

Report on the Marketing of
coconuts and coconut
products in India.



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(205)

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INTRODUCTION.

This report deals with the marketing of coconuts and coconut products, on which depends the prosperity of the inhabitants of certain tracts on the West Coast of India where the cultivation of coconuts is mainly concentrated. Coconut products, however, find use all over the country and the demand for them has rapidly grown in recent years, with the result that the problem of production and marketing of coconuts has now assumed an all-India importance.

This report discusses in detail such questions as the production of coconuts, regulation of imports of copra and coconut oil, improvement of the quality of copra and better utilisation of husk, shell and fibre. There is plenty of evidence in the report to show that by proper organisation, better returns can be secured for coconut growers. To attend to various coconut problems, the formation of an all-India Coconut Board has been recommended and it is interesting to note that since the report went to press, the Government of India have decided to constitute an all-India Central Coconut Committee.

The trade in coconuts and coconut products has undergone vital changes since the outbreak of the War and particularly during the last two years. A considerable portion of the world coconut areas has been temporarily occupied by the enemy and normal trading has been disturbed. The discussions in the report, therefore, generally refer to the quinquennium 1934-35 to 1938-39, but the data and comments have been brought up-to-date wherever possible.

Thanks and acknowledgments are due to a large number of producers, merchants, millers, trade bodies, Government Departments and others who kindly gave the Marketing

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Staff their full co-operation and assistance in carrying out the survey. Acknowledgment is also made for the use of figures and materials contained in a number of Government trade and other publications.

Note.—The Government of India should not be regarded as assuming responsibility for all or any of the material contained in this report.

FOR A QUICK GRASP OF THE REPORT
THE READER IS ADVISED TO READ
THROUGH THE SUMMARY AT PAGES 152
TO 163 AND THE CONCLUSIONS AND
RECOMMENDATIONS AT PAGES 164 TO 170

CENTRAL AGRICULTURAL MARKETING DEPARTMENT,
(GOVERNMENT OF INDIA).

Delhi :
August, 1943.

CHAPTER 1.—WORLD PRODUCTION AND TRADE.

A.—Note on the coconut tree.

The coconut tree has been known from prehistoric times. Opinions vary regarding its original home but it is generally held to have spread eastward across Polynesia from the Indian Ocean. In India, the incentive for coconut cultivation is said to have come from Ceylon.

The tree flourishes on sandy soils along the sea coast but is also grown inland, generally up to an elevation of 2,000 feet. For successful cultivation, it requires well distributed rainfall of 50 to 90 inches per annum and an average temperature not below 70° F. Coconut trees have, however, been known to flourish in places having rainfall below 40 inches or over 150 inches as also in places with an average temperature below 50° F. The tree begins to flower in the fifth year or even earlier on good land and with careful cultivation, but full bearing does not generally commence before 7 to 12 years from planting. As a rule, the largest yields are obtained from trees 15 to 20 years old but this production can be maintained for dozens of years by careful attention and cultivation. The usual type of coconut palm attains a height of 50 to 100 feet at maturity, but dwarf types are also found in some areas.

The coconut tree plays a very important part in the life of the inhabitants of the coconut growing areas, as it supplies them food, clothing, habitation and domestic utensils, besides being the source of livelihood from the sale of its products. Every part of the tree is utilised; the roots may be used medicinally as an astringent; the trunk may be used when young for pickles, vegetables and salad, and when old as constructive material for doors and window posts, water pipes, etc.; the leaves may be used for the manufacture of mats, baskets, brooms, as roofing material or, when dry, as fuel; the flower spathes (before they open) may be used for the preparation of toddy or sugar; the fruits—coconuts—give three important products, *viz.*, the husk, the shell and the copra, the utilisation of which will be discussed in a later section.

B.—Production.

(1) COCONUTS.

The coconut palm is found roughly within the tropical zone. The most important coconut producing countries are the Philippines, the Netherlands East Indies, India, Ceylon, British Malaya and British South Sea Islands. Besides these, coconut trees are found in several coastal regions and islands in the tropical zone.

Statistics about the world acreage and production of coconuts as well as those in the main producing countries are generally meagre, incomplete and of doubtful accuracy (except in the case

of the Philippines). Coconut gardens in many areas are scattered through the villages and the neighbourhood of villages and have other trees along with coconut palms. The enormous variations in the number of trees per acre, the proportion of bearing trees and the number of nuts per tree in different areas, under different conditions and with different ages of trees, are some of the difficulties which lie in the way of making reliable estimates of production. The position in the main producing countries is summarised in the following paragraphs.

Philippines.—The Philippine Islands are probably the only coconut area for which detailed statistics about the area under coconuts, the number of trees, the number of bearing trees and the number of nuts consumed for different purposes are compiled regularly. The following are the latest available figures:—

Acreage and production of coconuts in the Philippines.¹

	1935-36.	1936-37.
Area (thousand acres)	1,562.0	1,571.0
Number of trees (millions)	119.6	120.7
Number of bearing trees (millions)	88.4	90.4
Number of coconuts (millions)	3,147.0	2,982.9
Average number of trees per acre	77	77
Average number of bearing trees per acre	56	58
Average number of nuts per bearing tree	36	33
Average number of nuts per acre	2,015	1,899

The considerable expansion which has taken place in coconut acreage during the last thirty years will be apparent when it is stated that the coconut acreage, which was about 400,000 acres in 1910 and less than 1 million acres in 1920, increased to 1.4 million acres in 1930, 1.6 million acres in 1935² and was estimated as 2 million acres in 1941.³ The production, which averaged 3,065 million nuts in 1935-36 and 1936-37, may be reckoned (in view of the subsequent expansion in acreage) to have been not far short of 3,500 million nuts in 1941. The growth is partly due to the wider application of modern plantation methods in recent years such as the introduction of cultivation and the wider spacing of the palms. The Philippines have the most compact coconut regions in the world. The number of big plantations, however, is not large and the bulk of coconut cultivation is done on small holdings. The total area of coconut land, cultivated on estates of over 1,000 acres in extent, was reported to be less than 1 per cent. of the total acreage under coconuts² in 1936.

¹ Adapted from "International Yearbook of Agricultural Statistics", 1938-39.

² The Coconut Industry of the Philippine Islands: Report on a visit to the Islands by F. C. Cooke.

³ The Coconut Industry: Report of Hon. Maximo M. Kalaw.

Netherlands East Indies.—Coconut trees are grown on village farms—in the dikes separating rice fields—by natives, and on European estates. Statistics make a distinction between the two types of cultivation. Figures for the total acreage under coconuts both on farms and estates are not available for any year later than 1917, when a census of coconut trees was taken and about 950,000 acres were reported under coconuts. Later figures are available only in respect of the European estates, which are, however, of small importance as compared to the predominating native crop. The latest available figures for coconut area on estates, are given below:—

Area under coconuts (bearing) in the Netherlands East Indies (European Estates only).¹

	(Acres.)	
	1936.	1937.
Java and Madura	14,870	14,529
Outer provinces	78,242	80,384
Total	93,112	94,913

The total acreage and production can, however, be estimated from the figures available for copra production on estates and the visible production by natives, *i.e.*, the excess of exports over estate production. On this basis,² the total acreage and average annual production of coconuts in the Netherlands East Indies may be estimated to be roughly 1.5 million acres and 3,200 million nuts respectively.

¹ International Yearbook of Agricultural Statistics, 1938-39.

² Production of copra in the Netherlands East Indies is reported as under:—(International Yearbook of Agricultural Statistics, 1938-39).

	(Thousand tons.)	
	1936.	1937.
<i>Java and Madura—</i>		
Copra equivalent of coconuts produced (European agriculture)	3.4	4.4
Copra estimated to be produced (Native agriculture)	151.5	212.5
<i>Outer provinces—</i>		
Copra equivalent of coconuts produced (European agriculture)	26.4	28.4
Visible production of copra by natives	509.7	485.7
Total production	691.0	731.0

Average production 1936-37 711,000 tons.

Equivalent in coconuts at 4,500 nuts per ton of copra (Coconut Industry of the Philippine Islands by F. C. Cooke)=3,199 million nuts or roughly 3,200 million nuts.

India.—The acreage and production in India, as will be discussed in the next chapter, are estimated to be 1.5 million acres and 3,000 million nuts respectively.

Ceylon.—Estimates of area under coconuts, which was reported as 0.8 million acres in 1924 and 1.1 million acres in 1930 and 1931, are subject to considerable error owing to the difficulty of obtaining exact information of village production. No subsequent figures are available. Of the total acreage, probably not more than 25 per cent. is under estate cultivation. In some areas the main product is toddy. There are wide variations in the yield of nuts per tree and nuts per acre, due partly to variable climatic and soil conditions. On estates, the yield may vary from 3,200 to over 5,000 nuts per acre, but on farms the yield is considerably less. Ceylon coconuts are generally smaller than those from the Philippines and the Netherlands East Indies.

Export figures provide almost the only means of ascertaining the production. The following table shows the exports of coconuts, copra, coconut oil and desiccated coconut, all converted in terms of coconuts, as also the local consumption estimated at 130 nuts per head per annum:—

Exports and estimated local consumption of coconuts in Ceylon
(Million nuts.)

Year.	Exports of coconuts, copra, coconut oil and desiccated coconut. (In terms of nuts†).	Local consumption.	Total.
1911-14	562	542	1,104
1915-18	589	562	1,151
1919-22	871	585	1,456
1923-26	993	614	1,607
1927-30	1,086	656	1,742
1931-34	1,096	711	1,807
1935-38	1,007	741	1,748

The average production in recent years may, therefore, be roughly taken as 1,800 million nuts.

It will be of interest to mention here that production and trade in coconuts and coconut products in Ceylon is controlled and directed by the Ceylon Coconut Board. The functions and powers of the Board, in general, are to look after the development or welfare of the coconut industry, promote and encourage the demand for coconut products, investigate questions relating to freight,

* Ceylon's Coconut Crops: Reginald Child.

† 1 ton oil=8,125 nuts;

1 ton copra=5,000 nuts;

1 ton desiccated coconut=6,900 nuts (325 lb. DCN per 1,000 nuts).

establish and manage Sales rooms and finance associations and co-operative societies formed for the advancement of the coconut industry. The Board issues licences for exports of copra and coconut oil. A licence for exports of copra can be refused if the Board considers that the copra sought to be exported is inferior to the lowest standard of quality permitted by the Board for export. The Board is financed by a production cess levied on the exports from 1st November 1935* at the rate of 2½ cents. per cwt. of copra, 4 cents. per cwt. of coconut oil and 3½ cents. per cwt. of desiccated coconut.

In addition to the production cess, a research cess† of 5 cents. per 1,000 coconuts, 1¼ cents. per cwt. of copra, 1½ cents. per cwt. of coconut oil and 1¾ cents. per cwt. of desiccated coconut is also levied on exports, under the Coconut Research Scheme working independently but in co-operation with the Coconut Board. The funds from the research cess are utilised for various experiments and researches in connection with coconuts and coconut products including manuring, cultivation, utilisation of products, etc.

British Malaya.—Accurate figures of area and production are not available. Only about one-fifth of the area is occupied by estates of more than 100 acres.† In 1930, one-sixth of the area was reported to be not in full bearing. The Agricultural Census of 1930 placed the area under coconuts at about 600,000 acres which increased to 608,000 acres in 1935 and 640,000 acres in 1940, as shown in the table below:—

Area under coconuts in British Malaya.
(Thousand acres.)

	1930.‡	1935.‡	1940.‡
Federated Malay States	240	250	240
Straits Settlements	81	72	400
Unfederated Malay States	279	286	
TOTAL .	600	608	640

The average annual production was estimated in 1930 as 800 million nuts³, of which about one quarter were consumed locally. The production in 1941 may be reckoned to have been nearly 850 million nuts.

British South Sea Islands.—The cultivation of coconuts in the British territories and mandates in the South Seas is in the hands of indigenous population and statistics of area and production are

* Under Ordinance No. 13 of 1935.

† Under Ordinance No. 29 of 1928.

‡ Oils and Fats: Production and International Trade—International Institute of Agriculture.

⁴ The Coconut Industry: Report of Hon. Maximo M. Kalaw.

⁵ Survey of Oilseeds and Vegetable Oils: Coconut Palm Products—Empire Marketing Board.

not reliable, except in the case of New Guinea and Fiji, where there are large plantations under European management. The following table gives the estimates of acreage in 1929-30:—

Estimated area under coconuts in the British South Sea Islands in 1929-30.¹

	(Thousand acres.)
New Guinea (Mandated territory)	193
Fiji	131
British Solomon Island (Protectorate)	62
Tonga Island (Protectorate)	54
Mandated territory of Western Samoa	53
Territory of Papua	49
Gilbert and Ellice Islands	20
Mandate of Nauru	1
TOTAL	568

On the basis of exports, which consist mainly of copra together with some desiccated coconut, the total average annual production is estimated at about 750 million nuts.

World acreage and production.—The world acreage and average production of coconuts may, therefore, be summarised as under:—

World acreage and production of coconuts.

	Area. (Million acres.)	Production. (Million nuts.)
Philippines	2.0	3,500
Netherlands East Indies	1.5	3,200
India	1.5	3,000
Ceylon	1.1	1,800
British Malaya	0.6	850
British South Sea Islands	0.6	750
Others	0.7	900
TOTAL	8.0	14,000

The nuts from different countries vary in size and weight. Assuming the average weight of 100 nuts to be 1 quintal (220.463 lb.), the weight of 14,000 million nuts, estimated to be produced, on an average, annually in the world, works out to nearly 13.8 million tons. It will be observed that three-fourths of the coconut acreage in the world and nearly four-fifths of the production is shared among 4 countries, *viz.*, the Philippines, the Netherlands East Indies, India and Ceylon.

¹ Survey of Oilseeds and Vegetable Oils: Coconut Palm Products—Empire Marketing Board.

(2) COPRA.

The production of copra in different countries cannot be directly estimated from their coconut production as in certain countries, *e.g.*, India, a considerable proportion of the coconut production is consumed in the form of fresh nuts. As such the production of copra can only be indirectly worked out from the exports to other countries and the estimated local consumption either as copra or coconut oil.

In the Philippines, the *per capita* consumption of coconuts and coconut products is lower than in most producing countries, only about 20 per cent. of the production¹ being estimated to be consumed locally. The exports of copra and coconut oil during the period 1934-38 averaged 289,000 tons and 157,000 tons, respectively, which together represent about 542,000 tons of copra. The exports of copra and coconut oil in 1939 and 1940, in terms of copra totalled 659,000 tons and 611,000 tons respectively. The production of copra may, therefore, be reckoned to be between 700,000 tons and 800,000 tons.

The Netherlands East Indies consumes a great deal more copra and coconut oil than the Philippines. The exports of copra and coconut oil during the period 1934-38 averaged 485,000 tons and 13,000 tons respectively, which together represent about 506,000 tons of copra. The export of copra and coconut oil in 1939, in terms of copra totalled 544,000 tons. Assuming the local consumption to account for 30 per cent. of the production, the average production of copra in the Netherlands East Indies may be roughly estimated as 700,000 tons to 750,000 tons.²

In Ceylon, the local consumption is estimated to be about 40 per cent. of the total production.³ The exports of copra and coconut oil during the period 1934-38 averaged 70,000 tons and 60,000 tons respectively, which together in terms of copra, are equivalent to nearly 167,000 tons. The production may, therefore, be reckoned to be 280,000 tons.

The production of copra in India is about 200,000 tons. (See page 46.)

The exports of copra and coconut oil from British Malaya during 1934-38 averaged 198,000 tons and 40,000 tons respectively, which together are roughly equivalent to 262,000 tons copra. These, however, include re-exports of copra imported from the Netherlands East Indies. Allowing for this, the production of copra may be estimated to be in the neighbourhood of 150,000 tons.

The exports of copra* from South Sea Islands during 1934-38 averaged 158,000 tons. The production may be reckoned as roughly 170,000 tons.

¹ The Coconut Industry of the Philippine Islands: F. C. Cooke.

² See page 3.

³ Ceylon's Coconut Crops: Reginald Child.

* The exports of coconut oil are negligible.

The world production of copra may, therefore, be estimated as some what short of $2\frac{1}{2}$ million tons, as shown in the table below:—

Estimated production of copra in the world.

	Tons.
Philippines	800,000
Netherlands East Indies	750,000
Ceylon	280,000
India	200,000
British Malaya	150,000
South Sea Islands	170,000
Others	100,000
TOTAL	2,450,000

(3) COCONUT OIL.

Coconut oil is produced in most of the coconut growing countries as also in several countries importing copra. Statistics about the quantities of copra crushed and oil produced are generally lacking for the former and the production has to be estimated on the basis of exports and local consumption.

In the Philippines, less than half of the available copra¹ was reported to be converted into oil in 1936. The greater part of the oil production comes from factories equipped with expellers and presses crushing copra, but some oil (estimated as about 2,000 tons) is also produced in village factories and as a cottage industry, directly from the meat from fresh nuts. The village oil is all consumed locally. Local consumption of mill oil was estimated as 35,000 tons per annum¹ in 1936. The exports of coconut oil averaged 157,000 tons in 1934-38 which increased to 164,000 tons in 1939. The production of coconut oil may, therefore, be estimated as roughly 200,000 tons.

In the Netherlands East Indies, Java and Madura are the chief centres for coconut oil production. The whole of the non-factory oil and the major portion of factory oil is consumed locally. The production was estimated as 152,000 tons in 1937.²

The production of coconut oil in India is estimated as 126,000 tons. (See page 60.)

¹ The Coconut Industry of the Philippine Islands: F. C. Cooke.

² The Coconut Industry: Report of Hon. Maximo M. Kalaw.

In Ceylon, copra crushing used to be done in *chekkus* but mills equipped with expellers and presses have been built at several important centres. It is reckoned that 57 per cent. of all copra sold is milled for oil.¹ The production of oil may, therefore, be estimated as roughly 100,000 tons.

In British Malaya, copra crushing has been carried on for a number of years but the industry has made rapid progress only in recent years as is clear from the trend of exports, which averaged 40,000 tons in 1934-38 as compared with an average of 12,000 tons in 1929-33 and 8,000 tons in 1924-28. The exports in 1939 and 1940 were as much as 62,000 tons and 70,000 tons respectively. No information is available about the local consumption but it is fairly clear that the average annual production of coconut oil in British Malaya in recent years cannot be far short of 60,000 tons.

The production of coconut oil in the South Sea Islands is relatively small.

Among the countries which do not produce coconuts and prepare coconut oil from imported copra, the United States of America, Germany, France, the United Kingdom, Denmark, the Netherlands, Italy and Sweden, were the most important before the outbreak of hostilities in Europe in 1939. The following table gives the production in these countries:—

*Production of coconut oil in certain countries.**

(Thousand tons.)

Countries.	1934.	1935.	1936.	1937.	1938.	Average 1934-38.	1939.
United States of America.	112	128	103	151	144	128	121
Germany	140	58	131	130	172	126	94 (a)
France	116	91	71	85	89	90	88
United Kingdom	60	76	78	50	72	67	95
Denmark	48	52	55	47	47	50	47
Netherlands ..	40	42	48	29	33	38	48
Italy	32	31	19	15	18	23	10 (a)
Sweden	10	17	18	20	25	18	17 (b)

¹ Ceylon's Coconut Crops: Reginald Child.

* Review of the Oilseed, Oil and Oilcake Markets: Frank Fehr & Co.

(a) January to July.

(b) January to September.

The world production of coconut oil may, therefore, be reckoned to be about 1.2 million tons, as summarised in the table below:—

Estimated production of coconut oil in the world.

	Tons.
Philippines	200,000
Netherlands East Indies	152,000
India	126,000
Ceylon	100,000
British Malaya	60,000
United States of America	128,000
United Kingdom	67,000
Germany, France, Denmark, Netherlands, Italy and Sweden	345,000
Others	22,000
TOTAL	1,200,000

C.—Trade.

NOTE.—This section deals with the position of the trade generally before the outbreak of the War in Europe in 1939. After the War spread to the East and several coconut producing areas became involved, the trade in coconuts and coconut products has been considerably dislocated.

(1) COCONUTS.

The world trade in coconuts is relatively small, amounting in all to about 200 million nuts, *i.e.*, about 1½ per cent. of the world production. The number of nuts exported from and imported into countries mainly concerned in the trade in coconuts are shown in the table below:—

*Exports of coconuts from and imports of coconuts into certain countries of the world.**

(Million nuts.)

Countries.	EXPORTS.			Countries.	IMPORTS.		
	Average 1924-28.	Average 1929-33.	Average 1934-38.		Average 1924-28.	Average 1929-33.	Average 1934-38.
Ceylon	62.7	51.5	50.7	United States of America	101.4	88.8	93.0 (a)
Philippines	14.1	18.6	33.2	Canada	8.4	9.8	15.6
Portuguese India	35.6	33.5	24.2	United Kingdom	14.8	15.9	17.5
British Malaya	13.4	11.8	10.7	Germany	10.2	10.1	4.9
Jamaica	27.1	36.7	34.7	Greece	1.2	2.0	3.4
Puerto Rico	20.1	7.4	11.3	Australia	2.5	3.0	4.0
Panama	6.1	8.0	8.2	India (b)	3.8	4.8	7.1
Honduras	10.3	9.3	7.3				
British Honduras	5.6	4.2	5.2				
Trinidad and Tobago	7.4	7.1	4.9				

* International Yearbook of Agricultural Statistics.

(a) Including foreign trade of Alaska and Virgin Islands from 1935 and not including foreign trade of Hawaii.

(b) The figures are for financial years 1st April to 31st March; 1924-25 figures have been shown against 1924 and so on.

Ceylon ranks first among the countries exporting coconuts, the main destination for her exports of coconuts being India. The exports during 1934-38 were, however, lower than those in 1929-33 and 1924-28. The exports from the Philippines, on the other hand, show an appreciable increase. India now imports coconuts, but Portuguese India exported over 33 million nuts annually during the quinquennium 1929-33 and 24 million nuts during the five years 1934-38. British Malaya's exports also show, like Ceylon, a downward trend.

The United States of America are the biggest importers of coconuts. The United Kingdom, Germany and Canada are other important importers of coconuts. Among the coconut producing countries, India imports a few million nuts annually, mainly from Ceylon and the Straits Settlements.

(2) COPRA.

(a) *Exports.*—About half of the total production of copra enters the world markets as such and another one-fifth in the form of coconut oil exported from the copra producing countries. All the important coconut producing countries, with the exception of India—which at one time was an exporter but is now an importer of copra—supply copra to the world markets, as will be seen from the table below:—

*Exports of copra from certain countries of the world.**

(Thousand tons.)

Countries.	Average 1909-13.	Average 1924-28.	Average 1929-33.	Average 1934-38.	1939.	1940.
Netherlands East Indies	231	358	425	485	529	266
Philippines	117	179	191	280	395	327
British Malaya	89	165	197	198	(a)	(a)
British South Sea Islands	54 (b)	134	146	158	(a)	(a)
Ceylon	42	104	79	70	53	73
Mozambique	4	17	24	34	(a)	(a)
Zanzibar	9	16	17	13		
Tanzania	4	8	8	6		
Seychelles	3	4	5	5		

* International Yearbook of Agricultural Statistics, and Review of the Oilseed, Oil and Oilcake Markets: Frank Fehr & Co.

(a) Not available.

(b) Average 1911-13.

The total exports of copra from the five main coconut producing areas, viz., the Netherlands East Indies, the Philippines, British Malaya, British South Sea Islands and Ceylon, during the 5 years 1934-38, averaged 1,200 million tons as compared with an average of 940,000 tons in 1924-28 and 1,038,000 tons in 1929-33.

The Netherlands East Indies is easily the biggest exporter of copra, although her production of both coconuts and copra is less than that of the Philippines. The quantities exported from the different countries show a steady increase except in the case of Ceylon, from where the exports of copra have decreased and those of coconut oil increased in recent years.

The destinations of the exports from the main copra producing countries during different periods are shown in Appendix I.

It will be seen that the exports from the Netherlands East Indies were directed primarily towards the mother country. Denmark, Germany, Norway, France, Italy and Mexico were the other main buyers in 1936 and 1937, while about a quarter of the exports went to Singapore and ports in British Malaya for re-export.

France was the biggest buyer of Philippines copra during 1909-13 but in subsequent years, the United States of America became the principal purchaser. In 1936 and 1937, about three-fourths of the Philippines' copra exports went to the United States of America, while the Netherlands, France, Germany and Italy were the other main customers.

British Malaya's exports, almost the whole of which pass through Singapore and Penang, include re-exports of copra imported from the Netherlands East Indies, Singapore acting as an entrepot port for this trade. Germany was the most important buyer of Malayan copra before the 1914-18 War. The exports to the Netherlands were bigger than those to Germany in several subsequent years, but in 1936 and 1937, Germany was again the biggest buyer, accounting for about 30 per cent. of Malaya's exports of copra. The United Kingdom, the Netherlands, France, Italy, Sweden, China and Japan were the other important customers in 1936 and 1937.

Ceylon's chief customer for copra before 1914-18 was Germany. In subsequent years, several other European countries became her important customers so that in 1924-28, besides Germany, Italy, Norway, Denmark and the Netherlands all bought considerable quantities from Ceylon. India, however, became the biggest customer in recent years; she took nearly 80 per cent. of Ceylon's total exports in 1936 and 1937. Besides copra, Ceylon exports considerable quantities of desiccated coconut, for which she is the principal source of world's supply.

The exports from New Guinea (British South Sea Islands) were mainly directed in 1936 and 1937 to the United Kingdom, Australia, Germany, France, the Netherlands, Italy and Mexico.

(b) Imports.—The countries importing copra are the United States of America, a number of European countries and India. The imports into British Malaya, as already stated, are mainly for re-export. The United States of America now rank first in importing copra, although during 1909-13, as will be seen from the table below, Germany and France were the largest importers and the United States of America took relatively small quantities.

*Imports of copra into certain countries of the world.**

(Thousand tons.)

Countries.	Average 1909-13.	Average 1924-28.	Average 1929-33.	Average 1934-38.	1939.
United States of America ..	18	184	244	202	192(a)
Mexico	(b)	(b)	11	37	(b)
United Kingdom	31(c)	76	93	107	151
Germany	157	178	156	200	(b)
France	144	153	189	143	140
Denmark	26	52	71	78	75
Netherlands	137	139	84	60	75
Czechoslovakia	..	18	24	45	(b)
Italy	(b)	24	35	37	29
Norway	2	18	30	37	(b)
Sweden	(b)	13	8	28	(b)
Poland	..	(b)	8(d)	21	(b)
Belgo Luxembourg	30	8	7	18	(b)
Austria	(b)	13	9	12	(b)
British Malaya	67	72	93	113	(b)
India (e)	..	2	10	46	(b)

The off-take of most of the countries steadily increased; only in the case of the Netherlands, the quantities imported dropped from an average of 139,000 tons in 1924-28 to an average of 84,000 tons in 1929-33 and 60,000 tons in 1934-38. In the case of the United States of America, a small decline in the imports was recorded in 1934-38, probably as a result of the levy of a duty on imports in 1934.

* International Yearbook of Agricultural Statistics.

(a) 275 thousand tons in 1940.

(b) Not available.

(c) 1913.

(d) Average 1931-33.

(e) Excluding Burma. Figures are for financial years; 1924-25 figures have been taken against 1924 and so on.

(3) COCONUT OIL.

(a) *Exports.*—Besides the coconut producing countries, the United States of America and a number of European countries figure in the world trade of coconut oil. The following table gives the quantities exported from the various countries during different periods:—

*Exports of coconut oil from certain countries.**

(Thousand tons.)

Countries.	Average 1909-13.	Average 1924-28.	Average 1929-33.	Average 1934-38.	1939.	1940.
Philippines	1	122	153	157	164	176
Ceylon	27	32	47	60	63	39
British Malaya	6	8	12	40	62	70
Netherland East Indies	2	16	16	13	9	14
India (b)	9	4	3	(c)	(d)	(d)
United States of America	..	10	12	6	(a)	(a)
Denmark	4	9	21	22	(a)	(a)
Netherlands	(a)	52	40	18	(a)	(a)
Sweden (e)	..	2	1	7	(a)	(a)
France	21 (f)	13	10	7	(a)	(a)
Norway	..	..	1	3	(a)	(a)
United Kingdom	13	4	4	2	(a)	(a)
Germany	21	10	11	1	(a)	(a)
Mozambique	..	(a)	1 (g)	(c)	(a)	(a)

The Philippines is by far the largest exporter of coconut oil, followed by Ceylon and British Malaya. The Netherlands East Indies, which leads in the exports of copra, takes a comparatively small share in the coconut oil trade. The United States of America was Philippines' largest customer for coconut oil. Similarly, India was Ceylon's biggest customer. British Malaya supplied considerable quantities of coconut oil in recent years to India, Burma, China, Egypt and the Netherlands Indies. India exported on an average 9,000 tons coconut oil before the 1914-18 War, but her exports declined in subsequent years and almost disappeared in 1934-38.

* International Yearbook of Agricultural Statistics; Review of the Oilseed, Oil and Oilcake Markets: Frank Fehr & Co.; and Annual Statement of the Sea-borne Trade of British India.

(a) Not available.

(b) Excluding Burma. Figures relate to financial years.

(c) Less than 400 tons.

(d) 200 tons.

(e) Includes palm kernel oil.

(f) Estimate.

(g) Average 1931-33.

Among the countries crushing imported copra, France and Germany were the principal exporters of coconut oil before the 1914-18 War but during the period 1924-28, the Netherlands took the first place, her average annual exports during the period being 52,000 tons. The exports decreased to an average of 40,000 tons in 1929-33 but she still held the first place. In the quinquennium 1934-38, however, her exports further declined to an average of 18,000 tons and Denmark took the first place with an average export of 22,000 tons.

(b) *Imports.*—The biggest importer of coconut oil during 1909-13 was the United Kingdom, followed by the United States of America. The imports of coconut oil into the latter country, however, steadily increased and she became the most important buyer of coconut oil, as will be seen from table below:—

*Imports of coconut oil into certain countries.**

(Thousand tons.)

Countries.	Average 1909-13.	Average 1924-28.	Average 1929-33.	Average 1934-38.
United States of America	24	115	145	151
Canada (b)	(a)	11	14	18
Argentina	(c)	1	2	2
Peru	(a)	(c)	(c)	1 (d)
United Kingdom	53	40	38	23
Sweden (e)	(a)	12	19	18 (f)
France	2	5 (e)	7 (g)	7
Netherlands	(a)	4	4	7
Finland	(a)	5	4	7
Switzerland	(a)	3 (h)	4 (h)	6 (d)
Czechoslovakia	(a)	2	4	5
Austria	(a)	2 (h)	4 (h)	4
Denmark	5	12	6	3
Bulgaria	(a)	1 (h)	2 (h)	2 (d)
Ireland	(a)	1	2	2
Germany	(c)	5	8	2
Norway	2	7	2	1
Italy (e)	(a)	4	3	1
India (i)	(c)	4	15	28
Netherlands Indies	5	4	4	5
China	(a)	3 (j)	4	3
Burma	2	4	4	5
Egypt	1	5	6	11
Union of South Africa	1	2	4	5

* International Yearbook of Agricultural Statistics, and Annual Statements of the Sea-borne Trade and Navigation of India and Burma.

(a) Not available.

(b) Includes palm oil and palm kernel oil up to 31st March 1934.

(c) Less than 500 tons.

(d) Includes palm oil and palm kernel oil.

(e) Includes palm kernel oil.

(f) Average for 1934-37.

(g) Includes palm kernel oil 1929-30.

(h) Includes palm oil.

(i) Excluding Burma; figures are for financial years.

(j) Average 1925-28.

During 1934-38, besides the United States of America, the other main importers of coconut oil were the United Kingdom, a number of European countries, India, the Netherlands Indies, China, Burma, Egypt, the Union of South Africa and Canada. The chief supplier of the United States of America was the Philippines. The Netherlands and Denmark were the largest suppliers of coconut oil to the United Kingdom in 1935 and 1936, although in earlier years supplies were also drawn from several other countries. India's supplies were drawn mainly from Ceylon and the Straits Settlements. The off-take of the United States of America, as already stated, steadily increased. In the United Kingdom, on the other hand, there has been, with the development of the crushing industry, a progressive decline. The imports into India increased appreciably during 1934-38, being almost double of the average imports during the preceding quinquennium.

(4) TOTAL COPRA AND COCONUT OIL.

The exports and imports of copra and coconut oil for different countries have been discussed separately in the foregoing sections. The relative importance of the different countries can, however, be judged only from an examination of the trade in copra and coconut oil together.

The exports and imports of coconut oil and copra, calculated as coconut oil, from the main countries concerned are given in Appendices II and III.

It will be seen that the Philippines ranked first in the exports of copra and coconut oil together, during the quinquennium 1934-38, with the Netherlands East Indies a close second. In the two earlier quinquennia, however, the Netherlands East Indies had exported somewhat larger quantities than the Philippines. In the case of the Philippines, coconut oil accounted for 52 per cent. of the total exports during 1924-28 which further increased to 56 per cent. in 1929-33 but declined to 47 per cent. in 1934-38. In the case of Netherlands East Indies, on the other hand, coconut oil accounted for only 7 per cent. of the total exports in 1924-28 which further declined to 6 per cent. and 4 per cent. in 1929-33 and 1934-38 respectively. In British Malaya, copra crushing has made considerable progress in recent years with the result that the oil accounted for 25 per cent. of the exports of copra and coconut oil together in 1934-38 as compared with 8 per cent. in 1924-28 and 9 per cent. in 1929-33. In Ceylon, coconut oil accounted for 33 per cent. of the exports of copra and coconut oil together during 1924-28, but this increased to 49 per cent. during 1929-33 and 58 per cent. during 1934-38. The exports from the British South Sea Islands are in the form of copra only, while the exports from India, negligible as they are, are all as coconut oil.

In the case of imports, the United States of America, the United Kingdom, several European countries and India import both copra and coconut oil. The United States of America easily takes the first place, followed by Germany, France and the United Kingdom. The off-take of the United States of America averaged 229,000 tons in 1924-28 which increased to 296,000 tons in 1929-33, but declined to 276,000 tons in 1934-38. This may be due to the duties levied by the Revenue Act of 1934 with a view to encouraging the development of production of national oil seeds, principally cotton seed. Coconut oil formed about half of the imports of copra and coconut oil together in 1924-28 and 1929-33, which increased to 55 per cent. in 1934-38. The off-take of Germany and France consisted mainly of copra. In the case of the United Kingdom, coconut oil accounted for 46 per cent. of the total imports of copra and coconut oil together in 1924-28, which declined to 40 per cent. in 1929-33 and 26 per cent. in 1934-38. The imports into India increased from an average of 6,000 tons in 1924-28 to nearly 21,000 tons in 1929-33 and 57,000 tons in 1934-38. Coconut oil accounted for as much as 79 per cent. of the total imports in 1924-28. This, however, declined to 70 per cent. in 1929-33 and 50 per cent. in 1934-38.

CHAPTER II.—SUPPLY, UTILISATION AND DEMAND.

A.—Coconuts.

(1) ACREAGE.

(a) *Total acreage.*—Statistics relating to the acreage under coconuts are published in "Agricultural Statistics of India" only from 1920-21. Before this, coconuts were not reported separately but were included under the general head "fruits and vegetables".

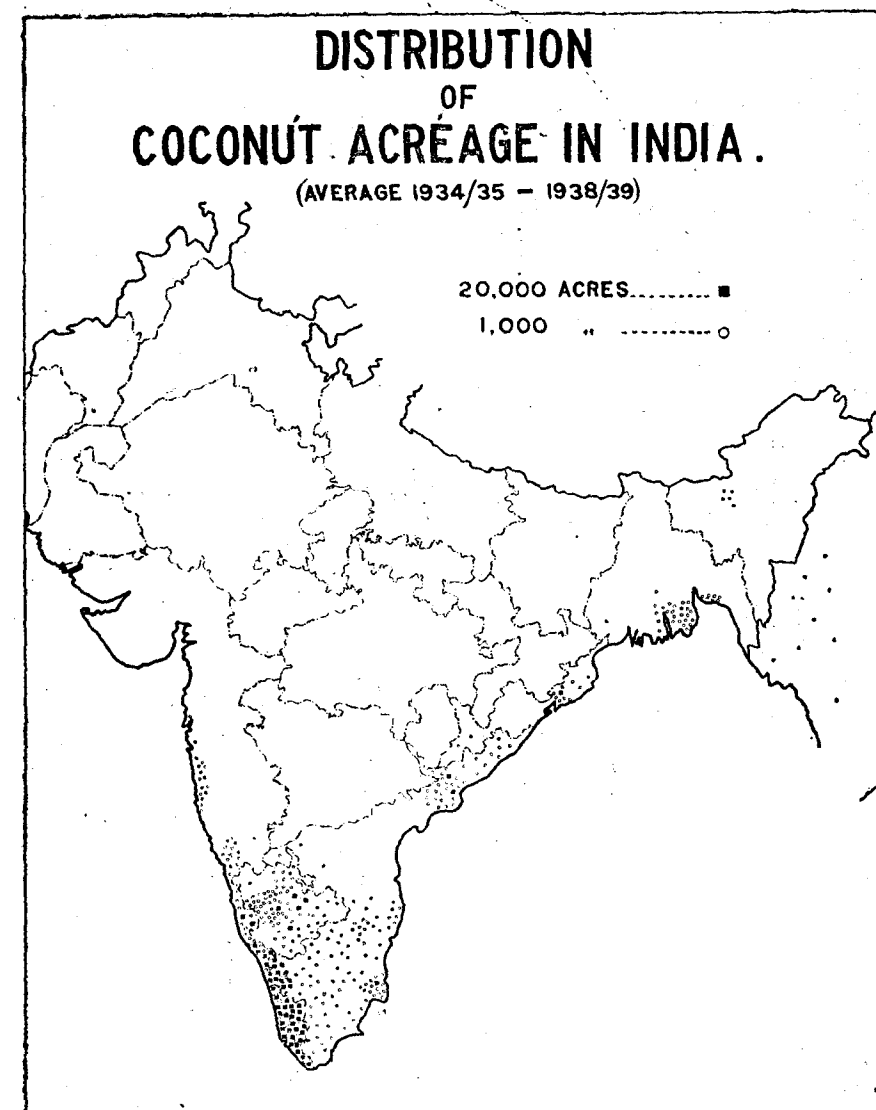
The coconut acreage figures recorded in "Agricultural Statistics", which may be seen in Appendix IV, relate mainly to four provinces, *viz.*, Madras, Bengal, Bombay,* and Orissa and four Indian States, *viz.*, Travancore, Cochin, Mysore and Pudukkottai. Apart from the above-named coconut growing areas, 34,728 acres are reported in "Agricultural Statistics" under coconuts in 1933-34 in Kashmir, 12 acres in the same year in Hyderabad, 87 acres in 1935-36 in Indore, 7 acres each in Bundi and Aundh in 1924-25 and 1926-27 respectively, 4 acres and 7 acres in 1935-36 and 1936-37 respectively in Nagod and between 8 and 86 acres in eight out of the 17 years from 1920-21 to 1936-37 in Banganapalle State. As a coconut tree starts bearing after several years and normally continues to bear nuts for many years, the figures reported for stray years and which are not subsequently repeated are obviously due to errors in reporting. For instance, enquiries made in Kashmir confirm that there are no coconut plantations or gardens in the State.

On the other hand, the acreage under coconuts in Assam and certain Indian States† which are estimated as nearly 5,000 acres and 1,000 acres respectively, are not included in the published figures. Again, no coconut acreage is reported for the Bakarganj district of Bengal and only 700 acres for the Noakhali district but enquiries made during the survey indicate that there are about 13,000 acres under coconuts in the Bakarganj district, and 6,000 acres in the Noakhali district. The published figures of coconut acreage in Bengal thus appear to be under-estimated by about 18,000 acres.

Apart from these discrepancies and omissions, an examination of the figures published in "Agricultural Statistics" shows that in some cases the figures vary considerably from year to year. As the acreage under a crop like coconuts cannot fluctuate widely from year to year, the variations can only be accounted for by

* Including Sind up to 1934-35, after which separate figures are available.

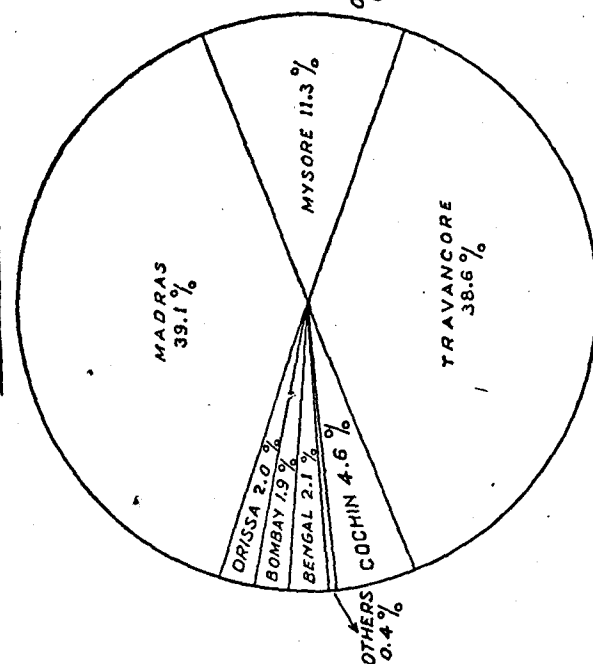
† Savanur (Deccan States), Junagadh and Veraval (Western India States), Sachin (Gujarat States), Daspalla and Keonjhar (Eastern States Agency) and some others.



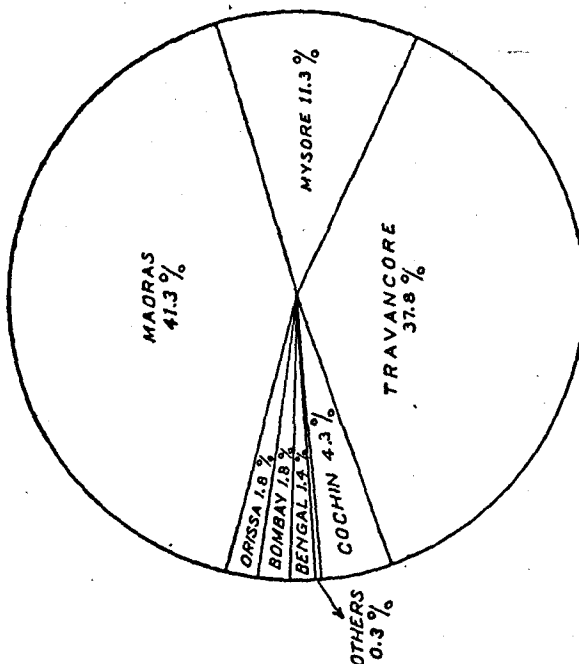
SHARE OF DIFFERENT PROVINCES & STATES IN THE ACREAGE & PRODUCTION OF COCONUTS IN INDIA

(AVERAGE 1934-35 TO 1938-39)

ACREAGE



PRODUCTION



changes in the system of reporting, errors in reporting or changes in the area covered from time to time. For instance, the wide fluctuations in the acreage under coconuts in Bombay between 1920-21 and 1926-27 are due to incomplete reports for Ratnagiri district. Similarly, the change of acreage in Bengal from 600 acres in 1925-26 to 11,500 acres in 1926-27 is due to the revision of settlement records in the Khulna district as a result of which the acreage under coconuts in this district was changed from 400 acres to 10,500 acres. In the case of Cochin State, the published figure for 1926-27 is over 65,000 acres as compared with less than 30,000 acres in 1925-26. Again, the published figures for Travancore and Cochin States, differ in certain years from the figures collected during the survey from the State records.

It may, therefore, be concluded that statistics in respect of coconut acreage in India are incomplete and of doubtful accuracy. The changes involved in the published figures in view of the discrepancies and omissions referred to above have been indicated in Appendix IV from which the acreage under coconuts during the five years 1934-35 to 1938-39 are summarised in the table below.

Area under coconuts in India.
(Acres.)

Provinces and States.	1934-35	1935-36	1936-37	1937-38	1938-39	Average.
Madras . . .	586,486	582,760	584,613	586,130	585,424	585,083
Bengal . . .	31,200	31,700	30,700	31,300	31,300	31,240
Orissa . . .	28,400	33,659	30,186	30,132	30,021	30,479
Bombay . . .	27,875	27,763	27,911	27,606	28,702	27,971
Assam . . .	5,000	5,000	5,000	5,000	5,000	5,000
Sind . . .	(a)	21	13	17	12	13
Travancore . .	566,590	575,340	577,419	580,226	584,736	576,862
Mysore . . .	163,699	164,722	164,633	176,091	174,389	168,707
Cochin . . .	68,735	68,822	68,985	66,961	67,058	68,112
Pudukkottai . .	985	1,011	1,214	1,580	1,580	1,274
Others . . .	1,000	1,000	1,000	1,000	1,000	1,000
Total . . .	1,479,970	1,491,798	1,491,674	1,506,043	1,509,222	1,495,741

(a) Included with Bombay.

The average area under coconuts in India may, therefore, be reckoned as 1.5 million acres.

(b) *Distribution of acreage.*—The figures given in the table on the previous page clearly indicate that Madras, Travancore, Cochin and Mysore account for the bulk of coconut acreage, while Orissa, Bombay, Bengal and Assam also contribute to it. The share of different provinces and States is shown in the diagram facing page 19.

Taking an average of the 5 years 1934-35 to 1938-39, Madras had 585,000 acres under coconuts, of which more than three-fourths was in the districts of Malabar and South Kanara on the West Coast and East Godavari on the East Coast, the coconut acreage in the three districts being 352,000 acres, 48,000 acres and 53,000 acres respectively, i.e., 60 per cent., 8 per cent. and 9 per cent. respectively of the province's total. Besides these three districts, Tanjore had nearly 37,000 acres or about 7 per cent. of the total.

In the Travancore State, the bulk of coconut tracts are found in the lowlands and the midland area, the former being a long stretch of flat land across the sea coast and the latter narrow undulated land lying between the lowlands and the mountainous area in the eastern part of the State. The taluks of Minachil, Quilon, Thiruvalla and Neyyattinkara have the biggest coconut area.

In the Cochin State, the coconut area is concentrated mainly on a narrow strip of sandy tract on the western seaboard but extends also to the midlands and to a small extent, to the eastern hilly region. The two taluks of Cochin Kanayannur and Mukundapuram have the biggest acreage in the State.

In the Mysore State, Tumkur district has the biggest coconut area followed by the districts of Hassan and Mysore, the three districts together accounting for more than three-fourths of the State's coconut area. Chitaldrug and Kadur also have appreciable acreage.

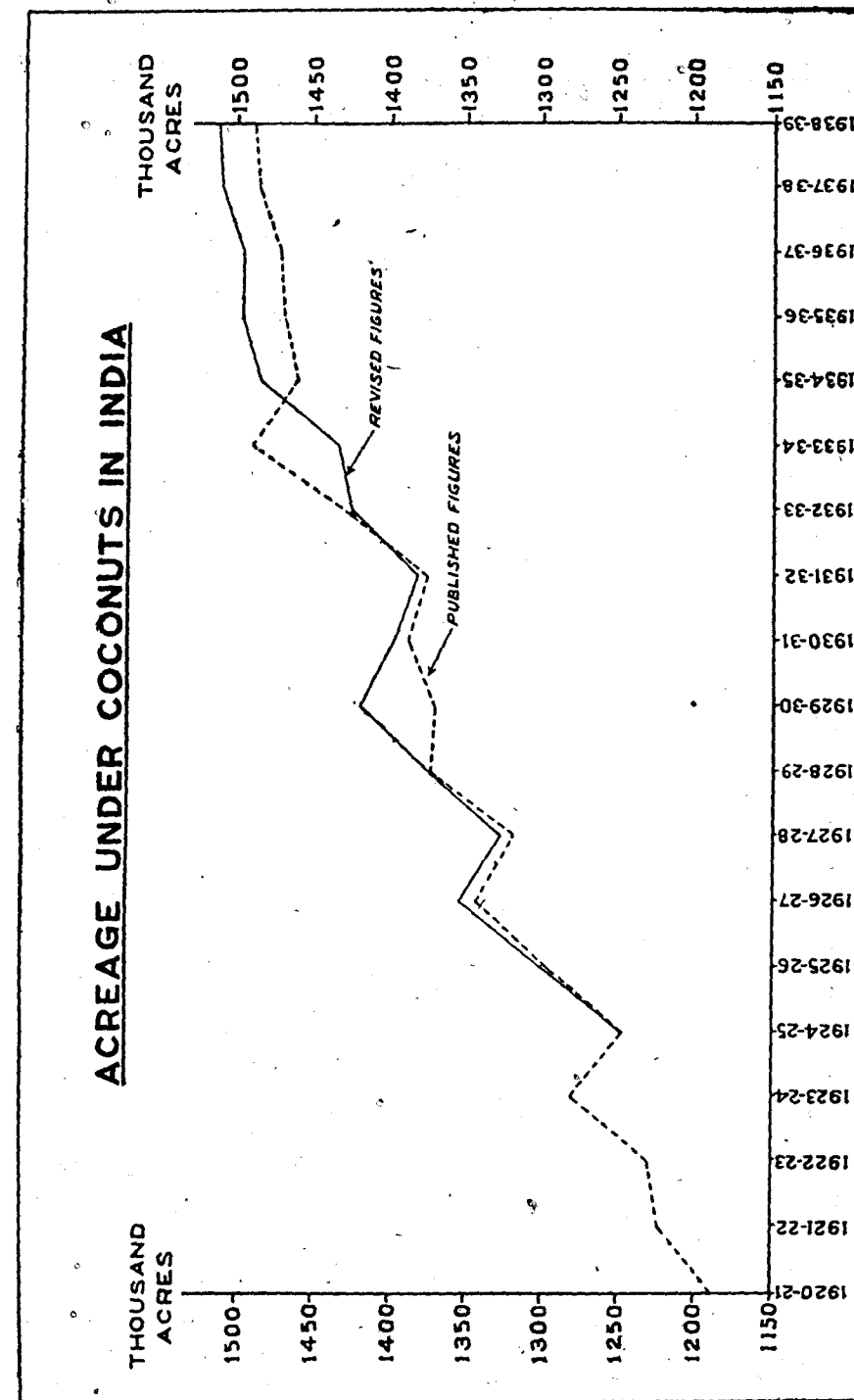
In Orissa, coconut cultivation is mainly in the districts of Puri and Cuttack, the average acreage for the two districts being 25,500 acres and 2,500 acres, i.e., nearly 80 per cent. and 8 per cent. of the province's total.

In Bombay, more than nine-tenths of the province's coconut area is in the two districts of Ratnagiri and Kanara which had 13,000 acres and 12,000 acres respectively.

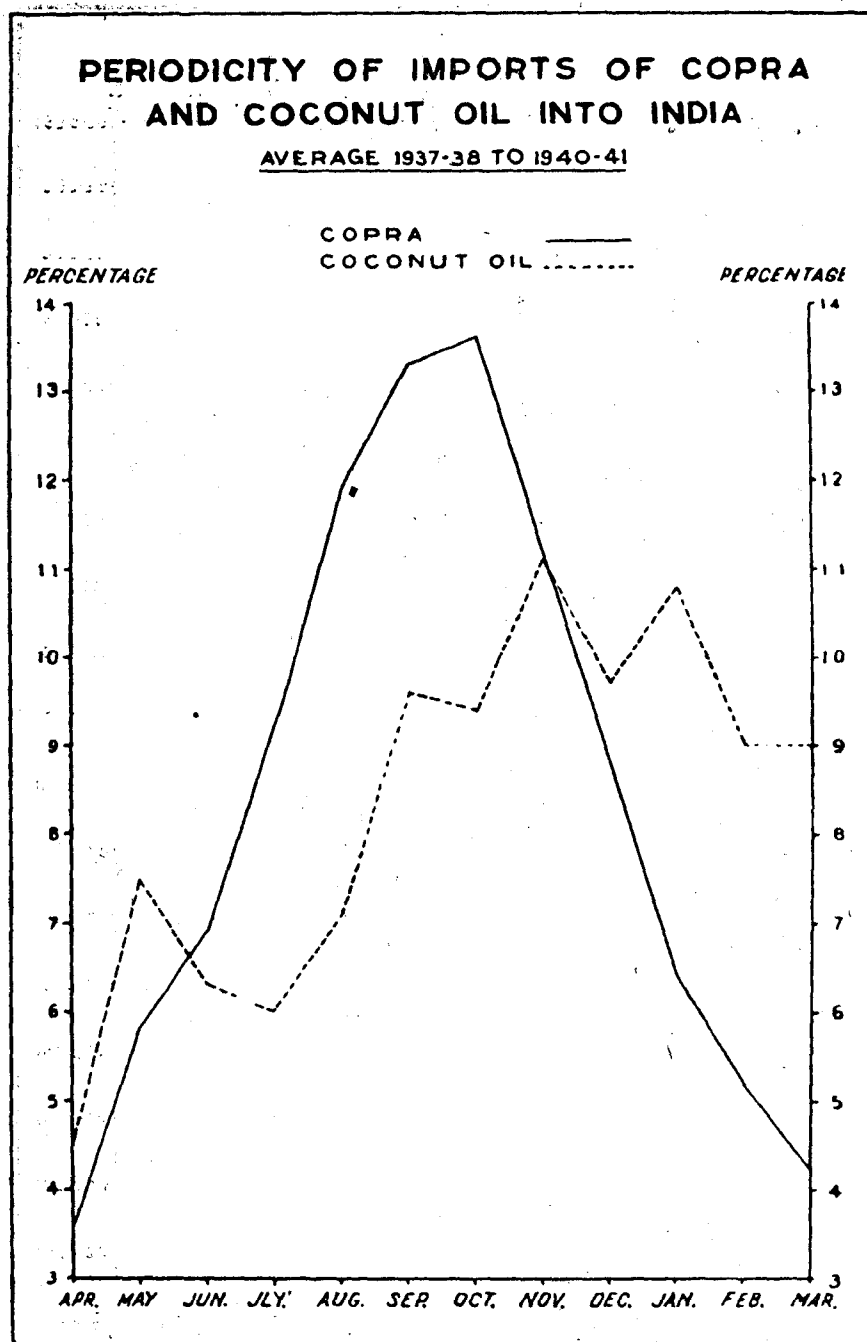
In Bengal, the main districts of coconut cultivation are Khulna, Bakarganj and Noakhali, while in Assam coconut trees are found mainly in Kamrup district.

The distribution of coconut acreage is shown on the map facing page 18 from which it will be observed that the area under coconuts in the various provinces and States together falls into a few well defined regions, which may be classified as under:—

(i) *Keralam.*—The coconut areas in Travancore and Cochin States and the Malabar district of Madras, which



Facing page 21.]



(For reference see page 49.)

together amount to over one million acres, extend over a narrow strip of land between the western ghats and the Arabian Sea; this region is called "Keralam" or the land of coconuts and accounts for more than two-thirds of India's coconut acreage. Coconuts are an important cash crop in this region.

- (ii) *Mysore*.—The coconut area in Mysore extending over several districts mainly Tumkur, Hassan and Mysore, forms a distinct region, which has over 160,000 acres under coconuts and is the only coconut tract of importance away from the sea.
- (iii) *Konkan*.—The coconut areas in the South Kanara district of Madras and North Kanara and Ratnagiri districts of Bombay amounting together to about 73,000 acres constitute another narrow strip on the west coast north of "Keralam".
- (iv) *Godavari delta*.—About 71,000 acres under coconuts in the East Godavari, Vizagapatam and West Godavari districts of Madras lie in the delta of the river Godavari.
- (v) *Cauvery delta*.—About 37,000 acres under coconuts in the Tanjore district lie in the Cauvery delta.
- (vi) *Mahanadi delta*.—About 28,000 acres under coconuts in Puri and Cuttack districts of Orissa lie in Mahanadi delta.
- (vii) *Gangetic delta*.—About 30,000 acres which are estimated to be under coconuts in the Khulna, Bakarganj and Noakhali districts of Bengal lie in the Gangetic delta.

(c) *Trend*.—As statistics of coconut acreage are available only since 1920-21 and the figures for different years are not strictly comparable, it is difficult to determine the trend of coconut acreage over a long period. The total acreage in India, was a little short of 1.2 million acres in 1920-21 and increased irregularly to nearly 1.3 million acres by 1929-30. Further expansion continued till 1929-30 when the acreage, according to revised figures totalled over 1.4 million acres. There was a fall in the next two years followed by a small increase up to 1935-36. There was little change in 1936-37. In 1937-38 and 1938-39, the area under coconuts exceeded 1.5 million acres. The trend as it appears from the published figures as also from the revised figures may be seen from the diagram facing page 20.

(2) PRODUCTION.

(a) *Method of estimation*.—The annual production of agricultural crops is usually estimated by the formula area $\times$ standard yield $\times$ seasonal condition factor. In the case of coconuts however, standard yields have not been worked out, the seasonal

condition factor is not reported and there are consequently no official or published figures of annual production. This together with the doubtful accuracy of statistics in respect of acreage referred to earlier, makes even a rough estimation of the production of coconuts (and copra, etc.), difficult. In view of the fact that statistics about coconut acreage, number of coconut trees and the number of nuts are regularly compiled in the Philippines, it appears feasible to work out a scheme for recording the acreage under coconuts with greater accuracy and estimating the production annually. For instance, a periodical check of coconut acreage—say, every 10 years—together with a system of recording yields by selected growers in different areas would permit fairly accurate year to year estimates of the production being compiled.

An estimate of the production has been attempted during the survey by arriving at figures of the average yield per acre in different areas by ascertaining the number of trees, the proportion of bearing trees and the average yield per tree in a number of gardens and by making extensive personal enquiries. All the three factors, referred to above, have been found to be subject to considerable variation under different conditions. The estimates, therefore, have a margin of error and should be taken with due reserve.

(b) *Number of trees per acre.*—The number of coconut trees per acre varies considerably; it may be as few as 20 or 25 or as many as over 400 per acre. A garden may consist of coconut trees only or coconut trees may be interplanted with other trees such as jack, arecanut and mangoes. The number of coconut trees per acre is naturally more in the former case.

The position in different provinces and States is as indicated in the following paragraphs.

Madras.—Statistics were collected during the survey from a number of gardens in different coconut growing districts and it was found that the number of trees per acre varied from 38 to 140 in the various gardens in different districts. On the basis of these figures and the personal enquiries made in different areas, the average number of trees per acre is estimated to be about 75 in the districts of Malabar and South Kanara, 55 in East Godavari, 150 in Tanjore and about 100 in other districts. The average for the whole province weighted on the basis of average area under coconuts in different districts during the quinquennium 1934-35 to 1938-39 works out to 80 trees per acre. It is interesting to note here that an incentive to plant more trees on a piece of land is provided by the system of assessing the value of land on the basis of number of trees. For instance, under the *Kanom* system prevalent in Malabar, a tenant cultivator after taking land on 12 years' lease from a *zamindar*, may improve the value of land by planting additional coconut or other trees; when the landlord wants to eject the tenant, he has to be compensated for the trees planted.

Travancore.—Most of the coconut gardens are in small holdings and are interplanted with other trees. Out of 30 gardens, for which statistics were collected, 3 had an area of between 140 and 200 acres, 2 had between 40 and 60 acres, 4 had between 3 and 8 acres and of the remaining 21 as many as 11 were of less than 1 acre each. The number of trees per acre in the three largest gardens averaged 31 only, while for the two gardens between 40 and 60 acres, the average number of trees worked out to 51. The average for the 3 to 8 acres gardens worked to 72 trees per acre and in the case of the 21 smaller gardens to 88. Considering all the gardens together, the average number of trees per acre is estimated to be 70.

Cochin.—Sixty trees per acre are taken as the basis for assessing coconut lands and no additional charge is made if the trees exceed 60 per acre. Statistics collected from 12 gardens showed the number of trees to vary from 65 to 97 per acre. The average for the State is estimated to be 75.

Mysore.—The average number of bearing trees is reckoned to be 40 per acre. Taking into account the estimated number of non-bearing trees, the average number of trees per acre is estimated to be about 47.

Orissa.—The number of trees generally varied from 50 to 80 per acre and 65 trees per acre are estimated to represent the average for the province.

Bombay.—The figures of acreage and number of trees collected for a large number of gardens in different districts worked out to an average of 95 trees per acre in Ratnagiri, 122 trees per acre in Kanara, 97 in Kolaba, 75 in Dharwar and 70 in Thana district. Considering the acreage for different districts, the average for the province works out to 105 trees per acre.

Bengal.—There are no compact blocks of coconut gardens and the coconut trees are grown mixed with areca palms and other trees. The average number of coconut trees is estimated to be about 50.

Other areas.—The average number of coconut trees is estimated as 45 per acre in Assam and 105 per acre in Pudukkottai.

(c) *Non-bearing trees.*—A certain proportion of trees in a garden is generally non-bearing. Firstly, coconut trees generally commence bearing fruits seven or eight years* after planting so that in the first few years of their life the coconut trees are non-bearing. Secondly, coconut trees generally continue to bear up to 60 to 80 years of age† (and even more) after which they cease to bear. A garden may thus have some trees which have

* The period of first bearing depends mainly on the variety, kind of soil, climate and treatment given. Some dwarf trees may commence to bear in the 4th year while late bearers may not start bearing until after ten years or more.

† The trees in the backwater areas are said to have a shorter span of life.

ceased to bear. Such trees are, however, generally removed to make room for new plantings and the total number of old non-bearing trees is reckoned to be very small. In most cases, as trees show signs of old age by a fall in the yield, seedlings are planted between them so that before the old trees are removed the new ones begin to bear. Thirdly, in most areas, some coconut trees are used for "tapping", i.e., the artificial extraction of juice from the inflorescence of the coconut, with the result that the fruits do not develop. It is usual to prefer good and vigorous trees for tapping as on account of the system of taxation being per tree, it is more profitable to tap trees giving a high yield of juice.

The number of young trees in a particular year may be estimated from the proportion of area planted during the preceding seven or eight years, although such an estimate will be subject to errors in the figures of acreage from year to year, which as discussed before, are not always insignificant. Alternatively, the proportion of young trees may be estimated on the basis of data collected from representative gardens in different coconut areas. Such investigations have been carried out in some of the provinces and States and the results have been taken into account in arriving at the estimates.

Regarding the number of trees tapped, comparatively more reliable data can be obtained in respect of the most important coconut growing areas, as accounts of such trees are kept for the purpose of taxation. The estimated number of non-bearing trees in the main coconut growing areas is indicated in the table below.

Estimated number of non-bearing trees in the main coconut growing areas.

Provinces and States.	Increase in area in 1934-35 to 1938-39 over 1927-28 to 1931-32. (Thousand acres.)	Number of trees per acre.	Estimated number of young trees. (Thousands.)	Number of trees tapped. (Thousands.)	Estimated total number of non-bearing trees. (Thousands.)
Madras . . .	24	80	1,920	1,006 (a)	2,926
Travancore . .	42	70	2,940	101 (b)	3,041
Cochin . . .	11	75	825	49 (c)	874
Mysore . . .	27	40	1,080	Not available	1,080
Total . . .			6,765	1,156	7,921

(a) Average 1933-34 to 1937-38. (b) Average 1935-36 to 1938-39.
(c) Average 1935-36 and 1936-37.

In other areas, where the cultivation of coconuts is comparatively small, the proportion of non-bearing trees is reported to be higher. For instance in Bombay, statistics collected from a number of gardens in different districts indicate that the proportion of non-bearing trees varies from 10 per cent. to 40 per cent., the weighted average for the province being 25 per cent. In Bengal, Orissa, and Assam, the proportion of non-bearing trees was reported as 10 per cent., 33 per cent. and 40 per cent. respectively. Pudukkottai reported the proportion of non-bearing trees to be 25 per cent. The number of non-bearing trees in these areas works out to 1.7 million trees, so that the total number of non-bearing trees in India may be reckoned to be 9.6 millions.

(d) *Number of nuts per tree.*—The yield of nuts per tree varies considerably, depending on a number of factors such as the soil, the rainfall, the type or variety of the palm, the age, cultivation and manuring, the seasonal conditions, and the effect of pests and diseases.

The best soils for the account are rich alluvial soils with a sufficient quantity of sand to provide good drainage. The yields are better where the rainfall is distributed over the year than where the bulk of the rainfall is received within a few months. Coconut palms of the type having leaves which appear like the ribs of a fully opened umbrella are generally the best yielders. Trees having the leaves at almost right angles to the stem yield as well as, if not better than, the first type but trees having the leaves which make an obtuse angle with the stem generally yield poorly. The dwarf varieties commence yielding earlier than tall varieties. Some trees are regular bearers, while others are irregular or alternate bearers, the last type giving a higher yield in alternate years.

The yield of nuts at certain periods of a tree's life, varies considerably with the age. During the first five years of bearing, the yields are usually small, after which they begin to increase as the age increases. Full yields may be obtained after 7 to 15 years or even later. After this, yields remain fairly steady till they begin to show a decline after the 50th year or later. The following table gives the yield per tree of 3 groups of 11 trees each at an agricultural research station in Madras for 15 years from the time of their starting bearing.

Variations in the yield of nuts per tree during the first 15 years of bearing at a Government Research Station.

Year.	Groups of 11 trees each.		
	I.	II.	III.
1st	6	5	3
2nd	19	16	14
3rd	22	24	18
4th	27	26	16
5th	35	47	26
6th	36	29	29
7th	37	50	38
8th	42	48	33
9th	48	57	43
10th	60	66	46
11th	54	60	48
12th	55	64	49
13th	48	46	42
14th	64	47	48
15th	51	63	39

It will be observed that under the conditions prevailing at the research station, full yields were obtained in the 10th or 11th year. Where conditions are not so favourable, the period which intervenes before full yields are obtained, is usually longer.

Experiments carried out at research stations in India and elsewhere have definitely established that the yield of nuts is substantially increased by manuring and inter-cultivation. Instances were observed during the survey when there were marked differences in the condition of different gardens and the yield per tree in the same locality. Gardens receiving manuring and cultivation often gave more than double the number of nuts per tree as against gardens which did not receive such treatment. The varying seasonal conditions and incidence of pests and diseases also bring about variations in the yield of nuts from year to year. The extent of year to year variations in the yield of nuts from several groups of trees (cultivated and manured) at a research station in Madras will be seen from the table on the next page.

Year to year variations in the yield of nuts per tree from certain trees at a Government Research Station in Madras.

Groups of 20 trees.	Average yield of nuts per tree.									Maximum variation in any two years.	
										Number of nuts.	Percentage.
	1932.	1933.	1934.	1935.	1936.	1937.	1938.	1939.	1940.		
I	53	59	59	60	61	57	72	48	59	24	50
II	53	61	64	57	61	68	64	57	61	15	28
III	55	47	64	57	63	68	61	58	64	21	45
IV	51	50	56	56	58	73	69	63	58	23	46
V	51	57	58	62	55	65	65	55	58	14	27
VI	60	50	61	61	64	67	59	67	55	17	34
VII	60	60	65	68	74	73	70	65	58	16	28
Total	383	384	427	421	436	471	460	413	413	..	..

The maximum variation in any two years ranged from 27 per cent. to 50 per cent. for different groups of trees. The variations in yield in certain gardens in Madras, Travancore, Cochin and Mysore ranged from 15 per cent. to 58 per cent. as will be seen from the table below.

Year to year variations in the yield of nuts per tree in some gardens.

Location and area of garden.	Average yield of nuts per tree.									Maximum variation in any two years.	
	1931.	1932.	1933.	1934.	1935.	1936.	1937.	1938.	1939.	Number of nuts.	Percentage.
<i>Madras</i>											
Malabar (5 acres)	49	34	48	42	41	33	49	..	..	16	50
<i>Travancore</i>											
Big garden (205.32 acres)	..	..	38	42	43	34	45	..	..	11	33
Medium garden (57 acres)	..	..	26	34	32	30	34	..	..	8	31
Small garden (39 acres)	..	..	46	36	30	25	34	..	..	21	84
Small garden (5 acres)	..	..	49	47	48	54	48	..	..	7	15
<i>Cochin</i>											
Poiyya (5.14 acres)	..	56	58	58	46	51	62	46	56	16	34
Ernakulam (1.52 acres)	..	41	38	40	38	37	37	35	37	6	17
<i>Mysore</i>											
Holalkere (6 acres)	39	33	26	26	28	41	..	..	..	15	58

The position regarding the yield of nuts per tree, as ascertained during the survey for different provinces and States, is summarised in the following paragraphs.

Madras.—Statistics collected during the survey from 75 gardens in the different districts of the province showed that the yield varied from 9 nuts to 99 nuts per tree in different years and in different gardens. The average yield for the province on the basis of the data collected worked out to 28 nuts per tree.

Travancore.—Statistics collected from 29 gardens in different parts of the State showed that the yields in different years varied from 8 to 106 nuts per tree in different gardens. The average yield for the State is estimated as 30 nuts per tree.

Cochin.—The average yields in 22 gardens in different parts of the State over a number of years were found to vary from 10 to 59 nuts per tree and the average yield for the State is reckoned to be 30 nuts per tree.

Mysore.—The average yields over a number of years in 3 gardens were found to be 35, 54 and 55 and the average for the State is reckoned to be 50 nuts per tree.

Bombay.—Statistics collected about the yield of nuts over a number of years in the different coconut growing districts indicated that the average yields varied from 8 to 36 nuts per tree. The average for the province is estimated as 24 nuts per tree.

Bengal.—The weighted average for the province on the basis of estimates made for different districts worked out to 30 nuts per tree.

Other areas.—The average yield of nuts per tree is reported as 40 in Orissa and Assam and 20 in Pudukkottai.

(e) *Total production of nuts.*—The total production of coconuts in different provinces and States, on the basis of the number of trees per acre, the number of non-bearing trees and the yield of nuts per acre discussed in the preceding paragraphs, as shown in detail in Appendix V, works out to 2,976 million nuts or roughly 3,000 million nuts.

(f) *Proportion of tender nuts and mature nuts.*—Some nuts are plucked when the kernel inside has only partially formed and is gelatinous. These are referred to as tender nuts and are plucked mainly for the milky fluid inside, which provides a refreshing drink especially during summer. The nuts which are plucked when the kernel inside has properly formed may be referred to as mature nuts. There is a belief in some areas that the removal of a few tender nuts improves the yield of the tree.

No statistics are available about the number of tender nuts plucked in different areas. On account of their poor keeping quality, the demand for tender nuts is extremely localised, being more in the vicinity of large towns. The proportion of nuts plucked as tender nuts in the main coconut growing areas is, therefore, small. The rough estimates given in the table below, have been formed on the basis of enquiries made at a number of gardens, from growers and others and the arrivals of tender nuts at some markets.

Estimated production of tender nuts and mature nuts.

Provinces and States.	Total production.	Tender.		Mature.	
		Number.	Percentage of total.	Number.	Percentage of total.
	Millions.	Millions.		Millions.	
Madras	1,229	24.6	2.0	1,204.4	98.0
Travancore	1,125	1.1	0.1	1,123.9	99.9
Mysore	338	3.4	1.0	334.6	99.0
Cochin	126	0.3	0.2	125.7	99.8
Orissa	55	11.0	20.0	44.0	80.0
Bombay	53	2.6	5.0	50.4	95.0
Bengal	42	4.2	10.0	37.8	90.0
Assam	5	0.2	5.0	4.8	95.0
Others	3	0.6	20.0	2.4	80.0
Total	2,976	48	1.6	2,928	98.4

The total production of tender nuts in India thus amounts to 48 million nuts which is about 1.6 per cent. of the total production. The remaining 2,928 million nuts or 98.4 per cent. of the total production are plucked as mature nuts.

(g) *Trend of production.*—The figures given in the tables on page 27 clearly indicate that the production of coconuts is subject to considerable variation from year to year, but in the absence of any data regarding production in different years it is not possible to determine the trend of production. The figures of yield at a Government Research Station given in the first table show that between 1932 and 1940, the yields were comparatively high in 1937 and 1938 and very low in 1932 and 1933. The yields of a garden in Malabar given in the second table also indicate that the yield was comparatively high in 1937 and low in 1932. The records of the 4 gardens in the Travancore State indicate that between 1933 and 1937, the yields were comparatively high in 1937 and low in 1936. Similarly, the yields of 2 gardens in the Cochin State indicate the yields between 1932 and 1939 to be high in 1937 and low in 1938. Between 1931 and 1936, a garden in Mysore got the highest yield in 1936 and lowest in 1933 and 1934. These figures show that the production was comparatively high in 1937 and low in 1933 but they do not provide evidence of a steady or consistent increase or decrease in the production. Enquiries made in a large number of coconut gardens, indicate that the yields per tree, if anything, declined after the cyclonic disturbances over the coconut area in 1930 and 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 small with the result that the fall in production may be more than can be gauged from the decrease in the area. The low level of prices is also reported to have contributed to a decrease in the yields as growers have not had the incentive to put in manures, etc.

On the other hand, an expansion of coconut acreage has actually taken place in some areas, e.g., in the midlands in Cochin. Some increase in production may also take place by some young trees starting bearing within the next few years. Again, several instances were observed in the course of the present survey when systematic planning and attention to coconut trees had resulted in substantial increase in production. For example, on some coconut lands in Cochin, the cutting down of trees where they were too close together with manuring and cultivation resulted in the production becoming double within 10 years. Experiments carried out at research stations in India and elsewhere, as already stated, have definitely established that the yields of coconuts are substantially increased by inter-cultivation and manuring. The cost of manuring and inter-cultivation is reported to be only a fraction of the extra returns obtained by increased yields. Cultivators are, however, slow in adopting better methods and the low level of prices between 1933 and 1941 offered them little incentive to give better treatment to their coconut trees. It may be stated, therefore, that in the ordinary course no appreciable increase in production may be expected within the next few years, but a well-planned scheme and concerted effort can bring about a very substantial

increase in coconut production. Efforts should, therefore, be directed towards increasing the production by better treatment and manuring. For instance, a ten-year plan to increase the production of coconuts could be drawn up and its administration entrusted to a specially constituted body called the Indian Coconut Board, which besides attending to this problem may also direct research and attend to other problems which would be referred to in later parts of the report. During this period, the Board could give loans at cheap rates for manures, provide facilities for inter-cultivation, encourage under-planting of trees where advisable or removal of trees where over-crowding did not permit of proper yields being obtained. The loans may be repayable after 3 years by a part of the production being handed over to the Board.

(3) QUALITIES.

Coconuts harvested from different types of trees, in different seasons and at different stages of maturity show certain differences in respect of their colour, size and shape, the quality and quantity of the copra obtained and the suitability of the husk for "retting".

Dwarf trees usually produce small nuts which are mostly plucked when immature. Copra, if made from these nuts, is of poor quality. Most of the coconut trees grown on a commercial scale in India, however, belong to the tall varieties. In Malabar, a variety called *Theruthengai* produces nuts which even when mature have no hard kernel as in other varieties but are full of a gelatinous sweet substance inside the shell. Another variety known as *Kaithathali* gives nuts, the husk of which instead of being fibrous is soft and fleshy which is sometimes eaten raw. Trees producing such nuts are, however, uncommon.

Nuts harvested during the summer months, i.e., from March to May are generally bigger in size than those harvested during other parts of the year, especially the monsoon months. The stage of maturity at which the nuts are harvested has an important bearing on the quality and quantity of copra obtained and the suitability of the husk for "retting".

(4) HARVESTING.

(a) *Number of harvests per year.*—Coconuts are harvested several times in a year, the number and period of harvests varying in different areas. On the West Coast, nuts may be harvested from six to twelve times a year. In well-maintained gardens the yields are heavy and harvesting is done once every month. In poor plantations especially in the laterite areas, only about six harvests are taken, once every two months. In the gardens situated on the back waters or on canals where husks are required for retting, 10 to 12 harvests is the common rule, the object being to obtain the husks in a perfect condition for being retted. In the inland regions, where husks are not mainly utilised for the production of fibre, the number of harvests is reduced to about

eight, two or three bunches being harvested at a time in order to reduce the cost of harvesting and collection of nuts. In the Godavari area 8 to 10 harvests are common. In Mysore, nuts are generally harvested every month. In Bombay, 4 to 6 harvests are taken every year. In Bengal, Orissa and Assam, harvesting is usually done twice a year.

Tender nuts are usually harvested casually as and when required. A few of them may be plucked along with mature nuts or when producers are in urgent need of money. Around the city of Bombay, there is a regular trade in tender nuts and there are 3 to 4 pluckings in a year. In Bengal also, where the consumption of tender nuts is not inconsiderable, 4 or 5 harvests are made in a year.

(b) *Periods of harvesting.*—Coconuts are harvested throughout the year but the number of nuts plucked at different harvests varies in different areas. The table below gives the number of nuts harvested in different months in 2 gardens in the Malabar district of Madras, and 3 gardens each in Travancore and Cochin States.

Number of coconuts harvested in different months in some gardens.

(Average 5 years.)

Months.	2 gardens in Malabar district of Madras.		3 gardens in Travancore State.		3 gardens in Cochin State.	
	Number of nuts.	Percentage to annual total.	Number of nuts.	Percentage to annual total.	Number of nuts.	Percentage to annual total.
January . . .	2,791	14.0	1,428	13.0	13,224	13.9
February . . .	1,491	7.5	426	3.9	16,520	17.4
March . . .	2,717	13.6	1,979	18.1	15,591	16.4
April . . .	2,589	12.9	862	7.9	4,645	4.9
May . . .	1,531	7.6	1,867	17.0	8,158	8.6
June . . .	2,178	10.9	616	5.6	9,873	10.4
July . . .	1,066	5.3	1,253	11.4	5,514	5.8
August . . .	1,318	6.6	202	1.8	4,897	5.1
September . . .	1,239	6.2	647	5.9	5,521	5.8
October . . .	896	4.5	458	4.2	2,316	2.4
November . . .	1,248	6.2	492	4.5	8,470	8.9
December . . .	950	4.7	739	6.7	366	0.4
Total . . .	20,014	100.0	10,969	100.0	95,095	100.0

In the two gardens in the Malabar district, the harvests were comparatively heavy in January, March, April and June, about two-thirds of the total annual pluckings being in the first 6 months of the year, i.e., from January to June. The data in respect of the 3 gardens in Travancore show that the harvests were heavy in the alternate months of January, March, May and July. The number of nuts collected between January and July account for more than three-fourths of the total annual pluckings. In the 3 gardens in the Cochin State, the harvests appear to be heavy in January, February, March and June; the plucking from January to June accounting for more than 70 per cent. of the annual total.

In Mysore, the July, August, September and October harvests are reported to be heavier than those in other months. In Bombay, the harvests made between March and May are comparatively heavy, while those during December and January are very poor. In Bengal, harvesting takes place mainly in July or August. A second harvest, which is very small, is sometimes taken in April or May. In Orissa, where two harvests are made, the months of harvesting are May and September. In Assam, where also two crops are taken, the heavier harvest is taken in September or October and the second in March or April.

It will thus be seen that the periods of heavy supplies do not coincide in all the important coconut producing areas, but, generally speaking, January to July are the main months of harvesting.

It has already been stated that there are no regular harvests for collecting tender nuts. But as the demand for tender nuts is largely confined to summer months, very few tender nuts are plucked in rainy and winter months. In South India, tender nuts are generally harvested from February to May and in September-October while in Bengal, they are harvested between March and July. In Bombay, tender nuts are largely plucked between March and June.

(c) *Methods of harvesting.*—The common method of harvesting coconuts is by climbing the tree often with the help of a rope ring round the ankles of the climber. A ladder is sometimes used to climb the lower part of the palm, if a ring of thorns has been put round the trunk. Sometimes notches are also cut at regular intervals on the trunk to facilitate climbing. On reaching the top, the climber taps the nuts with the knife which he carries with him for cutting and judges the maturity by the sound which is produced. He then cuts the bunches (or single nuts) which he thinks are ready and lowers them down by means of a rope which is carried with him or allows them to drop on the ground sometimes covered with a layer of leaves or grass to minimize the chances of breakage. The climber also cleans the crown of dry leaves. In Tanjore, bunches of nuts are cut with a knife attached to a long bamboo pole operated from the ground by a man. This method is also used in parts of Mysore.

On the West Coast, nuts are usually harvested when their husk is still green from without. In Mysore, a bunch is judged to be mature when one or two nuts from the same become ripe and drop down on the ground. Nuts which are to be stored for making ball-copra are not harvested till completely ripe. In Bombay, a nut is said to have become ripe when the outer husk is partially dried. Nuts which are to be used for raising seedlings, are allowed to become fully ripe on the tree and drop down by themselves.

(d) *Costs of harvesting.*—There is a great diversity in the cost of harvesting in different areas and even from garden to garden in the same area. The charges* may be paid in kind or cash or both.

In Madras, when payment is made in cash, 3 pies are paid for every 3 to 5 trees harvested. A climber usually harvests about 30 trees in a day. When paid in kind, a climber gets 3 nuts and 3 lb. of paddy for a day's labour. In Travancore, the climber may be paid a *chakram* (a local coin equivalent to 6·8 pies) in cash or one nut in kind for every 2 to 4 trees climbed. In Cochin, a climber who harvests between 75 and 100 trees per day gets 8 to 10 annas in addition to 4 to 6 nuts. In Mysore, the charges are usually 3 pies per tree, or when paid in kind, 25 to 30 nuts are given for every 1,000 nuts harvested. In Bengal, the climber may receive 1 nut and 6 pies or 2 nuts per tree harvested. In Bombay, the charges generally vary from 3 to 6 pies per tree. Payment in kind varies from 1 nut per 2 to 4 trees to 4 nuts per 100 nuts collected. The harvesting of tender nuts in Bombay is generally done on a contract basis, the charges varying from Rs. 5 to Rs. 7 per thousand of 1,125 nuts.

(5) IMPORTS OF COCONUTS.

(a) *Quantities and trend.*—The annual imports of coconuts into India by sea through British India and Kathiawar States ports and the French ports in India from 1909-10 to 1942-43 are given in Appendix VI. The imports from Burma, which was a part of India up to March 1937, have been added to the imports from other countries in order to make the figures up to 1936-37 comparable with those for subsequent years.

The imports averaged 4·6 million nuts and 4·3 million nuts in the quinquennia ending 1913-14 and 1918-19 respectively, but declined to an average of 2·5 million nuts during the quinquennium 1919-20 to 1923-24. The imports thereafter increased to an average of 3·8 million nuts in the quinquennium ending 1928-29 and 4·8 million nuts in the following 5-year period. The increase was more marked in the quinquennium 1934-35 to 1938-39, the imports having averaged over 7 million nuts. The largest imports were recorded in 1934-35 when 9·8 million coconuts were imported

* The rates given in the next para. are reported to have increased with the general rise in the price level of commodities in 1941 and 1942.

into India. The smallest imports were in 1922-23 when only 1·5 million nuts were imported into India. It may, therefore, be stated that although the imports show considerable fluctuations from year to year, the general trend during the 15 years ending 1938-39 shows a tendency for the imports to increase. The figures for subsequent years do not show any definite trend.

Besides the imports by sea, some coconuts are imported into British India from Goa territory *via* Castle Rock. The numbers imported from 1934-35 to 1938-39 were as under:—

Imports of coconuts from Goa territory into British India.

Year.	(Thousands.)
1934-35	22,534
1935-36	14,043
1936-37	10,997
1937-38	20,974
1938-39	20,610
. Average	17,832

(b) *Sources.*—The main sources of imports of coconuts into India are Ceylon and Maldives. The number of nuts imported into British India ports from different sources since 1929-30 are tabulated in Appendix VII. Ceylon accounted for 77 per cent. of the imports during the quinquennium ending 1938-39 sending on an average 5·4 million nuts annually. The imports from this country are received almost entirely through the ports of Tuticorin and Dhanushkodi in Madras, only a small share being received in Bombay.

Imports from Maldives which averaged nearly 1·6 million nuts or 22 per cent. of the imports during the quinquennium 1934-35 to 1938-39, were almost entirely received into Bengal.

The imports from the Straits Settlements which averaged only 20,000 nuts during the same period, were received mainly through the ports of Madras and Negapatam on the East Coast.

Madras thus accounts for the major portion of the imports of coconuts into India taking almost the whole of the imports from Ceylon and the Straits Settlements. Bengal which ranks next to Madras, imports almost entirely from Maldives.

(c) *Qualities.*—The imports of coconuts into India consist entirely of mature nuts. Nuts received from the Maldives are unhusked, while those from Ceylon and Straits Settlements are mostly husked.

(d) *Periodicity.*—The imports of coconuts during the four years 1937-38 to 1940-41 largely took place between August and November, when over 65 per cent. of the annual supplies were received, as will be seen from the table on the next page, which shows the average monthly imports (through British India ports) expressed as percentages of the average annual imports during the four years. The imports were highest in October.

Periodicity of imports of coconuts.
(Average 1937-38 to 1940-41.)

Months.	Per cent.
April	1.8
May	1.9
June	3.9
July	4.2
August	10.5
September	10.8
October	35.8
November	8.3
December	6.2
January	5.7
February	3.8
March	7.1
	100.0

(c) *Duty on imports.*—The rates of import duty on coconuts (along with those on copra and coconut oil) from 1925 to 1943 are tabulated in Appendix XIX, from which it will be seen that the rate of duty on imports of coconuts into India was 15 per cent. *ad valorem* up to 1930. This was raised to 20 per cent. from 1st March 1931 and to 25 per cent. from 5th April 1931. In 1933, a preference of 10 per cent. was granted in favour of imports from British Colonies, the standard and preferential rates of duty being fixed at 30 per cent. and 20 per cent. *ad valorem* respectively. The rates were raised to 36 per cent. and 24 per cent. respectively in 1942.

Tariff values for purposes of calculating the duty are fixed from year to year* depending mainly upon the prices prevailing during a certain period preceding the fixation of the tariff values. The values fixed differ in respect of coconuts imported from different sources. A higher tariff value is fixed for coconuts imported from the Straits Settlements, the Netherlands East Indies and Thailand as these are bigger in size compared with those from other countries. The nuts from Maldives being very small, the tariff value is lower. Since 1932, different tariff values have been fixed for husked and unhusked coconuts imported from the Straits Settlements and the Netherlands East Indies. Since 1935, a separate tariff value has been fixed for coconuts imported from Ceylon.

(6) EXPORTS OF COCONUTS.

(a) *Quantities and trend.*—The annual exports of coconuts from India from 1909-10 to 1942-43 are given in Appendix VIII. The exports from Burma which formed part of India up to 1936-37, have been excluded and those from India to Burma included to make the figures for the entire period comparable.

* Or at shorter intervals when necessary.

The exports during the quinquennia ending 1913-14 and 1918-19 averaged 8.2 million nuts and 7.4 million nuts respectively, which increased to an average of 9 million nuts during the period 1919-20 to 1923-24 and further to 9.7 million nuts in the following 5-year period. The exports thereafter declined to an average of 9 million nuts during the quinquennium 1929-30 to 1933-34 although the highest exports of 11.3 million nuts were recorded in 1931-32. During the next five years the exports declined further to an average of 6.8 million nuts only. After the outbreak of the War, exports sharply declined to 3.5 million nuts in 1939-40, and after recovering to 5.5 million nuts in 1940-41 and 5.7 million nuts in 1941-42, almost ceased in 1942-43. The trend of exports has thus been towards a decline since 1934-35.

(b) *Destinations.*—Burma was India's main customer for coconuts whereto over 97 per cent. of her total exports during the five years 1934-35 to 1938-39 were consigned (see Appendix IX). Iraq is the only other important customer for Indian coconuts. The bulk of shipments to Burma were from Madras and Bengal and to Iraq mainly from Bombay and to a small extent from Sind. Madras and Bengal thus account for the bulk of the export trade in coconuts.

(c) *Qualities.*—Only mature nuts are exported from India which are either partially or completely husked. The sizes of nuts exported vary considerably according to the requirements of the customers.

(d) *Periodicity.*—The exports of coconuts during the period 1937-38 to 1940-41, were comparatively high in July, September and November and low in April and October, as will be seen from the following table which gives the average monthly exports of coconuts (through British India ports) expressed as percentages of average annual exports during the four years 1937-38 to 1940-41.

Periodicity of exports of coconuts.

Months.	Per cent.
April	4.4
May	7.9
June	6.7
July	11.4
August	10.0
September	12.1
October	4.6
November	12.9
December	5.8
January	7.8
February	6.0
March	10.4
	100.0

(e) *Duty on exports.*—There is no duty on exports of coconuts from British India. Travancore State, which is one of the main coconut growing areas in India, however, levies an export duty of 5 per cent. *ad valorem* on exports of coconuts from the State. Most of these exports are to the neighbouring areas in the Madras Presidency and Cochin State and not to foreign countries. The tariff values fixed by Travancore State for coconuts (copra, coconut oil, etc.) since 1920 are given in Appendix XX.

(7) NET AVAILABLE SUPPLIES.

