..	..	..	..
Other ports	2,449	2,138	856	2,232	2,350
Burma—					
Chief port	41	61	43	48	109
Other ports	..	..	..	1	..
Bengal—All ports	4	7	2	14	9
Cochin-Maliyapuram	309	76	11	32	..
Travancore-Alleppey	..	..	..	140	694
Total—Coastwise	2,814	2,282	912	2,469	3,172
Foreign					
British Empire—					
From United Kingdom	7	9	7	..	7
Straits Settlements	..	..	..	6	..
Ceylon	44	1,146	2,056	1,488	1,166
Foreign countries—					
Germany	..	..	..	2	..
Netherlands	..	1	..	11	..
Total—Foreign	51	1,156	2,063	1,507	1,173
GRAND TOTAL	2,865	3,438	2,975	3,976	4,345

TABLE 2

Sea-borne Imports of coconut oil into Burma

(In thousands of gallons)

From	1927-28	1928-29	1929-30	1930-31	1931-32
Coastwise					
Bengal—					
Chief port	..	..	..	3	..
Other ports	2	2	81	9	2
Bombay—Chief port	5	1	7	1	..
Madras—					
Chief port	10	..	..	..	..
Other ports	723	831	788	907	789
Provincial ports	24	25	19	23	15
Total—Coastwise	764	859	895	943	806

APPENDIX IV—*contd.*

TABLE 2—*contd.*

From	1927-28	1928-29	1929-30	1930-31	1931-32
Foreign					
British Empire—					
Ceylon	121	75	51	21	211
Straits Settlements ..	1	1	1	1	9
Total—Foreign ..	122	76	52	22	220
GRAND TOTAL ..	886	935	947	965	1,026

TABLE 3

Sea-borne Imports of coconut oil into Sind

(In thousands of gallons)

From	1926-27	1927-28	1928-29	1929-30	1930-31
Coastwise					
Bombay—Chief port.. ..	2	1	..	1	—
Madras—Other ports ..	56	68	9	41	101
State of Travancore	2	17	..	..	72
Total—Coastwise ..	60	86	9	42	173
Foreign					
Foreign countries	..	..	..	1	..
Total—Foreign ..	..	..	..	1	..
GRAND TOTAL ..	60	86	9	43	173

TABLE 4

Sea-borne Imports of coconut oil into Bombay Presidency (excluding Sind)

(In thousands of gallons)

From	1926-27	1927-28	1928-29	1929-30	1930-31
Coastwise					
Madras—Other ports ..	1,168	1,185	1,662	1,575	1,576
Sind Chief Port	..	..	..	—	—
British ports within the Presidency	54	63	74	68	53
Indian ports not British ..	..	1	..	..	—
Total—Coastwise ..	1,222	1,248	1,737	1,644	1,628
Foreign					
British Empire—					
Ceylon	..	170	230	5	12
Others	..	..	..	1	1
Total—Foreign ..	..	170	230	6	13
GRAND TOTAL ..	1,222	1,418	1,967	1,650	1,641

APPENDIX IV—*contd.*

TABLE 5

Sea-borne exports of coconut oil from the Bombay Presidency

(In thousands of gallons)

Where sent	1926-27	1927-28	1928-29	1929-30	1930-31
Coastwise					
Bengal—Chief port	..	..	..	2	8
Madras—Other ports ..	..	1	1	..	1
Burmah—Chief port ..	..	20	..	..	..
Sind—Chief port	18	8	2	2	..
British ports within the Presidency	56	67	72	71	53
Cutch	3	4	4	2	2
Kathiawar	61	32	41	34	56
Other Indian ports not British	3	2	2	2	3
Total—Coastwise ..	140	134	124	113	123
Total—Foreign* ..	2	142	236	108	223
GRAND TOTAL ..	142	276	360	221	346

* These foreign shipments are mainly to Native States in Arabia, Iraq, Aden, Anglo-Egyptian, Sudan and Persia.