The total and net available supplies of coconuts in India during the period 1934-35 to 1938-39 may now be summarised as under:—

Net available supplies of coconuts in India.	
	(Thousand nuts.)
Estimated production (see page 176)	2,976,198
Add imports by sea (average 1934-35 to 1938-39) (see page 177)	7,098
Add imports from Goa territory <i>via</i> Castle Rock (see page 35)	17,832
Total supplies	3,001,128
Less Exports (average 1934-35 to 1938-39) (see page 179)	6,840
Net available supplies	2,994,288

The imports of coconuts into India as also the exports from India are small in relation to the total supplies so that the net available supplies are virtually the same as the production and may roughly be reckoned as 3,000 million nuts every year.

(8) UTILISATION OF COCONUTS.

(a) *Tender nuts.*—As has been stated earlier, tender nuts are in demand for the milky fluid inside, which forms a refreshing drink. The entire production of tender nuts is used in this way, except a small number used as religious offerings to the sea in places of Hindu pilgrimage like Puri in Orissa and Rameshwaram in Madras. The milky fluid or “coconut water”, as it is popularly called, is believed to have laxative and diuretic properties. After drinking the coconut water, the gelatinous kernel is often scraped and eaten. On account of their poor keeping qualities and the high transport costs involved due to their bulk, tender nuts are not transported to distant places and the supply is almost wholly consumed within short distances of the producing areas. There is no appreciable inter-provincial trade in tender coconuts.

(b) *Mature nuts.*—Mature nuts are used mainly for four purposes, *viz.*, (i) for making copra, (ii) for religious offerings, (iii) for edible purposes as fresh kernel, and (iv) for raising seedlings.

(i) *For copra making.*—In the main coconut producing areas of Madras, Travancore, Cochin and Mysore, a considerable proportion of mature nuts is utilised for making copra, *i.e.*, dried

coconut meat. In Madras, copra is produced only in Malabar, South Kanara and the Godavari districts. On the basis of enquiries made during the survey, it is estimated that about 55 per cent. of the production in Malabar and South Kanara districts and 25 per cent. of the production in Godavari area are used for copra making. The total number of nuts used annually for copra making, on an average, during the period 1934-35 to 1938-39 thus works out to 400 million nuts in Malabar and South Kanara districts and 55 million nuts in Godavari area, *i.e.*, 455 million nuts in the whole province. In Travancore, about 640 million nuts or 57 per cent. of the production are estimated to be converted into copra, while in Cochin the number is estimated at about 95 million nuts or nearly 75 per cent. of the production. In Mysore, the main coconut producing districts of Tumkur and Hassan use about two-thirds of their crop for copra making, while Kadur and Chitaldrug use only about one-third and one-tenth of their production respectively. Taking the State as a whole, about 48 per cent. of the production of mature nuts, *i.e.*, about 160 million nuts are estimated to have been used for copra making, on an average, annually during the period 1934-35 to 1938-39.

Little copra is made outside these four provinces and States. In Bombay, only about 10 per cent. of the production of mature nuts is estimated to be used for copra making, while in other areas not more than 5 million nuts are estimated to be used for copra making. The position regarding the utilisation of nuts for copra making may, therefore, be summarised as under:—

Provinces and States.	Estimated average annual production of mature nuts.	Estimated average number of nuts utilised for copra making.	Proportion of production estimated to be used for copra making.
	(Million.)	(Million.)	Per cent.
Madras—			
Malabar and South Kanara districts	726	400	55
Godavari area	219	55	25
Travancore	1,124	640	57
Cochin	126	95	75
Mysore	335	160	48
Bombay	50	5	10
Others	348	5	..
Total	2,928	1,360	46

The total number of coconuts utilised for copra making is thus about 1,360 millions or nearly 46 per cent. of India's production of mature nuts.

(ii) *For religious purposes.*—Coconut or *Shriphal* as it is called for religious uses, occupies a very important place in Hindu ritual. It is considered a very auspicious* fruit and often forms a part of the religious or sacrificial offerings. Coconuts are also given as presents in token of friendship, homage, respect or goodwill on the occasion of Hindu marriages and other ceremonies. Again, coconuts are thrown into the sea and sacred rivers and tanks. Except for such nuts as are thrown into the sea or rivers, the nuts used for religious and ceremonial purposes find their way back for edible use either by those who receive them or by being sold again. The total number of nuts rendered unavailable for consumption on account of their being thrown in the sea or rivers, etc., is comparatively small. Therefore, the total quantity used for religious and ceremonial purposes may be taken as that used for edible purposes.

(iii) *For edible purposes.*—The meat from the freshly opened nut is used as food in various forms. It may be eaten as such or with other foods, besides being extensively used as an ingredient of curries, chutneys, sweets, puddings, etc. In "Keralam", coconut in one form or other enters almost every dish. The kernel is also shredded or grated† and used as a garnish for various dishes.

In the four main producing areas of Madras, Travancore, Cochin and Mysore, about 40 to 60 per cent. of the supplies are estimated to be used for edible purposes. In the coconut producing districts of Bengal, Bombay, Orissa and Assam, considerable numbers of coconuts are consumed for edible purposes but in other areas, the number of coconuts used for edible purposes is small. The *per capita* consumption of coconuts appeared to be increasing with their comparative cheapness upto 1941.

(iv) *For seedlings.*—Some coconuts are required for raising seedlings. The number thus required is likely to be greater when acreage under coconuts is expanding, but when acreage is more or less at a constant level, the number of seedlings required for underplanting is very small compared with the annual production per unit of area. The utilisation of nuts on this account, unlike annual crops, is almost negligible.

Allowing for 1,360 million nuts utilised for copra making, the average number of mature nuts estimated to be used annually for edible and religious purposes and as seedlings works out to 1,568 million nuts.

* A coconut used for religious purposes must have husk over the eyes.

† The grating is usually done by turning the halves of coconut kernels over a sharp serrated disc or plate by hand.

B.—Copra.

(1) PRODUCTION.

(a) *Types of copra.*—Copra made in India may be broadly classified into two groups* viz., edible and milling. The first group comprises high class copra which is considered fit for edible purposes, while the second group includes all the remaining copra which finds an outlet mainly for the production of coconut oil. This classification is, however, not always strictly adhered to and a quality classed as milling may sometimes be utilised for edible purposes. Selected cups of milling qualities are frequently mixed with edible copra while the rejections of the latter are sold for crushing purposes.

Milling copra is made in the form of cups, while edible copra is made both in the form of balls and cups. Copra is also available in the form of chips which may be either from ball copra or cup copra.

The production of milling copra is almost wholly confined to "Keralam"†. In the Malabar and South Kanara districts of the province of Madras and in the Travancore State, nine-tenths of the total production of copra is estimated to be of milling quality, while in Cochin, production of edible copra is almost negligible. On the other hand, copra produced in the Mysore State and in the Godavari districts of Madras is almost wholly of the edible type.

In Orissa, Bombay and Bengal, there is no production of copra on a commercial scale, although producers make small quantities of milling copra for getting coconut oil for their domestic use. Considering the whole of India together, about one-fifth of the copra produced is of edible quality and the remaining four-fifths of milling quality.

(b) *Methods of preparing copra.*—The methods adopted for copra making differ for ball copra and cup copra.

For the preparation of ball copra, completely mature nuts with the husk on are stored in the shade for a period of eight to twelve months. The storage is generally on especially constructed platforms higher than the ground level, for example, a bamboo platform formed by placing bamboos across the trusses supporting the roof. During this period, the water inside gets absorbed in the kernel which gets detached from the shell and can be heard to rattle inside the shell. The nuts are then husked and the shell broken. The copra thus obtained is in the form of balls. This copra is highly valued for edible purposes as it is clean white inside and sweet in taste. Most of the copra in Mysore and small quantities in Malabar and Godavari districts of Madras and in the Travancore State are made in this manner.

• Cup copra is made from fresh nuts or from nuts which have been stored for a shorter period, the higher qualities of edible

* In each group, a number of qualities are recognised in the trade.

† See page 21.

copra being usually made from stored nuts and milling qualities from fresh nuts. The nuts after being husked are cut into two pieces and the water inside let out. The half pieces of husked nuts are then lightly dried, so that the kernels get detached from the shell. The kernels are then spread out and further dried. The method adopted for drying and the period of drying depend on the season and the quality of copra to be made and varies to some extent in different localities. Edible cup copra is generally made by sun-drying only, except in the Godavari districts, where edible copra from stored nuts is also made by kiln drying.

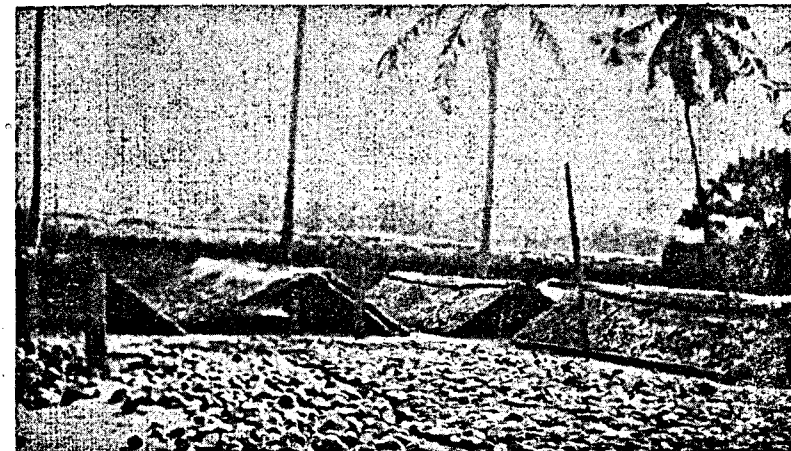
Milling copra may be made by sun-drying or by kiln drying or by a combination of both sun-drying and kiln drying. Kiln drying is resorted to especially in the rainy season when facilities for sun-drying are not available.

For sun-drying, the cups are placed closed together with the kernels exposed to the sun. The best grades of copra are obtained by drying the cups in the sun for seven days but on the West Coast, copra is generally dried for 4 or 5 days and often less in the case of copra prepared and marketed by cultivators and village copra makers. During the period of drying, the cups are covered at night or when rains suddenly break in. In large copra making establishments, the compounds are properly fenced and clean river sand is sometimes spread on the floors. Large screens made of bamboo and coconut leaves are used to cover the cups during the night or in case of sudden rains during the day. Wire or cotton netting is sometimes hung over the cups to prevent birds doing damage to the drying cups (see plates facing this page). In Malabar, Travancore and Cochin nuts harvested during the rainy season used to be stored, but nowadays kiln drying is usually resorted to during this period.

For kiln drying, the cups are spread over a platform of bamboo or wooden slates over a fireplace and subjected to the heat of a slow fire produced by burning coconut shells for 4 or 5 days. The walls of the room are made of brick or mud and the roof of tiles or plaited coconut leaves. The kilns vary in size and many of them have no proper arrangements for ventilation and are nothing more than smoking chambers. The upper plate facing page 43 shows a copra kiln on the West Coast. In a good type of kiln, there is practically no smoke and the drying is through hot air but in the ordinary kilns met with in the copra making areas of India, burning is not properly done and smoke is produced so that copra becomes dark in colour* and gives a yellowish tinge to the oil.

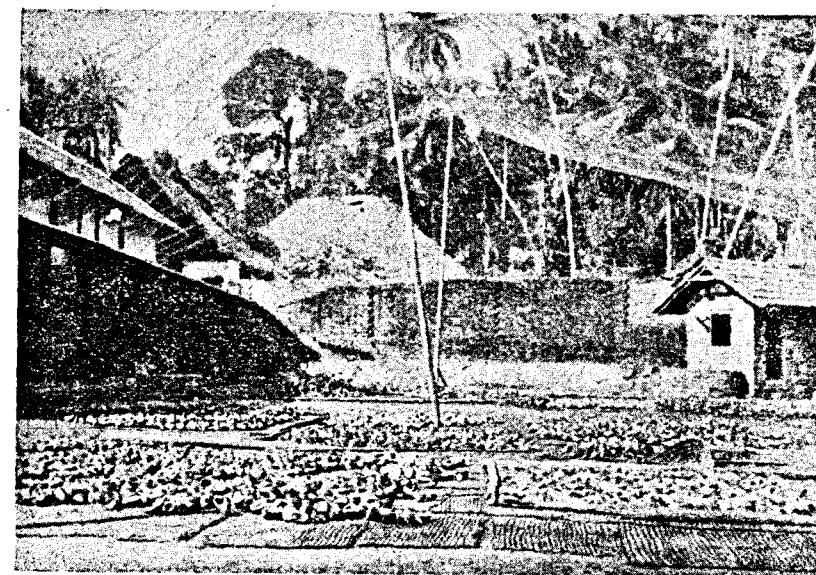
On the West Coast, most of the copra in fair months is made by sun-drying but lately the practice of giving a preliminary drying in the kiln before exposing the kernels for sun-drying is reported to be getting in vogue. This preliminary kiln drying

* Ceylon copra is usually sun-dried for the first day and kiln dried for four days but most of the kilns, unlike India, are properly constructed units.



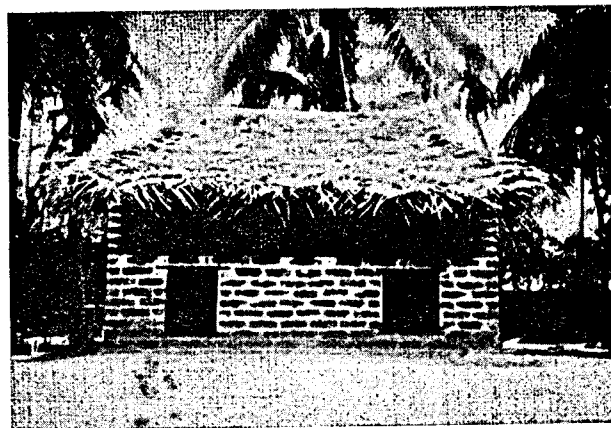
DRYING OF COPRA.

[Note the large screens used to cover the cups during night or sudden rains.]

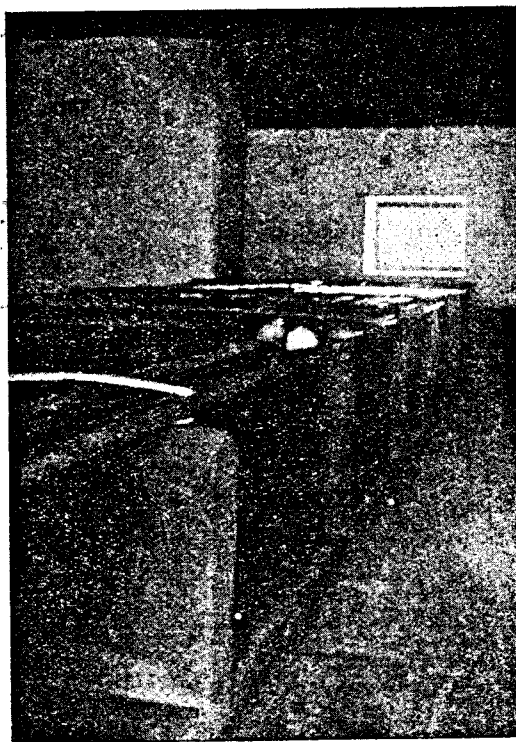


DRYING OF COPRA.

[Note the wire netting on top.]



A COPRA KILN ON THE WEST COAST.



A COPRA DRYING KILN USING COCONUT SHELL CHARCOAL FOR BURNING.

produces a quick surface drying and gives the copra a dried appearance although it may not be fully dried and is resorted to by the copra makers with a view to gain in weight and under the impression that buyers are thereby likely to underestimate the moisture. The practice has, however, nothing to commend from the point of view of quality of copra produced and to a certain extent is responsible for a deterioration in the quality of copra produced on the West Coast.

In the East Godavari district, copra drying kilns generally use coconut shell charcoal for burning in the kilns. Such a kiln may be seen in the lower plate facing this page. The cups are placed in the kiln during the night and in the sun during the day. In point of quality, copra made in this way is next only to that prepared by sun-drying. It is claimed by some that drying over coconut shell charcoal fire results in more even and gradual drying as compared with drying over a fire made by burning coconut shells as such. No definite data is, however, available in support of this view and the question whether drying over shell charcoal fire improves drying needs investigation.

Copra made from mature and immature nuts, dried or partly dried, are often mixed together and offered for sale. A high standard of quality was insisted upon when there was an export trade but the increased demand from mills has helped in inferior qualities being accepted. These factors together with the increased use of defective kilns appears to have brought about a deterioration in the quality of Indian copra.

The main reasons for giving insufficient drying or resorting to kiln drying, or the practice of giving a preliminary drying in kilns before sun-drying appear to be the want of finance and the erroneous belief on the part of the sellers that they may gain in weight by buyers underestimating the moisture. The quality of copra could be improved by providing better facilities for credit and finance, educating the copra makers about the losses incurred by selling insufficiently dried copra, and improving the kilns.

(c) *Cost of preparing copra.*—The cost of preparing copra includes the expenses incurred in husking, breaking open of the nuts and separating the kernels from the shell, and the charges for the labour involved in handling besides the cost of fuel burnt and maintenance of the kiln in the case of kiln drying. As the number of nuts required to produce a unit weight of copra varies in different seasons and in different localities, the cost of preparing copra varies in different seasons and in different places. The cost is higher in the rainy season when the nuts are smaller in size. The cost of preparing copra in Malabar district of Madras is estimated to be about Rs. 10 per ton of copra. In Travancore, the cost is reported to vary from Rs. 1-8 to Rs. 3-8 per candy (654 lb.), i.e., Rs. 5-2 to Rs. 11-15 per ton of copra. Similarly, Cochin reports the cost to vary from Rs. 1-9 to Rs. 2-12 per candy (656 lb.) which works out to Rs. 5-5 to Rs. 9-6 per ton of copra.

The cost of making ball copra in Mysore, not taking into account the cost of storage and interest during the period of storage, is estimated at about one rupee per ton of copra.

(d) *Agencies involved in copra making.*—The preparation of copra on the West Coast is undertaken by cultivators, professional village copra makers and wholesale merchants. It is estimated that about 25 per cent. of the copra is made by cultivators themselves and the balance either by village copra makers who buy nuts from the growers in villages or by wholesale merchants in assembling markets who sometimes prepare copra from nuts bought in assembling markets. The copra prepared and marketed by village copra makers and producers is usually only partly dried having had only 2 or 3 days' drying. This partly dried copra, when brought to the market and sold to wholesale merchants, undergoes further drying in their hands.

In Mysore, copra is mostly made by the producers themselves.

It may be added here that cultivators and village copra makers generally cannot sell their copra to the best advantage as the amount of copra sold by individual cultivators and village copra makers at a time is small. Copra making on co-operative lines should, therefore, be encouraged by setting up co-operative societies at a number of centres in producing areas. Co-operative societies could make copra from coconuts collected from members, or market members' copra after drying it properly.

(e) *Yield of copra from coconuts.*—The yield as also the quality of copra from coconuts is influenced by a number of factors, such as the time nuts have had to develop on the tree, the season of harvesting of the nuts, the period of storage of nuts, the age of the palm bearing the nuts, the soil and climatic conditions, under which the nuts are produced, and the method adopted for preparing copra.

Coconuts generally ripen in about 12 months, and experiments carried out at research stations indicate that the maximum quantity of copra is obtained from nuts which are twelve months old*. The loss in the quantity of copra from nuts eleven months old is slight, but from nuts 10 months old the reduction in the yield of copra is about 22 per cent. The maximum quantity of oil appears to form when the nuts are nine to ten months old so that there is practically no difference in the percentage of oil in ten, eleven or twelve months old nuts.

Nuts harvested at different parts of the year also vary considerably in size and the yield of copra. The output from nuts harvested in the dry months is comparatively more than from nuts harvested in the rainy months. Experiments, carried out at a government research station in Madras indicate that the yields of copra from 1,000 nuts varied from 300 lb. to 380 lb. in different months, the yields being high from February to May and low from July to November, as will be seen from the table on the next page. Statistics

* The Coconut Monograph: J. S. Patel.

collected during the survey from 7 copra establishments in Travancore State showed the yield of copra from 1,000 nuts to vary from 266 lb. to 311 lb., the yields being high in March-April and low in July-August. Similarly, statistics from 5 copra establishments in Cochin showed the yield of copra to vary from 280 lb. to 368 lb., the yields being high from February to April and low in July and August.

Yield of copra from coconuts harvested in different months.

(Per 1,000 coconuts.)

Months.	At a government research station in Madras.	Average for 7 copra establishments in Travancore.	Average for 5 copra establishments in Cochin.
	lb.	lb.	lb.
January	330	302	353
February	350	305	366
March	380	311	368
April	370	311	361
May	380	299	347
June	350	275	312
July	320	266	286
August	300	266	280
September	310	284	293
October	320	285	307
November	320	287	323
December	330	295	337

Copra prepared from fresh nuts is inferior in quality to that prepared from stored nuts, in which case the yield is also higher. No conclusive evidence is available to show that the yield of copra varies with the age of the palm bearing the nuts but it is reported from Mysore that copra is generally prepared from trees aged 15 years or more, because nuts from aged trees yield more copra than those from younger trees. Nuts on the coast are reported to be bigger in size and yield more copra than nuts produced in the interior. Nuts grown in the Godavari districts of Madras are smaller and yield less copra than those grown in Malabar.

Taking all these factors into account, the average yield of copra from 1,000 nuts is reckoned to be 360 lb. in Malabar and South Kanara districts of Madras, 320 lb. in Godavari area.

327 lb. in Travancore and Cochin and 280 lb. in Mysore. In other words, the number of nuts required to produce a ton of copra is estimated to be about 6,222 in Malabar and South Kanara districts of Madras, 7,000 in Godavari districts, 6,850 in Travancore and Cochin and 8,000 in Mysore.

It will not be out of place to add here that the number of nuts required to produce a ton of copra is usually reckoned to be 4,800 in Ceylon, 6,250 in the West Indies and 4,500 in the Philippines.*

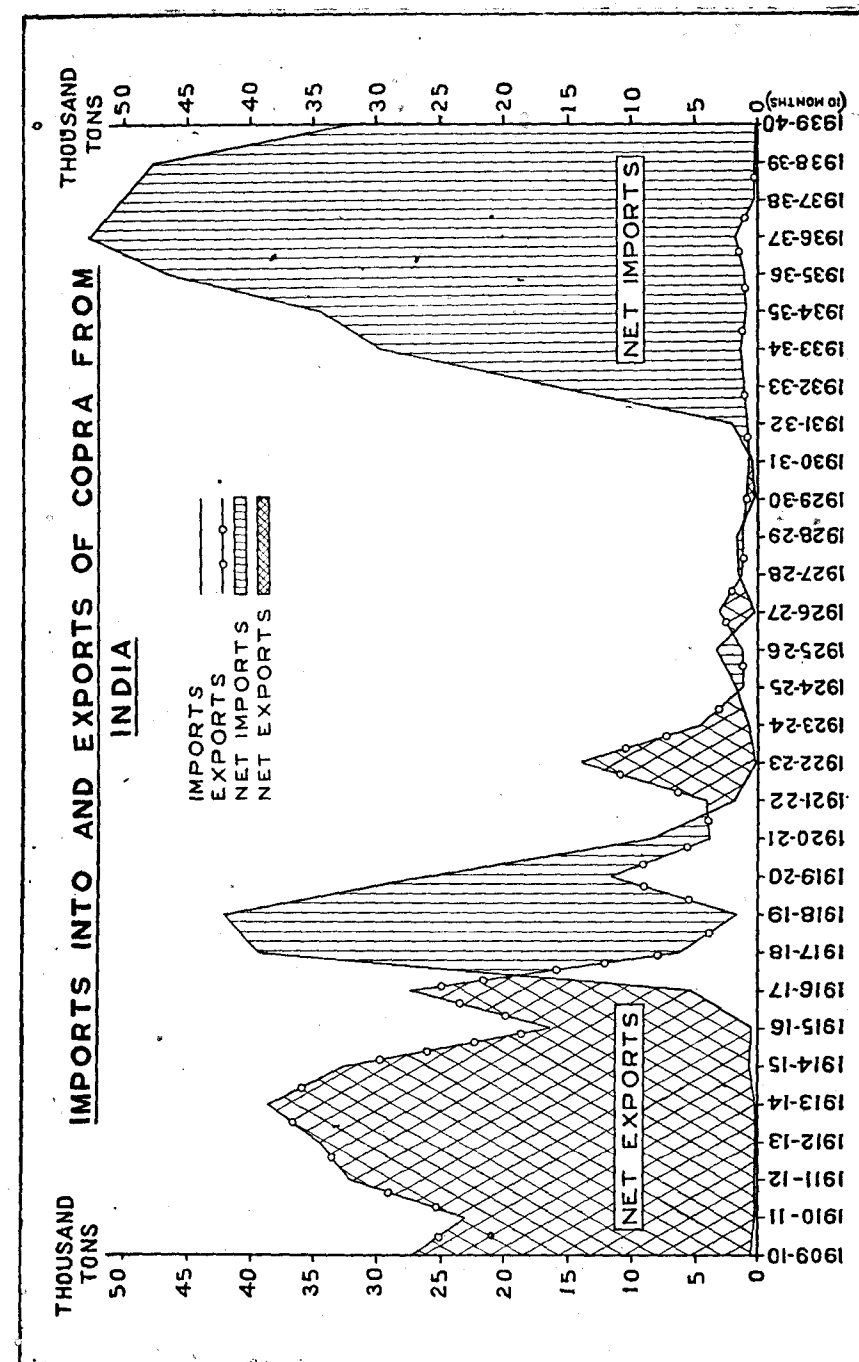
(f) *Total production.*—The number of coconuts used for preparing copra in different provinces and States, the number of nuts required to produce a ton of copra in different areas and the preparation of edible and milling copra have been discussed in earlier sections, on the basis of which the total production of edible and milling copra is summarised in the table below:—

Provinces and States.	Average number of nuts annually utilised for making copra.	Number of nuts required to produce one ton of copra.	Estimated production of copra.	Edible copra.	Milling copra.
	(Million nuts.)		(Thousand tons.)	(Thousand tons.)	(Thousand tons.)
Travancore . . .	640	6,850	93.4	9.3	84.1
Cochin	95	6,850	13.9	..	13.9
Madras (Malabar and South Kanara).	400	6,222	64.3	6.4	57.9
Madras (Godavari area).	55	7,000	7.8	7.8	..
Mysore	160	8,000	20.0	20.0	..
Bombay	5	6,200	0.8	..	0.8
Others	5	8,000	0.6	..	0.6
Total	1,360	6,773	200.8	43.5	*157.3

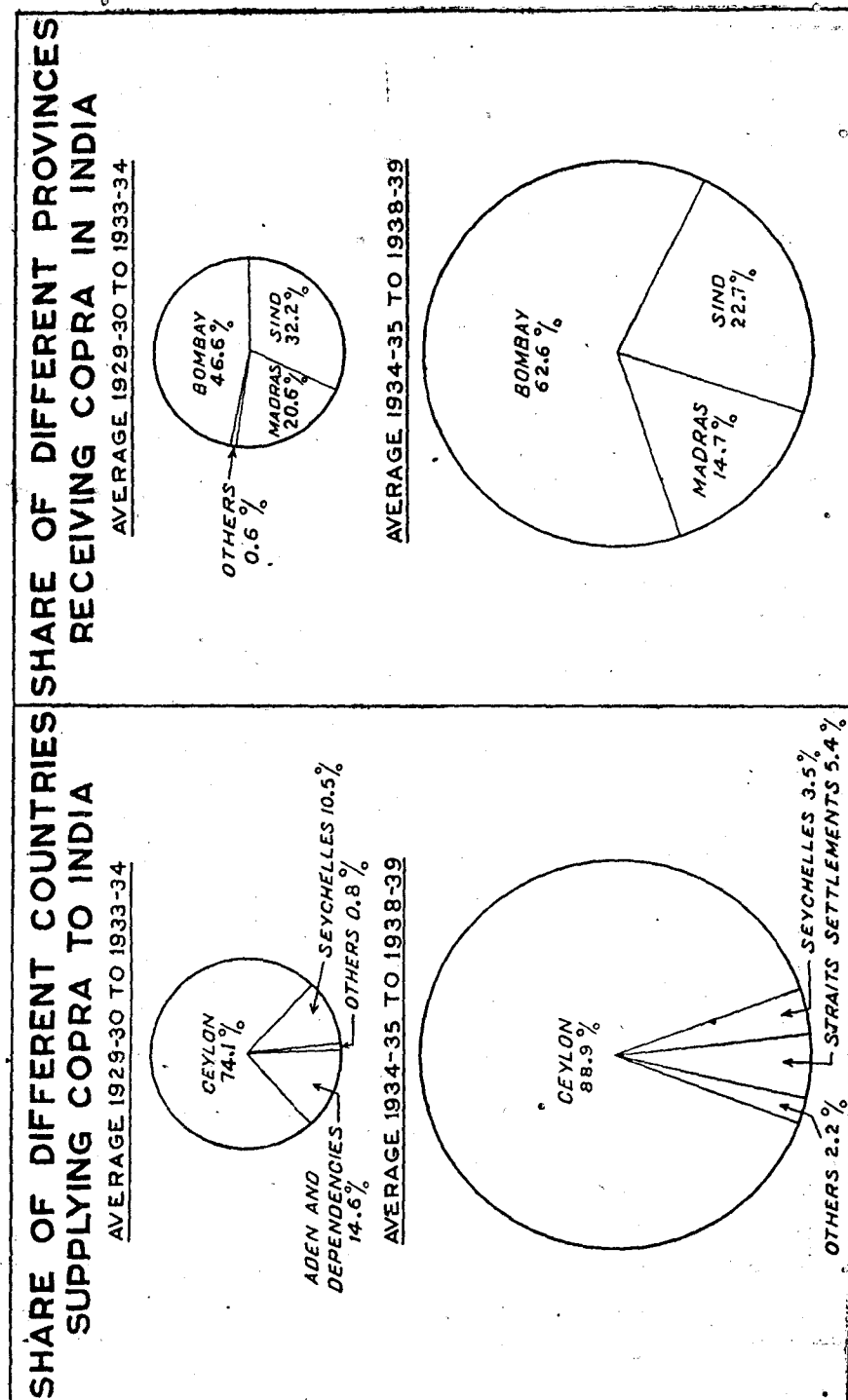
The production of copra in India thus amounts to about 200,000 tons of which over 85 per cent. is produced on the West Coast.

(2) IMPORTS.

(a) *Quantities and trend.*—The annual imports of copra into India since 1909-10 are tabulated in Appendix X and illustrated (along with exports) on the diagram facing this page, from which it will be at once seen that the imports were comparatively small up to 1913-14 except during the period 1916-17 to 1920-21 and



* Coconut Industry of the Philippines: F. C. Cooke.



that the quantities steadily increased from 1932-33. India first imported considerable quantities of copra during the period of 1914-18 War. From an average annual import of about one hundred tons only during the quinquennium ending 1913-14, the imports increased to over 39,000 tons in 1917-18 and nearly 42,000 tons in 1918-19, after which they gradually declined, falling to less than 2,000 tons by 1921-22. The imports thereafter continued to be small up to 1931-32 but were followed by a sharp and steady increase from 1932-33 up to 1936-37 when the imports exceeded 52,000 tons. During the next three years, i.e., from 1937-38 to 1939-40, the imports ranged roughly between 40,000 tons and 50,000 tons but in 1940-41 and 1941-42, Ceylon having lost most of her European markets for copra due to the War, placed unusually large quantities on the Indian market and the imports into India exceeded all previous records, the average for the two years being over 100,000 tons. In 1942-43, when the exports of copra from Ceylon became subject to certain restrictions, the imports of copra into India declined to 55,000 tons.

It will not be out of place to mention here that India used to export considerable quantities of copra up to 1916-17 after which the exports, as will be seen in a subsequent section, declined and became negligible after 1923-24. Considering the imports and exports together, as will be seen from the diagram facing page 46 already referred to, India was a net exporter of copra up to 1916-17. Between 1917-18 and 1920-21 she became a net importer after which she was a net exporter again from 1921-22 to 1923-24. Since 1924-25 she has been a net importer (except in 1926-27, 1929-30 and 1930-31), the quantities imported having considerably increased since 1932-33 without any expansion in exports.

It will be interesting to note from the table below that the net annual imports of copra during the quinquennium 1934-35 to 1938-39 averaged over 45,000 tons as compared with the average net exports of nearly 31,000 tons during the five-year period 1909-10 to 1913-14.

Net imports and exports of copra for India.

(Tons.)

Year.	Imports.	Exports.	Net exports.	Net imports.
1909-10 to 1913-14	113	30,907	30,794	..
1914-15 to 1918-19	17,477	16,691	..	786
1919-20 to 1923-24	7,364	7,554	190	..
1924-25 to 1928-29	1,652	1,547	..	105
1929-30 to 1933-34	9,741	912	..	8,829
1934-35 to 1938-39	46,046	808	..	45,238

No statistics or data are available to show whether, and if so to what extent the demand for copra and coconut oil in India has increased in recent years. It is difficult, therefore to state precisely whether the imports have increased as a result of increased demand for coconut oil in India or whether the increased imports of coconut oil and copra at prices which placed coconut oil in a position of advantage as compared with other oils, have brought about a larger consumption of coconut oil in India. From enquiries made during the survey, it appears that while there is no doubt that the consumption of copra and coconut oil has increased to some extent with the increase in the population and the development of soap and other industries using coconut oil, the demand for coconut oil (and consequently copra) beyond certain quantities, is elastic and depends on the relative prices of different vegetable oils. When efforts are made to increase the production of coconuts (and as a result, of copra and coconut oil), it may, therefore, be desirable to regulate the imports from abroad in relation to the production and demand in India.

(b) *Sources*.—When considerable quantities of copra were first imported into India between 1916-17 and 1920-21, Ceylon was the main supplier. In subsequent years also, Ceylon has been the chief source for copra imports into India. Besides Ceylon, some copra was also imported into India from Seychelles and in certain years from the Straits Settlements, the Federated Malay States and Aden and Dependencies (see Appendix XI).

Ceylon accounted for nearly 7,200 tons or 74 per cent. of the total imports during 1929-30 to 1933-34 and 40,500 tons or 89 per cent. of the total imports during 1934-35 to 1938-39. During the next two years Ceylon's share was 88 per cent. and 90 per cent. respectively which further increased to over 95 per cent. in 1941-42. The imports from Seychelles averaged about 1,000 tons during the quinquennium ending 1933-34 which increased to an average of 1,600 tons during the next five-year period. The quantities imported increased further in 1939-40 and 1940-41, the imports in the latter year being about 5,000 tons. The imports from the Straits Settlements were negligible except in 1935-36 and 1936-37 when nearly 8,400 tons and 3,000 tons respectively were received from this country. The Federated Malay States sent copra to India only in 1935-36 and 1936-37. The quantities received from Aden and Dependencies were small except in 1933-34 and 1937-38 when the imports from this source amounted to 6,200 tons and 2,100 tons respectively.

The supplies of copra into India from abroad are landed mainly in the provinces of Bombay, Sind and Madras. During the period 1929-30 to 1933-34, about 47 per cent. of the imports were received in Bombay, the share of Sind and Madras being 32 per cent. and 21 per cent. respectively. During the following quinquennium, Bombay received more than 62 per cent., Sind nearly 23 per cent. and Madras nearly 15 per cent. of the total imports of copra through British India ports. In 1939-40, Bombay's share increased

to nearly 77 per cent. followed by Madras accounting for 22 per cent. of the total. Imports into Sind were negligible. In 1940-41, however, Bombay's share declined to 56 per cent. only of the total, while the shares of Madras and Sind increased to about 23 per cent. and 21 per cent. respectively. The respective shares of various countries from which copra was imported into India and the provinces receiving the supplies during the two quinquennia referred to above are illustrated in the diagram facing page 47.

Imports into Madras are mainly through the port of Cochin, small quantities being also received at Calicut. In Bombay and Sind, the bulk of the imports are received at the chief ports, *viz.*, Bombay and Karachi.

(c) *Qualities*.—The imports from Ceylon consist almost entirely of milling copra of "Colombo-office-pass" quality. Imports from other sources are also of the milling grades except the very small quantities received from the Maldives which are of the edible type.

(d) *Periodicity*.—The imports of copra during the period 1937-38 to 1940-41 continued throughout the year but comparatively larger quantities were imported during the four months August to November, as will be seen from the diagram facing page 21 and the table below, which show the average monthly imports of copra (through British India ports) during the four years 1937-38 to 1940-41 expressed as percentages of the average annual imports during the period.

Periodicity of imports of copra.

(Average 1937-38 to 1940-41.)	
Months.	Per cent.
April	3.5
May	5.8
June	6.9
July	9.2
August	11.9
September	13.3
October	13.6
November	11.2
December	8.8
January	6.4
February	5.2
March	4.2
Total	100.0

(e) *Imports of desiccated coconut*.—Desiccated coconut is manufactured mainly in Ceylon, from where considerable quantities of this product have been exported in recent years to various

countries of the world including India. The imports into India have steadily increased in recent years as will be seen from the figures given in the table below.

Exports of desiccated coconuts from Ceylon and imports into India.
(Tons.)

	Exports of desiccated coconuts from Ceylon to all countries.	Imports of desiccated coconuts into India from Ceylon.
1936	30,014	51
1937	29,424	96
1938	29,785	231
1939	33,692	234
1940	14,049	495
1941	5,390	806

Desiccated coconut is prepared from coconuts by first removing the husk and shell, then paring off the brown skin from the kernel and then passing the white meat through cutting or shredding machines of various types to produce threads or chips of varying degrees of fineness. These are finally dried in hot air driers and packed for export in lined cases similar to tea chests. Desiccated coconuts find use in the preparation of confectionery, cakes, biscuits, pastry, puddings, etc. It may be stated here that considerable quantities of coconut kernels and copra are shredded in India by consumers themselves by hand by turning the kernels over sharp serrated plates or discs. In this case, the outer skin is not removed and there is no drying of the product. In view of the increasing demand for desiccated coconut in India, the possibilities of preparing the product in the country may be examined.

(f) *Duty on imports.*—The rates of import duty on copra from 1925 to 1943 are tabulated in Appendix XIX. Like coconuts, copra was subjected to an import duty of 15 per cent. *ad valorem* up to 1930, which was raised to 20 per cent. from 1st March 1931 and to 25 per cent. from 5th April 1931. In 1933, a preference of 10 per cent. was granted in favour of imports from British Colonies, the standard and preferential rates of duty being fixed at 30 per cent. and 20 per cent. respectively. These rates were raised to 36 per cent. and 24 per cent. respectively from March 1942.

The tariff values of copra fixed from year to year for calculation of duty varied between Rs. 21 and Rs. 23 per cwt. during the period 1925 to 1929. With the fall in prices, the values were lowered to Rs. 17, Rs. 16 and Rs. 11-12 in 1930, 1931 and 1932

respectively. With the decline in prices continuing, still lower values had to be fixed in subsequent years, so that between 1933 and 1942 the tariff values of copra varied from Rs. 6 to Rs. 10 per cwt.

The actual amount of duty payable on imports of copra varied from time to time as a result of the changes in the rates of duty and tariff values referred to above. The duty per ton of copra varied from Rs. 63 to Rs. 69 between 1925 and 1929 and from Rs. 48 to Rs. 80 per ton between 1930 and 1932. Since 1933, when imports from British colonies and other sources became subject to preferential and standard rates of duty respectively, the amount of duty payable on imports from British colonies has been appreciably lower than those on imports from other sources. Between 1933 and 1942, the duty payable on imports from British colonies varied from Rs. 24 to Rs. 43-3 per ton and on imports from other sources from Rs. 36 to Rs. 64-13 per ton.

It may be added that copra and coconut oil were both subject to the same rate of duty up to 1932, but from 1933 the rates of duty levied on copra have been lower than those for coconut oil.

(g) *Imports of copra in relation to imports of coconut oil.*—The imports of copra consist almost entirely of milling copra and as such are influenced by the demand for coconut oil and consequently the imports of coconut oil. The following table shows the imports of copra and the imports of coconut oil converted in terms of copra since 1924-25.

Imports of copra and of coconut oil in terms of copra.

(Tons.)

	Quantities			Proportion.		
	Copra.	Coconut oil converted in terms of copra.*	Total.	Copra.	Coconut oil converted in terms of copra.	Total.
Average 1924-25 to 1928-29.	1,652	7,226	8,878	19	81	100
1929-30	210	10,361	10,571	2	98	100
1930-31	498	7,900	8,398	6	94	100
1931-32	2,225	20,742	22,967	10	90	100
1932-33	16,214	45,976	62,190	26	74	100
1933-34	29,559	33,779	63,338	47	53	100

* 62 tons coconut oil taken as equivalent to 100 tons copra.

Imports of copra and of coconut oil in terms of copra—contd.
(Tons.)

	Quantities.			Proportion.		
	Copra.	Coconut oil converted in terms of copra.*	Total.	Copra.	Coconut oil converted in terms of copra.	Total.
Average 1929-30 to 1933-34.	9,741	23,752	33,493	29	71	100
1934-35	34,317	42,273	76,590	45	55	100
1935-36	46,097	48,350	94,447	49	51	100
1936-37	52,473	45,363	97,836	54	46	100
1937-38	49,928	45,619	95,547	52	48	100
1938-39	47,414	46,105	93,519	51	49	100
Average 1934-35 to 1938-39.	46,046	45,542	91,588	50	50	100
1939-40	40,479	68,640	109,119	37	63	100
1940-41	91,941	99,337	191,278	48	52	100
1941-42	108,643	74,358	183,001	59	41	100

* 62 tons coconut oil taken as equivalent to 100 tons copra.

It will be seen that during the quinquennium 1924-25 to 1928-29, when the total imports of copra and coconut oil in terms of copra averaged less than 9,000 tons, coconut oil formed the bulk of imports. A similar position continued till 1931-32 but in the next two years (when larger quantities of both copra and coconut oil were imported) the proportion of copra in the total imports increased appreciably with the result that during the quinquennium 1929-30 to 1933-34, the proportion of copra averaged 29 per cent. During the next quinquennium, the proportion of copra in the total imports steadily increased from 45 per cent. in 1934-35 to 54 per cent. in 1936-37, after which it declined to 52 per cent. in 1937-38 and 51 per cent. in 1938-39. Considering the average for the five year period, the total imports consisted of copra and coconut oil in almost equal proportions. During the next three years, viz., 1939-40 to 1941-42, the proportion of copra declined to 37 per cent. in 1939-40 but later increased to 48 per cent. in 1940-41 and 59 per cent. in 1941-42. It should, however, be noted that normal trade conditions were disturbed after the outbreak of the War.

The relative imports of copra and coconut oil appear to have been largely influenced by the rates of import duty levied on the two commodities and the tariff values fixed from year to year. It is obvious that there will be an incentive for the imports of copra if the incidence of duty on a certain quantity of copra is less than that on an equivalent quantity of coconut oil. Conversely there will be an incentive for the imports of coconut oil if the incidence of duty on copra is more than on an equivalent quantity of coconut oil. The table below gives a comparison between the amount of duty payable in different years on 1 ton of copra and 12 cwt. of coconut oil (which is taken as roughly equivalent to 1 ton of copra) at the current rates of duty and tariff values.

Comparison of import duty on 1 ton copra and 12 cwt. coconut oil in different years at current rates of duty and tariff values.

Year.	Duty on 1 ton of copra.			Duty on 12 cwt. of coconut oil.			Difference of duty on 1 ton of copra over duty on 12 cwt. of coconut oil.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
1925	63	0	0	54	0	0	9	0	0
1926	66	0	0	54	0	0	12	0	0
1927	66	0	0	54	0	0	12	0	0
1928	66	0	0	54	0	0	12	0	0
1929	69	0	0	54	0	0	15	0	0
1930	51	0	0	46	12	10	14	3	2
1931	{ From 1st January 1931			48	0	0	38	11	3
	{ From 1st March 1931			64	0	0	51	9	7
	{ From 5th April 1931			80	0	0	64	8	0
1932	58	12	0	48	0	0	10	12	0
1933	{ At standard rate			60	0	0	65	1	7
	{ At preferential rate			40	0	0	46	8	0
1934	{ At standard rate			54	0	0	52	8	0
	{ At preferential rate			36	0	0	37	8	0
1935	{ At standard rate			36	0	0	42	0	0
	{ At preferential rate			21	0	0	30	0	0
1936	{ At standard rate			54	0	0	54	9	7
	{ At preferential rate			36	0	0	39	0	0

Comparison of import duty on 1 ton copra and 12 cwt. coconut oil in different years at current rates of duty and tariff values—contd.

Year.		Duty on 1 ton of copra.	Duty on 12 cwt. of coconut oil.	Difference of duty on 1 ton of copra over duty on 12 cwt. of coconut oil.
		Rs. A. P.	Rs. A. P.	Rs. A. P.
1937	{ At standard rate . . .	60 0 0	58 12 10	1 3 2
	{ At preferential rate . . .	40 0 0	42 0 0	—(2 0 0)
1938	{ At standard rate . . .	60 0 0	58 12 10	1 3 2
	{ At preferential rate . . .	40 0 0	42 0 0	—(2 0 0)
1939	{ At standard rate . . .	49 8 0	48 4 9	1 3 3
	{ At preferential rate . . .	33 0 0	34 8 0	—(1 8 6)
1940	{ At standard rate . . .	54 0 0	52 8 0	1 8 0
	{ At preferential rate . . .	36 0 0	37 8 0	—(1 8 0)
	{ From 22nd July 1940			
	{ At standard rate . . .	60 0 0	58 12 10	1 3 2
	{ At preferential rate . . .	40 0 0	42 0 0	—(2 0 0)
1941	{ At standard rate . . .	54 0 0	54 9 7	—(0 9 7)
	{ At preferential rate . . .	36 0 0	39 0 0	—(3 0 0)

During the period that copra and coconut oil were both subject to the same rate of import duty, i.e., up to 1932, the duty payable on 1 ton of copra always worked out to be higher than on 12 cwt. of coconut oil. This naturally favoured imports of coconut oil and it has already been observed that the proportion of copra in the total imports of copra and coconut oil during this period was comparatively very small. Since 1933, when different rates of duty were fixed for copra and coconut oil, the duty payable on 1 ton of copra often worked out to be lower than that payable on 12 cwt. of coconut oil. This position favoured imports of copra and, as already stated, the proportion of copra in the total imports of copra and coconut oil increased since 1932-33. In certain years, however, the incidence of duty calculated at the standard rate of duty worked out to be in favour of imports of coconut oil while at preferential rates of duty it worked out in favour of imports of copra. In such cases there was an incentive for imports of copra from British Colonies and of coconut oil from countries other than British Colonies. In the case of imports from the Straits Settle-

ments, the system* of assessing copra at standard rate of duty and coconut oil at preferential rate of duty worked in favour of imports of coconut oil. It is, therefore, interesting to note that while Ceylon has consistently been the chief source for the imports of copra into India, the Straits Settlements was an important source for the imports of coconut oil from 1932-33. Between 1935-36 to 1941-42, the supplies from this country exceeded those from Ceylon.

(3) EXPORTS.

(a) *Quantities and trend.*—The annual exports of copra from India from 1909-10 to 1942-43 are given in Appendix XII and illustrated along with imports in the diagram facing page 46. India used to export considerable quantities of copra before the 1914-18 War, the average for the quinquennium 1909-10 to 1913-14 being 30,907 tons. The quantities declined to an average of 16,691 tons during the 5-year period ending 1918-19 and to an average of 7,554 tons in the following quinquennium. The exports during the period 1924-25 to 1928-29 further declined to an average of 1,547 tons. With the increased consumption, the exports continued to decline in subsequent years (with simultaneous increase in imports) and became negligible after 1936-37. It has already been stated that India has been a net importer of copra in recent years.

(b) *Destinations.*—Before the 1914-18 War and in the quinquennium immediately following that war when India used to be an important exporter of copra, her main customers for copra were Germany, Belgium, France, Russia, the Netherlands and the United Kingdom. Between 1929-30 and 1940-41, the main customer for Indian copra was Burma, while small quantities were also sent to Iraq and other countries bordering the Arabian Sea. The quantities sent to different countries are given in Appendix XIII.

The exports consist almost wholly of edible grades of copra and are mainly from Bengal and Bombay. An inferior grade of edible copra called "Alpai" is sent to Iraq and other Arabian Sea countries. Ball copra from Mysore is sent from Bombay to Burma and to a small extent to other destinations.

(c) *Periodicity.*—The exports of copra during the period 1937-38 to 1940-41, small as they were, took place mainly in the months of

* The imports of copra and coconut oil into India from the Straits Settlements (before being occupied by the enemy) would ordinarily appear to be subject to the respective preferential rates of duty but the position was found to be different in the case of copra and coconut oil and in respect of imports from Singapore and Penang.

As Singapore served as an *entrepot* port for copra from the Netherlands East Indies, the imports of copra into India from Singapore were assessed at the standard rate of duty. Copra imported from Penang was also charged at the standard rate of duty but from 15th October 1941 it was assessed at preferential rate of duty provided it was shipped on a through bill of lading and accompanied by a certificate of origin. (The Government of Federated Malay States prohibited imports of copra into that country.)

Coconut oil imported both from Singapore and Penang (being locally crushed) was assessed at the preferential rate of duty. It is obvious that coconut oil imported from Singapore might have been crushed from copra imported into Singapore from the Netherlands East Indies.

April and May and from November to February, as will be seen from the following table giving the average monthly exports (through British India ports) during the four years 1937-38 to 1940-41 expressed as percentages of the average annual export during the period.

Periodicity of exports of copra.

(Average 1937-38 to 1940-41.)

Months.	Per cent.
April	15.0
May	10.6
June	3.6
July	1.8
August	3.6
September	7.1
October	7.1
November	10.6
December	15.0
January	8.8
February	10.6
March	6.2
Total	100.0

(d) *Duty on exports.*—There is no duty on exports of copra from India. Travancore State, which is one of the main copra producing areas, however, levies an export duty of 5 per cent. *ad valorem* on exports of copra from the State. Most of these exports are to the neighbouring areas in the province of Madras and the Cochin State and not to foreign countries. The tariff values fixed by the Travancore State from time to time since 1920 are given in Appendix XX.

(4) NET AVAILABLE SUPPLIES.

The net available supplies of copra may be summarised as under.

Net available supplies of copra in India.

(Average 1934-35 to 1938-39.)

	Thousand tons.
Estimated production (see page 46)	200.8
Add imports (Average 1934-35 to 1938-39) (see page 47)	46.0
Total	246.8
Less exports (Average 1934-35 to 1938-39) (see page 47)	0.8
Net available supplies	246.0

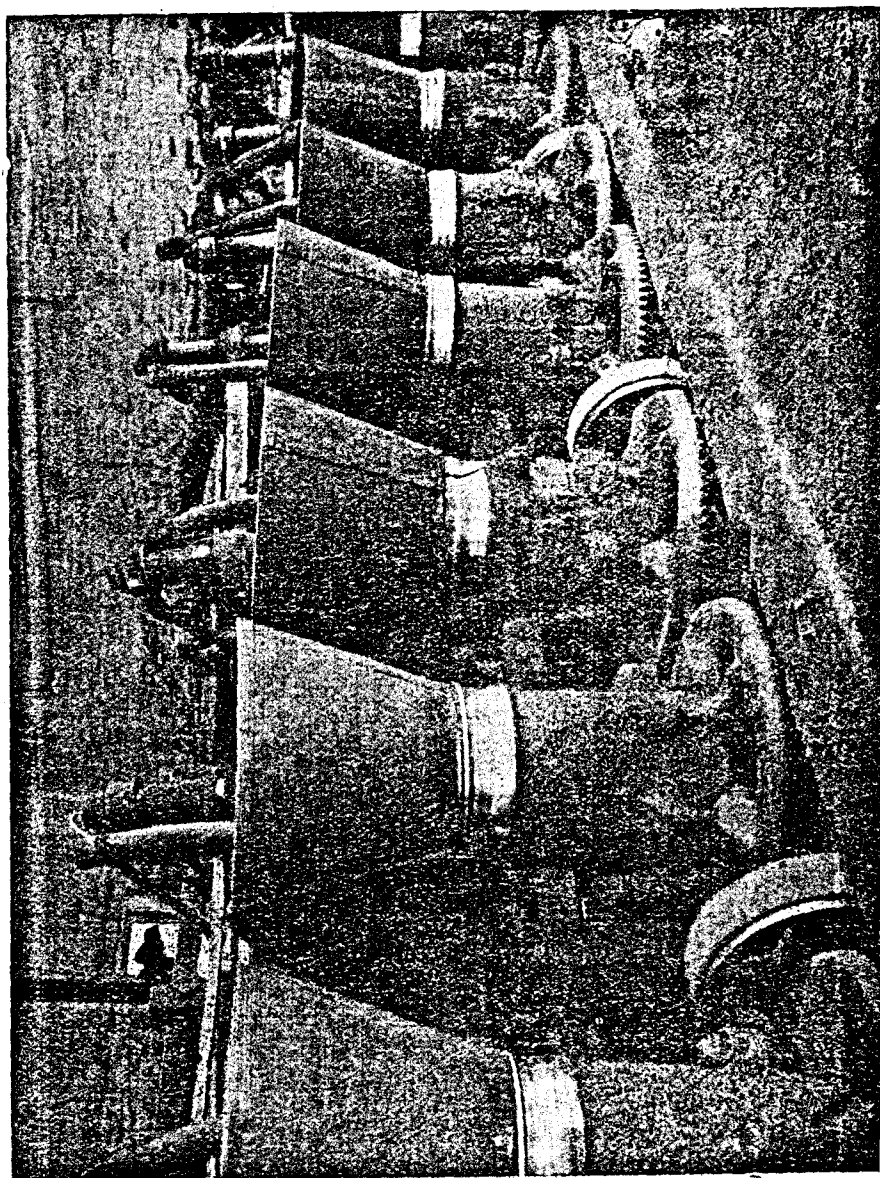
Thus 246,000 tons of copra are estimated to have been consumed annually in India during the period 1934-35 to 1938-39.

(5) UTILISATION.

Copra is used for edible purposes and for milling. The consumption for edible purposes is largely in the areas which do not



A STONE chekku.



ROTARY MILLS (POWER-DRIVEN) FOR CRUSHING OLSEEDS.

produce coconuts and where it is more economic to import copra rather than coconuts. Crushing, on the other hand, is concentrated mainly in the producing areas and at Bombay and Karachi, which are the chief centres of copra imports.

(a) *Edible use.*—Copra besides being eaten as such or mixed with other dry fruits is used in the preparation of sweets and as a garnish in many dishes. Copra balls are also used as religious offerings and on ceremonial occasions.

The table below gives the quantities of copra estimated* to be used for edible purposes in the various provinces and States.

Estimated quantities of copra consumed for edible purposes in India.

Provinces and States.	Quantities. (Thousand tons.)
Bombay	15
Mysore	7
Madras	2
United Provinces	6
Punjab	4
Bengal	1
Hyderabad	2
Sind	1
Others	5
Total	43

(b) *Crushing.*—Copra is crushed both by village *chekkus* and power mills equipped with rotaries and/or expellers. The village *chekkus* are used in the interior of copra producing areas, while crushing by power mills is carried out at the important centres in the producing areas and at Bombay and Karachi. The quantities handled by village *chekkus* appear to be decreasing with a simultaneous increase of greater magnitude in the quantities handled by power mills.

The following table gives the quantities of copra which are estimated to have been annually crushed during the period 1934-35 to 1938-39.

Estimated quantities of copra used for crushing in India.*

Provinces and States.	Quantities. (Thousand tons.)
Travancore	80
Madras	42
Bombay	30
Cochin	23
Sind	20
Others	3
Total	203

* Statistics of movement by coastal steamers, arrivals, and despatches by rail for a number of railway stations and enquiries made from the trade form the basis of these estimates.

C.—Coconut oil

(1) PRODUCTION.

(a) *Methods of crushing copra.*—Copra is generally crushed in India by *chekkus*, rotary mills and expellers.

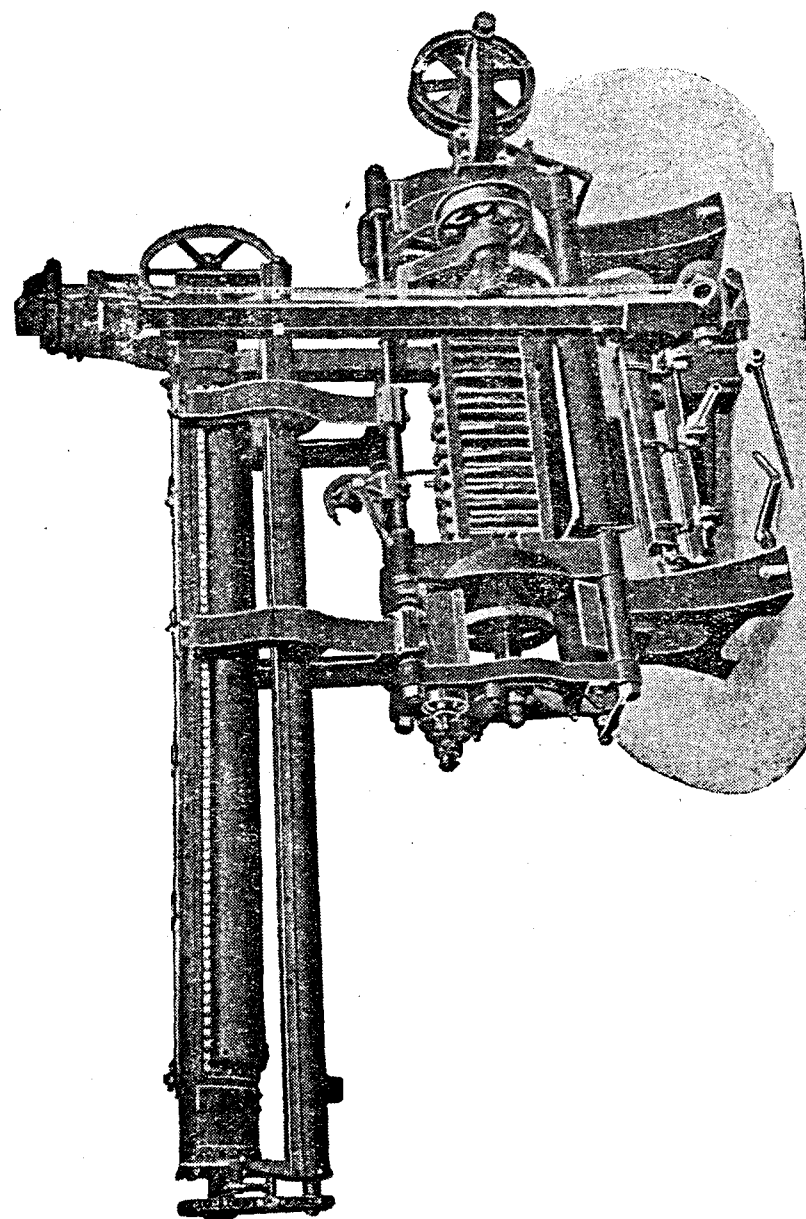
The *chekku* (see plate facing page 56) consists of a fixed wooden or stone mortar, inside which revolves a wooden pestle leaning against the side of the mortar. The extraction of oil takes place within the mortar as a result of friction caused by the revolving pestle, on which pressure is regulated by means of a lever and weights. The *chekkus* are usually driven by one or two bullocks but small *chekkus* are sometimes worked by human labour also. The capacity of a *chekku* varies according to the size of the mortar but generally a bullock-driven *chekku* crushes from about 100 lb. to 160 lb. of copra per day of 10 hours. The daily capacity of a small *chekku* driven by human labour is about 40 lb.

Rotary mills may be described as power-driven *chekkus* (see plate facing page 57) with the difference that in the case of rotary mills, both the pestle and the mortar revolve. In coconut producing areas, these have largely displaced *chekkus* for crushing copra. Rotaries invariably work in pairs, but their number at individual copra-crushing establishments may vary from one pair to several dozen pairs. The capacity of a rotary mill usually varies from about 500 lb. to 650 lb. of copra per day of 10 hours. About $\frac{1}{3}$ to 1 lb. *gum acacia* is added per maund of copra to bind the cake and facilitate the extraction of oil.

Expellers (see plate facing this page) which are being increasingly used for crushing oilseeds in India, are employed for crushing copra mainly by the mills at Bombay and Karachi; only a few of the mills in coconut-producing areas are equipped with expellers. The number of expellers in individual mills generally varies from 1 to 6. The extraction of oil in an expeller takes place within a steel cage by means of a series of hardened steel worms, so arranged on a revolving shaft as to produce increasing pressure as the copra is carried from one end of the cage to the other. The capacity of an ordinary size expeller is usually about 2 to 3 tons of copra per day of 10 hours, but there are a few big expellers of larger capacity in some mills.

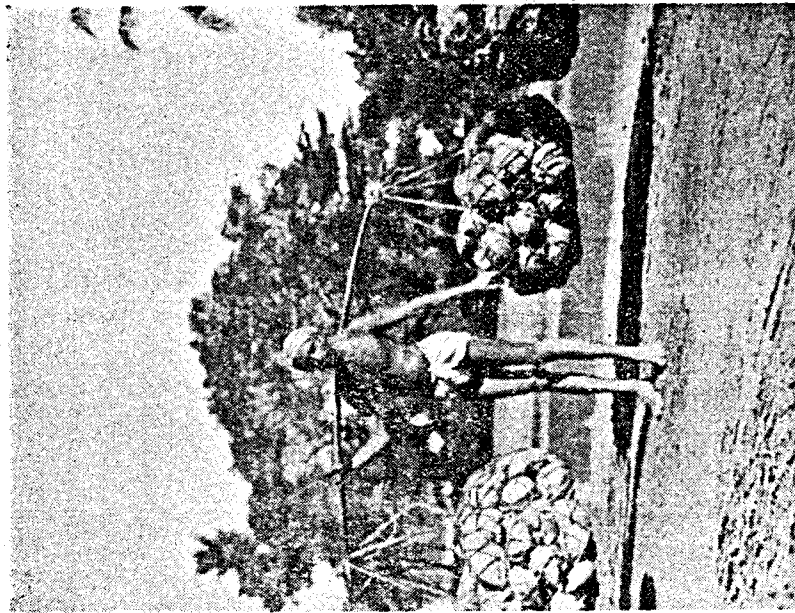
(b) *Cost of crushing.*—When copra is taken to a *chekku* for crushing, the *teli* (oil monger) often retains the cake as his wages and returns the oil. The charges for crushing copra by rotary mills were reported to be about Rs. 3 per candy (654 lb.) or roughly 6 annas per maund. The cost of crushing in expellers is generally reported to vary from Rs. 3 to Rs. 5 per candy (654 lb.), i.e., roughly from 6 to 10 annas per maund of copra.

(c) *Yield of coconut oil from copra.*—The yield of oil obtained by crushing copra depends on the oil content of the copra used and



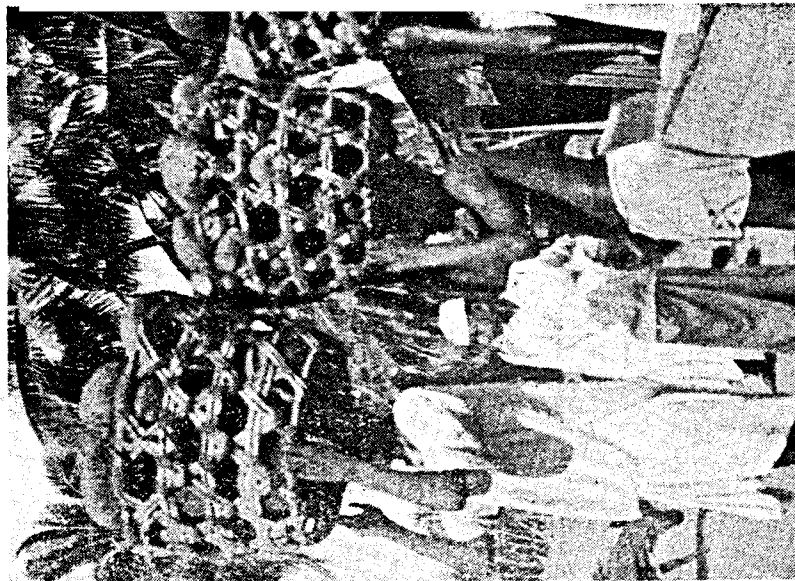
AN OIL EXPELLER.

Facing page 59.]



COCONUTS BEING TAKEN IN SLINGS SUSPENDED FROM EITHER ENDS OF A BAMBOO.

(For reference see page 96.)



COCONUTS BEING TAKEN AS HEADLOADS IN BASKETS.

the efficiency of the method and machinery employed. Ceylon copra, as a rule, has a lower oil content than Indian copra and, therefore, the yield of oil is somewhat lower when copra imported from Ceylon is crushed.

The extraction in monsoon months is $\frac{1}{2}$ to 1 per cent. lower than in other months. The maximum yield of oil is usually obtained with expellers. *Chekkus* usually give a low yield of oil. Rotary mills are less efficient than expellers but give a higher oil yield than bullock-driven *chekkus*. It should, however, be noted that although *chekkus* are not as efficient as expellers and rotary mills in respect of the yield of oil, the *chekku* oil (and cake) generally fetches a premium over expeller or rotary mill oil.

Statistics collected during the survey from a number of mills and *chekkus* showed that the yield of oil generally varied from 63 to 65 per cent. when crushing was done by expellers, 62 to 63 per cent. from rotary mills and about 58 to 60 per cent. from *chekkus*. The average yield of oil from all copra crushed in India by different methods is estimated to be about 62 per cent.

(d) *Number and location of crushing establishments and quantities of copra crushed.*—The published data about oil mills are incomplete and out of date* inasmuch as they refer to large establishments only and to a period at least two years prior to publication. Apart from this, there are no data about the large number of *chekkus* scattered in villages which crush considerable quantities of oilseeds. There is also no indication of the different oilseeds handled by the various mills and the quantities crushed are not recorded. Statistics about the crushing of various oilseeds and production of oils are, therefore, completely lacking in India. The position could be improved if oilseed crushing factories were to furnish compulsory returns of the quantities of different oilseeds crushed and the quantities of oils produced by them. In the case of copra and coconut oil, the problem is somewhat simpler as copra crushing is concentrated in a few areas only.

Enquiries about the number of mills and *chekkus* crushing copra, and their production of coconut oil were made during the survey in different provinces and States and as stated in an earlier section, 203,000 tons of copra are estimated to have been crushed annually during the period 1934-35 to 1938-39, yielding about

* The Department of Commercial Intelligence and Statistics issues biennially a publication "Large Industrial Establishments in India". It includes all factories which come under the operation of the Indian Factories Act excepting those in which the number of workers is less than 20. According to this publication (the last one was issued in 1939), the number of perennial and seasonal oil mills in India in 1937 was 265 and 15 respectively but from enquiries made in connection with the marketing surveys of linseed, groundnuts and coconuts, it appears that about 600 mills are at present engaged in crushing oilseeds in India.

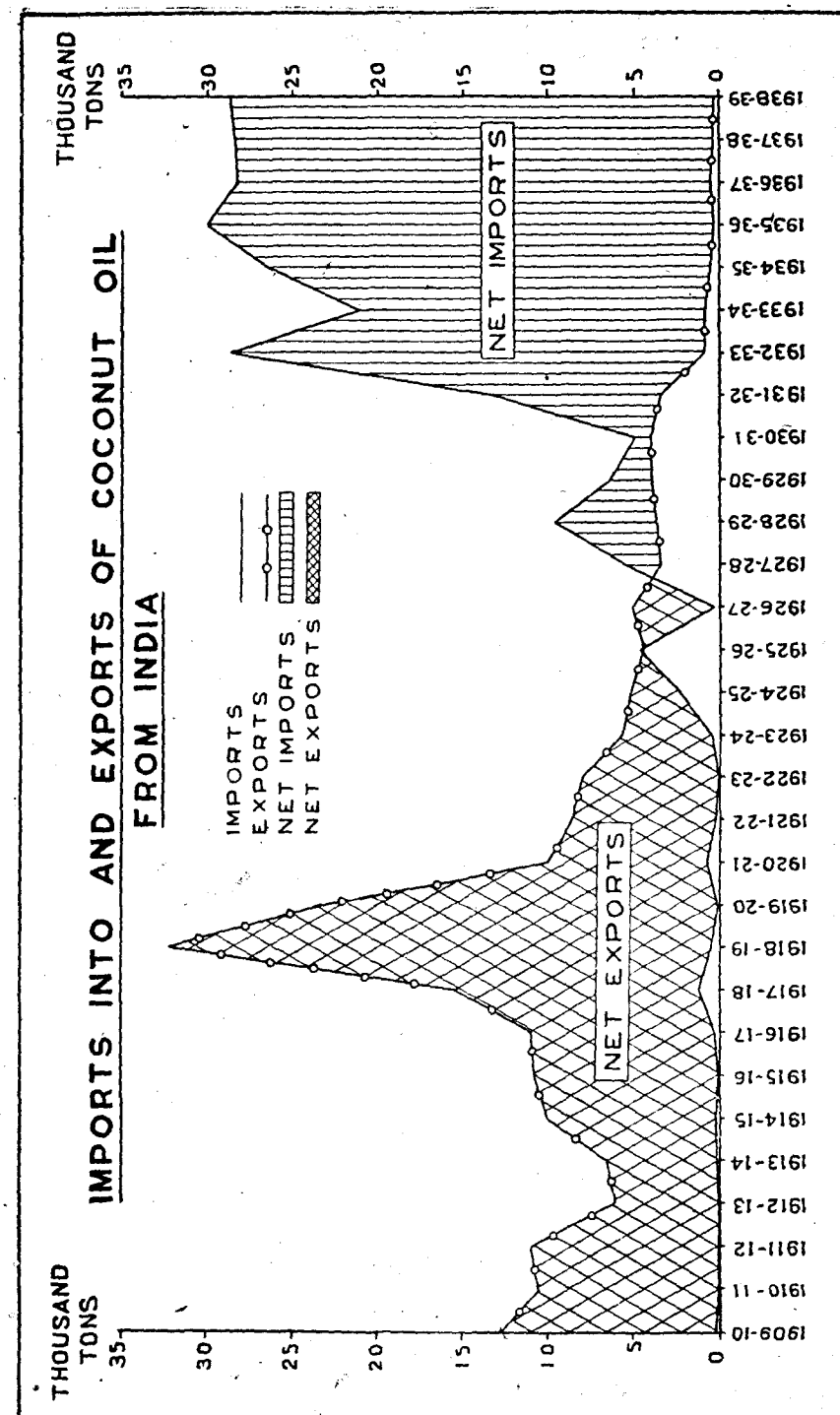
126,000 tons of coconut oil. During the three subsequent years, i.e., between 1939-40 and 1941-42, when larger quantities of copra were imported into India, the production of coconut oil substantially increased. The quantities of copra crushed and coconut oil produced, of course, vary from year to year.

Copra crushing is done mainly in Travancore and Cochin States, Malabar and South Kanara districts of Madras, Bombay proper and North Kanara and Ratnagiri districts of Bombay and at Karachi in Sind. It is reckoned that about 15,000 *chekkus*, 1,400 rotary mills and 35 expellers are engaged in crushing copra. In most cases, however, they do not work on copra throughout the year. *Chekkus* often work irregularly. The number of days on which they crush copra varies in different areas and from year to year. In Travancore and Cochin States, and Malabar and South Kanara districts of Madras, they generally handle copra for 120 to 150 days, while in other areas they work on copra for a very short period only. For the rest of the year they crush gingelly seed, niger seed, laurel seed or some other oilseed, or remain idle. Some of the mills crush copra for as many as 300 days in a year but the majority of them crush copra on 200 to 250 days in a year. The number of *chekkus* and mills crushing copra as also the quantities of copra crushed and coconut oil produced in different provinces and States are summarised in Appendix XXI. A list of some of the oil mills engaged in crushing copra is given in Appendix XXII.

(2) IMPORTS.

(a) *Quantities and trend.*—The annual imports of coconut oil since 1909-10 are given in Appendix XIV. India did not import any appreciable quantities of coconut oil before the 1914-18 War and the imports continued to be small up to 1923-24. The quantities imported began to increase from 1924-25, the average for the quinquennium 1924-25 to 1928-29 rising to over 4,000 tons. The expansion during the following quinquennium was more rapid, particularly after 1931-32 and the average for this period rose to nearly 15,000 tons. The imports from 1934-35 to 1938-39 remained at a high level throughout the quinquennium having varied between 26,000 tons and 30,000 tons in different years. The average for the quinquennium increased to over 28,000 tons. In the next two years, the imports further increased to over 42,000 tons in 1939-40, and 61,000 tons in 1940-41. The imports declined to 46,000 tons in 1941-42 and 5,000 tons only in 1942-43. The trend of imports of coconut oil will be seen from the diagram facing this page. It will also be seen from the diagram that as with copra, India formerly used to export coconut oil and has become a net importer of coconut oil only since 1927-28. The table on the next page shows the net imports and exports of coconut oil during different periods.

[Facing page 60.]



Net imports and exports of coconut oil for India.
(Tons.)

	Imports.	Exports.	Net exports.	Net imports.
1909-10 to 1913-14	61	9,456	9,395	..
1914-15 to 1918-19	434	15,986	15,552	..
1919-20 to 1923-24	346	11,092	10,746	..
1924-25 to 1928-29	4,480	4,380	..	100
1929-30 to 1933-34	14,726	2,602	..	12,124
1934-35 to 1938-39	28,236	392	..	27,844

(b) Sources.—Ceylon was the main source of India's coconut oil imports up to 1934-35 but in subsequent years the supplies from the Straits Settlements exceeded those from Ceylon. The United Kingdom appeared in the picture as a supplier of coconut oil even before the 1914-18 War but the quantities imported from this source were never appreciable, the largest quantity received in any one year being about 200 tons in 1923-24.

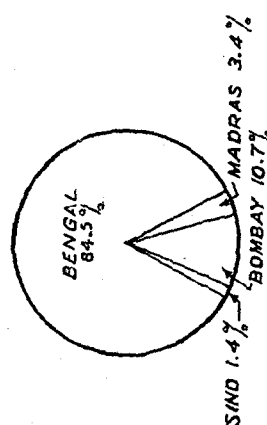
The quantities received from different countries through British India ports from 1929-30 to 1941-42 are given in Appendix XV and the shares of different countries during the two quinquennia are illustrated in the diagram facing this page. It will be seen that during the quinquennium 1929-30 to 1933-34 more than 89 per cent. of the total imports were drawn from Ceylon but in the next five years, the Straits Settlements contributed 16,244 tons or 58 per cent. of the total imports as compared with 11,615 tons or nearly 42 per cent. supplied by Ceylon. The share of the Straits Settlements increased further to over 82 per cent. during the three subsequent years, viz., 1939-40 to 1941-42.

Imports from the Straits Settlements were mainly received in Bengal, while those from Ceylon were distributed over Bengal, Madras, Sind, Bombay and Kathiawar. Calcutta, Cocanada, Karachi and Bombay are the ports which mainly figure in the imports of coconut oil but small quantities are also received at Dhanushkodi, Tuticorin, Vizagapatam and Kathiawar States ports. The shares of the different provinces in the imports are illustrated in the diagram facing this page from which it will be seen that during the quinquennium 1934-35 to 1938-39, Bengal received nearly 84 per cent. of the imports, followed by Madras and Sind with a share of 8 per cent. and 6 per cent. respectively.

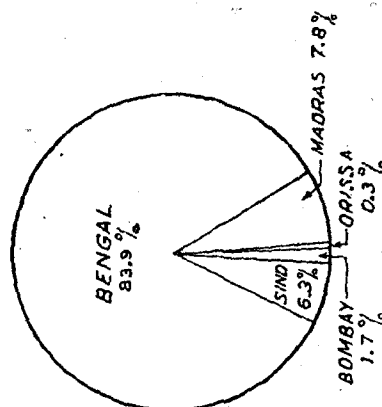
(c) Periodicity.—The imports of coconut oil during the period 1937-38 to 1940-41 continued throughout the year, as will be seen from the diagram facing page 21 and the table on the next page, which gives the average monthly imports (through British India ports) during the four years 1937-38 and 1940-41 expressed as percentages of the average annual imports during the period.

SHARE OF DIFFERENT PROVINCES RECEIVING COCONUT OIL IN INDIA

AVERAGE 1929-30 TO 1933-34

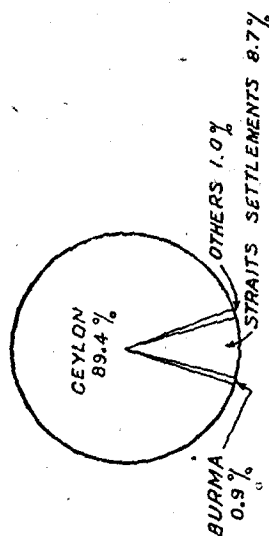


AVERAGE 1934-35 TO 1938-39

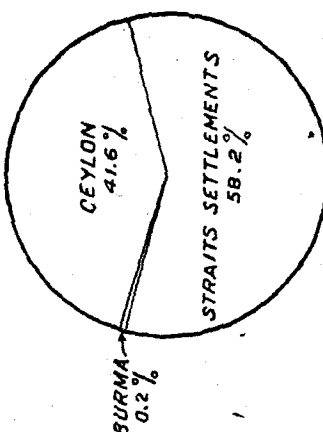


SHARE OF DIFFERENT COUNTRIES SUPPLYING COCONUT OIL TO INDIA.

AVERAGE 1929-30 TO 1933-34



AVERAGE 1934-35 TO 1938-39



Periodicity of imports of coconut oil.

(Average 1937-38 to 1940-41.)

	Per cent.		Per cent.
April	4.5	November	11.1
May	7.5	December	9.7
June	6.3	January	10.8
July	6.0	February	9.0
August	7.1	March	9.0
September	9.6		
October	9.4	Total	100.0

The seasonal variations are not so pronounced as in the case of copra. The quantities imported are, however, comparatively low between April and August and high between November and January.

(d) *Duty on imports.*—As in the case of copra, coconut oil was subject to an import duty of 15 per cent. *ad valorem*, which was raised to 20 per cent. from 1st March 1931 and to 25 per cent. from 5th April 1931. In 1933, different rates of duty were fixed for copra and coconut oil and a preference of 10 per cent. was granted in favour of imports of (both copra and) coconut oil from British colonies. The standard and preferential rates of duty for coconut oil were then fixed at 35 per cent. and 25 per cent. respectively which were raised to 42 per cent. and 30 per cent. respectively from 26th March 1942.

The tariff values fixed for coconut oil were Rs. 30 per cwt. up to 1929 after which with the fall in prices lower tariff values were fixed, being as low as Rs. 10 per cwt. in 1935 (see Appendix XIX).

The actual amount of duty payable on imports of coconut oil varied from time to time (as in the case of copra) as a result of the changes in the rates of duty and tariff values referred to above. The duty payable per ton of coconut oil worked out to Rs. 90 per ton from 1925 to 1929 and from Rs. 64-8-0 to Rs. 107-8-0 per ton between 1930 and 1932. Since 1933, the imports from British colonies and other sources became subject to different rates of duty so that between 1933 and 1942, the duty on imports of coconut oil from British colonies varied from Rs. 50 to Rs. 78 per ton and on imports from other sources from Rs. 70 to Rs. 109-3-0 per ton.

(3) EXPORTS.

(a) *Quantities and trend.*—The annual exports of coconut oil from India since 1909-10 are given in Appendix XVI and illustrated along with imports in the diagram facing page 60. India exported considerable quantities of coconut oil to foreign countries before the 1914-18 War, the average annual exports in the quinquennium ending 1913-14 being over 9,000 tons. The quantities

expanded further during the period of the 1914-18 War and immediately after, the average for the period 1914-15 to 1918-19 rising to nearly 16,000 tons. The highest exports of over 32,000 tons were recorded in 1918-19, after which the exports declined steadily falling to less than 1,000 tons by 1932-33. The downward trend continued in subsequent years and the average for the quinquennium ending 1938-39 was less than 400 tons. Since 1939-40 the exports have been smaller still. As already stated, India is now a net importer of coconut oil.

(b) *Destinations.*—India's main customers for coconut oil before the 1914-18 War were the United Kingdom, Germany, Belgium, the Netherlands, Sweden and Norway. The exports to the United Kingdom continued to be appreciable up to 1922-23 after which they began to decline and did not exceed 100 tons in any subsequent year. The off-take of Germany became negligible after the 1914-18 War. The exports to Belgium and the Netherlands and other European countries were of some magnitude only up to 1920-21. The quantities exported to different countries from 1929-30 to 1941-42 through British India ports are tabulated in Appendix XVII. India's biggest customer for coconut oil in this period was Burma.

Madras accounts for most of the exports, followed by Bengal and Bombay. Over 90 per cent. of the exports of coconut oil from Madras are from the port of Cochin. Exports from the provinces of Bombay and Sind are mainly from the ports of Bombay and Karachi.

(c) *Periodicity.*—The exports of coconut oil during the four years 1937-38 to 1940-41, unlike imports, showed a very pronounced periodicity, as will be seen from the following table, which gives the average monthly exports (through British India ports) during the four years 1937-38 to 1940-41 expressed as percentages of the average annual exports during the period.

Periodicity of exports of coconut oil.

(Average 1937-38 to 1940-41.)

	Per cent.		Per cent.
April	20.3	November	5.1
May	4.8	December	6.5
June	7.3	January	8.7
July	3.2	February	9.7
August	2.5	March	16.2
September	7.5		
October	7.2	Total	100.0

The exports began to increase from January and were highest in the two months March and April. After reaching the peak in April, the exports began to decline from May and reached very low levels in July and August.

(d) *Duty on exports.*—As in the case of copra, there is no duty on exports of coconut oil from British India. Travancore State levies an export duty of 5 per cent. *ad valorem* on exports of coconut oil from the State. Most of these exports are to the neighbouring areas of Madras and the Cochin State and not to foreign countries. The tariff values fixed by the Travancore State, from year to year since 1920 may be seen in Appendix XX.

(4) NET AVAILABLE SUPPLIES.

The net available supplies of coconut oil may be summarised as under.

Net available supplies of coconut oil in India.

(Average 1934-35 to 1938-39.)

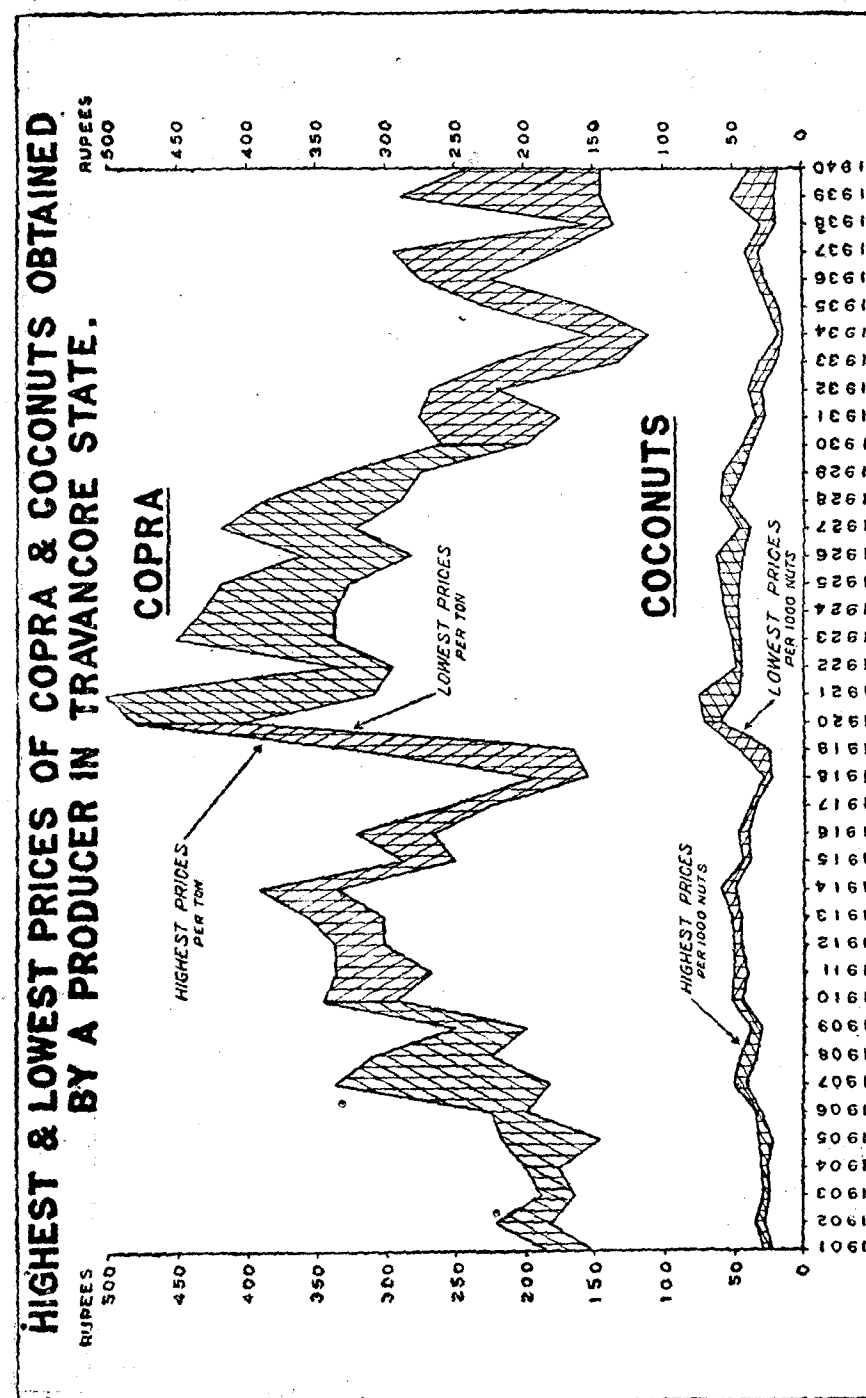
	Tons.
Estimated production from 203,000 tons copra crushed (see page 60)	126,000
Add imports (see page 61)	28,236
Total	154,236
Less exports (see page 61)	392
Net available supplies	153,844

Thus nearly 154,000 tons coconut oil are estimated to have been consumed annually in India during the period 1934-35 to 1938-39.

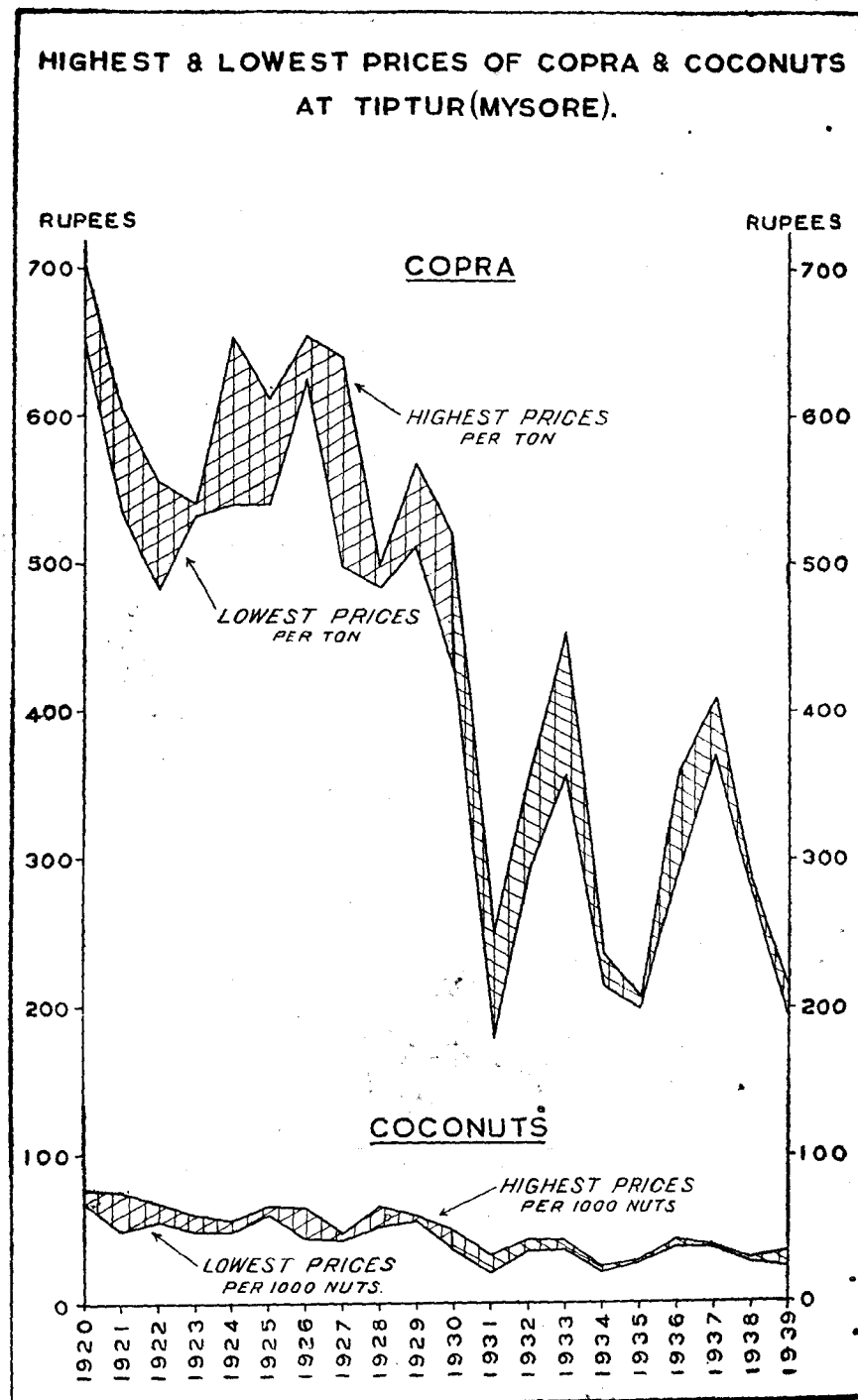
(5) UTILISATION.

Coconut oil is used in India for (a) edible purposes, (b) for toilet and toilet preparations, (c) for soap making and (d) as an illuminant and lubricant. No statistics are available for the quantities consumed for different purposes.

(a) *Edible purposes.*—The oil is largely used for culinary purposes in Southern India, particularly, in the Travancore and Cochin States, Malabar, South Kanara, Tanjore and Tinnevely districts of Madras, and North Kanara and Ratnagiri districts of Bombay. In other parts of India, the use of coconut oil for culinary purposes is not common. Some refined and deodorised edible coconut oils made by two or three big mills on modern refining plants and put on the market in sealed tins under particular brands or trade marks, however, find limited sales all over India. The opinion held in some quarters that coconut oil is largely used for the manufacture of vegetable products (hardened vegetable oils) in India is, as far as could be ascertained not correct.



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Coconut oil also finds use in the adulteration of ghee and other higher priced vegetable oils. The demand for this purpose is highly elastic and depends on the relative prices of different oils. For instance, in Bengal linseed oil, groundnut oil and coconut oil were all found to be used from time to time for the adulteration of mustard oil, the cheapest of the three oils being usually chosen for the purpose at any particular period. Similarly in Bombay, the choice between groundnut oil and coconut oil for the adulteration of gingelly oil was found to depend on their relative prices.

(b) *Toilet and toilet preparations.*—The use of coconut oil for toilet and toilet preparations is common in almost all parts of India. It may be used for rubbing on the body, for dressing hair and for the preparation of perfumed hair oils, for which the crude oil is often first subjected to one or more processes such as bleaching, refining, deodorising and colouring. Coconut oil also forms an important ingredient in the preparation of cosmetics such as face creams, shampoos, etc. With an increase in the number and varieties of toilet preparations made in India, the quantities of coconut oil utilised for toilet preparations have also increased during the last 10 or 15 years.

(c) *Soap making.*—Coconut oil gives a hard soap which lathers freely, and is, therefore, one of the most suitable oils for soap making. The quantities used by this industry have expanded very considerably with the growth of the soap industry in India, details about which may be seen in Appendix XXIII. The consumption of coconut oil in the soap industry was also stimulated by the relatively low prices of this oil after 1929-30.*

(d) *Illuminant and lubricant.*—Coconut oil is used as an illuminant to a small extent in the coconut-producing areas and in some of the temples in South India, where hundreds of small open lamps (consisting of a wick immersed in oil in a small shallow pan) are kept burning day and night. Inferior quality oils are generally used for this purpose. In several temples of South India, however, coconut oil was found to have been replaced by the cheaper groundnut oil. The use of coconut oil as a lubricant is very limited.

It will be apparent from what has been said above that the quantities of coconut oil consumed in India are subject to considerable variation from year to year. The average net available supplies of coconut oil, during the period 1934-35 to 1938-39, have been reckoned in a previous section to be about 154,000 tons and the table on the next page summarises the utilisation of this quantity for various purposes in different provinces and States.

* The prices of coconut oil sharply rose after April 1942 as a result of restriction on supplies of copra and coconut oil from Ceylon and, as a consequence, the quantities used by the soap industry might have temporarily declined.

Estimated approximate quantities of coconut oil utilised for various purposes in different provinces and States.

(Average 1934-35* to 1938-39.)

(Tons.)

Provinces & States.	For edible purposes*.	For toilet & toilet preparations.	For soap making.	As illuminant and lubricant.	Total.
Madras . . .	30,000	10,000	2,000	1,500	43,500
Bengal . . .	3,000	10,000	13,000	..	26,000
Travancore . .	15,000	7,000	1,000	1,500	24,500
Bombay . . .	3,000	4,000	9,000	500	16,500
Cochin . . .	8,000	2,500	500	500	11,500
Others . . .	16,000	11,500	4,500	..	32,000
Total . . .	75,000	45,000	30,000	4,000	154,000

* Including adulteration of edible oils and ghee.

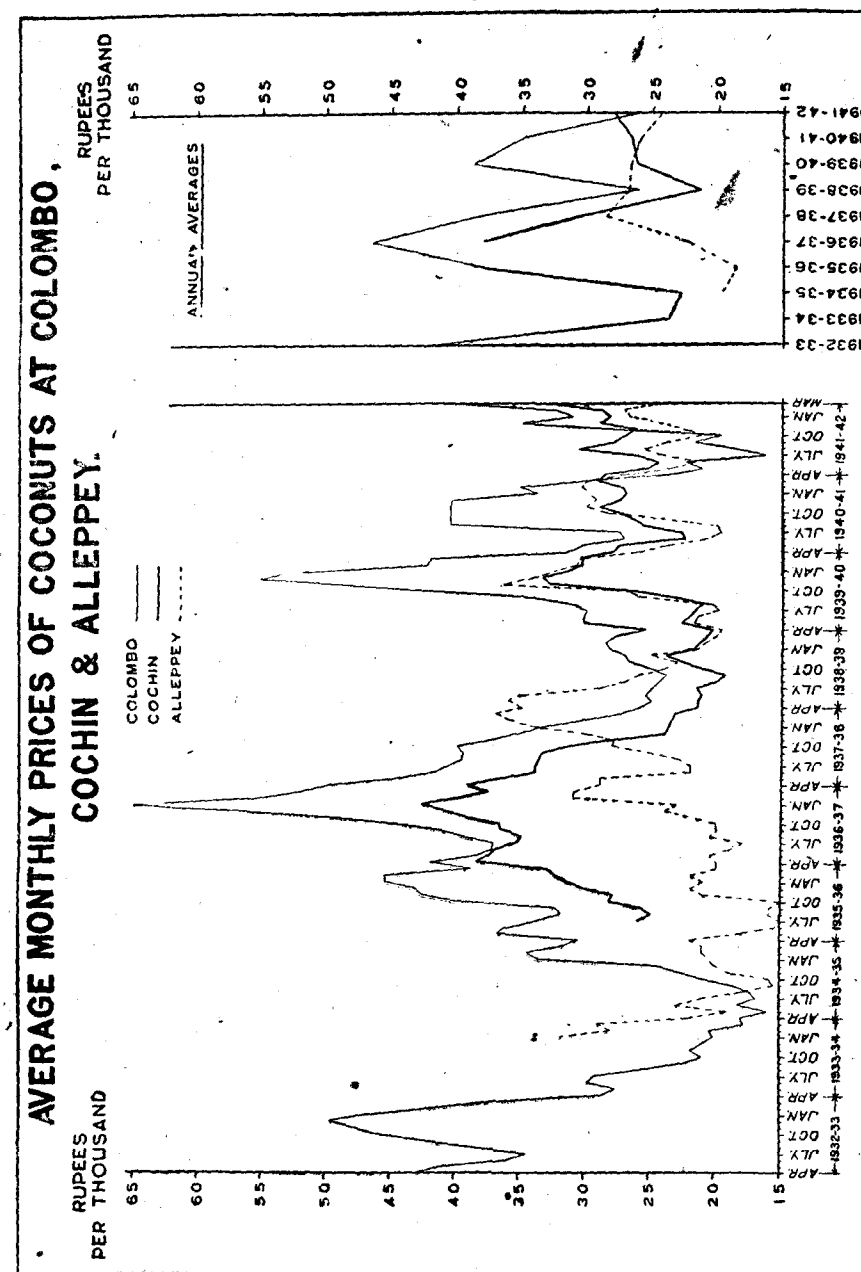
D.—Coconut cake.

(1) PRODUCTION.

It has been stated in an earlier section that the yield of coconut oil obtained by crushing copra varies from 58 to 65 per cent. of the weight of copra, depending upon the oil content of copra and the method and machinery employed for crushing. Consequently, the yield of cake also varies under different conditions. Enquiries made from a number of mills indicate that when copra is crushed, there is a milling loss of about 2 per cent. due to loss of moisture from copra. The yield of cake may, therefore, be reckoned to vary from 33 to 40 per cent. The average yield of cake from all copra crushed in India is estimated to be about 36 per cent. The total production of coconut cake from 203,000 tons of copra—estimated to have been crushed annually on an average, during the period 1934-35 to 1938-39—thus works out to about 73,000 tons. The estimated production of coconut cake in different provinces and States may be seen in Appendix XXI.

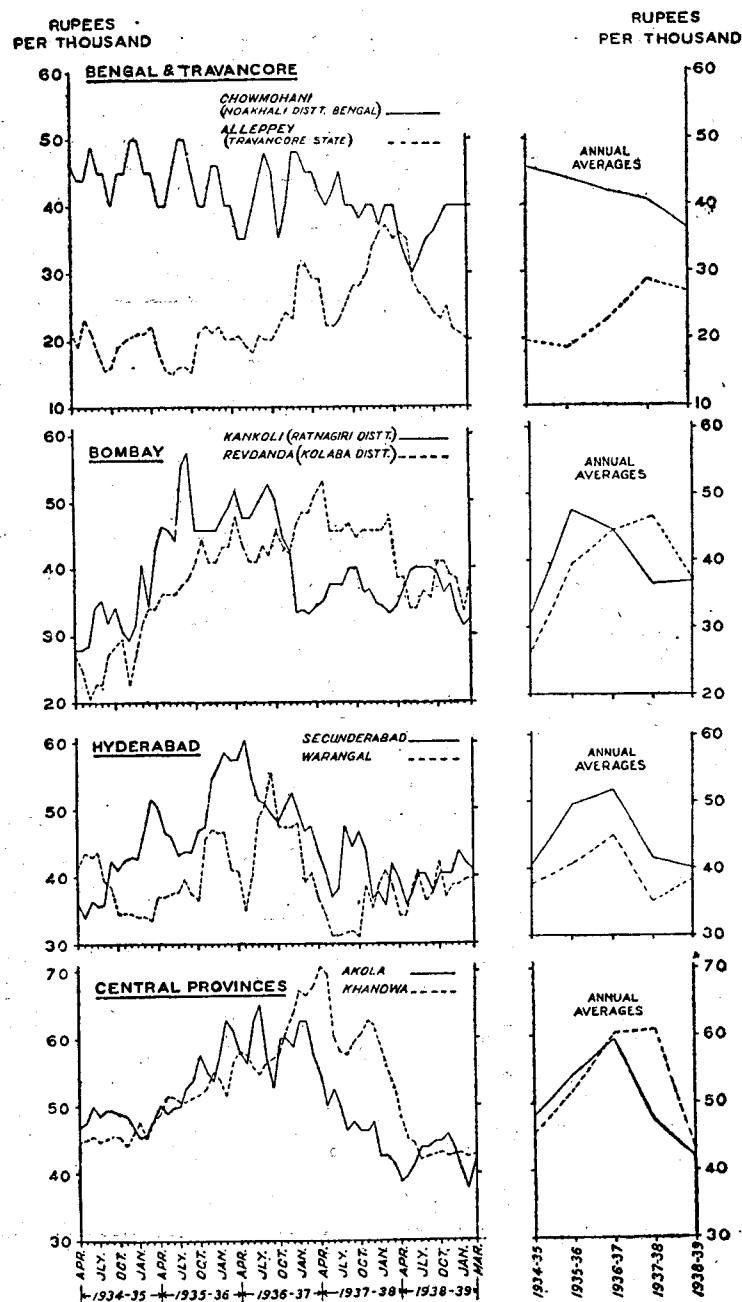
(2) IMPORTS AND EXPORTS.

The imports of coconut cake into India are negligible. The exports averaged 3,300 tons during the quinquennium 1929-30 to 1933-34, which increased to an average of over 5,800 tons during the five years 1934-35 to 1938-39 (Appendix XVIII). When the



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AVERAGE MONTHLY PRICES OF COCONUTS AT SOME MARKETS IN DIFFERENT AREAS.



continental markets were closed as a result of the War, the exports ceased: the total exports in 1940-41 and 1941-42 averaged only 1 ton and 8 tons respectively.

Belgium was India's biggest customer for coconut cake, the off-take of that country having averaged about 2,600 tons during the five years 1929-30 to 1933-34 and nearly 5,700 tons during the next five years. The exports to Belgium in 1938-39 were over 9,000 tons. Germany took a few hundred tons annually up to 1931-32 and again 100 tons in 1938-39 and nearly 200 tons in 1939-40 before the outbreak of hostilities.

The bulk of exports from India are from Karachi, although Bombay has assumed some importance during recent years.

(3) NET AVAILABLE SUPPLIES.

The net available supplies of coconut cake may be summarised as under:—

Net available supplies of coconut cake in India.

(Average 1934-35 to 1938-39.)		Thousand tons.
Estimated production	.	73.0
Add imports	.	Negligible.
	Total	73.0
Less exports	.	5.8
Net available supplies	.	67.2

(4) UTILISATION.

Coconut cake is mainly utilised as a cattle feed and forms an important ration for milch cattle in some areas. The use of coconut cake as a cattle feed is, however, confined to the areas where copra is crushed and the value of this oilcake for feeding purposes does not seem to have been realised by cattle owners in other areas. For instance, a mill at Cawnpore in the United Provinces which recently crushed copra found considerable difficulty in finding local purchasers for coconut cake and had to send their output of cake to Bombay. Small quantities produced in Bengal are used by pig breeders while a few tons produced in the Central Provinces are reported to be used by crushers as fuel.

Coconut cake produced by *chekkas* contains the maximum amount of oil, is preferred for cattle feeding and fetches a premium over rotary mill or expeller cake. Rotary mill cake, in its turn, fetches a small premium over expeller cake. Coconut cake is also reported to be used for human consumption.

CHAPTER III.—PRICES.

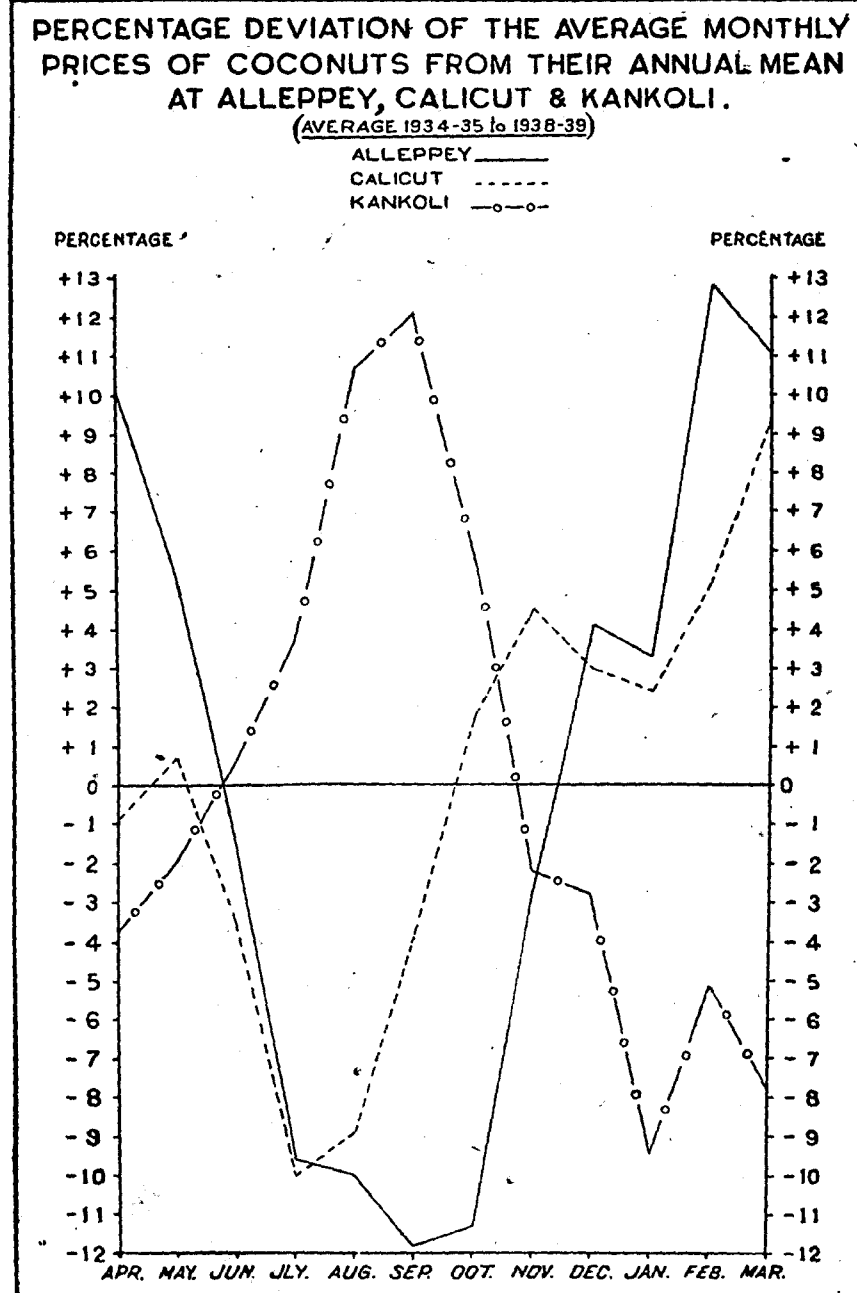
A.—Coconuts.

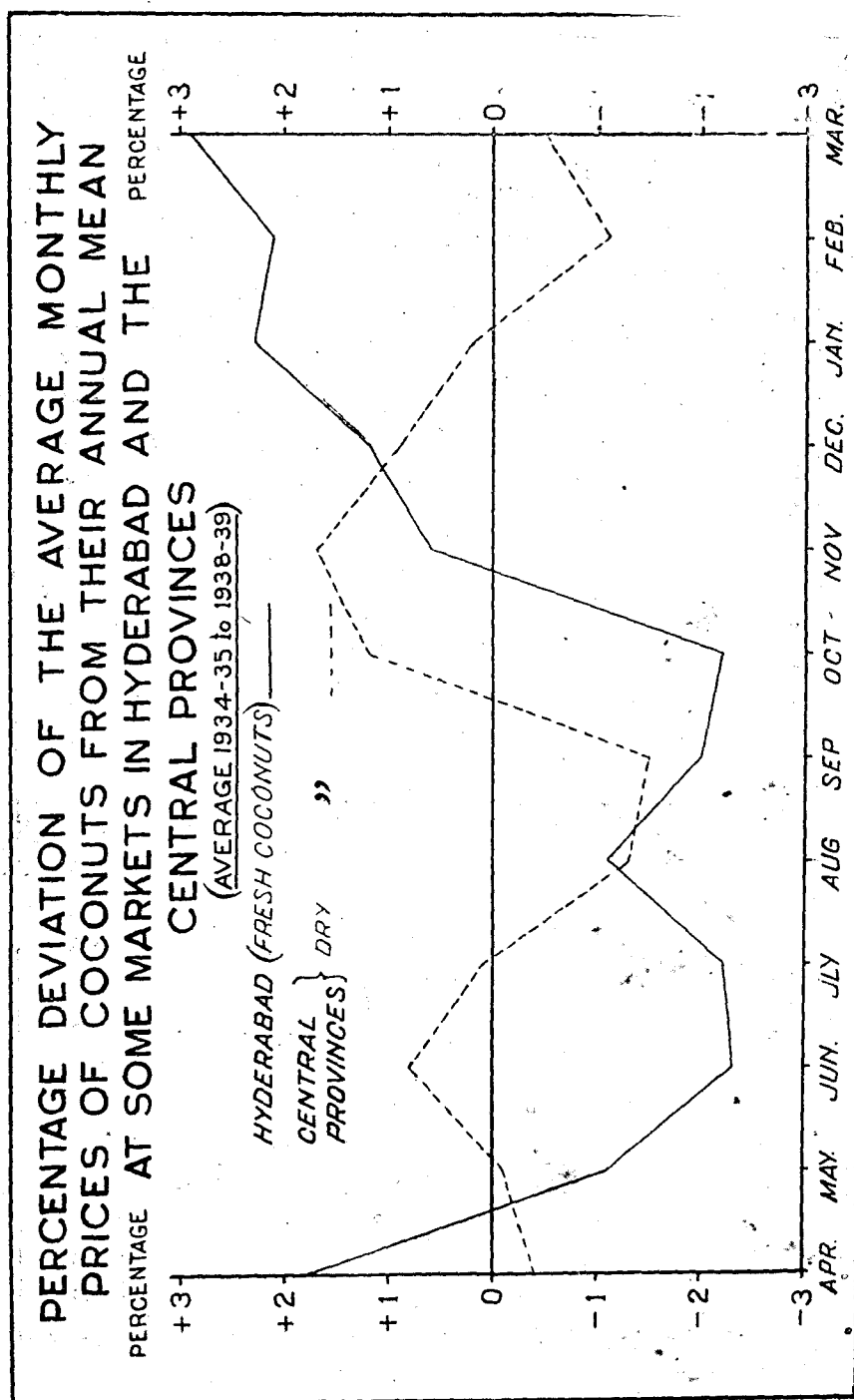
(1) TREND OF PRICES IN INDIA.

The trend of coconut prices in the main producing areas of India on the West Coast is indicated on the diagram facing page 64, which is based on data obtained from the records maintained by a producer in Travancore State (see Appendix XXIV). During the 10 years 1901 to 1910, the highest and lowest prices obtained for coconuts per thousand were Rs. 52-8 and Rs. 22-8 respectively. Between 1911 and 1920, the highest and lowest prices obtained were Rs. 72-8 and Rs. 23-12 respectively. The period 1921 to 1930 saw still higher prices. The highest and lowest prices obtained during this decade were Rs. 75 and Rs. 36-14 per thousand respectively. A downward trend, however, set in from 1928 and the fall became more pronounced after 1930 so that between 1931 and 1938 the highest and lowest prices were Rs. 41-4 and Rs. 15 per thousand respectively. After the outbreak of hostilities in Europe in September 1939, prices appreciated temporarily reaching Rs. 50 per thousand for a few days in November 1939. The rise was, however, short-lived and in 1940 prices varied from Rs. 17-8 to Rs. 37 per thousand. In 1941, the level of prices did not change appreciably, the range of variation being from Rs. 18 to Rs. 37 per thousand nuts.

Similarly, the diagram facing page 65 shows the trend of prices in Mysore State (see Appendix XXV). Between 1921 and 1930, prices ranged between Rs. 36 and Rs. 75 per thousand. During the next nine years, prices ranged between Rs. 20 and Rs. 44 per thousand.

The extent of the fall in prices of coconuts in recent years will be seen from the table on the next page, which gives the annual average prices of coconuts at Calicut from 1928-29 (see Appendix XXIX). The prices in each of the years have also been shown as percentages of the 1928-29 price.





Average annual prices of coconuts (husked) at Calicut.
(Per thousand.)

Year.	Price.	Percentage of the 1928-29 price.
	Rs. A. P.	
1928-29	57 15 0	100.0
1929-30	54 3 0	95.5
1930-31	33 9 0	57.9
1931-32	30 11 0	53.6
1932-33	33 10 0	58.0
1933-34	22 2 0	38.2
1934-35	20 1 0	34.6
1935-36	29 7 0	50.8
1936-37	34 11 0	59.9
1937-38	26 0 0	44.9
1938-39	20 14 0	36.0
1939-40	23 7 0	40.5
1940-41	27 1 0	46.7
1941-42	23 13 0	41.1
1942-43	48 12 0	84.1

Prices declined almost continuously from an average of nearly Rs. 58 per thousand in 1928-29 to about Rs. 20 per thousand in 1934-35 or less than 35 per cent. of the 1928-29 price. There was some recovery in 1935-36 and 1936-37 but prices again adopted a downward course in 1937-38 and 1938-39. The position improved towards the end of 1939 as a result of war conditions in Europe with the result that the average for 1939-40 rose to Rs. 23.7 per thousand. The prices rose further to an average of Rs. 27.1 per thousand in 1940-41 and (after a slight drop in 1941-42) to an average of Rs. 48.12 per thousand in 1942-43.

(2) PRICE VARIATIONS DUE TO QUALITY.

(a) *Unhusked and husked nuts.*—Unhusked nuts fetch higher prices than husked nuts in areas where there are retting facilities (e.g., backwater areas). In inland tracts where retting is not done, prices of husked and unhusked nuts are almost the same. The charges for husking roughly offset the value of husk for use as fuel.

The difference between the prices of unhusked nuts and husked nuts depends upon the price obtainable for husk in different markets from time to time. A comparison of the average monthly prices of husked and unhusked nuts at Alleppey, which is an important centre for coir industry in the Travancore State, shows that during the period April 1934 to December 1938, unhusked nuts generally fetched Rs. 3 to Rs. 6 per thousand more than husked nuts, although on some occasions the difference was as much as Rs. 11.8 per thousand. On the other hand, at Pattukottai in the Tanjore district of Madras, husked and unhusked nuts were often quoted at the same rate.

(o) *Copra content and size of nuts.*—As bigger nuts usually yield more copra, prices of coconuts, as a rule, vary according to size. Nuts harvested in summer being bigger in size usually fetch higher prices than those harvested in monsoon months. Again, nuts from laterite soils are reported to produce more copra than nuts from coastal tracts and the former fetch higher prices. Also, nuts from certain localities are believed to yield copra with a better taste or to have better keeping qualities as compared with those from neighbouring localities and such nuts usually fetch a premium. For instance, at Mangalore, the local nuts were found to fetch on a certain date in February 1940 annas 8 to Re. 1 per hundred nuts more than the nuts received from the neighbouring areas of Nileshwar, Kasaragod and Mungeswar. Similarly, at Surat, nuts from the Kolaba district were found to fetch a premium of 4 annas to 8 annas per hundred nuts over those from Ponnani taluk (Malabar district).

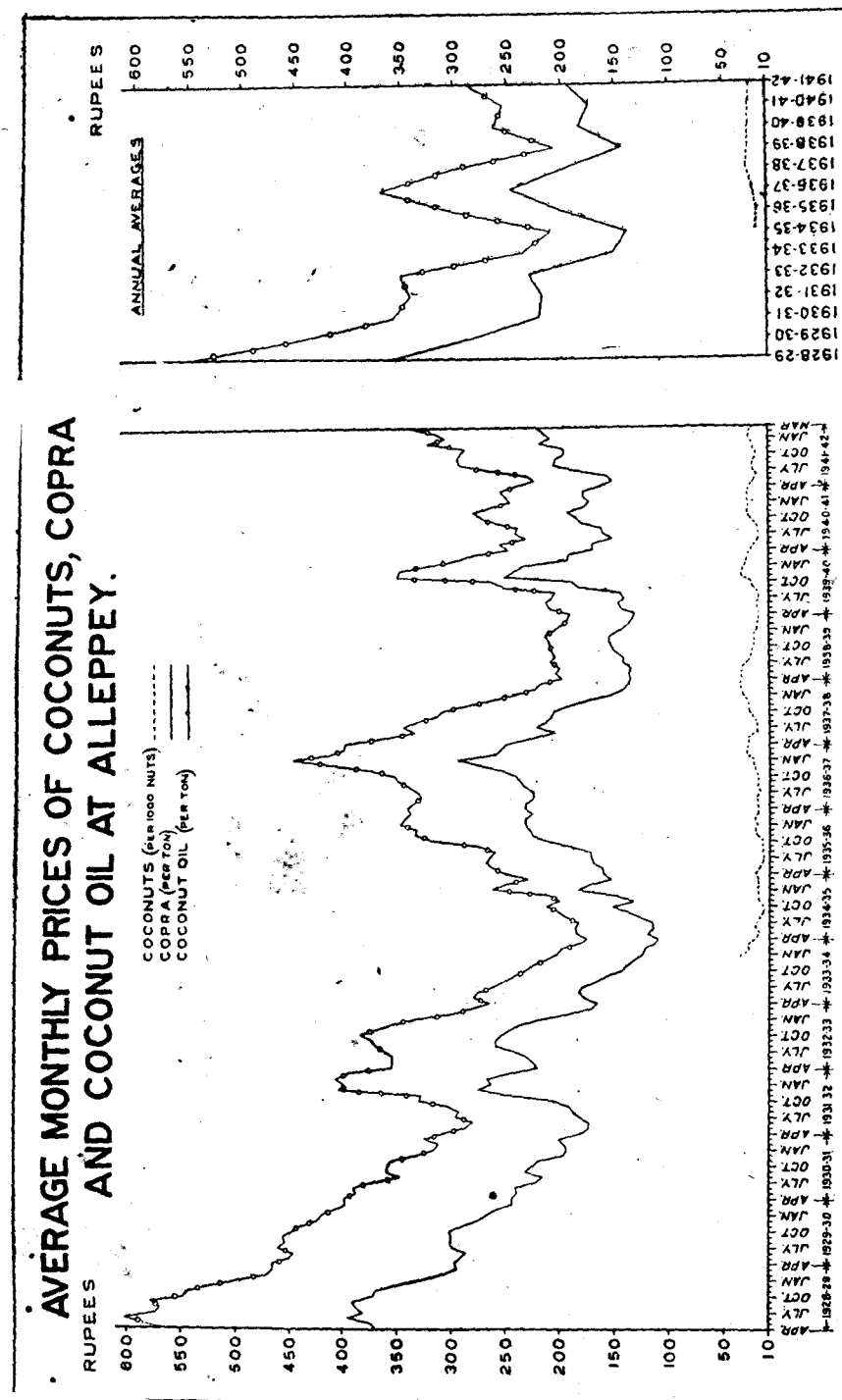
Coconuts of different sizes are often classified according to the number of nuts which may be put in an ordinary gunny bag. For instance, at Bombay, wholesale prices are quoted for coconuts of different sizes on the basis of 150 nuts per bag, 200 nuts per bag, 275 nuts per bag and 400 nuts per bag.

The extent of difference in the prices of nuts of different sizes at Bombay will be seen from Appendix XXX. The premium fetched by the bigger nuts of which 200 make a bag over the smallest nuts, of which as many as 400 make a bag, varied from less than Rs. 4 to over Rs. 18 per 1,000 nuts. In the absence of any data about the yield of copra from nuts of various sizes, it is difficult to say whether the prices paid for nuts of various sizes were always directly proportional to the quantity of copra obtained, but the fact that the prices of the smallest nuts (400 nuts per bag) varied in different months from 53 per cent. to 91 per cent. of the prices of bigger nuts (200 nuts per bag), indicates that the prices fetched by coconuts of different sizes were not always consistent with the amount of copra obtained therefrom.

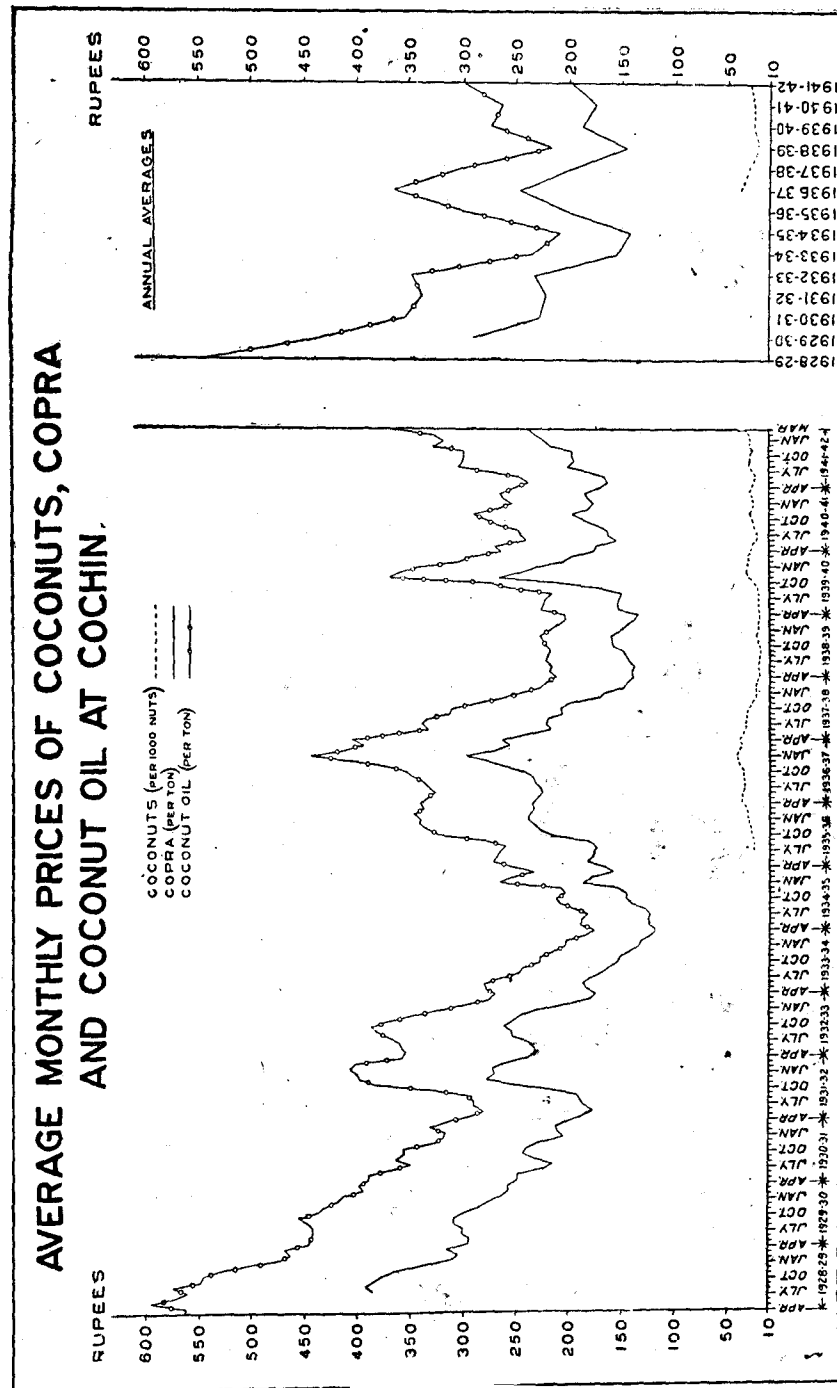
As is the case with fresh nuts, the prices of stored nuts also vary according to size. For instance, at Nagpur, the prices of *Gandera* (big) coconuts during three years 1935 to 1937 averaged Rs. 50.5 per thousand against Rs. 46.2 for *Gadgatta* (medium) and Rs. 39.7 for *Jagannathi* (small) coconuts.

(c) *Tender nuts, mature nuts, fresh and dry nuts.*—Tender nuts, the trade in which is necessarily of a localised nature, usually fetch somewhat lower prices than mature nuts. The difference may vary from about Rs. 5 to Rs. 15 per 1,000 nuts depending upon the demand for tender nuts, which is greater in summer months.

Mature nuts differ in prices according as they are sold fresh or after storage. In the producing areas, the prices of dry nuts



Facing page 71.]



are generally higher than those of fresh nuts. For instance, on the Malabar Coast dry nuts are reported to fetch Rs. 5 to Rs. 12 per thousand more than fresh nuts. At Bombay, the difference between the prices of stored and fresh coconuts, as will be seen from the following table, varied from Rs. 1-10 to Rs. 30-7 per thousand during the three years 1936-37 to 1938-39.

Monthly prices of Sukha and Panicha coconuts at Bombay
(1000 nuts per bag).*

(Per thousand.)

Month.	1936-37.		1937-38.		1938-39.	
	Sukha.	Panicha.	Sukha.	Panicha.	Sukha.	Panicha.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
April . . .	48 0 0	35 3 0	57 10 0	27 3 0	37 10 0	26 6 0
May . . .	56 0 0	40 0 0	..	..	34 6 0	21 9 0
June . . .	60 0 0	40 0 0	50 6 0	27 9 0	34 6 0	23 3 0
July . . .	60 0 0	38 6 0	51 3 0	27 9 0	31 10 0	23 13 0
August . . .	52 0 0	39 3 0	48 13 0	32 6 0	24 13 0	23 3 0
September . . .	52 13 0	31 3 0	46 6 0	28 0 0	33 9 0	22 6 0
October . . .	55 10 0	37 9 0	48 0 0	31 3 0	33 10 0	22 6 0
November . . .	54 6 0	36 12 0	43 3 0	25 10 0	32 0 0	26 6 0
December . . .	..	37 9 0	39 3 0	24 0 0	32 0 0	25 10 0
January . . .	57 10 0	36 13 0	41 10 0	24 0 0	35 3 0	25 10 0
February . . .	..	..	36 13 0	22 6 0	35 3 0	25 10 0
March . . .	..	..	40 6 0	25 10 0	34 6 0	28 0 0

* Prices at the beginning of every month.

On the other hand, in some consuming areas, fresh nuts sometimes fetch higher prices than dry nuts. For instance, during the period 1935 to 1937, fresh coconuts fetched Rs. 2 to Rs. 6 per thousand more than dry nuts at Akola in the Central Provinces. Similarly, at Latur market in Hyderabad, fresh nuts fetched Rs. 3 to Rs. 11 per thousand more than dry nuts in 1934-35 and 1935-36 while during the last six months of 1936-37 and in 1937-38 dry nuts fetched 8 annas to Rs. 4 per thousand more than fresh nuts.

(3) COMPARISON OF PRICES IN DIFFERENT MARKETS.

A comparison of prices of coconuts in different markets is difficult owing to variations in the size and form of nuts, the period for which they have been stored, and the difference in the actual number of nuts required to be delivered against a thousand.

In the coconut producing areas on the West Coast, prices refer to fresh husked coconuts in most of the markets but in the Godavari area on the East Coast, prices may refer to husked or partially husked nuts and to fresh or completely dried nuts. In the markets of the Mysore State also, both fresh and stored coconuts are traded in.

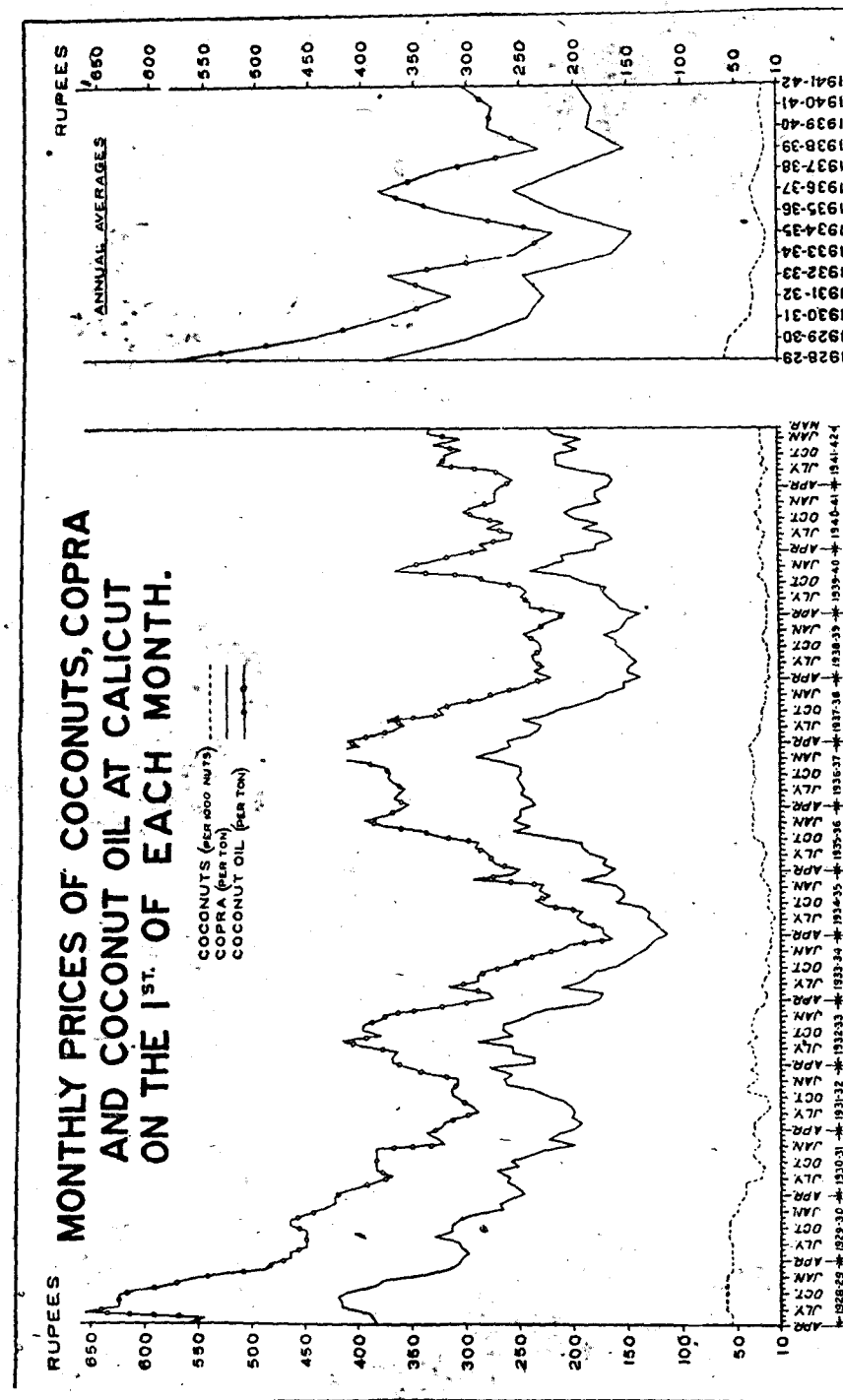
It will be seen from the diagram facing page 66 that prices at Alleppey and Cochin (see Appendices XXVII and XXVIII) generally took a similar course but at times they evinced an opposite trend, for instance, for several months between December 1937 and November 1938. It will also be seen from the diagram that the prices at Cochin invariably followed the trend of Colombo prices (see Appendix XXVI). An examination of the prices at Ernakulam and Trichur given in the table below shows that the two markets in the Cochin State moved together, the prices at Ernakulam being somewhat lower than those at Trichur.

*Average monthly prices of coconuts (husked) at
Ernakulam and Trichur.*

(Per thousand.)

Month.	1935-36.		1936-37.	
	Ernakulam.	Trichur.	Ernakulam.	Trichur.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
April	21 4 0	22 8 0	30 0 0	32 8 0
May	25 0 0	26 4 0	30 0 0	31 4 0
June	24 0 0	25 0 0	29 0 0	30 0 0
July	24 0 0	25 0 0	30 0 0	31 4 0
August	22 8 0	23 12 0	30 0 0	32 8 0
September	23 12 0	25 0 0	32 8 0	33 12 0
October	27 8 0	28 12 0	32 8 0	33 12 0
November	29 0 0	30 0 0	33 12 0	35 0 0
December	30 0 0	32 8 0	35 0 0	37 8 0
January	31 4 0	32 8 0	40 0 0	42 8 0
February	32 0 0	33 12 0	37 8 0	40 0 0
March	31 4 0	32 8 0	37 8 0	38 12 0

The close sympathy between the prices at Ernakulam and Trichur or the similarity in the movement generally seen between Alleppey and Cochin prices, does not appear to extend to the different markets in Madras, situated on or near the East Coast or between the markets on the West Coast and East Coast. This will be evident from the table on the next page, which gives the prices of coconuts at Ponnani in the Malabar district, Pattukottai in the Tanjore district and Cocanada in the Godavari district.



Prices of coconuts (unhusked) in certain markets of Madras Province.

(Per thousand.)

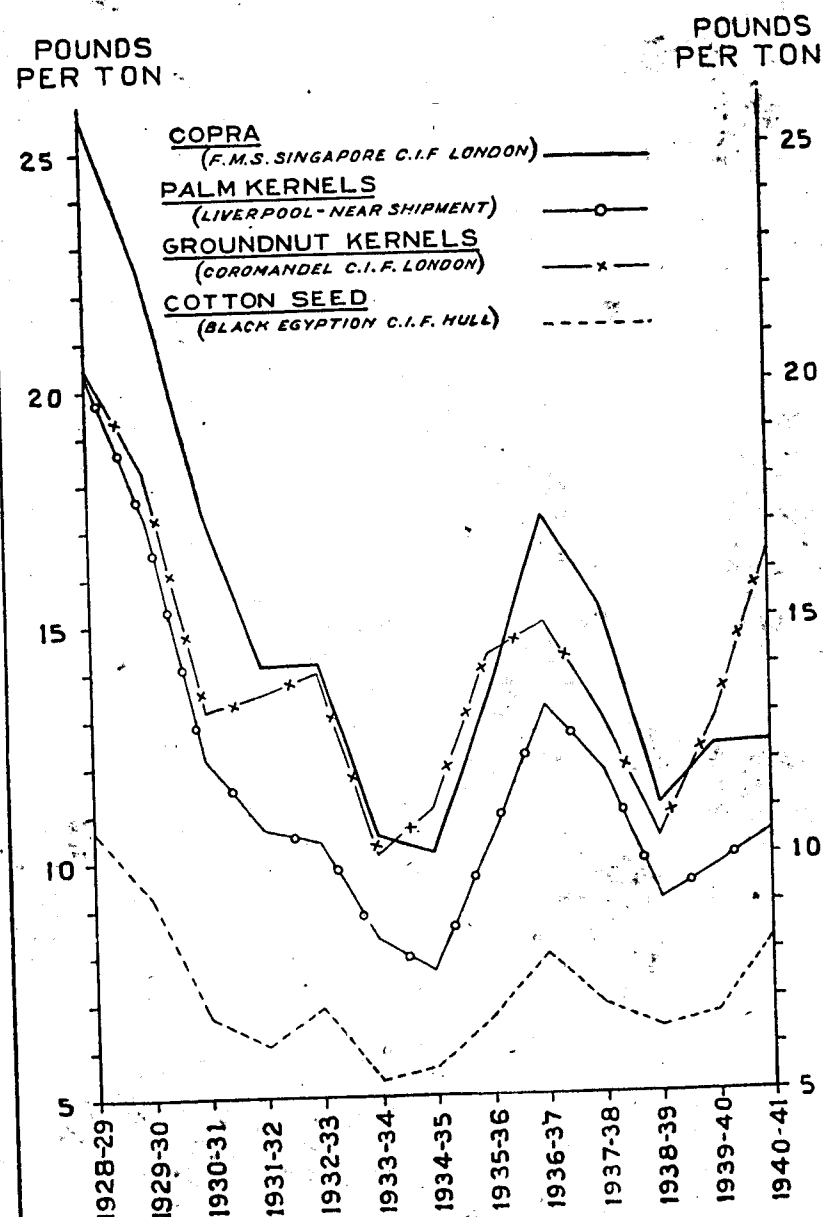
Month.	1935-36.			1936-37.			1937-38.		
	A	B	C	A	B	C	A	B	C
	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.
April	22 12.	...	...	37 2	..	..	31 0	17 8	33 5
May	22 14	24 0	..	38 2	26 0	..	26 1	18 0	26 12
June	21 10	..	..	33 4	..	..	21 12	..	23 12
July	24 0	24 8	..	29 12	29 0	..	25 2	22 0	24 4
August	23 14	..	..	29 2	..	..	24 0	..	24 12
September	25 14	31 0	..	31 2	28 8	..	..	..	23 12
October	31 10	..	..	33 5	..	..	23 14	19 8	23 8
November	31 15	41 0	..	31 11	28 8	..	22 0	..	24 0
December	30 14	37 8	..	29 10	..	..	23 0	18 0	24 0
January	34 15	..	..	35 10	..	27 4	22 10	17 0	24 0
February	33 5	..	..	38 10	24 0	30 8	21 6	17 0	22 0
March	33 10	31 0	..	35 0	..	35 0	22 0	18 0	19 8

A—Ponnani (Malabar district). B—Pattukottai (Tanjore district). C—Cocanada.

The prices of coconuts in three other markets in coconut producing areas, two in the Ratnagiri and Kolaba districts of Bombay and one in the Noakhali district of Bengal together with the prices at two markets each in Hyderabad and the Central Provinces, which do not produce coconuts are illustrated on the diagram facing page 67. The prices at Alleppey have also been shown on the diagram for comparison. It will be seen that the prices at Chowmohani market in Bengal did not always follow those at Alleppey so much so that for some time in 1938-39 the Chowmohani prices fell below the Alleppey prices, although generally prices at Alleppey were lower than those at Chowmohani. The prices in the two markets of Kankoli and Revdanda in Bombay also did not show any sympathy of movement. The two markets in Hyderabad did not consistently move together, although as far as annual averages are concerned, they showed a similar trend. Similarly, the two markets in the Central Provinces also had a discordant movement. It should be noted that the prices for the Central Provinces markets are for dry nuts while for other markets they are for fresh nuts.

It will be clear from what has been said above that the prices of coconuts in different markets are not comparable and appear to be largely influenced by local conditions of supply and demand.

**AVERAGE ANNUAL PRICES OF COPRA,
PALM KERNELS, GROUNDNUT KERNELS
AND COTTON SEED.**



(4) SEASONAL VARIATIONS IN PRICES.

Unlike most other agricultural commodities, coconuts are harvested several times in a year and as such prices are not affected by the pressure of supplies at any one particular time of the year. On the other hand, the demand for coconuts for copra making slackens during monsoon months and the nuts harvested in different seasons differ in size. These factors contribute towards variations in prices in different parts of the year.

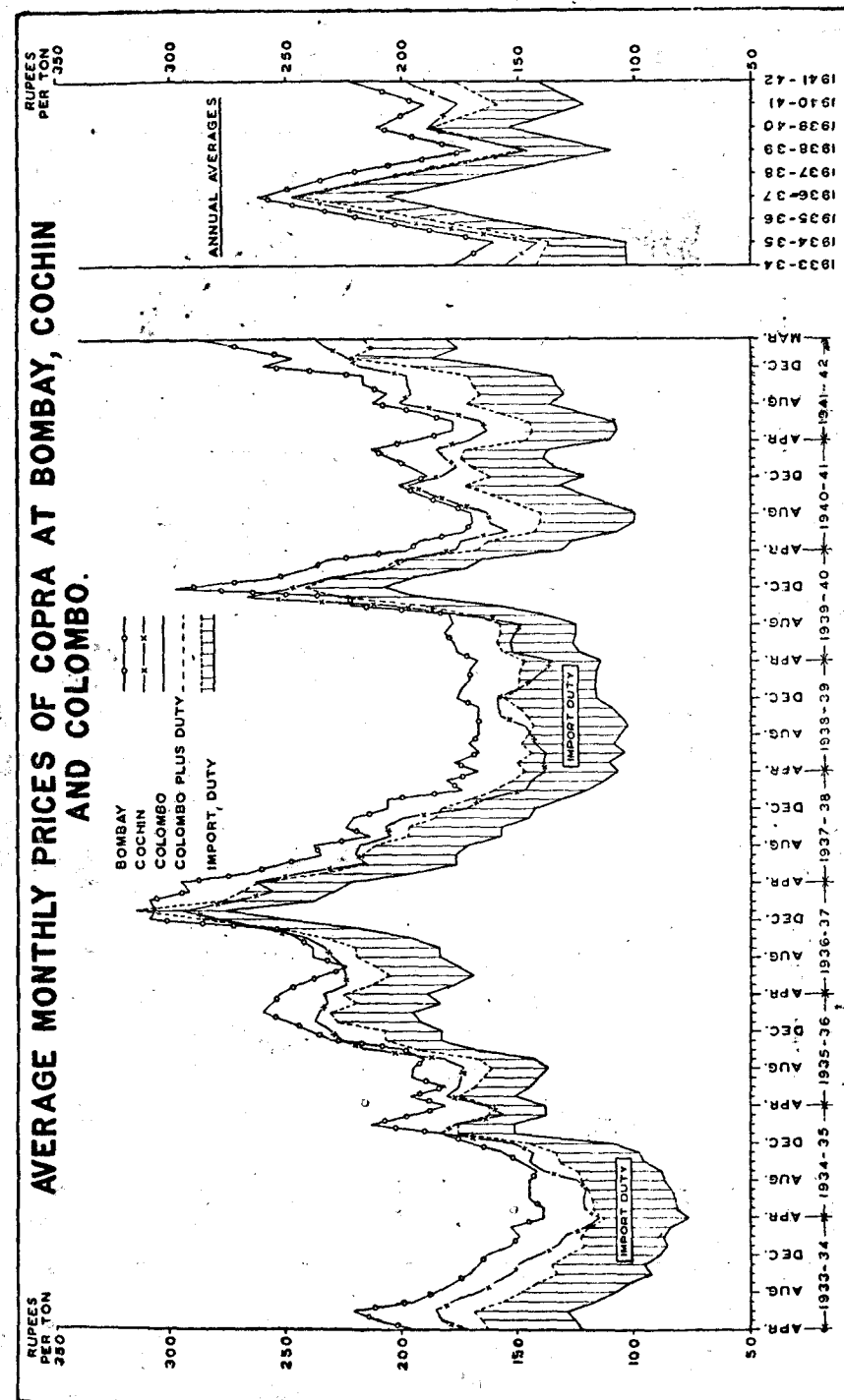
The seasonal variations in the prices of coconuts at some markets in different areas, expressed as percentage deviations of the average monthly prices from their annual mean during the five years 1934-35 to 1938-39 are illustrated on the diagram facing page 68. At Alleppey, prices showed a downward trend after February and remained below the annual mean from June to November. The maximum range of variation amounted to 24.6 per cent. between September and February. At Calicut, prices took a pronounced downward trend after March and apart from a small appreciation in May, remained below the annual mean from April to September. The maximum variation amounted to 19.4 per cent. between March and July. At Kankoli in the Ratnagiri district of Bombay, prices declined steadily after September and the maximum range of variation amounted to 21.5 per cent. between September and January.

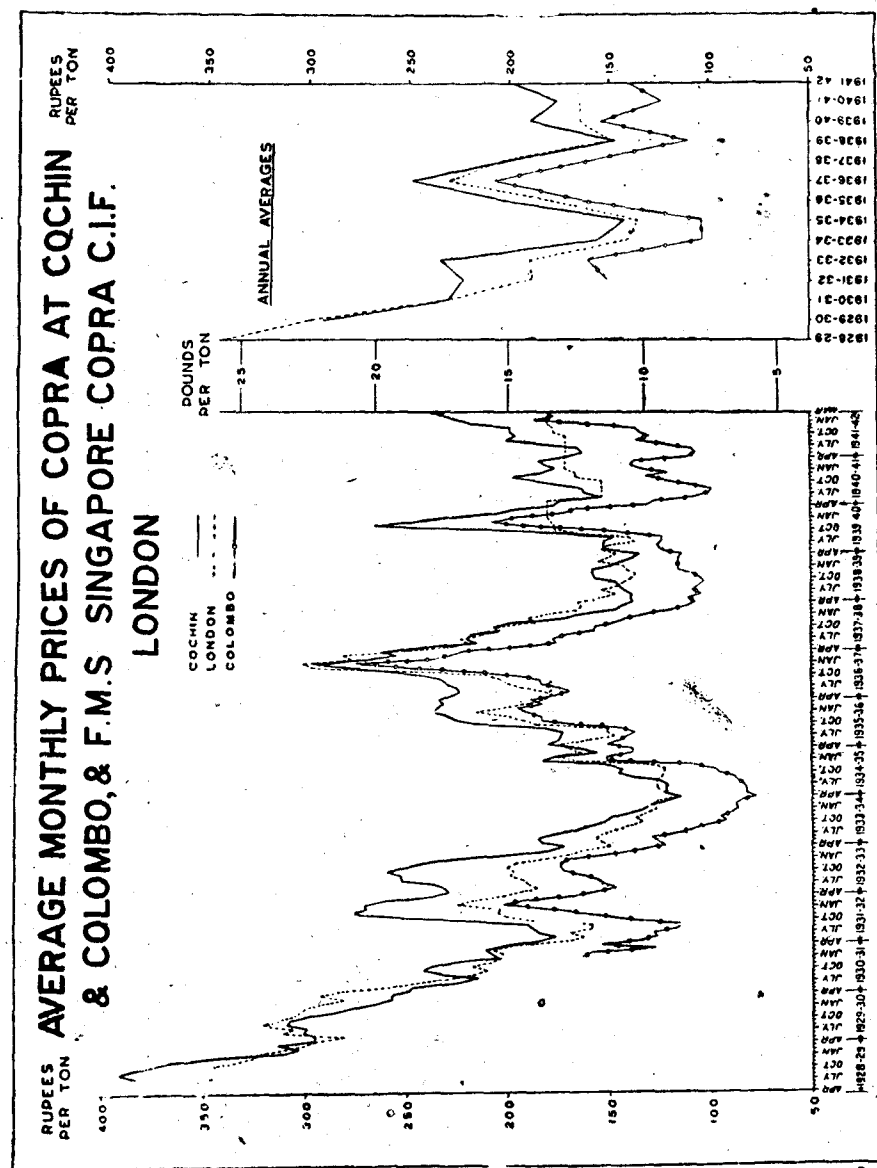
It may, therefore, be concluded that the prices of coconuts in all the three markets in producing areas were subject to considerable seasonal variations. On the other hand, it will be seen from the diagram facing page 69 that the seasonal variations in the markets in the Hyderabad State and the Central Provinces were comparatively narrow. At three markets in Hyderabad, *viz.*, Secunderabad, Warangal and Latur, the maximum range of variation was only 5.2 per cent. between March and June. Similarly, in three markets in the Central Provinces, *viz.*, Akola, Khandwa and Narsinghpur, the maximum range of variation amounted to 3.2 per cent. only between November and September.

(5) RETAIL PRICES.

The retail prices of tender nuts usually vary from 3 pies to 6 pies in the markets in producing areas and 9 pies to 1 anna 6 pies in cities and at railway stations.

The retail prices of mature nuts vary mainly according to their size and it appears from enquiries made during the survey that the difference between the retail and wholesale prices varies enormously in different markets and for different transactions. For instance, a comparison of the average monthly wholesale and retail prices of coconuts at Alleppey shows that during the five years 1934-35 to 1938-39, the difference of retail prices over wholesale prices varied from Rs. 3-8 to Rs. 9-12 per thousand nuts in different months or, in other words, from 11 per cent. to





60 per cent. of the wholesale price. Similarly, the data about retail and wholesale prices in 1936-37 obtained from a merchant at Trichur showed that the difference of the retail prices over the wholesale prices varied from Rs. 2-8 to Rs. 10 per thousand nuts. In Madras and Bombay, the retail prices reported from a few markets were between 13.6 to 40.5 per cent. more than wholesale prices. The position in Mysore is indicated by the annual average wholesale and retail prices at Bangalore given in the table below.

Average annual wholesale and retail prices of coconuts at Bangalore.

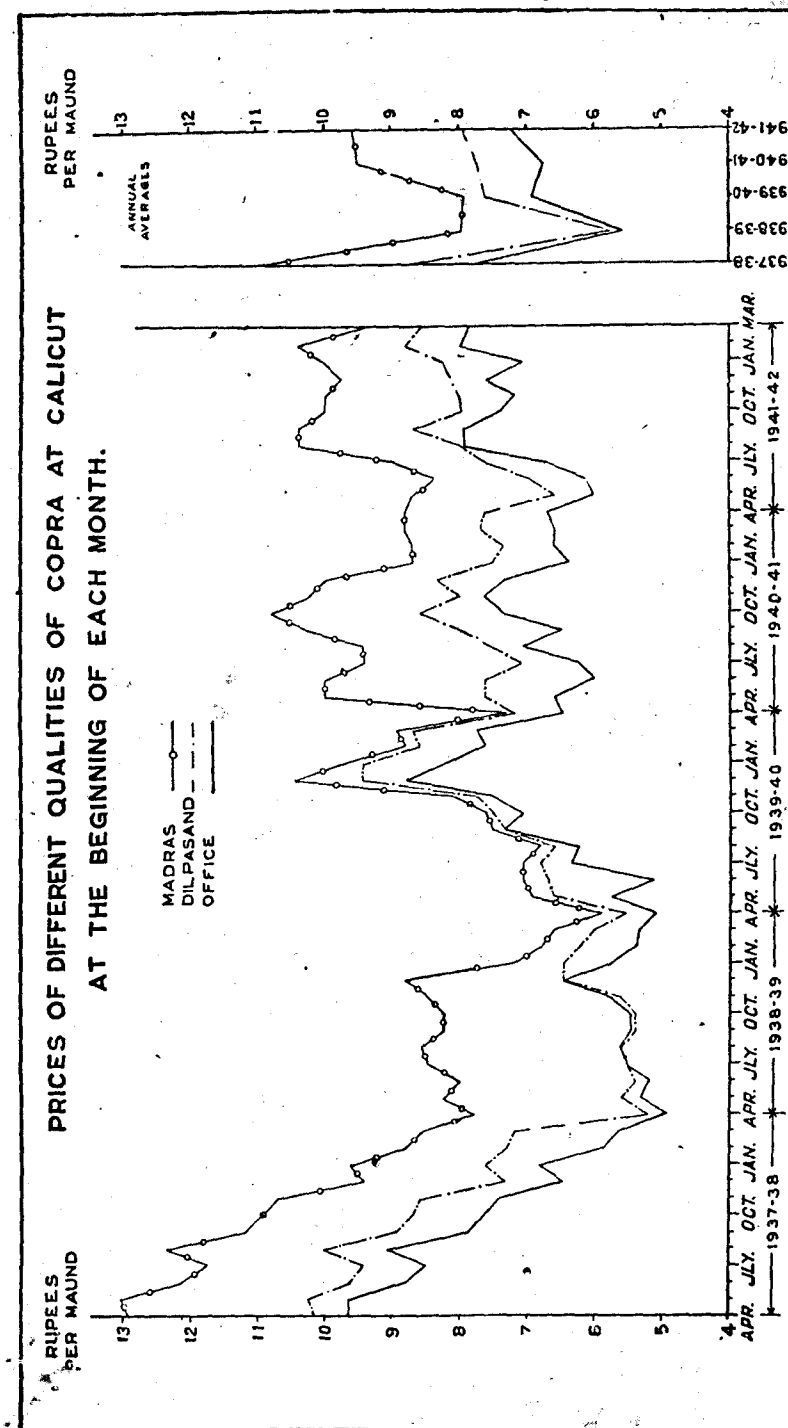
(Per thousand.)

Year.	Average retail price.	Average wholesale price.	Difference.	
			Amount.	Percentage of wholesale price.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	
1934	49 7 8	31 10 3	17 13 5	56.4
1935	54 11 0	45 15 0	8 12 0	19.0
1936	65 1 8	52 12 0	12 5 8	23.4
1937	59 14 4	48 3 6	11 10 10	24.2
1938	49 7 8	38 2 0	11 5 8	29.8

(6) PRICES OF COCONUTS IN RELATION TO PRICES OF COPRA AND COCONUT OIL.

The diagrams facing pages 70, 71 and 72 showing the course of prices of coconuts, copra and coconut oil at Alleppey, Cochin and Calicut indicate that the prices of coconuts in the main markets of coconut producing areas generally rise and fall in sympathy with copra and coconut oil prices.

In Cochin, growers often sell the nuts to be harvested during a whole year in advance to copra manufacturers on *chowdana* rate, i.e., on the basis of a rate to be fixed at the time of each sale according to the rate then prevailing for coconut oil. The price of a candy (654 lb.) of coconut oil is reckoned to be the price of twenty-five *chowdanas* (1 *chowdana* = 120 nuts) of coconuts, i.e., 3,000 coconuts. In other words, one-third the price of a candy of coconut oil is reckoned to be the price of coconuts per thousand. By selling on the basis of a uniform relation with current coconut oil rates throughout the year, producers expect to get some advantage for their coconuts during the rainy season when nuts are smaller, but in actual practice this apparent advantage is more than offset in summer months.



[illegible]

During the period of the 1914—18 War, prices rose to over £40 per ton before the end of 1916 and touched £45-15 per ton in November 1917. In the following month, the maximum controlled price of copra was fixed at £45-10 per ton, which remained in force until March 1919. After the removal of control, prices rapidly rose, reaching £69-10 per ton in February 1920, but before the end of the year prices again fell below the controlled price. Between 1921 and 1928, the level of prices remained similar to that before the 1914—18 War. The course of prices from 1928-29 will be seen from Appendix XXXI and the following table which summarises the average, annual prices of f.m.s. Singapore copra c.i.f. London. Similar data in respect of palm kernels, ground-nut kernels and cotton seed have also been added for comparison.

*Average annual prices of copra, palm kernels, groundnut kernels
and cotton seed.*

Year.	Copra (f.m.s. Singapore c.i.f. London).		Palm kernels in Liverpool (For near shipment).		Groundnut kernels (Coromandel c.i.f. London).		Cotton seed (Black Egyptian c.i.f. Hull).	
	Price per ton.	Percentage taking 1928-29 price as 100.	Price per ton.	Percentage taking 1928-29 price as 100.	Price per ton.	Percentage taking 1928-29 price as 100.	Price per ton.	Percentage taking 1928-29 price as 100.
	£ s. d.		£ s. d.		£ s. d.		£ s. d.	
1928-29	25 15 11	100-0	20 6 8	100-0	20 9 2	100-0	10 13 3	100-0
1929-30	22 10 4	87-3	17 4 7	84-7	18 5 2	89-2	9 4 11	86-8
1930-31	17 6 7	67-2	12 2 10	59-7	13 3 2	64-3	6 13 8	62-7
1931-32	14 2 0	54-7	10 13 2	52-4	13 10 0	66-0	6 2 2	57-3
1932-33	14 3 4	54-0	10 8 3	51-2	13 19 8	68-3	6 18 0	64-7
1933-34	10 9 10	40-7	8 5 9	40-8	10 1 6	49-3	5 6 11	50-2
1934-35	10 2 4	39-2	7 13 2	37-7	11 1 5	54-1	5 12 2	52-6
1935-36	13 7 7	51-9	10 7 2	50-9	14 4 11	69-6	6 12 1	61-9
1936-37	17 3 10	66-6	13 4 4	65-0	14 18 10	73-0	7 19 5	74-8
1937-38	15 4 6	59-0	11 17 3	58-3	12 19 5	63-4	6 17 1	64-3
1938-39	11 0 8	42-8	9 1 0	44-5	10 6 6	50-5	6 7 10	59-9
1939-40	12 5 6	47-6	9 15 0	48-0	12 18 3	63-1	6 12 11	62-4
1940-41	12 5 0	47-5	10 18 8	53-7	16 7 11	80-1	8 3 7	76-7

Source.—Compiled from Review of the Oilseed, Oil and Oil Cake Markets—Frank Fehr & Co., and London Grain, Seed and Oil Reporter.

The prices of f.m.s. Singapore copra* averaged nearly £26 per ton in 1928-29, after which there was an almost continuous decline till 1934-35. Prices were exceptionally unfavourable to copra producers in 1933-34 and 1934-35, the average for the two years working out to £10-9-10 and £10-2-4 respectively, *i.e.*, only about 40 per cent. of the 1928-29 average. The heavy offerings of Philippines copra (this was stimulated by the depreciation of the U. S. dollar), the collapse of the London Economic Conference, the continued uncertainty prevailing in the margarine industry on account of low butter prices, and the measures adopted by various governments to protect their dairy industries were some of the factors which contributed to the decline in copra prices.

Prices began to improve early in 1935 and the average for 1935-36 rose to £13-7-7 per ton. Reports about reduced supplies in the Philippines and lack of freight facilities from the Netherlands East Indies contributed to further advance of prices during 1936-37, the average for which worked out to £17-3-10 per ton.

The year 1937-38, however, again saw a steady decline in prices. Reports about the Philippines† offering to Europe and the harvesting of a very large cotton crop in the United States of America and a big groundnut crop in India all helped copra prices to sag and the average for the year declined to £15-4-6 per ton.

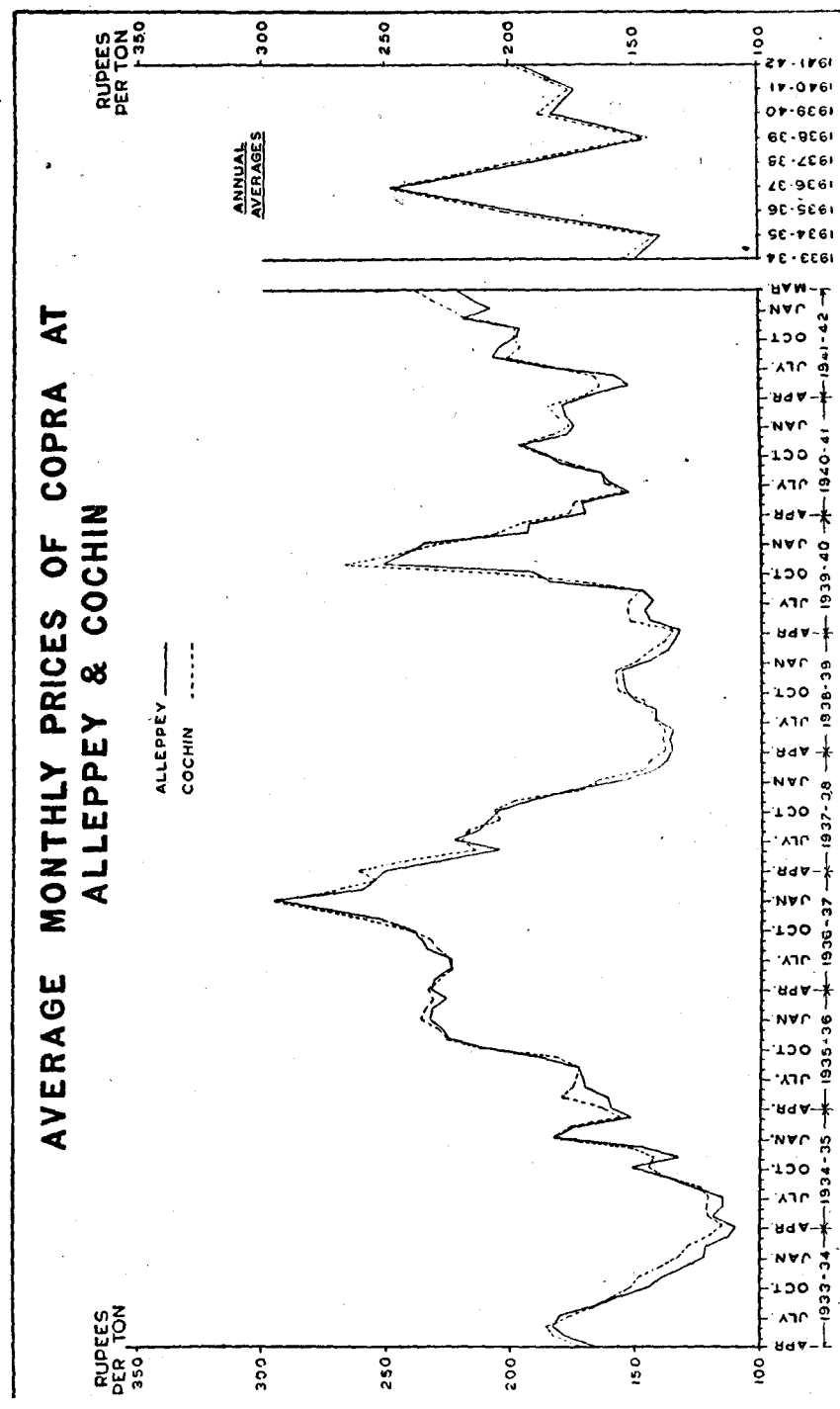
* Copra received from different sources is valued differently owing to differences in qualities. Ceylon copra usually fetches a premium over the Netherlands East Indies copra and the Straits copra as will be seen from the table below:—

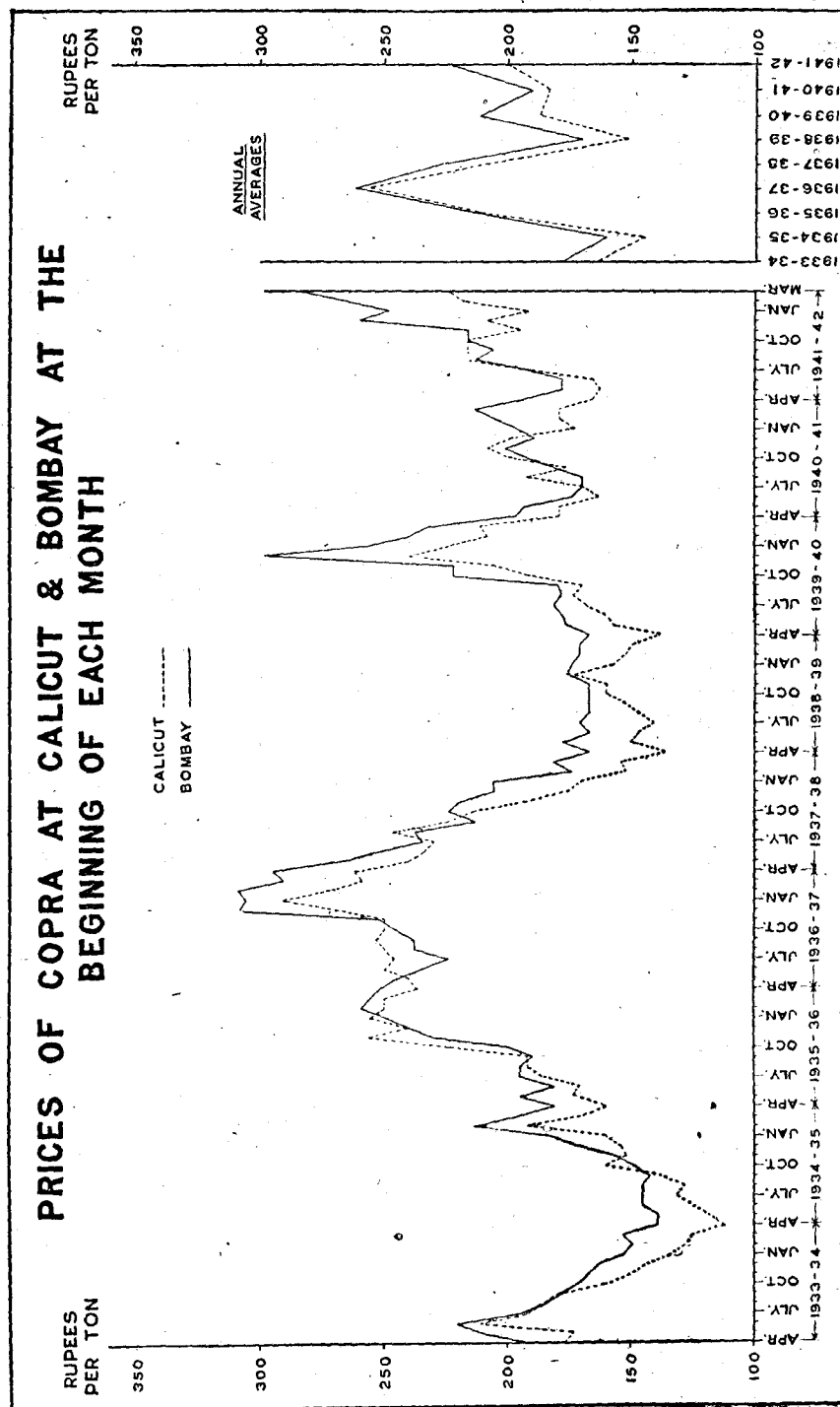
Prices of Ceylon copra, Netherlands East Indies copra and Singapore copra c.i.f., London.
(Per ton.)

Year.	Ceylon copra f.m.s.	Netherlands East Indies copra f.m.s.	Singapore copra f.m.s.
	£ s. d.	£ s. d.	£ s. d.
1928	27 18 10	26 11 9	26 17 6
1929	24 3 8	22 16 6	23 1 3
1930	20 1 8	19 1 7	19 0 0
1931	14 16 6	13 18 5	13 17 6
1932	16 10 5	15 0 11	15 0 0
1933	12 10 4	11 6 2	11 6 3
1934	10 1 10	9 6 9	9 6 8
1935	12 15 1	12 12 0	12 14 7
1936	15 12 9	15 5 1	15 12 2
1937	17 7 6	17 0 0	17 8 3
1938	11 9 1	11 7 8	11 9 4

Source.—International Yearbook of Agricultural Statistics and Review of Oilseed, Oil and Oil Cake Markets: Frank Fehr & Co.

† The Philippines copra is usually shipped to the United States of America and it is only when American buyers stay out of the market that Philippines copra is exported to Europe.





During 1939-40, the market was first disturbed as a result of the German invasion of Czechoslovakia and later by the outbreak of War. Prices remained nominal for some time and later the prices of oilseeds and oils came under Government control with effect from October 7. Prices from September 1939 onwards are approximate and based on special freight arrangements. The average for the year worked out to £12-5-6.

In 1940-41, there was a sharp decline in prices after the fall of France and prices remained purely nominal for some time. Later, the controlled price increased to £12-10-0 per ton in November 1940. The average for the year 1940-41 (which can only be regarded as approximate) worked out to £12-5-0 per ton. In 1941-42, the controlled price rose further to £13-10-0 per ton in January 1943.

A comparison of the average annual prices of copra with those of certain other oilseeds, during the period 1928-29 to 1940-41, illustrated on the diagram facing page 73, shows that the prices of copra generally followed a trend similar to those of other oilseeds, especially palm kernels. The fall in the prices between 1928-29 and 1938-39 appears to be more pronounced in the case of copra and palm kernels. Copra usually fetched prices higher than palm kernels, groundnut kernels and cotton seed but in some of the years copra was at times cheaper than groundnut kernels. The margin between the price of copra and other oilseeds varied from time to time. For instance, the difference between the average annual prices of copra and palm kernels was as much as £5-9-3 in 1928-29 and as little as £1-19-8 in 1938-39.

(2) PRICES IN INDIA IN RELATION TO PRICES AT LONDON
AND COLOMBO.

Prices of copra at Cochin (see Appendix XXXIV) which provide a fair index of copra prices in India are illustrated on the diagram facing page 75 along with the prices at Colombo, and the prices of Singapore copra c.i.f., London (see Appendices XXXI and XXXII). It will be seen that Cochin and London (Singapore copra c.i.f., London) prices often exhibited a similar trend but did not always closely follow each other. The relative level of prices at the two places changed from time to time so much so that prices at Cochin were higher than those of Singapore copra c.i.f., London,

during certain periods while the reverse was the case at other times. This appears to have been due to the variations in the rates of freight from Singapore to London and to the fact that the prices of Singapore copra at London were also influenced by the prices of Philippines, Netherlands East Indies and Ceylon copra.

On the other hand, there appears to be a striking similarity between the course of prices of copra at Cochin and Colombo which is obviously due to considerable quantities of copra being imported into India from Ceylon. The prices at Cochin consistently remained higher than those at Colombo but the difference between the prices at the two centres varied from time to time. A reference to the diagram facing page 74, on which Colombo prices have also been shown with the addition of import duty payable on imports of Ceylon copra into India, will indicate that at times the difference of Cochin over Colombo prices was less than the amount of import duty payable on Ceylon copra. It will also be seen from the diagram that the position at Bombay was different and the difference between the prices at Bombay (see Appendix XXXVI) and Colombo generally covered the import duty (as also freight and other expenses). As Bombay obtained her supplies* of copra both from Ceylon and the West Coast, the prices of Ceylon copra at Bombay largely governed the local prices of West Coast copra and indirectly the level of copra prices on the West Coast (indicated by Cochin prices).

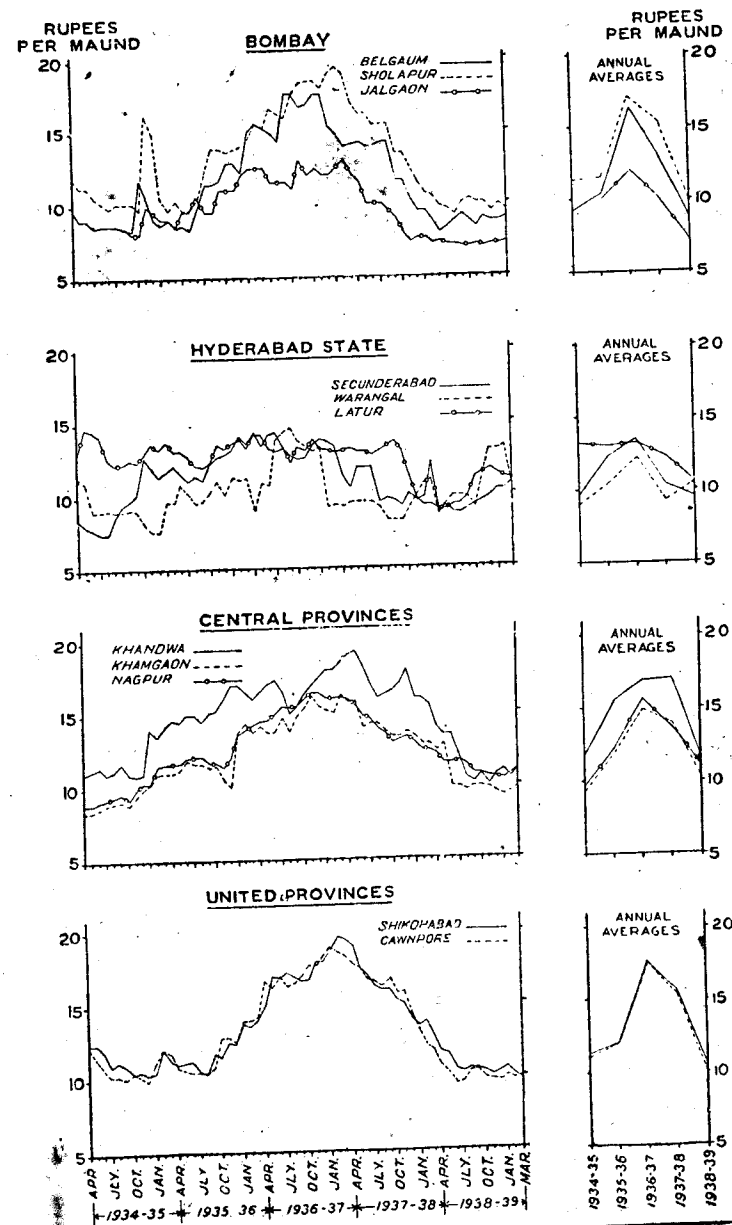
(3) TREND OF PRICES IN INDIA.

An indication of the trend of prices of copra in India is provided by the diagram facing page 64, which shows the highest and lowest prices obtained for copra (and coconuts) each year during forty years (see Appendix XXIV). The data have been taken from the records of a producer in the Travancore State.

During the period 1901 to 1910, prices varied between a minimum of Rs. 145-9 per ton (in 1905) and a maximum of Rs. 345-15 per ton (in 1910). During the next decade, which includes the period of 1914-18 War and the immediate Post-War shortage of oils and fats, the prices of copra ranged between Rs. 154-2 per ton (in 1918) and Rs. 479-8 per ton (in 1920). During the decennium 1921 to 1930, prices rose to over Rs. 500 per ton (in 1921) and the lowest price was Rs. 196-15 per ton (in 1930). The period 1931 to 1940 experienced a pronounced fall in prices. The maximum and minimum prices recorded during this period were Rs. 295-7 per ton (in 1937) and Rs. 109-10 per ton (in 1934) respectively. The level of prices during 10 years ending 1940 was thus lower than in any of the three preceding decennia.

* During the period 1934-35 to 1938-39, Bombay annually imported, on an average, 28,500 tons copra from abroad (mainly Ceylon) and 19,700 tons from the West Coast.

AVERAGE MONTHLY PRICES OF COPRA AT SOME MARKETS IN BOMBAY, HYDERABAD STATE, THE CENTRAL PROVINCES & THE UNITED PROVINCES.

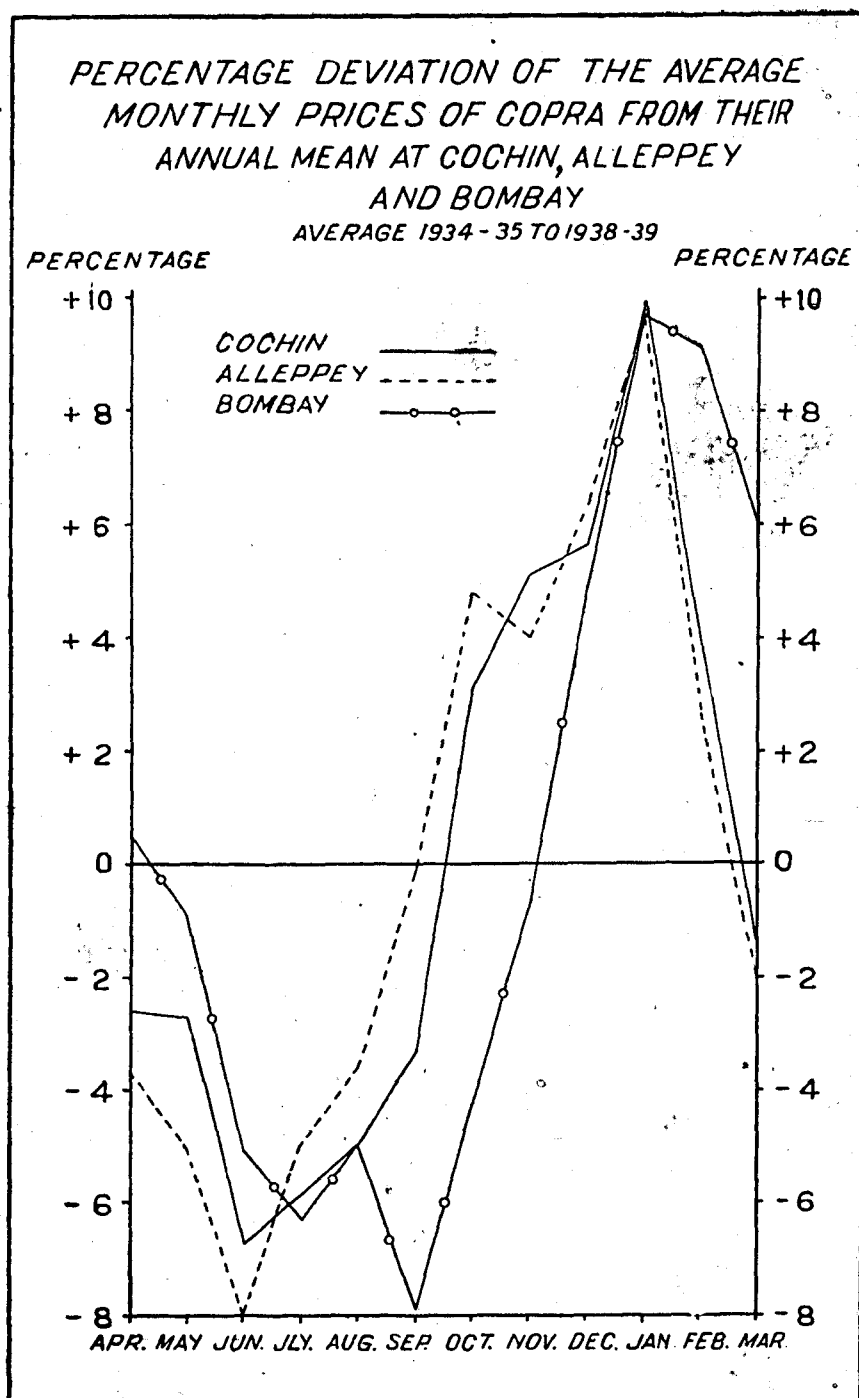


The course of copra prices since 1928-29 at Alleppey, Cochin and Calicut may be seen from the table below.

Average annual prices of copra at some markets.