TABLE 6

Export of Fresh Coconuts from the Producing Areas

(In thousands of nuts)

Source of supply	1909—13 (Average)	1924	1925	1926	1927	1928	1929	1930	1931
British Empire, countries in									
Jamaica	19,733	21,567	26,381	23,041	33,179	31,105	39,918	31,190	35,716
Ceylon	(*a*)16,198	29,121	23,289	16,951	18,876	18,016	20,821	20,750	21,142
British Malaya (*b*) ..	(*c*)	15,642	15,829	12,040	19,186	16,176	13,487	12,574	12,562
Trinidad and Tobago ..	18,494	9,928	8,634	5,041	6,464	6,800	13,608	5,886	4,488
British Honduras	5,502	5,149	5,785	5,513	5,914	5,758	6,289	4,760	3,582
Other Countries	2,618	3,475	2,711	2,740	2,593	2,322	4,590	3,297	(*c*)
Total ..	(*c*)	84,882	82,629	65,326	86,212	80,177	98,713	78,457	(*c*)
Foreign countries									
Honduras	(*d*)10,000	(*d*)8,170	(*d*)9,000	9,339	11,397	10,301	10,087	(*d*)10,300	(*d*)8,330
Panama (*b*)	6,458	7,571	7,343	9,964	6,244	8,308	12,537	8,559	(*c*)
Porto Rico	9,949	19,199	18,869	20,582	22,578	19,430	3,440	7,681	11,092
Other countries	9,427	3,171	3,224	5,022	2,956	2,542	3,187	4,500	(*c*)
Total ..	35,834	38,111	38,436	44,907	43,175	40,581	29,251	31,040	(*c*)
GRAND TOTAL ..	(*c*)	122,993	121,065	110,233	129,387	120,758	127,964	109,497	(*c*)

(*a*) Average 1911—13.

(*b*) Converted at 1,200 nuts to the ton over the whole period for British Malaya and prior to 1926 for Panama.

(*c*) Not available.

(*d*) Estimated on United States of America's imports of coconuts from Honduras. The United States is virtually the sole importer of Honduras coconuts.

APPENDIX IV—*contd*

TABLE 7

Net exports of copra from the Principal producing Countries

(In tons)

Source of Supply	1909—13 (Average)	1924	1925	1926	1927	1928	1929	1930	1931
British Empire, Countries, in									
British South Sea Islands ..	(*a*) (*b*)54,154	123,275	134,659	138,187	153,442	162,741	168,075	153,399	(*e*)
British Malaya	22,302	91,736	86,421	104,394	86,504	95,628	112,429	102,014	100,568
Ceylon	(*a*)42,309	88,329	113,437	120,684	99,008	98,679	101,831	90,480	93,721
British West Indies, etc. ..	786	7,636	7,164	12,932	11,545	17,817	18,951	17,692	(*c*)15,239
Zanzibar	(*d*)7,413	10,225	12,482	12,814	10,053	9,359	11,630	12,798	11,821
British Territories in Borneo	626	4,610	4,501	6,014	4,419	7,863	8,436	8,926	8,123
Tanganyika Territory ..	(*l*)4,448	8,125	7,623	7,348	7,267	9,318	7,920	7,395	7,234
Seychelles	2,574	3,140	4,813	5,375	4,554	4,903	4,509	5,831	4,805
Mauritius and Dependencies	(*f*)55	734	854	983	1,373	1,392	1,368	1,706	2,518
British West Africa ..	798	1,294	1,518	1,629	1,590	1,748	1,469	1,037	1,202
Kenya	(*h*)1,539	1,953	1,404	762	729	1,165	(*g*)	(*g*)	(*g*)
India (*h*)	30,634	(*g*)	(*g*)	1,983	(*g*)	(*g*)	(*g*)	(*g*)	(*g*)
Total ..	167,638	341,057	374,876	413,105	380,484	410,613	436,618	401,278	(*e*)