Year.	Alleppey.		Cochin.		Calicut.	
	Price per ton.	Percentage taking 1928-29 price as 100.	Price per ton.	Percentage taking 1928-29 price as 100.	Price per ton.	Percentage taking 1928-29 price as 100.
1928-29 . . .	Rs. A. 359 13	100.0	Rs. A. 366 9	100.0	Rs. A. 378 15	100.0
1929-30 . . .	283 14	78.9	291 11	79.6	297 3	78.4
1930-31 . . .	218 10	60.8	229 6	62.6	242 2	63.7
1931-32 . . .	216 12	60.2	222 7	60.7	227 1	59.9
1932-33 . . .	228 14	63.6	233 8	63.7	246 11	65.1
1933-34 . . .	150 1	41.7	155 9	42.4	163 3	43.1
1934-35 . . .	138 12	38.6	141 6	38.6	144 15	38.2
1935-36 . . .	198 5	55.1	202 1	55.1	212 4	55.9
1936-37 . . .	246 15	68.6	247 12	67.6	255 8	67.4
1937-38 . . .	194 5	54.0	199 12	54.5	207 14	54.9
1938-39 . . .	143 5	39.8	146 3	39.9	152 0	40.1
1939-40 . . .	183 6	51.0	188 9	51.4	187 1	49.4
1940-41 . . .	173 14	48.3	176 4	48.1	183 1	48.3
1941-42 . . .	194 10	54.1	198 14	54.3	198 0	52.3
1942-43 . . .	471 14	131.6	472 3	128.8	446 15	117.9

It will be seen that prices in all the three markets almost continuously declined from 1928-29 to 1934-35. The years 1933-34 and 1934-35, as was noticed in the case of prices at London, were periods of very low prices. There was some improvement in prices in 1935-36 and further in 1936-37, but 1937-38 and 1938-39 once more saw a marked fall in copra prices. After the outbreak of hostilities in Europe, prices of copra in India sharply rose in November and December 1939 but dropped to lower levels by February 1940 and remained so during 1940-41. During the latter part of 1941-42, however, prices again took a steady upward trend and the average for 1941-42 worked out close to that for 1937-38. In April 1942, it was announced that Ceylon's entire production of copra (and coconut oil) would be purchased for the British Ministry of War Supply and after this, the prices in India, shot up and rose to unprecedented levels so much so that in December 1942 the prices of copra on the West Coast averaged over Rs. 600 per ton. The restrictions on the exports of copra from Ceylon, were modified in September 1942 and certain quantities of copra (and coconut oil) were permitted to be exported to India but it was only in January or February 1943 that the prices in India somewhat eased. The average for 1942-43 worked out to be considerably higher than the average for 1928-29. It may, however, be noted that the higher prices in 1942-43 were not confined to copra alone but there was a general rise in the price level of commodities in India.



The trend of prices of ball copra may be seen from the diagram facing page 65 which shows the highest and lowest prices obtained each year since 1920 at Tiptur in Mysore State (see Appendix XXV). Prices touched over Rs. 700 per ton in 1920 but between 1921 and 1930, they fluctuated between the extreme limits of Rs. 427 per ton (in 1930) and Rs. 654 per ton (in 1926). As in the case of milling copra, prices were lowest in 1934 and 1935 and after some recovery in 1936 and 1937, declined again in 1938 and 1939.

(4) PRICE VARIATIONS DUE TO QUALITY.

As has been stated earlier, ball copra and the best qualities of cup copra are classed as "edible copra" while all the other qualities of cup copra are referred to as "milling copra". Ball copra fetches the highest price while in cup copra, edible qualities command a premium over milling qualities, the extent of premium depending on their respective qualities and the supply and demand for the two types of copra in different markets.

The prices of two grades of edible copra, viz., "Madras" and "Dilpasand" and one grade of milling copra, viz., "Office", at the beginning of each month at Calicut in Malabar district (where both edible and milling copra are made) are illustrated on the diagram facing page 76 from which it will be seen that the two edible grades invariably fetched a premium over the milling grade. Of the two edible grades "Madras" invariably fetched a higher price than "Dilpasand" but the premium for Madras over "Dilpasand" varied from less than 2 annas to Rs. 2-15 per maund in different months. The premium for "Dilpasand" over "Office" varied from less than 2 annas to Rs. 1-10 per maund. The diagram further shows that the prices of the three grades did not always rise or fall together. It is, therefore, obvious that the prices of different grades were not always influenced by the same factors.

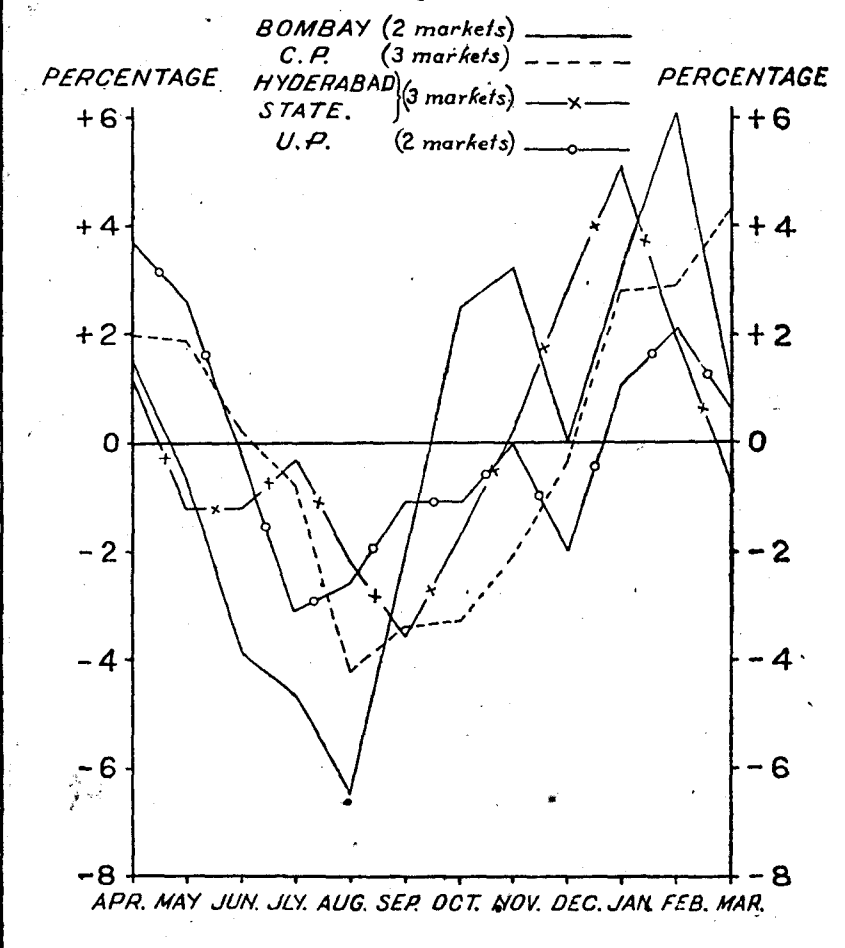
In the Travancore State, where the major portion of copra production as also the local demand is for milling qualities, the premium for edible qualities over milling qualities depends upon the demand for edible qualities from the consuming markets outside the State. When there is a good demand for edible qualities, they fetch Rs. 10 to Rs. 15 per candy more than milling qualities, while at other times when there is no demand for edible qualities, local millers pay the same price for edible qualities as for milling copra of "Vettumani" or "Office Pass" quality.

In Mysore, where almost the entire production is of ball copra and only the broken pieces (*Kavathu*) are used for crushing, the latter are sold at Rs. 2-8 to Rs. 3-8 per maund cheaper than ball copra.

At Bombay, an important market where all the qualities of copra are traded in, ball copra from Tiptur in Mysore State is reported to fetch a higher price than the ball copra from Calicut.

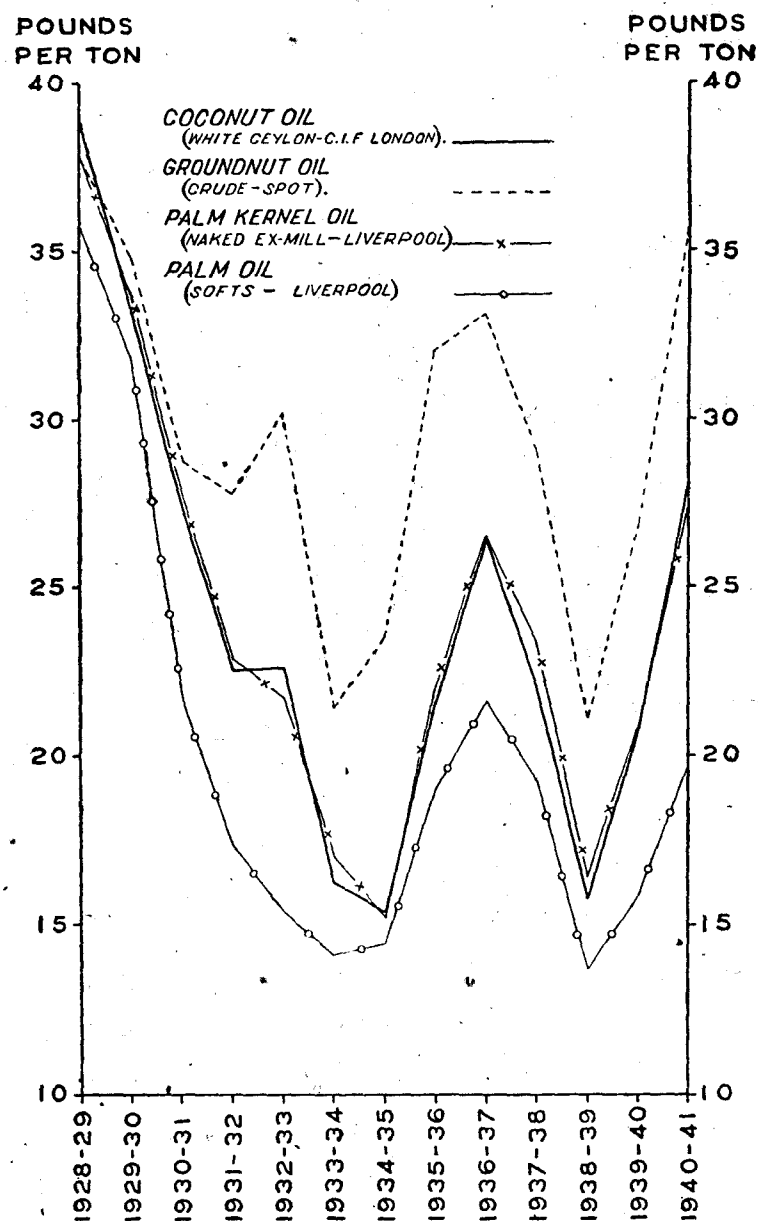
PERCENTAGE DEVIATION OF THE AVERAGE MONTHLY PRICES OF COPRA FROM THEIR ANNUAL MEAN AT SOME MARKETS IN BOMBAY, THE UNITED PROVINCES, THE CENTRAL PROVINCES & HYDERABAD.

AVERAGE 1934-35 TO 1938-39



Facing page 83.]

AVERAGE ANNUAL PRICES OF COCONUT OIL, GROUNDNUT OIL, PALM KERNEL OIL AND PALM OIL.



Among the edible qualities of cup copra, "Rajapur" quality usually fetched the highest prices followed by "Madras" and "Alpai". The differences between the prices of different qualities varied from time to time, as will be seen from the diagram facing page 77.

In the United Provinces, the Central Provinces, the Punjab and Rajputana, where the demand is largely for ball copra, the prices of copra balls (by weight) often vary according to their size. For instance, in the United Provinces and Rajputana, small balls are preferred for distribution on ceremonial occasions and fetch Re. 1 to Rs. 3 per maund more than bigger balls, while from the Punjab it is reported that small sized balls sell 8 annas to Re. 1 per maund cheaper than bigger balls, and cup copra from Rs. 2 to Rs. 4 per maund cheaper than ball copra.

(5) COMPARISON OF PRICES IN DIFFERENT MARKETS.

It will be seen from the diagram facing page 78 that the prices at Alleppey and Cochin (see Appendices XXXIII and XXXIV) which are two important centres for the trade in copra and coconut oil in Travancore and Cochin States respectively, usually moved in close sympathy. The prices at Alleppey were generally lower than those at Cochin which is accounted for by the fact that the Travancore State levies an export duty on exports of copra (and coconut oil and other coconut products) from the State.*

The prices at Calicut and Bombay (Appendices XXXV and XXXVI) illustrated on the diagram facing page 79 do not show as much close sympathy as is seen between Cochin and Alleppey but on the whole they show considerable parallelism. The prices at Calicut were higher than those at Bombay on a few occasions but the annual averages for Bombay were consistently higher than those at Calicut. It may, therefore, be said that although the prices of copra at Bombay were influenced by the prices in the producing areas on the West Coast, they did not wholly depend on them. This is explained by the fact that Bombay obtained her copra supplies not only from the West Coast but also by imports from Ceylon.

The prices at 3 markets each in Bombay Province, Hyderabad State and the Central Provinces and 2 markets in the United Provinces are illustrated on the diagram facing page 80. Of the three Bombay markets, the prices at Belgaum and Sholapur refer to ball copra, but those at Jalgaon refer to edible cup copra. This explains the comparatively low level of the Jalgaon prices. Between Belgaum and Sholapur, prices were generally lower at Belgaum which is nearer to the source of supply of ball copra in Mysore State. The difference between the prices at the two markets, however, varied from time to time.

* Prices at Alleppey and Cochin are both influenced by the values at common consuming markets like Bombay, and therefore prices in markets in Travancore State are lower to the extent of the duty.

The prices at the three Hyderabad markets showed little signs of sympathetic movement. The prices at Warangal, which, among the three markets, is nearest to the source of supply, viz., the Godavari district of Madras, were generally lower than those at Secunderabad and Latur.

The prices at the Central Provinces markets generally adopted a similar course, the comparatively higher prices at Khandwa being explained by higher transport costs involved in obtaining supplies from the Mysore State. The two United Provinces markets moved close to each other but their relative positions differed from time to time.

It will thus be clear that the prices of edible copra in the consuming markets are influenced largely by the expenses involved in obtaining supplies from the producing areas, but prices in the different markets do not always differ to the extent of the difference in transport costs. The absence of well defined grades, the varied nature of the consumers' requirements and differences in marketing costs and practices account, among other things, for the disparities that have been described above.

(6) SEASONAL VARIATIONS IN PRICES.

The seasonal variations in the prices at Cochin and Alleppey may be seen from the diagram facing page 81 which shows the deviations of the average monthly prices from their annual mean during the period 1934-35 to 1938-39.

At Cochin, prices registered a steady upward trend from July till January after which they declined up to June. The maximum range of variation amounted to 16.7 per cent. At Alleppey also prices began to improve from July and the highest and lowest points occurred in January and June respectively. The maximum range of variation amounted to 17.6 per cent. Both at Cochin and Alleppey, prices were over the annual mean from October to February and below the annual mean from March to September. This is partly due to the fact that copra produced in monsoon months is of poor quality, and copra crushing and exports become slack due to rains.

The seasonal variations in the prices at Bombay were similar to those in the producing areas with the exception that the lowest point was reached in September. The maximum range of variation amounted to 17.6 per cent. between January and September.

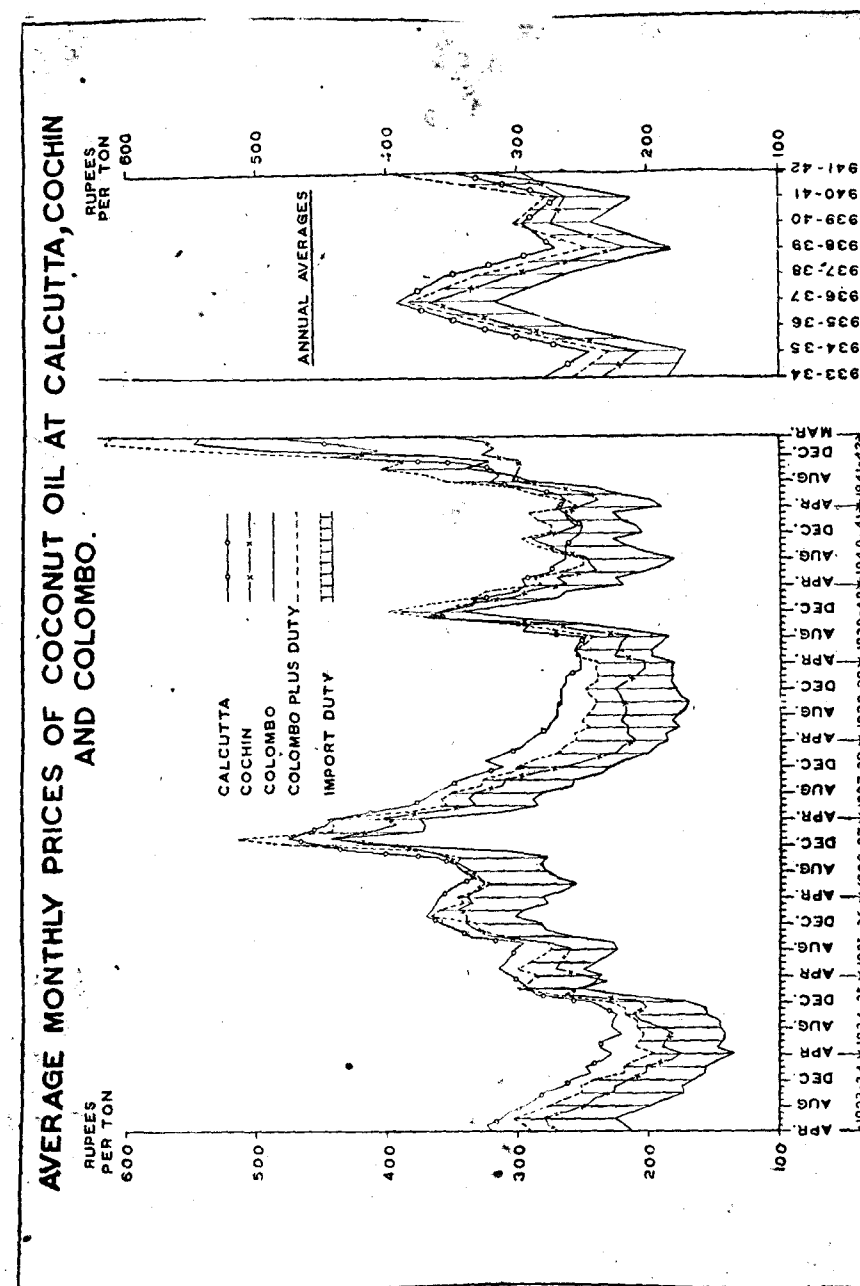
The seasonal variations in the prices of copra at 2 markets in Bombay Province*, 3 markets in the Central Provinces†, 3 markets in the Hyderabad State‡ and 2 markets in the United Provinces§ may be seen in the diagram facing page 82. At the two markets in Bombay Province, prices remained above the annual mean from

* Belgaum and Sholapur.

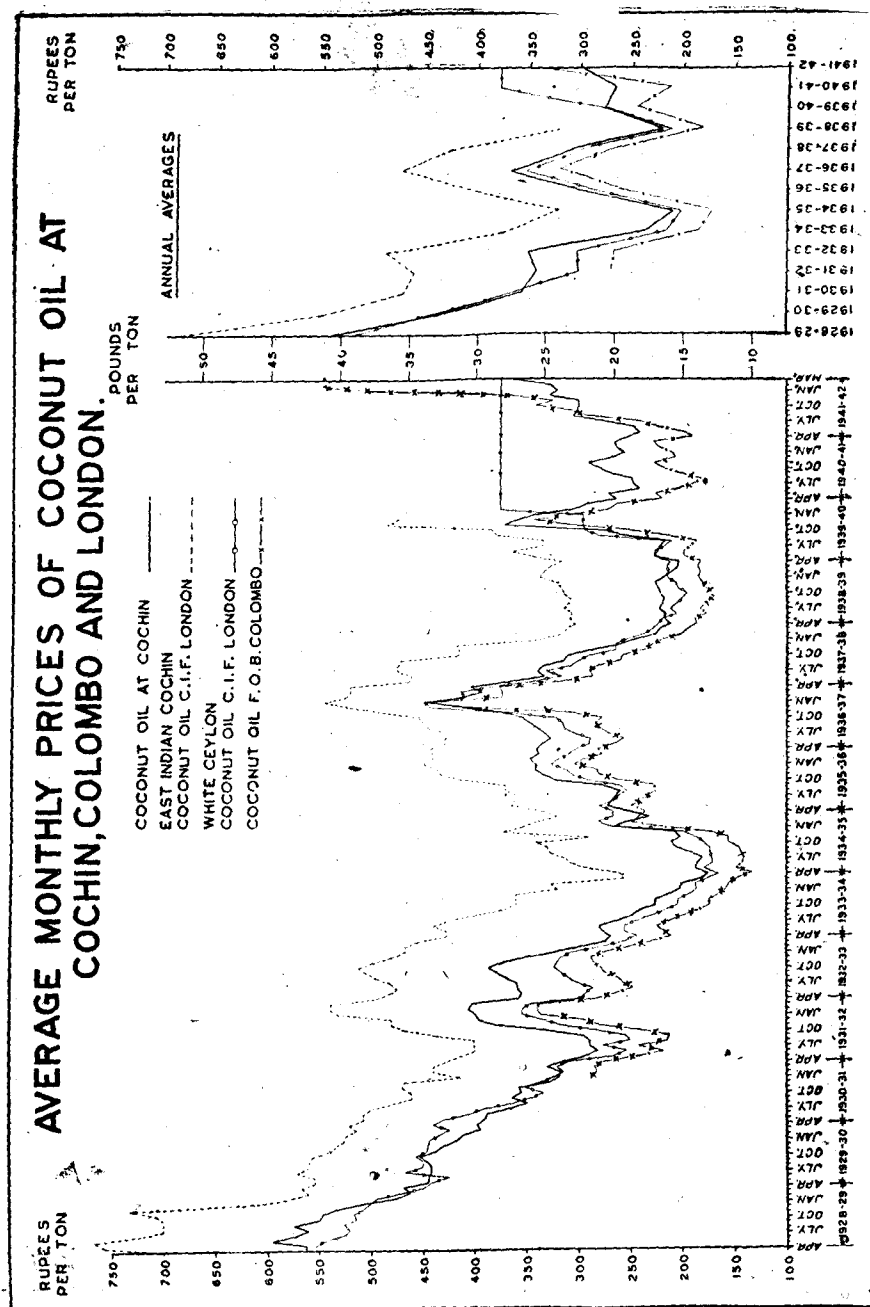
† Nagpur, Khandwa and Khamgaon.

‡ Secunderabad, Warangal and Latur.

§ Cawnpore and Shikohabad.



Facing page 85.]



October to April, after which they steadily declined up to August. The highest and lowest points were reached in February and August respectively, the maximum range of variation being 12.5 per cent. The three Central Provinces markets showed the highest and lowest points in March and August respectively, the maximum range of variation being 8.5 per cent. At the Hyderabad markets, prices were highest in January and lowest in September, as at Bombay. The maximum range of variation amounted to 8.7 per cent. The two United Provinces markets showed the highest and lowest points in April and July respectively, the maximum range of variation being 6.8 per cent.

As the prices in the Central Provinces, the Hyderabad State and the United Provinces markets refer to edible copra, it may be said that the prices of edible copra in the consuming markets remained fairly stable. On the other hand, prices of milling copra in the copra producing areas and at Bombay were subject to appreciable seasonal variations, because the course of prices was directly influenced by seasonal variations in copra making, demand from mills for crushing and imports from abroad.

(7) RETAIL PRICES.

Retail sales are mainly for edible purposes and as such are of little significance in the main coconut producing areas, where the kernel from fresh coconuts and not copra is used for edible requirements. In the Mysore State, retail prices were generally Rs. 1-8 to Rs. 3-8 per maund above the wholesale prices.

In the United Provinces, retail prices are reported to be 8 annas to Rs. 3 per maund above wholesale prices. In the Central Provinces, the difference between retail and wholesale prices is reported to usually vary from Rs. 1-8 to Rs. 5-8 per maund. For instance at Nagpur, during the period 1935-36 to 1938-39, the difference between retail and wholesale prices was found to vary from Rs. 1-9-6 to Rs. 5-9-6 per maund or in other words from 11 to 52 per cent. of the wholesale prices.

C.—Coconut oil.

(1) WORLD PRICES.

As in the case of copra, the prices of coconut oil at London may be taken as an index of world prices. In the three years immediately preceding the 1914-18 War, prices of Ceylon coconut oil in London ranged between £32 and £48 per ton. During the period of the 1914-18 War, prices of coconut oil rose to £80 per ton in April 1917. A maximum controlled price £74 per ton was fixed in June 1917 and remained in force until May, 1919. After the removal of control, prices rose immediately and reached the peak in February, 1920, when Ceylon coconut oil averaged £118-10 per ton. Before the end of the year, however, prices

declined to below the control price. Between 1921 and 1928, the average monthly prices ranged between £37 and £53 per ton. In subsequent years, there was a further decline in prices.

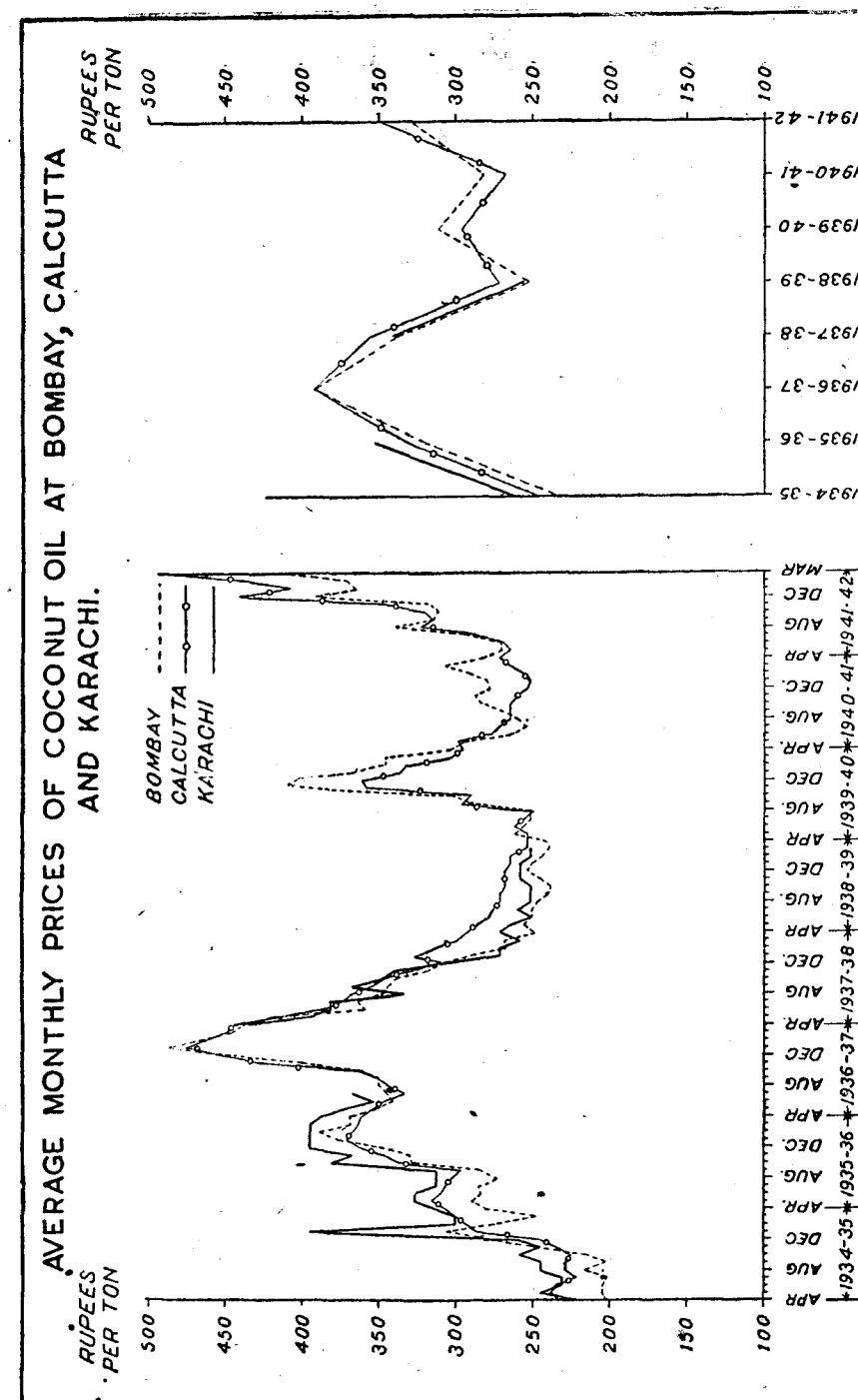
The course of prices since 1928-29 (see Appendix XXXVII) will be seen from the table below, which summarises the average annual prices of Ceylon coconut oil, c.i.f. London. Similar data for palm oil, palm kernel oil and groundnut oil have also been added for comparison.

Average annual prices of coconut oil, palm kernel oil, palm oil and groundnut oil.

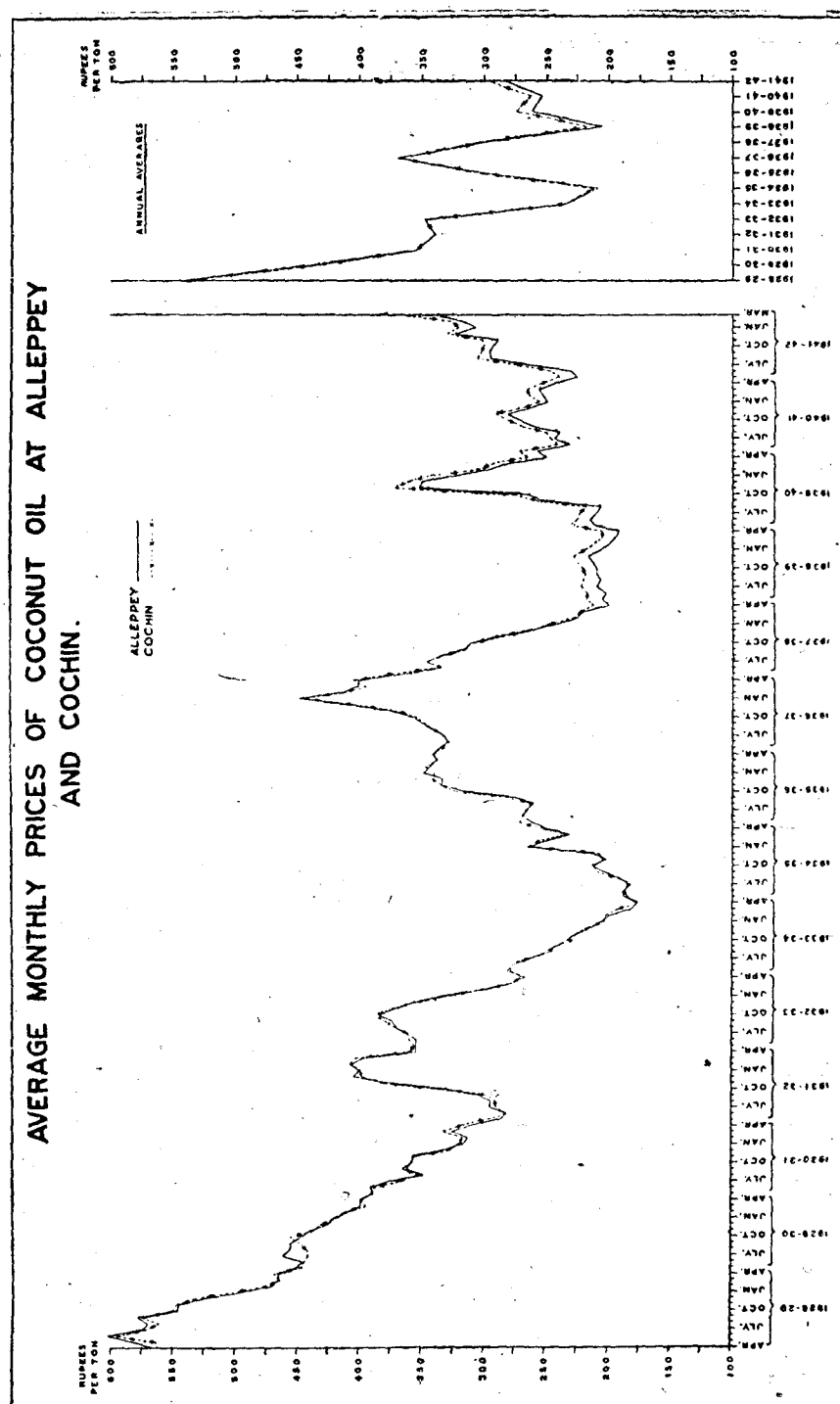
Year.	Coconut oil (Ceylon c.i.f. London).		Palm kernel oil (Naked ex-mill Liverpool).		Palm oil (Softs Liverpool).		Groundnut oil (Crude spot Hull).	
	Price per ton.	Percentage taking 1928-29 price as 100.	Price per ton.	Percentage taking 1928-29 price as 100.	Price per ton.	Percentage taking 1928-29 price as 100.	Price per ton.	Percentage taking 1928-29 price as 100.
	£ s. d.		£ s. d.		£ s. d.		£ s. d.	
1928-29 . . .	38 18 0	100.0	37 19 3	100.0	35 15 9	100.0	37 17 9	100.0
1929-30 . . .	33 6 3	85.6	33 14 0	88.8	31 16 9	89.0	34 16 0	91.8
1930-31 . . .	27 4 6	70.0	27 13 6	72.9	21 13 0	60.5	28 15 0	75.9
1931-32 . . .	22 9 9	57.8	22 16 9	60.2	17 5 9	48.3	27 16 0	73.4
1932-33 . . .	22 10 9	58.0	21 14 0	57.2	15 7 6	43.0	30 3 9	79.7
1933-34 . . .	16 5 0	41.8	17 0 6	44.9	14 1 9	39.4	21 8 6	56.5
1934-35 . . .	15 2 0	38.8	15 3 9	40.0	14 9 0	40.4	23 9 9	62.0
1935-36 . . .	21 11 6	55.5	21 18 3	57.7	19 0 0	53.1	32 0 0	84.5
1936-37 . . .	26 6 9	67.7	26 10 0	69.8	21 13 6	60.6	33 0 9	87.2
1937-38 . . .	21 19 9	56.5	23 6 3	61.4	19 4 6	53.7	29 1 3	76.7
1938-39 . . .	15 14 6	40.4	16 7 6	43.1	13 13 0	38.1	21 1 3	55.6
1939-40 . . .	20 12 6	53.0	20 14 0	54.5	15 15 3	44.0	26 15 9	70.7
1940-41 . . .	28 2 6	72.3	27 10 0	72.4	19 13 3	54.9	35 10 0	93.7

Source.—Compiled from Review of the Oilseed, Oil and Oil Cake Markets—Frank Fehr & Co. and London Grain, Seed and Oil Reporter.

As in the case of copra, the prices of Ceylon coconut oil declined almost continuously from 1928-29 to 1934-35. This was due to a number of factors such as the increased exports of coconut oil from the Philippines, Ceylon and Malaya, the increased production of competitive vegetable and marine oils like groundnut oil, palm oil, palm kernel oil and whale oil, and the low prices of butter. Prices of coconut oil improved in sympathy with copra prices in 1935-36 and 1936-37 and declined in 1937-38 and 1938-39. In 1939-40, prices of Ceylon coconut oil ruled between £15-15 and £17 per ton between April and August, after which normal trading was disturbed as a result of the outbreak of the War and



Facing page 87.]



prices jumped to £21 per ton in September and to £22 in October. The prices of oils and oilseeds, however, came under Government control from October 7, 1942 and the Government selling price of crude coconut oil was fixed at £22-2-6 per ton. The average for 1939-40 worked at £20-12-6 per ton. The Government selling price was raised to £28-2-6 per ton from 3rd February 1940 and further to £36-12-6.

A comparison of the average annual prices of coconut oil with the three other oils illustrated on the diagram facing page 83, clearly shows that the prices of the four oils followed a similar course except for a little divergence between 1932-33 and 1934-35.

Coconut oil was dearer than groundnut oil in 1928-29 but in subsequent years the former was appreciably cheaper than groundnut oil. Palm oil was consistently cheaper than coconut oil but palm kernel oil and coconut oil generally moved very close to each other and changed places from time to time. This is explained by palm kernel oil being very similar to coconut oil,* particularly for the soap industry.

(2) PRICES IN INDIA IN RELATION TO PRICES AT LONDON AND COLOMBO.

The average monthly prices of coconut oil at Cochin (see Appendix XLI) and Colombo (see Appendix XXXIX) together with the average monthly c.i.f. London prices of East Indian Cochin coconut oil and Ceylon coconut oil (see Appendices XXXVII and XXXVIII) are illustrated on the diagram facing page 85. The name "Cochin" is a generic term in coconut oil trade for the finest quality of coconut oil, and it will be seen from the diagram that East Indian Cochin coconut oil consistently fetched a higher price than Ceylon coconut oil at London. The prices of the two qualities of oil generally had the same trend but at times adopted a different course. The average premium fetched by East Indian Cochin coconut oil over Ceylon coconut oil in different years during the period 1928-29 to 1938-39 varied from £7-13-9 to £13-18-9 per ton or in other words from 23 per cent. to nearly 62 per cent. of the Ceylon coconut oil prices.

The prices at Cochin generally moved parallel to those of East Indian Cochin coconut oil at London, or, in other words, the prices of East Indian Cochin oil at London moved in sympathy with the prices at Cochin.

Similarly, the prices at Cochin appear to have moved in sympathy with Colombo prices. The difference between Cochin and Colombo prices, however, varied from time to time and a reference to the diagram facing page 84, shows that as in the case of copra, the difference between Cochin and Colombo prices was on many occasions less than the amount of import duty payable on imports of Ceylon coconut oil into India. On the other hand, it will also

* The saponification value of coconut oil is 246 to 260 and that of palm kernel oil from 242 to 250.

be seen from the same diagram that the difference between the prices of coconut oil at Calcutta (see Appendix XLIV) and Colombo generally exceeded the import duty (by an amount sufficient to cover freight and other expenses). As Calcutta obtained her supplies* of coconut oil both from abroad (Ceylon and the Straits Settlements) and the West Coast, the prices of coconut oil imported from abroad influenced the prices of West Coast coconut oil at Calcutta and indirectly the level of coconut oil prices on the West Coast (indicated by Cochin prices).

(3) TREND OF PRICES IN INDIA.

The trend of prices of coconut oil in India may be seen from the table below which gives the average annual prices of coconut oil at Alleppey, Cochin and Calicut since 1928-29 (see Appendices XL to XLII).

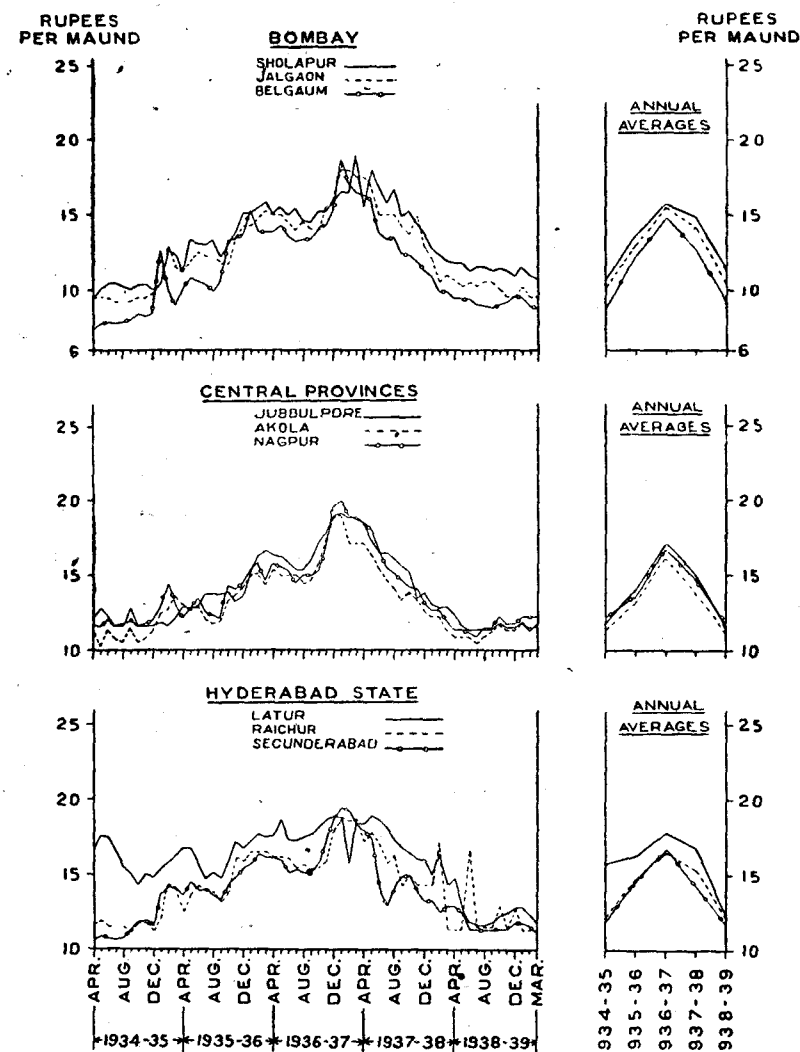
Average annual prices of coconut oil at some markets.

Year.	Alleppey.		Cochin.		Calicut.	
	Price per ton.	Percentage taking 1928-29 price as 100.	Price per ton.	Percentage taking 1928-29 price as 100.	Price per ton.	Percentage taking 1928-29 price as 100.
	Rs. A.		Rs. A.		Rs. A.	
1928-29	542 13	100.0	541 5	100.0	572 9	100.0
1929-30	438 6	80.8	435 12	80.5	447 12	78.2
1930-31	354 2	65.2	354 9	65.5	372 9	65.1
1931-32	339 8	62.5	339 13	62.8	313 7	54.7
1932-33	348 3	64.1	348 6	64.4	373 5	65.2
1933-34	235 4	43.3	235 10	43.5	253 14	44.3
1934-35	207 5	38.2	208 4	38.5	218 2	38.1
1935-36	298 14	55.1	300 14	55.6	320 4	55.9
1936-37	368 9	67.9	366 10	67.7	383 5	66.9
1937-38	303 2	55.8	303 8	56.1	325 10	56.9
1938-39	205 3	37.8	217 1	40.1	231 10	40.5
1939-40	261 15	48.3	274 1	50.6	280 0	48.9
1940-41	254 2	46.8	263 3	48.6	277 10	48.5
1941-42	284 10	52.4	295 15	54.7	303 3	53.0
1942-43	712 4	131.2	725 9	134.0	721 1	125.9

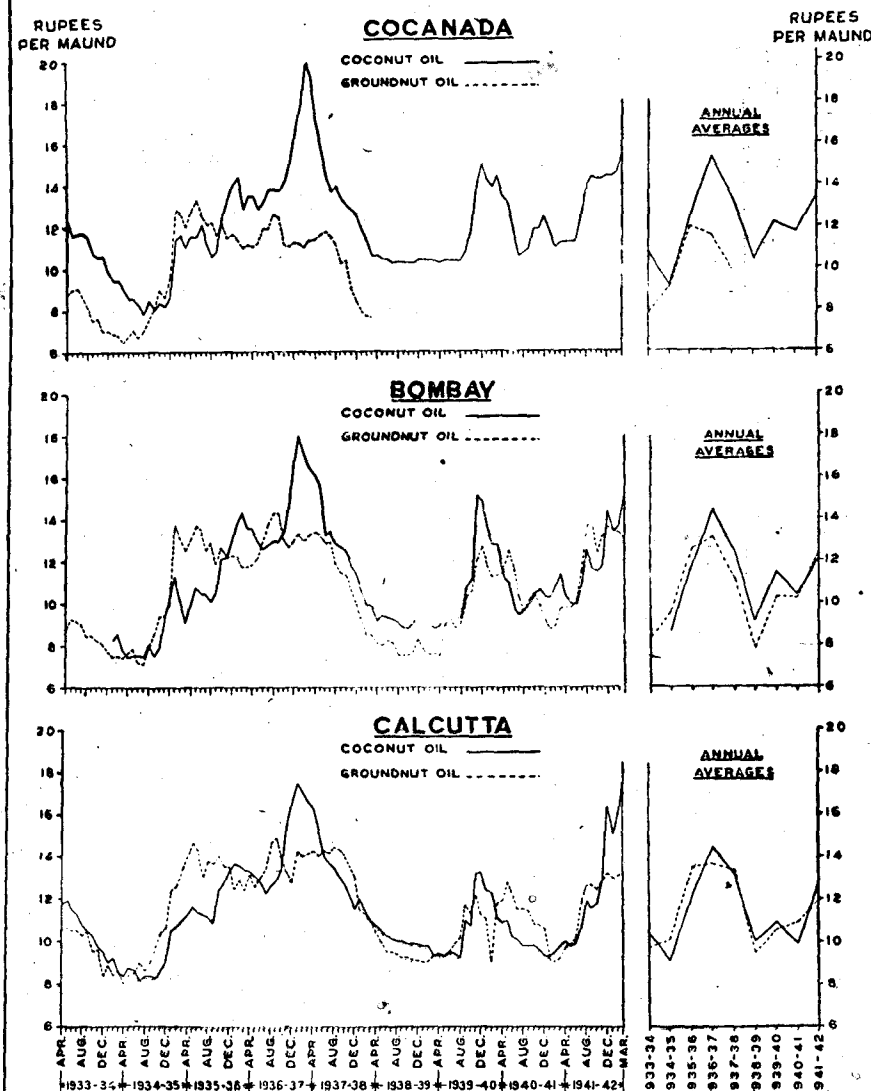
As in London, the prices of coconut oil in India declined from 1928-29 almost continuously up to 1934-35, when they averaged only about 38 per cent. of the 1928-29 prices, in all the three markets. The following two years saw a rise in prices but in 1937-38 and 1938-39, the prices again declined. After the outbreak of hostilities in Europe in September 1939, prices sharply rose in November and December 1939 but soon after receded to lower levels with the result that 1939-40 prices worked out from 48 to nearly 51 per cent. of the 1928-29 prices. The prices in 1940-41 were somewhat lower than 1939-40. This was followed by

* During the period 1934-35 to 1938-39, Bengal annually imported, on an average, 23,400 tons coconut oil from abroad and 5,800 tons from the West Coast.

AVERAGE MONTHLY PRICES OF COCONUT OIL AT CERTAIN MARKETS IN BOMBAY, HYDERABAD STATE & THE CENTRAL PROVINCES.



AVERAGE MONTHLY PRICES OF COCONUT OIL AND GROUNDNUT OIL AT COCANADA, BOMBAY AND CALCUTTA.



a rise of prices in 1941-42 and further in 1942-43. The sharp increase in the prices of coconut oil between May and December 1942 was largely due, as in the case of copra (see page 81), to the restrictions imposed in April 1942 on the exports of copra and coconut oil from Ceylon.

A comparison of the trend of coconut oil prices stated above with that of copra prices already discussed (page 80) clearly shows that copra and coconut oil prices in the coconut producing areas have a similar trend.

(4) PRICE VARIATIONS DUE TO QUALITY.

The quality of coconut oil is usually judged by its colour, clearness, flavour and freedom from rancidity. A clear white oil with pleasant flavour is valued higher than a turbid or yellowish oil or one which shows signs of rancidity.

In the coconut oil producing centres on the West Coast, the trade recognises two qualities of coconut oil known as "Bazar white" and "Office white". The "Bazar white" quality represents an oil which has not been allowed to settle after manufacture and contains some sediment in suspension; the "Office white" quality is the clear oil obtained by allowing the sediment to settle, or in some cases by filtering. The premium fetched by "Office white" quality over "Bazar white" quality usually varies from Re. 1 to Rs. 1-8 per candy.

In some cases the oil is subjected to some processing besides settling and such oil invariably sells at a higher price than raw oil. For instance, the mills at Karachi market coconut oil in two qualities known as *pucca* and *kutchra*. The *pucca* oil is prepared by heating the oil for some hours and allowing the sediment to settle. The excess of free fatty acids may also be neutralised. *Pucca* oil fetches Re. 1 to Rs. 1-8 per maund more than *kutchra* oil in Sind, the Punjab, Delhi and the United Provinces, etc. Some big mills also place refined and deodorised coconut oil on the market. Such oils are usually sold under trade brands in sealed containers and fetch considerably higher prices than raw oil.

In the consuming markets, oils from different sources usually sell at somewhat different prices. For instance, in the Bombay market, Cochin oil is considered superior to local mill oil and fetches a few annas per maund higher. Similarly, in the Delhi market, Karachi oil is considered to be superior to Bombay oil. Among the imported oils, Singapore oil is considered to be inferior in quality to Ceylon oil and consequently the former invariably sells at a discount. While Ceylon oil is considered superior to Singapore oil, opinions appear to differ about the relative qualities of Ceylon and Cochin oil. Some people in the trade think Ceylon oil to be superior claiming that it is clear and free from sediment, while others hold a different view asserting that Cochin oil invariably has a comparatively low acid value. The prices of the two qualities do not give a definite indication of the difference in their quality. For instance at Calcutta, during the period 1937-38 to

1939-40, the prices of Ceylon oil were found to be somewhat higher than those of Cochin oil in some months and lower in others. The relative prices of Ceylon and Cochin oils appear to be influenced by their relative supplies rather than by quality but it is noteworthy that while Cochin oil consistently fetched a substantial premium over Ceylon oil in London, the prices of Cochin and Colombo oil moved close together in the main consuming markets of India.

(5) COMPARISON OF PRICES IN DIFFERENT MARKETS.

A comparison of the course of prices of coconut oil at Cochin and Alleppey (see Appendices XL and XII), illustrated on the diagram facing page 87, shows that the two markets invariably had the same trend and prices usually moved in close sympathy. On the other hand, it will be seen from the diagram facing page 86 that prices at the three port markets of Bombay, Calcutta and Karachi (see Appendices XLIII, XLIV and XLV), which are important consuming and distributing centres for coconut oil, did not always move together. Prices at Karachi were generally higher than those at Bombay on account of the steamer freight from Colombo, Cochin, Calicut, etc., to Karachi being higher than that to Bombay. Prices at Calcutta averaged higher than Bombay from 1934-35 to 1938-39 but in 1939-40 and 1940-41, when imports of coconut oil from the Straits Settlements (from where freight is cheaper to Calcutta) increased appreciably prices of coconut oil at Calcutta generally averaged below those at Bombay. It appears, therefore, that rates of steamer freight and the volume of imports are two important factors which affect the level of prices of coconut oil at different ports.

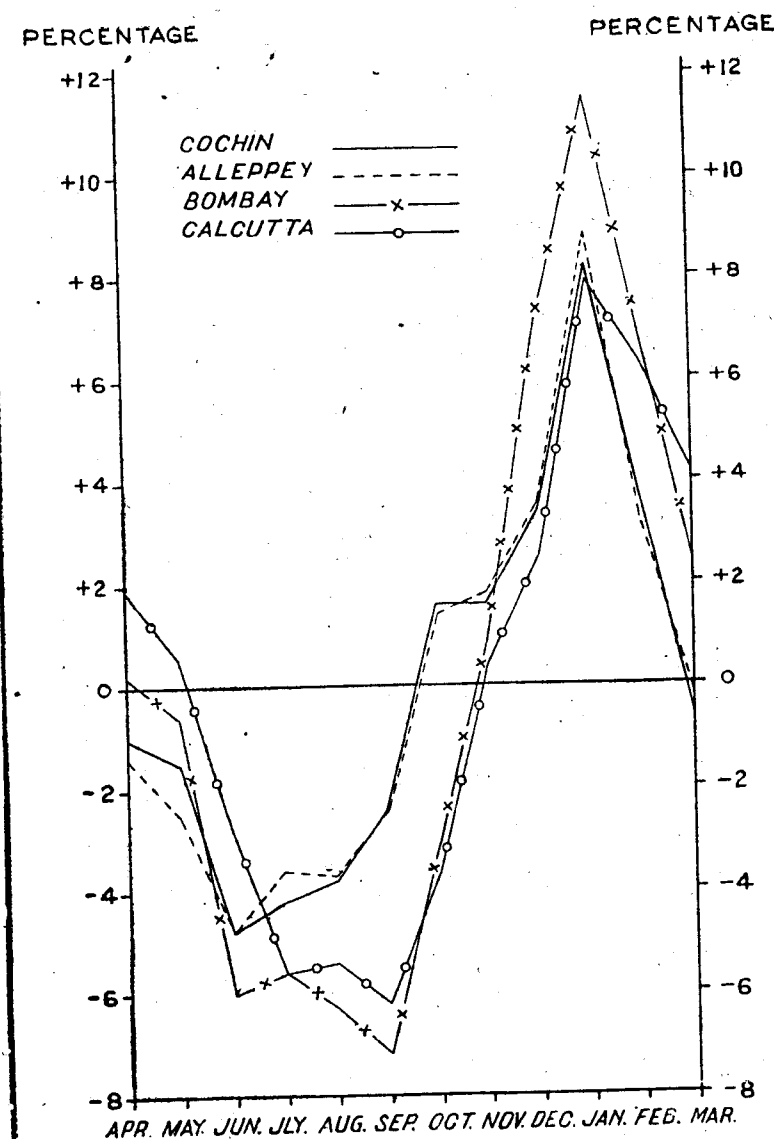
The prices in three markets each in Bombay, the Central Provinces and Hyderabad are illustrated on the diagram facing page 88. It will be seen from a comparison of the course of prices at the three markets in Bombay Province with the course of prices at the Bombay (see diagram facing page 86) that the three markets generally followed the trend of prices at Bombay. The prices at different markets, however, did not adopt a similar course from month to month and the relative level at the three markets varied from time to time. A similar position is shown by the course of prices at the markets in the Central Provinces and Hyderabad State. It may, therefore, be concluded that the prices at different consuming markets were generally governed by the level of prices at the source of supply and transport costs but were influenced from time to time by independent factors such as local supply and demand, prices of other oils, quality, etc.

(6) SEASONAL VARIATIONS IN PRICES.

The seasonal variations in the prices of coconut oil at Alleppey, Cochin, Bombay and Calcutta may be seen from the diagram facing this page. Both at Alleppey and Cochin, prices began to improve after June, exceeded the annual mean in October and reached the highest point, as in the case of copra, in January.

PERCENTAGE DEVIATION OF MONTHLY PRICES OF COCONUT OIL FROM THEIR ANNUAL MEAN AT COCHIN, ALLEPPEY, BOMBAY AND CALCUTTA.

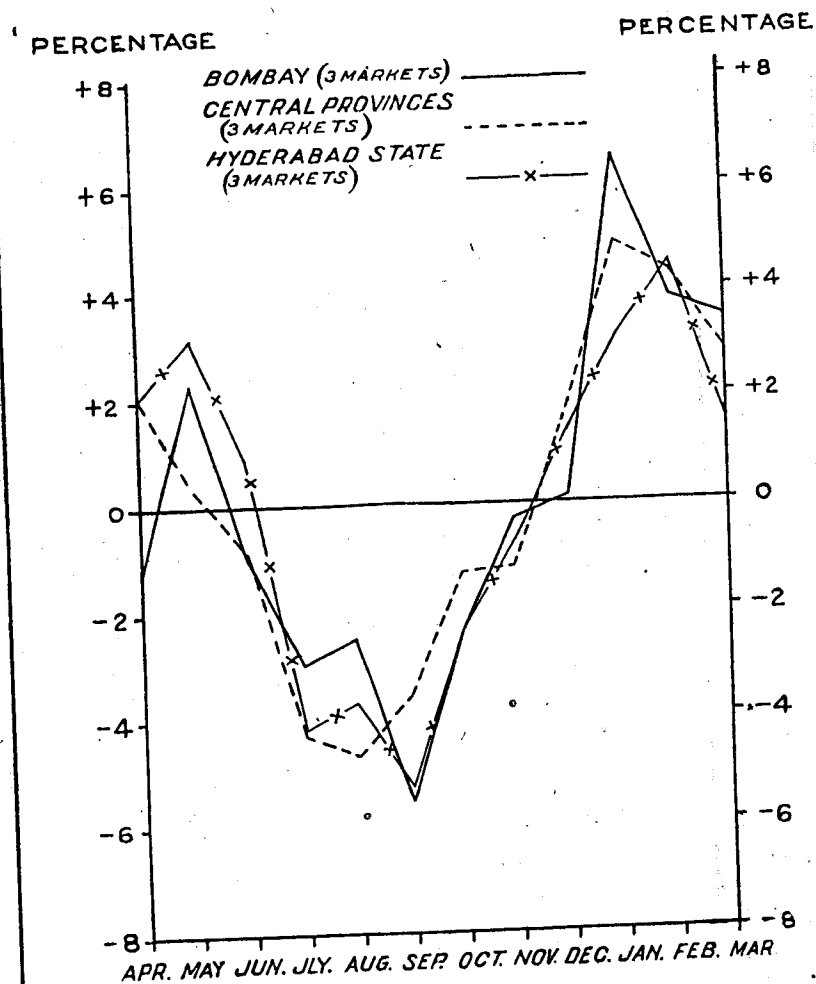
(AVERAGE 1934-35 to 1938-39)



Facing page 91.]

**PERCENTAGE DEVIATION OF MONTHLY PRICES
OF COCONUT OIL FROM THEIR ANNUAL
MEAN AT SOME MARKETS IN BOMBAY,
THE CENTRAL PROVINCES &
HYDERABAD STATE.**

(AVERAGE 1934-35 to 1938-39)



From March to September prices remained below the annual mean. The maximum range of variation amounted to 13 per cent. at Cochin and 13·6 per cent. at Alleppey.

At Bombay, prices began to improve, as in the case of copra, after September and reached the highest point in January. The maximum range of variation amounted to 14·3 per cent. The seasonal variations at Calcutta were similar to those at Bombay and the maximum range of variation amounted to 14·1 per cent.

The seasonal variations at a number of internal markets in Bombay Province, the Central Provinces and Hyderabad State are shown in the diagram facing this page. At the three markets* in Bombay Province, the prices began to improve after September and after exceeding the annual mean in December reached the highest point in January. The maximum range of variation amounted to 12·1 per cent. At the three Central Provinces markets†, prices began to improve after August and as at Bombay reached the highest point in January. The maximum range of variation amounted to 9·6 per cent. only. At the three markets‡ in Hyderabad State, prices improved after September but the highest point was reached in February and the maximum range of variation amounted to 9·8 per cent.

It will be obvious from the above discussion and the two diagrams referred to, that the seasonal variations in prices were more pronounced in the markets in coconut producing areas and that in all the markets the prices were generally highest between December and February and lowest between July and September.

(7) COMPARISON OF PRICES OF COCONUT OIL AND GROUNDNUT OIL.

The relationship between the prices of coconut oil and groundnut oil will be seen from the diagram facing page 89 and the following table.

*Average annual prices of coconut oil and groundnut oil at
Cocanada, Bombay and Calcutta.*
(Per maund.)

Year.	Cocanada.		Bombay.		Calcutta.	
	Coconut oil.	Groundnut oil.	Coconut oil.	Groundnut oil.	Coconut oil.	Groundnut oil.
1934-35 . .	9 1 2	8 15 9	8 9 6	9 8 1	9 1 0	10 0 10
1935-36 . .	12 5 10	11 15 1	11 11 7	12 8 2	12 3 2	13 7 10
1936-37 . .	15 5 5	11 8 0	14 7 1	13 1 2	14 7 2	13 10 4
1937-38 . .	13 5 8	9 14 1	12 7 6	11 1 10	13 1 0	13 4 8
1938-39 . .	..	..	9 1 2	7 12 5	10 0 1	9 6 7
1939-40 . .	..	..	11 6 8	10 3 11	10 14 0	10 8 3
1940-41 . .	..	..	10 5 6	10 2 7	9 14 2	10 14 0

* Sholapur, Belgaum and Jalgaon.

† Jubbulpore, Akola and Nagpur.

‡ Latur, Raichur and Secunderabad.

It will be seen that at Cocanada, during the period 1934-35 to 1937-38, coconut oil was invariably dearer than groundnut oil except between September 1934 and September 1935, when reduced supplies of groundnuts* resulted in prices of groundnut oil remaining comparatively high. At Bombay also, coconut oil was cheaper than groundnut oil from September 1934 to October 1935 but after this period coconut oil remained consistently dearer than groundnut oil up to February 1940. In 1940-41 and 1941-42 when exceptionally large quantities of coconut oil (and copra) were imported into India, coconut oil often became cheaper than groundnut oil.

At Calcutta, coconut oil was cheaper than groundnut oil from July 1934 to November 1935 but during the subsequent period the two oils changed places from time to time. In 1940-41 and 1941-42, the increased imports of coconut oil kept the prices of this oil lower than groundnut oil during most of the months, and it was only in December 1941 that coconut oil prices rose considerably higher than groundnut oil, apparently as a result of the interruption of supplies of coconut oil from the Straits Settlements.

(8) RETAIL PRICES.

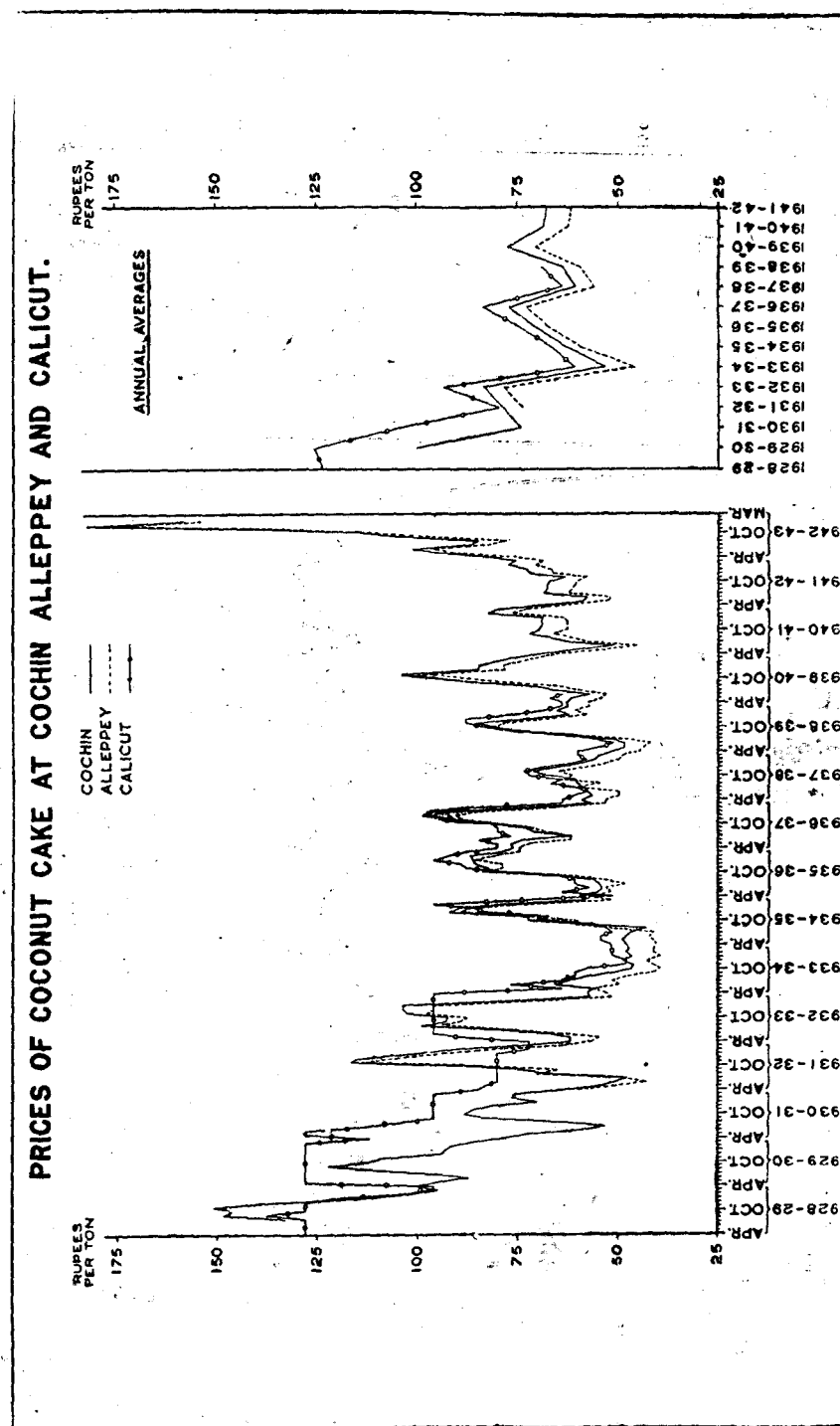
Reliable statistics for retail prices of coconut oil are generally not available. Enquiries made during the survey, however, show that the difference between retail and wholesale prices varies considerably in different markets. For instance, the margin of retail over wholesale prices was found to normally vary from about 8 annas to Re. 1 per maund at Cochin and Alleppey markets, from 12 annas to over Rs. 4 per maund in 14 markets in the Bombay Province and from about Rs. 1-12 to Rs. 4 per maund at Nagpur in the Central Provinces.

D.—Coconut cake.

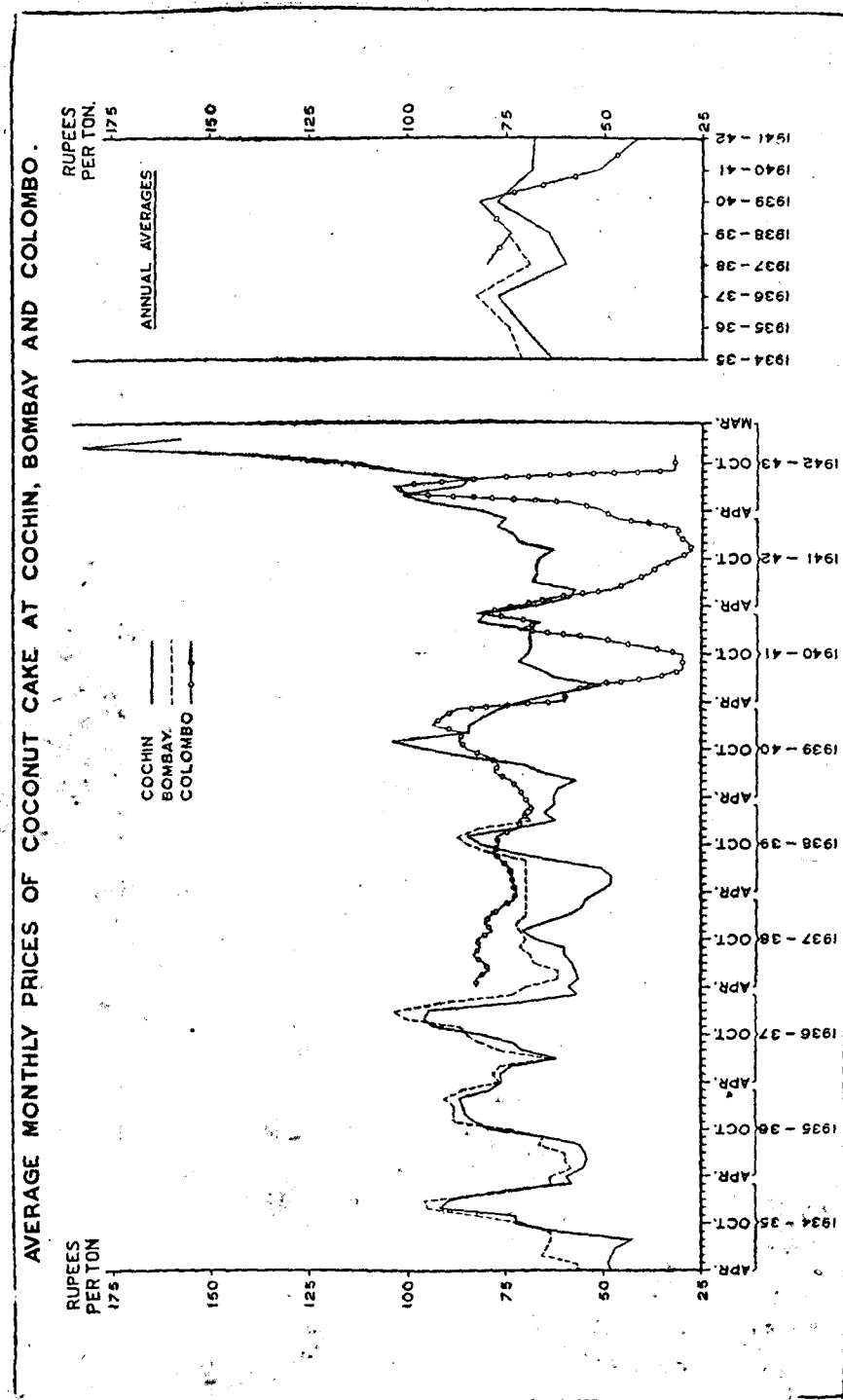
(1) TREND OF PRICES IN INDIA.

The prices of coconut cake, which in 1929-30 averaged about Rs. 100 per ton at Cochin and Rs. 125 per ton at Calicut, declined considerably in subsequent years touching the lowest level in 1933-34. The average annual prices for this year worked out to nearly Rs. 53 per ton at Cochin and Rs. 61 per ton at Calicut. The prices at Alleppey were still lower, the annual average working out to about Rs. 45 per ton only (see Appendices XLVI to XLVIII). Thereafter, prices improved between 1934-35 and 1936-37 but suffered a set-back again in 1937-38 when the average annual prices at Alleppey, Cochin and Calicut worked out to about Rs. 55, Rs. 61 and Rs. 64 per ton respectively. In the following year, there was a general rise in prices for a few months immediately following the outbreak of hostilities in Europe and as a

* The production of groundnuts in India in 1934-35 was 1.7 million tons only as compared with 3.2 million tons in 1933-34.



facing page 93.]



result of this, the average for 1939-40 rose to about Rs. 71 per ton at Alleppey and Rs. 77 per ton at Cochin. During the next two years, however, coconut cake not only did not register any spectacular rise in prices as evinced by several other commodities, but remained well below the 1939-40 average. It was only after the imports of copra from Ceylon into India were restricted in April 1942 that coconut cake prices registered a sharp increase. The peak prices were reached in December 1942 when coconut cake fetched as much as Rs. 177 per ton at Alleppey and Rs. 182 per ton at Cochin. The average for 1942-43 worked out to about Rs. 111 per ton at Alleppey and Rs. 116 per ton at Cochin.

(2) COMPARISON OF PRICES IN DIFFERENT MARKETS.

It will be seen from the diagram facing page 92 that the trend of prices of coconut cake at Alleppey, Cochin and Calicut was generally similar, although the prices at the three markets from month to month did not at times move in close sympathy with one another. As in the case of copra and coconut oil, the prices at Cochin were generally somewhat higher than those at Alleppey. The significance of the export duty levied by the Travancore State on coconuts and coconut products in affecting the relative prices at Alleppey and Cochin has already been referred to in the discussion on copra and coconut oil prices. The prices of coconut cake at Calicut were generally higher than those at both Alleppey and Cochin. As will be seen from the diagram facing this page, the prices at Bombay (see Appendix XLIX) also moved generally in sympathy with Cochin prices although the margin between the prices at the two centres varied from time to time.

On the other hand, the prices of coconut cake at Bombay and Cochin, unlike copra and coconut oil showed little relationship with the prices at Colombo (see Appendix L) which have also been shown on the diagram just referred to. This is accounted for by the fact that while considerable quantities of copra and coconut oil are imported into India from Ceylon, there are no imports of coconut cake from that country, with the result that the Ceylon prices of coconut cake have little effect on the prices of coconut cake in Indian markets.

(3) SEASONAL VARIATIONS IN PRICES.

The seasonal variations in the prices of coconut cake at Alleppey, Cochin, Calicut and Bombay may be seen from the diagram facing page 94. In all the four markets, the prices took an upward trend from July, exceeded the annual mean in September and reached the highest point in December, after which the prices continued to decline up to May at Bombay, up to June at Alleppey and Calicut, and up to July at Cochin. A comparison of the diagram just referred to with those facing pages 80 and 90

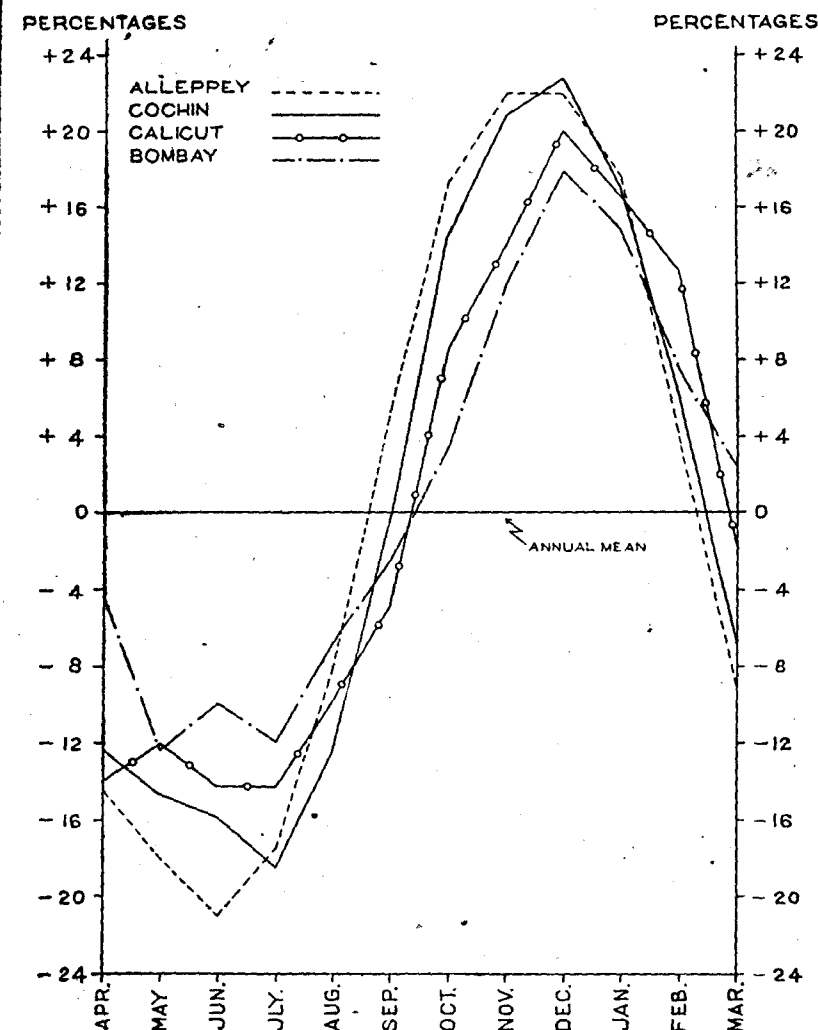
shows that the seasonal variations in the prices of coconut cake were generally similar to those of copra and coconut oil, but the maximum range of variation was much wider in the case of coconut cake.

(4) PRICES OF COCONUT CAKE IN RELATION TO PRICES OF COPRA AND COCONUT OIL.

Coconut oil and coconut cake being the two products obtained by crushing copra, the most important factor governing the prices of coconut oil and coconut cake is the price of copra. It has already been stated earlier that copra and coconut oil prices in producing areas have a similar trend. The prices of coconut cake also generally follow the trend of copra and coconut oil prices but at times they take an opposite course. This will be clearly seen from the diagram facing page 95 which shows the average annual prices of copra, coconut oil and coconut cake at Alleppey, Cochin, Calicut and Bombay. It will be noticed that in 1934-35 and 1938-39 the coconut cake prices showed a trend opposite to that of copra and coconut oil.

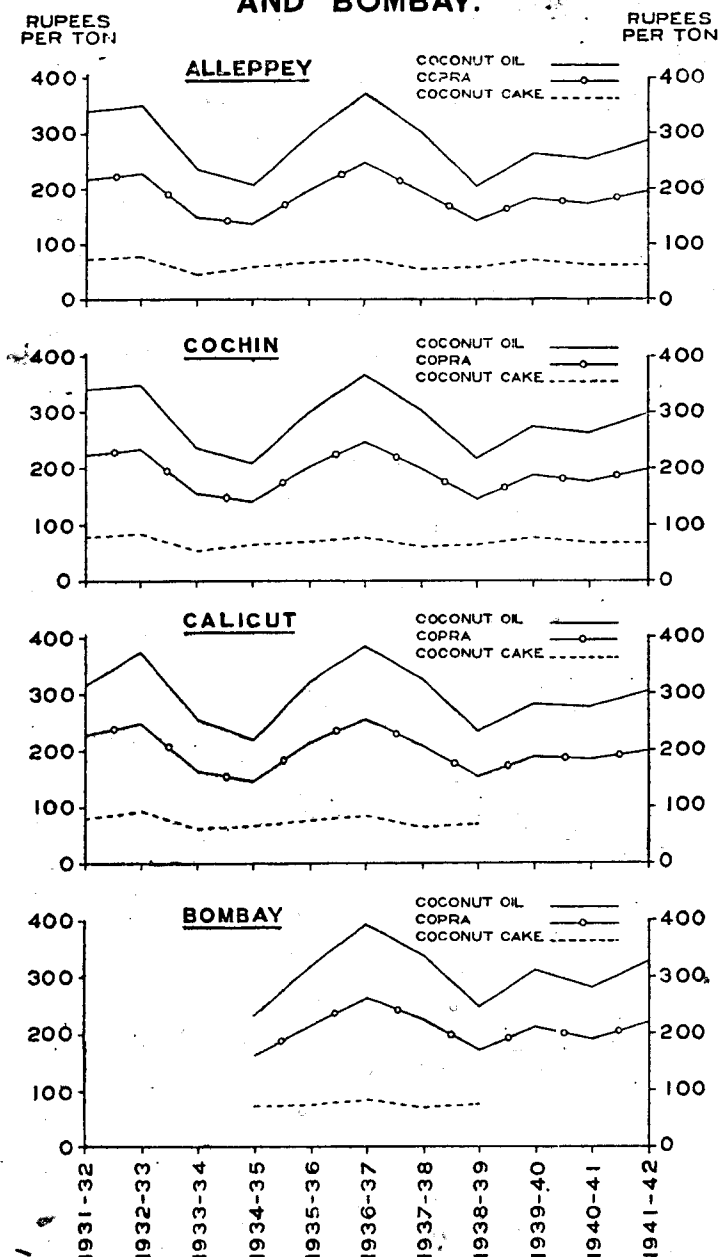
The general relation of coconut oil and coconut cake prices to copra prices will be seen from Appendix LI. The prices of coconut oil at different markets, considering the average for the five years 1934-35 to 1938-39, worked out from 148 to 152 per cent. of copra prices. The corresponding prices of coconut cake worked out from 34 to 37 per cent. of copra prices.

PERCENTAGE DEVIATION OF THE AVERAGE
MONTHLY PRICES OF COCONUT CAKE
FROM THEIR ANNUAL MEAN AT ALLEPPEY,
COCHIN, CALICUT AND BOMBAY.
(AVERAGE 1934-35 TO 1938-39)



Facing page 95]

AVERAGE ANNUAL PRICES OF COPRA COCONUT OIL AND COCONUT CAKE AT ALLEPPEY, COCHIN, CALICUT AND BOMBAY.



CHAPTER IV.—METHODS OF MARKETING.

A.—Tender coconuts.

(1) PREPARATION FOR MARKET.

Producers dispose of their tender coconuts without giving them any sort of dressing. Later, when the nuts are taken for being retailed in towns or at railway stations, the rind or tender husk may be chopped off with a sharp knife. The removal of the husk is resorted to mainly with a view to reduce the volume and weight so that more nuts can be taken in a basket. When the nuts are used for drinking the coconut water inside, the husk at one end of the nut, if not already removed, is chopped off by means of a bill hook and a hole is pierced through the shell for taking out the water inside.

(2) STORAGE.

Tender coconuts are disposed of by producers immediately after harvesting or within a day or two, during which time the nuts remain heaped in a shady corner of the garden. Wholesalers and retailers also do not store tender nuts for more than a few days. They are kept loose in a corner of a godown or shop. The interval between the harvesting of the nuts and their consumption rarely exceeds two weeks, as the water inside becomes insipid if they are stored for a longer period.

(3) CLASSIFICATION AND GRADING.

There is no regular system of grading tender coconuts, but they are often roughly sorted out according to their size. The bigger nuts fetch a higher price as they are generally believed to contain a larger quantity of coconut water inside. Three small nuts are sometimes counted as two or two very small nuts as one. For instance, in the Bombay market, nuts which pass through a hole made by joining the thumbs and forefingers of the two hands, are called *tial* and two of such nuts are counted as one when merchants purchase them from the producers.

(4) ASSEMBLING.

The diagram facing page 96 shows the channels of assembling (and distribution) of tender coconuts. The agencies concerned in the assembling of tender coconuts are the producers, contractors, itinerant dealers, merchants, retailers and hawkers.

Producers in the main coconut growing areas generally sell their tender coconuts at their gardens to hawkers, itinerant dealers, retailers and merchants. The buyers transport the nuts to nearby towns or markets and *shandies*. In some cases, the prices paid at the gardens by buyers may include the harvesting of the nuts, e.g.,

in Bengal the *jariyas** harvest the nuts and collect them from gardens. Besides selling at gardens, small producers take headloads of coconuts direct to *shandies*.

In coconut growing areas roundabout Bombay, some producers lease the right of plucking coconuts to Malabari contractors. These contractors and merchants who collect the nuts from the gardens, send the nuts to brokers at Bombay, known as *vakharwalas*, who function as commission agents for the sale of nuts. The rate of commission is about Rs. 3 per 1,000 nuts.

When the nuts are brought to *shandies* and markets for sale, besides the cost of transport to the markets, certain charges may have to be incurred for entering the markets. For instance, carts have often to pay some fees for entering the markets while in some markets sellers have to pay a ground rent. No other charges are incurred when the nuts are sold in retail direct by the sellers. Commission has to be paid when sales are made through commission agents.

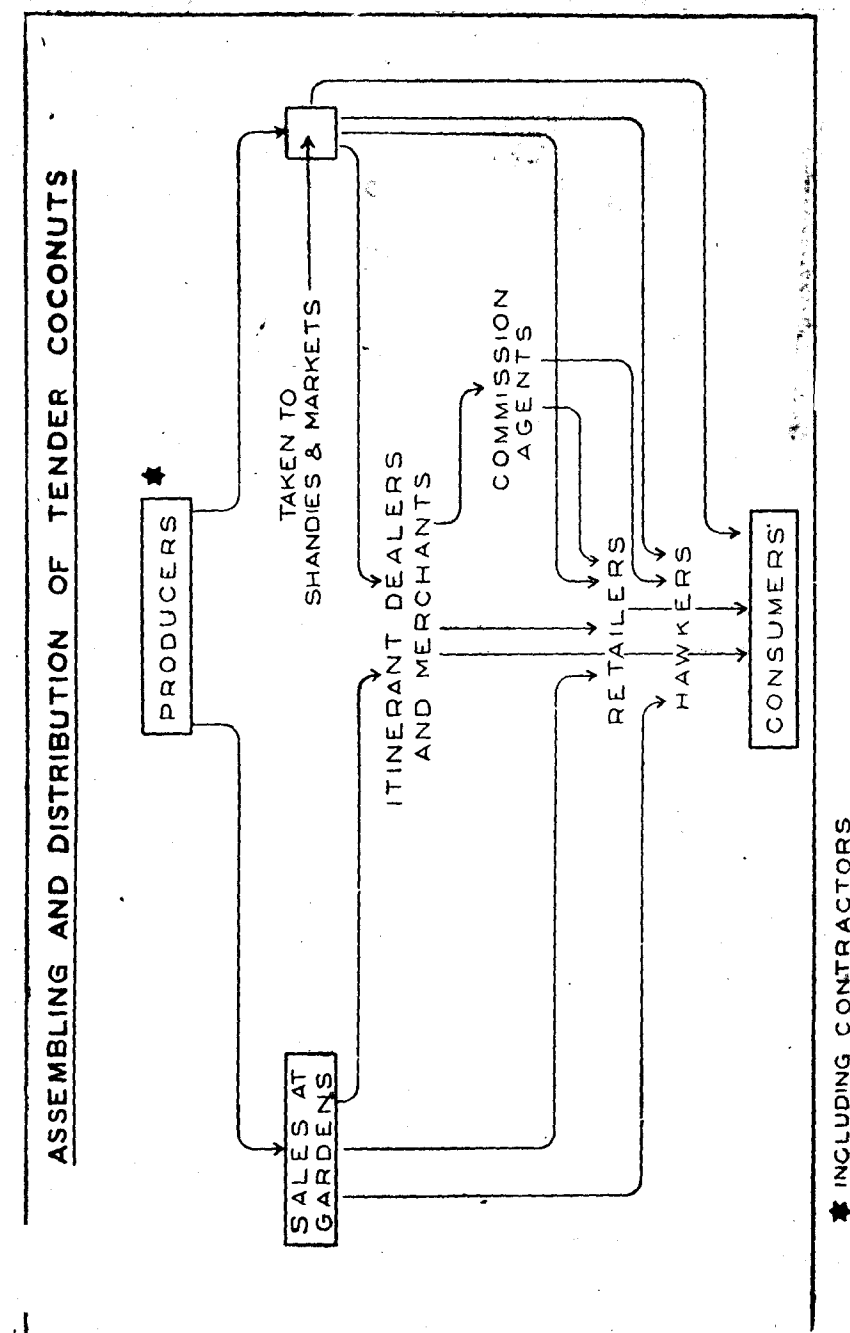
(5) DISTRIBUTION.

In the coconut producing areas on the West Coast, there is no wholesale distribution of tender coconuts and the nuts purchased by hawkers, itinerant dealers and retailers from gardens are disposed of by retail sales at towns, *shandies*, railway stations, etc. The sales at *shandies*, which are larger on market days, especially during hot months, may be to consumers direct or to hawkers, green-grocers and betel leaf merchants who in their turn retail the nuts to consumers. At Bombay, *vakharwalas* function as commission agents for the wholesale and retail distribution of tender nuts. They arrange to store the nuts sent to them and are responsible for recovering the dues from the hawkers or *ferivalas*. The hawkers in Bombay have to obtain licences from the Corporation. In Bengal, wholesale merchants distribute the nuts to local hawkers, retailers and merchants.

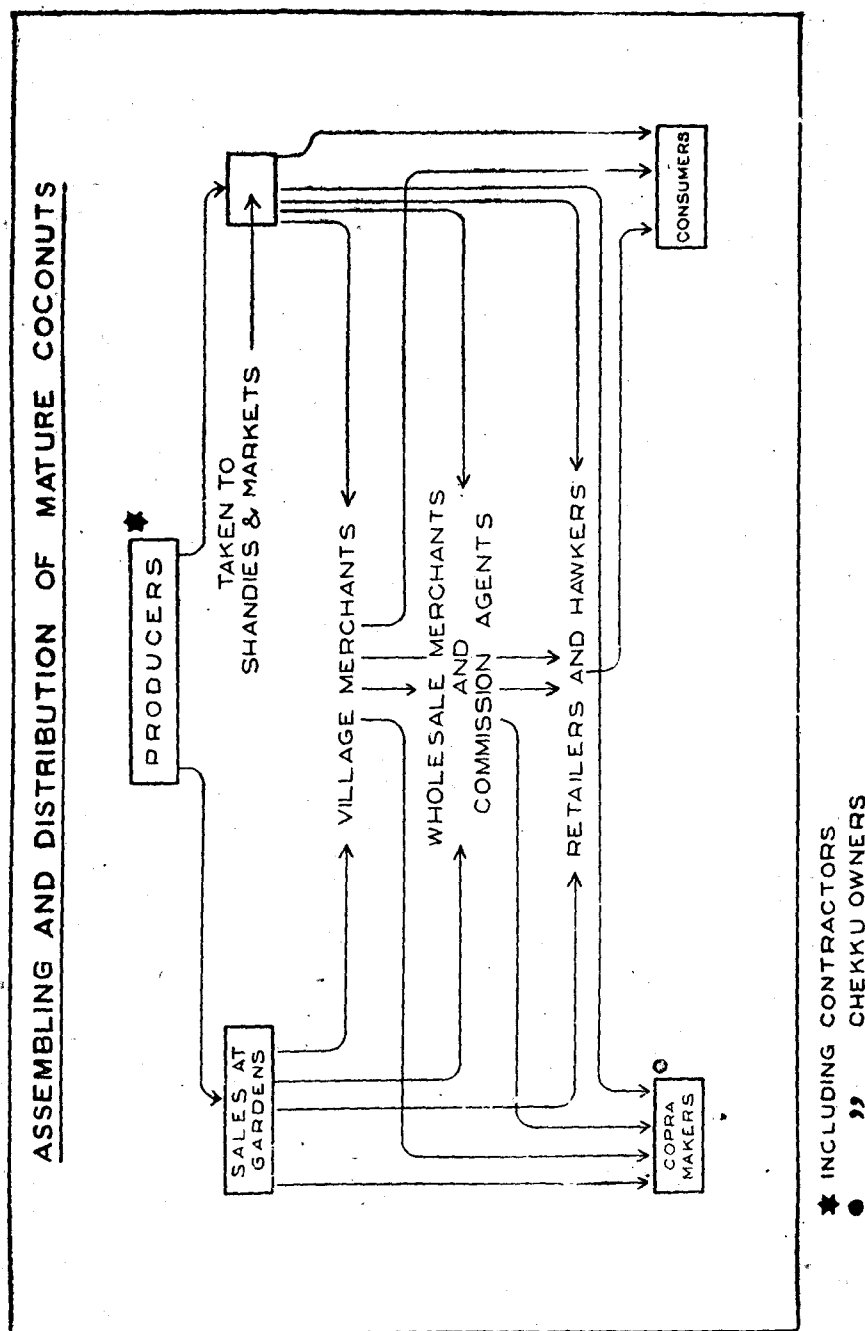
(6) TRANSPORTATION.

There is very little long distance transport in the assembling and distribution of tender coconuts. The nuts are generally handled loose in transit, both when they move from the gardens and during subsequent distribution, except for transport by rail. Small lots are taken as headloads in baskets or woven nets or in slings suspended from either ends of a bamboo supported on the shoulder (see plates facing page 59). A basket may hold from 16 to 40 nuts according to its size. Larger lots are carried in bullock carts. A cart usually carries about 400 nuts. The cartage charges work out to about 4 pies to 10 pies per 100 nuts per mile in different areas. Motor trucks are used in towns, especially when larger quantities are involved. A truck usually carries about 2,000 nuts. Their charges are generally similar to those of carts but in the case of long distance transport, they work out cheaper than carts.

* Itinerant merchants.



Facing page 97.]



Transport by country craft is generally cheaper than carts and trucks and is availed of whenever possible. For instance, nuts from coastal areas near Bombay are brought to Bombay by country craft. In Bengal, crafts carry nuts to distances up to 100 miles between the producing and the consuming centres, *e.g.*, between Khulna and Calcutta. The cost of transport by crafts generally works out to about 3 pies to 6 pies per 100 nuts per mile.

The transport of tender nuts by rail is not common and is met with only in Bengal where tender nuts have to be sent from the up-country producing areas to Calcutta and other consuming centres. In this case, they are packed in gunny bags. The railway freights charged for tender nuts are the same as for mature nuts (see pages 110 and 111). The number sent is invariably less than that required for a full wagon and hence concessions in freight rates allowed by railways for wagon loads are not availed of for tender nuts.

(7) PRICE SPREAD.

An indication of the price spread in the marketing of tender nuts from the producer to the consumer is provided by two examples given in Appendix LXII.

In the first instance, the producer in a garden in the Tanjore district took his tender nuts for sale to Tanjore market, where they were purchased by a retailer who later sorted out the nuts in two lots according to size and sold them to consumers. The only intermediary who functioned between the producer and the consumer was the retailer, so that the producer's share in the price paid by the consumer worked out to 64.0 per cent.

In the second instance, the producer sold his nuts at the garden to a village merchant who sent it to Bombay for commission sale. The nuts were sold at Bombay to hawkers after getting the husk chopped off. The hawkers in their turn sold the nuts to consumers after sorting out the big and small nuts. The producer's share in the consumer's price in this case worked out to about 56.5 per cent., *i.e.*, about 8 per cent. less than in the first instance. When nuts change hands oftener or are transported over longer distances, the distribution costs are naturally higher and the producer's share in the consumer's price correspondingly less. In view of the localised nature of the trade in tender coconuts, it may be reckoned that, on an average, the producer receives about 60 per cent. of the consumer's price.

B.—Mature coconuts.

(1) PREPARATION FOR MARKET.

Producers generally dispose of their mature coconuts by selling them unhusked. Growers roundabout market towns, however, often dehusk the nuts and sell husked nuts. Nuts harvested in monsoon months are sometimes stored for two or three months,

especially in areas where the husks are not utilised for retting. In the Mysore State and the Godavari and Malabar districts of Madras, producers store nuts for several months and then offer them for sale as stored or dry nuts* or for the preparation of edible copra.

Although the producers sell the bulk of their crop as unhusked nuts, a considerable portion reaches the markets and consumers in the form of husked nuts.

(2) HUSKING.

(a) *Methods*.—The husking of mature coconuts in the main producing areas is usually done by professional huskers. The common method adopted for removing the husk is to use an iron rod with a sharpened flat end or a piece of hard wood fitted at one end with a flattened iron spike. This implement is firmly dug in the ground with the pointed end or spike uppermost. The coconut is struck with some force against the sharp end, given a twist with a jerk and the husk removed in four pieces (see plate facing this page). In areas of sparse production, where only a small number of nuts have to be husked, the husking is done with a bill hook (see upper plate facing page 99). An axe is also sometimes used for removing the husk (see lower plate facing page 99).

The nuts are husked wholly or in part according to requirements and demand in different markets. Coconuts intended for local sale or copra making are usually fully husked. Coconuts intended for despatch to distant markets are not fully husked. Some fibre is left all round the nut and over the eyes. The presence of some fibre round the nut minimises the chances of breakage in transit and such nuts keep longer than fully husked nuts. In the eastern districts of Madras, even when nuts are fully husked, a tuft of fibre is left over the eyes. Besides being considered auspicious, this is believed to prevent nuts from rotting easily. There is, however, no experimental data to support this view. In Bombay, the two common types of husking are known as *Broach type* and *Sap Sol*. In the former, the nuts are slightly husked—the outer skin only is removed and most of the husk is left round the nuts. In the latter, the nuts are husked completely.

In the case of dry nuts also, apart from the dry nuts sold without husking, the nuts intended for local sales or copra making are fully husked while those for despatch to distant markets are partially husked. Three types of partial husking are common in the Godavari districts of Madras which is the chief area for the trade in dry nuts. Nuts intended for North Indian markets, known as *Cuttack chil*,† are completely husked leaving only a tuft of fibre over the eyes. Nuts for Bombay markets known as *Bombay chil* are partially husked and the bottom is rounded. Nuts for Hyderabad market known as *Moghlay chil* are only partly husked so that the shell is not exposed.

* Nuts in which the water inside has been absorbed during storage.

† From the word *chilna* meaning to scrape.



COCONUTS BEING HUSKED.



A COCONUT BEING HUSKED WITH A BILL HOOK.



A COCONUT BEING HUSKED WITH AN AXE.

(b) *Cost.*—The charges for husking vary in different areas and for the different types of husking. One man can usually husk from 1,000 to 1,500 nuts in a day. The wages paid for husking were reported, before the outbreak of the War, to work out to 8 as. to Re. 1 per 1,000 nuts in Madras, 4 as. to 10 as. in Travancore, 5 as. to 6 as. in Cochin, 8 as. to 12 as. in Mysore and 6 as. to 12 as. per 1,000 nuts in Bombay.

The wages for husking are sometimes paid in kind also, in which case two to four nuts are given per 100 nuts husked.

(3) STORAGE.

The storage of mature nuts is mostly in the form of unhusked nuts because husked nuts have poor keeping qualities. When the unhusked nuts are stored after being harvested, they undergo further ripening and the quality of copra obtained is improved. On the other hand, the husk becomes useless for retting and preparation of coir. The storage of nuts, is, therefore, more common in areas where there are no retting facilities or when there is no demand for husk for retting. When the husks are to be used for retting, the nuts are husked immediately after harvesting and the husked nuts used for making milling copra. The practice of storing nuts in the rainy season, viz., June to August for subsequent sale in September or October was formerly common in Travancore and Cochin States, but has declined in recent years on account of there being a good demand for husks and smoke drying coming into vogue.

The nuts may be stored for a short period for sale as water nuts or for a longer period for the preparation of dry nuts or edible copra.

(a) *Water nuts.*—The nuts are stored for a few days to three months in the gardens under shade or cover of leaves or, during the monsoons, in growers' huts or houses (see plate facing page 121). The colour of the nuts becomes brownish and such nuts get a premium of as much as Rs. 5 to Rs. 10 per 1,000 nuts in some areas. This practice is prevalent mainly in Mysore, Bombay and the Tanjore district of Madras.

(b) *Dry nuts.*—Coconuts are stored for the preparation of dry nuts mainly in the Godavari districts of Madras which form the chief centre for trade in dry nuts. After being harvested, coconuts are first stored in the gardens under shade for four to six weeks till the husk turns brown (see upper plate facing page 100). The nuts are then stored, as such or after partly removing the outer husk leaving a portion of the fibre intact, for 10 to 15 months on specially constructed platforms, known as *attics*, prepared with bamboo generally over the hearth or fire place. The hot air prevents the nuts from germinating. The *attics* may also be constructed in separate sheds, in which case, coconut husks and shells are burnt underneath the platform.

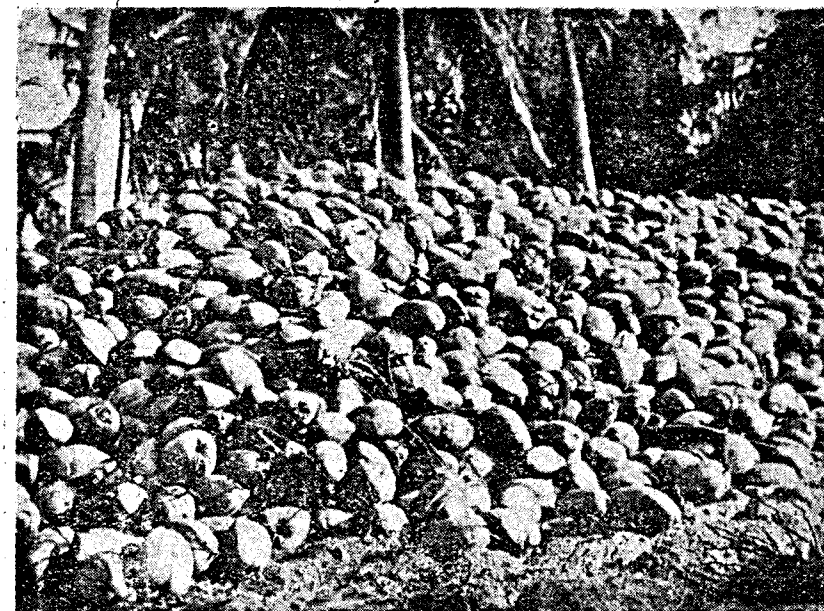
In the Malabar district, coconuts are stored both for the preparation of dry nuts and the manufacture of edible copra. The nuts are generally stored in well ventilated sheds for a period of six to eight months and then sold either as dry nuts or used for making edible copra. The superstructure of these sheds is built of coconut or arecanut wood and bamboo in a lattice work fashion (see lower plate facing this page). The plinth is three to four feet high over which a platform of wooden batons is made at some height. The eaves of the roof are made to protrude considerably so that rain water cannot get to the nuts. The open sides allow a free passage of air and when humidity is very high, as during the rains, husks or shells are burnt below the wooden platform to keep the atmosphere dry.

Coconuts are also sometimes stored in pits, *e.g.*, in the North Arcot district of Madras. The pits are four to five feet deep and have mud walls of about the same height built above the ground. A shed is constructed over the pit to prevent rain water from getting in. The nuts become dry in six to eight months. In the consuming markets, the dry nuts are stored in godowns and *kothas*, loose or packed in bags, along with other commodities.

(c) *Nuts for copra making.*—After storage, unhusked nuts are also used for making ball copra and edible cup copra. For making ball copra, which, as stated in an earlier chapter, is prepared mostly in Mysore, the unhusked nuts are stored for a period of 8 to 12 months on platforms built at some height from the ground, *e.g.*, a bamboo platform formed by placing bamboos across the trusses supporting the roof. Nuts to be used for making edible-cup copra are stored for a period of four to eight months in store houses or specially constructed platforms in houses.

(d) *Cost of storage.*—The cost of storage varies within wide limits under different conditions. When coconuts are stored by the growers in their gardens, the cost of storage is practically *nil* except for the interest on the value of nuts for the period the nuts are stored. When nuts are stored for long periods for the preparation of dry nuts or edible copra, storage involves handling, rent or rental value of the space occupied, interest and losses during storage. All these items are subject to considerable variation in different areas and under different conditions. The handling charges may vary from 1 anna to 8 annas per 1,000 nuts, storage space may cost 6 pies to 4 as. per 1,000 nuts per month, interest may vary from 6 to 18 per cent. per annum, while the losses during storage due to some nuts being spoiled may vary from 3 to 10 per cent. in eight to twelve months' storage. Allowing for these variations, the cost of storage may be reckoned to be roughly about 8 as. per month per 1,000 nuts.

Another factor which has to be considered in connexion with storage costs is the difference in the price of husks obtained from fresh and stored husks. While fresh green husks fetch Rs. 5 to Rs. 7 per 1,000 husks, those from stored nuts, which are only useful as fuel, fetch only about 8 as. to Rs. 1-8 per thousand.



COCONUTS HEAPED IN A GARDEN AFTER HARVEST.



A SPECIALLY CONSTRUCTED SHED FOR THE STORAGE OF COCONUTS IN MALABAR.

(4) CLASSIFICATION AND GRADING.

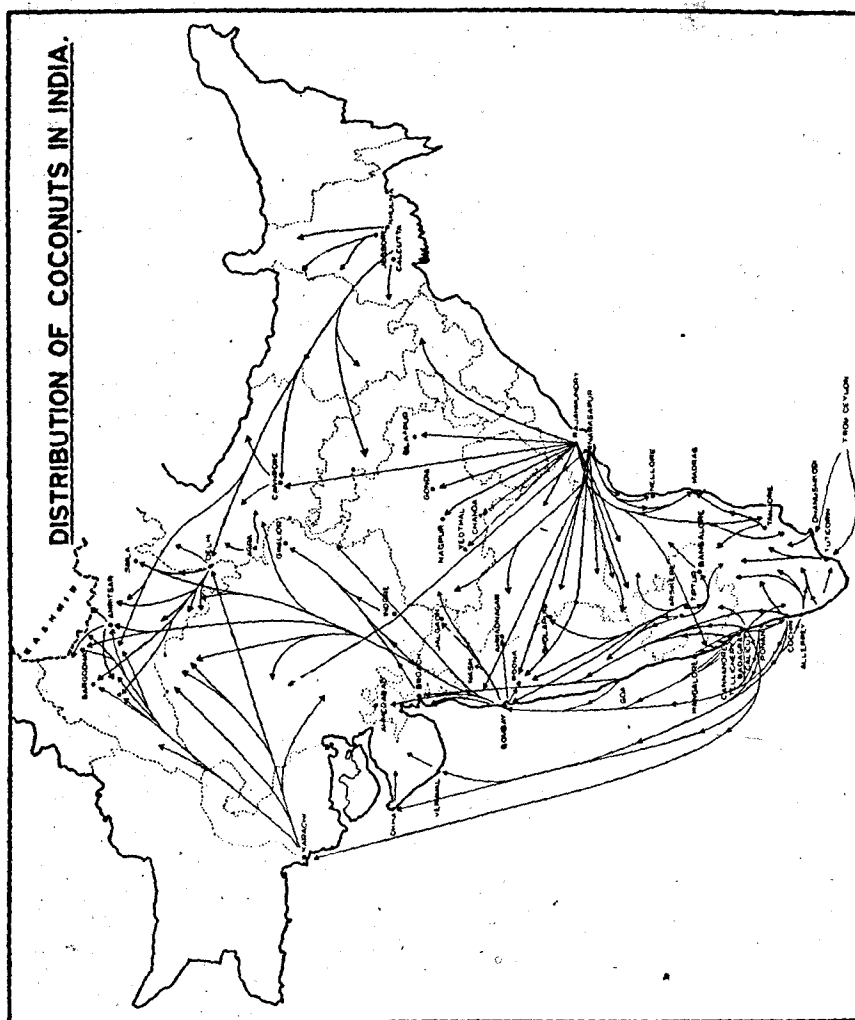
The main quality factor on which a consumer assesses the value of coconuts is the quantity and quality of the kernel inside. The trade judges the quantity of the kernel by the size of the coconut and the quality by the maturity of the nut. For instance, when copra manufacturers buy nuts from producers, the unripe and undersized nuts are either purchased at a lower price or rejected.

The nuts are classified as water nuts (*panicha*) and dry nuts (*kottai* or *sukha*) according as they contain water inside or the water has been absorbed during storage.

(a) *Water nuts*.—The water nuts are classified according as they are unhusked, fully husked or partially husked. Nuts of these different types are roughly graded according to size, which is indicated by the number of nuts contained in a bag. The number varies in different markets according to the type of nuts traded in at particular markets. For instance, the husked nuts sent out from Cochin are classified as 110 nuts, 150 nuts and 250 nuts per bag. At Bombay, fully husked nuts are classified as 80, 100, 110, 115, 125, 150 and 200 nuts per bag.

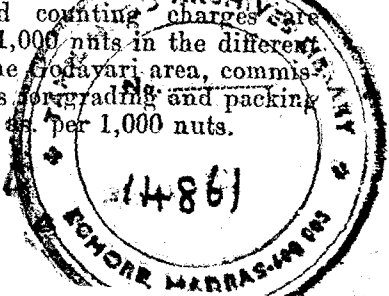
(b) *Dry nuts*.—In the Godavari district of Madras, dry nuts are further classified according as the water inside has been fully or partially absorbed. Nuts in which the water has completely dried and the kernel has become detached from the shell, are known as *bajnewala* (rattling) or *gatgata*, suggesting the sound made by shaking such nuts. Nuts in which the water has not completely dried and the kernel has not separated from the shell are known as *binabajnewala* (non-rattling) or *bongu*. According to size the nuts are classified into big, medium and small, called *gandera*, *mamool* and *chitta* respectively. 110 nuts of big size, 140 nuts of ordinary size and 150 or more of small size are usually packed in a bag. The proportion of big, medium and small sized nuts, on an average, is about 40, 30 and 30 per cent. respectively. A further differentiation arises according to the type of husking. Three types of husking, viz., fully husked or *Cuttack chil*, partially husked and rounded or *Bombay chil*, and partially husked only or *Moghlai chil* have already been referred to in an earlier section. As the amount of fibre removed differs in the three types of husking, the number of nuts contained in a bag varies for the three types.

(c) *Cost of grading*.—Grading is usually done as a part of counting, filling of bags, etc., and does not involve much extra cost. For instance, the selection and counting charges are reported to vary from 3 as. to 5 as. per 1,000 nuts in the different markets in the Bombay Province. In the Godavari area, commission agents send their men to the villages for grading and packing the nuts, for which they are paid 8 to 10 as. per 1,000 nuts.



X: 51 (J582) - 2 N44

N44



(5) ASSEMBLING.

(a) *Agencies concerned in assembling.*—Producers, contractors, copra makers, *chekku* owners, village merchants, wholesale merchants and commission agents are the chief agencies concerned in the assembling of coconuts (see diagram facing page 97).

Big producers generally sell their produce in the form of unhusked nuts at their gardens to copra manufacturers, village merchants and wholesale merchants direct or through agents. Small producers and those near the markets dispose of their nuts (both unhusked and husked) in *shandies* or markets either direct to buyers or through commission agents. The latter practice is common in the Tanjore district of Madras, in Mysore and in several markets in Bombay. Dry nuts are also usually sold through commission agents in the Godavari districts of Madras and in Mysore State. Producers are often compelled to sell their produce to copra makers and merchants from whom they may have taken advances. In Cochin in particular, nuts for the whole year are sometimes sold in advance on the basis of prevailing coconut oil prices.

Contractors who acquire the right of plucking coconuts from garden owners dispose of the nuts to wholesale merchants. This practice is common in coconut growing areas round about Bombay.

Copra makers generally purchase coconuts at the gardens and unless the nuts are to be stored for making edible copra, they are usually husked on the spot. Copra makers also buy at markets and from village merchants. They often give advances to producers and village merchants which are adjusted against the price of nuts bought. *Chekku* owners buy coconuts at gardens and *shandies* and make their own copra for crushing in the *chekkus*.

Village merchants working on their own account or as agents of wholesale merchants or copra manufacturers from whom they may take advances, assemble nuts from gardens. Coconuts may be bought from small producers for cash or in exchange of food grains and other necessities. The nuts collected are generally sorted and graded according to size before being taken for sale to markets or copra manufacturers or merchants dealing in coconuts. These village merchants sometimes make copra as well.

Wholesale merchants and commission agents buy coconuts from gardens and at markets and *shandies* direct or through village merchants. They give advances to village merchants and producers. Commission agents sell the nuts at the markets on behalf of growers and village merchants.

The relative importance of the different agencies mentioned above varies in different areas. For instance, in Travancore and Cochin States, copra makers are by far the most important agencies in the assembling of coconuts. On the other hand, in the Malabar district of Madras and the Ratnagiri district of Bombay, commission agents are the chief assembling agents. In the Tanjore district,

much of the assembling is done by the producers themselves. In Mysore, producers and commission agents do most of the assembling.

In recent years the assembling of coconuts on a co-operative basis has developed in a few places. For instance "The Madras District Co-operative Produce Sale Society" having its head office at Calicut and depots at Badagara, Tivur and Wyand undertakes the sale of the members' coconuts (and copra) and other produce. The society advances up to 75 per cent. of the value of produce brought to its godowns or stored under its lock and key. The following charges are made by the society for making the sales:—

	Rs.	A.	P.	
Commission	1	8	0	per cent. (on weight of dried copra).
Drying	0	2	0	per candy.
Sorting	0	2	0	per candy.
Weighing	0	2	0	per candy.

It is reported that the society is running very successfully and the quantities of produce handled have steadily increased. There appears to be a great scope for developing the marketing of coconuts (and copra) on co-operative lines, especially in areas where nuts are stored for long periods for the preparation of dry coconuts and edible copra.

(b) *Markets.*—There are a number of assembling markets in the coconut producing areas to which producers, contractors and village merchants bring their coconuts for sale. It should, however, be noted that on the West Coast, a considerable portion of the produce is sold directly off the gardens to copra makers and does not enter the markets at all.

The markets are held either on Government grounds or on private lands. In the latter case, the owner gets an annual rent for the land, or collects a toll on the produce sold in the market. In most of these markets coconuts are only one of the various commodities sold. In some places certain days of the week are exclusively set apart for trade in coconuts (and copra). For instance, at Arsikere market in Mysore, there is a *shandy* for coconuts only on Wednesdays and a general *shandy* for all other commodities on Fridays.

A list of the important assembling markets (and distributing centres) in Madras, Bombay, Travancore, Cochin and Mysore together with their estimated annual turnover, where available, is given in Appendix LII. Most of the bigger assembling markets, connected by rail, serve as distributing centres also, whence nuts are despatched to consuming centres.

In areas which do not produce coconuts, there are no special assembling markets but a number of towns serve as distributing centres receiving supplies from producing areas and distributing them to various places for consumption. A list of important distributing centres in such areas is also included in Appendix LII.

(c) *Market practices and charges.*—When coconuts are taken to markets for sale, an octroi duty or toll has often to be paid for entering the markets. The headloads and carts after entering the market are generally heaped on the floor and sold by the sellers themselves or through commission agents and brokers, the system of selling through commission agents and brokers being common in the markets of Mysore State, East Godavari district of Madras and Bombay. When the sellers themselves sell nuts—generally in small lots—the system of sale is simple. The nuts are displayed for sale and when the price has been settled, the requisite number of nuts is counted over to the buyer.

The *modus operandi* of sales through commission agents will be clear from the following description of the system followed at Arsikere market—an important assembling and distributing centre for coconuts in the Mysore State.

Coconut carts arriving at the weekly *shandy* (which contain mainly husked water coconuts) are heaped on the platforms or in the sheds in the market. Each heap is auctioned by the commission agent (*sattedar*) through whom the seller decides to have his nuts sold. The commission agent selected is generally one with whom the seller has had previous business relations or from whom an advance had been taken. The auctions commence at 11 A.M. and continue till all the carts are sold. The buyers are usually the other commission agents (*sattedars* and *ravanedars*) of the market although occasionally buyers from other markets also come to make purchases. The bids on behalf of outside buyers are made by the local *sattedars*, for which they receive a commission of 1 per cent. After the bid is finished, the nuts are filled back into the cart and taken to the buyer's shop. Here the nuts are counted by the buyer's man, the seller being present. Nuts which are broken, damaged or show signs of being empty, are rejected. 1,100 nuts are actually taken by the buyer per thousand nuts paid for; 5 additional coconuts are also taken per cart, of which 2 are for the merchants' association, 2 for counting and 1 for *hamals**. A commission of 6 pies per rupee, i.e., $3\frac{1}{2}$ per cent. is charged. The system of first emptying the carts to make a heap of nuts for buyers to see the size and condition of nuts and then to refill them into carts for taking to buyer's godowns entails unnecessary handling, especially when the nuts are subsequently examined at the time of counting. A better system would probably be for sellers to take out representative samples of a dozen nuts or so from their carts, on the basis of which buyers could give offers. Buyers could, of course, examine the nuts at the time of counting to see if they were according to the sample.

At Ambajepet and Bodasakuru in the Godavari district, the system is somewhat different. Auctions are held once a week at which the commission agents give their highest bids for purchasing coconuts of various grades (based on size and period of storage)

* Labourers.

and village merchants enter into contracts for supplying specified quantities by certain dates.

The system of sales by auction is found only in some markets. In others, buyers give their offers openly to the commission agent or under cover. In the latter system, the offers are conveyed by the different buyers to the commission agent by claspings his hand under cover of a piece of cloth and pressing one or more fingers to indicate the price.

The charges incurred by sellers in making sales through commission agents and brokers consist of the commission or brokerage payable to the commission agent or broker and the charges paid to labourers for counting, selecting, filling into bags, etc., and certain deductions for charities, etc. The details of charges payable in certain assembling markets for coconuts are given in Appendix LIII.

(d) *Counting.*—The most common unit of sale in the wholesale transactions of coconuts, both at the gardens and in the markets, is a thousand, but various other units such as a hundred, a *goni* or a *kodi* (score) are also in vogue in different markets. A certain number of extra nuts over the unit have, however, to be invariably given free by the sellers. These are supposed to cover losses due to breakages, spoiled nuts, small nuts, hollow and empty nuts, etc., but in practice, buyers have to be given these extra nuts although damaged nuts have already been separated.

The actual number of extra nuts taken by the buyers varies in different localities and markets. On the West Coast 20 to 60 nuts are usually taken extra per thousand, while in the markets in the Tanjore district, as many as 20 to 250 extra nuts are taken. In the Godavari districts, 10 to 30 extra nuts are taken. The village merchants usually get 20 extra nuts from the producers but give only 10 to the commission agents, who when sending nuts to buyers in Northern India, send only 10 extra nuts per thousand. At Bombay, it is customary to take 1,250 nuts per thousand, while at Revdanda in Kolaba district and Honawar in North Kanara district, 1,100 nuts are taken per thousand. It was also noticed in some markets that at the time of counting, one nut was kept aside for every 100 nuts counted to indicate the number of hundreds. When counting was finished, these nuts were taken by the buyers so that in effect the buyers got another 10 extra nuts per thousand.

In the retail trade, the unit of sale is generally a single nut or sometimes a pair, which is generally made by tying a big nut with a small one.

It is obvious that due to the variations in the actual number of nuts obtained per thousand, the prices in different markets are not comparable and standardisation of counts in the coconut trade would be a step towards the orderly marketing of this commodity. The loss caused to cultivators by the present chaotic state of counts cannot be overstressed. By being made to part with, say, 20

extra nuts per thousand—which is a very conservative estimate—the cultivators during the course of a year lose 59 million nuts, which, valued at Rs. 30 per thousand, mean a loss of about 1·8 million rupees.

(c) *Growers' associations*.—The existence of growers' associations formed with the object of dealing with matters of general interest to coconut growers and improving the production and marketing of coconuts and coconut products was reported from Travancore and Cochin, but the associations appear to exist on paper only. Enquiries made about the "All Travancore Coconut Growers' Association" in Travancore and the "Coconut Growers' Association, Narakel" (near Ernakulam) in Cochin failed to elicit any information about their activities.

(6) DISTRIBUTION.

(a) *Agencies concerned in distribution*.—Producers, village merchants, wholesale merchants and commission agents, who figure in the assembling of coconuts, also take part in the distribution of the crop (see diagram facing page 97). Nuts assembled by copra makers and *chekku* owners do not enter into distribution as, after coming into their hands, the nuts are converted into copra and later distributed or used in that form.

Producers figure in the distribution of coconuts in the shape of making sales to copra manufacturers and *chekku* owners at the gardens and in small lots to consumers at *shandies* and markets, and in nearby towns. They, however, take no further part in the distribution.

Village merchants sell the nuts collected by them to wholesale merchants and commission agents as well as to consumers, retailers and hawkers direct.

Wholesale merchants and commission agents in producing areas who buy coconuts at gardens and *shandies* send the nuts to consuming centres. Merchants and commission agents in the consuming centres in their turn distribute them to retailers, grocers and fruit merchants, for final sale to consumers.

In North India, the distribution of dry coconuts is in the hands of *kirana* merchants, i.e., merchants who deal in spices, dry fruits, etc., and that of water nuts in the hands of fruit merchants.

Retail distribution in the producing areas is mainly in the form of water nuts, and is carried on by hawkers, green grocers and petty dealers in provisions. In non-producing areas, both dry and water nuts are retailed, the former, as in the case of wholesale trade, by merchants dealing in spices, provisions, etc., and the latter by fruit dealers.

(b) *Markets*.—As much of the distribution of coconuts on the West Coast is done by merchants securing supplies from gardens direct or from agents, distribution markets for coconuts are of comparatively little importance in coconut growing areas, except in Mysore and the East Godavari district of Madras.

It has already been stated in an earlier section that most of the bigger assembling markets as also several towns in consuming areas serve also as distributing markets for coconuts. A list of important distribution markets is given in Appendix LII.

(c) *Cost*.—The costs incurred in the distribution of coconuts vary within very wide limits, depending upon the extent of movement and the channels through which the nuts pass before reaching the consumer. When copra buyers or *chekku* owners purchase coconuts at the gardens, the charges for loading the nuts into carts and for transport from the garden to the buyer's premises are the only costs involved. Similarly, when purchases are made by copra manufacturers at *shandies* and markets, the cost of distribution comprises charges for handling and transport from *shandies* and markets to the buyer's premises only. When purchases are made by wholesale merchants at markets, who later sell them to local retailers who in turn sell the nuts to consumers, the distribution costs are made up of handling and transport charges from the market to wholesale merchant's place, his margin of profit, handling and transport charges to the retailer's shop and his margin of profit. Similarly, when nuts are sent by rail by a merchant at one station to another merchant at a different station, the expenses of sending to the station, railway freight and taking delivery from the station also add to the cost of distribution. Again, when sales are made on commission basis through commission agents or brokers, the commission or brokerage charges, and the customary deduction for charity, etc., if any, are additional items in the cost of distribution.

A statement prepared from an invoice for wagon load of coconuts purchased at Calcutta and despatched to Cawnpore, may be seen in Appendix LX.

(d) *Trade associations*.—The two trade associations which appear to be actively connected with the trade in coconuts (and copra) are the Conesima Coconut and Copra Merchants' Trade Union, Amlapuram, in the West Godavari district of Madras and the Tiptur and Arsikere Traders' Association in Mysore.

The union at Amlapuram is composed of the commission agents at Amlapuram, Bodasukuru and Ambajepet markets and its main activity is to regulate the trade terms, charges, etc., at these centres and settle disputes. The union has fixed the minimum charges which the commission agents at these markets should charge for making purchases of coconuts (and copra) on behalf of buyers in other markets. A copy of their rules regarding trading and commission and other charges fixed, is given in Appendix LV. The association in Mysore has its head office at Tiptur with a branch at Arsikere. Its objects are to promote the interests of the trading community, to obtain accurate information with regard to the position and movement of those dealing with its members, to arbitrate in disputes and to consider questions affecting the trade

at these centres. The membership is open to persons engaged in the trade or commerce in Tiptur, Arsikere and other surrounding commercial centres. Besides these two associations, the Malabar *Kirana Merchants' Association* at Bombay includes coconuts (and copra) merchants as its members. A bulletin of the prices of the various commodities at Bombay is issued by the association and coconuts (and copra) are included in the same.

(7) INTER-PROVINCIAL TRADE.

As already stated, the production of coconuts is concentrated in certain districts of Madras and Bombay and in the States of Travancore, Cochin and Mysore. These tracts retain the major portion of their coconut production for local use for copra making or edible purposes and despatch the rest to other parts of India. The movement takes place by coastal steamers, country craft plying in backwaters and inland rivers, canals, etc., and by railways and road vehicles. Statistics are, however, available only in respect of the coastal trade. The number of coconuts which arrived into and were despatched from the provinces of Bengal, Bombay, Madras, Orissa and Sind from 1934-35 to 1941-42 may be seen in Appendix LVI. Details of the average number received into Bengal, Bombay, Madras and Sind from different sources during the period 1934-35 to 1938-39 are given in Appendix LXII, from which it will be noticed that Madras accounted for the major portion of the supplies sent by coastal route to other provinces, while Bombay and Sind received most of the supplies. Bombay received, on an average, 129 million nuts annually from Madras, 2 million nuts from Travancore and 4 million nuts from Goa territory. Sind received about 4 million nuts from Madras.

The traffic carried by country craft in rivers and canals is generally unrecorded and statistics regarding movement by rail are available only in respect of certain Indian States. The extent of inter-provincial trade by rail and river, etc., can, therefore, be only roughly estimated. The position in different areas, as ascertained during the survey, is summarised below and illustrated on the map facing page 101.

Madras.—About 5 million nuts are estimated to be annually sent by road and backwaters from Malabar district to the neighbouring areas of Cochin State. The despatches by rail from the same area are estimated to be about 2 million nuts to Mysore. Besides these, about 50 million nuts are estimated to be sent out from the Godavari area on the East Coast, of which about 24 millions go to the Hyderabad State, 20 millions to the Central Provinces and 6 millions to the various markets in Northern India, Bombay, etc.

Travancore.—About 16 million nuts are estimated to be annually sent by rail to the various districts of Madras.

Cochin.—Cochin despatches only about half a million nuts to the neighbouring districts of Madras, mainly by road.

Mysore.—About 19 million nuts are estimated to be sent by rail to Bombay and 3 million nuts to the neighbouring districts of Madras.

Bombay.—Although coconuts are produced in North Kanara and Ratnagiri districts, the province of Bombay is a deficit area for coconuts (copra, coconut oil, etc.), and as already stated, receives considerable number of nuts by rail from Mysore and by coastal steamers from the West Coast ports of Madras and Travancore. From the supplies so received, Bombay is estimated to send about 10 million nuts annually to the Central Provinces and about 6 million nuts to Rajputana, the United Provinces and the Punjab, etc.

Of the other provinces, Bengal is estimated to send about 7 million nuts to Assam, Bihar, the United Provinces and the Punjab. Orissa despatches about 6 million nuts to the Central Provinces and 2 million nuts to Bihar. The 4 million nuts received at Karachi by coastal steamers are distributed by rail over the province and despatched to markets in the Punjab, North-West Frontier Province and Rajputana.

(8) TRANSPORTATION.

(a) *Head loads.*—Small lots of coconuts are carried short distances, usually not more than two to three miles, as head loads by producers or small traders themselves or by hired labour employed by buyers. The nuts are put in bamboo baskets or in nets and carried over the head or in slings suspended from either ends of a bamboo and balanced on the shoulder (see plate facing page 59). The cost of this form of transport may vary from 5 as. to Re. 1 per thousand nuts per mile.

(b) *Bullock carts and motor trucks.*—Bullock carts are largely employed for the transport of coconuts (see plates facing page 110). A cart generally carries 400 to 600 unhusked nuts and 600 to 1,100 husked nuts. The cost of transport by bullock carts varies in different areas and in different seasons. On an average, the cartage charges, which usually include loading and unloading, work out to 3 as. to 6 as. per thousand per mile for unhusked nuts and 2 as. to 4 as. per thousand per mile for husked nuts.

Motor trucks are used in large towns and when large quantities or long distances are involved. An ordinary size truck generally carries 2,000 to 3,000 unhusked nuts or 4,000 to 6,000 husked nuts. Their charges for short distance transport are similar to those of carts but when nuts have to be carried for over 30 miles or so, the charges per mile work out to 2 as. to 4 as. per thousand for unhusked nuts and 1½ as. to 2½ as. per thousand for husked nuts.

(c) *Boats and steamers.*—Coconuts are carried by country boats over backwaters, canals and rivers in Travancore, Cochin, Malabar and Godavari districts of Madras, Bengal and Assam. The nuts are loaded into boats with baskets and usually carried loose

(see upper plate facing page 111). Boats also carry some coconuts from the South West Coast ports to Bombay and to a small extent to Karachi during the months of October to May. The bulk of the coastal traffic is, however, carried by steamers. Nuts carried by steamers are generally packed in bags. The charges by country boats are usually cheaper than those by steamer.

The rates of freight for coconuts (and copra, coconut oil, etc.), by coastal steamers from three important ports in the coconut growing areas on the West Coast, *viz.*, Cochin, Alleppey and Calicut* to Bombay, Karachi, Madras and Calcutta are given in Appendix LVIII. The rates of freight from Colombo to these four ports are also given for comparison. Before the outbreak of the War in 1939, the freights for the transport of coconuts from Cochin, Alleppey and Calicut were 9 annas per bag of 168 lb., *i.e.*, Rs. 7-8 per ton of 20 cwt. to Bombay, 14 annas per bag, *i.e.*, about Rs. 11-12 per ton to Karachi, Rs. 11 per ton to Madras and Rs. 16-8 per ton to Calcutta. Compared with these, the freights from Colombo were Rs. 10 per ton of 14 cwt. to Bombay, Rs. 15 per ton of 14 cwt. to Karachi and Madras and Rs. 17-8 per ton of 14 cwt. to Calcutta. It is obvious that the freights from Colombo to all the four ports of Bombay, Karachi, Madras and Calcutta were higher than those from the West Coast ports. This, to some extent, accounts for the fact that unlike copra and coconut oil, coconuts were not imported into India from Ceylon in any appreciable quantities through the ports of Bombay, Madras, Karachi or Calcutta. The bulk of coconuts imported from Ceylon were received at the two ports in the extreme south of India, *viz.*, Dhanushkodi and Tuticorin which are very close to Ceylon.

(d) *Railways.*—Railways carry coconuts from the producing areas and the ports to all parts of India. They are carried both loose and packed in bags. When wagons are loaded with loose coconuts a few bags of coconuts are placed near the door to prevent the nuts from rolling out from the door at the time of loading and unloading. The number of coconuts carried in a wagon may vary from 13,000 to 36,000 depending upon the size of the wagon.

It will be recalled that for purposes of railway freight, the various commodities have been divided into 16 classes, for each of which maximum and minimum limits of freight per maund per mile have been laid down. All rates of freight on commodities in a particular class must be between the limits fixed for that class. The maximum fixed for a class is the ordinary class rate for all commodities in that class. Coconuts are placed in Class 2, the maximum and minimum rates for which are 0.42 pies and 0.1 pie per maund per mile respectively. The ordinary rate of freight for

* Different rates of freight were quoted at one time for coconuts, copra, oil, etc., sent to Bombay, Karachi, Madras and Calcutta from Cochin and Alleppey and from Calicut, Cannanore and Tellicherry but since May 1935 the rate of freight has invariably been the same from any of the ports of Cochin, Alleppey, Cannanore, Tellicherry, Calicut, etc.



TRANSPORT OF COCONUTS BY CARTS.



LOADING COCONUTS IN BOATS.



CARRYING COPRA IN COIR SLINGS SUSPENDED FROM EITHER ENDS OF A BAMBOO.

coconuts for carriage by rail is thus 0.42 pies per maund per mile. On the South Indian Railway, however, coconuts are placed in Class 4 so that the ordinary rate of freight is 0.62 pies per maund per mile. On the Nizam's State Railway, consignments of coconuts less than 200 maunds are placed in Class 3 and are charged 0.58 pies per maund per mile.

Besides the ordinary or class rates, schedule rates are quoted on a basis lower than the maximum of the class. These may be on a uniform basis or may vary according to distance on the telescopic principle. When goods are carried over more than one railway, the freights are, however, calculated separately for the distance on each railway and not on the through distance between the stations of origin and destination, so that the advantage of telescopic rates, i.e., the rates of freight decreasing with increasing distance is, to a great extent, lost. Schedule rates have been allowed for coconuts over a number of railways, details of which may be seen in Appendix LIX. It will be seen that these rates work out considerably lower than class rates. No schedule rates are, however, allowed on M. S. M. Ry.¹ and S. I. Ry.² which serve the major portion of coconut area and carry considerable traffic in coconuts and coconut products. The schedule rates allowed for coconuts are generally applicable to wagon loads (in some cases carried loose) of certain minimum weight carried at owner's risk, and provide for the loading and unloading to be done by the senders and consignees respectively.

Besides ordinary class rates and schedule rates, specially reduced "station to station" rates are quoted between certain points. These are cheaper than class rates and schedule rates and are generally fixed between points where there is a big volume of traffic or with the intention of encouraging traffic or to meet competition from other carrying agencies.

(9) IMPORT COSTS.

As already stated in Chapter II, some coconuts are imported into India mainly from Ceylon and Maldives. The nuts imported from Ceylon are landed mainly at Dhanushkodi and Tuticorin and those from Maldives at Calcutta.

A statement given in Appendix LXI showing the actual cost incurred in importing a consignment of coconuts from Ceylon, which has been prepared from an actual invoice obtained from the trade, provides an indication of the expenses involved in importing coconuts into India. The consignment was booked from Colombo to Madura in Madras Province. There are arrangements for booking through from Colombo and the South Indian Railway work as clearing agents at Dhanushkodi. On arrival of the steamer at Dhanushkodi, the consignment was unloaded from the steamer and loaded into wagons at the pier. The loading and unloading was done by Madura Company on behalf of the South Indian Railway. The wagon was then brought to Dhanushkodi

¹ Madras and Southern Marhatta Railway.

² South Indian Railway.

station where 10 per cent. of the bags from the wagons were examined by the Customs authorities and the duty realised. The railway paid the duty and recovered it from the party with the freight. The wagon was then despatched to the destination where a *hundekar* arranged to take delivery of the nuts at the station and cart the bags to the consignee's godown.

(10) PRICE SPREAD.

As the charges incurred in assembling and the cost of distribution are subject to considerable variation depending upon the channels through which the produce passes and the extent of movement, the producer's share in the price paid by the consumer also varies. The extent of variation in the price spread is indicated by four typical examples given in Appendix LXII.

In the first instance, the grower sold his nuts directly at his garden to a copra maker who arranged to have the nuts husked on the spot, disposed of the husk and transported the husked nuts to his premises for making copra. The producer's share in the consumer's price worked out to as much as 90 per cent.

In the second instance, the grower took his coconuts himself to Tanjore market and after getting them husked sold them through a commission agent to a retailer who in turn sorted out the nuts in three lots according to size and sold them at different rates to consumers. The producer's share in the consumer's price worked out to 60 per cent.

In the third instance, the grower sold his coconuts to a village merchant working on behalf of a commission agent at Amlapuram. The commission agent supplied the nuts against an order from a wholesale merchant at Jubbulpore, from whom the nuts passed to consumers through a retailer. On account of several agencies concerned in assembling and distribution and transport costs from Rajahmundry to Jubbulpore, the producer's share in consumer's price amounted to only about 48 per cent.

In the last instance, the grower delivered the nuts at his garden to a wholesale merchant's agent. The wholesale merchant in turn sold the nuts to an exporting merchant who despatched them for commission sale to Narsingpur, where the nuts were purchased by a wholesale merchant. The Narsingpur wholesale merchant disposed of the nuts to a retailer who finally sold them to consumers. The producer's share in the consumer's price was even lower than in the third instance and worked out to about 37 per cent. only.

With such wide variations in the price spread of coconuts, it is difficult to estimate the average share of the coconut growers in the price paid by the consumers but taking into account the proportion of production utilised for copra making and edible use in different areas, it may be roughly reckoned that the producer's share in the consumer's price does not, on an average, exceed 55 per cent.

C.—Copra.

(1) CLASSIFICATION AND GRADING.

It has already been stated in Chapter II that copra is broadly classified into two groups, *viz.*, edible copra and milling copra. Edible copra is in the form of balls or cups. There are thus three main classes of copra, *viz.*, (a) Ball copra, (b) Edible copra (cups) and (c) Milling copra (cups).

(a) *Ball copra*.—Several grades and qualities are recognised in the trade. These are named after the places where copra is made, *e.g.*, "Calicut" copra, or after the names of markets in which different grades or qualities are in demand, *e.g.*, "Madras" copra, or according to size.

In Mysore State, four grades of ball copra, which differ in respect of the size of the balls, are designated as "Mysore", "Madras", "Ras" and "Barik". "Mysore", which represents the biggest size balls, derives its name from the fact that these balls find favour in the markets of Mysore State. "Madras" represents medium size balls for which Madras was at one time an important market. They are, however, now sent to various markets. "Ras" is similar to "Madras" in size but is of inferior quality and contains some broken and damaged balls, pieces etc. "Barik" consists of small size balls. The sizes of the different grades referred to above are not defined in any measurable unit and the balls are classified into the different grades by visual examination only. If suitable specifications were adopted by the trade for defining the various sizes, the personal factor in judging the size could be minimised. For instance, by making a number of weighments at Arsikere market, it was found that 9 balls of "Mysore", 12 balls of "Madras", 13 balls of "Ras" and 17 balls of "Barik" grade weighed roughly 4 lb.

Ball copra from Malabar district, which is considered somewhat inferior to that from Mysore State, is referred to in trade as "Calicut" copra. Ball copra from the Godavari districts is referred to as "Madras" copra in North Indian markets. It is considered better than "Calicut" copra but not so good as Mysore State copra. Copra balls imported from the Maldives island are very small in size and are sometimes referred to in trade as "Calcutta" copra and also as "Maldipi" or "Mirzapuri".

(b) *Edible copra (cups)*.—The three main grades of edible copra in Malabar are known as "Rajapur", "Madras Nottam" and "Dilpasand". The first two are so called because originally they were sent to Rajapur in Bombay Province and Madras markets respectively.

"Rajapur" copra represents white copra of the best quality prepared by cutting copra balls and drying the halves in the sun for two or three days. It is sorted out in two or three grades

according to the whiteness of the kernel. Large-sized nuts harvested during February to April and then stored for about eight months till the water inside has thoroughly dried, are used for preparing this quality of copra. It comes to the market from September to June. "Madras Nottam" or "Pazhom Thengai" copra, formerly known as "Bombay Nottam", is somewhat inferior to "Rajapur". It is made in the same way as "Rajapur" quality but from nuts which are somewhat moist. Slightly damaged or discoloured copra obtained in the preparation of "Rajapur" quality is used up for "Madras Nottam" quality. There are two grades, red and black, according to the colour of the outer skin. "Dilpasand" or "Chokkappan" is still inferior in quality and is prepared from fairly dried nuts stored for two or three months or from fresh nuts and then drying the cups. The edges are cut clean before despatch. Selections of milling copra are also passed off as "Dilpasand" quality. There are five grades according to size, No. 1 being the smallest and generally fetching the highest price.

In Travancore, the best cups of sun-dried copra having a white colour and clean appearance are selected as edible copra and are locally known as "Valla". They are referred to as "Kalipat" and "Lalpilli" or "Lalpat" according as the colour of the outer skin is blackish or dark brown and reddish or reddish yellow. These are further classified into several grades according to size, viz., "Rai", "Mungi", "Lavangi", "Special" and "Dala", "Rai" being the smallest. The approximate number of cups of each grade to weigh one candy (654 lb.) are as under:—

Rai	6,000 to 7,000
Mungi	5,000 to 6,000
Lavangi	4,000 to 5,000
Special	3,600 to 4,000
Dala	3,000 to 3,600

In the Bombay market, "Rajapur", "Madras" and "Alpai" are the commonly recognised grades, the last named referring to edible copra received from Alleppey.

(c) *Milling copra (cups)*.—The best grade of milling copra is known as "Vettumani" or "Office pass". Rejections of edible copra are also classed with "Office pass". Cups left over from "Vettumani" quality, consisting of rejections or copra from immature nuts, are known as "Rashi". "Rashi" is sometimes further subdivided into "Thiru Rashi", "Rashi" and "Kazhippu". "Thiru Rashi" is slightly better than "Rashi" while "Kazhippu" is inferior to "Rashi". In Mysore, copra rejected from edible copra is called "Kavathu". Moisture is an important factor in judging the quality and millers sometimes differentiate copra on the basis of the number of days for which it has been dried, e.g., 4 days' drying, 5 days' drying, 7 days' drying, etc. The percentage of moisture in copra offered for sale

generally varies from 5 to 15 per cent. Copra with about 5 per cent. moisture is taken as fully dried copra. The term "cutter" dry is also used in respect of fully dry copra.

Copra imported into India from abroad is, as already stated, all of milling grade but selected cups of imported copra are sometimes mixed with edible copra and passed off as such. Milling copra imported from Colombo is generally referred to as "Colombo" f.a.q.

(2) ASSEMBLING,

(a) *Agencies concerned in assembling*.—The main agencies concerned in assembling copra are coconut growers, copra makers, village merchants, wholesale merchants and oil millers.

Coconut growers who make copra from nuts produced in their gardens and village copra makers who assemble coconuts and make copra on a small scale, sell their copra at their premises to village merchants or to the agents of wholesale merchants and oil millers, or take it for sale to assembling markets. Big copra makers having regular copra making establishments for making copra on a large scale generally dispose of their copra to millers or wholesale merchants. *Chekku* owners also assemble small quantities of copra for crushing in their *chekkus*.

Petty village merchants collect small lots of copra from growers or small copra manufacturers and sell the quantities so purchased in bigger lots.

Wholesale merchants and oil mills in coconut producing areas often make arrangements with copra makers and village merchants, for all the copra made or collected by them to be brought to them (merchants and mills). The mills also have buying agents at important centres and send out agents to make purchases.

The comparatively small part taken by the co-operative societies in the assembling of copra has already been referred to in the section on assembling of coconuts (see page 103).

(b) *Markets*.—As far as the assembling of copra is concerned, small village markets and *shandies* play an insignificant part, as copra makers and others collecting copra take it direct to important crushing centres which function both as assembling and distribution markets. For instance, in Travancore, about 80 per cent. of the copra production passes through Alleppey. A list of the important assembling and distribution markets for copra is given in Appendix LII.

(c) *Market practices and charges*.—As in the case of coconuts, an octroi duty or toll has often to be paid for entering the markets. The procedure followed for transacting sales varies according as the sales are made direct by the sellers or through a commission agent. When the seller takes his copra direct to a wholesale merchant or miller, the buyer examines a few bags to form an idea of the quality of the copra and the probable loss due to drying and offers a price. After the price is settled, the produce is

weighed over. The seller may, of course, show his copra to more than one buyer and sell it to the one offering the best price. The buyers sometimes require copra which is not sufficiently dry to be dried in the sun for two or three days before making weighment. In markets where sales are made through commission agents, the seller selects a commission agent—generally one with whom he had previous business relations to sell the copra on his behalf and the commission agent then arranges to sell the produce by auctioning it or obtaining offers from the buyers. After the price has been settled, each bag is emptied and weighed in baskets. If the contents of any bag appear to be below the quality of the bags examined at the time of offering the price, a reduction in price is asked for.

The charges incurred in connection with sales at the markets usually include commission, brokerage, handling and weighment charges, contributions for charity and deductions in cash or in the form of extra weight to cover loss due to drying. Details of charges payable in some markets are summarised in Appendix LIV.

(d) *Weights*.—The most common unit for wholesale transactions in copra is a *candy*, which, however, represents a varying number of pounds in different places. For instance a *candy* of copra is 700 lb. at Calicut, 660 lb. at Cannanore, 600 Dutch *rathals* equivalent to 654 lb. in Travancore, 630 lb. at Bombay and 500 lb. in Godavari. It is obvious that this diversity makes the prices in different markets incomparable. Again, a *candy* is divided into 20 *thulams* of 35 lb. each at Calicut and into 10 *edas* in Travancore. In Mysore, the unit of weight for wholesale transactions is a *satta* of 10 maunds of 31½ lb. each at Tiptur, Arsikere and Banawar and a maund of 25 lb. at Mysore and Bangalore. In the North Indian markets, a maund is the most common unit, but the number of seers for a maund of copra may vary from 40 seers to 52 seers. The weights used on the West Coast are in many cases made of stone.

The stone weights being liable to wear out quickly may often differ from correct weight and can also be easily tampered with.

(3) DISTRIBUTION.

(a) *Agencies concerned in distribution*.—Coconut growers, copra makers and village merchants who play an important role in the assembling of copra, figure in its distribution also in as much as they dispose of some of their copra to oil mills in or near the producing areas. The most important agencies for the distribution of copra are, however, wholesale merchants and commission agents. They operate direct or through brokers. Wholesale merchants and commission agents in copra producing areas distribute the copra purchased by them from copra makers, village merchants, etc., to oil mills and merchants at various consuming

centres. Similarly, wholesale merchants and commission agents at consuming centres distribute the supplies received by them from producing areas to retailers, grocers, etc.

As much of the copra crushing is done in the coconut producing areas on the West Coast and at the ports of Bombay and Karachi, the distribution of milling copra is almost entirely confined to these areas. On the other hand, edible copra is distributed from Mysore State and the Godavari and Malabar districts of Madras to all parts of India. A list of important copra distributing markets is given in Appendix I.II.

The retail distribution of copra is mostly for edible use and is generally in the hands of grocers and provision merchants.

(b) *Cost*.—The cost of distribution, as already stated in the section on distribution of coconuts, depends upon the extent of movement and the channels through which copra passes before it reaches the consumer. Statements showing the cost of distribution from Tiptur to Delhi and Bombay to Delhi, given in Appendix I.X, indicate the various items which constitute the cost of distribution.

(4) INTER-PROVINCIAL TRADE.

As already stated, the crushing of copra is done mainly in the coconut producing areas and at Bombay and Karachi. On the other hand, copra is consumed for edible purposes in all parts of India. Consequently, there is considerable inter-provincial movement of milling copra from the producing areas to the two ports of Bombay and Karachi and of edible copra to various consuming centres all over the country. The movement of copra is illustrated on the map facing page 118.

The supplies at Bombay and Karachi are drawn mainly from the West Coast by the coastal route while the inland towns and markets receive their supplies of edible copra generally by rail from the Mysore State and the Godavari area of Madras. Statistics are, however, available only in respect of the traffic by coastal routes. These are summarised in Appendices LVI and LVII. The quantities sent by rail to various provinces have been estimated on the basis of enquiries made during the survey. The position in different areas may be summarised as under:

Madras.—During the quinquennium 1934-35 to 1938-39, Madras, besides importing on an average about 7,000 tons copra annually from abroad*, is estimated to have received on an average about 500 tons every year by rail from Mysore and a similar quantity from Travancore. On the other hand, Madras despatched during the same period by coastal routes 10,700 tons copra annually to Bombay, 6,600 tons to Sind and 200 tons to Bengal. In addition to this, Madras is estimated to have sent about 7,000 tons copra from the Godavari area to Hyderabad, Orissa, the Central Provinces, the United Provinces, etc.

* Includes imports into Cochin port.

Travancore.—The copra trade from Travancore is done mostly by coastal routes. During the quinquennium ending 1938-39, Travancore despatched, on an average, 6,400 tons annually to Bombay and 6,300 tons in Sind. Small quantities were sent by rail to, and received from, the neighbouring areas of Cochin and Madras.

Cochin.—Statistics for the imports of copra from abroad and by coastal routes from other provinces, into Madras ports discussed above, include arrivals into Cochin port. Apart from the traffic to and fro from Cochin port, small quantities of copra were sent from Cochin to the neighbouring areas of Madras and Travancore State.

Mysore.—During the quinquennium 1934-35 to 1938-39, Mysore is estimated to have annually sent about 10,000 tons of edible ball copra by rail to various parts of India including Bombay, Hyderabad, Madras, the United Provinces, the Punjab, Rajputana, etc.

Bombay.—Bombay is the biggest importer of copra in India. During the quinquennium 1934-35 to 1938-39, she imported, on an average, 28,500 tons annually from abroad and 10,700 tons by coastal routes from Madras and 6,400 tons from Travancore. Besides this, about 3,000 tons are estimated to have been received by rail from Mysore. The supplies are utilised for local crushing and consumption and for distribution to other markets. About 1,500 tons are estimated to have been annually despatched by rail to the Punjab, a similar quantity to the United Provinces, 500 tons to the Central Provinces and 100 tons each to Kathiawar and Sind.

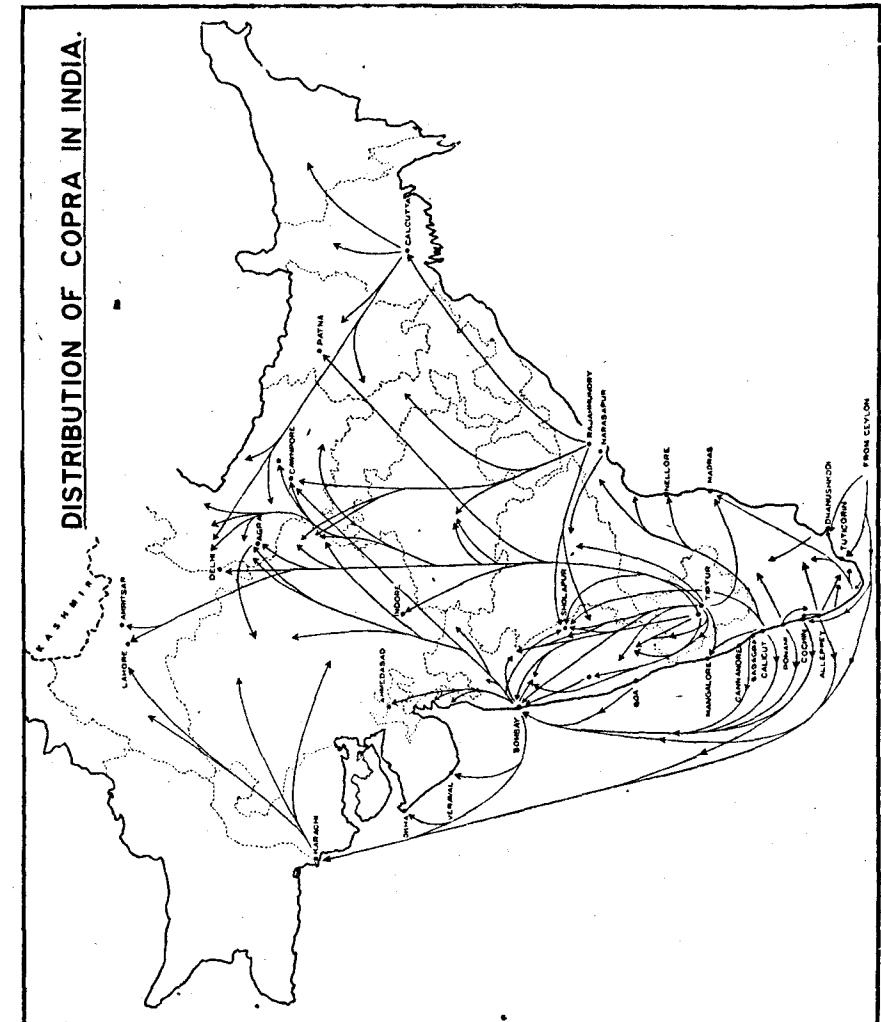
Sind.—Like Bombay, Sind also imports considerable quantities of copra from abroad and by coastal routes from Madras and Travancore. During the quinquennium ending 1938-39, 10,300 tons were annually imported into Karachi from abroad, besides 6,600 tons from Madras, 6,300 tons from Travancore and about 200 tons from Bombay. The supplies received at Karachi are used for local crushing and consumption and distributed to various markets in the province and in the Punjab, Rajputana, etc.

Among the other provinces, the United Provinces, the Punjab and the Central Provinces receive their supplies of edible copra from the Mysore State, the Godavari area of Madras and through Calcutta and Bombay.

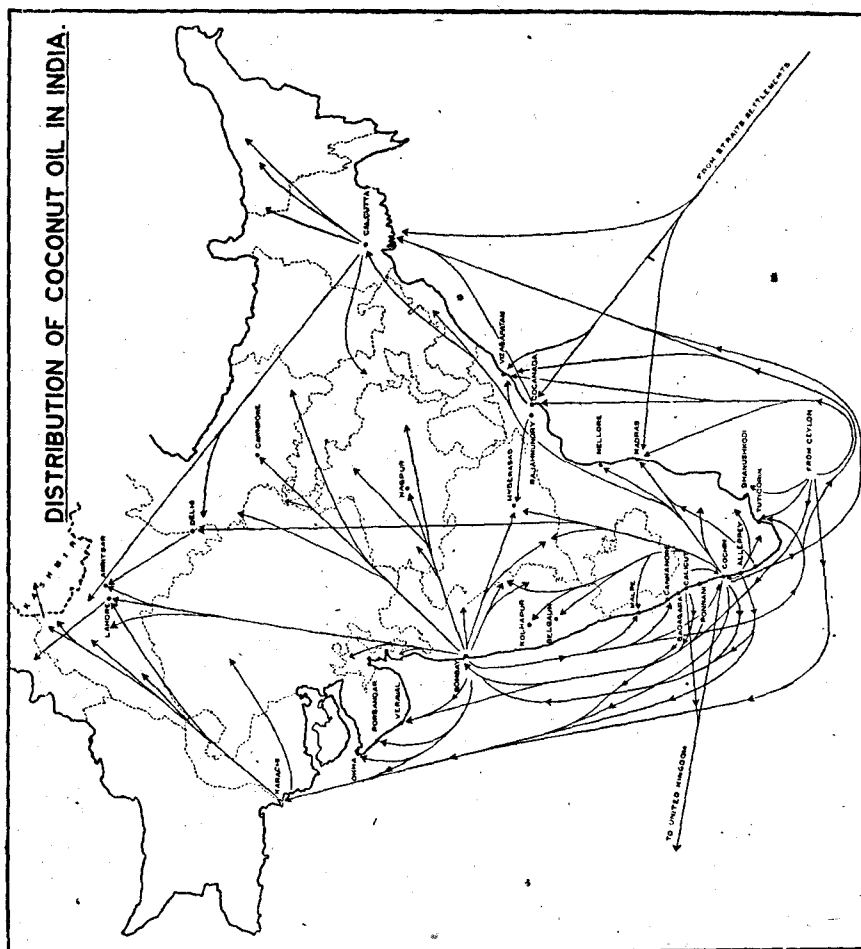
(5) TRANSPORTATION.

(a) *Head loads.*—As in the case of coconuts, small lots of copra are taken by village copra makers and others as head loads or in shoulder slings (see lower plate facing page 111). The cost of such transport works out to about 6 pies per maund per mile.

(b) *Bullock carts and motor trucks.*—Bullock carts are largely used for the transport of copra (invariably packed in bags) from copra making establishments to markets and mills, from and to



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railway stations, steamer ghats, etc. Motor trucks are sometimes used in the bigger towns. The cost of transport works out to about 1 pie to 5 pies per maund per mile, varying in different localities and in different seasons.

(c) *Boats and steamers.*—Canoes and country boats form an important means for the transport of copra over the backwaters on the West Coast and rivers and canals in the Godavari area. The cost of transport works out to about $\frac{1}{2}$ pie to 3 pies per maund per mile depending on the distance, the cost being lower for transport over comparatively long distances of 20 to 50 miles.

Steamers are important for the transport of copra from the West Coast to Bombay, Karachi, Calcutta, Kathiawar ports, etc., and for bringing in imports of copra from Ceylon, Straits Settlements, etc. The rates of steamer freight for copra from Cochin, Alleppey and Calicut to Bombay, Karachi, Madras and Calcutta are given in Appendix LVIII. The rates of freight from Colombo to these four ports are also given for comparison. It will be seen that immediately before the outbreak of the War, the freight on copra from Cochin, Alleppey and Calicut was Rs. 11 per ton to Bombay, Rs. 14 per ton to Karachi, Rs. 16-8 per ton to Madras and Rs. 22 per ton to Calcutta. Since then, the rates were increased from time to time so much so that the rates of freight current in June 1942 were two and a half times the rates prevailing at the beginning of September 1939. It will also be seen that unlike coconuts, the rates of freight from Colombo to Bombay, Karachi, etc., have been consistently lower than those from Cochin, Alleppey and Calicut to the same ports. It is obvious that the rates of freight work to the disadvantage of Indian copra and tend to encourage imports from Ceylon.

(d) *Railways.*—Railways carry the bulk of the copra traffic moving from the Mysore State and the Godavari and Malabar districts of Madras to consuming centres in different parts of India. Considerable quantities are also carried by rail from Bombay and Karachi to different upcountry markets. The railway freights on copra are ordinarily the same as on coconuts as the two commodities are grouped together in Class 2 for purposes of railway freight. The various schedule rates allowed for coconuts on different railways (see Appendix LIX) are generally applicable to copra also although the conditions regarding minimum weight and packing differ in some cases. Like coconuts, a number of cheap station to station rates are allowed for copra also but these are not always between the same stations as for coconuts.

(6) PACKING.

Copra makers usually pack their copra in old gunny bags for taking it to markets and mills but during subsequent distribution, both new and old gunny bags are used.

Edible copra is generally packed in new gunnies. Sometimes double bags are used, the outer one being new and the inner old.

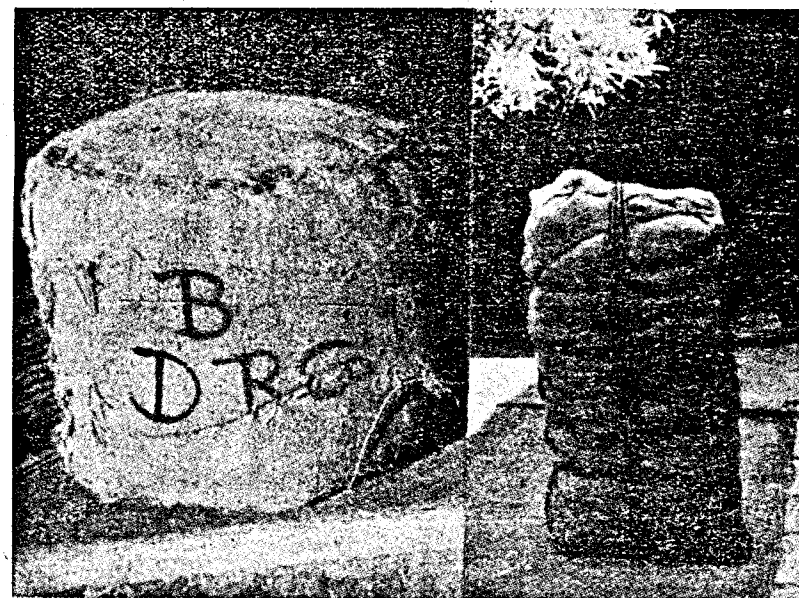
A lining of matting is often put inside the gunny to offer extra protection against moisture and damage. Bags containing the best qualities of copra are sometimes strengthened by passing coir yarn round the bag (see upper plate facing this page). Besides bags, copra is also packed in circular packages called *murhas* (see upper plate facing this page) made from gunny bags with a lining of matting.

The weights of copra bags and packages vary in different markets. For instance, a bag contains 112 lb. copra (cups) in Malabar and 120 lb. in Godavari, whereas in Mysore a bag contains 3 local maunds of $31\frac{1}{2}$ lb., i.e., $94\frac{1}{2}$ lb. copra. A *murha* generally contains 84 lb., 126 lb. or 168 lb. copra.

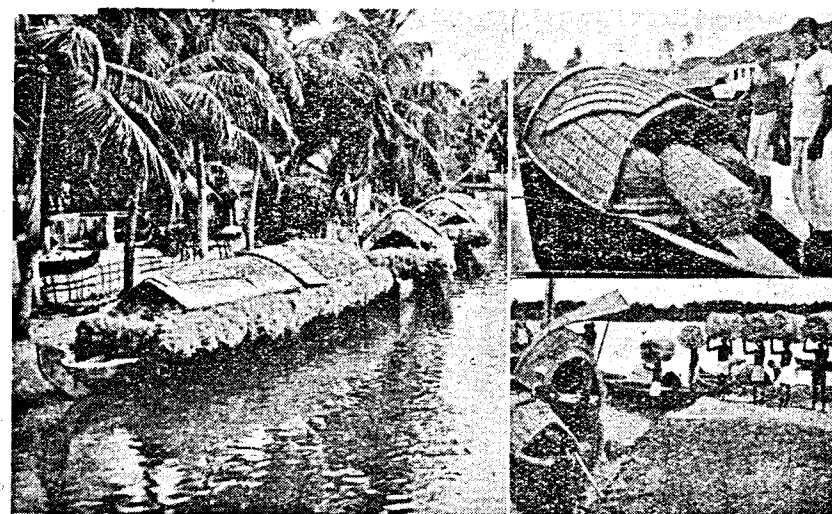
(7) IMPORT COSTS.

As stated in Chapter II, considerable quantities of copra are imported into India, mainly from Ceylon. The prices of copra in Ceylon may be quoted either f.o.b. Colombo or on the basis of c.i.f. Indian port. When prices are quoted f.o.b. Colombo, the cost of importing copra at a port in India comprises steamer freight from Colombo to the port in India, insurance charges, import duty and landing, clearing and port charges at the port of destination. When prices are quoted on c.i.f. basis, the sea freight and insurance charges being included in the prices, the expenses incurred in importing include only the import duty and the charges at the port of destination. The rates of import duty and steamer freight are given in Appendices XIX and LVIII respectively. The expenses incurred at the port include wharfage and other charges levied by port authorities and handling and transport charges from the docks to the importers' premises. These vary in different ports. For instance, the port dues at Cochin were reported to amount to Re. 1 per ton (in November 1940). In addition to this, the landing charges and transport to buyers' godown worked out to Rs. 1-12 and 13 annas per ton respectively. At Bombay, the wharfage charges are Rs. 2 per ton but these have been subject to varying surcharges since 1937. At Karachi, the wharfage charges were Rs. 3 per ton at ship wharves and Rs. 1-4 per ton at other *bandars* in September 1941.

As has been discussed in the preceding section, the rates of steamer freight have varied from time to time. The standard and preferential rates of import duty on copra have been 30 per cent. *ad valorem* and 20 per cent. *ad valorem* respectively since 1933 but the actual incidence of duty has varied according to the tariff value fixed from time to time. The expenses incurred at the port of destination have also been affected by surcharges, etc. The import costs have, therefore, been subject to considerable variation from time to time. A statement showing the actual cost incurred in importing a consignment of copra at Quilon in the Travancore State (in 1940) given in Appendix LXI will indicate the extent of total cost incurred in importing copra from Ceylon.



A MURHA AND A BAG OF COPRA.



TRANSPORT OF COIR YARN BY BOATS.

Facing page 121.]



STORAGE OF COCONUTS UNDER COVER OF LEAVES.

D.—Coconut oil.**(1) QUALITIES AND GRADES.**

The different qualities of coconut oil recognised in the trade have already been referred to in Chapter III (see page 89), from which it will be seen that there are no well-recognised grades with specifications to indicate the various quality factors or the purity of the oil.

Chekku oil, although it usually contains more sediment than mill oil, is considered to have a better flavour and is preferred by consumers in coconut producing areas. There is, however, no system of marking mill oil and *chekku* oil separately and buyers cannot be sure whether they are getting mill oil or *chekku* oil. In fact, mill oil is sometimes mixed with *chekku* oil and the mixture passed on as *chekku* oil.

Coconut oil imported from Ceylon is generally referred to as Ceylon White Oil. The oil from Penang and Singapore is usually imported under several trade brands and these are said to be of varying quality.

(2) ADULTERATION.

In the coconut producing areas, coconut oil is not generally adulterated with other vegetable oils. In other areas, however, coconut oil is sometimes adulterated with groundnut oil. Another common adulterant of coconut oil, especially when used for non-edible purposes such as preparation of hair oils, is reported to be white mineral oil. Synthetic coconut oil essence is sometimes added to mineral oil to give it the flavour of coconut oil. The adulteration of coconut oil with mineral oil spoils the quality of products made from coconut oil and it is desirable that the trade adopts the grading and marking of coconut oil under the Agricultural Produce (Grading and Marking) Act so that consumers may be able to obtain coconut oil of guaranteed purity and quality.

On the other hand, coconut oil is reported to have been used for adulterating other vegetable oils when coconut oil prices have ruled appreciably lower than those of other oils. Coconut oil is also used for adulteration with ghee in some areas, particularly in winter months when the consistency of ghee and coconut oil is similar.

(3) DISTRIBUTION.

(a) *Agencies concerned in distribution.*—The agencies concerned in the distribution of coconut oil are the *chekku* owners or operators, oil mills, wholesale merchants, commission agents and brokers. *Chekku* owners or operators generally sell their oil to local retailers or to consumers direct. Only in a few cases is *chekku* oil sent out to other distant markets. Oil mills dispose of their oil by selling direct or through their selling organizations or through brokers to wholesale merchants. Mills also send their

oil for sale through commission agents at various centres. A list of important coconut oil distributing centres is given in Appendix LII.

The retail distribution is mainly in the hands of *telis* (oil mongers) and grocers. There are no well-organized trade associations to regulate the trade in coconut oil. Only at Cochin, an Oil Merchants' Association is reported to be working for the last few years.

(b) *Cost*.—As in the case of copra, the cost of distribution of coconut oil also depends on the agencies involved and the extent of movement. When oil is sent for commission sale, the commission agents (*arhatiyas*) charge a commission, which usually varies from 12 annas to Rs. 1-9 per cent. Customary charges for charity, etc., are also made. Terminal tax and octroi duty may vary from 6 pies to 12 annas per maund at various places. Containers form another important item in the cost of distribution. The extent of cost of distribution is indicated by three instances given in Appendix LX, which show the actual expenses incurred on consignments of coconut oil sent from Bombay to Delhi, Karachi to Sargodha and Cochin to Palaghat.

(c) *Weights and measures*.—The common unit of weight in the coconut oil trade on the West Coast is a candy but, as in the case of copra, a candy indicates a varying number of pounds in different places. A candy of coconut oil is 700 lb. at Calicut, 654 lb. in Travancore and 500 lb. at Madras and Cocanada. In some parts of Malabar and Cochin, the unit is a *kavu* of 93½ lb. Various other units are customary in other markets. For instance, the unit is a quarter of 28 lb. at Bombay, a maund of 48 seers at Bijapur and a *palla* of 3 maunds at Ahmadnagar.

Besides weights, a number of measures are used in the coconut oil trade. For instance, the common measure in the Cochin State is the *edangali* of 44 oz. One-fourth of an *edangali* is a *nazhi*. In the retail trade in Madras, one of the commonly used measures is a *chambu*, which is equivalent to 1½ Madras measures. Seven *chambus* are generally filled into a tin. The malpractices in regard to weights and measures and the need for standardisation have been commented upon in earlier marketing reports on several other commodities, and need not be repeated here.

(4) INTER-PROVINCIAL TRADE.

It was stated in Chapter II (see page 60) that coconut oil is produced mainly in the coconut growing areas on the West Coast and at Bombay and Karachi. Some of the oil produced in these areas is consumed locally and the surplus is sent by coastal steamers, country boats, rail and road to various parts of India. Similarly, some of the coconut oil imported from abroad at Calcutta, Madras, Karachi and Bombay is consumed at these ports and the rest sent, mainly by rail, to various inland markets. The movement of coconut oil is illustrated on the map facing

page 119. Statistics are, however, available, as in the case of coconuts and copra, only in respect of coastal traffic. These are summarised in Appendices LVI and LVII. The quantities sent by rail have been estimated on the basis of enquiries made during the survey and can be regarded as rough approximations only. The position may be summarised as under.

Madras.—During the quinquennium 1934-35 to 1938-39, besides importing, on an average, about 2,200 tons coconut oil from abroad, mainly at the ports of Madras, Cocanada and Vizagapatam, the province is estimated to have annually received about 23,000 tons coconut oil by backwaters, rail and road from Travancore* and 2,000 tons from Cochin State†. During the same period, Madras annually despatched, on an average, 9,600 tons by coastal steamers, mainly from the ports of Cochin and Calicut—4,900 tons to Bengal, 3,000 tons to Bombay, 1,300 tons to Sind and 400 tons to Kathiawar States, Orissa, etc. The despatches by rail and road are estimated to have been about 2,000 tons to Mysore, 1,000 tons to Cochin, 500 tons to Hyderabad and 500 tons to other areas.

Travancore.—Being the biggest producer of coconut oil, Travancore imports only negligible quantities of coconut oil from abroad or from other parts of India. On the other hand, Travancore despatches considerable quantities of the oil to Cochin port, various places in Madras and the ports of Calcutta, Bombay, etc. The despatches from Travancore by coastal steamers, which were mainly to Calcutta and Bombay, averaged about 1,200 tons during the quinquennium ending 1938-39. The despatches by country boats, backwaters, rail and road to Cochin port and the neighbouring districts of Madras are estimated to have averaged about 23,000 tons.

Cochin.—As in the case of copra, statistics of imports of coconut oil from abroad at Cochin port as also arrivals and despatches of coconut oil at Cochin port from other parts of India are included in the statistics for Madras ports. Apart from the traffic to and from Cochin port, about 1,000 tons coconut oil are estimated to have been annually received in the Cochin State from Malabar districts and about 6,000 tons sent to various places in Madras, Bombay, Mysore and Hyderabad, etc.

Mysore.—Unlike copra, Mysore does not send out coconut oil to any appreciable extent to other parts of India. The despatches from the State being less than 100 tons annually. On the other hand, Mysore is estimated to have annually received about 2,000 tons coconut oil by rail and road from Madras and 500 tons from Cochin during the quinquennium ending 1938-39.

Bombay.—During the quinquennium 1934-35 to 1938-39 Bombay imported, on an average, 500 tons from abroad and 3,300 tons by coastal steamers—3,000 tons from Madras and 300 tons

* Including about 1,200 tons arrivals at Cochin port.

† Excluding Cochin port.

from Travancore. The despatches from Bombay, mainly by rail, are estimated to have averaged 6,000 tons—3,000 tons to the Central Provinces, 1,000 tons to the United Provinces, 1,000 tons to Hyderabad and 1,000 tons to the Punjab and other areas. The despatches by coastal steamers averaged only about 400 tons to Kathiawar States ports, Sind, Bengal and Madras.

Bengal.—The imports from abroad into Bengal during the quinquennium 1934-35 to 1938-39 averaged 23,400 tons and those by coastal steamers 5,800 tons, of which 4,900 tons were from Madras and 900 tons from Travancore. The despatches from Calcutta are estimated to be about 1,000 tons each to Assam and Bihar, and the United Provinces and 200 tons to the Punjab.

Sind.—The imports from abroad into Sind during the five years ending 1938-39 averaged 1,700 tons and those by coastal steamers 1,400 tons, of which more than 1,300 tons came from Madras ports including Cochin. During the same period, Karachi is estimated to have despatched about 8,000 tons coconut oil by rail—4,000 tons to the Punjab, 1,000 tons each to North-West Frontier Province and the United Provinces and 2,000 tons to Delhi, Rajputana and other areas.

(5) TRANSPORTATION.

(a) *Bullock carts and motor trucks.*—The transport of coconut oil over short distances such as from mills to merchants' godowns or railway stations, and from docks, steamer jetties and railway stations to markets and consignees' premises, takes place by carts and motor trucks. The cost of transport in such cases varies from 2 to 6 pies per maund per mile. In some cases, motor lorries also carry long distance traffic in coconut oil in competition with railways. For instance, lorries were found to carry coconut oil from Delhi to Amritsar in 1940. The railway freight from Calcutta to Amritsar worked out to be more than the total of railway freight from Calcutta to Delhi-Kishanganj and lorry charges from Delhi-Kishanganj to Amritsar, as will be seen from the following figures:—

			Per maund.				Per maund.
			Rs. a. p.				Rs. a. p.
Railway freight from Calcutta to Saharanpur.	from		1 10 2	Railway freight from Calcutta to Delhi-Kishanganj.	from		1 7 9
Railway freight from Saharanpur to Amritsar.	from		0 7 6	Lorry charges* from Delhi-Kishanganj to Amritsar (278 miles).	from		0 6 0
Total			2 1 8	Total			1 13 9

* This charge is not fixed and varies from time to time and for different consignments.

In this case the lorry charges, viz., 6 annas per maund for 278 miles, worked out to only about quarter of a pie per maund per mile. The lorries were able to work at these low rates as lorries bringing in fruits, flour, etc., from Rawalpindi and Amritsar took coconut oil on their return journey.

(b) *Country boats and steamers.*—Country boats are largely used for the transport of coconut oil over the backwaters on the West Coast, for instance, from Alleppey to Cochin and in fair months from Cochin, Alleppey, etc., to Bombay. The charges by country boats are invariably lower than steamer freights.

Steamers bring in coconut oil from Ceylon and the Straits Settlements, etc., to Calcutta, Madras, Bombay and Karachi. They also carry coconut oil from Cochin, Alleppey, etc., to Bombay and Karachi. The rates of sea-freight from Cochin, Alleppey and Calicut to Bombay, Karachi, Calcutta and Madras are given in Appendix LVIII along with freights to the same ports from Colombo. It will be seen that, as in the case of copra, the rates of freight from Colombo to Bombay, Karachi, Calcutta and Madras have been consistently cheaper than those from Cochin, Alleppey and Calicut to the same ports. This obviously works against the copra crushing industry in India and encourages imports from abroad.

(c) *Railways.*—The distribution of coconut oil from the ports of Calcutta, Bombay and Karachi to inland markets and between various inland markets takes place mainly by railways. The oil is generally carried in tins or drums, the freight being charged on the gross weight of the oil and containers together. Tank wagon facilities do not appear to be available for coconut oil. For purposes of railway freight, coconut oil is grouped under Class 2 at O. R.* and Class 2A at R. R.* so that the ordinary rates of freight are 0.42 pie and 0.46 pie per maund per mile at O. R. and R. R. respectively. Class I rates are charged over the G. I. P. and N. W. Railways according to which the rate of freight for full wagon loads is 0.38 pie per maund per mile. Over the S. I. Railway, however, the schedule rate charged for full wagon loads varies from 0.35 to 0.115 pie per maund per mile according to distance. Cheap station to station rates are also allowed between a number of stations.

(6) CONTAINERS.

The containers commonly used in the coconut oil trade are iron drums of various capacities, wooden casks, and 4 gallon kerosene oil tins. Smaller tins are generally little used except for refined oils put on the market by a few big mills.

The imports of coconut oil from Ceylon and the Straits Settlements are generally in secondhand iron drums which vary from 4 cwt. to 10 cwt. in capacity. The drums received from Ceylon generally contain 5 cwt. or 10 cwt. oil while those received from

* O. R. = Owner's risk.
R. R. = Railway risk.

Penang generally used to contain about 420 lb. oil. Some oil used to be imported from Penang in tins also. Empty drums are sometimes sent by importers in India to Ceylon and the Straits Settlements to be filled with oil. Iron drums imported into India with lubricating and mineral oils, are also used in the internal trade after cleaning for the transport of coconut oil by steamers and boats and to a limited extent by rail.

Wooden casks made of cedar wood were at one time used for exporting oil from Cochin but their use is now limited to the transport of oil from mills to merchants' godowns.

Tins are largely used for the transport of oil to various inland markets in India. Each tin contains about 36 lb. oil and the tare is about 2½ lb. each; 660 tins or 700 tins usually make a wagon load. The tins after being sealed are tied round with coir string.

The prices of coconut oil are quoted both loose and inclusive of containers, the latter generally in the case of tins only. Drums are often supplied by buyers for the oil to be filled in. Mills also supply oil in returnable drums in which case the drums are returned at buyer's cost. A rent of 8 annas to Re. 1 per drum per trip is sometimes charged for the use of drums.

The question of containers has sometimes an important bearing on the coconut oil trade. For instance, enquiries made at Madras showed that one of the factors which favoured the import of coconut oil from Penang against Ceylon in 1940 was the value of containers. The secondhand lubricating oil drums received with coconut oil from Penang contained about 4 cwt. oil each and had a re-sale value of about Rs. 8 each, i.e., about Rs. 40 per ton of oil. The drums received from Ceylon made of thinner sheets contained 5 cwt. oil each and had a re-sale value of about Rs. 7-8 each, i.e., Rs. 30 per ton of oil. Again, as there is no manufacturing of drums in the coconut areas on the West Coast, the availability of containers depends on the drums imported with mineral oils and it is reported that the trade is often seriously handicapped for want of an adequate supply of drums.

(7) IMPORT COSTS.

It was stated in Chapter II that considerable quantities of coconut oil are imported into India from Ceylon and Straits Settlements, the bulk of imports being through the ports of Calcutta and Madras. The various items which constitute the cost of importing coconut oil into India are similar to those in the case of copra. The rates of sea-freight and import duty are given in Appendices LVIII and XIX respectively. The charges incurred at Calcutta port on imports of coconut oil were reported to be as under (in June 1939).

Expenses incurred at Calcutta port on imports of coconut oil.

	When discharged overside.	When discharged at jetties or quay.
	Rs. a. p.	Rs. a. p.
River dues	1 4 0 per ton or part of a ton.	0 12 0 per ton or part of a ton.
Surcharge 12½%	0 2 6 do.	0 1 6 do.
Ad valorem toll on tariff value	0 2 6* do.	0 4 0 per cent. on value.
Differential toll		0 12 0 per ton or part of a ton.
Landing charges		1 4 0 per ton.
Ghat pass	0 4 0 per ton.	

At Madras port, the harbour dues were 12 annas per drum and quay dues 8 annas per ton (in 1939).

Statements showing the actual cost incurred in importing a consignment of coconut oil from Colombo at Madras and another consignment from Penang at Calcutta, are given in Appendix LXI.

E.—Coconut cake.

The bulk of the coconut cake produced by *chekkus* is distributed for local use by *chekku* owners themselves. The cake produced by mills is generally disposed of to wholesale merchants, who in turn sell it to exporters, merchants at other markets or retailers. Mills in Sind and Bombay make direct sales to exporters also.

The movement of coconut cake takes place by road, rail and over backwaters within the coconut producing areas on the West Coast and to the neighbouring districts of Madras, by coastal steamers from Cochin, Alleppey, etc., to Bombay and Kathiawar ports, and by rail from Bombay and Kathiawar ports to inland markets. During the quinquennium 1934-35 to 1938-39, Cochin is estimated to have sent about 5,000 tons coconut cake by coastal routes to Bombay and Kathiawar ports. Bombay in turn sent about 3,000 tons to Kathiawar ports. Madras is estimated to have imported about 6,000 tons coconut cake annually from Travancore and 3,000 tons from Cochin.

The rates of sea-freight on coconut cake from Cochin, Alleppey and Calicut to Bombay, Karachi, Calcutta and Madras may be seen in Appendix LVIII. For purposes of railway freight, coconut cake is grouped in Class I with the proviso that the loading and unloading is done by consignors and consignees. The ordinary rate of freight is thus 0.38 pie per maund per mile. But according to Schedule rates applicable to oil cakes on 4 railway systems concerned in the coconut cake traffic, the freight is as low as 0.14 pie per maund per mile for full wagon loads.

The usual packing for coconut cake is 1½ cwt. per bag.

* Surcharge in lieu of *ad valorem* toll.

CHAPTER V.—HUSK, SHELL, COIR AND COIR PRODUCTS.

A.—Husk.

(1) YIELD OF HUSK FROM COCONUTS.

The yield of husk from coconuts depends on their size and variety. Large size coconuts yield more husk than small size nuts and varieties having a thick husk give a higher yield than those having a comparatively thin husk. Allowing for the variations in the size and weight of coconuts and in the proportion of husk to the weight of the nut, the average yield of husk per coconut may be reckoned to be about $1\frac{1}{2}$ lb. The total yield of husk from the estimated average annual production of 2,928 million mature nuts*, were they all husked and the husk collected, would work out to roughly two million tons. But coconuts used as seed nuts and some of the coconuts (both wet and dry) used for other purposes are not husked. Again some coconuts are only partially husked. The quantity of husk commercially available is thus less than that obtainable from the entire coconut crop.

(2) UTILISATION OF HUSK.

The most important commercial utilisation of coconut husks is for the extraction of coconut fibre or coir. The bulk of the coir is prepared by retting fresh husks and the coir industry has, therefore, developed mainly in the States of Travancore and Cochin and the Malabar district of Madras where retting facilities are available. Some coir is also prepared in areas where there are no retting facilities by beating out the fibre from the husks after soaking them in water for some time. The quantities so utilised are, however, small.

Husks not used for coir making are used for burning as fuel or simply thrown away. For instance, most of the husks in the Mysore State are utilised as fuel. Husks left on the shells when the nuts are partially husked are used up as fuel or thrown away along with the shells. Husks from coconuts which are not husked are also not utilised properly. Experiments made at research stations have shown that coconut husks buried into the ground around the stems of coconut trees serve as very good manure but the practice is not generally followed by cultivators. Sometimes, husks are burnt and the ashes used as manure in paddy fields or coconut gardens.

The proportion of husks utilised for coir making to the total output of husks varies in different coconut growing areas depending largely upon the retting facilities. For instance, in the Travancore and Cochin States, where retting facilities are available over a

* Tender coconuts are not husked.

large area along the coast, over 80 per cent. of the total output of husks is utilised for retting. In Madras, retting facilities are available only in parts of the Malabar district. It is estimated that husks from about 250 million nuts are annually used for coir making. In Bombay, husks are used for coir making only in some of the talukas of Ratnagiri and Kanara districts and the quantities used are estimated not to exceed 20 per cent. of the total output. In Bengal, the husk is invariably used as fuel. In recent years, however, attempts have been made to develop the coir industry and husks from about 1 million nuts are now estimated to be annually utilised for coir making. The total quantities of husk utilised for coir making may be summarised as under:—

	Estimated average annual production of mature coconuts.	Husks from coconuts utilised for coir making.	Percentage of husks utilised for coir making to the total husk obtainable from the production of mature coconuts.
	(millions).	(millions).	
Travancore	1,124	899	80
Cochin	126	101	80
Madras	1,204	250	21
Bombay	50	10	20
Bengal	38	1	3
Others	386	4	1
Total	2,928	1,265	43

It will be seen that only about 43 per cent. of the potential supplies of husks in India are utilised for coir making. If economical methods could be evolved whereby retting could be conveniently done in areas other than backwaters and coastal tracts, larger quantities of husk could be utilised for the coir industry. It may also be possible by research to find other uses for husk, e.g., in making cardboard or packing paper.