APPENDIX IV—*contd.*

TABLE 7—*contd.*

Source of Supply	1909–13 (Average)	1924	1925	1926	1927	1928	1929	1930	1931
Foreign Countries									
Dutch East Indies ..	231,307	338,186	345,394	370,852	300,393	433,797	449,560	369,705	354,924
Philippine Islands ..	117,450	154,254	144,361	170,992	196,001	229,651	169,914	171,081	171,134
South Sea Islands (Foreign Colonies and Mandates) ..	(c) (d)21,583	30,554	30,146	(c)29,528	37,205	37,349	40,021	43,152	(e)
Mozambique	4,075	13,044	17,095	17,777	17,145	18,605	19,695	21,274	21,600
Siam (h)	(e)	4,670	5,076	4,977	1,083	24,403	16,264	13,218	(e)
French Indo-China (i) ..	(a) 6,949	9,672	8,762	11,160	9,523	12,356	12,303	9,579	7,631
Madagascar	..	1,008	1,020	1,093	982	1,147	1,518	1,491	1,057
French West and Equatorial Africa	506	772	1,142	960	1,593	1,022	1,372	1,314	2,109
Portuguese Territories in Asia	1,083	1,137	1,048	774	1,053	885	1,217	1,043	(e)
San Thome and Principe Islands	52	300	280	294	338	337	315	(j)	(e)
Total ..	(c) 383,005	553,597	554,324	(c)608,407	565,316	759,552	712,179	(c) 632,172	(e)
GRAND TOTAL ..	(k) 550,643	894,654	929,200	1,021,512	945,800	1,170,165	1,148,797	1,033,450	(e)

(a) Average 1911-13.
(b) Excludes Papua and Nauru.
(c) Partly estimated.
(d) 1913 only.
(e) Not available.
(f) Average 1910-13.
(g) Imports exceed exports.
(h) Twelve months ending 31st March of years following those indicated.
(i) Prior to 1930, the figures excludes exports of Mozambique and Nyasa Companies, amounting to about 500 tons per annum in recent years.
(j) Not yet available ; assumed the same as for 1929 in total.
(k) Excluding certain small producing areas, figures for which are included in later years.
(l) Average 1909-12.

TABLE 8

Exports of Coconut Oil from Copra-producing Countries

(In tons)

Source of Supply	1909—13 (Average)	1924	1925	1926	1927	1928	1929	1930	1931
British Empire, Countries, in									
Ceylon	(a) 24,230	27,632	30,846	28,523	33,658	38,956	43,926	38,189	48,139
British Malaya	4,677	6,083	7,673	8,504	10,275	9,884	8,725	9,473	9,928
British West Indies, etc. ..	(a) 38	263	441	420	345	378	229	279	171
British South Sea Islands ..	..	74	132	92	79	102	96	69	61
India (c)	7,089	(b)	(b)	513	(b)	(b)	(b)	(b)	(b)
Total ..	36,034	34,052	39,092	38,052	44,357	49,320	52,976	48,010	58,299
Foreign countries									
Philippine Islands ..	986	109,843	102,462	115,414	142,486	139,967	187,471	145,007	162,331
Dutch East Indies ..	(b)	4,007	5,037	10,297	2,583	29,046	26,757	9,364	(b)
Total ..	986	113,850	107,499	125,711	145,069	169,013	214,228	154,371	162,331
GRAND TOTAL ..	37,020	147,902	146,591	163,763	189,426	218,333	267,204	202,381	220,630

(a) Average 1911-13.
(b) Imports exceed exports.
(c) Twelve months ending 31st March of the year following those stated.