(3) RETTING OF HUSK.

The retting of coconut husks is done with a view to facilitate the separation of fibre from cork and pith, etc., contained in the husk along with fibre.

(a) *Common methods of retting.*—The indigenous methods of retting practised in India, although differing in detail, essentially consist of soaking the husks in water for a certain period. A common method is to soak the husks in basin-shaped pits by the side of the backwaters. The pits are dug so as to be within the reach of a gentle tidal action of the backwaters waves; alternatively, they are provided with channels to allow water to flow in and out with the rise and fall of the tide. A layer of sand is placed at the bottom of the pit and the sides are lined with coconut leaves. After the husks have been filled in, they are covered with coconut

leaves and mud and weighted down to prevent floatation when water is admitted. Another method, which is in vogue mostly in the Anjengo area in the Travancore State and Poonani taluk in the Malabar district, is to place the husks in coir nets. These are kept floating in the backwaters for a few days and then covered with coconut leaves and mud and weighted down so as to gradually sink under water. These bundles of husks are known as *kollis* or *mallis*. A third method is to prepare enclosures in shallow backwaters with stakes and coconut leaves, and then put the husks inside the enclosures. The husks are then covered with coconut leaves.

The time required for retting varies under different conditions. The average retting period may be reckoned to be about eight to ten months in salt water and four to six months in fresh water.

The cost of retting also varies in different localities depending upon a number of factors such as the rents payable for the pits, the costs of coir nets, the wages for labour, the period of retting, etc. Enquiries made during the survey showed that the average cost of retting generally works out from 12 annas to Rs. 1-8-0 per 1,000 husks.

(b) *Factors affecting retting.*—The process of retting and the factors affecting retting have been the subject of study* by some scientific workers who have come to the conclusion that the disintegration of the matter binding the fibres, during the process of retting, is brought about by the action in the presence of water of certain organisms carried in the husk, and therefore, the efficiency and period of retting depends upon the suitability of the water conditions for the action of the organisms. Their experiments further show that the organisms could carry on their action in saline water as well as fresh water but the salt in the saline water prevents over-fermentation without discolouring the fibre, that the temperature of the water influences the activity of the organisms, and that the changing of water sufficiently frequently is necessary to prevent the organisms being poisoned by the products of their action. These observations help to explain the differences in the quality and yield of fibre caused by variations in the conditions of retting such as the nature of water, the season, and the arrangements for keeping the husks under water.

In the first place, husks retted in saline backwaters yield stronger and better coloured fibre because the deleterious matter is continuously removed by the constant changing of water due to tidal action. On the other hand, retting is quicker in fresh water but is generally incomplete and the fibre retains a certain amount of pith. When retting is done in stagnant water, the products of the action of the organisms remain in the water and the fibre obtained is weak and of a dull colour. Secondly, as the influence

of cold water retards the activity of the organisms, retting is quicker in summer months. The colour of the fibre extracted in summer months is, however, brown owing to the increased concentration of salt in the water used for washing. Some salt also sticks to the fibre with the result that the yield is higher but the quality is poorer. When husks are soaked in shallow backwaters, the heating effect of the sun in the water helps to produce a better fibre. Thirdly, the extent of the tidal action on the husks depends on the place where retting is done and the arrangement of the husks. For instance, when the husks are placed in coir nets and sunk in backwaters, they are subject to better tidal action than when placed in pits.

Apart from the conditions under which retting is done, the quality and yield of fibre also depend upon the condition of the husks used for retting. Fresh husks used within a few days of the husking of nuts are suitable for retting. Husks which have been exposed to the sun or are dry become brittle and do not yield good fibre. Besides, it is easier to beat soaked fresh husks for the extraction of fibre.

It has also been found that the period of retting could be shortened by crushing the husks before soaking, which could be done by simple crushing rollers similar to sugarcane crushers. If the husks are removed from the retting pits after they have been soaked for a month, crushed and then put back, the period of retting could be further shortened, and it might be possible for retting to be completed in three months. On the one hand, the crushing and handling of husks entails additional cost while on the other, reduction in the period of retting has obvious advantages. The economics of modifying the common retting process and the possibilities of evolving cheap crushers suitable under the conditions prevailing at coconut gardens need to be examined.

(c) *Chemical and mechanical methods of retting.*—No chemical or mechanical methods are used for retting coconut husks in India but it would be of interest to refer here briefly to the experiments made and the results achieved in this direction in other countries.

In the first place, in all chemical methods of retting, the husks are at first split or crushed as much as possible. This is done by suitable machines or rollers. The crushed husks are then treated in different ways in the various methods which have been tried. In the Nanji process, worked out by an Indian scientist, Dr. Nanji, the partially crushed green or dry husks are treated under pressure with sodium sulphate or sodium carbonate containing a trace of aluminium sulphate for a period of one to two hours whereby the pith is loosened from the fibre and removed by washing. The fibre is finer but darker than that obtained by ordinary retting. In the Elod and Thomas process, patented in the United States of America, the fibre is separated by mechanical means after the crushed husks have been twice immersed in hot water,

* Further details may be seen in the publication "Coir" by S. G. Barker (F. M. B. 71).

slaked lime or similar substances being added during the second immersion to avoid discoloration. In the Rowell process, the prepared material is subjected to a high steam pressure and the fibres come out loose from steaming chambers. In the Van der Jagt process, the husks are opened in special machines, boiled with a weak solution of caustic soda and squeezed. The compressed fibres are then reopened, softened and cleaned. It is claimed that the fibre can be extracted in marketable form in less than two hours. A factory in France was reported to have adopted this process and to be preparing coir yarn on a large scale. In the Hayes-Gratz process, the husks after being split in sections by special cutting machines are immersed in water, pressed or rolled, and then boiled in a solution of water and H. G. ionised oil.* Unlike the four methods mentioned above, it is claimed for the H. G. process that it does not necessarily require installation of large plant and can be worked by individual growers or on a co-operative basis by installing tanks.

The main advantages claimed for the chemical processes are the saving in time, a higher yield and the great uniformity in the quality of the products. By using the chemical process, the husks produced in areas such as the Mysore State where facilities for retting in the backwaters are not available, could also be utilised for the extraction of fibre instead of being burnt as fuel. The economics of the various processes have, however, not been fully investigated in comparison with the indigenous methods of retting. It appears, therefore, desirable that the possibilities and economics of these processes should be examined particularly with a view to develop the coir industry in new areas, e.g., the Mysore State and the Godavari districts of Madras.

(4) EXTRACTION OF FIBRE.

After being taken out from the pits or *kollis*, retted husks are washed with water to remove the adhering mud or slime and the outer skin is then peeled off. The washed husks are then placed on wooden blocks and beaten with wooden mallets to separate the fibre from cork and pith. The fibres may then be further cleaned by hand or washed a second time and then beaten lightly to separate the pith adhering to the fibres. The wet fibres are then spread out in the shade to dry (see upper plate facing this page). In the case of superior types of fibre, the fibres are sometimes passed through a combing or willowing machine, which consists of a number of knives with saw-like teeth fixed to a shaft (see right plate facing page 133) which is rotated by hand within a drum. The machine helps to separate the pith and straighten the fibre. The use of these machines, however, appears to be very limited. The cost of extracting fibre from retted husks including beating of the husks, and drying and cleaning of the fibre, is reported to vary from about Rs. 2 to Rs. 4 for husks from 1,000 coconuts.

* Coconut oil can be used for the preparation of ionised oil.



COIR FIBRE BEING DRIED.

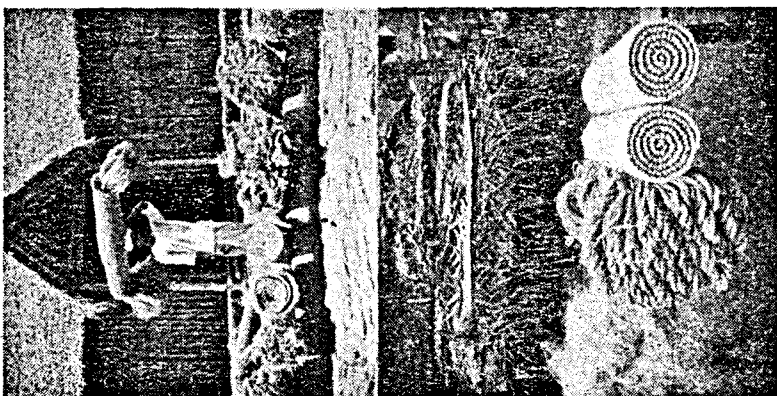


COIR YARN BEING MADE BY HANDSPINNING.

Facing page 133.]



KNIVES FROM WILLOWING MACHINE USED FOR COIR FIBRE.



DIFFERENT TYPES OF COIR YARN BUNDLES

Some fibre is also extracted without retting the husks. In this case, the husks are soaked in water for a period varying from a few hours to two weeks and the fibre extracted by beating as in the case of retted husks.

The pith and refuse remaining after extraction of fibre from the husk by indigenous methods, is a waste product which is generally thrown away. At times the refuse is burnt and the ash used as manure. On the other hand, in the chemical methods of retting, this portion of the husk is recoverable and may be used as a source of gas, substitute for cork dust, etc.

It may be added here that in Ceylon the extraction of fibre is generally done by simple locally made machines although appreciable quantities are extracted by hand also. The fibres prepared by machines are generally coarse and thick, suitable for making brushes and for stuffing mattresses, upholstery, etc. The finer fibres used for spinning into yarn are extracted as in India by beating.

(5) YIELD OF FIBRE FROM HUSKS.

The yield of fibre from husks varies, depending on the method used for separating the fibre, the season and the quality of the fibre produced. The yield from unretted husks is generally lower than that from retted husks. In the case of retted husks, the yield of fibre generally decreases if the period of retting is prolonged after a certain stage. The yield is generally less during the rainy season than in summer months. The yield of superior quality fibres is also lower than that of ordinary qualities during the rainy season. Allowing for all these variations, it is estimated that, on an average, husks from 1,000 coconuts yield about 180 lb. fibre. The total yield of fibre from the husks of 1,265 million coconuts, estimated to be used for making coir fibre, thus works out to roughly 102,000 tons.

(6) PRICES OF HUSK.

Coconut husks generally fetch a better price in areas where the husks are retted as compared with those where the husks are used mainly for fuel. Again dry husks, being unfit for retting, fetch lower prices than fresh husks. The prices of fresh husks suitable for retting during the period 1934-35 to 1938-39 generally varied from Rs. 3 to Rs. 5 per thousand husks* in producing areas. Husks used for fuel fetched 10 annas to Rs. 1-8-0 per thousand. The difference between the prices of retted husks and fresh husks generally varied from Rs. 3 to Rs. 4 per thousand, which includes the cost of retting and profits, etc.

* Husks from 1,000 coconuts.

(7) ASSEMBLING AND DISTRIBUTION OF HUSK.

The professional retters constitute the main agency in the assembling and distribution of husks. They generally own retting areas themselves or take them on lease. They collect husks from the producers and coconut merchants either direct or through middlemen. Boatmen also play an important part in the assembling and distribution of coconut husks. They collect and transport husks on their own account or for professional retters from coconut gardens and on the banks of canals and rivers. Some of the coconut merchants and copra manufacturers also assemble husks.

After the husks are retted, the retters generally extract the fibre and sell it either as such or after making it into yarns. They also sell retted husks to villagers in small lots.

B.—Shell.

(1) YIELD OF SHELL FROM COCONUTS.

The shells of tender coconuts are soft and are not collected separately. In the case of mature nuts, shells are obtained from all nuts except those used without breaking, *e.g.*, nuts used for religious purposes such as offerings to the sea or rivers. The quantities so used are, however, small and the total supplies of shells obtainable from the Indian coconut crop are almost the same as the estimated production of mature nuts, *viz.*, 2,928 millions. The commercial collection of shells is, however, undertaken only where large number of coconuts are broken, such as for the manufacture of copra. The shells from nuts broken by consumers for domestic consumption are generally thrown away or used by them as fuel.

As the number of nuts utilised for copra making was estimated as 1,360 millions (see page 46), it may be reckoned that shells from roughly 1,400 million coconuts are commercially collected.

The weight of shells varies according to the size and variety of coconuts. Allowing for these variations, the average weight of shell from a coconut may be taken as about $\frac{1}{4}$ lb. The total quantities of shells available commercially thus work out to roughly 156,000 tons.

Except for a small number of whole shells known as *hookah* shells, the shells from coconuts are collected in the form of cups, obtained by splitting the nuts into two halves for taking out copra.

(2) HOOKAH SHELLS.

*Hookah** shells are prepared by scooping out the kernel from husked nuts by means of special thin pointed knives through a hole bored through one of the eyes of the nuts. The outer surface

* Hubble-bubble.—An arrangement for smoking tobacco.

of the shell is scraped clean of all fibre and polished smooth. The shape of shell is an important consideration and generally oblong shaped shells are preferred for making *hookah* shells.

The preparation of *hookah* shells is done mainly in the Cochin State, the Malabar district of Madras and in Bengal. It is estimated that about 10 million coconut shells are annually used for preparing *hookah* shells. The use of *hookah* shells is common in Bengal, Bihar, Orissa, the United Provinces and the Central Provinces. *Hookah* shells from Cochin and Malabar are sent out through Cochin port mainly to Bengal and Bombay. The despatches from Cochin port to Calcutta and Bombay averaged 7,400 packages and 3,500 packages per annum respectively during the three years 1934 to 1936. The packages are known by the trade as *kolli*s and each *kolli* contains 350 to 900 shells. Bengal, besides receiving supplies from Cochin, imports about 50,000 *hookah* shells annually from Nicobar and Maldives islands. The shells from Nicobar are long, tapering to a point at the lower end while those from the Maldives are round and small. The despatches from Bengal are mainly to Assam, Bihar, the Central Provinces and the United Provinces. Bombay acts as a re-exporting centre and sends out *hookah* shells to the United Provinces, Rajputana, etc.

(3) UTILISATION OF SHELL.

Apart from *hookah* shells referred to in the preceding section, which are used for preparing *hookah*s, the bulk of coconut shells commercially collected are utilised for burning as fuel—both for domestic purposes and for the making of copra.

Some coconut shells are used for making shell charcoal for the use of goldsmiths and laundrymen only in the producing areas. The use of shell charcoal for refining sugar, decolourising liquids or as a catalyst in chemicals does not appear to be in vogue anywhere in India. The quantities used for making shell charcoal were, insignificant before the War,* being estimated at about 10 per cent. only of the commercially available supplies. The demand for shell charcoal, however, increased after the War on account of its use in gas masks for the absorption of poisonous gases. The exact quantities of shells utilised for making shell charcoal or the quantities of shell charcoal made during the last two or three years are not known but it will be interesting to note that it was reported in 1939 that India lost an order for 72,000 tons shell charcoal on account of the activities of some businessmen who demanded very high prices.

Coconut shells are also used for the preparation of ladles, bowls and scoops, etc., for use by poor people in the coconut producing areas. Various utility articles such as flower vases, fancy bowls, paper weights, etc., can also be made out of coconut shells but

* Appreciable quantities of shell charcoal were prepared during the period of 1914-18 War.

such articles are not prepared on any large scale. Coconut shells are used for making skeletons of bangles (*churas*) used in Rajputana, for setting palm jaggery in Madras and for rubber tapping in the Travancore State. Buttons are also made from coconut shells in the Ratnagiri district of Bombay and in the Mysore State. The industry has suffered from foreign competition, but is reported to have somewhat recovered after the outbreak of the War. The quantities used for these purposes are estimated to be about 20 per cent. of the commercially available supplies.

Several chemicals and an oil which prevents wood from the attack of white ants can be prepared by destructive distillation of shells but so far as could be ascertained, coconut shells are not utilised for the preparation of the oil or any other chemicals in India.

The fact is that less than half of the potential supplies of coconut shells in India is commercially collected and of this again less than a third is used for making shell charcoal and other purposes, the remainder being burnt as fuel. There appears to be ample room for technological research for the utilisation of coconut shells for various useful purposes.

(4) PREPARATION OF SHELL CHARCOAL.

Shell charcoal is prepared by burning the shells in a limited supply of air. The shells are burnt in pits which contain 1,000 to 15,000 shells depending on the size of the pit. Care is taken to see that the shells burn without giving a flame and some layers of sand are put between the shells to prevent rapid burning. The output of charcoal is reported to be on an average, about 80-lb. per 1,000 shells. On a small scale, shell charcoal is prepared by setting fire to a heap of shells in the open and pouring water when flames begin to appear.

Shell charcoal to be suitable for gas masks is required to conform to certain specifications which are given below.

Specifications for shell charcoal.

Moisture—Not more than 10 per cent.

Ash—Not more than 1.5 per cent.

Chlorides—Not more than 0.1 per cent.

Volatile matter—Not more than 15 per cent.

Screen test—Not more than 10 per cent. should remain in an 1" mesh.

Shell charcoal prepared in Mysore, Travancore and Cochin States generally conforms to these specifications but when attempts were made to prepare shell charcoal in the Godavari district, it was found that out of four lots (for which results are available) prepared at Amlapuram, three failed to satisfy the specifications on account of having a higher percentage of chloride. If the

reasons which bring about the excess of chloride in the shell charcoal prepared in this area could be investigated and remedied, it would be possible to utilise a concentrated supply of about 20 million coconut shells in this area for making shell charcoal.

(5) PRICES OF SHELL.

The prices of coconut shells generally ranged from 8 annas to Rs. 2-8-0 per 1,000 pieces during the period 1934-35 to 1938-39, the two half pieces of a shell being counted as one. The prices were generally higher in the rainy season.

(6) ASSEMBLING AND DISTRIBUTION OF SHELL.

As shells are obtained in large quantities at copra making establishments, copra makers play an important role in the trade in shells. They sell the shells both wholesale and retail to shopkeepers, retailers, hawkers as also direct to consumers.

Besides copra makers, some middlemen take part in the trade by collecting the shells from the producers and selling them to dealers in towns.

Hookah shell business in the Cochin State is carried on by some commission agents who assemble the shells from the producing areas and despatch them to Bombay and Calcutta.

C.—Coir and coir products.

(1) PRODUCTION OF COIR FIBRE.

The total annual production of coir fibre in India, as already stated, is estimated at about 102,000 tons (see page 133). The bulk of the production consists of fibre suitable for spinning into yarn for the manufacture of ropes, twines, matting, etc. Such fibres are commercially classified as "mat fibre". Only some of the fibre extracted from husks without retting and inferior qualities of fibre, fall under the commercial classification "curled fibre" which represents short varieties of fibre used for mattresses or for stuffing upholstery, cushions, etc. Coarse and thick qualities of fibre suitable for brushes and brooms commercially classified as "bristle fibre" are not prepared in India from coconut husks.

(2) IMPORTS OF COIR FIBRE.

The annual imports of unmanufactured coir into India from 1909-10 to 1942-43, which consisted mainly of coir fibre, are given in Appendix LXIII. It will be seen that the imports averaged less than 100 tons during the quinquennium 1909-10 to 1913-14 and increased steadily in subsequent years to an average of over one thousand tons during the quinquennium 1934-35 to 1938-39. The quantities imported in the four years 1939-40 to 1942-43, however, showed a decline.

The imports were mainly through British India ports, only small quantities being received through Travancore State ports.

The main source of imports during the quinquennia ending 1933-34 and 1938-39 (see Appendix LXIV) was Ceylon which accounted for 88 per cent. and 95 per cent. of the total imports during the two periods. The fibre received from Ceylon consisted mainly of bristle fibre, and curled fibre suitable for mattresses, etc. The only other country from which coir fibre was imported into India was the United Kingdom but the quantities received from this source were small. The bulk of imports were received at the ports of Calcutta and Bombay, the quantities received at Karachi and Madras ports being comparatively small.

(3) EXPORTS OF COIR FIBRE.

The annual exports of unmanufactured coir from 1909-10 to 1942-43 which, as in the case of imports, consisted mainly of coir fibre, are tabulated in Appendix LXV. It will be seen that the exports averaged about 1,200 tons during the period 1909-10 to 1913-14, after which they declined being as low as about 100 tons and 200 tons (average) during the quinquennia ending 1933-34 and 1938-39 respectively. The exports during the four years 1939-40 to 1942-43, however, registered an increase. The bulk of exports were through British India ports—mainly from the ports of Cochin (which is grouped with the other Madras ports) and Calicut. Some coir fibre was also exported through Travancore State ports. The main destinations for the exports during the quinquennium 1934-35 to 1938-39 were the United Kingdom, Belgium and France (see Appendix LXVI) which together accounted for nearly two-thirds of the total exports.

(4) NET AVAILABLE SUPPLIES OF COIR FIBRE.

The net available supplies of coir fibre during the quinquennium 1934-35 to 1938-39 may be summarised as under:—

Net available supplies of coir fibre.

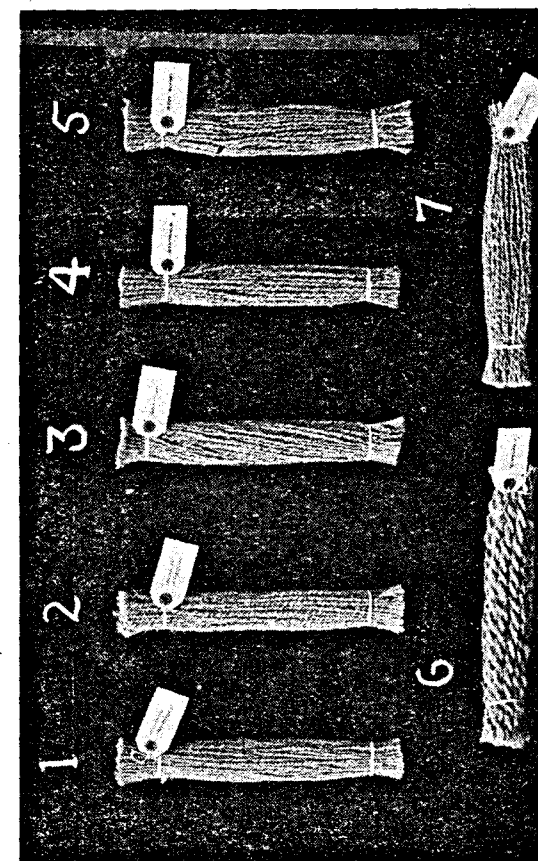
(Average 1934-35 to 1938-39.)

Estimated production of fibre	Tons.
Add Imports	102,000
	1,032
Total	103,032
Less Exports	222
Net available supplies	102,810 or
	say, 103,000 tons.

(5) PREPARATION OF COIR YARN.

Coir yarn is prepared in India as a cottage industry, the spinning being done either by hand or with the help of two wheels. For hand spinning, a small quantity of fibre is taken between the

DIFFERENT TYPES OF COIR YARN.

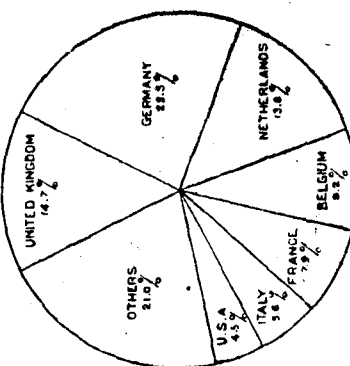


1. ANJENO SUPERIOR.
2. ANJENO ORDINARY.
3. ARATORY.
4. ASHTAMUDY.
5. ALAPAT REAL.
6. VAIKOM.
7. BEACH.

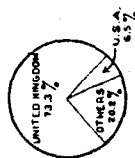
SHARE OF DIFFERENT COUNTRIES IN THE EXPORTS OF COIR YARN & COIR MATTINGS FROM INDIA

EXPORTS
THROUGH BRITISH INDIA PORTS
(AVERAGE 1934-35 TO 1938-39)

COIR YARN

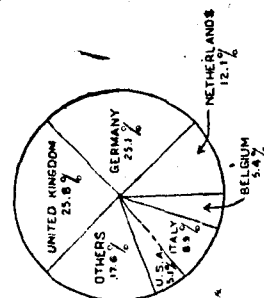


COIR MATS & MATTINGS

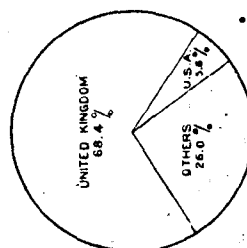


EXPORTS
THROUGH TRAVANCORE STATE PORTS
(AVERAGE 1935-36 TO 1938-39)

COIR YARN



COIR MATS & MATTINGS



palms of the hands and given a twist (see lower plate facing page 132). The work is generally done by women and some of them are so adept in the work that they make yarn of remarkably even thickness and twist. A woman generally spins 3 lb. to 5 lb. of yarn in a day.

For wheel spinning, three persons work together of whom the two spinners are generally adult men or women and the third worker who rotates the wheel is a boy or girl. The spinning wheel carries two spindles and is stationary. The second wheel contains one spindle and is mounted on three wheels so that it can be moved forward and backward. The two spinners hook a little fibre to the two spindles and while the third worker rotates the wheel, they continue to deliver the fibre in required thickness walking backwards farther and farther from the wheel. When the spinners reach the movable wheel, the ends of the two yarns are joined together and hooked to the spindle of this wheel. The two yarns are then twisted together by putting a triangular piece of wood with grooves between the two yarns and one of the spinners moving with it towards the stationary wheel. As the length of the yarns to be joined becomes shorter, the movable wheel is moved forward towards the stationary wheel. When the joining of the two yarns is completed, the two ends are joined. The length of the yarn which is generally about 40 to 60 ft. depends on the space available between the two wheels and varies from place to place. Three persons working a set of wheels produce, on an average, from about 10 lb. to 30 lb. yarn per day.

The cost of preparing yarn varies widely according to the quality of the yarn to be made. The making of coarse yarn may cost as little as Re. 1 per cwt. while the finest yarns may cost as much as Rs. 4 per cwt.

The wages earned by a spinner were reported to vary from about 1 anna to 6 annas per day in Cochin in 1939 for different types of yarn, higher wages being earned by spinning finer types of yarn. Different types of yarn are produced in different localities but as the quality of yarn depends largely on the proper retting of husks and extraction of fibre, the method used for spinning and the skill of the worker, the production of the finer types of yarn in new localities may be increased by providing spinners technical assistance in respect of retting and extraction of fibre, and encouraging the use of willowing machines and spinning wheels, etc.

(6) UTILISATION OF COIR FIBRE AND YARN.

The bulk of the coir fibre produced in India is utilised for making coir yarn, which then finds use for various purposes such as for tying bundles and packages, etc., and also for making ropes, mats, mattings, nets, bags, etc. The ability of coir to withstand the prolonged action of sea water makes coir yarn and

ropes especially suitable for use on boats and ships. Similarly, as coir can stretch beyond its elastic limit without breaking and can take up a permanent stretch when so loaded, coir ropes are singularly useful where intermittent or jerky strains are likely to be encountered. Coir bags and nets are used for lifting coal in tea estates and for a variety of other purposes.

Coir fibre—generally of inferior qualities and the fibre imported from Ceylon—is also used for stuffing mattresses, cushions, upholstery, etc.

The physical and chemical properties of the fibre have not been fully studied and further research may find new uses for the fibre. For instance, the possibilities of using coir for the preparation of protective lagging material for underground pipes and cables is reported to have passed the stage of investigation*.

(7) CLASSIFICATION AND GRADING OF COIR YARN.

(a) *Present system of classification.*—The classification of coir yarn by the trade is based on the common belief that yarns produced in different areas have definite characteristics in respect of colour, twist, pith, sand, etc., brought about by variations in the methods and conditions of retting, methods of spinning, and seasonal conditions, etc.

The trade, therefore, recognises a number of types of yarn according to their place of manufacture (see plate facing page 138). The various types are often named after the places where they were originally made. For example, Anjengo yarn was originally made in the vicinity of the village Anjengo in the Travancore State. The names later began to be applied to particular types of yarn even when made in other areas. Anjengo yarn is now made in several areas in the Travancore State and even at one or two places in the Cochin State. The superior types of yarn are further classified into several grades according to fineness and evenness of twist as judged by visual examination. For example, Anjengo yarn is classified as Anjengo Special, Anjengo Superior and Anjengo Ordinary, of which Anjengo Special represents the finest yarn. Each of these grades is further subdivided into two or three grades distinguished as A, B, C or No. 1, No. 2, etc., according to colour. Bright golden colour yarns are considered to be the best, while the lower grades are comparatively dull and dark in colour. The cheaper types of yarn are classified into several grades generally distinguished by numbers 1, 2, 3, 4, etc., according to colour, evenness of twist and amount of pith.

Another factor which is taken into consideration in classifying yarns, mainly by the manufacturers of mats and mattings, is "scorage", which represents the number of scores of yarn required for a 36" matting. Thus if 240 yarns of a particular type are

* Coir: S. G. Barker (E. M. B. 71).

required for a 36" wide matting, the yarn would be called 12 score. "Scorage" in effect provides a rough measure for the fineness of the yarn but no uniform method for measuring scorage appears to have been adopted in the trade.

The various grades and sub-grades referred to above are mainly in vogue at the principal markets like Alleppey and Cochin and for the purchases made by exporters and manufacturers of mats and mattings, etc. The grades and sub-grades are, however, largely arbitrary, as they are often based on visual examination. Different buyers have their own standards for different grades and yarn placed by different buyers in a grade designated by a particular name often differs appreciably in quality. Again, there are variations in the colour of the yarn according to season.

Some of the yarns are wheel-spun while others are hand-spun. Hand-spun yarns are twisted rather loosely as compared with those spun by wheel. Most of the yarns are prepared from retted husks while some coarse and inferior types are made from husks without retting and are known as unsoaked yarns.

The best types of yarn are made in the Travancore State. The yarns made in the Cochin State are somewhat coarser and inferior, although some superior types of yarn are now being made in the latter State also. The yarns made in Malabar are mainly hand-spun but the quantities of wheel-spun yarn produced in Malabar are increasing.

The more important types of coir yarn recognised in the trade are described below.

(i) *Wheel-spun yarns.*—*Anjengo.*—Superior quality yarn of good colour and hard even twist, produced mainly in the regions between Paravoor and Thiruvallai in the Travancore State. Small quantities are also made in the Cochin State. Generally contains very little pith and sand. Is made in different thicknesses, generally of 13 to 16 scorage.

Aratory.—Superior quality yarn of fairly good colour and even twist, produced mainly in the regions between Keerikad and Thottapally in the Travancore State. Commonly made of 12 to 14 scorage.

Ashtamudi.—Is similar in appearance to hand-spun yarn Alapat and is called Alapat Imitation also. Yarn of good colour and even twist produced in places round about Ashtamudi lake in the Travancore State. Commonly made of 11 to 13 scorage.

Carruca.—Another yarn of Alapat Imitation type with good colour and even twist.

Mangadhan.—Yarn similar to Anjengo but of inferior quality and containing some sand. Taken as equivalent to Anjengo ordinary in the export trade, and commonly made of 15 and 16 scorage.

Paroor.—Yarn similar to Anjengo. Produced in areas around Paroor in the Travancore State and the adjoining areas in the Cochin State.

(ii) *Hand-spun yarns.*—*Alapat.*—Superior quality hand-spun yarn of good colour and twist produced mainly in the regions between Keerikad and Thevalakara in the Travancore State. Generally contains little pith and sand. Commonly made of 11 to 13 scorage. Wheel-spun yarns similar to Alapat (real) are called Ashtamudi and Carruva.

Vaikom.—Inferior quality yarn of slightly dirty colour and thick loose twist, produced in areas between Pannavalli and Vaikom in the Travancore State and in villages round about Ernakulam in the Cochin State. Commonly made of 10 to 13 scorage. Generally contains some pith and sand.

Beach.—Inferior quality yarn of brown colour and thick loose twist produced between Thottapally and Arur along the coast in the Travancore State. Contains pith and sand and is considered the lowest quality yarn among the commercial grades. Commonly made of 8 to 10 scorage.

Beyppur.—Soft, thick yarn, produced originally at Beyppur in the Malabar district but now also made at Koilandy.

Koilandy and Kadalundy.—Two common types of yarn produced in the Malabar district.

(iii) *Unsoaked yarns.*—*Kalai, Kaliapa and Parpangadi.*—Three common types of unsoaked yarns, i.e., yarns made from unretted husks produced mainly in the Malabar district. They generally contain a high percentage of pith.

(b) *Possibilities of grading and standardisation.*—As already stated, the trade assesses the quality of yarn on a number of factors such as colour, twist, scorage, and percentage of pith, sand and moisture. These different quality factors are judged by visual examination and rough and ready methods are adopted to determine scorage and percentage of moisture. The various quality factors are not stated in measurable terms and there are no well defined specifications for the various types and qualities of yarn recognised by the trade.

A large number of samples representative of the various types and qualities of yarn recognised by the trade were, therefore, collected during the survey and examined to assess the relative merits of different commercial types and qualities of yarn in measurable terms and explore the possibilities of establishing some standard grades of coir yarn. The various samples were examined for the following factors.

(i) *Colour.*—A colour chart with 10 graded colour shades numbered 1 to 10 was prepared and the various samples were matched against these shades. The number of colour shade against which each sample matched best was noted.

(ii) *Scorage.*—Each sample of yarn was closely wound over a 6 inches width on a wooden cylinder mounted on two brackets and having a handle at one end for rotating it. The number of yarns covering the 6" width multiplied by 6 gave the number of yarns required for 36" width. This number divided by 20 gave the scorage of each sample.

(iii) *Diameter.*—The diameter of each sample of yarn was ascertained by measuring with vernier callipers at five different places and taking the average of the five readings.

(iv) *Twist.*—The number of twists per foot length of each sample of yarn was ascertained by making five tests at intervals of about 2 feet and taking the average of the five readings.

(v) *Number of yards per lb.*—A known length of the yarn—generally 10 yards—was weighed and the number of yards per lb. calculated.

(vi) *Breaking strength.*—The breaking strength of each sample of yarn was determined by holding fast the yarn on a Lea tester between two grips 22" apart and moving the lower grip at a constant rate of one foot per minute. An average of ten tests was taken as the breaking strength for each sample.

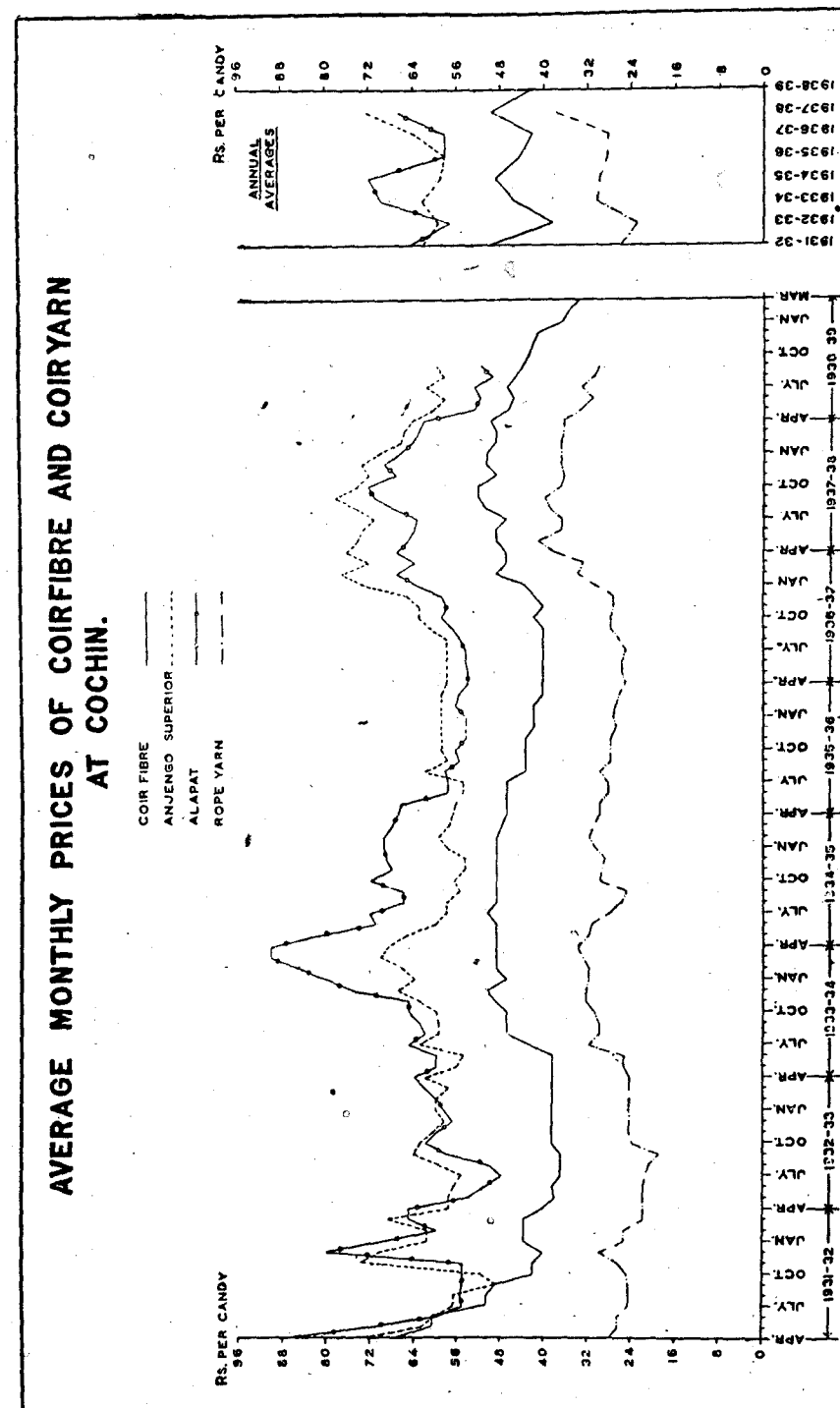
(vii) *Moisture content.*—A weighed quantity of each sample of yarn was heated (to constant weight) in an oven at 105° C.-110° C. and re-weighed. The percentage of moisture was calculated from the loss in weight.

(viii) *Pith content.*—A five feet length of each sample of yarn was weighed accurately. It was then untwisted and pith separated by rubbing between the palms of hands. The pith collected was weighed and the percentage of pith calculated..

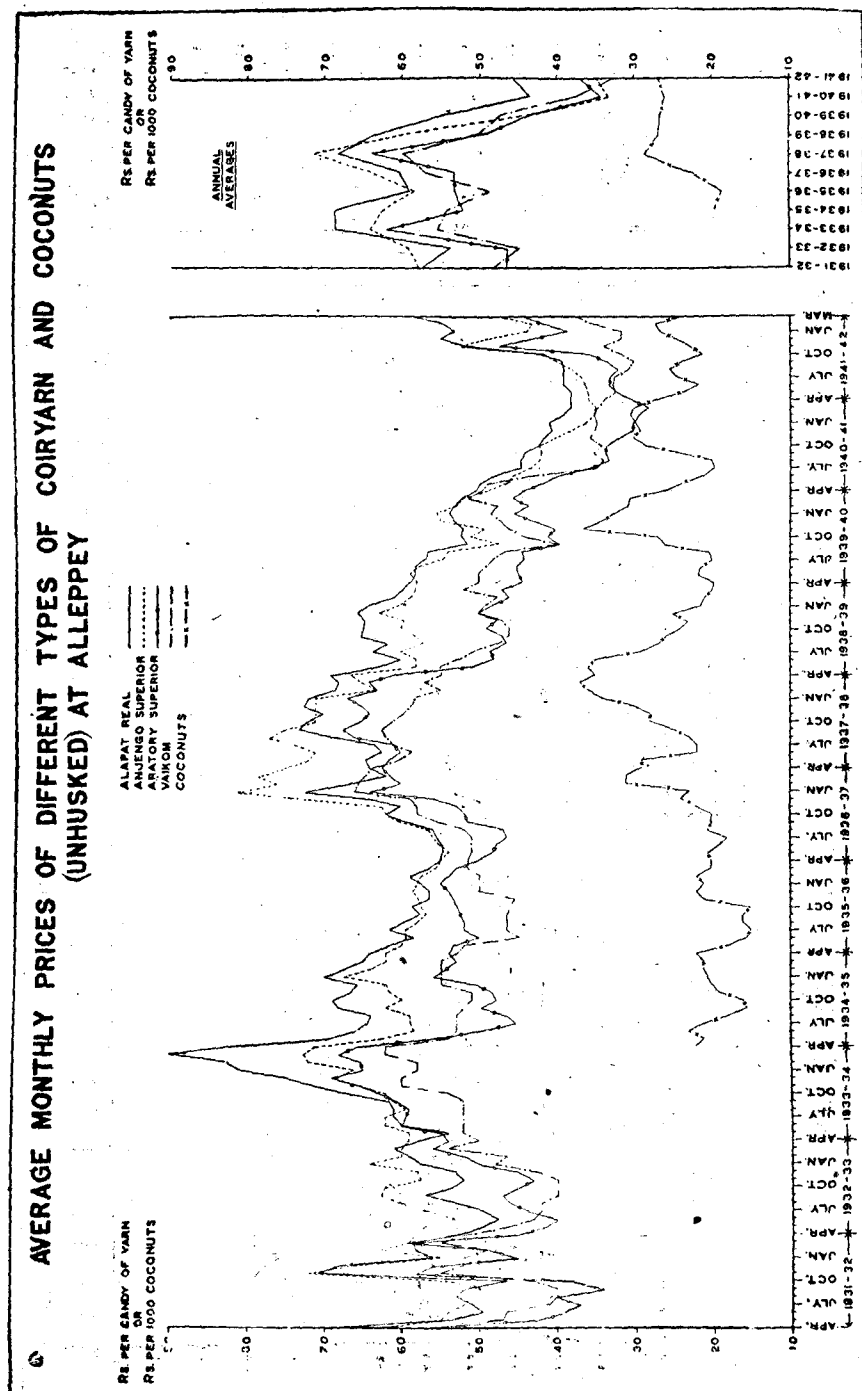
The results obtained by an examination of the various samples of different types and qualities of yarn are summarised in Appendix LXXVIII. An examination of these figures at once shows that the different types and qualities of yarn exhibited some peculiar characteristics, but there were considerable variations in respect of the various factors among the different samples of the same type or quality of yarn. For example, Anjengo type of yarns generally had more twists per foot and unsoaked yarns had more pith than other yarns. The number of twists per foot in 43 samples of Anjengo type yarn, however, varied from 52 to 93, and the amount of pith in 12 samples of unsoaked yarns from nearly 14 to 49 per cent. As an instance of the variations in different qualities of the same type of yarn, the number of twists in samples of Anjengo Special were generally more than those in Anjengo Superior which in turn had more twists per foot than Anjengo Ordinary. Similarly, samples of Anjengo Special included yarns of smaller diameter, higher scorage and greater length per unit of weight, i.e., finer and lighter yarns than Anjengo Superior which in turn included finer and lighter yarns as compared with Anjengo Ordinary. On the other hand, the breaking strengths of Anjengo

As the consumers of yarn for mats and mattings, ropes and other products naturally prefer raw material which would facilitate production of uniform qualities of their products, it is apparent that the enormous variations in colour, twist, scorage, weight, breaking strength, pith, etc., stand in the way of the development of the coir yarn trade and utilisation of coir yarn for the manufacture of numerous articles. It is true that a certain amount of variation is inevitable owing to the conditions under which yarn is produced but the extent of these variations can be reduced if the trade defines the quality factors for a few grades of yarn in measurable terms. The quality factors necessary to give an adequate idea of the quality of yarn appear to be (i) colour stated with reference to a colour chart, (ii) scorage and number of twists per foot measured by standard methods, and (iii) the maximum amount of pith and moisture, as determined by prescribed methods. It is, therefore, desirable that specifications may be drawn on these lines in consultation with the trade for the important commercial types and qualities of yarn under the Agricultural Produce (Grading and Marking) Act and merchants may be authorised to grade and mark yarn conforming to the prescribed specifications. When consumers and merchants ask for yarns conforming to these grades, the spinners would be encouraged to make yarn conforming to the specifications of these grades and in a short time the major portion of yarn production would be of a few standard grades. Tentative specifications for a few important trade descriptions of yarn are given in Appendix LXXIX for the consideration of the trade.

The average monthly prices of coir fibre and three types of coir yarn at Cochin from 1931-32 to 1938-39 are given in Appendices LXXV and LXXVI and illustrated on the diagram facing this page, from which it will be seen that the prices of different types of yarn did not always move in sympathy with one another or with the prices of fibre. Rope yarn which is an inferior type of yarn always remained cheaper than Anjengo and Alapat yarns but between the latter two, Alapat was cheaper than Anjengo for some time while the reverse was the case at other times. For instance, the prices of Alapat yarn were consistently higher than Anjengo yarn from March 1933 to July 1935 while the reverse was the case from August 1935 to September 1938, after which date data are not available. The explanation for the prices of rope yarn being cheaper than those of the fibre appears to be that the prices of fibre relate to dry fibre in bales for export and that rope yarn is made from inferior quality fibre and contains some pith.



Facing page 145.]



The average monthly prices of nine different types of yarn at Alleppey from 1931-32 to 1942-43 are tabulated in Appendix LXXVII, from which it will be seen that Alapat Real, Anjengo Superior and Aratory Superior fetched the highest prices while Vaikom and Beach fetched comparatively lower prices. The prices of Alapat Imitation yarns were generally cheaper than those of Alapat yarn. Similarly Anjengo Ordinary was cheaper than Anjengo Superior and Aratory Ordinary was cheaper than Aratory Superior. The relative positions of different types of yarns in respect of prices, and the differences between their prices, however, varied from time to time. This will be clearly seen from the diagram facing this page, showing the movement of prices of Alapat Real, Anjengo Superior, Aratory Superior and Vaikom yarns. It may, therefore, be concluded that the prices of different types of yarn were influenced more by the supply of and demand for particular types of yarn produced in different areas rather than by differences in their quality. A comparison of the course of prices of different types of yarn with that of coconuts, also illustrated in the diagram referred to above, shows that the prices of yarn often moved contrary to the prices of coconuts.

(9) ASSEMBLING AND DISTRIBUTION OF COIR FIBRE AND YARN.

The fibre is generally converted into yarn by the producers themselves (working on their own account or for other middlemen), but in certain areas of the Cochin State and Malabar considerable quantities of fibre are also sold as such. The main agency for the assembling of fibre are some middlemen who purchase the fibre from the villages and take it for sale to the markets.

The yarn is generally disposed of by producers in small quantities either by bartering for their requirements of rice, oil, salt, etc., or by selling for cash to petty merchants who collect yarn. The merchants sort out the various hanks of yarns purchased by them according to thickness, colour, appearance, etc., and put them into bundles. These vary in weight at different places and for different qualities of yarn. The petty merchants sell the yarn to bigger dealers and wholesale merchants, who in turn send it to the main assembling and distributing centres like Alleppey and Cochin. At these markets, there are a number of firms of commission agents who undertake to sell yarn on behalf of their clients and merchants in the producing areas. These commission agents store the yarn in their godowns and pay advances against the value of yarn stored. Such advances usually amounted to about 75 per cent. of the value of yarn but after the outbreak of the War, advances seldom exceed 50 per cent. of the value. Interest is charged over these advances besides godown rent for storage. The rate of rent charged at Alleppey was reported in 1940 to be Rs. 1-12-0 per candy irrespective of the period of storage. A charge of 8 annas per candy was also reported to be made on account of unloading charges at Alleppey but out of this 5 to 6 annas per candy was usually returned to the seller. The

commission agents sell the yarn to wholesale merchants, exporters and manufacturers of mats, mattings, etc. The buyers examine the quality of the yarn and roughly estimate the moisture at the time of offering the price. Sometimes a bundle or about half a candy of yarn is dried in the sun to determine the loss in weight due to moisture. Manufacturers of mats and mattings take the "scorage" of the yarn also into account while offering a price.

It may be noted that damping is a very common feature in the yarn trade. Producers take their yarn to the petty merchants without drying it and these latter add a few handfuls of saltwater to increase the weight of the yarn. The result is that a large proportion of the yarn brought to the assembling and distributing centres is damp and allowances are claimed by buyers for excess of moisture.

(10) MANUFACTURE OF ROPES, MATS AND MATTINGS AND OTHER PRODUCTS.

(a) *Ropes*.—Considerable quantities of coir ropes are prepared by hand in the coconut growing areas on the West Coast. They are used locally for tying cattle, lifting water and on boats and also sent to various centres in different parts of India. Coarse thick yarns are generally used for their manufacture. Coir ropes are also made by machines by some factories in Bengal for which different qualities of yarn are imported from the West Coast.

(b) *Mats and mattings*.—Coir mats and mattings are made on handlooms both as a cottage industry and in large factories. The industry is most developed in the Travancore State, Alleppey being the most important centre for the manufacture of mats and mattings. Besides the Travancore State, mats and mattings are also made in the Cochin State and, to a small extent, in the Malabar district. Some mats and mattings are also made in some of the jails in Bengal. One of the reasons for the development of the manufacture of mats and mattings in the Travancore State appears to be that superior qualities of yarn are produced there. The State also imposes an export duty on exports of yarn but not on exports of manufactured products such as mats and mattings.

Inferior yarns are generally used for door mats. These are made in a large number of sizes. The designs on coloured door mats are put by means of stencils. The fibre imported from Ceylon being hard also finds use in the manufacture of door mats.

Mattings are prepared both plain and in a number of fancy coloured designs obtained by using coloured yarn. Superior grades of yarn are generally used for their manufacture. The quality of the matting is judged by the quality of the yarn used for the warp. The yarn used for the weft is often somewhat inferior to that used for the warp. Mattings are made in widths of 9" or multiples up to 72" wide, but 36" is reckoned as the standard width. The number of warps of yarn required for 36" wide matting divided by 20 gives the score of the matting, *i.e.*,

the score of the yarn used for the matting. As a rule, the higher the score, the superior is the quality of the matting.

(c) *Other products*.—Various other products such as rugs, carpets, beltings, bags, nets and tent compositions are made from coir yarn. Beltings made out of coir are reported to have been used during the 1914—18 War when the price of leather belting was high.

(11) IMPORTS OF MANUFACTURED COIR.

The annual imports of manufactured coir (excluding rope and cordage) into India from 1909-10 to 1942-43 which consisted mainly of coir yarn are given in Appendix LXVII. It will be seen that the imports averaged about 200 tons during the two quinquennia ending 1913-14 and 1918-19, which increased to an average of over 350 tons during the five years 1919-20 to 1923-24. In subsequent years the quantities imported declined appreciably and averaged less than 100 tons during the quinquennium 1934-35 to 1938-39. The imports were mostly through British India ports, the bulk being received at Dhanushkodi port in Madras. The main source of imports was Ceylon which accounted for over 93 per cent. of the total imports during the five years ending 1938-39 (see Appendix LXVIII).

(12) EXPORTS OF MANUFACTURED COIR.

The annual exports of manufactured coir from India from 1909-10 to 1942-43 are given in Appendix LXIX from which it will be seen that India exported considerable quantities of manufactured coir both through British India ports and Travancore State ports. The total exports in individual years varied from a minimum of about 17,000 tons in 1918-19 to a maximum of nearly 72,000 tons in 1939-40. Figures of exports through Travancore State ports are, however, available only since 1935-36, and as such the figures of total exports for the entire period are not comparable. The trend of exports may, therefore, be judged from the exports through British India ports illustrated on the diagram facing page 148. The exports, after registering a sharp drop during the period of the 1914—18 War, averaged about 35,000 tons during the five years 1919-20 to 1923-24. During the next two quinquennia the exports declined to an average of about 33,000 tons and 30,000 tons respectively, but during the next five year period 1934-35 to 1938-39, the exports recovered and averaged over 35,000 tons. Adding to this the exports* through Travancore State ports, the total exports of manufactured coir from India during the quinquennium 1934-35 to 1938-39 averaged about 62,000 tons. The quantities registered a further increase in 1939-40 but between 1940-41 and 1942-43 the exports declined as a result of loss of several European markets.

The main destinations for the exports of manufactured coir through British India ports were the United Kingdom.

* Average 1935-36 to 1938-39.

Germany, the Netherlands, Belgium, France and Burma (see Appendix LXX). The shares of the various countries in the exports during the two quinquennia ending 1933-34 and 1938-39 may be seen in diagram facing page 149. The bulk of the exports through British India ports took place through the port of Cochin on the West Coast while small quantities were also sent out from Calcutta and Bombay.

The manufactured coir exported from India consists mainly of coir yarn and coir mats and mattings together with small quantities of other coir products such as rugs, druggets, bags, nets, etc., as will be seen from the following figures.

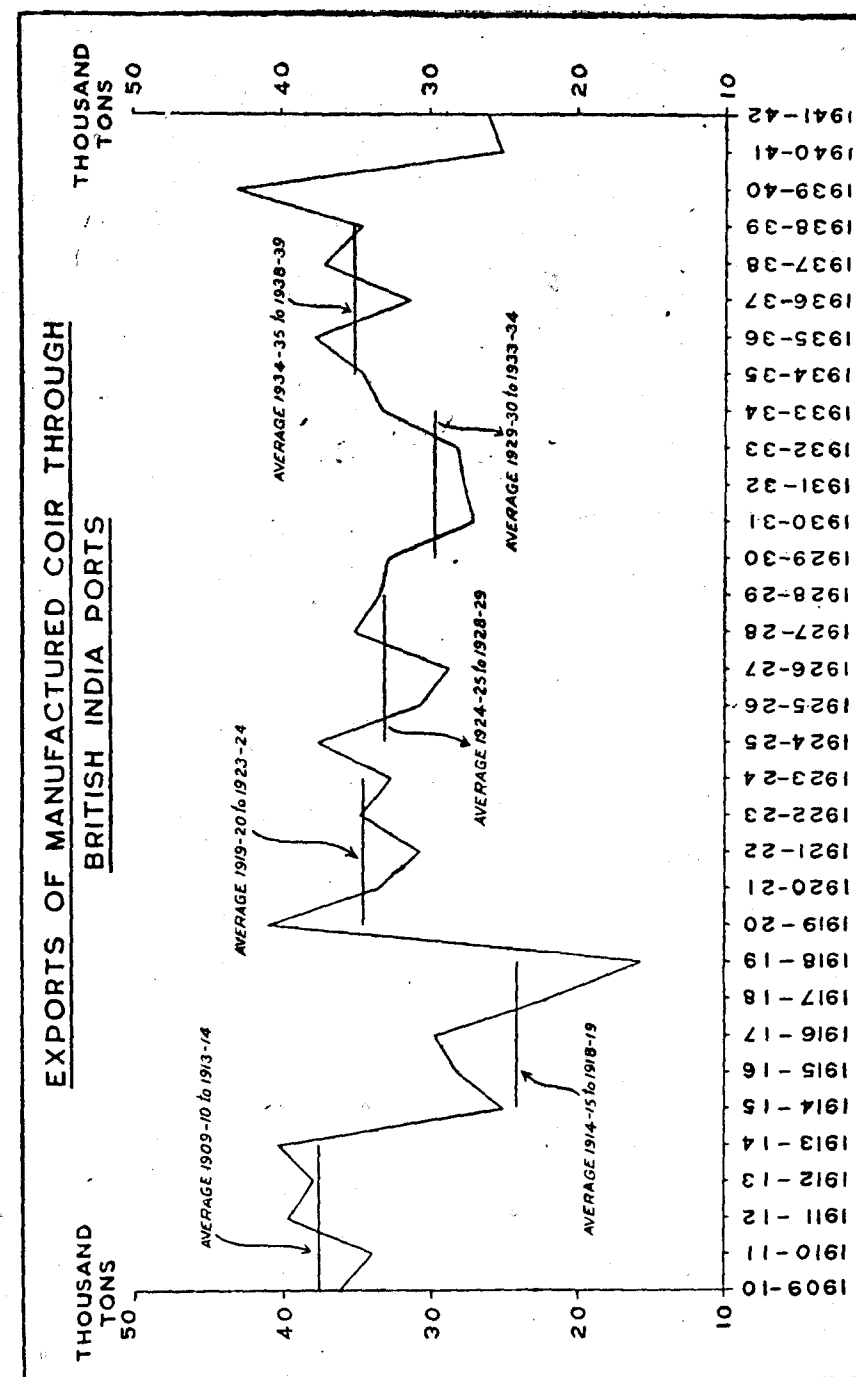
Exports of coir yarn, mats and mattings and other sorts of manufactured coir from India.

	Average 1934-35 to 1938-39.	1939-40.	1940-41.	1941-42.
Exports of coir yarn through British India ports	28,883	33,313	18,246	15,461
Exports of coir yarn through Travancore State ports	10,248*	11,945	5,360	2,038
Total exports of coir yarn	39,131	45,258	23,606	17,499
Exports of mats and mattings through British India ports	2,899	6,144	4,571	7,067
Exports of mats and mattings through Travancore State ports	11,791*	9,713	3,633	1,126
Total exports of coir mats and mattings	14,690	15,857	8,204	8,193
Exports of other sorts of manufactured coir through British India ports	3,345†	3,610	2,355	3,190
Exports of other sorts of manufactured coir through Travancore State ports	5,761*‡	7,677	2,378	834
Total exports of other sorts of manufactured coir	9,106	11,287	4,733	4,024
Total exports of manufactured coir through British India ports	35,127	43,067	25,172	25,718
Total exports of manufactured coir through Travancore State ports	27,800*	29,335	11,371	3,998
Grand Total of exports of manufactured coir of all kinds from India	62,927	72,402	36,543	29,716

* Average 1935-36 to 1938-39.

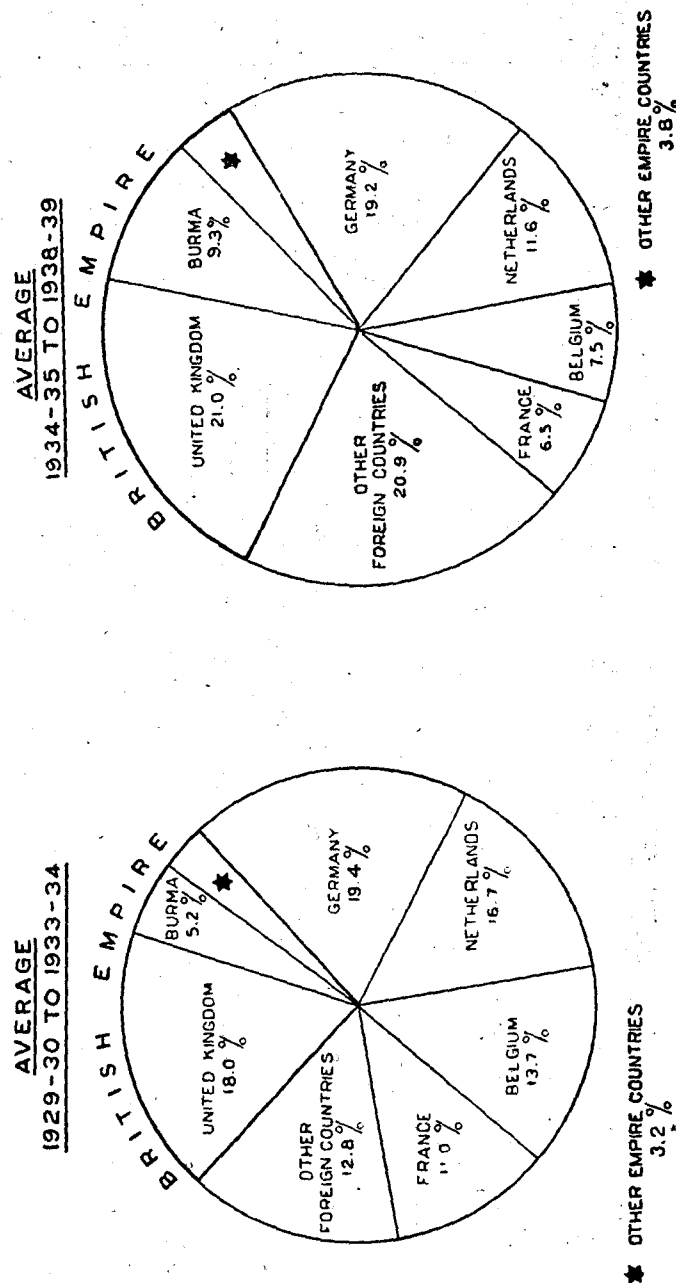
† Includes exports of coir yarn and mats and mattings to Burma from 1934-35 to 1936-37.

‡ Includes exports of coir yarn and mats and mattings to Burma from 1935-36 to 1937-38.



Facing page 149.]

SHARE OF DIFFERENT COUNTRIES IN THE EXPORTS OF MANUFACTURED COIR FROM BRITISH INDIA PORTS



The quantities of coir yarn exported to different countries from British India ports and from Travancore State ports are given in Appendices LXXI and LXXII, from which it will be seen that the quantities of coir yarn exported during the quinquennium 1934-35 to 1938-39 through British India ports and Travancore State ports averaged nearly 29,000 tons and 10,000 tons respectively. The main destinations were the United Kingdom, Germany, the Netherlands, Belgium, France and Italy. The shares of the different countries in the exports of coir yarn may be seen on the diagram facing this page.

The exports of mats and mattings (see Appendices LXXIII and LXXIV) during the quinquennium 1934-35 to 1938-39 averaged nearly 3,000 tons from British India ports and nearly 12,000 tons from Travancore State ports. The importance of Travancore State ports in the exports of mats and mattings is due to the fact that the coir industry is most developed in the Travancore State, so that while the bulk of exports of coir yarn take place from the ports of Cochin and Calicut, the exports of mats and mattings are from Alleppey and other ports in the Travancore State. The most important destination for the exports of mats and mattings has consistently been the United Kingdom which accounted for over 73 per cent. of the exports from British India ports and 68 per cent. of the exports from Travancore State ports during the quinquennium 1934-35 to 1938-39. The share of other countries in the exports of mats and mattings may be seen on the diagram facing page 139. It may be added that the import of Indian mats and mattings by the United States of America increased substantially in 1940-41 and 1941-42.

(13) PACKING OF COIR AND COIR PRODUCTS.

After being dried in the sun, coir fibre is tied into bundles. The weight of bundles at different centres in the producing areas is generally so arranged that 10 bundles make one candy *plus* the extra weight customary in the market as an allowance for drying. The charges for bundling were reported to be about 10 annas per candy in 1939. The fibre for export is pressed into bales of 200 lb. each. The imports of the fibre from Ceylon are generally in pressed bales weighing 2 cwt. each.

The producers or petty merchants collecting yarn, put a number of hanks together and tie them into cylindrical shape bundles, generally weighing one local maund or such other weight as would make an exact number of bundles weigh a candy, *e.g.*, Beypur yarn at Calicut is put in bundles of 35 lb. each so that 20 bundles make one candy. The length of yarn in each hank and the number of hanks in each bundle are not uniform and are subject to considerable variation. The bundles are tied in a number of different ways (see left plate facing page 133), different areas generally adopting particular methods for bundling particular

types of yarn. The cost of preparing coir yarn bundles varies according to the kind of yarn and the type and size of bundles prepared. The bundling of thick rope yarns was reported to cost annas 4 to annas 5 per candy in 1939 and those of fine yarns up to as much as Rs. 1-8-0 per candy. The smaller bundles are later tied into bigger bundles which vary in weight for different types of yarn. Some yarns are brought to markets in the form of hanks without being bundled. The yarn for export is generally subjected to a number of operations before being finally baled for export. The yarn is first dried and then sorted into different grades according to colour, appearance, twist, scorage, etc., and then made up into hanks of uniform length. These hanks are then pressed into 3 cwt. bales. The charges for drying, sorting and pressing into bales were reported to amount to about Rs. 5 per bale in 1939.

Coir ropes are rolled into coils usually of about 100 ft. length. Coir mattings are generally rolled in lengths of 50 ft. each and then wrapped in hessian cloth.

(14) TRANSPORT OF COIR AND COIR PRODUCTS.

Water transport plays an important part in the movement of coir and coir products as considerable quantities of coir fibre and yarn are transported from the producing areas to the assembling and distributing centres like Alleppey and Cochin by country craft (see lower plate facing page 120). The charges of transport by country craft vary depending upon the quantities and distances involved but roughly the charges work out to an average of about 2 pies per candy per mile.

The further movement of these products to consuming and other distributing centres takes place by coastal steamers or rail. Country boats also carry some traffic between the ports on the West Coast during the dry months.

Coastal steamers carry considerable quantities of yarn and other coir products from the ports of Alleppey, Cochin and Calicut to Bombay, Karachi, Madras and Calcutta. The rates of sea freight on coir yarn from the West Coast ports to Bombay, Karachi, Madras and Calcutta have been given along with those on coconuts, copra, etc., in Appendix LVIII, from which it will be seen that before the outbreak of the War in 1939, the rates of freight on coir yarn in bundles from Cochin, Alleppey, etc., were Rs. 10 per ton to Calcutta, Rs. 24-8-0 per ton to Bombay and Rs. 27-8-0 per ton to Karachi. It is noteworthy that the rates of freight on coir yarn in bundles to Calcutta have been lower than those to Bombay, Karachi or Madras although the distance is not the shortest in the case of Calcutta. This appears to be due to special reduced rates of freight being quoted by the railways between Ernakulam and Calcutta. In the case of coir yarn in bales, which is charged on the basis of cubic space and not weight, the rates of freight to Calcutta have been higher than those to Bombay, Karachi and Madras.

Railways figure in the transport of coir and coir products from the distributing centres like Cochin, Alleppey, Bombay and Calcutta to various consuming centres in the country. For purposes of freight, coir is grouped in Class 2 (at railway risk) so that the ordinary rate of railway freight is 0.42 pie per maund per mile. No schedule rates are applicable to coir but as in the case of other commodities, specially reduced station-to-station rates are quoted between certain points.

(15) UNITS OF SALE AND WEIGHT.

A number of different units of sale and weights are in vogue in the coir trade in respect of different products and at different markets. The extra weights claimed to cover moisture, pith, etc., also vary in different cases. For instance, in the Cochin State, the unit of weight is usually a candy of 656 lb. (20 local maunds) for local transactions and 1 to 2 local maunds are taken extra per candy for drying, wastage, etc. The unit of sale for business with the exporters is, however, a candy of 6 cwt. and 2 lb. to 7 lb. may be claimed extra by buyers for driage, etc. Similarly, in Travancore, a candy of yarn is 6 cwt. (672 lb.), but at Calicut a candy of yarn is 700 lb. At Bombay, the purchases of coir yarn from Cochin and Travancore are made on the basis of a candy of 672 lb. but the sales are often made on the basis of a candy of 21 maunds of 28 lb. each, i.e., 588 lb. Again, the unit of sale for coir fibre at Cochin is a candy of 656 lb. for the internal trade but a bale of 200 lb. for export trade. The unit of sale for yarn from unretted husks in Malabar is a *Thulam* of 40 lb. The confusion caused by the diversity in the number of pounds per candy in different places needs little comment and it is desirable that a uniform candy be adopted by the coir trade all over India.

SUMMARY.

Chapter I.—World production and trade.

Coconuts are produced mainly in the Philippine Islands, the Netherlands East Indies, India, Ceylon, British Malaya and British South Sea Islands. In some areas, large coconut plantations and estates are met with but most of the production is on scattered small holdings. Other trees are also often grown along with coconuts. For these reasons and on account of the wide variations found in the number of trees per acre and in the yield of nuts per tree in different areas, the statistics in respect of coconut acreage and production are generally incomplete and of doubtful accuracy. In the Philippine Islands, however, a census of coconut trees is carried out by special agents and detailed data are regularly compiled about the area under coconuts, the number of bearing trees, the number of nuts consumed for various purposes and the production of copra, etc. In Ceylon, the production and trade in coconuts and coconut products is controlled by a Coconut Board.

The world area under coconuts can however be roughly estimated at about 8 million acres and the production at about 14,000 million nuts. The production of copra is estimated to be about 2.5 million tons. The production of coconut oil is estimated to be about 1.2 million tons.

The world trade in coconuts has been relatively small amounting to only about 200 million nuts. On the other hand, there was considerable world trade in copra and coconut oil before the outbreak of the present War; more than half of the copra production entered the world markets as such and another one-fifth in the form of coconut oil exported from the copra producing countries.

The copra trade has been in the hands of the main coconut growing countries. The Netherlands East Indies ranked first, her exports being mainly directed to the mother country. The Philippines exported copra chiefly to the U. S. A. The exports from British Malaya and South Sea Islands were to the United Kingdom and European countries while Ceylon's biggest customer in recent years has been India.

The world trade in coconut oil, however, has been shared by the coconut producing countries as well as by the U. S. A. and a number of European countries. The Philippines was by far the largest exporter of coconut oil, her largest customer being the U. S. A. The Netherlands East Indies which occupied the leading position in copra trade took only a small share in coconut oil trade. Ceylon's exports of coconut oil have been mainly to India while British Malaya placed its oil on the markets in India, Burma, China and Egypt. Among the countries crushing imported copra, Denmark and the Netherlands were the principal exporters of coconut oil.

Taking copra and coconut oil together, the Philippines have ranked first in the exports of copra, with the Netherlands East Indies as a close second. The United States of America occupied the first place in the total imports of copra and coconut oil, followed by Germany, France and the United Kingdom.

Chapter II.—Supply, utilisation and demand.

The area under coconuts in India which was reported to be just under 1.2 million acres in 1920-21, is now reckoned to be about 1.5 million acres. The statistics are, however, incomplete and of doubtful accuracy.

The coconut area falls in certain well defined regions of which the most important is the "Keralam" or the land of coconuts which extends over a narrow strip of land between the Western Ghats and the Arabian Sea and comprises the coconut area in Travancore and Cochin States and the Malabar district of Madras. This region accounts for more than two-thirds of India's total coconut acreage. The other important coconut regions lie in the Mysore State, in Konkan, i.e., the South Kanara district of Madras and North Kanara and Ratnagiri districts of Bombay, and in the Godavari delta extending over the West Godavari, East Godavari and Vizagapatam districts of Madras.

The production of coconuts is difficult to estimate as the number of coconut trees per acre, the proportion of bearing trees and the yield of nuts per tree all show considerable variations in different areas and under different conditions. Estimates made on the basis of extensive enquiries made during the survey place the average annual production at roughly 3,000 million nuts. As the production can be substantially increased by adopting measures like inter-cultivation and manuring on a wide scale, it is desirable that an Indian Coconut Board be set up so that it may direct and take necessary steps for increasing the production of coconuts in India.

India's trade in coconuts with other countries has been of a small magnitude. She imports a few million coconuts annually from Ceylon and the Maldives and used to export till lately a few million coconuts mainly to Burma. On the other hand, India has been exporting and importing considerable quantities of copra and coconut oil to and from other countries. Before the 1914-18 War, her exports averaged nearly 31,000 tons copra and 9,000 tons coconut oil while the imports averaged only about 100 tons copra and 60 tons coconut oil, so that she was a net exporter of both copra and coconut oil. Between 1917-18 and 1919-20, there was a sharp increase in the exports of coconut oil but as it was attended with a decline in the exports and increase in the imports of copra, India no longer remained a net exporter of copra. She, however, continued to remain a net exporter of coconut oil up to 1926-27 after which she became a net importer of both copra and coconut oil. The imports of both copra and coconut oil steadily increased

after 1931-32 so much so that during the quinquennium ending 1938-39, the annual imports average over 45,000 tons copra and 28,000 tons coconut oil. The main sources for the imports were Ceylon (for both copra and coconut oil) and the Straits Settlements (for coconut oil only). The exports during the same period averaged only 800 tons copra and 400 tons coconut oil and were mainly to Burma. After the outbreak of the War in 1939, the exports declined further while the imports registered a further increase and averaged about 100,000 tons copra and 54,000 tons coconut oil during the two years 1940-41 and 1941-42. Considerable quantities of desiccated coconut have also been received from Ceylon in recent years.

The imports of coconuts, copra and coconut oil into India were subject to an import duty of 15 per cent. *ad valorem* which was raised in 1931 first to 20 per cent. and later to 25 per cent. In 1933, the rate of duty for coconut oil was fixed at a different rate from that on coconuts and copra, and a preference of 10 per cent. was granted in favour of imports from British colonies. The standard rates of duty were then fixed at 30 per cent. on coconuts and copra, and 35 per cent. on coconut oil. The preferential rates were 20 per cent. on coconuts and copra, and 25 per cent. on coconut oil. The rates of duty were revised in 1942 when the standard rate was fixed at 36 per cent. on coconuts and copra, and 42 per cent. on coconut oil. The rates of preferential duty were changed to 24 per cent. on coconuts and copra, and 30 per cent. on coconut oil.

The imports and exports of coconuts being small in relation to the production in India, the supplies of coconuts available for consumption in India are virtually the same as the production, i.e., about 3,000 million nuts. Of this somewhat less than half is utilised for making copra and the balance either consumed for edible purposes as fresh kernel or used for religious purposes or for raising seedlings.

Copra made in India falls into two main groups, viz., milling copra and edible copra. Milling copra is made in the form of cups while edible copra is made in the form of either cups or balls. Ball copra is prepared from mature nuts which have been stored with the husk on for eight to twelve months during which period the kernel gets detached from the shell. The nut is then husked, the shell broken and the copra taken out in the form of balls. Cup copra is prepared from fresh nuts or from nuts which have been stored for a short period. The nuts are husked, cut into two pieces and lightly dried so that the kernel gets separated. The cups are then further dried, the method and period of drying depending on the season and the quality of copra to be made. Edible qualities are generally made by sun drying only, while milling copra may be made either by sun drying or by kiln drying or by a combination of both methods. Kiln drying is resorted to especially in the rainy season.

The yield of copra from coconuts varies under different conditions. The average yield in different areas is estimated as 280 lb. to 360 lb. per thousand nuts. The average annual production of copra in India is reckoned to be about 200,000 tons. This is supplemented by imports and the supplies available for consumption in the country during the five years ending 1938-39 worked out to an average of 246,000 tons, of which 203,000 tons annually were utilised for crushing and 43,000 tons for edible purposes.

Copra is crushed both by *chekkus* and by power mills equipped with rotary mills or expellers. The yield of oil varies from 58 to 65 per cent. under different conditions. The average yield may be taken to be 62 per cent. The crushing of copra is done mainly in the coconut producing areas on the West Coast and at Bombay and Karachi. The production of coconut oil is estimated to be about 126,000 tons. The supplies available for use in India during the five years ending 1938-39 worked out to an average of 154,000 tons, of which more than half was utilised for edible purposes. Of the balance, soap making accounted for about 30,000 tons and use for toilet and toilet preparations for about 45,000 tons.

The average annual production of coconut cake during the five years ending 1938-39 was about 73,000 tons, of which nearly 6,000 tons were exported and the balance used in the country mainly as cattle feed.

Chapter III.—Prices.

The prices of copra and coconut oil at London, which may be taken as an index of world prices, experienced an almost continuous fall from 1928-29 to 1934-35, followed by a rise during the next two years and a decline again in 1937-38 and 1938-39. After the outbreak of the War, normal trade conditions were disturbed and prices were controlled by Government.

In India also, the prices of coconuts, copra, coconut oil and coconut cake declined almost continuously after 1928-29 falling to very low levels by 1933-34 and 1934-35. For instance, coconuts which averaged about Rs. 58 per thousand at Calicut in 1928-29 declined to Rs. 15 per thousand in July 1934. Similarly, copra which averaged about Rs. 367 per ton at Cochin in 1928-29 declined to Rs. 114 per ton in April 1934. Coconut oil at the same market declined from an average of Rs. 541 per ton in 1928-29 to Rs. 175 per ton in April 1934. Coconut cake dropped from an average of Rs. 123 per ton at Calicut in 1928-29 to Rs. 48 per ton in November and December 1933. This was followed by some improvement in prices during the next two years but there was a set-back again in 1937-38 and 1938-39. After the outbreak of the War in Europe in September 1939, prices rose sharply in November and December 1939. The rise was, however, short-lived and prices settled to lower levels soon after. A steady upward trend commenced thereafter only towards the end of 1941. Later, when it was announced in April 1942 that the entire supplies of copra and coconut oil from Ceylon would be purchased by the British

Ministry of War Supply, prices in India shot up to unprecedented levels. For instance, at Cochin prices of coconuts rose to Rs. 100 per thousand by January 1943, and those of copra and coconut oil to Rs. 625 per ton and Rs. 928 per ton respectively in December 1942. A quota for India in the supplies of copra and coconut oil from Ceylon was announced in September 1942 and prices in India tended to ease somewhat only in January or February 1943.

The prices of copra and coconut oil in India generally exhibited a trend similar to that of London prices but did not always follow London prices or *vice versa*. On the other hand, the prices of copra and coconut oil in India showed a striking similarity to Colombo prices. The prices of coconut cake in India, however, showed little sympathy with Colombo prices.

The prices of copra and coconut oil at the markets in the coconut producing areas on the West Coast, of which Cochin may be taken as an index, generally ruled higher than Colombo prices but the difference of Cochin over Colombo prices varied from time to time and on many occasions was less than the import duty payable on imports of copra and coconut oil from Ceylon. On the other hand, the difference between the prices of copra at Bombay and Colombo generally exceeded the import duty. Similarly, the difference between the prices of coconut oil at Calcutta and Colombo also generally exceeded the import duty. As Bombay and Calcutta obtained their supplies of copra and coconut oil both from the West Coast and Ceylon, the prices of imported copra at Bombay and coconut oil at Calcutta indirectly influenced the level of prices of copra and coconut oil on the West Coast.

The prices at the important markets in the coconut producing areas generally move in close sympathy with one another but at other centres, the prices often do not show sympathetic movement. Moreover, the prices also vary according to quality. In the case of coconuts, big nuts invariably fetch a higher price than small nuts; tender nuts usually fetch somewhat lower prices than mature nuts; coconuts which have been stored fetch higher prices than fresh nuts. Unhusked nuts fetch higher prices than husked nuts in areas where there are retting facilities while in inland tracts where the husk cannot be utilised for retting, prices of husked and unhusked nuts are almost the same. As regards copra, ball copra generally fetches a higher price than cup copra. Again, edible grades of cup copra fetch a higher price than milling grades. In the case of coconut oil, a clear, white oil with low free fatty acid content fetches a higher price than a turbid, yellowish oil with a high percentage of free fatty acids.

The prices also show seasonal variations which are more pronounced in markets in the producing areas. Coconuts generally fetch lower prices from June to September. The prices of milling copra as also coconut oil generally remain low on the West Coast from April to September. The prices of edible copra, on the other hand, are fairly stable throughout the year in the consuming markets.

The prices of coconuts generally rise and fall in sympathy with copra and coconut oil prices. Growers sometimes sell their coconuts on the *chowdana* basis, under which system all the nuts to be harvested during a year are sold in advance on the basis that one-third the prevailing price of a candy of coconut oil would be paid as the price for 1,000 coconuts. A comparison of the prices of coconuts and coconut oil over a long period, however, shows that the system does not work in favour of the growers.

The prices of coconut oil and coconut cake generally follow copra prices but at times coconut cake prices take an opposite course. On an average, the prices of coconut oil are roughly about one and a half times the copra prices while coconut cake prices are roughly one-third of the copra prices.

Coconut oil is generally dearer than groundnut oil but when reduced supplies of groundnuts brought about an increase in the prices of groundnut oil or large imports of coconut oil caused the prices of coconut oil to drop, the latter became cheaper than groundnut oil.

Chapter IV.—Methods of marketing.

Producers generally sell their tender coconuts at their gardens to hawkers, itinerant dealers, retailers, or merchants, who in their turn, dispose of the nuts at towns, *shandies*, railway stations, etc. The nuts are sometimes sorted according to size. The trade is mostly of a localised nature and the producer's share in the price paid by the consumer is estimated, on an average, to be about 60 per cent.

In the case of mature nuts, big producers usually sell their nuts unhusked at their gardens to copra makers or merchants, while small producers take their nuts, husked or unhusked, to *shandies*, or markets and sell them direct or through commission agents. The nuts are generally offered for sale as fresh or 'water nuts' soon after harvesting but in certain areas, some of the producers sell their nuts as 'dry nuts' after several months of storage during which time the water inside gets absorbed by the kernel. Nuts for the whole year are sometimes sold by the producers in advance on the basis of coconut prices prevailing from time to time. The assembling of coconuts on a co-operative basis has developed in a few places and it appears that there is a great scope for developing the marketing of coconuts and copra on co-operative lines.

The nuts collected by merchants are generally sorted into large, medium and small sized nuts and are offered for sale unhusked, fully husked or partially husked according to the requirements of different markets. As a rule, coconuts intended for local sales are fully husked while those for despatch to distant markets are only partially husked. The cost of husking may vary from 4 annas to Re. 1 per thousand in different areas. When the husks

are to be utilised for retting, the nuts are husked immediately after harvesting and the husked nuts used for preparing milling copra. In areas where there are no retting facilities, nuts are often stored for a few days to three months before making copra; the quality of copra produced from stored nuts is better than that from fresh nuts. When the nuts are to be sold as dry nuts or used for preparing ball copra, the period of storage may extend from 6 to 15 months. The cost of storage is reckoned to be roughly about 8 annas per maund per thousand nuts.

Although a considerable portion of the coconut crop is sold off the garden to copra makers and merchants, there are a number of assembling markets to which producers, merchants and contractors take their coconuts and copra for sale. The sales are made by sellers direct or through commission agents. In most of the markets, coconuts and copra are sold along with various other commodities but in some places, certain days of the week are exclusively set apart for trade in coconuts and copra. When the produce is taken to the markets, several charges have to be invariably incurred in connection with the sales. The charges at different markets show considerable variation and may comprise tolls and taxes, commission, brokerage, handling and weightment charges, contributions to charities and allowances for quality, etc. In some markets, the sales take place by auction while in others, buyers give their offers to the commission agent openly or under cover. The most common unit of sale for wholesale transactions in coconuts is a thousand but various other units are also in vogue and a certain number of extra nuts have invariably to be given in excess of the unit. The number of such extra nuts may vary from 20 to 250 per thousand.

The coconut producing areas retain the major portion of their coconut production for copra making and edible purposes and despatch the rest to various parts of India. The cost of distribution largely depends on the extent of movement and the channels through which the produce passes before reaching the destination. The producer's share in the price paid by the consumer may vary from as little as 37 per cent. to as much as 90 per cent.

Copra makers either sell their copra at their premises to village merchants and agents of wholesale merchants or millers, or take it for sale to important crushing centres in producing areas, where it is sold direct or through commission agents to wholesale merchants or millers. These crushing centres serve both as assembling and distributing markets. The merchants and commission agents there distribute the copra purchased by them to oil mills and merchants at various consuming centres. Similarly, wholesale merchants and commission agents at consuming centres distribute the supplies received by them to retailers and grocers. The distribution of milling copra is confined to the producing areas on the West Coast and the ports of Bombay and Karachi. Edible copra is, however, distributed from the Mysore State and Godavari and Malabar districts of Madras to all parts of India. The cost

of distribution, as in the case of coconuts, depends upon the extent of movement and the channels through which copra passes before it reaches the consumer.

Several qualities and grades of copra are known in the trade. Copra made in different places are generally considered to represent distinct qualities which are further classified into grades on the basis of size in the case of ball copra, and colour and size of cups in the case of cup copra. The best quality of milling copra is known as "Office Pass".

Copra is packed in bags and packages of varying weights in different markets. The most common unit of transaction in the wholesale copra trade is the candy but it represents a varying number of pounds in different places. A candy of copra at Calicut is 700 lb., at Travancore 654 lb., at Bombay 630 lb. and in the Godavari district 500 lb.

Coconut oil produced by *chekkus* in the coconut producing areas on the West Coast is generally sold by the operators to local retailers or direct to consumers. Coconut oil produced by the mills on the West Coast and at Bombay and Karachi is sold by the mills through their own selling organisations or through merchants, brokers and commission agents both locally and in various other parts of India. *Chekku* oil is sometimes preferred by consumers. There is, however, no system of marking mill oil and *chekku* oil separately. Coconut oil is packed in drums of various capacities and 4-gallon tins. The prices are quoted both loose and inclusive of containers. The common unit of weight is, as in the case of copra, a candy, besides which a number of measures are also used.

Coconut oil is often used for the adulteration of ghee and dearer vegetable oils. Similarly, coconut oil itself is adulterated with cheaper vegetable oils and white mineral oil, synthetic coconut oil essence being often added to obtain the flavour of coconut oil. In order that consumers may be able to obtain coconut oil of guaranteed purity and quality, it is desirable that the oil may be marked under the Agricultural Produce (Grading and Marking) Act.

The bulk of the coconut cakes produced by *chekkus* is distributed for local use by *chekku* owners themselves. The cake produced by mills is disposed of direct to exporters or to wholesale merchants, who in turn, sell it to exporters and to merchants and retailers at other centres.

The transport of coconuts, copra and coconut oil within the producing areas and from producing areas to consuming centres in India takes place by road, railways, country boats and coastal steamers. The cost of road transport varies widely under different conditions. For transport by rail, coconuts and copra are grouped in class II for which the ordinary rate of freight is 0.42 pie per maund per mile. Coconut oil is charged at the same rate when carried at "Owner's risk", but when carried at

"Railway risk", it is grouped in class II-A and charged at 0.46 pie per maund per mile. Coconut cake is grouped in class I and charged at 0.38 pie per maund per mile. Besides the ordinary rates of freight, there are, however, a number of cheaper "schedule" and "station to station" rates. Country boats are mainly used for transport of copra and coconut oil over the West Coast and their charges are invariably lower than the corresponding steamer freights. Coastal Steamers carry considerable quantities of copra and coconut oil from the ports in the coconut producing areas on the West Coast such as Calicut, Cochin, Alleppey, etc., to Bombay, Karachi, Madras and Calcutta. The rates of freight for copra and coconut oil from the West Coast ports to Bombay, Karachi, Madras and Calcutta have been consistently higher than the corresponding freights from Colombo. This obviously works to the disadvantage of Indian copra and coconut oil and helps to encourage imports from Ceylon.

The cost of importing copra and coconut oil from Ceylon includes, besides steamer freight, insurance charges, import duty, and landing, clearing and other charges payable at the port of destination.

Chapter V.—Husk, shell, coir and coir products.

The yield of husk from a coconut may be reckoned, on an average, to be $1\frac{1}{2}$ lb. On this basis, the total supplies of husk from the coconut crop of India would work out to roughly 2 million tons. Husks are not, however, collected from all coconuts—some of the nuts are not husked and others are only partially husked. The quantities of husk commercially available are, therefore, appreciably less than 2 million tons. These are generally collected from coconut gardens by professional retters or by boatmen who later dispose of the same to retters.

Coconut husks can serve as a very good manure for coconut trees but the practice is not generally followed and the most important use to which the husks are put is for the extraction of fibre. Only about 43 per cent. of the potential supplies of husks are, however, estimated to be so utilised.

The husks used for extracting the fibre are generally subjected to "retting" to facilitate the separation of fibre from cork and pith contained in the husk. The indigenous method of retting essentially consists of soaking the husks in water for 4 to 10 months and is largely carried on in the back-waters on the West Coast. The cost of retting generally varies from 12 annas to Rs. 1-8-0 per thousand husks. The condition of the husks used and the methods and period of retting affect the yield and quality of the fibre. Chemical and mechanical methods of retting are not practised in India and in areas where retting by the indigenous method is not feasible, the husks are simply burnt as fuel. The prices of fresh husks, before the outbreak of the War, generally ranged from Rs. 3 to Rs. 5 per thousand in areas where retting

facilities were available and only 10 annas to Rs. 1-8-0 in areas where the husks found use as fuel only. It would be desirable to examine the possibilities and economics of chemical and mechanical processes of retting as by the adoption of these processes, larger quantities of husks could be utilised for coir making.

The weight of shell from a coconut may be reckoned, on an average, to be about $\frac{1}{4}$ lb. and as shells from about 1,400 million coconuts only are estimated to be collected, the total quantities of shell commercially available work out to 350 million lb. or roughly 156,000 tons. The shells are either sold by the copra makers direct to wholesale and retail merchants or are collected from the copra makers by middlemen who later sell them to merchants.

Most of the coconut shells are utilised for burning as fuel, for the making of copra or for domestic purposes. Apart from their use as such for fuel, some coconut shells are used for making shell charcoal by burning the shells in a limited supply of air. The demand for shell charcoal has increased after the outbreak of the War as it finds use as an absorbent of poisonous gases in gas masks. Some coconut shells are also utilised for making ladles, bowls, scoops, etc., and for preparing *hookah* shells in which case the kernel is scooped out from the shell without breaking the shell in two halves. Several chemicals can be prepared by destructive distillation of shells but no shells are so utilised and there appears to be ample room for research towards better utilisation of shells. The prices of coconut shells before the War generally ranged from 8 annas to Rs. 2-8-0 per thousand.

The yield of fibre roughly averages about 180 lb. from 1,000 coconuts and the total production is estimated to be about 102 thousand tons. The imports and exports of fibre have been of a small magnitude, the former having averaged about a thousand tons and the latter about 200 tons during the quinquennium ending 1938-39. The main source of imports was Ceylon while the main destinations for export were the United Kingdom, Belgium and France.

The fibre is usually converted into yarn by the producers themselves either by hand-spinning or with the help of two wheels. The cost of making yarn varies from about Re. 1 to Rs. 4 per cwt.

Producers disposed of the yarn either by bartering in small quantities for their requirements of rice, oils, salt, etc., or by selling for cash to petty merchants. These merchants sort out the hanks purchased by them according to colour, appearance, etc., and put them into bundles. The goods change hands from petty merchants to bigger dealers and eventually reach the main assembling and distributing centres where they are sold through commission agents to exporters and manufacturers. Damping is a very common feature of the yarn trade. Producers usually take their yarn to the merchants without properly drying it and the latter instead of drying the goods often add more salt water to increase the weight.

The trade broadly classifies the yarns into a number of types according to their place of manufacture. The most important types of wheel-spun yarns are Anjengo, Aratory and Ashtamudi while among the hand-spun yarns, Alapat, Vaikom and Beach are probably the best known. Some yarns are also made from unretted husks and of these Kalai and Kaliapa are well known. The better types of yarn are classified, according to fineness and evenness of twist, into several grades such as Special, Superior, Ordinary, etc. Each of these grades is further classified according to colour and called No. 1, No. 2, etc. The cheaper types are classified as Nos. 1, 2, 3, etc.

Although the trade recognises a number of types and grades, the various quality factors are not stated in measurable terms and there are no well defined specifications for the various grades. A large number of samples representative of various types and grades were collected and examined during the survey and the results obtained clearly indicate that standardisation in grading could be undertaken with advantage. If the trade recognises the specifications for a few grades and yarns conforming to these specifications are marked under the Agricultural Produce (Grading and Marking) Act, the spinners will be encouraged to make yarn up to these specifications and in a short time the major portion of yarn production would be of a few standard grades.

The prices of yarns as also of fibre have varied considerably at different periods and have not always followed coconut prices. For instance, at Cochin the prices of fibre between 1931-32 and 1938-39 varied from an average of Rs. 34 in March 1939 to Rs. 67 per candy of 6 cwt. in April 1931. Similarly, the prices of Anjengo Superior yarn at Alleppey varied from an average of Rs. 48 in September 1931 to Rs. 72 per candy of 6 cwt. in April 1931. The prices of different types of yarn have not always moved in sympathy with one another or with the prices of fibre. The relative positions of different types of yarn in respect of prices and the differences between their prices also have varied from time to time, thereby indicating that prices were influenced more by the supply of and demand for different types rather than by differences in their quality.

Yarns, besides being used as such for tying bundles, etc., and various other purposes, are utilised for the manufacture of ropes, mats and mattings and various other products such as rugs, carpets, belting, etc. Ropes are made in the coconut growing areas, and in a few factories in Bengal. They are especially suitable for use on boats and ships. Mats and mattings are made on hand looms both as a cottage industry and in large factories. The industry is most developed in the Travancore State and, to a smaller extent, in the Cochin State and the Malabar district of Madras.

Apart from the quantities used in India, considerable quantities of yarn, mats and mattings and other coir products are

exported abroad. The exports take place both from British India ports and Travancore State ports. The total exports of manufactured coir from India in the quinquennium ending 1938-39 average over 62,000 tons. The main destinations for exports were the United Kingdom and several Continental countries. The United States of America has become an important customer in recent years. Small quantities of manufactured coir, mainly in the form of coir yarn have also been imported from Ceylon—the imports in the quinquennium ending 1938-39 averaged less than 100 tons.

Several different units of sale and weight are in vogue in the coir trade. For instance, in the Cochin State, the unit of weight is a candy of 656 lb. for local transactions and a candy of 6 cwt. for export business. At Calicut, a candy of yarn is 700 lb. whole in Travancore, it is 672 lb. The confusion caused by this diversity needs little comment.

CONCLUSIONS AND RECOMMENDATIONS.

Improving the statistics of coconut acreage and production—

Statistics about coconut acreage are incomplete and of doubtful accuracy and no figures are published about the production, which is subject to considerable variation from year to year. A scheme may be worked out for recording the acreage under coconuts with greater accuracy and estimating the production annually. For instance, a periodical check of coconut acreage, say every 10 years, together with a system of recording yields by selected growers in different areas would make it possible to have fairly accurate year-to-year estimates of the production. (Pages 19 and 22.)

Increasing coconut production—

The imports of considerable quantities of copra and coconut oil into India indicate that India's production of coconuts is not enough to fully meet her requirements. There are no data to provide definite evidence of a steady increase or decrease in the production but enquiries made in a large number of coconut gardens indicate that the yields started declining after 1931. On the other hand, coconut acreage has expanded in some areas and experiments carried out at research stations indicate that the yields can be substantially increased by manuring and inter-cultivation. Cultivators are, however, slow to adopt better methods and the low level of prices between 1933 and 1941 offered them little incentive to give better treatment to their coconut trees. No appreciable increase in the production of coconuts may, therefore, be ordinarily expected within the next few years. A well planned scheme and concerted action can, however, bring about a substantial increase in the production. Efforts may, therefore, be directed towards increasing the production by better treatment and manuring. For instance, a ten-year plan to increase the production may be drawn up and its administration entrusted to a specially constituted body called the Indian Coconut Board. The Board could give loans at cheap rates for manures, provide facilities for inter-cultivation and encourage underplanting or removal of trees

where necessary. The loans may be repayable after three years by a part of the produce being handed over to the Board. (Pages 30 and 31.)

Regulating imports of copra and coconut oil—

India which was a net exporter of copra and coconut oil at one time has been a net importer of these commodities in recent years, the quantities imported having sharply and steadily increased since 1932-33. The average imports during the quinquennium 1934-35 to 1938-39 amounted to as much as 46,000 tons copra and 28,000 tons coconut oil or roughly a total of 92,000 tons in terms of copra, i.e., nearly 46 per cent. of India's own production of copra. The prices of imported copra and coconut oil largely influenced the level of prices of these commodities in the producing areas, from which it may be concluded that the imports influenced the course of prices of copra and coconut oil (and consequently coconuts) in India. When efforts are made by the Indian Coconut Board to increase the production of coconuts (and consequently of copra and coconut oil), the imports of copra and coconut oil into India may be regulated by the same body with reference to the production and demand in India. (Pages 47, 48, 60, 62, 80 and 88.)

Examination of import duty—

Coconuts, copra and coconut oil are subject to an *ad valorem* import duty, the tariff values for the calculation of duty being fixed every year (or at shorter intervals when necessary) depending upon the prices prevailing during a certain period preceding the fixation of the tariff value. A preference of 10 per cent. in favour of imports from British Colonies was granted in 1933. The actual amount of duty payable on these commodities, therefore, varied according to the source of imports, and the tariff values. For instance, the amount of duty payable on copra varied from Rs. 63 to Rs. 69 per ton between 1925 and 1929 as compared with Rs. 24 to Rs. 40 payable on imports of copra from British Colonies between 1933 and 1941. Similarly, the amount of duty payable on coconut oil worked out to Rs. 90 per ton between 1925 and 1929 as compared with Rs. 50 to Rs. 77-8 per ton payable on imports of coconut oil from British Colonies between 1933 and 1941.

The preferential and standard rates of duty on copra since 1933 have been 5 per cent. lower than the corresponding rates on coconut oil, but while the actual amount of duty payable on a certain weight of copra has consistently worked out to less than the duty payable on an equivalent weight of coconut oil at preferential rates of duty, it has not always been so at the standard rates of duty. In certain years, the incidence of duty calculated at the standard rates of duty worked out to be in favour of imports of coconut oil while at preferential rates of duty, it worked out in favour of imports of copra.

The imports of copra and coconut oil have steadily increased in recent years and in view of the decrease in the actual amount of duty payable per ton of copra and coconut oil and the anomalies pointed above, both the nature and rate of duty need to be examined. (Pages 36, 50, 51, 53, 54 and 62.)

Marketing coconuts and making copra on co-operative basis—

There appears to be a great scope for developing the marketing of coconuts on co-operative basis, especially in areas where nuts are stored for long periods for the preparation of dry coconuts and edible copra. Again, cultivators and village copra makers generally cannot sell their copra to the best advantage as the amount of copra sold by individual cultivators and village copra makers at a time is small. Co-operative Societies could make copra from coconuts collected from members or market members' copra after drying it properly. (Page 44.)

Increasing producer's share in consumer's price—

The producers are estimated to receive only about 60 per cent. of the price paid by consumers in the case of tender coconuts and 55 per cent. in the case of mature nuts, the balance being absorbed in transport costs, charges for handling, counting, weighing, etc., commissions, brokerage, tolls and taxes, market charges, deductions for quality, etc. The producer's share in the consumer's price can be improved by eliminating wasteful handling, and transport, fixation of market charges, standardisation of weights and counts, etc. (Pages 97 and 112.)

Statistics regarding copra crushed and coconut oil produced—

Statistics about the crushing of various oilseeds and production of oils are completely lacking in India. The position could be improved if oilseed crushing factories were to furnish compulsory returns of the quantities of different oilseeds crushed and oils produced by them. In the case of copra and coconut oil, this action would be necessary only in the States of Travancore and Cochin and certain districts of Madras, Bombay and Sind. (Page 59.)

Improving the quality of copra—

The insufficient drying of copra, especially copra prepared and marketed by village copra makers and producers, the practice of giving a preliminary drying in the kilns before exposing the kernels for sun drying, and the use of defective kilns have brought about a deterioration in the quality of Indian copra. A high standard of quality was insisted upon when there was an export trade in copra from India but the increased demand from local mills has helped the marketing of inferior qualities. The main reasons for giving insufficient drying and resorting to kiln drying or to the practice of giving a preliminary drying in kilns before sun drying, are want of finance and the erroneous belief on the part of sellers that buyers might underestimate or overlook the moisture. The quality of copra could be improved by providing better credit facilities, by educating copra makers about the losses incurred by selling insufficiently dried copra, and by improving the kilns. (Page 43.)

Grading of copra, coconut oil and coir yarn—

Several grades and qualities of copra are recognised in the trade, but the classification is based mostly on visual examination. For instance, ball copra is classified into different grades according to size but the sizes of different grades are not defined in any measurable unit. The result is that better types of copra do not fetch any better prices and buyers are tempted or compelled to offer prices which may not always be fair to the producers. The position could be improved by the trade adopting suitable specifications for the various grades of copra.

Similarly, several different qualities of coconut oil are known in the trade but there are no well recognised grades with specifications to indicate the various quality factors or the purity of oil. Coconut oil is also adulterated with mineral oils which spoils the quality of products made from coconut oil. The grading and marking of coconut oil under the Agricultural Produce (Grading and Marking) Act will help the consumers to obtain coconut oil of guaranteed purity and quality.

Again, several grades and sub-grades are in vogue in the coir yarn trade, mainly at the chief assembling and distributing markets and for the purchases made by exporters and manufacturers of mats and mattings. The grades and sub-grades are, however, to a large extent arbitrary, as they are based mainly on visual examination. Different buyers have their own standards for different grades and yarn placed by different buyers in a grade designated by a particular name often differs appreciably in quality. An examination of a large number of samples collected during the survey showed that while the different types and qualities of yarn exhibited some peculiar characteristics, there were considerable variations in respect of the various factors among the different samples of the same type or quality of yarn. The quality factors necessary to give an adequate idea of the quality of the yarn are colour, scourage, number of twists per foot, and amount of moisture and pith. If specifications are drawn on these lines in consultation with the trade for the important commercial types and qualities of yarn and consumers and merchants ask for yarn conforming to these specifications, it may be expected that in a short time the major portion of yarn production would be of a few standard grades. It is, therefore, desirable that coconut oil and coir yarn be graded and marked under the Agricultural Produce (Grading and Marking) Act. (Pages 113, 121 and 144.)

Examination of the rates of sea freight—

The rates of sea freight on copra and coconut oil from the main ports in coconut producing areas on the West Coast, *viz.*, Cochin, Alleppey and Calicut to Bombay, Karachi, Madras and Calcutta have been consistently higher than those from Colombo to the same ports. It is obvious that this is to the disadvantage of Indian copra

and indirectly affects the returns obtained by the producers on the West Coast. The coastal rates of freight for these commodities should, therefore, be examined and revised in relation to the freights from Ceylon to Indian ports. (Pages 119 and 125.)

Improvements in methods of retting—

A study of the methods and conditions of retting by scientific workers has shown that the period of retting could be shortened by crushing the husks before soaking by means of simple crushing rollers. The economics of modifying the common retting process and the possibilities of evolving cheap crushers suitable under the conditions prevailing at coconut gardens need to be examined. (Page 131.)

Possibilities of using chemical and mechanical methods of retting—

Several processes have been worked out in other countries for retting coconut husks by chemical and mechanical methods. It is claimed for one of the processes that it does not require installation of large scale plant and can be worked by individual growers or on a co-operative basis. The main advantages claimed for these processes are the saving in time, a higher yield and a greater uniformity in the quality of the products. The economics of the various processes have not, however, been fully investigated in comparison with the indigenous methods of retting practised in India. The possibilities and economics of these processes may be examined particularly with a view to developing the coir industry in new areas, *viz.*, the Mysore State and the Godavari districts of Madras. (Page 132.)

Better utilisation of coconut husk, shell and fibre—

Only about 43 per cent. of the supplies of husk are utilised for the coir industry, the balance being used as fuel or simply thrown away. If economical methods of retting for areas other than backwaters and coastal tracts could be evolved, larger quantities of husk could be utilised for the coir industry. It may also be possible by research to find other uses for husk, *e.g.*, for making cardboard or packing paper.

Similarly less than half the potential supplies of coconut shells are collected commercially and of this, less than a third used for making shell charcoal and preparation of various articles such as ladles, bowls, cups, bangles, buttons, etc., the remainder being burnt as fuel or thrown away. There appears to be ample room for technological research for the utilisation of coconut shells for various useful purposes, *e.g.*, for obtaining chemicals and other products by destructive distillation of shells. Again the physical and chemical properties of the coir fibre have not been fully studied and further research may find new uses for the fibre, *e.g.*, for protective lagging material for underground pipes and cables. Steps may, therefore, be taken to provide facilities for technological research on coconut products. This could form part of the activities of the Indian Coconut Board. (Pages 129, 136 and 140.)

Manufacture of desiccated coconuts—

Considerable quantities of coconut kernels (and copra) are shredded in India by consumers themselves by hand by turning the kernels over sharp serrated discs or plates. The shredded kernels and copra are used as garnish for various dishes and for the preparation of sweets, etc. In recent years, however, imports of machine-made desiccated coconuts from Ceylon have steadily increased. In view of the increasing demand, the possibilities of manufacturing desiccated coconuts in India may be examined. (Page 50.)

Establishing an Indian Coconut Board—

In Ceylon, the Coconut Board (financed from a small production cess on exports) and the Board of Management of the Coconut Research Scheme (financed from a research cess on exports) attend to various problems relating to the production, marketing and export of coconuts and coconut products. In India, too, similar problems require the close and undivided attention of a special body representative of the various coconut interests. An Indian Coconut Board with powers and functions somewhat similar to those of the Ceylon Coconut Board and the Board of Management of the Coconut Research Scheme should, therefore, be constituted. The necessary finance for this Board may be obtained by making a small levy on imports of copra and coconut oil, and on exports of coir products. (Pages 4, 5 and 31.)

APPENDIX I.
Exports of copra to various destinations from the main copra producing countries.
(Thousand tons.)

Destinations.	From Netherlands East Indies.			From Philippines.			From British Malaya.			From Ceylon.			From New Guinea.	
	Average 1909-13.	Average 1924-28.	Average 1936-37.	Average 1909-13.	Average 1924-28.	Average 1936-37.	Average 1909-13.	Average 1924-28.	Average 1936-37.	Average 1911-13.	Average 1924-28.	Average 1936-37.	Average 1936-37.	(b)
United States of America.	0.1	4.9	3.2	11.7	136.4	191.9	0.3	20.5	0.9	0.1	1.2	..	1.3	..
Mexico.	..	..	19.7	..	..	1.3	..	..	..	..	..	..	2.8	..
United Kingdom.	0.4	6.5	56.4	2.9	5.1	11.5	4.3	17.8	46.0	0.4	2.1	0.7	20.6	..
France.	31.2	58.0	56.4	9.9	4.6	12.9	32.4	28.7	61.1	29.2	24.9	1.3	7.3	..
Netherlands.	63.2	54.8	18.1	69.8	7.3	23.0	12.5	16.3	16.1	0.2	0.5	0.9	1.9	..
Denmark.	71.0	128.9	118.8	..	2.9	0.9	0.5	51.6	35.5	0.1	9.0	1.5	2.8	..
Norway.	0.3	31.3	78.2	..	..	0.2	4.8	9.6	0.4	1.7	14.5	2.7	7.2	..
Italy.	..	0.4	35.0	..	..	10.1	..	0.5	0.8	..	16.2	0.4	..	..
Sweden.	3.0	8.4	18.7	3.0	0.2	0.1	0.4	1.4	6.6	..	28.7	3.0	2.3	..
Belgium.	0.1	1.0	7.4	..	..	0.1	..	6.4	0.1	..	0.4	0.4	0.4	..
Austria.	0.1	3.0	8.9	10.2	22.4	4.6	6.0	0.6	0.1	0.6	..	..	..	..
Spain.	5.8	0.4	..	..	..	..	3.2	12.7	..	..	..	..	..	..
Australia.	0.1	..	..	..	..	..	..	..	..	..	..	..	..	..
Japan.	0.1	0.1	6.3	0.4	..	0.5	0.1	0.3	3.6	..	..	..	13.1	..
China.	..	..	1.1	..	..	0.1	..	..	7.5	..	..	..	..	..
India.	..	..	0.1	..	..	..	..	..	2.3	..	1.2	49.6	..	..
Malaya.	55.4	58.9	119.5	9.5	0.2	2.6	21.4(c)	..	15.0	10.3(d)	2.1	1.8	..	..
Others.	0.5	0.2	2.1	..	0.2	..	..	0.2	..	..	..	..	11.9	..
TOTAL	231.3	357.7	494.3	117.4	179.3	259.7	80.2	164.7	198.7	42.6	104.2	91.3	71.6	..

Source.—Vegetable Oils and Oilseeds: Imperial Economic Committee, and Survey of Oilseeds and Vegetable Oils—Coconut Palm Products: Empire Marketing Board.

(a) These figures represent the trade of the Straits Settlements after deducting trade with the other Malayan States.

(b) Years ending June.

(c) Includes 21,109 tons to Russia.

(d) Includes 9,052 tons to Russia.

APPENDIX II.

Exports of copra and coconut oil calculated as coconut oil from the main coconut producing countries.
(Thousand tons.)

Countries.	Average 1924-28.			Average 1929-33.			Average 1934-38.		
	Copra calculated as coconut oil.	Coconut oil.	Total.	Copra calculated as coconut oil.	Coconut oil.	Total.	Copra calculated as coconut oil.	Coconut oil.	Total.
Philippines ..	111.0 (48)	122.0 (52)	233.0 (100)	118.4 (44)	153.0 (56)	271.4 (100)	179.2 (53)	157.2 (47)	336.4 (100)
Netherlands East Indies ..	222.0 (93)	16.1 (7)	238.1 (100)	263.5 (94)	15.9 (6)	279.4 (100)	300.7 (96)	12.8 (4)	213.5 (100)
British Malaya ..	102.3 (92)	8.5 (8)	110.8 (100)	122.1 (91)	11.9 (9)	134.0 (100)	122.8 (75)	39.9 (25)	162.7 (100)
Ceylon ..	64.5 (67)	31.9 (33)	96.4 (100)	49.0 (51)	46.9 (49)	95.9 (100)	43.4 (42)	60.4 (58)	103.8 (100)
British South Sea Islands ..	83.1	..	83.1	90.5	..	90.5	98.0	..	98.0
India ..	..	4.4	4.4	..	2.6	2.6	..	0.4	0.4

NOTE.—The figures in brackets represent percentages to the total.

APPENDIX III.

Imports of copra and coconut oil calculated as coconut oil into the main importing countries.
(Thousand tons.)

Countries.	Average 1924-28.			Average 1929-33.			Average 1934-38.		
	Copra in terms of coconut oil.	Coconut oil.	Total.	Copra in terms of coconut oil.	Coconut oil.	Total.	Copra in terms of coconut oil.	Coconut oil.	Total.
United States of America ..	114.1 (50)	114.8 (50)	228.9 (100)	151.3 (51)	144.7 (49)	296.0 (100)	125.2 (45)	151.0 (55)	276.2 (100)
United Kingdom ..	47.1 (54)	39.7 (46)	86.8 (100)	57.7 (60)	37.9 (40)	95.6 (100)	66.3 (74)	23.2 (26)	89.5 (100)
Germany ..	110.4 (96)	4.6 (4)	115.0 (100)	96.7 (93)	7.7 (7)	104.4 (100)	124.0 (99)	1.5 (1)	125.5 (100)
France ..	94.9 (95)	5.2 (5)	100.1 (100)	117.2 (94)	7.0 (6)	124.2 (100)	88.7 (92)	7.3 (8)	96.0 (100)
Denmark ..	32.3 (72)	12.3 (28)	44.6 (100)	44.0 (88)	6.0 (12)	50.0 (100)	48.4 (93)	3.4 (7)	51.8 (100)
Netherlands ..	86.2 (96)	3.7 (4)	89.9 (100)	52.1 (93)	3.7 (7)	55.8 (100)	37.2 (85)	6.6 (15)	43.8 (100)
Czechoslovakia ..	11.2 (86)	1.8 (14)	13.0 (100)	14.9 (80)	3.6 (70)	18.5 (100)	27.9 (84)	5.4 (16)	33.3 (100)
Italy ..	14.9 (79)	3.9 (21)	18.8 (100)	21.7 (89)	2.6 (11)	24.3 (100)	22.9 (95)	1.1 (5)	24.0 (100)
Norway ..	11.2 (63)	6.5 (37)	17.7 (100)	18.6 (89)	2.4 (11)	21.0 (100)	22.9 (94)	1.5 (6)	24.4 (100)
Sweden ..	8.1 (60)	12.1 (60)	20.2 (100)	5.0 (21)	19.2 (79)	24.2 (100)	17.4 (50)	17.7 (50)	35.1 (100)
Austria ..	8.1 (79)	2.2 (21)	10.3 (100)	5.6 (57)	4.3 (43)	9.9 (100)	7.5 (65)	4.0 (35)	11.5 (100)
India ..	1.2 (21)	4.5 (79)	5.7 (100)	6.2 (30)	14.7 (70)	20.9 (100)	28.5 (50)	28.2 (50)	56.7 (100)

NOTE.—The figures in brackets represent percentages to the totals.

APPENDIX IV. Area under coconuts in India.

(Acres.)

Year.	Madras.	Orissa.*	Bombay.	Bengal.	Sind.†	Total British India.	Travancore.	Cochin.	Mysore.	Pudukottai.	Others.†	Total Indian States.	Total India.
1920-21	549,446	28,500	35,720	..	..	613,666	455,970	8,350	109,995	109	8	574,432 (574,424)	1188,098 (1188,090)
1921-22	559,404	28,500	38,049	700	..	626,653	454,811	17,100	124,346	225	..	596,482	1223,135
1922-23	543,263	28,500	50,676	600	..	623,039	465,594	17,650	122,970	159	..	606,373	1229,412
1923-24	546,960	28,500	50,689	600	..	628,749	500,686	28,423	122,414	352	..	651,875	1278,624
1924-25	525,445	28,500	38,006	600	..	592,551	496,592	28,627	127,170	231	17	652,637 (652,620)	1245,188 (1245,171)
1925-26	555,465	28,500	45,239	600	..	629,804	505,933 (510,452)	29,750	128,355	82	..	664,120 (663,639)	1293,924 (1298,443)
1926-27	552,815	28,500	31,297	11,500	..	624,112	511,612 (522,670)	65,762	138,783	67	18	716,242 (727,282)	1340,354 (1351,394)
1927-28	557,102	28,500	26,998	11,600	..	624,200	511,726 (504,044)	47,986 (63,986)	132,070	29	7	691,818 (700,129)	1316,018 (1324,329)
1928-29	570,330	28,500	26,640	13,600	..	639,070	533,051 (526,950)	58,113 (64,610)	139,959	56	6	731,185 (731,575)	1370,255 (1370,645)
1929-30	576,083	28,500	26,645	12,300	..	643,528	531,411 (563,048)	49,015 (60,016)	142,273	642	..	723,341 (771,978)	1366,869 (1415,506)
1930-31	561,272	28,500	26,691	12,500	..	638,963	551,058 (549,567)	57,348 (67,348)	146,430	688	..	755,524 (764,033)	1384,487 (1392,996)

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1931-32	539,031	28,500	27,088	12,800	..	607,419	549,167 (554,899)	67,317	147,501	981	..	764,974 (770,706)	1372,393 (1378,125)
1932-33	559,535	28,500	27,689	12,300	..	628,024	566,475 (562,132)	67,349	162,583	939	..	797,346 (793,003)	1425,370 (1421,027)
1933-34	561,555	28,400	27,790	12,900	..	630,645	587,464 (566,725)	68,233	162,982	919	34,740 (6,000)	854,338 (804,859)	1484,983 (1435,504)
1934-35	586,486	28,400	27,895	13,200 (31,200)	..	655,961 (673,981)	566,682 (566,590)	68,735	163,699	985	86 (6,000)	800,187 (806,009)	1456,148 (1479,920)
1935-36	582,760	33,659	27,763	13,700 (31,700)	21†	657,903 (675,903)	578,317 (575,340)	64,359 (68,822)	164,722	1,011	99 (6,000)	808,508 (815,895)	1466,411 (1491,798)
1936-37	584,613	30,186	27,911	12,700 (30,700)	13	655,423 (673,423)	577,419	68,895 (68,985)	164,633	1,214	15 (6,000)	812,176 (818,251)	1467,599 (1491,674)
1937-38	586,130	30,132	27,606	13,300 (31,300)	17	657,185 (675,185)	580,226	66,961	176,091	1,267 (1,580)	9 (6,000)	824,554 (830,858)	1481,739 (1506,043)
1938-39	565,424	30,021	28,702	13,300 (31,300)	12	657,459 (675,459)	584,736	67,058	174,389	1,328 (1,580)	..	827,511 (833,763)	1484,970 (1509,222)
1939-40	608,607	30,014	28,671	13,100 (31,100)	22	680,414 (698,414)	580,416	67,047	161,352	1,342	..	810,157 (816,159)	1490,571 (1514,571)
1940-41	598,427	29,193	28,418	12,000 (30,000)	23	668,061 (686,061)	546,717	67,050	162,629	1,357	..	777,762 (783,762)	1445,823 (1469,823)
1941-42	596,147	28,425	28,547	12,700	29	665,848	..	67,061	165,766	1,386	..	..	..

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Source.—Agricultural Statistics of India and Season and Crop Reports of Madras and Bombay.

* The figures up to 1934-35 (when Bihar and Orissa together formed one province) refer to Bihar and Orissa but there being no coconut cultivation in Bihar, they have been taken as for Orissa.

† Figures for previous years are included with Bombay.

‡ Banganapalle, Kashmir, Hyderabad, Bundi, Amudh, Indore and Nagod.

Note.—The figures in brackets represent revised figures of acreage discussed on pages 19—21. The revised figures under the column "others" include 5,000 acres for Assam and 1,000 acres for other areas. The revised totals for India are based on revised figures given in the different columns and exclude the original figures given under "others".

APPENDIX V.

Estimated production of coconuts in India.

Provinces and States.	Average area 1934-35 to 1938-39.	Average number of trees per acre.	Total number of trees.	Non-bearing trees.	Bearing trees.	Average number of bearing trees per acre.	Yield of nuts per bearing tree.	Average yield of nuts per acre.	Total production of nuts.
	(Thousand acres)		(Thousand)	(Thousand)	(Thousand)				(Thousands)
Madras	585	80	46,800	2,926	43,874	75	28	2,100	1,228,500
Travancore	577	70	40,390	3,041	37,349	65	30	1,950	1,125,150
Mysore	169	47	7,943	1,080	6,863	40	50	2,000	338,000
Cochin	68	75	5,100	874	4,226	62	30	1,860	126,480
Orissa	31	65	2,015	643	1,372	44	40	1,760	54,560
Bengal	31	50	1,550	155	1,395	45	30	1,350	41,850
Bombay	28	105	2,940	735	2,205	79	24	1,896	53,088
Assam	5	45	225	90	135	27	40	1,080	5,400
Putukkottai	1	105	105	26	79	79	20	1,580	1,580
Others	1	70	70	17	53	53	30	1,590	1,590
Total	1,496	72	107,138	9,587	97,551	65	31	1,989	2,976,193

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APPENDIX VI. Imports of coconuts into India.* (Thousand nuts.)

Year.	Through British India ports.		Through Kathiawar States ports.	Through French ports.	Total.
	From other countries.	From Burma.†			
1909-10	4,856	88		..	4,944
1910-11	4,843	1		..	4,844
1911-12	4,239	2		..	4,241
1912-13	4,475	..		..	4,475
1913-14	4,568	1		..	4,569
Average	4,596	18		..	4,614
1914-15	5,087	2		..	5,089
1915-16	3,961	1		..	3,962
1916-17	3,543	(a)		..	3,543
1917-18	5,121	7		..	5,128
1918-19	3,513	29		..	3,542
Average	4,245	8	Not available.	..	4,253
1919-20	2,704	..		..	2,704
1920-21	2,124	..		..	2,124
1921-22	3,667	80		..	3,747
1922-23	1,527	12		..	1,539
1923-24	2,413	102		..	2,515
Average	2,487	39		..	2,526
1924-25	2,776	97		..	2,873
1925-26	4,736	76		..	4,812
1926-27	3,665	74		..	3,739
1927-28	3,974	68		..	4,042
1928-29	3,660	(a)		..	3,660
Average	3,762	63		..	3,825
1929-30	3,867	(b)		..	3,867
1930-31	2,548	(b)		..	2,548
1931-32	4,847	(b)	116	..	4,963
1932-33	8,371	1	62	..	8,434
1933-34	4,178	42	35	(a)	4,255
Average	4,762	9	43	..	4,814
1934-35	9,693	6	146	5	9,850
1935-36	9,206	7	24	107	9,344
1936-37	6,355	..	..	21	6,376
1937-38	3,624	..	30	38	3,692
1938-39	6,153	..	14	62	6,229
Average	7,006	3	43	46	7,098
1939-40	4,422	..	57	(b)	4,479
1940-41	8,272	..	8	(b)	8,280
1941-42	7,405	..	17	(b)	7,422
1942-43	8,077	..	40	(b)	8,117

Source.—Annual Statements of the Sea-borne Trade of British India, Annual Statements of the Sea-borne Trade and Navigation of Burma, Accounts relating to the Coast ing Trade and Navigation of British India and Trade Statistics relating to the Maritime States in Kathiawar and the State of Travancore.

*Excluding imports into Burma (which was a part of India up to 1936-37) and including imports into India from Burma.

†Exports from Burma to India.

(a) Less than 500 nuts.

(b) Not available.

APPENDIX VII.

Imports of coconuts from different countries through British India ports.

(Thousand nuts.)

Source.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	Average.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.	1940-41.	1941-42.
Ceylon	1,738	407	2,662	7,083	2,319	2,940	7,527	7,816	5,346	2,106	4,283	5,416	2,459	6,710	5,882
Maldives	2,126	2,141	2,185	1,288	1,859	1,922	2,162	1,311	1,004	1,497	1,829	1,560	1,963	1,537	1,321
Straits Settlements	1	(a)	..	..	(a)	..	4	75	2	8	10	20	(a)	25	..
Burma*	..	..	..	1	42	9	6	7	..	..	..	3	..	..	..
Others	2	(a)	(a)	(a)	(a)	..	(a)	4	3	13	31	10	(a)	..	202
TOTAL	3,667	2,548	4,847	8,372	4,220	4,771	9,699	9,213	6,355	3,624	6,153	7,009	4,422	8,272	7,403
Share of Bengal	2,079	2,097	2,166	1,289	1,883	1,903	2,163	1,282	982	1,444	1,810	1,538	1,945	1,537	..
" Bombay	2	(a)	7	(a)	3	2	910	140	9	13	9	216	..	(a)	..
" Madras	1,764	451	2,671	7,075	2,334	2,663	6,026	7,780	5,364	2,167	4,332	5,254	2,477	6,735	..
" Sind	2	(a)	3	8	(a)	3	(a)	1	..	..	2	1	..	(a)	..

Source.—Annual Statements of the Sea-borne Trade of British India and Annual Statements of the Sea-borne Trade and Navigation of Burma.
 (a) Less than 500 nuts.
 * Exports from Burma to India up to 1936-37.

APPENDIX VIII.

Exports of coconuts from India.*

(Thousand nuts.)

Year.	Through British India ports.		Through French ports to Burma.†	Total.
	To other countries.	To Burma.†		
1909-10	297	7,714	} Not available.	8,011
1910-11	593	7,445		8,038
1911-12	464	6,651		7,115
1912-13	532	7,705		8,953
1913-14	344	8,112		8,688
Average	446	7,525	190	8,161
1914-15	272	6,588	502	7,362
1915-16	304	8,823	353	9,480
1916-17	198	6,081	329	6,608
1917-18	328	5,364	..	5,692
1918-19	663	7,418	..	8,081
Average	353	6,855	237	7,445
1919-20	965	7,753	..	8,718
1920-21	262	6,017	..	6,279
1921-22	453	10,732	6‡	11,191
1922-23	466	9,700	..	10,166
1923-24	299	8,474	..	8,773
Average	480	8,535	1	9,025
1924-25	379	8,635	} Not available	9,014
1925-26	144	8,556		8,700
1926-27	149	10,389		10,538
1927-28	160	10,920		11,080
1928-29	150	8,782		8,932
Average	197	9,456	..	9,653
1929-30	161	8,217	} Not available	8,378
1930-31	168	9,302		9,470
1931-32	127	11,205		11,332
1932-33	113	7,620		7,733
1933-34	229	7,898		8,127
Average	160	8,848	..	9,008
1934-35	186	8,533	} Not available	8,719
1935-36	69	6,916		6,985
1936-37	200	6,675		6,875
1937-38	239	5,665		5,907
1938-39	285	5,430		5,715
Average	196	6,644	3‡	6,840
1939-40	239	3,223	1‡	3,463
1940-41	193	5,326	..	5,519
1941-42	Not available.	..	..	5,713
1942-43	Not available.	Not available.	..	22

Source.—Annual Statements of the Sea-borne Trade of British India, Annual Statements of the Sea-borne Trade and Navigation of Burma, and Accounts relating to the Coasting Trade and Navigation of British India.

* Excluding exports from Burma (which was a part of India up to 1936-37) and including exports from India to Burma.

† Imports into Burma from India up to 1936-37.

‡ Through Kathiawar States ports to other countries.

APPENDIX IX.

Exports of coconuts to different countries through British India ports.

(Thousand nuts.)

Destinations.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	Average.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.	1940-41.	1941-42.
Burma*	8,217	9,302	11,205	7,620	7,898	8,848	8,533	6,916	6,675	5,665	5,430	6,644	3,223	5,326	
Other British Possessions	12	21	11	2	4	10	1	(a)	14	21	35	14	6	7	Not avail- able.
Iraq	87	105	110	105	208	123	153	66	181	204	231	167	226	159	
Other Foreign Countries	62	42	6	6	17	27	32	3	5	14	19	15	7	27	
TOTAL	8,378	9,470	11,332	7,733	8,127	9,008	8,719	6,985	6,875	5,904	5,715	6,840	3,462	5,519	5,713
Share of Bengal	4,478	2,834	3,734	4,232	3,371	3,780	4,445	3,208	1,390	377	266	1,837	291	369	Not avail- able.
" Bombay	135	119	105	106	187	130	117	65	132	141	97	111	149	112	
" Madras	8,764	6,495	7,483	3,390	4,541	5,133	4,118	3,709	5,286	5,314	5,235	4,792	2,936	4,962	
" Orissa	..	..	..	..	..	..	..	..	..	4	5	2	..	..	
" Sind	11	22	10	5	23	15	39	3	67	68	112	53	86	76	

Source.—Annual Statements of the Sea-borne Trade of British India, Annual Statements of the Sea-borne Trade and Navigation of Burma and Accounts relating to the Coasting Trade and Navigation of British India.
(a) Less than 500 nuts.
* Imports into Burma from India up to 1936-37.

APPENDIX X.

Imports of copra into India.*

(Tons.)

Year.	Through British ports.		Through Kathiawar States ports.	Total.
	From other countries.	From Burma.†		
1909-10	345	53		398
1910-11	39	30		69
1911-12	16	50		66
1912-13	9	..		9
1913-14	15	6		21
Average	85	28		113
1914-15	610	1		611
1915-16	487	..		487
1916-17	5,179	..		5,179
1917-18	39,159	18		39,177
1918-19	41,932	..		41,932
Average	17,473	4	Not available	17,477
1919-20	25,917	..		25,917
1920-21	8,252	..		8,252
1921-22	1,790	..		1,790
1922-23	201	1		202
1923-24	653	4		657
Average	7,363	1		7,364
1924-25	1,663	69		1,732
1925-26	3,105	243		3,348
1926-27	163	12		175
1927-28	1,437	3		1,440
1928-29	1,560	4		1,564
Average	1,586	66		1,652
1929-30	152	58		210
1930-31	498	..		498
1931-32	2,222	2	1	2,225
1932-33	16,208	5	1	16,214
1933-34	29,157	..	402	29,559
Average	9,647	13	81	9,741
1934-35	33,738	..	579	34,317
1935-36	45,316	..	781†	46,097
1936-37	52,176	..	297	52,473
1937-38	49,383	..	545	49,928
1938-39	46,997	..	417	47,414
Average	45,522	..	524	46,046
1939-40	40,261	..	218	40,479
1940-41	91,308	..	633	91,941
1941-42	108,471	..	172	108,643
1942-43	55,215	..	744	55,959

Source.—Annual Statements of the Sea-borne Trade of British India, Annual Statements of the Sea-borne Trade and Navigation of Burma, Accounts relating to the Coasting Trade and Navigation of British India and Trade Statistics relating to the Maritime States in Kathiawar and the State of Travancore.

* Excluding imports into Burma (which was a part of India up to 1936-37) and including imports into India from Burma.

† Exports from Burma to India.

‡ Including 26 tons through French ports.

APPENDIX XI.

Imports of copra from different countries through British India ports.

(Tons.)

Sources.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	Average.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.	1940-41.	1941-42.
Ceylon (excluding Maldives)	119	58	1,248	12,629	21,761	7,163	32,353	35,120	44,758	45,613	44,486	40,472	35,666	82,678	103,534
Straits Settlements	..	..	..	5	..	1	967	8,382	2,946	..	..	2,459	1,105	1,357	543
Federated Malay States	..	..	..	..	..	..	..	650	1,125	..	..	355	..	..	..
Seychelles	19	429	751	2,749	1,104	1,010	239	1,053	2,665	1,605	2,495	1,911	3,423	4,980	..
Aden and Dependencies	12	..	88	761	6,188	1,410	..	22	..	2,113	..	427	..	..	..
Burma*	58	..	2	5	..	13	..	..	..	..	..	..	..	3	4,394
Others	2	11	135	64	104	63	149	89	982	52	16	198	67	2,290	..
TOTAL	210	498	2,224	16,213	29,157	9,660	33,738	45,316	52,176	49,383	46,997	45,322	40,261	91,398	108,471
Share of Bengal	164	48	16	24	29	56	12	52	3	12	13	18	178	56	..
" Bombay	44	436	767	3,409	17,463	4,505	22,462	39,987	26,916	31,075	31,111	28,510	30,823	51,165	..
" Madras	1	14	117	5,833	3,042	1,985	5,101	7,044	14,855	5,704	555	6,652	9,163	21,292	..
" Sind	1	..	1,324	6,927	7,318	3,114	6,163	7,233	10,402	12,592	15,318	10,342	97	18,795	..
Not avail- able.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Source.—Annual Statements of the Sea-borne Trade of British India and Annual Statements of the Sea-borne Trade and Navigation of Burma.
* Exports from Burma to India upto 1936-37.

APPENDIX XII.

Exports of copra from India.*

(Tons.)

Year.	Through British ports.		Through non-British ports to Burma.†	Total.
	To other countries.	To Burma.†		
1909-10	26,667	311	..	26,978
1910-11	22,444†	383	..	22,827
1911-12	31,675	230	..	31,905
1912-13	34,321	112	..	34,433
1913-14	38,173	219	..	38,392
Average	30,656	251	..	30,907
1914-15	31,837	595	..	32,432
1915-16	15,640	609	2	16,251
1916-17	26,594	603	1	27,198
1917-18	5,865	238	3	6,106
1918-19	442	1,020	6	1,468
Average	16,076	613	2	16,691
1919-20	10,629	941	3	11,573
1920-21	2,732	1,019	2	3,753
1921-22	2,970	1,076	5	4,051
1922-23	13,942	84	..	14,026
1923-24	3,981	382	4	4,367
Average	6,851	700	3	7,554
1924-25	454	665	2	1,121
1925-26	111	1,050	1	1,162
1926-27	2,143	900	..	3,043
1927-28	380	822	..	1,202
1928-29	124	1,082	..	1,206
Average	642	904	1	1,547
1929-30	106	691	..	797
1930-31	59	603	..	662
1931-32	26	760	..	786
1932-33	35	975	..	1,010
1933-34	33	1,274	..	1,307
Average	52	860	..	912
1934-35	59	858	..	917
1935-36	48	1,037	..	1,085
1936-37	38	1,770	..	1,808
1937-38	96	36	..	132
1938-39	76	23	..	99
Average	63	745	..	808
1939-40	84	22	..	106
1940-41	91	24	..	115
1941-42	..	..	..	135
1942-43	..	..	..	201

Source.—Annual Statements of the Sea-borne Trade of British India, Annual Statements of the Sea-borne Trade and Navigation of Burma and Accounts relating to the Coasting Trade and Navigation of British India.

* Excluding exports from Burma (which was a part of India up to 1936-37) and including exports from India to Burma.

† Imports into Burma from India up to 1936-37.

† Includes 1 ton through French ports in India.

APPENDIX XIV.

Imports of coconut oil into India.*
(Tons.)

Year.	Through British India ports.		Through Kathiawar States ports.	Total.
	From other countries.	From Burma.†		
1909-10	131	..		131
1910-11	11	..		11
1911-12	17	(a)		17
1912-13	26	(a)		26
1913-14	119	..		119
Average	60	(a)		61
1914-15	121	(a)		121
1915-16	32	..		32
1916-17	256	..		256
1917-18	1,239	..		1,239
1918-19	522	(a)		522
Average	434	..		434
1919-20	96	..		96
1920-21	818	..		818
1921-22	286	..		286
1922-23	27	(a)		27
1923-24	492	10		502
Average	344	2		346
1924-25	2,313	4		2,317
1925-26	4,727	5		4,732
1926-27	212	15		227
1927-28	5,465	(a)		5,465
1928-29	9,535	125		9,660
Average	4,450	30		4,480
1929-30	6,229	195		6,424
1930-31	4,887	11		4,898
1931-32	12,801	59		12,860
1932-33	28,123	297	85	28,505
1933-34	20,488	128	327	20,943
Average	14,506	138	82	14,726
1934-35	25,816	40	353	26,209
1935-36	29,695	23	259	29,977
1936-37	27,767	119	239	28,125
1937-38	27,849	104	331	28,284
1938-39	28,202	3	380	28,585
Average	27,866	58	312	28,236
1939-40	41,510	1	1,046	42,557
1940-41	61,222	6	361	61,589
1941-42	45,802	..	300	46,102
1942-43	5,286	..	..	5,286

Source.—Annual Statements of the Sea-borne Trade of British India, Annual Statements of the Sea-borne Trade and Navigation of Burma, Trade Statistics relating to the Maritime States in Kathiawar and the State of Travancore and Accounts relating to the Coasting Trade and Navigation of British India.

* Excluding imports into Burma (which was part of India up to 1936-37), and including imports into India from Burma.

† Exports from Burma to India up to 1936-37.

(a) Less than 1 ton.

APPENDIX XIII.
Exports of copra to different countries through British India ports.
(Tons.)

Destinations.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	Average, 1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.	1940-41.	1941-42.
United Kingdom														
Burma*	691	603	760	975	1,274	860	1,037	1,770	36	23	745	22	24	24
Other British Possessions	12	5	3	1	6	5	7	5	16	15	11	24	16	16
Foreign Countries	94	54	23	34	27	47	41	33	80	61	52	60	75	75
TOTAL	797	662	786	1,010	1,307	912	1,085	1,808	132	99	803	106	115	135
Share of Bengal	679	585	742	955	1,105	813	1,012	1,527	..	..	676	..	4	..
" Bombay	117	74	44	55	52	68	63	50	98	84	73	88	69	..
" Madras	1	..	..	..	149	30	8	230	32	15	57	16	15	..
" Sind	..	3	..	..	1	1	2	1	2	..	2	2	27	..
														Not avail- able.

Source.—Annual Statements of the Sea-borne Trade of British India, Annual Statements of the Sea-borne Trade and Navigation of Burma and Accounts relating to the Coasting Trade and Navigation of British India.

* Imports into Burma up to 1936-37.

APPENDIX XVII.

Exports of coconut oil to different countries through British India ports.

(Tons.)

Destinations.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	Average, 1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.	1940-41.	1941-42.
Burma*	3,606	3,787	3,260	694	747	2,419	342	169	470	210	269	280	129	64
United Kingdom	61	54	47	49	51	52	65	59	28	28	24	41	34	6
Netherlands	169	85	55	15	15	68	35	30	..	..	..	13	..	..
Others	78	70	47	56	64	63	61	46	31	89	63	58	45	133
TOTAL	3,914	3,966	3,409	814	877	2,602	503	304	520	327	296	392	208	293
Share of Bengal	335	47	9	23	18	86	24	26	20	64	91	47	97	62
" Bombay	57	26	18	24	17	28	64	23	9	31	16	28	16	99
" Madras	3,513	3,910	3,376	753	827	2,476	397	243	480	205	159	297	70	23
" Sind	9	13	6	14	15	12	13	12	11	27	30	20	25	19

Source.—Annual Statements of the Sea-borne Trade of British India, Annual Statement of the Sea-borne Trade and Navigation of Burma and Accounts relating to the Coasting Trade and Navigation of British India.
* Imports into Burma from India up to 1936-37.

APPENDIX XVIII.

Exports of coconut cake to different countries through British India ports.

(Tons.)

Destinations.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	Average.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.*
Belgium	2,775	2,890	2,255	2,120	2,951	2,598	3,925	3,825	4,136	7,798	9,388	5,684	2,926
Germany	1,552	984	655	..	..	698	..	..	..	..	100	20	199
Other Countries	..	..	79	..	14	19	132	..	51	100	181	93	378
TOTAL	4,327	3,874	2,989†	2,120	2,965	3,255	3,457	3,825	4,187	7,898	9,669	5,897	3,503
Share of Bengal	20	..	..	19	..	8	102	..	..	..	..	20	..
" Bombay	124	177	188	..	40	106	525	1,359	926	2,404	1,573	1,357	774
" Madras	1,483	984	229	..	14	542	30	..	5	300	998	267	101
" Sind	2,700	2,713	2,172	2,101	2,911	2,519	2,800	2,466	3,256	5,194	7,098	4,103	2,628

Source.—Annual statements of the Sea-borne Trade of British India and Accounts relating to the Coasting Trade and Navigation of British India.

* Note.—The exports in 1940-41 and 1941-42 were 1 ton and 8 tons respectively.

† Includes 160 tons exported from Burma.

APPENDIX XIX.

Rates of duty levied on imports of coconuts, copra and coconut oil in India and their tariff valuation.

Year.	Coconuts.				Copra.		Coconut oil.	
	Ad valorem duty (per cent.).	Tariff value (rupees per thousand).			Ad valorem duty (per cent.).	Tariff value (rupees per cwt.).	Ad valorem duty (per cent.).	Tariff value (rupees per cwt.).
		For imports from Straits Settlements, Netherlands East Indies and Thailand.	For imports from Maldives.	For imports from other countries.				
1925	15	120	34	55	15	21	15	30
1926	15	115	34	55	15	22	15	30
1927	15	112	38	55	15	22	15	30
1928	15	105	30	45	15	22	15	30
1929	15	97	31	45	15	22	15	30
1930	15	105	30	50	15	17	15	28
From 1st January 1931	15	105	30	48	15	16	15	21/8
From 1st March 1931	20	105	30	48	20	16	20	21/8
From 5th April 1931	25	105	30	48	25	16	25	21/8
1932	25	Rusked 66 Unhusked 104	21	33	25	11/12	25	16
1933	Standard 30 Preferential 20	65	21	32	Standard 30 Preferential 20	10	Standard 35 Preferential 25	15/8
1934	"	55	21	32	"	9	"	12/8

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APPENDIX XIX—contd.

Year.	Coconuts.				Copra.		Coconut oil.	
	Ad valorem duty (per cent.).	Tariff value (rupees per thousand).			Ad valorem duty (per cent.).	Tariff value (rupees per cwt.).	Ad valorem duty (per cent.).	Tariff value (rupees per cwt.).
		For imports from Straits Settlements, Netherlands East Indies and Thailand.	For imports from Ceylon.	For imports from other countries.				
1935	Standard 30 Preferential 20	44	28/8	22/12	Standard 30 Preferential 20	6	Standard 35 Preferential 25	10
1936	"	55	45	30	"	9	"	13
1937	"	52	47	25	"	10	"	14
1938	"	52	44	25	"	10	"	14
1939	"	56	41	21	"	8/4	"	11/8
1940	"	56	41	21	"	From 1st January 1940. 9 From 22nd July 1940. 10	"	From 1st January 1940. 12/8 From 22nd July 1940. 14
1941*	"	58	40	23	"	9	"	13
From 1st January 1942*	"	58	40	23	"	9	"	13
From 26th March 1942*	Standard 36 Preferential 24	58	40 50	23 30	Standard 36 Preferential 24	9	Standard 42 Preferential 30	13
1943	"	"	50	30	"	†	†	"

* For imports from Burma, the preferential rate of duty was 10 per cent. on coconuts and copra and 15 per cent. on coconut oil from 1st April 1941. From 26th March 1942 the preferential rate of duty was 12 per cent. on coconuts and copra and 15 per cent. on coconut oil.
† Abolished.

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APPENDIX XX.

Rates of duty levied on exports of coconuts, copra and coconut oil from Travancore State and their tariff valuation.

Period.	Ad valorem duty. (Per cent.)	Tariff values.					
		Coconuts.	Copra.	Coconut oil.	Coir.	Coconut husk.	Coconut cake.
		(Per 1,000).	(Per cwt.)	(Per cwt.)	(Per cwt.)	(Per cwt.)	(Per cwt.)
		Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.
From 1st January 1920 to 7th February 1927.	5	67 8	22 8	18 12*	Not available.		
From 8th February 1927 to 31st May 1929.	5	50 10	18 0	15 0†	do.		
From 1st June 1929 to 19th July 1931.	5	60 0	20 0	15 0	do.		
From 20th July 1931 to 31st December 1934.	5	48 0	16 0	12 0	do.		
From 1st January 1935	5	30 0	10 0	10 0	12 0	80 0	60 0

* Up to 12th June 1927.

† From 13th June 1927.

APPENDIX XXI.

Estimated number of chekkus, rotary mills and expellers engaged in copra crushing and estimated average quantities of copra crushed and coconut oil and coconut cake produced in different provinces and States.

Provinces and districts or States.	Chekkus.			Power mills.				Total.		
	Number of chekkus.	Quantities of copra crushed.	Production of coconut oil.	Number of power-driven oil mills.	Number of expellers.	Number of rotary mills.	Quantities of copra crushed.	Production of coconut oil.	Quantities of copra crushed.	Production of coconut oil.
		Tons.	Tons.				Tons.	Tons.	Tons.	Tons.
Madras—										
Malabar and South Kanara districts.	6,072	29,000	17,400	15	2	146	10,000	6,250	42,000	25,450
Tanjore, Coimbatore, Trichinopoly, Thiruvelli and Godavari East districts.	5,852	3,000	1,800	..	..	..	..	..	..	..
Bombay—										
Ratnagiri and North Kanara districts.	1,977	1,500	900	7	..	7	500	300	26,000	18,800
Bombay and suburbs.	Few	Negligible	..	9	23	94	28,000	17,900	..	..
Sind—										
Karachi	..	..	..	2	8	..	20,000	12,000	20,000	12,000
Travancore	600	5,000	3,000	50	..	586	75,000	46,500	80,000	40,500
Cochin	90	1,000	600	28	2	513	27,000	17,000	28,000	17,000
Others	Not available.	500	300	Not available.	..	..	2,500	1,550	3,000	1,850
TOTAL	14,591	41,000	24,000	111	35	1,346	163,000	101,800	203,000	125,800

(Average 1934-35 to 1938-39.)

APPENDIX XXII.

List of some of the oil mills engaged in crushing copra.

Centres for copra crushing.	Names of mills.
Bombay Province—	
Bombay	Ahmed Oomerbhoy Oil mills. Byculla Oil Mills. Habib Rowji Oil Mills. Haji Ismail Tarmohamed Oil Mills. Haji Noormohamed Ali Mohd. Oil Mills. Haji Sulaiman Haji Yusuf Oil Mills. Haroon & Co. Oil Mills. Nawajiwan Oil Mills. New Worli Oil Mills. Swastik Oil Mills. Tata Oil Mills Co., Ltd. Umar Dosa Oil Mills.
Cochin State—	
Azhi Kode	St. Thomas Oil Mills.
Cherlai	Tribhuvan Rice & Oil Mills.
Edacochin	Kalpaka Oil Mills Co.
Ernakulam	Ernakulam Mills. N. K. Oil Mills. Tata Oil Mills Co.
Irinjalakuda	Popular Oil & Rice Mills. K. J. Lazar's Oil Mills.
Kandassankadavu	St. Joseph Rice & Oil Mills.
Kattur	Holy Family Rice & Oil Mills.
Palluruthy	Abdul Sattar Hajee Moosa's Oil Mills. A. Foizullah Bhoy & Co. Damodar Das Prabhudas Oil Mills. Dhanalakshmi Mills Co. Dharsey Khetsey Oil Mills. Haji Julas Haji Mohamed Oil Mills. Kassam Ayoob's Oil Mills. Sree Venkatesh Oil Mills.
Perumanur	K. K. Vargheese Oil Mills.
Trichur	Mani Rice & Oil Mills. St. Thomas Rice & Oil Mills.
Tripunithura	Prabhat Oil Mills. J. M. J. Rice & Oil Mills.
Vypeen	R. S. Vasudeva Shenoy's Oil Mill.

APPENDIX XXII—contd.

Centres for copra crushing.	Names of mills.
Madras—	
Malabar	Ananda Vilas Rice & Oil Mills. Angaleswari Rice, Flour & Oil Mills. Anjikandy Rice & Oil Mills. Lakshmi Rice & Oil Mills. Malabar Rice & Oil Mills. Omneri Upperi Hajje & Co. Taliparamba Rice & Oil Mills. Tellicherry Oil Mills. Thil Oil Mills. Thunoli Mills.
South Kanara	Father Pinto Teppo Saints Charity Institute. Madhava Oil & Flour Mills. Sharma Prakash Press & Power Mills. Sivarama Andavar Deccan Co. Sri Krishna Mills Co.
Tanjore	Sri Lakshmi Srinivas Oil Mill. Venkateswara Prabhu Oil Mill.
West Godavari	Chandrasekhar Oil Mills. Lakshmi Narayana Rice & Oil Mills. Seetharam Anjaneya Rice, Flour & Oil Mills. Sri Seetharama Rice & Oil Mills.
Travancore State—	
Alleppey	Balaskanda Oil Mills No. 1. Balaskanda Oil Mills No. 2. C. P. Oil Mills. G. Geeraya Kamathi and Co. John Matthews Oil Mills. Kandathil Joseph Oil Mills. M. G. Kanathy Oil Mills. P. J. P. G. Oil Mill and Co. Pothan Joseph & Sons' Oil Mills. S. P. Ramaswamy Iyer Oil Mills. Vazhathopa Oil Mills.
Quilon	Abdul Tayeb Shaikh Kadirbhoy Oil Mills.
Shertally	A. C. M. A. & C. M. P. Oil Mill. M. V. Oil Mill.

APPENDIX XXIII.

Note on the utilisation of coconut oil for soap making in India.

Coconut oil is one of the most common vegetable oils used for soap making in India. The quantities of this oil utilised for soap making, therefore, depend primarily on the quantities of soap made in India.

Output of soaps in India.—According to statistics prepared by the Indian Munitions Board in 1918, the annual output of soaps from factories in India was estimated to be about 22,000 tons* and it was anticipated that there would be an additional output of about 15,000 tons from the factories to be started. In addition to this, about 11,000 tons of soap were imported (through British India ports only) into India† from abroad in 1919-20. The total consumption of soaps in India may thus be reckoned to have been about 48,000 tons in 1920. Since then, the consumption has gone up considerably with the increase in population and the growing "soap habit". On the other hand, the imports from abroad steadily declined after 1929-30 (in which year over 17,000 tons of soaps—the largest quantity in any one year—were imported into India). The fall in imports has been very marked after 1934-35, as will be seen from the following figures:—

Imports of soaps into India† through British India ports.

(Tons.)		
Period.		Quantities.
Average of 1919-20 to 1923-24		10,663
" " 1924-25 to 1928-29		14,695
" " 1929-30 to 1933-34		12,786
1934-35	8,768	
1935-36	2,733	
1936-37	2,217	
1937-38	2,077	
1938-39	1,715	
Average of 1934-35 to 1938-39		3,502
1939-40	1,661	
1940-41	1,238	
1941-42	1,334	

Simultaneously with the decrease in imports, the number of soap factories and the total output of soaps in India have increased considerably: this is reflected by the increase in the imports of caustic soda, which is an essential material for soap making. The following figures indicate the extent of the increase in the imports of caustic soda.

* Bulletin No. 12 of Industrial Research Bureau: The manufacture of soap in India.

† Excluding Burma which was part of India up to 1936-37.

Imports of caustic soda into India through British India ports.*

(Tons.)		
Period.		Quantities.
Average 1919-20 to 1923-24		4,389
" " 1924-25 to 1928-29		7,054
" " 1929-30 to 1933-34		11,895
1934-35	17,746	
1935-36	19,266	
1936-37	20,216	
1937-38	25,924	
1938-39	25,057	
Average 1934-35 to 1938-39		21,642
1939-40	35,681	
1940-41	34,941	
1941-42	26,990	

In addition to the imports through British India ports, some caustic soda is also imported through Kathiawar States ports. The imports through these ports during the period 1934-35 to 1938-39 averaged 1,997 tons. The total imports of caustic soda into India during this period, therefore, averaged 23,639 tons. Of this, according to information supplied by the distributors of caustic soda, about 40 per cent. or roughly 9,500 tons annually were used for soap making. This figure provides an indirect means of estimating the output of soaps in India.

The weight of soap obtained by using a certain weight of caustic soda varies with the oils and fats used, methods of manufacture, the type and quality of soaps, and the amount of fillers added. In the case of toilet soaps, the output of soap from every ton of caustic soda used may be 5 to 6 tons while in the case of laundry or washing soaps, it may be 7 to 10 tons. Taking an average output of 8 tons soap per ton of caustic soda used, the total output of soaps obtained from 9,500 tons of caustic soda may be reckoned to be 76,000 tons. Besides caustic soda, soda ash, *sajjit* and caustic potash are also used for saponifying oils and fats for the manufacture of soaps. Allowing for soaps made from these materials, the average output of soaps during the period 1934-35 to 1938-39 may be reckoned to be about 80,000 tons.

Enquiries about the output of soaps were also made during the survey and it was found that soaps are made in practically all parts of India in large or small factories or as a cottage industry, but by far the most

* Excluding Burma which was part of India up to 1936-37.

* Crude form of sodium carbonate found in some parts of India.

important provinces for soap manufacture are Bengal, Bombay and the Punjab. In Bengal, a survey of the soap industry was undertaken by the Department of Industries, as a result of which the average annual output of washing and toilet soaps was reported in 1939 to be about 24,000 tons and 7,500 tons respectively. In the Punjab, the output of toilet and washing soaps was, according to a survey carried out in 1933-34, reckoned to be about 1,000 tons and 14,000 tons. In Bombay, the average annual output of soaps was estimated to be about 20,000 tons. The output of soaps in other areas is estimated to be about 13,000 to 14,000 tons so that the total production in India works out to 80,000 tons. Of this, about 10 per cent. is made by the 'cold process'. The position in different provinces and States may be summarised as under:—

Estimated annual output of soaps in India.

(Tons.)

	Toilet.	Laundry and industrial soaps.	Total.	Made by cold process.
Bengal	7,500	24,000	31,500	3,000
Bombay	4,500	15,500	20,000	2,000
Punjab	1,000	14,000	15,000	1,000
Madras	500	3,500	4,000	500
Travancore and Cochin	500	1,000	1,500	500
Others	1,000	7,000	8,000	1,000
Total	15,000	65,000	80,000	8,000

The output of soaps increased further in subsequent years, viz., between 1939-40 and 1941-42 when larger quantities of coconut oil were imported into India and the demand for soaps increased due to increased military requirements and greater industrial activity in the country.

Oils and fats used for soap manufacture.—The main oils and fats used for soap making in India are coconut oil, mahua oil, cotton seed oil, castor oil and tallow. Besides these, groundnut oil, palm oil, gingelly oil, linseed oil and some other oils and fats also find use in soap making. Hardened groundnut oil has also begun to be used lately. The quantity of oils and fats required for producing a certain weight of soap varies, depending on the type and quality of soap to be made, the method of manufacture and the quality of fillers added. In the case of high class milled toilet soaps, the weight of oils and fats used may be as much as one and a quarter times the weight of soap produced while in the case of laundry and industrial soaps, oils and fats used may be from half to two-thirds (or even less for inferior washing soaps) of the weight of soap produced. As more than four-fifths of the output of soaps in India consists of laundry and household soaps, the weight of oils and fats required for the production of 80,000 tons of soap may be reckoned to be about 60,000 tons.

Proportion of coconut oil in oils and fats used for soap manufacture.—Coconut oil has the property of saponifying and also of inducing other oils to become saponifiable in the cold. It is, therefore, almost indispensable for soaps made by the "cold process" and the proportion of coconut oil in the oils and fats used for making soaps by the cold process usually varies from 70 to 100 per cent. In the case of soaps made by "semi-boiled" or "boiled" processes, several oils or oils and fats are usually blended together, the choice between different oils and fats being influenced by the quality of the soap required and the relative prices of various oils. The proportion of coconut oil is therefore subject to wide variation. Enquiries made from a large number of factories, making both toilet and washing soaps and by boiled or semi-boiled and cold processes, indicate that the proportion of coconut oil in the oils and fats used in soap manufacture over a number of years averaged about 55 per cent. in Bengal, 60 per cent. in Bombay, 70 per cent. in Madras and only 20 per cent. in the Punjab so that the average for the whole of India may be placed at about 50 per cent. Statistics which could be obtained from three factories in Bengal, two in Bombay and one each in Madras and the Punjab show that during the three years 1936-37 to 1938-39, the seven factories annually used, on an average, 2,918 tons of coconut oil and 2,907 tons of other oils. These figures corroborate the estimate that coconut oil forms about 50 per cent. of the total oils and fats used for soap manufacture. As the oils and fats used for soap manufacture have been estimated as 80,000 tons, the quantities of coconut oil used may be reckoned to average about 30,000 tons.

The average consumption in different provinces and States is summarised in the table below:—

Estimated quantities of coconut oil used for soap making.

(Tons.)

(Average 1934-35 to 1938-39.)

	Tons.
Bengal	13,000
Bombay	9,000
Punjab	2,000
Madras	2,000
Travancore and Cochin	1,500
Others	2,500
Total	30,000

APPENDIX XXIV.

Minimum and maximum prices of coconuts and copra obtained by a producer in Travancore State.

Year.	Coconuts (Per thousand).		Copra (Per ton).	
	Minimum.	Maximum.	Minimum.	Maximum.
	Rs. A.	Rs. A.	Rs. A.	Rs. A.
1901	22 8	27 8	149 0	181 8
1902	27 8	33 12	181 8	220 15
1903	25 0	28 12	164 6	188 6
1904	26 4	30 0	174 11	198 10
1905	22 8	32 8	145 9	215 13
1906	30 0	33 12	198 10	224 6
1907	42 8	50 0	181 8	337 6
1908	33 12	46 4	224 6	310 0
1909	30 0	37 8	198 10	250 1
1910	43 12	52 8	292 14	345 15
1911	40 0	50 0	267 3	335 11
1912	45 0	50 0	301 7	335 11
1913	45 0	52 8	301 7	354 8
1914	50 0	58 12	335 11	392 3
1915	37 8	42 8	250 1	286 0
1916	40 0	47 8	265 7	321 15
1917	33 12	37 8	222 10	250 1
1918	23 12	28 12	154 2	191 13
1919	25 0	47 8	164 6	318 9
1920	60 0	72 8	404 3	479 8
1921	46 4	75 0	308 4	500 1
1922	43 12	47 8	294 9	333 15
1923	45 0	51 4	335 11	470 15
1924	46 4	57 8	335 11	452 2
1925	46 4	60 0	325 6	417 14
1926	42 8	62 8	280 14	359 10
1927	37 8	46 4	321 15	417 14
1928	52 8	58 12	287 11	387 1
1929	42 8	57 8	274 0	328 13
1930	36 4	43 12	196 15	258 10
1931	27 8	33 12	172 15	275 12
1932	36 0	38 12	219 3	267 3
1933	19 6	31 4	130 2	217 8
1934	15 0	17 8	109 10	152 7
1935	18 2	25 0	152 7	227 12
1936	27 8	33 12	224 6	274 15
1937	32 8	41 4	174 11	295 7
1938	18 12	28 12	135 5	154 2
1939	20 0	50 0	143 15	287 11
1940	17 8	37 0	143 15	239 12
1941	18 0	37 0	147 4	214 1

Source.—Records maintained by a producer in Travancore State.

APPENDIX XXV.

Minimum and maximum prices of coconuts and copra obtained by a producer at Tiptur in Mysore State.

Year.	Coconuts (Per thousand).		Copra (Per ton).	
	Minimum.	Maximum.	Minimum.	Maximum.
	Rs. A.	Rs. A.	Rs. A.	Rs. A.
1920	68 0	77 0	654 4	704 0
1921	48 0	75 0	533 5	604 7
1922	55 0	68 0	483 9	554 11
1923	48 0	60 0	533 5	540 7
1924	48 0	56 0	540 7	654 4
1925	60 0	66 0	540 7	611 9
1926	44 0	65 0	625 12	654 4
1927	43 0	48 0	497 12	640 0
1928	52 0	66 0	483 9	497 12
1929	56 0	60 0	512 0	568 14
1930	36 0	49 8	426 11	519 2
1931	20 0	33 0	177 12	248 14
1932	35 0	43 0	291 9	355 9
1933	36 0	43 0	355 9	455 2
1934	21 0	25 0	213 5	234 11
1935	28 0	30 0	199 2	206 4
1936	38 0	44 0	291 9	359 2
1937	39 0	40 0	369 12	419 9
1938	28 0	31 0	277 5	284 7
1939	25 0	35 0	192 0	213 5

Source.—Mysore Coconut Marketing Report.

APPENDIX XXVI.

Average monthly prices of coconuts (husked) at Colombo.

(Per thousand.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1932-33	43 1 7	41 2 1	36 2 1	34 6 5	38 12 0	42 3 0	46 2 5	47 14 1	40 12 0	46 13 1	42 0 0	37 2 1	42 1 11
1933-34	28 10 1	27 8 0	29 14 1	29 1 10	25 10 1	22 6 5	21 0 10	21 14 1	20 14 1	20 3 0	20 6 1	17 13 0	23 12 9
1934-35	18 0 0	16 0 0	18 4 10	16 14 1	17 6 1	18 11 2	21 2 1	22 12 0	24 10 2	33 9 11	34 8 0	31 14 5	22 13 1
1935-36	30 8 0	36 13 11	36 1 7	33 9 11	31 14 5	32 5 11	40 0 0	42 9 7	43 5 11	45 8 0	45 9 7	38 14 1	38 1 9
1936-37	42 0 0	38 9 7	37 4 0	37 4 0	39 9 7	41 6 1	44 14 5	49 6 1	56 8 0	65 2 1	55 12 0	52 2 9	46 10 7
1937-38	49 12 0	45 0 0	41 12 0	40 11 2	39 10 1	39 9 7	40 0 0	37 6 1	35 4 0	33 9 3	39 4 0	27 8 0	38 5 10
1938-39	25 14 1	25 0 0	25 8 0	25 0 0	21 8 0	23 14 5	25 1 8	26 12 0	27 0 0	28 4 0	28 8 0	27 12 0	26 1 6
1939-40	25 8 0	30 4 0	30 4 0	30 0 0	31 0 0	34 4 10	42 4 0	43 12 0	55 4 0	53 0 0	42 6 1	42 2 9	33 12 2
1940-41	31 10 1	30 4 0	27 2 1	27 8 0	40 7 11	40 7 11	40 7 11	40 7 11	40 7 2	33 12 0	35 6 1	30 4 0	34 13 9
1941-42	23 12 0	21 0 0	22 8 0	16 4 0	18 12 0	21 12 0	10 12 0	27 8 0	35 0 0	31 0 0	32 8 0	40 0 0	25 13 0
1942-43	37 8 0	55 0 0	52 8 0	40 0 0	40 0 0	50 0 0	55 0 0	60 0 0	65 0 0	73 12 0	75 0 0	75 0 0	56 9 0

Source.—Compiled from Ceylon Chamber of Commerce quotations.

APPENDIX XXVII.

Average monthly prices of coconuts (unhusked) at Alleppey.

(Per thousand.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1934-35	22 0 0	19 0 0	23 0 0	21 0 0	18 0 0	15 8 0	16 0 0	10 0 0	20 0 0	20 8 0	21 0 0	21 0 0	19 11 9
1935-36	22 0 0	18 0 0	15 8 0	15 0 0	16 0 0	16 0 0	15 0 0	21 0 0	22 0 0	21 0 0	22 0 0	20 0 0	18 10 0
1936-37	20 0 0	20 8 0	19 0 0	18 0 0	20 8 0	20 0 0	29 0 0	22 0 0	24 0 0	23 0 0	31 0 0	31 0 0	22 7 0
1937-38	29 0 0	29 0 0	22 0 0	22 0 0	23 0 0	25 0 0	28 0 0	28 0 0	30 0 0	34 0 0	36 0 0	37 0 0	28 9 0
1938-39	35 0 0	36 0 0	35 0 0	29 0 0	27 0 0	26 0 0	24 0 0	23 0 0	25 0 0	21 8 0	21 0 0	20 0 0	26 14 0
1939-40	19 10 0	21 11 0	21 8 0	19 14 0	20 6 0	26 2 0	27 0 0	36 6 0	34 2 0	32 6 0	30 12 0	30 8 0	26 11 0
1940-41	26 0 0	23 13 0	20 14 0	19 11 0	20 0 0	23 12 0	28 6 0	30 0 0	29 4 0	29 13 0	30 6 0	30 0 0	26 0 0
1941-42	27 3 0	23 8 0	21 9 0	24 6 0	25 7 0	23 13 0	21 3 0	22 10 0	24 6 0	26 10 0	27 2 0	24 4 0	24 5 0
1942-43	31 8 0	42 12 0	56 12 0	50 4 0	48 2 0	59 8 0	70 10 0	77 4 0	80 8 0	76 4 0	80 10 0	88 8 0	63 9 0

Source.—Compiled from Travancore Chamber of Commerce quotations.

APPENDIX XXVIII.

Average monthly prices of coconuts (husked) at Cochin.

(Per thousand.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1935-36	..	..	..	26 0 0	25 0 0	25 12 0	28 4 0	28 0 0	30 4 0	31 8 0	32 9 0	33 0 0	..
1936-37	35 8 0	37 9 0	37 0 0	35 8 0	35 0 0	36 11 0	36 11 0	39 4 0	41 0 0	42 13 0	40 0 0	37 10 0	38 2 0
1937-38	39 4 0	36 13 0	34 0 0	34 0 0	33 11 0	33 8 0	31 13 0	28 4 0	24 0 0	23 13 0	23 8 0	23 4 0	30 8 0
1938-39	21 8 0	21 6 0	21 3 0	21 8 0	20 0 0	19 3 0	21 2 0	22 8 0	23 6 0	21 11 0	21 4 0	20 12 0	21 5 0
1939-40	20 5 0	22 12 0	22 0 0	21 10 0	21 0 0	22 3 0	26 12 0	32 12 0	33 6 0	31 8 0	30 4 0	30 6 0	26 5 0
1940-41	28 0 0	27 8 0	22 8 0	22 12 0	25 10 0	26 4 0	27 4 0	29 0 0	27 8 0	27 0 0	27 2 0	29 4 0	26 10 0
1941-42	28 10 0	25 6 0	24 8 0	26 4 0	30 13 0	28 0 0	27 2 0	26 3 0	29 0 0	28 3 0	28 12 0	32 6 0	27 15 0
1942-43	36 8 0	45 6 0	70 0 0	63 8 0	60 13 0	69 12 0	90 0 0	91 8 0	98 12 0	100 0 0	100 0 0	100 0 0	77 7 0

Source.—Compiled from Cochin Chamber of Commerce Market Report quotations.

APPENDIX XXIX.

Monthly prices of coconuts* (husked) at Calicut.

(Per thousand.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1928-29	55 0 0	55 0 0	55 0 0	60 0 0	60 0 0	60 0 0	60 0 0	60 0 0	60 0 0	60 0 0	55 0 0	55 0 0	57 15 0
1929-30	55 0 0	55 0 0	55 0 0	55 0 0	57 8 0	57 8 0	57 8 0	57 8 0	55 0 0	50 0 0	50 0 0	45 0 0	54 3 0
1930-31	42 8 0	42 8 0	42 8 0	27 8 0	27 8 0	25 0 0	30 0 0	35 0 0	35 0 0	30 0 0	30 0 0	35 0 0	33 9 0
1931-32	34 0 0	34 0 0	30 0 0	25 0 0	20 0 0	22 8 0	22 8 0	40 0 0	40 0 0	32 8 0	30 0 0	37 8 0	30 11 0
1932-33	32 8 0	32 0 0	35 0 0	35 0 0	40 0 0	32 8 0	35 0 0	37 8 0	35 0 0	33 0 0	31 0 0	25 0 0	33 10 0
1933-34	23 8 0	22 8 0	27 8 0	26 0 0	24 0 0	20 0 0	20 0 0	23 0 0	22 0 0	20 0 0	18 0 0	19 0 0	22 2 0
1934-35	17 0 0	17 0 0	19 0 0	15 0 0	17 0 0	22 8 0	20 0 0	21 0 0	19 8 0	20 8 0	24 8 0	28 0 0	20 1 0
1935-36	25 0 0	27 8 0	24 0 0	22 8 0	24 8 0	25 0 0	33 0 0	35 0 0	35 0 0	34 0 0	35 0 0	33 0 0	29 7 0
1936-37	34 8 0	36 8 0	35 8 0	34 8 0	33 8 0	31 0 0	34 8 0	33 0 0	33 8 0	35 0 0	36 8 0	38 8 0	34 11 0
1937-38	35 8 0	31 0 0	28 0 0	28 0 0	26 8 0	26 8 0	26 0 0	23 0 0	22 0 0	22 8 0	20 0 0	23 0 0	26 0 0
1938-39	18 0 0	20 0 0	20 0 0	18 0 0	18 0 0	21 0 0	20 0 0	25 0 0	25 0 0	22 8 0	22 0 0	21 0 0	20 14 0
1939-40	20 8 0	21 8 0	21 0 0	18 8 0	21 0 0	21 0 0	24 0 0	29 0 0	26 0 0	24 0 0	26 0 0	29 0 0	23 7 0
1940-41	28 0 0	25 0 0	25 0 0	22 0 0	29 0 0	26 0 0	29 0 0	31 0 0	26 0 0	27 0 0	27 0 0	30 0 0	27 1 0
1941-42	25 0 0	25 0 0	23 0 0	18 0 0	26 0 0	22 0 0	25 0 0	23 0 0	24 0 0	25 0 0	25 0 0	25 0 0	23 13 0
1942-43	36 0 0	40 0 0	40 0 0	30 0 0	30 0 0	32 0 0	57 0 0	55 0 0	65 0 0	65 0 0	65 0 0	70 0 0	48 12 0

*Prices on the 1st of every month.

Source.—Compiled from Calicut Chamber of Commerce quotations.

APPENDIX XXX.

Monthly prices* of coconuts (husked) of various sizes at Bombay. (Per thousand nuts.)

Year and size of coconuts. (Number of nuts per bag.)	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.
	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.
1934-35—												
200	26 0 0	28 13 0	28 13 0	27 3 0	28 0 0	30 6 0	29 3 0	28 13 0	32 0 0	33 9 0	36 0 0	35 13 0
275	23 10 0	24 13 0	25 10 0	25 10 0	24 13 0	24 0 0	25 10 0	24 10 0	24 6 0	29 3 0	28 6 0	28 6 0
400	22 7 0	24 0 0	24 13 0	24 0 0	22 6 0	17 10 0	22 6 0	20 0 0	19 3 0	24 6 0	25 10 0	24 0 0
1935-36—												
200	36 0 0	40 13 0	40 13 0	40 6 0	39 3 0	39 3 0	41 10 0	45 3 0	43 3 0	43 3 0	39 10 0	48 6 0
275	28 0 0	28 0 0	31 10 0	32 13 0	33 9 0	33 9 0	38 13 0	42 0 0	40 13 0	40 3 0	40 3 0	39 3 0
400	21 9 0	24 0 0	25 3 0	29 3 0	28 13 0	28 13 0	30 6 0	34 0 0	32 0 0	32 0 0	32 0 0	33 9 0
1936-37—												
200	48 0 0	56 0 0	60 0 0	60 0 0	52 0 0	52 13 0	55 10 0	54 6 0	50 13 0	57 10 0	57 10 0	57 10 0
275	43 3 0	50 6 0	52 13 0	55 10 0	44 0 0	48 13 0	52 13 0	52 0 0	50 13 0	50 6 0	50 6 0	50 6 0
400	35 3 0	44 13 0	47 3 0	49 10 0	43 3 0	44 13 0	45 10 0	44 0 0	44 13 0	44 13 0	44 13 0	44 13 0
1937-38—												
200	57 10 0	..	50 6 0	51 3 0	48 13 0	46 6 0	48 0 0	43 2 0	39 3 0	41 10 0	36 13 0	40 6 0
275	48 12 0	..	48 13 0	49 10 0	46 6 0	43 3 0	44 13 0	37 10 0	32 13 0	30 6 0	28 13 0	28 13 0
400	44 0 0	..	45 10 0	46 0 0	44 0 0	38 6 0	40 0 0	30 6 0	22 6 0	23 3 0	21 10 0	22 6 0
1938-39—												
200	37 10 0	34 6 0	34 6 0	31 10 0	24 13 0	33 9 0	33 10 0	32 0 0	32 0 0	35 3 0	35 3 0	34 6 0
275	26 6 0	24 13 0	24 13 0	24 13 0	24 13 0	28 0 0	26 6 0	26 6 0	25 10 0	27 3 0	27 3 0	28 13 0
400	20 0 0	19 3 0	20 0 0	20 6 0	20 13 0	24 6 0	24 0 0	24 0 0	24 0 0	26 6 0	27 3 0	27 3 0

*The prices are those prevailing in the first week of every month.

Source.—Compiled from records of a commission agent.

APPENDIX XXXI.

Average monthly prices of f. m. s. Singapore copra c. i. f. London. (Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1928-29	28 0 0	27 16 3	27 0 0	26 16 3	25 18 9	25 15 0	25 12 6	25 17 6	25 6 0	24 7 6	24 1 3	23 6 3	25 15 11
1929-30	22 10 0	22 1 3	21 0 0	23 6 3	22 18 9	24 1 3	23 8 9	22 17 6	22 12 6	22 8 9	21 17 6	21 1 3	22 10 4
1930-31	21 18 9	21 5 0	19 6 3	18 10 0	17 3 9	16 2 6	15 15 0	14 6 3	15 12 6	15 5 0	15 2 6	15 11 3	17 6 7
1931-32	14 16 3	12 15 0	12 2 6	12 13 9	11 17 6	11 17 6	14 5 0	15 1 3	15 7 6	15 5 0	16 17 6	16 5 0	14 2 0
1932-33	15 2 6	14 8 9	13 17 6	14 5 0	14 8 9	14 17 6	14 15 0	15 0 0	14 12 6	15 13 9	12 13 9	12 5 0	14 3 4
1933-34	11 2 9	11 10 0	11 15 0	11 10 0	10 18 9	10 8 9	10 1 3	10 5 0	9 17 6	9 8 9	9 11 3	9 7 6	10 9 10
1934-35	8 15 0	9 2 6	9 8 9	9 8 9	9 8 9	9 5 0	9 3 9	9 2 6	9 17 6	12 7 6	13 2 6	12 5 0	10 2 4
1935-36	12 15 0	13 1 3	12 2 6	11 1 3	11 6 3	11 5 0	13 18 9	14 10 0	15 0 0	16 2 6	15 5 0	14 3 9	13 7 7
1936-37	13 13 9	13 5 0	13 12 6	14 10 0	15 0 0	15 5 0	15 13 9	18 11 3	22 3 9	22 12 4	20 16 3	21 2 6	17 3 10
1937-38	19 2 6	17 5 0	16 10 0	16 15 0	15 17 6	15 5 0	15 7 6	14 0 0	14 5 0	13 11 3	12 10 0	12 5 0	15 4 6
1938-39	12 7 6	11 12 6	11 0 0	11 10 0	10 17 6	10 13 9	10 7 6	10 5 0	10 11 3	10 13 9	11 2 6	11 6 3	11 0 8
1939-40	10 18 9	11 10 0	11 6 3	10 5 0	10 8 9	12 10 0	13 5 0	13 5 0	13 7 6	13 10 0	13 10 0	13 10 0	12 5 6
1940-41	13 10 0	13 10 0	11 10 0	11 10 0	11 10 0	11 10 0	11 10 0	12 10 0	12 10 0	12 10 0	12 10 0	12 10 0	12 5 6
1941-42	12 10 0	12 10 0	12 10 0	12 10 0	12 16 3	13 5 0	13 5 0	13 5 0	13 7 6	13 10 0	..	..	..

Note.—Prices from September 1939 are approximate prices based on special freight arrangements.

Source.—Compiled from the Review of the Oilseed, Oil and Officinal Markets by Frank Fehr & Co., London (up to December 1941), and the London Grain Seed and Oil Reporter (for later period).

APPENDIX XXXII.

Average monthly prices of copra in Colombo market.
(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1931-32	154 0 0	135 0 0	126 0 0	128 0 0	117 0 0	113 0 0	136 0 0	152 0 0	167 0 0	183 15 0	202 6 0	191 5 0	150 8 0
1932-33	107 8 0	156 5 0	146 8 0	153 2 0	155 8 0	163 3 0	172 12 0	173 10 0	173 8 0	169 4 0	149 6 0	134 4 0	139 9 0
1933-34	122 4 0	125 2 0	128 8 0	116 10 0	108 6 0	101 13 0	92 8 0	95 6 0	89 2 0	85 10 0	87 0 0	84 0 0	103 0 0
1934-35	79 10 0	81 12 0	81 13 0	83 6 0	86 6 0	87 13 0	95 12 0	97 8 0	108 8 0	151 6 0	151 8 0	137 13 0	103 6 0
1935-36	138 5 0	151 4 0	144 10 0	141 0 0	136 13 0	142 8 0	168 12 0	182 11 0	183 2 0	191 6 0	194 10 0	183 4 0	163 3 0
1936-37	180 3 0	177 2 0	169 0 0	175 4 0	183 2 0	183 12 0	195 13 0	215 14 0	249 4 0	275 0 0	237 8 0	229 3 0	206 11 0
1937-38	222 0 0	194 0 0	176 4 0	176 10 0	171 6 0	137 2 0	156 13 0	145 12 0	142 6 0	130 10 0	120 4 0	112 6 0	158 13 0
1938-39	107 0 0	110 10 0	104 4 0	108 10 0	106 4 0	103 0 0	105 5 0	109 6 0	115 14 0	116 6 0	116 8 0	116 2 0	109 15 0
1939-40	114 4 0	123 10 0	126 4 0	124 8 0	124 6 0	137 0 0	158 2 0	194 4 0	208 4 0	195 4 0	172 0 0	163 8 0	153 10 0
1940-41	131 0 0	126 12 0	107 0 0	99 15 0	99 6 0	169 14 0	121 5 0	132 2 0	121 3 0	133 4 0	139 3 0	136 10 0	121 8 0
1941-42	110 5 0	107 7 0	108 10 0	122 9 0	136 1 0	130 4 0	133 12 0	135 10 0	158 5 0	187 4 0	176 8 0	180 4 0	140 10 0
1942-43	169 8 0	236 0 0	236 0 0	236 0 0	236 0 0	236 0 0	236 0 0	236 0 0	236 0 0	236 0 0	236 0 0	236 0 0	230 7 0

Source.—Compiled from Ceylon Chamber of Commerce quotations.

APPENDIX XXXIII.

Average monthly prices of copra at Alleppey.
(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1928-29	369 14 0	373 5 0	393 0 0	381 14 0	387 0 0	390 7 0	371 10 0	369 11 0	340 6 0	328 13 0	308 4 0	294 9 0	359 13 0
1929-30	296 4 0	292 0 0	286 0 0	298 0 0	300 0 0	299 11 0	301 6 0	289 7 0	274 0 0	267 2 0	258 9 0	243 3 0	283 14 0
1930-31	245 3 0	239 12 0	240 10 0	222 10 0	215 12 0	231 3 0	225 3 0	219 3 0	196 15 0	193 8 0	195 4 0	200 6 0	218 10 0
1931-32	181 8 0	172 15 0	173 13 0	181 8 0	188 6 0	191 13 0	207 3 0	250 0 0	275 11 0	262 14 0	267 2 0	248 5 0	216 12 0
1932-33	210 3 0	224 5 0	229 8 0	241 7 0	258 9 0	258 9 0	253 7 0	246 10 0	236 5 0	217 8 0	190 15 0	170 6 0	228 14 0
1933-34	166 2 0	178 2 0	183 4 0	179 13 0	166 2 0	156 11 0	143 14 0	138 11 0	130 2 0	123 5 0	121 9 0	113 0 0	150 1 0
1934-35	109 10 0	119 0 0	114 12 0	114 12 0	126 12 0	137 0 0	152 7 0	132 12 0	147 4 0	163 4 0	174 11 0	162 7 0	138 12 0
1935-36	160 2 0	161 0 0	169 9 0	171 4 0	172 15 0	188 6 0	212 6 0	225 3 0	227 12 0	232 14 0	232 1 0	226 1 0	198 5 0
1936-37	232 14 0	231 3 0	234 5 0	224 5 0	233 12 0	236 5 0	241 7 0	253 7 0	274 14 0	295 6 0	280 5 0	265 3 0	246 15 0
1937-38	250 0 0	256 14 0	294 10 0	222 10 0	213 3 0	208 13 0	205 8 0	191 13 0	171 11 0	164 2 0	142 2 0	137 0 0	194 5 0
1938-39	135 5 0	136 2 0	134 14 0	142 2 0	142 2 0	150 4 0	153 15 0	155 7 0	154 9 0	144 4 0	137 0 0	133 13 0	143 5 0
1939-40	131 14 0	144 1 0	146 7 0	142 9 0	146 10 0	184 2 0	190 13 0	251 8 0	242 5 0	234 10 0	193 1 0	192 4 0	183 6 0
1940-41	170 6 0	170 10 0	152 7 0	160 2 0	162 11 0	180 4 0	186 0 0	194 13 0	177 4 0	174 4 0	178 2 0	179 3 0	173 14 0
1941-42	167 13 0	152 0 0	157 9 0	187 1 0	206 13 0	204 7 0	197 6 0	198 8 0	219 3 0	208 8 0	215 13 0	222 3 0	194 10 0
1942-43	259 0 0	336 4 0	403 5 0	414 12 0	417 14 0	473 6 0	515 8 0	557 0 0	616 3 0	562 2 0	541 3 0	556 4 0	471 4 0

Source.—Compiled from Travancore Chamber of Commerce quotations.

APPENDIX XXXIV.

Average monthly prices of copra at Cochin.