APPENDIX IV—*contd.*

TABLE 9

Imports of copra and oil from Ceylon into India

Year	Copra	Oil in terms of copra	Total	Percentage of the total	
				Copra	Oil
	Cwt.	Cwt.	Cwt.	..	..
1925	28,080	70,460	98,540	28·5	71·5
1926	41,520	145,700	197,220	26·1	73·9
1927	640	6,940	7,580	8·4	91·6
1928	25,640	185,700	211,340	12·2	87·8
1929	1,641	225,998	227,639	0·7	99·3
1930	1,361	122,932	124,293	1·2	98·8
1931	22,000	314,912	336,912	6·5	93·5
1932	292,508	852,120	1,144,628	25·6	74·4
1933	480,395	575,530	1,055,925	45·5	54·5

TABLE 10

Percentage of exports of each commodity to the total exports of copra, coconut oil and nuts sent out from the West Coast ports (expressed in terms of nuts)

Years 1st July to 30th June	Total exports from Malabar and South Kanara (excluding Alleppey and Cochin Ports)			Total exports from all the West Coast ports (including Alleppey and Cochin Ports)		
	Nuts	Copra	Oil	Nuts	Copra	Oil
1916-17	32·5	55·7	11·8	11·5	39·2	49·3
1917-18	32·9	59·0	8·1	10·1	31·3	58·6
1918-19	16·0	75·9	8·1	4·8	38·6	56·6
1919-20	31·1	56·6	12·3	9·0	34·3	56·7
1920-21	30·2	58·3	11·5	8·9	32·2	58·9
1921-22	25·8	65·9	8·3	8·9	44·3	46·8
1922-23	46·8	37·6	15·6	15·0	29·8	55·2
1923-24	33·6	48·7	17·7	13·2	37·3	49·5
1924-25	44·8	45·7	9·5	18·4	39·6	42·0
1925-26	39·3	53·9	6·8	15·6	47·9	36·5
1926-27	39·1	56·6	4·3	13·7	44·6	41·7
1927-28	46·1	48·9	5·0	18·2	41·8	40·0
1928-29	48·9	47·4	3·7	20·3	41·5	38·2
1929-30	44·5	53·1	2·4	20·5	40·2	39·3
1930-31	41·4	55·5	3·1	18·2	40·5	41·3
1931-32	42·5	53·7	3·8	24·2	45·7	30·1

APPENDIX IV—*concld.*

TABLE 11

Statement showing the trend of exports from the Travancore State

Year From mid-August to mid-August. A. D.	Percentage of exports of each commodity to total exports both expressed in terms of nuts			Comparative figures of exports of each commodity—taking year 1912-13 exports as 100			
	Whole nuts	Copra	Coconut oil	Whole nuts	Copra.	Coconut Oil	Total Exports
1	2	3	4	5	6	7	8
1912-13	3·49	55·87	40·64	100·0	100·0	100·0	100·0
1913-14	4·75	59·88	36·37	138·3	136·6	114·0	127·5
1914-15	5·06	43·93	51·01	158·3	85·8	137·1	109·0
1915-16	5·41	43·68	50·91	189·5	95·2	152·4	124·6
1916-17	4·92	39·54	55·54	166·7	83·3	160·8	117·7
1917-18	4·97	35·59	59·44	168·1	75·0	172·0	117·6
1918-19	5·60	52·60	41·80	230·4	134·5	146·8	142·8
1919-20	7·13	37·96	54·91	229·4	78·1	154·4	114·4
1920-21	4·52	35·39	59·09	173·7	85·6	190·9	131·4
1921-22	4·29	44·19	51·52	197·4	127·1	203·5	160·6
1922-23	4·50	34·70	60·80	170·6	81·7	196·7	131·5
1923-24	4·65	29·29	66·06	174·9	68·57	212·3	130·7
1924-25	4·94	33·65	61·41	190·0	80·5	201·8	133·6
1925-26	4·33	40·54	55·13	186·6	103·9	202·9	149·6
1926-27	5·06	38·11	56·83	210·4	102·8	210·8	150·6
1927-28	5·06	37·85	57·09	215·1	103·9	215·4	153·2
1928-29	5·91	35·20	58·89	256·4	94·7	217·6	150·3
1929-30	5·79	26·04	68·17	271·1	75·8	272·5	162·5
1930-31	4·15	26·54	69·31	217·8	86·8	311·6	182·8
1931-32	6·76	24·43	68·81	261·3	58·7	227·2	134·2
1932-33	5·87	26·02	68·11	244·8	67·5	242·9	145·0

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