(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1928-29	379 1 0	385 6 0	394 9 0	387 15 0	383 3 0	391 8 0	384 0 0	375 1 0	364 5 0	339 15 0	310 3 0	303 5 0	366 9 0
1929-30	313 17 0	295 3 0	294 9 0	300 12 0	299 1 0	308 7 0	307 3 0	298 10 0	284 15 0	275 11 0	264 13 0	257 1 0	291 11 0
1930-31	256 11 0	248 12 0	247 0 0	224 5 0	214 8 0	232 8 0	242 5 0	238 1 0	226 1 0	203 13 0	208 1 0	210 10 0	229 6 0
1931-32	199 8 0	184 2 0	175 9 0	183 11 0	186 14 0	190 1 0	216 10 0	254 5 0	277 7 0	269 12 0	270 9 0	260 6 0	222 7 0
1932-33	237 3 0	229 8 0	231 3 0	236 12 0	232 9 0	253 7 0	260 2 0	251 5 0	243 10 0	227 12 0	199 8 0	178 13 0	233 8 0
1933-34	172 2 0	182 13 0	184 15 0	177 4 0	166 2 0	159 4 0	152 0 0	149 0 0	140 7 0	132 12 0	129 5 0	120 12 0	165 9 0
1934-35	114 8 0	121 9 0	122 0 0	120 12 0	124 2 0	138 5 0	144 11 0	143 0 0	152 0 0	163 4 0	176 6 0	153 13 0	141 6 0
1935-36	163 9 0	180 4 0	175 2 0	174 4 0	172 15 0	181 15 0	215 12 0	228 1 0	230 5 0	237 3 0	235 1 0	232 1 0	202 1 0
1936-37	233 12 0	228 10 0	223 14 0	225 3 0	230 2 0	232 14 0	241 1 0	238 3 0	277 7 0	295 13 0	270 9 0	255 3 0	247 12 0
1937-38	262 7 0	241 14 0	215 2 0	220 1 0	218 2 0	205 1 0	207 3 0	199 1 0	171 11 0	165 1 0	146 14 0	144 4 0	199 12 0
1938-39	138 5 0	139 2 0	137 14 0	142 2 0	144 8 0	147 4 0	157 2 0	158 7 0	158 7 0	149 3 0	144 4 0	137 14 0	146 3 0
1939-40	134 14 0	152 7 0	163 4 0	151 12 0	148 2 0	170 10 0	204 10 0	208 12 0	245 15 0	230 5 0	206 6 0	197 6 0	188 9 0
1940-41	176 6 0	173 13 0	154 2 0	162 4 0	163 2 0	175 15 0	186 11 0	197 6 0	182 13 0	170 6 0	181 8 0	184 12 0	176 4 0
1941-42	170 10 0	163 9 0	166 2 0	181 8 0	201 0 0	195 14 0	197 9 0	197 13 0	218 1 0	224 0 0	232 1 0	238 1 0	198 14 0
1942-43	235 14 0	345 14 0	411 0 0	393 0 0	406 3 0	482 1 0	519 14 0	560 14 0	625 1 0	569 15 0	554 14 0	561 11 0	472 3 0

Source.—Compiled from Cochin Chamber of Commerce Market Report quotations.

APPENDIX XXXV.

Prices of copra at Calicut on the 1st of every month.

(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1928-29	384 0 0	387 0 0	390 6 0	416 0 0	416 0 0	419 3 0	409 10 0	384 0 0	377 40 0	339 3 0	316 13 0	307 3 0	378 15 0
1929-30	304 0 0	297 10 0	305 10 0	307 3 0	329 10 0	313 10 0	313 10 0	307 3 0	294 6 0	265 10 0	268 13 0	259 3 0	297 3 0
1930-31	246 6 0	252 13 0	262 6 0	259 3 0	272 0 0	249 10 0	259 3 0	240 0 0	227 3 0	198 6 0	224 0 0	214 6 0	242 2 0
1931-32	198 6 0	192 0 0	201 10 0	198 6 0	201 10 0	208 0 0	224 0 0	236 13 0	202 6 0	265 10 0	256 0 0	280 0 0	227 1 0
1932-33	236 13 0	236 13 0	256 0 0	256 0 0	288 0 0	256 0 0	265 10 0	265 10 0	249 10 0	240 0 0	224 0 0	185 10 0	246 11 0
1933-34	176 0 0	172 13 0	211 3 0	192 0 0	185 10 0	179 3 0	160 0 0	150 6 0	144 0 0	134 6 0	128 0 0	124 13 0	163 3 0
1934-35	112 0 0	118 6 0	124 13 0	131 3 0	128 0 0	137 10 0	160 0 0	152 0 0	153 10 0	160 0 0	192 0 0	169 10 0	144 15 0
1935-36	160 0 0	172 13 0	169 10 0	185 10 0	192 0 0	192 0 0	224 0 0	256 0 0	240 0 0	256 0 0	249 10 0	249 10 0	212 4 0
1936-37	236 13 0	240 0 0	249 10 0	246 6 0	249 10 0	252 13 0	249 10 0	249 10 0	265 13 0	291 3 0	272 0 0	259 3 0	255 8 0
1937-38	262 6 0	240 0 0	233 10 0	230 6 0	246 6 0	224 0 0	214 6 0	192 0 0	176 0 0	169 10 0	152 0 0	163 10 0	207 14 0
1938-39	136 0 0	150 6 0	147 3 0	140 13 0	147 3 0	152 0 0	160 0 0	160 0 0	172 13 0	156 13 0	152 0 0	148 13 0	162 0 0
1939-40	137 10 0	156 13 0	160 0 0	168 0 0	172 13 0	169 10 0	182 0 0	204 13 0	240 0 0	224 0 0	208 0 0	211 3 0	187 1 0
1940-41	179 3 0	179 3 0	163 3 0	169 10 0	192 0 0	176 0 0	200 0 0	208 0 0	198 6 0	172 13 0	179 3 0	179 3 0	183 1 0
1941-42	166 6 0	163 3 0	166 6 0	195 3 0	216 0 0	216 0 0	216 0 0	195 3 0	208 0 0	192 0 0	217 10 0	224 0 0	198 0 0
1942-43	249 10 0	336 0 0	416 0 0	416 0 0	416 0 0	419 3 0	404 0 0	480 0 0	560 0 0	528 0 0	528 0 0	550 6 0	446 15 0

Source.—Compiled from Calicut Chamber of Commerce quotations and the Calicut Weekly Market Report.

APPENDIX XXXVI.

Prices of copra (Office), at Bombay, on the 1st of every month.*
(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1933-34	192 6 0	209 11 0	220 5 0	195 6 0	184 12 0	177 10 0	170 9 0	107 0 0	163 7 0	152 13 0	149 5 0	152 13 0	178 0 0
1934-35	138 13 0	138 13 0	145 3 0	145 3 0	145 3 0	142 1 0	149 5 0	156 6 0	170 9 0	183 0 0	213 6 0	195 6 0	160 4 0
1935-36	181 3 0	195 6 0	181 3 0	195 6 0	194 13 0	189 13 0	199 14 0	229 13 0	239 14 0	248 13 0	259 7 0	255 14 0	214 5 0
1936-37	252 6 0	245 2 0	234 8 0	223 14 0	238 1 0	238 1 0	245 2 0	252 6 0	309 3 0	306 6 0	309 3 0	391 5 0	262 2 0
1937-38	204 14 0	266 8 0	252 6 0	234 8 0	258 1 0	213 6 0	223 14 0	220 5 0	206 0 0	206 0 0	174 1 0	181 3 0	225 15 0
1938-39	167 0 0	177 10 0	167 0 0	170 9 0	167 0 0	167 0 0	167 0 0	167 0 0	175 15 0	174 1 0	170 9 0	170 9 0	170 2 0
1939-40	167 2 0	176 0 0	177 18 0	181 5 0	177 13 0	179 9 0	222 4 0	222 4 0	298 11 0	237 7 0	240 7 0	232 3 0	211 1 0
1940-41	167 7 0	192 4 0	173 12 0	169 10 0	170 4 0	180 12 0	191 14 0	201 5 0	189 1 0	196 8 0	205 0 0	213 3 0	190 1 0
1941-42	193 5 0	178 3 0	178 1 0	192 12 0	212 10 0	206 5 0	209 7 0	216 5 0	259 9 0	248 2 0	268 0 0	282 12 0	220 5 0

*The prices from January 1940 are average monthly prices.

Source.—Compiled from quotations given in Times of India and Ceylon Trade Journal.

APPENDIX XXXVII.

Average monthly prices of white Ceylon coconut oil c. i. f., London.

(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1929-30	41 7 6	41 10 0	40 15 0	39 10 0	39 0 0	39 10 0	38 10 0	38 15 0	38 0 0	37 12 6	37 0 0	35 5 0	38 18 0
1930-31	33 15 0	33 2 6	31 15 0	35 0 0	33 15 0	33 15 0	31 5 0	33 10 0	33 7 6	33 5 0	32 10 0	31 15 0	33 6 3
1931-32	33 0 0	32 5 0	30 10 0	29 7 6	27 7 6	26 0 0	25 0 0	26 5 0	25 5 0	24 5 0	23 10 0	24 0 0	27 4 6
1932-33	23 5 0	20 0 0	19 0 0	20 15 0	18 15 0	19 2 6	21 5 0	23 15 0	25 0 0	26 10 0	26 10 0	26 0 0	22 9 9
1933-34	22 10 0	22 0 0	21 10 0	22 10 0	23 5 0	23 15 0	24 5 0	24 0 0	23 15 0	23 0 0	20 15 0	19 5 0	22 10 9
1934-35	18 5 0	19 5 0	19 5 0	18 5 0	17 5 0	16 5 0	15 7 6	15 5 0	14 10 0	14 0 0	14 2 6	13 5 0	16 5 0
1935-36	12 7 6	13 10 0	12 17 6	12 17 6	13 0 0	13 0 0	13 10 0	14 0 0	14 17 6	20 2 6	21 2 6	20 0 0	15 2 0
1936-37	20 0 0	21 0 0	20 0 0	19 12 6	19 0 0	19 10 0	21 17 6	22 17 6	23 7 6	24 10 0	24 0 0	23 2 6	21 11 6
1937-38	22 12 6	21 15 0	21 12 6	22 15 0	23 10 0	23 12 6	24 2 6	27 10 0	33 5 0	33 12 6	30 12 6	31 0 0	28 6 9
1938-39	28 15 0	25 17 6	23 15 0	24 17 6	23 0 0	22 7 6	21 15 0	19 15 0	19 15 0	19 0 0	17 17 6	17 2 6	21 19 9
1939-40	16 15 0	16 7 6	15 10 0	15 17 6	15 10 0	15 2 6	14 15 0	15 5 0	15 10 0	16 0 0	16 0 0	16 0 0	15 14 6
1940-41	15 17 6	17 0 0	17 0 0	16 5 0	15 15 0	21 0 0	22 0 0	22 2 6	22 2 6	22 2 6	28 2 6	28 2 6	20 12 6
1941-42	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6
1942-43	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6	28 2 6

Note.—Prices from September 1939 are Government selling prices for crude coconut oil.

Source.—Compiled from the Review of the Oilseed, Oil and Oilcake Markets by Frank Fehr and Company, London (up to December 1941) and London Grain Seed and Oil Reporter (for further period).

APPENDIX XXXVIII.

Average monthly prices of East Indian Cochin coconut oil c. i. f., London.

(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1928-29	52 10 0	56 15 0	57 10 0	54 10 0	52 10 0	52 10 0	52 10 0	53 0 0	55 0 0	46 0 0	43 10 0	42 0 0	51 10 6
1929-30	42 10 0	41 10 0	41 10 0	43 0 0	42 0 0	42 0 0	41 15 0	40 10 0	40 0 0	39 10 0	39 5 0	38 10 0	41 0 0
1930-31	39 0 0	38 0 0	38 0 0	37 10 0	36 0 0	34 10 0	34 10 0	35 5 0	35 0 0	31 0 0	33 0 0	33 0 0	35 8 0
1931-32	32 0 0	31 0 0	30 0 0	30 0 0	30 0 0	33 0 0	35 0 0	36 0 0	36 0 0	39 17 6	40 7 6	40 7 6	34 9 3
1932-33	37 0 0	36 0 0	35 12 6	36 2 6	37 2 6	37 17 6	38 7 6	37 7 6	36 2 6	35 0 0	35 0 0	34 0 0	36 6 0
1933-34	32 0 0	32 0 0	33 0 0	32 0 0	30 0 0	28 0 0	27 0 0	27 0 0*	27 0 0*	24 0 0	24 10 0	19 5 0	27 19 6
1934-35	19 10 0	21 17 6	23 0 0	23 10 0	24 10 0	24 15 0	25 10 0	21 15 0	27 17 6	26 10 0	25 10 0	24 0 0	24 0 6
1935-36	25 0 0	27 5 0	27 2 6	27 0 0	27 15 0	27 15 0	31 0 0	32 7 6	32 15 0	33 12 6	33 0 0	33 0 0	29 16 0
1936-37	33 2 6	32 2 6	32 2 6	32 0 0	33 7 6	33 12 6	34 0 0	36 10 0	38 15 0	40 17 6	39 5 0	38 17 6	35 7 9
1937-38	38 17 6	34 15 0	34 10 0	35 10 0	35 10 0	35 5 0	31 5 0	31 2 6	31 5 0	25 5 0	23 15 0	23 7 6	31 14 0
1938-39	22 15 0	23 2 6	23 0 0	23 10 0	23 5 0	23 2 6	23 10 0	23 15 0	24 0 0	25 5 0	25 0 0	24 10 0	23 14 0
1939-40	23 15 0	25 15 0	27 5 0	25 0 0	25 0 0	28 7 6	28 15 0	36 7 6	35 10 0	..	..	..	..

*Nominal.

Sourced from the Review of the Oilseed, Oil and Oleate Markets by Frank Fehr & Co., London.

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APPENDIX XXXIX.

Average monthly prices of coconut oil f.o.b., Colombo.

(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1931-32	275 0 0	242 0 0	219 0 0	241 0 0	215 0 0	212 0 0	241 0 0	280 0 0	296 0 0	336 14 0	340 8 0	337 15 0	269 11 0
1932-33	281 4 0	264 11 0	248 2 0	256 8 0	263 5 0	275 0 0	280 0 0	286 4 0	288 12 0	274 1 0	248 11 0	228 0 0	266 4 0
1933-34	211 4 0	217 8 0	225 15 0	211 4 0	197 14 0	185 6 0	173 7 0	174 11 0	164 13 0	156 9 0	156 4 0	146 14 0	185 2 0
1934-35	133 12 0	147 13 0	143 2 0	141 12 0	145 5 0	146 14 0	155 15 0	155 12 0	169 13 0	221 14 0	250 8 0	241 6 0	171 3 0
1935-36	235 13 0	250 8 0	241 0 0	233 5 0	224 8 0	227 10 0	260 13 0	280 5 0	288 7 0	303 4 0	295 12 0	277 8 0	259 8 0
1936-37	282 5 0	264 15 0	256 14 0	271 6 0	280 3 0	283 0 0	278 12 0	307 8 0	412 8 0	445 0 0	372 15 0	372 1 0	319 0 0
1937-38	376 4 0	314 8 0	286 4 0	290 0 0	282 0 0	260 0 0	258 0 0	236 15 0	229 11 0	219 6 0	200 10 0	195 13 0	262 7 0
1938-39	186 4 0	188 7 0	177 0 0	182 8 0	177 8 0	172 8 0	170 15 0	177 0 0	179 8 0	183 9 0	182 0 0	184 4 0	180 2 0
1939-40	182 3 0	198 0 0	199 1 0	191 0 0	186 7 0	215 6 0	251 4 0	309 6 0	343 2 0	305 5 0	271 4 0	263 12 0	243 0 0
1940-41	220 5 0	226 4 0	203 12 0	188 8 0	181 2 0	202 8 0	219 6 0	227 8 0	205 13 0	210 5 0	221 14 0	227 8 0	211 4 0
1941-42	190 7 0	199 8 0	224 11 0	241 4 0	290 12 0	305 10 0	340 10 0	322 12 0	364 6 0	491 8 0	549 6 0	541 14 0	333 9 0
1942-43	535 0 0	425 0 0	438 5 0	438 5 0	438 5 0	438 5 0	425 0 0	425 0 0	425 0 0	425 0 0	425 0 0	425 0 0	435 10 0

Source.—Compiled from Ceylon Chamber of Commerce quotations.

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APPENDIX XL.

Average monthly prices of coconut oil at Alleppey.
(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1928-29	563 7 0	580 8 0	601 15 0	572 11 0	568 9 0	577 2 0	546 5 0	544 11 0	525 11 0	490 10 0	470 15 0	464 1 0	542 13 0
1929-30	404 1 0	449 9 0	445 4 0	459 13 0	453 13 0	454 11 0	446 15 0	438 6 0	423 0 0	419 11 0	407 11 0	397 5 0	438 6 0
1930-31	397 5 0	387 14 0	389 9 0	373 5 0	347 10 0	359 10 0	357 1 0	354 8 0	331 6 0	315 2 0	311 11 0	324 8 0	354 2 0
1931-32	308 4 0	286 13 0	280 14 0	294 9 0	292 13 0	303 2 0	329 11 0	372 8 0	403 5 0	399 14 0	406 12 0	395 9 0	339 8 0
1932-33	353 10 0	353 10 0	352 12 0	361 5 0	369 1 0	372 8 0	383 10 0	369 14 0	353 10 0	331 6 0	299 11 0	277 7 0	348 3 0
1933-34	265 9 0	279 15 0	275 11 0	260 5 0	250 0 0	241 7 0	231 3 0	224 5 0	212 6 0	202 15 0	197 13 0	181 9 0	235 4 0
1934-35	174 11 0	184 15 0	185 13 0	182 6 0	193 8 0	202 1 0	212 6 0	200 6 0	210 10 0	262 0 0	249 3 0	229 8 0	207 5 0
1935-36	250 0 0	261 3 0	267 2 0	265 7 0	259 7 0	274 0 0	315 15 0	333 15 0	332 4 0	347 10 0	342 8 0	337 6 0	298 14 0
1936-37	340 13 0	334 13 0	328 13 0	331 6 0	339 15 0	348 8 0	354 8 0	373 5 0	409 5 0	447 13 0	412 11 0	400 12 0	368 9 0
1937-38	399 0 0	363 1 0	333 15 0	345 1 0	333 1 0	315 15 0	309 15 0	288 11 0	263 12 0	241 7 0	224 5 0	219 3 0	303 2 0
1938-39	198 10 0	204 3 0	201 4 0	209 9 0	205 11 0	208 8 0	209 9 0	350 7 0	349 6 0	322 6 0	295 10 0	280 0 0	261 15 0
1939-40	191 2 0	210 0 0	213 10 0	208 5 0	205 1 0	252 9 0	264 9 0	281 1 0	262 0 0	247 14 0	251 15 0	255 9 0	254 2 0
1940-41	248 12 0	256 7 0	231 3 0	242 9 0	239 2 0	259 0 0	273 12 0	288 2 0	322 10 0	306 5 0	315 15 0	338 7 0	284 10 0
1941-42	241 0 0	224 5 0	230 2 0	260 1 0	294 5 0	295 3 0	292 14 0	816 0 0	892 4 0	830 9 0	822 0 0	883 3 0	712 4 0
1942-43	399 14 0	517 8 0	597 1 0	648 11 0	641 6 0	725 1 0	773 7 0	816 0 0	892 4 0	830 9 0	822 0 0	883 3 0	712 4 0

Source.—Compiled from Travancore Chamber of Commerce quotations.

APPENDIX XLI.

Average monthly prices of coconut oil at Cochin.
(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1928-29	561 11 0	562 9 0	595 2 0	572 0 0	560 0 0	574 2 0	548 14 0	545 14 0	531 12 0	506 1 0	475 3 0	462 6 0	541 5 0
1929-30	467 8 0	445 4 0	443 15 0	441 13 0	441 13 0	446 15 0	453 13 0	436 11 0	429 0 0	417 0 0	411 0 0	393 14 0	435 12 0
1930-31	397 5 0	388 12 0	387 0 0	366 8 0	349 6 0	363 1 0	355 6 0	355 9 0	326 7 0	318 8 0	316 3 0	330 8 0	354 9 0
1931-32	315 2 0	292 13 0	280 14 0	289 7 0	289 0 0	296 4 0	330 15 0	379 12 0	396 7 0	398 9 0	406 8 0	401 13 0	339 13 0
1932-33	357 8 0	353 14 0	357 15 0	359 3 0	369 8 0	378 0 0	386 6 0	370 12 0	349 12 0	324 8 0	298 10 0	274 7 0	348 6 0
1933-34	268 10 0	277 7 0	279 9 0	262 7 0	246 13 0	241 0 0	226 14 0	225 10 0	213 10 0	202 1 0	201 0 0	182 3 0	235 10 0
1934-35	174 11 0	187 8 0	186 4 0	180 14 0	191 6 0	207 0 0	211 11 0	202 4 0	206 9 0	204 6 0	254 5 0	231 13 0	208 4 0
1935-36	251 15 0	270 12 0	267 13 0	264 6 0	259 14 0	277 7 0	322 3 0	332 14 0	341 3 0	339 11 0	345 15 0	336 8 0	300 14 0
1936-37	340 2 0	333 12 0	326 14 0	331 6 0	338 10 0	347 0 0	353 10 0	372 11 0	407 9 0	443 9 0	410 9 0	393 7 0	366 10 0
1937-38	404 2 0	367 2 0	332 14 0	336 1 0	333 15 0	313 6 0	310 6 0	286 14 0	261 6 0	245 12 0	226 1 0	220 11 0	303 8 0
1938-39	211 4 0	217 1 0	215 9 0	221 9 0	219 3 0	217 8 0	220 15 0	223 4 0	227 5 0	217 8 0	210 0 0	203 13 0	217 1 0
1939-40	204 3 0	226 8 0	223 14 0	221 9 0	216 3 0	255 9 0	275 5 0	369 8 0	359 7 0	341 10 0	303 9 0	291 12 0	274 1 0
1940-41	264 2 0	270 13 0	240 13 0	245 12 0	248 2 0	268 4 0	279 6 0	290 4 0	268 7 0	254 12 0	262 11 0	265 0 0	263 3 0
1941-42	252 9 0	239 12 0	246 10 0	273 2 0	305 1 0	301 6 0	299 13 0	300 5 0	327 11 0	319 8 0	326 9 0	359 0 0	295 15 0
1942-43	391 9 0	534 0 0	659 1 0	649 4 0	650 9 0	719 15 0	776 7 0	834 5 0	928 0 0	845 5 0	833 9 0	884 13 0	725 9 0

Source.—Compiled from Cochin Chamber of Commerce Market Report quotations.

APPENDIX XLII.

Monthly prices of coconut oil at Calicut on the 1st of every month.

(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1928-29	560 0 0	544 0 0	656 0 0	624 0 0	624 0 0	624 0 0	608 0 0	576 0 0	560 0 0	528 0 0	486 0 0	480 0 0	572 0 0
1929-30	464 0 0	464 0 0	448 0 0	448 0 0	448 0 0	448 0 0	464 0 0	464 0 0	448 0 0	482 0 0	422 0 0	422 0 0	417 12 0
1930-31	416 0 0	400 0 0	384 0 0	368 0 0	384 0 0	384 0 0	384 0 0	384 0 0	384 0 0	320 0 0	326 0 0	336 0 0	372 0 0
1931-32	323 3 0	320 0 0	304 0 0	288 0 0	294 0 0	304 0 0	312 0 0	313 10 0	307 3 0	307 3 0	336 0 0	322 0 0	313 7 0
1932-33	368 0 0	368 0 0	364 12 0	396 13 0	416 0 0	380 13 0	396 13 0	396 13 0	380 13 0	371 3 0	336 0 0	304 0 0	373 5 0
1933-34	275 3 0	280 0 0	316 13 0	288 0 0	288 0 0	280 0 0	259 3 0	249 10 0	233 10 0	211 3 0	201 10 0	153 3 0	253 14 0
1934-35	172 13 0	172 13 0	192 0 0	196 13 0	192 0 0	224 0 0	236 13 0	220 13 0	232 0 0	227 3 0	294 6 0	256 0 0	218 2 0
1935-36	249 10 0	273 10 0	276 13 0	280 0 0	291 3 0	288 0 0	326 6 0	342 6 0	377 10 0	306 13 0	376 0 0	364 13 0	320 4 0
1936-37	355 3 0	368 0 0	364 13 0	368 0 0	368 0 0	374 6 0	372 13 0	377 10 0	396 13 0	435 3 0	423 13 0	400 0 0	383 5 0
1937-38	412 13 0	390 0 0	368 0 0	358 6 0	371 3 0	321 10 0	326 6 0	312 0 0	284 13 0	272 0 0	249 10 0	240 0 0	325 10 0
1938-39	220 13 0	236 13 0	227 3 0	236 13 0	238 6 0	230 6 0	230 6 0	236 13 0	246 6 0	233 10 0	227 3 0	214 6 0	231 10 0
1939-40	206 6 0	240 0 0	240 0 0	249 10 0	243 3 0	249 10 0	280 0 0	294 6 0	368 0 0	352 0 0	326 6 0	310 6 0	280 0 0
1940-41	280 0 0	288 0 0	259 3 0	256 0 0	280 0 0	265 10 0	288 4 0	304 0 0	294 6 0	272 0 0	272 0 0	272 0 0	277 10 0
1941-42	265 10 0	256 0 0	265 10 0	275 3 0	329 10 0	320 0 0	320 0 0	304 0 0	329 10 0	304 0 0	336 0 0	332 13 0	303 3 0
1942-43	384 0 0	512 0 0	640 0 0	662 6 0	662 6 0	672 0 0	784 0 0	784 0 0	912 0 0	896 0 0	864 0 0	880 0 0	721 1 0

Source.—Compiled from quotations given in Calicut Chamber of Commerce Reports and Calicut Market Reports.

APPENDIX XLIII.

Average monthly prices of coconut oil at Bombay.

(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1934-35	202 7 0	204 14 0	204 14 0	202 7 0	217 5 0	202 7 0	214 15 0	252 6 0	277 5 0	306 1 0	274 14 0	247 6 0	233 15 0
1935-36	280 0 0	290 0 0	283 12 0	284 9 0	273 5 0	285 7 0	328 5 0	330 0 0	330 7 0	376 4 0	388 12 0	368 5 0	319 14 0
1936-37	367 8 0	352 8 0	341 4 0	345 0 0	350 0 0	350 0 0	364 3 0	399 3 0	452 1 0	487 8 0	462 8 0	445 0 0	393 1 0
1937-38	436 11 0	420 7 0	359 3 0	368 12 0	348 5 0	344 3 0	368 5 0	318 12 0	308 5 0	287 15 0	268 5 0	268 12 0	338 9 0
1938-39	248 12 0	253 13 0	251 4 0	250 13 0	246 11 0	240 0 0	258 5 0	244 9 0	254 3 0	250 13 0	243 12 0	238 12 0	247 0 0
1939-40	241 4 0	261 11 0	253 13 0	251 11 0	252 8 0	260 13 0	362 15 0	410 13 0	402 8 0	367 15 0	346 4 0	345 13 0	310 15 0
1940-41	303 12 0	296 4 0	264 9 0	255 0 0	259 9 0	270 0 0	263 12 0	288 5 0	278 5 0	279 9 0	292 8 0	307 1 0	281 9 0
1941-42	280 13 0	270 13 0	271 4 0	292 8 0	340 0 0	315 0 0	310 13 0	318 5 0	392 1 0	364 9 0	371 4 0	411 4 0	328 4 0
1942-43	501 4 0	621 4 0	680 4 0	668 12 0	690 0 0	Not available	871 11 0	1,005 0 0	1,005 0 0	1,005 5 0	980 0 0	982 8 0	800 9 0

Source.—Compiled from quotations published in Times of India—Bombay.

APPENDIX XLIV.

Average monthly prices of coconut oil at Calcutta.

(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1931-32	308 1 0	374 4 0	347 1 0	347 1 0	340 4 0	333 7 0	381 1 0	428 11 0	449 2 0	442 5 0	469 9 0	462 12 0	0 397 13 0
1932-33	394 11 0	387 14 0	367 8 0	374 4 0	364 1 0	374 4 0	398 1 0	374 4 0	398 1 0	384 8 0	374 4 0	340 4 0	0 377 11 0
1933-34	319 13 0	323 4 0	313 0 0	306 4 0	292 10 0	283 13 0	279 0 0	265 6 0	258 9 0	245 0 0	248 6 0	234 12 0	0 281 0 0
1934-35	227 15 0	238 3 0	234 12 0	221 3 0	227 15 0	227 15 0	224 9 0	234 12 0	245 0 0	285 13 0	292 10 0	299 7 0	0 246 11 0
1935-36	306 4 0	316 7 0	309 10 0	306 4 0	302 13 0	296 0 0	336 13 0	347 1 0	360 11 0	370 14 0	367 7 0	364 1 0	0 332 0 0
1936-37	360 11 0	353 14 0	347 1 0	333 7 0	343 10 0	350 7 0	364 1 0	425 5 0	452 9 0	476 6 0	402 12 0	440 2 0	0 393 4 0
1937-38	442 5 0	415 2 0	384 8 0	374 4 0	367 7 0	353 14 0	347 1 0	330 1 0	313 0 0	326 10 0	313 0 0	299 7 0	0 355 9 0
1938-39	292 10 0	285 13 0	270 0 0	275 10 0	272 3 0	272 3 0	268 13 0	268 13 0	268 13 0	265 6 0	265 6 0	253 8 0	0 272 5 0
1939-40	254 5 0	253 8 0	259 5 0	255 3 0	250 1 0	297 11 0	290 15 0	358 11 0	360 11 0	336 13 0	333 7 0	302 13 0	0 296 2 0
1940-41	296 0 0	297 12 0	277 5 0	273 14 0	265 6 0	265 6 0	265 6 0	260 5 0	253 8 0	251 13 0	256 14 0	265 6 0	0 269 1 0
1941-42	272 3 0	265 6 0	270 8 0	290 15 0	324 1 0	314 12 0	320 11 0	347 1 0	442 5 0	408 5 0	435 8 0	484 14 0	0 348 1 0
1942-43	605 10 0	779 3 0	867 10 0	898 4 0	947 3 0	935 11 0	945 14 0	1,037 12 0	1,203 3 0	1,288 8 0	1,224 14 0	1,245 5 0	0 994 1 0

Source.—Compiled from quotations received from a firm of oil brokers at Calcutta.

APPENDIX XLV.

Average monthly prices of coconut oil at Karachi.

(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1934-35	217 12 0	245 0 0	231 6 0	231 6 0	245 0 0	245 0 0	258 9 0	245 0 0	258 9 0	394 11 0	299 7 0	299 7 0	0 264 4 0
1935-36	313 6 0	326 10 0	326 10 0	313 0 0	313 0 0	313 0 0	351 1 0	367 8 0	394 11 0	394 11 0	394 11 0	394 11 0	0 352 11 0
1936-37	357 14 0	374 4 0	353 14 0	367 8 0	..	..	..	..	..	..	..	..	..
1937-38	435 8 0	394 11 0	381 1 0	381 1 0	333 7 0	367 8 0	347 1 0	340 4 0	313 0 0	272 3 0	272 3 0	258 9 0	0 341 6 0
1938-39	272 3 0	265 6 0	251 13 0	265 6 0	251 13 0	251 13 0	251 13 0	258 9 0	258 9 0	258 9 0	251 13 0	251 13 0	0 257 7 0

Source.—Sind Coconut Marketing Report.

APPENDIX XLVI.
Average monthly prices of coconut cake at Alleppey.
(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.
1931-32	59 15	50 8	42 13	47 15	70 3	65 1	85 10	113 0	104 7	94 3	83 1	63 0	73 5
1932-33	56 8	54 13	65 1	78 12	94 3	89 1	87 6	97 10	95 14	95 14	71 15	51 6	78 3
1933-34	53 1	56 8	49 11	51 6	47 15	41 2	39 6	41 2	42 13	39 6	41 2	41 2	45 6
1934-35	40 4	41 2	41 15	41 2	51 6	60 13	59 15	71 15	89 1	87 5	73 10	51 6	59 2
1935-36	56 8	51 6	53 1	47 15	53 1	59 15	83 14	78 12	78 12	85 10	80 8	74 8	67 0
1936-37	74 8	71 15	61 10	61 10	68 8	71 15	82 3	89 1	50 12	85 10	61 10	53 1	72 11
1937-38	53 1	49 11	49 11	59 15	54 13	63 6	61 10	65 1	57 6	53 1	49 11	49 13	55 8
1938-39	44 8	43 7	41 12	48 3	60 13	74 11	80 11	78 1	67 0	57 13	60 13	57 0	59 9
1939-40	57 9	54 2	52 14	59 15	65 5	79 13	89 11	96 12	77 14	78 6	74 1	70 3	71 6
1940-41	64 7	53 4	44 15	57 9	61 14	66 2	62 5	62 12	62 12	64 1	70 3	72 9	62 6
1941-42	61 10	52 7	51 6	62 5	61 10	60 13	59 15	57 6	65 15	66 9	70 10	68 8	61 9
1942-43	75 11	90 9	95 14	81 11	77 8	96 15	110 14	134 0	176 15	153 11	116 0	127 4	111 7

Source.—Compiled from Travancore Chamber of Commerce quotations.

APPENDIX XLVII.
Average monthly prices of coconut cake at Cochin.
(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.
1928-29	..	..	..	..	133 2	148 7	146 5	151 0	136 8	113 0	102 15	95 2	..
1929-30	101 1	94 11	87 1	96 7	112 9	122 8	112 0	109 5	93 14	93 7	91 12	86 3	100 1
1930-31	78 9	72 9	58 7	52 14	63 4	83 4	88 5	86 3	81 2	70 1	76 7	75 9	73 14
1931-32	63 1	58 12	51 1	47 12	67 6	74 5	88 5	116 13	114 11	101 1	90 14	75 2	78 11
1932-33	61 13	61 13	67 6	79 6	98 15	93 0	92 9	102 13	104 1	104 1	76 7	57 2	83 4
1933-34	57 11	56 5	66 1	61 13	58 0	51 3	46 8	46 1	49 1	46 8	48 3	47 6	52 14
1934-35	47 15	49 3	47 15	47 1	42 13	61 6	72 5	72 5	92 2	89 10	76 13	58 2	63 2
1935-36	59 11	55 2	54 5	54 12	55 14	65 3	70 6	83 1	85 6	85 15	86 12	70 2	70 6
1936-37	76 0	76 7	73 7	61 13	70 14	73 7	81 15	93 7	96 2	94 11	70 14	56 11	77 2
1937-38	59 4	56 7	57 9	58 4	60 4	60 6	68 1	71 0	65 10	59 9	55 11	54 14	60 9
1938-39	51 1	48 8	48 8	51 1	63 13	74 0	81 11	85 1	72 5	62 2	65 8	62 8	63 13
1939-40	62 15	61 11	57 0	65 11	70 7	85 7	95 4	104 1	84 12	84 12	80 11	76 7	77 7
1940-41	70 0	61 0	50 8	62 12	66 13	71 15	69 6	68 11	69 2	68 11	82 7	80 1	68 7
1941-42	67 14	58 7	57 6	68 5	67 7	67 7	60 13	63 2	71 15	73 0	77 4	74 15	67 13
1942-43	81 6	94 3	101 7	86 5	84 8	102 6	115 13	130 2	182 3	157 9	119 14	133 4	116 8

Source.—Compiled from quotations given in Cochin Coconut Marketing Report and reports issued by Travancore Chamber of Commerce, Alleppey.

APPENDIX XLVIII.

Monthly prices of coconut cake at Calicut on the 1st of every month.

(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.
1929-30	128 0	128 0	128 0	128 0	128 0	137 10	128 0	128 0	128 0	121 10	102 6	96 0	123 7
1930-31	96 0	128 0	128 0	128 0	128 0	128 0	128 0	128 0	128 0	128 0	128 0	128 0	125 5
1931-32	112 0	128 0	128 0	112 0	104 0	96 0	96 0	96 0	96 0	96 0	96 0	96 0	104 11
1932-33	84 13	83 3	80 0	80 0	80 0	80 0	80 0	80 0	80 0	80 0	72 0	72 0	79 5
1933-34	72 0	88 0	96 0	96 0	96 0	96 0	96 0	96 0	96 0	96 0	96 0	96 0	93 5
1934-35	96 0	64 0	76 13	64 0	60 13	60 13	57 10	48 0	48 0	51 3	51 3	51 3	60 13
1935-36	51 3	54 6	54 6	51 3	52 13	56 0	70 6	67 3	83 3	86 6	96 0	73 10	66 6
1936-37	51 3	64 0	57 10	60 13	60 13	64 0	80 0	88 0	80 10	96 0	92 13	88 0	74 6
1937-38	80 0	80 0	84 13	76 13	80 0	80 0	81 10	89 10	99 3	96 0	86 6	64 0	83 3
1938-39	64 0	60 13	57 10	60 13	67 3	64 0	72 0	73 10	68 0	60 13	57 10	60 0	63 14
1939-40	60 0	54 6	51 2	56 0	60 13	75 3	83 3	88 0	88 0	76 13	68 13	64 0	68 11
	64 0	67 3	61 0	..	..	..	..	..	..	..	..	..	..

Source.—Compiled from Calicut Chamber of Commerce quotations.

APPENDIX XLIX.

Average monthly prices of coconut cake at Bombay.

(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.
1934-35	56 11	56 11	65 10	64 6	63 8	63 8	69 14	81 8	95 0	95 13	75 11	63 6	70 15
1935-36	63 13	58 7	60 2	60 2	66 10	65 10	74 0	88 5	88 5	88 5	90 12	85 15	74 5
1936-37	76 11	78 6	76 11	63 13	76 11	81 11	84 15	86 10	99 13	103 3	91 14	73 5	82 13
1937-38	69 14	61 13	61 13	68 3	69 1	71 10	70 1	71 10	72 7	70 1	70 1	70 1	68 11
1938-39	70 1	70 1	70 1	70 1	70 1	79 6	85 1	87 8	82 1	68 12	70 10	68 12	74 6

Source.—Compiled from the records of a wholesale merchant.

APPENDIX L.

Average monthly prices of coconut cake at Colombo.

(Per ton.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.
1937-38	82 8	82 8	79 6	80 8	83 7	81 4	82 8	78 7	80 10	78 14	76 7	73 2	79 15
1938-39	72 9	73 3	73 7	74 6	76 10	78 4	77 0	77 8	71 14	71 8	68 10	69 0	73 11
1939-40	70 9	71 13	74 1	77 14	79 14	79 6	85 5	86 14	85 15	94 0	91 4	87 8	81 13
1940-41	60 0	60 0	54 0	37 8	30 0	30 0	30 0	41 0	53 12	72 0	66 4	82 8	51 7
1941-42	71 9	63 7	48 12	44 0	39 12	36 9	31 8	27 8	28 12	31 4	30 15	46 14	41 11
1942-43	50 13	58 12	100 0	103 12	80 0	32 0	32 0	32 0	32 0	82 0	82 0	51 7	..

Source.—Compiled from quotations published in the Ceylon Trade Journal.

APPENDIX LI.

Relation of coconut oil and coconut cake prices to copra prices at Alleppey, Cochin, Calicut and Bombay.

Year.	Alleppey.				Cochin.				Calicut.				Bombay.			
	Coconut oil price.		Coconut cake price.		Coconut oil price.		Coconut cake price.		Coconut oil price.		Coconut cake price.		Coconut oil price.		Coconut cake price.	
	per ton.		per ton.		per ton.		per ton.		per ton.		per ton.		per ton.		per ton.	
	Rs. A.	% of copra price.	Rs. A.	% of copra price.	Rs. A.	% of copra price.	Rs. A.	% of copra price.	Rs. A.	% of copra price.	Rs. A.	% of copra price.	Rs. A.	% of copra price.	Rs. A.	% of copra price.
1934-35	138 12 207 5	59 2	43	141 0 208 4	147 63 2	45	144 13 218 2	150 66 6	40	160 4 233 15	146 70 15	44	160 4 233 15	146 70 15	44	44
1935-36	198 5 208 14	151 67 0	34	202 1 300 14	149 70 6	35	212 4 320 4	151 74 6	35	214 5 319 14	149 74 3	35	214 5 319 14	149 74 3	35	35
1936-37	246 13 368 9	149 72 11	29	247 12 306 10	148 77 2	31	255 8 383 5	150 83 3	33	262 2 383 1	150 82 13	32	262 2 383 1	150 82 13	32	32
1937-38	194 5 303 2	156 55 8	29	199 12 303 8	152 60 9	30	207 14 325 10	157 63 14	31	225 15 333 9	150 68 14	30	225 15 333 9	150 68 14	30	30
1938-39	143 5 205 3	143 59 9	42	146 5 217 1	148 63 13	44	152 0 231 10	152 68 14	45	170 2 247 0	145 74 6	44	170 2 247 0	145 74 6	44	44
Average†	184 5 276 10	150 62 12	34	187 5 279 4	149 67 0	36	194 8 295 13	152 71 5	37	206 9 306 8	148 74 4	36	206 9 306 8	148 74 4	36	36
1939-40	183 6 261 15	143 71 6	39	188 9 274 1	145 77 7	41	187 1 280 0	150 71 5	41	211 1 310 13	147 71 5	41	211 1 310 13	147 71 5	41	41
1940-41	173 14 254 2	146 62 6	36	176 4 263 3	149 68 7	39	183 1 277 10	152 71 5	41	190 1 281 9	148 71 5	41	190 1 281 9	148 71 5	41	41
1941-42	194 10 284 10	146 61 9	32	198 14 295 15	149 67 13	34	198 0 303 3	153 71 5	41	220 5 328 4	149 71 5	41	220 5 328 4	149 71 5	41	41
1942-43	471 4 712 4	151 111 7	24	472 3 725 9	154 116 8	25	449 15 721 1	161 116 8	25	449 15 721 1	161 116 8	25	449 15 721 1	161 116 8	25	25

APPENDIX LII.

List of important assembling and distributing centres for coconuts, copra, coconut oil and coir and coir products together with their estimated annual turnover.

Province and district or State.	Market.	Estimated annual turnover.				REMARKS.
		Coconuts.	Copra.	Coconut oil.	Coir and coir products.	
		(Thousands.)	(Tons)	(Tons)	(Tons)	
<i>Assam.</i>						
Cachar . . .	Silchar* . . .	50	—	—	—	
Darrang . . .	Tezpur* . . .	—	—	100	5	
Kamrup . . .	Gauhati† . . .	400	—	250	5	
Lakhimpur . . .	Tinsukia* . . .	220	—	150	15	
Sibsagar . . .	Jorhat* . . .	140	—	75	5	
Sylhet . . .	H a b i g a n j Bazar* . . .	175	—	25	20	
	Karimganj* . . .	125	—	—	—	
	Sylhet* . . .	200	—	30	25	
<i>Bengal.</i>						
Calcutta† . . .	Calcutta* . . .	2,000	500	28,000	6,000	Important centre for imports of coconuts from the Maldives and coconut oil from Ceylon and the Straits Settlements.
Jessore . . .	Chenguttia† . . .	400	—	—	—	
	Jessore† . . .	200	—	—	—	
	Rupdia† . . .	400	—	—	—	
Khulna . . .	Daulatpur† . . .	50	—	—	—	
	Khulna† . . .	400	—	—	—	
	Phultala† . . .	80	—	—	—	
<i>Bihar.</i>						
Patna . . .	Patna* . . .	60	20	30	—	
Gaya . . .	Gaya* . . .	250	(a)	(a)	—	
<i>Bombay.</i>						
Ahmedabad . . .	Ahmedabad* . . .	1,600	100	400	260	
Ahmednagar . . .	Ahmednagar* . . .	1,000	150	400	(a)	
Belgaum . . .	Belgaum* . . .	5,000	500	1,200	80	
Bijapur . . .	Bijapur* . . .	2,500	150	200	(a)	
Bombay . . .	Bombay* . . .	125,000	40,000	18,000	6,000	Important centre for imports of copra and coconut oil from Ceylon.
Broach . . .	Broach* . . .	20,000	100	25	—	
Dharwar . . .	Hubli* . . .	5,000	150	250	(a)	

* The turnover of Coconuts and Coconut oil has declined after the cessation of imports from the Straits Settlements.

APPENDIX LII—contd.

APPENDIX LII—contd.

Province and district or State.	Market.	Estimated annual turnover.				REMARKS.
		Coconuts.	Copra.	Coconut oil.	Coir and coir products.	
		(Thou- sands.)	(Tons)	(Tons)	(Tons)	
<i>Bombay—contd.</i>						
East Khandesh .	Jalgaon*	1,800	250	200	140	
Kolaba .	Revdamat	2,000	—	—	—	
Nasik .	Nasik†	3,000	200	125	—	
North Kanara .	Gersappat	500	—	—	—	
Poona .	Poona*	5,000	800	300	80	
Ratnagiri .	Kankol†	1,500	—	—	—	
	Malvan†	200	—	—	—	
	Ratnagiri†	150	100	—	80	
	Vengurlat	2,500	(a)	800	80	
Sholapur .	Sholapur*	2,500	300	300	110	
Surat .	Surat*	1,200	75	300	—	
Thana .	Basseint	600	—	—	—	
	Vitart	400	—	—	—	
<i>Central Provinces.</i>						
Akola .	Akola*	2,000	100	200	120	
Bhandara .	Gondia*	1,100	25	50	20	
Bilaspur .	Bilaspur*	1,000	—	40	10	
Buldana .	Khamgon*	800	25	100	40	
Jubbulpore .	Jubbulpore*	1,400	35	100	60	
Nagpur .	Nagpur*	2,800	65	350	75	
Nimar .	Khandwa*	1,100	15	30	25	
Raipur .	Raipur*	3,900	30	200	25	
<i>Cochin State</i>						
	Cochint .	15,000	1,700	23,000	33,000	Important centre for imports of copra from Ceylon and exports of coir and coir products.
	Trichur†	1,600	(a)			
	Ernakulam†	700	(a)			
<i>Delhi.</i>						
	Delhi*	1,000	2,000	2,000	500	
<i>Gwalior State.</i>						
	Gwalior*	10	100	(a)	—	
	Ujjain*	16	40	(a)	—	

Province and district or State.	Market.	Estimated annual turnover.				REMARKS.
		Coconuts.	Copra.	Coconut oil.	Coir and coir products.	
		(Thou- sands.)	(Tons)	(Tons)	(Tons)	
<i>Hyderabad State.</i>						
Aurangabad .	Julna*	700	60	100	—	
Gulbarga .	Gulbarga*	1,600	175	140	—	
Hyderabad .	Secundarabad*	5,000	1,000	700	(a)	
Wdrangal .	Warangal*	1,000	300	30	—	
Osmanabad .	Latur*	400	40	100	—	
<i>Kolhapur State.</i>						
	Kolhapur*	3,500	400	500	—	
<i>Madras.</i>						
Coimbatore .	Coimbatore*	—	—	1,000	—	
<i>East Godavari.</i>						
	Ambajipett	5,000	(a)	—	—	The markets in East Godavari district are important for trade in dry coconuts and edible copra.
	Ambapuram†	10,000	(a)	—	—	
	Bodasukurut	15,000	(a)	—	—	
	Cocanadat	4,000	(a)	500	1,000	One of the centres for import of coconut oil from the Straits Settlements.
	Gannavaram†	3,500	20	—	—	
	Rajahmundry†	17,000	6,000	50	60	
	Razole†	9,000	—	—	—	
Kistna .	Bezwadat	8,000	(a)	300	—	
Madras .	Madras*	200	1,800	1,500	(a)	Important centre for imports of coconuts and coconut oil from the Straits Settlements.
<i>Malabar .</i>						
	Azikhelt .	6,000	—	—	—	
	Badagarat	10,000	25,000	700	—	Important centre of trade in edible copra.
	Calicut†	50,000	35,000	18,000	8,000	Important centre of trade in Malabar for coconuts, copra, coconut oil and coir and coir products. Imports small amount of copra.
	Cannanore†	3,000	400	250	50	
	Chowghatt†	(a)	1,000	1,000	3,000	
	Kadalundi†	—	—	—	900	
	Kalait†	2,000	—	—	500	
	Parapanagadit	—	—	—	—	
	Poonanit .	20,000	(a)	(a)	3,000	
	Quilandy†	—	—	—	100	

APPENDIX LII—concl'd.

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APPENDIX LII—cont'd.

Province and district or State.	Market.	Estimated annual turnover.				REMARKS.
		Coconuts. (Thou- sands.)	Copra. (Tons)	Coconut oil. (Tons)	Coir and coir products. (Tons)	
Malabar—cont'd.						
	Tellichery†	12,500	(a)	(a)	250	
	Tirur†	6,500	500	(a)	(a)	
	Valapet†	(a)	2,000	1,000	(a)	
Ramnad	Dhanuskodi*	—	—	—	—	Imports of coconuts from Ceylon are mainly through Dhanuskodi and Tuticorin, consignments being booked through to destinations.
	Virdhunagar*	1,200	(a)	(a)	—	
South Kanara	Coondapur†	4,000	—	—	500	
	Kasargad†	1,000	50	—	—	
	Mangalore†	10,000	2,500	3,000	1,250	
	Udipi†	10,000	—	—	—	
Tanjore	Adirampatam†	600	—	—	—	
	Koradacheri†	5,500	—	—	—	
	Kumbakonam†	2,000	—	900	—	
	Mayavaram†	1,800	—	—	—	
	Muthupet	10,000	—	—	—	
	Negapatam*	—	—	—	—	One of the centres for imports of coconuts for the Straits Settlements.
	Tanjore†	1,500	(a)	(a)	—	
	Trivadi*	800	—	—	—	
	Tirukattupallai†	600	—	—	—	
Tinnevely	Tuticorin*	—	—	—	—	Imports of coconuts from Ceylon are mainly through Dhanuskodi and Tuticorin, consignments being booked through to destinations.
West Godavari	Narsapur†	11,000	(a)	—	—	
	Palakot†	15,000	70	—	—	
Mysore State.						
	Arsikere†	12,000	2,500	25	—	Important market for trade in dry coconuts from Mysore.
	Bangalore*	9,000	750	700	60	
	Banavari†	200	700	—	—	
	Channarayana	1,500	100	—	—	
	Mysore*	3,000	300	100	40	
	Tiptur†	6,900	5,000	35	—	Important market for trade in copra from Mysore.
	Tumkur†	2,000	200	20	—	
N.-W. F. P.						
Peshawar	Peshawar*	80	40	90	(a)	

Province and district or State.	Market.	Estimated annual turnover.				REMARKS.
		Coconuts. (Thou- sands.)	Copra. (Tons)	Coconut oil. (Tons)	Coir and coir products. (Tons)	
Orissa.						
Cuttack	Cuttack†	600	—	—	—	
Puri	Shakhigopal†	5,000	—	—	—	
Punjab.						
Amritsar	Amritsar*	1,200	400	700	200	
Gujranwala	Gujranwala*	400	200	200	—	
Lahore	Lahore*	600	200	250	300	
Multan	Multan*	(a)	100	600	100	
Rawalpindi	Rawalpindi*	40	100	250	110	
Shahpur	Sargodha*	80	300	800	100	
Sind.						
Karachi†	Karachi*	5,000	26,000	17,000	1,600	Important centre for imports of copra and coconut oil from Ceylon.
Travancore State						
	Alleppey*	2,800	97,000	25,000	25,000	Chief centre for trade in coir and coir products.
	Kayamkulam*	(a)	800	(a)	(a)	
	Kottar*	(a)	1,800	(a)	(a)	
	Kottayam*	10,000	150	(a)	(a)	
	Mavelikara*	(a)	1,500	(a)	(a)	
	Parur*	23,000	2,000	(a)	(a)	
	Shertalley*	300	15,000	(a)	(a)	
	Thiruvella*	5,000	1,500	(a)	(a)	
	Trivandrum*	1,500	(a)	(a)	(a)	
	Vaikom*	300	(a)	(a)	(a)	
United Provinces.						
Agra	Agra*	200	250	200	30	
Aligarh	Hathras*	50	200	—	10	
Allahabad	Allahabad*	250	50	125	(a)	
Bareilly	Bareilly*	150	100	75	20	
Benares	Benares*	300	200	150	(a)	
Cawnpore	Cawnpore*	600	3,000	700	30	
	Jhansi*	300	150	125	(a)	
	Moradabad*	150	150	15	—	
Nainital	Halidwan†	—	200	10	—	

* Distributing centres in non-producing or consuming areas.
† Assembling and distributing centres in producing areas.
‡ The turnover of copra and coconut oil was smaller before 1940
(a) Estimates not available.

APPENDIX LIII.

Market charges on coconuts in certain assembling markets.

Name of market.	District and province or State.	Payable by.	Octroi, terminal tax, etc.	Commission agents' charges.	Charges for counting, selecting, filling into bags, etc.	Deductions for charity.	Total charges* calculated per 100 rupees.
Bodasnkuru .	East Madras.	Seller Buyer	— —	Re. 0-10-0 per 1,000 nuts. 1 per cent.	Rs. 1-2-0 per 1,000 nuts. —	— —	Rs. A. P. 5 13 4 1 0 0 6 13 4
Tanjore .	Tanjore .	Seller	—	Re. 0-4-0 plus 5 nuts per 120 nuts.	—	—	11 1 9
Arsikere .	Mysore .	Seller	—	Rs. 3-2-0 per cent.	3 nuts per cart.	2 nuts per cart for association.	3 10 0
Kankoli .	Ratnagiri Bombay.	Seller Buyer	— —	Re. 0-0-3 per rupee. Re. 0-0-6 per 100 nuts.	Re. 0-0-3 per 100 nuts. —	Re. 0-1-0 per cart. —	2 4 8 1 0 8 3 5 4
Kumta .	North Kanara, Bombay.	Seller Buyer	Re. 0-1-0 per 100 nuts. —	Re. 0-0-4 per rupee. —	Re. 0-0-3 per 100 nuts. Re. 0-0-3 per 100 nuts.	Re. 0-0-4 per 100 nuts. —	5 6 1 0 8 4 5 14 5

* For arriving at the total charges, coconuts have been taken at Rs. 30/- per 1,000 and a cart as 1,000 nuts.

APPENDIX LIV.

Market charges on copra in certain markets.

Name of market.	District and province or State.	Payable by.	Octroi, terminal tax, etc.	Commission agents' charges.	Brokerage.	Charges for weighing, filling into bags, etc.	Deduction for charity.	Total charges calculated per Rs. 100.*
Alleppey .	Travancore .	Seller	—	4 annas per candy.	2 annas per candy.	5 pieces of copra per candy and 6 pies per bill.	4 annas per candy (654 lb.).	Rs. A. P. 1 3 7
Badagara .	Malabar-Madras.	Seller	—	Rs. 2 annas 4 per cent.	—	—	10 annas 0 pies per candy (700 lb.).	3 4 10
Bombay .	Bombay .	Seller Buyer	— —	— 3 pies per bag.	8 annas per cent. —	Re. 1 annas 8 per 100 bags. —	1 anna per candy (650 lb.). —	0 11 4 0 1 8 0 13 0
Arsikere .	Mysore	Seller	3 annas per cart.	6 pies per rupee.	—	6 pies per bag plus 2 copra balls per cart.	—	3 9 1

* For calculating total charges, the price of copra has been taken as Rs. 200 per ton, a bag of copra as 168 lb. copra, a cart as 6 bags and a piece of copra as $\frac{1}{4}$ lb.

APPENDIX LV.

English translation of the rules of business framed by the Conesima Coconut and Copra Merchants' Trade Union, Amlapuram (District West Godavari).

1. These rules came into force from No cartage is to be charged in the purchase of water coconuts. In case of dry coconuts and copra, no buyer should pay expenses less than specified in Rule 8.

2. If the commission agents here buy coconuts and copra for outside buyers, they should be asked after the purchase of goods to send an advance at the rate of Rs. 5 per 1,000 dry coconuts, Rs. 3 per 1,000 water coconuts, and Rs. 2 per bag of copra by telegraphic money order, insurance or *hundi*. On receipt of advance, the goods should be despatched and the advance adjusted in the invoice. The railway receipt should be sent by V. P. P. for the balance or accompanied by a *hundi* for the amount.

3. If the buyer is personally present here, the commission agent should take a *hundi* from the buyer for the balance after adjusting the advance and deliver the railway receipt to the buyer.

4. Goods should not be despatched without receipt of advance and buyers should not refuse the railway receipt sent by V. P. P. or give a *hundi* for smaller amount or make any changes in expenses. When merchants buy goods by being personally present here, they should be paid a rebate of Rs. 2 per thousand.

5. If any buyer making purchases here does not honour a *hundi* or otherwise causes loss to any commission agent, who is a member of the Union, the commission agent should inform the Secretary of the Union who would call a meeting of the Executive Committee and if so resolved by the Committee, none of the commission agents should make purchases for that buyer.

6. If any commission agent here commits any fraud in respect of goods sent, the buyer should inform the Union office sending a fee of Rs. 5. The Union shall make enquiries and the finding of the Union shall be binding on the members.

7. If any merchant acts against these rules, he shall be liable to pay a fine up to Rs. 200 to the Union fund.

8. The following expenses should be charged for getting railway receipts for wagon loads from Rajahmundry or Narasapora station:—

	Rs.	A.	P.	
Commission	0	12	0	per cent.
Charges for rent of bags for transport up to Rajahmundry or Narasapora if nuts are to be booked loose from Rajahmundry.	8	8	0	per wagon.
Sorting	4	0	0	per cent.
Testing of coconuts	0	1	0	per 1,000 nuts.
Testing and stitching of copra bags	0	1	0	per bag.
Coolie charges for husking Bombay <i>chil</i>	0	5	0	per 1,000 nuts.
Twine and stitching of coconut bags	1	9	0	per 100 bags.
Stitching of packages	0	0	6	each.
Stitching of packages and tying rope round.	0	1	6	Do.

APPENDIX LV—contd.

	Rs.	A.	P.	
Cartage	1	4	0	per cart.*
Cartage for packages	0	2	0	each.
Hundekari	0	2	6	per 25 bags dry coconuts, 16 bags water coconuts, 12 packages, 12 bags copra cups and 10 bags copra chips.
Boat hire	1	4	0	Do.
Cartage up to Rajahmundry or Narasapora station.	0	6	0	per cart.*
Charges for broker, supply, etc.	11	2	6	per wagon.
Cost of 6 gunny bags for sending in open wagon.	1	8	0	Do.
Lock for wagon for loose consignments	2	0	0	Do.
Dharmada	1	0	0	Do.
Supply Agent	1	0	0	Do.
Postage and registration of railway receipt.	0	8	0	Do.
Discount on <i>hundi</i>	0	4	0	per cent.
Union fund	0	1	0	per wagon.

If the receipt is made at the Amlapuram Out Agency, the boat charges, cartage and charges for broker, supply, etc. (shown in bracket), should be deducted and a loading charge of Rs. 9 included.

Expenses for small lots booked from Rajahmundry or Narasapora station.

	Rs.	A.	P.	
Cartage and brokerage for dry coconuts and water coconuts.	0	1	6	per bag.
Cartage and brokerage for copra	0	2	0	per bag or package.
Clerk, dharmada, etc.	0	0	6	per bag.

Expenses for small lots booked from Amlapuram.

Loading of dry and water coconuts	0	1	0	per bag.
Loading of copra	0	1	6	per bag or package.
Clerk, dharmada, etc.	0	0	6	per bag.

Whatever the value of goods, commission of 12 annas, *hundi* discount of 8 annas and Union fund of 1 anna should be charged per invoice.*

The above-mentioned charges are according to the rules of the Union of commission agents at Amlapuram, Ambajipet and Bodasukuru.

* A cart is reckoned as—
20 bags dry coconuts,
16 bags water coconuts,
12 bags copra cups,
10 bags copra chips, or
12 packages of coconuts or copra.

APPENDIX LVI.

Trade (coastal) in coconuts, copra and coconut oil between the different maritime provinces* in India.

Provinces.	Arrivals.								
	1934-35	1935-36	1936-37	1937-38	1938-39	Average	1939-40	1940-41	1941-42
Coconuts. (Thousand nuts)									
Bengal		5			5	2			
Bombay	143,766	139,114	126,610	126,983	144,455	136,185	136,032	143,535	111,746
Madras	5	83	37	113	555	159	228	52	82
Orissa	1			78		16			
Sind	5,881	4,283	3,766	4,694	4,851	4,695	4,045	4,395	2,375
TOTAL	149,653	143,485	130,413	131,868	149,866	141,057	140,305	147,982	114,203
Copra. (Tons)									
Bengal	230	216	328	253	182	242	102	120	9
Bombay	19,639	15,447	15,467	17,486	17,276	17,063	13,117	9,632	10,717
Madras	2	43	35	77	6	32	92	58	5
Orissa									
Sind	11,476	10,106	8,160	10,695	18,807	13,049	13,101	12,473	7,595
TOTAL	31,347	25,812	23,990	34,511	36,271	30,386	26,412	22,283	18,326
Coconut Oil. (Tons)									
Bengal	6,053	6,160	4,179	5,921	6,906	5,844	3,282	270	1,032
Bombay	5,128	1,824	2,313	3,644	3,438	3,269	3,200	2,885	3,031
Madras	28	47	7	33	16	26	12	55	5
Orissa	27	21	36	43	28	31	3	14	11
Sind	3,512	1,796	720	999	123	1,430	1,238	191	599
TOTAL	14,748	9,848	7,255	10,640	10,511	10,600	7,735	3,415	4,678
Provinces.	Despatches.								
	1934-35	1935-36	1936-37	1937-38	1938-39	Average	1939-40	1940-41	1941-42
Coconuts. (Thousand nuts)									
Bengal	4,073	4,855	3,746	5,698	4,716	4,618	4,913	5,465	7,094
Bombay	137,913	133,898	103,255	112,810	132,051	123,085	127,963	125,930	102,823
Madras									
Orissa	20	101	12	12	11	31	11	33	23
Sind									
TOTAL	142,006	138,854	107,013	118,520	136,778	128,634	132,904	131,428	109,940
Copra. (Tons)									
Bengal	375	618	309	225	183	124	162	437	1,212
Bombay	20,837	15,111	10,407	19,475	20,461	17,258	14,904	9,387	15,655
Madras									
Orissa	1	2	7	6	5	4	4	4	3
Sind									
TOTAL	21,213	16,158	10,723	19,706	20,649	17,690	15,070	9,828	16,870
Coconut Oil. (Tons)									
Bengal	37	42	3	1	10	19	4	54	28
Bombay	186	348	321	397	421	334	379	369	493
Madras	11,219	9,154	5,275	18,248	11,092	9,597	7,640	3,270	4,549
Orissa	24	21	29	48	56	36	83	92	58
Sind									
TOTAL	11,466	9,565	5,628	11,694	11,579	9,986	8,106	3,785	5,128

*Trade between a province on one side and all other provinces plus non-British ports in India. (Kathlawar State ports, French and Portuguese ports in India) on the other.

Source.—Adapted from the Accounts relating to the Coasting Trade and Navigation of British India.

APPENDIX LVII.

Coastal arrivals of coconuts, copra and coconut oil into the maritime provinces and States of India.
(Average 1934-35 to 1938-39.)

Source.	Imported into.			
	Coconuts (Thousand nuts).	Copra (Tons).	Coconut oil (Tons).	
	Bengal.	Bombay.	Madras.	Sind.
Bengal	..	..	..	..
Bombay	..	..	..	..
Madras	2	128,806	..	40
Travancore	..	2,399	..	..
Kathiawar States	..	433	..	..
Others	..	4,547†	..	..
Total	2	136,185	32	1,430

Source.—Compiled from the Accounts relating to the Coasting Trade and Navigation of British India, and from Customs office records.

* By difference.
† Includes 4,441 thousand nuts received from Goa.

APPENDIX LVIII.

Rates of sea-freight on coconuts, copra, coconut cake and coir yarn.

Commo- dity.	From Cochin, Alleppey and Calicut.						From Colombo.					
	Scale.	Period.	To Bombay.	To Karachi.	To Madras.	To Calcutta.	Scale.	Period.	To Bombay.	To Karachi.	To Madras.	To Calcutta.
Coconuts in bags.	20 cwt.	From 1st May 1935.	Rs. A. P. (per bag of 168 lb.) 0 8 0	Rs. A. P. 0 13 0	Rs. A. P. 10 0 0	Rs. A. P. 15 0 0	14 cwt.	From 1934	Rs. A. P. 15 0 0	Rs. A. P. ..	Rs. A. P. ..	Rs. A. P. ..
		From 11th July 1937.	0 9 0	0 14 0	11 0 0	16 8 0		From June 1936.	7 8 0	15 0 0	15 0 0	17 8 0
		From 15th Sept. 1939.	0 11 0	1 2 0	14 0 0	20 8 0		From Dec. 1937.	10 0 0*	15 0 0	15 0 0	17 8 0
		From 1st May 1940.	0 12 0	1 3 0	15 0 0	22 8 0		From Jan. 1941.	14 8 0	22 0 0	22 0 0	25 8 0
		From 14th May 1941.	0 14 0	1 5 0	16 8 0	25 0 0		From Apr. 1941.	16 0 0	24 0 0	24 0 0	25 8 0
		From 1st Feb. 1942.	1 2 0	1 12 0	22 0 0	33 0 0		From Feb. 1942.	20 0 0	30 0 0	30 0 0	35 0 0
		From 17th Mar. 1942.	1 7 0	2 3 0	27 8 0	41 8 0		From May 1942.	25 0 0	37 8 0	37 8 0	44 0 0

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Copra in bags.	20 cwt.	From 1st May 1935.	10 0 0	12 12 0	15 0 0	20 0 0	20 cwt.	From 1934	12 0 0†	..	..	..
		From 11th July 1937.	11 0 0	14 0 0	16 8 0	22 0 0		From June 1936.	7 8 0	10 0 0	12 8 0	15 12 0
		From 15th Sep. 1939.	14 0 0	17 8 0	20 8 0	27 8 0		From Dec. 1937.	9 0 0	12 8 0	12 8 0	11 0 0
		From 1st May 1940.	15 0 0	19 0 0	22 8 0	29 8 0		From Jan. 1941.	13 0 0	18 0 0	18 0 0	16 0 0
		From 14th May 1941.	16 8 0	21 0 0	25 0 0	33 0 0		From Apr. 1941.	14 8 0	19 8 0	19 8 0	17 8 0
		From 1st Feb. 1942.	22 0 0	28 0 0	33 0 0	44 0 0		From Feb. 1942.	18 0 0	25 0 0	25 0 0	22 0 0
		From 17th Mar. 1942.	27 8 0	35 0 0	41 8 0	55 0 0		From May 1942.	22 8 0	31 8 0	31 8 0	27 8 0

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* From 1st February 1938.

† Per ton of 10 cwt.

APPENDIX LVIII—contd.

Rates of sea-freight on coconuts, copra, coconut oil, coconut cake and coir yarn.

Commo- dity.	From Cochin, Alleppey and Calicut.						From Colombo.					
	Scale.	Period.	To Bombay.	To Karachi.	To Madras.	To Calcutta.	Scale.	Period.	To Bombay.	To Karachi.	To Madras.	To Calcutta.
Coconut oil in drums.	20 cwt.	From 1st May 1935.	Rs. A. P. 10 0 0	Rs. A. P. 12 8 0	Rs. A. P. 11 0 0	Rs. A. P. 12 4 0	20 cwt.	From 1934	Rs. A. P. 17 8 0	Rs. A. P. ..	Rs. A. P. ..	Rs. A. P. ..
		From 11th July 1937.	11 0 0	13 12 0	12 2 0	10 8 0		From June 1936.	7 8 0	12 8 0	13 0 0	9 0 0
		From 15th Sep. 1939.	14 0 0	17 0 0	15 0 0	13 0 0		From Dec. 1937.	10 0 0	13 8 0	11 0 0	9 0 0
		From 1st May 1940.	15 0 0	18 8 0	16 8 0	14 0 0		From Jan. 1941.	14 8 0	19 8 0	16 0 0	13 0 0
		From 14th May 1941.	16 8 0	20 8 0	18 0 0	16 0 0		From Apr. 1941.	16 0 0	21 10 0	17 10 0	14 8 0
		From 1st Feb. 1942.	22 0 0	27 8 0	24 4 0	21 0 0		From Feb. 1942.	20 0 0	27 0 0	22 0 0	18 0 0
		From 17th Mar. 1942.	27 8 0	34 8 0	30 8 0	26 8 0		From May 1942.	25 0 0	34 0 0	27 8 0	22 8 0

APPENDIX LVIII—concl'd.

Rates of sea-freight on coconuts, copra, coconut oil, coconut cake and coir yarn.

Commo- dity.	From Cochin, Alleppey and Calicut.					
	Scale.	Period.	To Bombay.	To Karachi.	To Madras.	To Calcutta
Coconut oil cake.	20 cwt.	From 1st May 1935	Rs. A. P. 8 4 0	Rs. A. P. 11 4 0	Rs. A. P. 10 0 0	Rs. A. P. 15 0 0
		From 11th July 1937	9 2 0	12 6 0	11 0 0	16 8 0
		From 15th Sep. 1939	11 8 0	15 8 0	14 0 0	20 8 0
		From 1st May 1940	12 8 0	16 8 0	15 0 0	22 8 0
		From 14th May 1941	13 8 0	18 8 0	16 8 0	25 0 0
		From 1st Feb. 1942	18 4 0	24 12 0	22 0 0	33 0 0
		From 17th Mar. 1942	23 0 0	31 0 0	27 8 0	41 8 0
Coir yarn in bales.	40 c. ft.	From 1st May 1935	11 4 0	13 12 0	12 8 0	18 8 0
		From 11th July 1937	12 6 0	15 2 0	13 12 0	18 8 0
		From 15th Sep. 1939	15 8 0	19 0 0	17 0 0	23 0 0
		From 1st May 1940	16 8 0	20 8 0	18 8 0	25 0 0
		From 14th May 1941	18 8 0	22 8 0	20 8 0	28 0 0
		From 1st Feb. 1942	24 12 0	30 4 0	27 8 0	37 0 0
		From 17th Mar. 1942	31 0 0	38 0 0	34 8 0	46 8 0
Coir yarn in bundles.	20 cwt.	From 1st May 1935	22 4 0	25 0 0	20 0 0	20 0 0
		From 11th July 1937	24 8 0	27 8 0	22 0 0	10 0 0
		From 15th Sep. 1939	30 8 0	34 8 0	27 8 0	12 8 0
		From 1st May 1940	33 0 0	37 0 0	29 8 0	13 8 0
		From 14th May 1941	37 0 0	41 8 0	33 0 0	15 0 0
		From 1st Feb. 1942	49 0 0	55 0 0	44 0 0	20 0 0
		From 17th Mar. 1942	61 8 0	69 0 0	55 0 0	25 0 0

APPENDIX LIX.

Rates of freights on coconuts, copra, coconut oil and coconut cake on some of the different railway systems in India.

(In force from January 1, 1941.)

Railway. 1	General classifica- tion and ordinary freight rate per md. per mile. 2	Exceptions and varia- tions. 3	Freight rate per md. per mile under conditions mentioned in Col. 3. 4
COCONUTS AND COPRA.			
A. B.	Class 2—0.42 pie R. R.	Minimum wagon loads of 160 mds. O. R., L.	0.25 pie.
B. B., & C. I.	Do.	Minimum wagon loads of 300 mds. from Bombay O. R., L.	0.333 pie up to 304 miles; 0.2 pie from 305 to 500 miles; 0.13 pie from 501 to 700 miles; and 0.1 pie from 701 miles and above.
B. N.	Do.	Minimum wagon loads of 300 mds. per 4 wheeled B. G. wagon or N. G. Bogie wagon for distances 500 miles and over. O. R., L.	0.38 pie up to 300 miles; 0.13 pie from 301 to 700 miles; and 0.1 pie from 701 miles and above.
E. R.	Do.	Minimum wagon loads of 400 mds. when carried in jutetype wagons and 300 mds. in other than jute- type wagons to be charged on the basis of the marked floor area of the wagon used taking 1 sq. ft. equivalent to 1 md. 30 srs. for unhusked coconuts and 2 mds. 20 srs. for husked coconuts. O. R., L.	0.3 pie.
E. I.	Do.	Minimum wagon loads of 300 mds. O. R., L.	0.38 pie up to 100 miles; 0.22 pie from 101 to 300 miles; 0.13 pie from 301 to 600 miles; and 0.11 pie from 601 miles and above.

NOTE.—L.=Loading and unloading by senders and consignees.
R. R.=Railway risk. O. R.=Owner's risk.

APPENDIX LIX—contd.

Rates of freights on coconuts, copra, coconut oil and coconut cake on some of the different railway systems in India.

(In force from January 1, 1941.)

Railway. 1	General classifica- tion and ordinary freight rate per md. per mile. 2	Exceptions and variations. 3	Freight rate per md. per mile under conditions mentioned in Col. 3. 4
COCONUTS AND COPRA—contd.			
M. S. M.	Class 2—0.42 pie R. R.	Loose coconuts and copra accepted only in minimum wagon loads of 270 mds. on B. G. and 160 mds. on M. G.	0.42 pie.
M. S.	Do.	Loose coconuts or copra accepted only in minimum wagon loads of 100 mds. O. R. Coconuts or copra in bags O. R. Loose coconuts or copra in minimum wagon loads of 120 mds. O. R., L.	0.42 pie. 0.3 pie up to 150 miles, 0.2 pie from 151 to 300 miles and 0.1 pie from 301 miles and above.
N. S.	Do.	Consignments of less than 200 mds. coco- nuts loose or in bulk accepted only in minimum wagon loads of 270 mds. on B. G. and 160 mds. on M. G.	Class 3 rates, i.e., 0.58 pie. 0.42 pie.
S. I.	Class 4—0.62 pie R. R.		
COCONUT OIL.			
G. I. P.	Class 2A—0.62 pie R. R. Class 2—0.42 pie O. R.	Minimum wagon loads of 300 mds. per 4 wheeled wagon for distances 300 miles and over O. R., L. (not applicable to traffic booked from Bombay to New Delhi and vice versa.)	Class I rates, i.e., 0.38 pie.

NOTE.—L.=Loading and unloading by senders and consignees.
B. G.=Broad gauge; M. G.=Metre gauge; R. R.=Railway risk;
O. R.=Owner's risk.

APPENDIX LIX—concl'd.

Rates of freights on coconuts, copra, coconut oil and coconut cake on some of the different railway systems in India.

(In force from January 1, 1941.)

Railway.	General classification and ordinary freight rate per md. per mile.	Exceptions and variation.	Freight rate per md. per mile under conditions mentioned in Col. 3.
1	2	3	4
COCONUT OIL—cont'd.			
N. W.	Class 2A—0·62 pie R. R.	Minimum wagon loads of 300 mds. for distances 500 miles or over from Begamabad and Karachi, O. R., L.	Class I rates, i.e., 0·38 pie.
S. I.	Class 2—0·42 pie O. R.	Minimum wagon loads of 300 mds. on B. G. and 160 mds. on M. G. for distances 51 miles and over, O. R., L.	0·35 pie up to 200 miles, 0·25 pie from 201 to 250 miles, 0·125 pie from 251 to 400 miles and 0·115 pie from 401 miles and above.
COCONUT CAKE.			
All Railways*	Class 1—0·38 pie R. R., L.		
B., B. & C. I.	..	Minimum wagon loads of 450 mds. on B. G., 300 mds. on M. G., and 200 mds. on N. G., O. R.	0·14 pie.
G. I. P.	..	Minimum wagon loads of 450 mds. O. R. (not applicable in certain sections).	Do.
M. S. M.	..	Minimum wagon loads of 450 mds. on B. G. and 300 mds. on M. G., O. R.	Do.
S. I.	..	Minimum wagon loads of 450 mds. on B. G. and 300 mds. on M. G., O. R. for distances 51 miles and over.	Same as for coconut oil.

NOTE.—L.=Loading and unloading by senders and consignees.

B. G.=Broad gauge; M. G.=Metre gauge; R. R.=Railway risk; O. R.=Owner's risk.

*The general classification and the exceptions made refer to oil cakes generally. Exceptions have been given here only for four railway systems which are mainly concerned in the traffic for coconut cake.

Source.—Compiled from Goods Tariff No. 24 published by the Indian Railway Conference Association.

APPENDIX LX.

Cost of distribution of coconuts, copra and coconut oil.

COCONUTS.

Cost of distribution for coconuts from Calcutta to Cawnpore (1936).

	Rs. A. P.
Cost of 35,500 coconuts at seller's godown at Calcutta at Rs. 32-10 per thousand	1,158 3 0
Cost of 6 gunny bags for stacking near the doors of the wagon	1 8 0
Labour for counting	2 4 0
Pinjrapole	0 3 0
Dharmada at 1 anna per cent.	0 11 9
Dharmada at 8 annas per wagon	0 8 0
Cartage to Howrah station	15 0 0
Loading into wagon	11 4 0
Expenses for R. R.	0 9 3
Cost f.o.r. Howrah	1,190 3 0
Railway freight	221 14 0
Cost f.o.r. Cawnpore	1,412 1 0
Unloading from wagon and loading into carts	15 1 6
Cartage to godown	6 0 0
Octroi charged at 1½ annas per maund (300 maunds)	28 2 0
Cost at buyer's godown at Cawnpore	1,461 4 6

The total distribution costs amounted to Rs. 303-1-6 or about Rs. 3-8-6 per thousand nts. Railway freight was the biggest individual item in the distribution cost.

COPRA.

(i) Cost of distribution for copra from Tiptur to Delhi (1940).

	Rs. A. P.
Cost of 50 bags containing 150 maunds (31½ lb.) ball copra at Rs. 50-8 per 10 maunds at Tiptur	757 8 0
Cost of 50 new empty gunnies at Rs. 38-8 per 100	19 4 0
Commission at Re. 1 per cent.	7 9 3
Charges for sorting at 3 pies per bag	0 12 6
Stitching of bags at 9 pies per bag	2 5 6
Charity	0 8 0
Hundi exchange and registration	2 4 0
Cart hire from sellers' godown to Tiptur station	1 9 0
Hundekari and loading at station	1 9 0
Tappal	0 5 9
Fire Insurance	1 0 0
Telegram	1 8 0
Cost f.o.r. Tiptur	796 3 0
Railway freight, Tiptur to Delhi	91 11 6
Cost f.o.r. Delhi	887 14 6

APPENDIX LX—contd.

COPRA—contd.

	Rs. A. P.
Station broker	0 4 0
Octroi	3 9 0
Cartage (and loading) from station to buyers' godown at 9 pies per bag	2 5 6
Cost at buyer's godown at Delhi	804 1 0

The total distribution costs amounted to Rs. 136-9, i.e., roughly about Rs. 2-6 per railway maund.

(ii) Cost of distribution for copra from Bombay to Delhi (1940).

	Rs. A. P.
Cost of 105 bags containing 315 maunds (28 lb.) copra at Rs. 58 per 10 maunds	1,827 0 0
Cost of 105 bags at Rs. 38 per 100	39 14 3
Commission	18 4 0
Stitching	4 14 9
Charity at 1 anna per cent.	1 2 6
Fund	1 0 0
Cart hire from seller's godown to station at 6 pies per bag	3 4 6
Hundekari and loading at 6 pies per bag	3 4 6
Hundi	5 0 0
Fire Insurance	2 0 0
Telegrams	5 6 0
Postage	0 4 6
Cost f.o.r. Bombay	1,911 7 0
Railway freight, Bombay to Delhi	93 15 6
Cost f.o.r. Delhi	2,005 6 6
Station broker	0 4 0
Octroi	6 11 0
Cartage (and loading) from station to buyer's godown at 9 pies per bag	4 14 9
Cost at buyer's godown at Delhi	2,017 4 3

The total distribution costs amounted to Rs. 190-4-3 or roughly about Rs. 1-12 per railway maund.

COCONUT OIL.

(i) Cost of distribution for coconut oil from Bombay to Delhi (1940).

	Rs. A. P.
Cost of 294 maunds 20 seers coconut oil contained in 660 tins at Rs. 10-14 per maund	3,202 11 0
Cost of 660 empty tins at 0-7-6 each	309 6 0
Cartage to Bombay station and loading into wagon	20 10 0
Station expenses	2 0 0
Sundries	0 11 0
Cost f.o.r. Bombay	3,535 6 0

APPENDIX LX—concl'd.

COCONUT OIL—contd.

	Rs. A. P.
Railway freight from Bombay to Delhi on 315 maunds	439 11 0
Unloading of wagon	1 8 0
Loading on carts and cartage from station to buyer's godown	6 10 0
Station <i>dalat</i>	0 4 6
Miscellaneous including tips	2 8 0
Terminal tax at annas 2 per maund	36 13 0
Cost at buyer's godown in Delhi	4,022 12 0

The total distribution costs amounted to Rs. 820-1, i.e., about Rs. 2-12-6 per maund.

(ii) Cost of distribution for coconut oil from Karachi to Sargodha (Punjab) (1936).

	Rs. A. P.
Cost of 280 maunds 35 seers coconut oil in 642 tins at Rs. 12-8-3 per maund at Karachi	3,515 5 3
Cost of 642 tins at annas 8 each	321 0 0
Transport charges to Karachi station and loading into wagon	40 2 6
Grass for spreading on the floor of the wagon	6 0 0
Bank commission, telegram charges, and station expenses	4 5 6
Cost f.o.r. Karachi	3,886 12 9
Railway freight from Karachi to Sargodha at Rs. 1-7-6 per maund on 301 maunds 4 seers	442 5 0
Expenses from Sargodha station to buyer's godown	20 1 0
Cost at buyer's godown at Sargodha	4,349 2 9

The total distribution costs amounted to Rs. 833-13-6, i.e., roughly Rs. 2-15-6 per maund.

(iii) Cost of distribution for coconut oil from Cochin to Palaghat (1936).

	Rs. A. P.
Cost of 22 drums containing 33 candies (654 lb.) oil at Rs. 113-4 per candy at Cochin	3,737 4 0
Dharmam at 6 pies per cent.	1 3 0
Hire of barrels	22 0 0
Transport by boat from Cochin to Ernakulam	16 8 0
Railway freight from Ernakulam to Palaghat	72 9 0
Cost f.o.r. Palaghat	3,849 8 0
Transport from Palaghat railway station to buyer's godown	11 0 0
Expenses for returning empties	18 9 0
Cost at buyer's godown at Palaghat	3,879 1 0

The distribution cost amounted to Rs. 141-13, i.e., about Rs. 4-5 per candy or roughly Re. 0-8-6 per maund.

APPENDIX LXI.

Cost of importing coconuts, copra and coconut oil into India.

COCONUTS.

Cost of importing a consignment of coconuts from Colombo at Madura via Dhanuskodi in November 1940.

	Rs. A. P.
Price of 20 bags containing 1,500 coconuts.	
Extra 15 nuts—charged for 1,485 nuts at Rs. 22 per thousand at Colombo	32 10 9
Price of 5 bags containing 450 coconuts. Extra 4 nuts—charged for 446 nuts at Rs. 19 per thousand at Colombo	8 7 6
Station charges at Colombo	0 4 0
Charges for 25 gunnies at Rs. 23 per 100	5 12 0
Cost f.o.b. Colombo	47 2 3
Import duty	16 0 0
Steamer and railway freight including clearing charges, etc.	25 3 0
Expenses at Madura from railway station to consignee's godown	0 10 6

Cost at consignee's godown 88 15 9

The total cost of importing 1,950 coconuts amounted to Rs. 47-13-6, i.e., roughly Rs. 24-8 per 1,000 nuts.

COPRA.

Cost of importing a consignment of copra from Ceylon at Quilon in Travancore State (1940).

	Rs. A. P.
Price of 445 bags* copra weighing 500 cwt. 2 qr. and 14 lb. at Rs. 5-14 per cwt. c.i.f. Cochin inclusive of bags	2,941 3 0
Import duty (20 per cent. at tariff value of Rs. 10 per cwt.)	1,001 4 0
Expenses at Cochin	104 7 9
Boat hire for 85 candies at 6 annas per candy	31 14 0
Telegram expenses	5 0 0
Expenses of man going to Cochin	5 0 0

Cost at buyer's godown at Quilon 4,088 12 9

The consignment on arrival weighed 85 candies 3 cwt. and 20 lb. Rs. 93-4 was realised from sale of bags so that the net cost of 85 candies 3 cwt. and 20 lb. copra at Quilon worked out to be Rs. 3,995-8-5. The total costs incurred in importing worked out to Rs. 1,147-9-9, i.e., about Rs. 13-7 per candy (654 lb.).

COCONUT OIL.

(i) Cost of importing a consignment of coconut oil from Ceylon at Madras (October 1940).

	Rs. A. P.
Cost of 40 drums coconut oil weighing 200 cwt. at Rs. 237 per ton† f.o.b. Colombo	2,370 0 0
Freight incurred on the consignment at Rs. 15 per ton	150 0 0
Insurance	27 8 0
Cost c.i.f. Madras	2,547 8 0

* Each bag 1 cwt. 14 lb. net.

† Including export cess.

APPENDIX LXI—contd.

COCONUT OIL—contd.

	Rs. A. P.
Import duty (on 200 cwt. at 25 per cent. <i>ad valorem</i> —tariff value Rs. 14 per cwt.)	700 0 0
Harbour and quay dues	40 9 0
Opening, moving, etc.	0 4 0
Weighment expenses	1 14 0
Sundries	2 1 0
Cart hire	12 8 0
Clearing agent's commission	4 0 0

Cost at importer's godown in Madras 3,308 12 0

The total cost of importing amounted to Rs. 938-12, i.e., Rs. 93-14 per ton.

(ii) Cost of importing a consignment of coconut oil from Penang at Calcutta (November 1940).

	Dollars Cents.	Rs. A. P.
Cost of 262 drums coconut oil weighing 837-66 pikuls at 4 dollars 57½ cents per pikul	3,832-29	...
Equivalent in Indian currency (at 100\$=Rs. 155)	...	5,940 1 0
Cost of 262 drums at 6 dollars each	1,572-00	...
Charges for cleaning drums	39-30	...
Boat charges, cartage, coolie, etc.	91-70	...
Commission	27-02	...
Charity	4-19	...
Freight (759-80 less rebate 151-96)	607-84	...
Insurance and war risk	137-60	...
Extra charges	1-00	...
Stamps on bill of lading and policy	2-50	...
Cost c.i.f. Calcutta	6,315-44	...
Equivalent of cost c.i.f. Calcutta in Indian currency (at 100\$=Rs. 155)	...	9,788 15 0
Duty (on 997 cwt. 1 qr. at 25 per cent. <i>ad valorem</i> —tariff value Rs. 14 per cwt.)	...	3,490 6 0
River dues at annas 12 per ton (on 50 tons)	...	37 8 0
Surcharge 12½ per cent.	...	4 11 0
<i>Ad valorem</i> cess annas 4 per cent. tariff value	...	35 0 0
Landing charges Rs. 1-4 per ton	...	62 8 0
Cartage at annas 4 per drum	...	65 8 0
Clearing expenses	...	16 0 0

Cost of 262 drums coconut oil at importer's godown in Calcutta 13,500 8 0
Less resale of empty drums at Rs. 8 each 2,006 0 0

Cost of 997 cwt. 1 qr. oil at importer's godown in Calcutta 11,404 8 0

The total distribution costs amounted to Rs. 5,464-7, i.e., about Rs. 139-9 per ton.

APPENDIX LXII.

Price spread in the marketing of coconuts.

TENDER COCONUTS.

(i) From a coconut grower in a garden in Tanjore district to consumers at Tanjore.

	Rs. A. P.
Grower's price for 400 nuts at Rs. 2-8 per 100 .	10 0 0
Cartage to Tanjore market	1 0 0
Expenses at the market	0 10 0
Retailer's purchase price at Tanjore market .	11 10 0
Retailer's margin including establishment charges, etc.	4 0 0
Sale price of 200 nuts at 9 pies each and 200 small nuts at 6 pies each	15 10 0
Producer's share in consumer's price	64.0 per cent.

(ii) From a coconut grower in a garden in Kolaba district to consumers at Bombay.

	Rs. A. P.
Price paid to grower in Kolaba district by village merchant per thousand (1,125 nuts) .	45 0 0
Transport from garden to Alibagh in carts and from Alibagh to Bombay in boats (including loading, unloading, etc.)	7 1 0
Dock charges in Bombay	0 5 3
Transport from dock to commission agent's godown	2 0 0
Cost at commission agent's godown in Bombay .	54 6 3
Commission paid	1 8 0
Village merchant's margin	5 1 9
Price obtained by sales to hawkers	61 0 0
Transport from godown to hawker's premises .	1 9 0
Chopping off the husk	0 12 0
Hawker's cost price	63 5 0
Hawker's margin including licence fees, wages, etc.	16 6 0
Sale price of 1,125 nuts at Re. 0-1-3 each for 600 nuts and 1 anna each for 525 nuts	79 11 0
Producer's share in consumer's price	56.5 per cent

APPENDIX LXII—contd.

MATURE COCONUTS.

(i) From a coconut grower in Travancore State to copra maker at Alleppey (wet coconuts).

	Rs. A. P.
Grower's price at Rs. 25 per 1,000 unhusked nuts (30 nuts extra)	25 0 0
Husking charges	0 8 0
Less amount recovered by sale of husks	3 0 0
Copra manufacturer's cost price for 1,030 husked nuts at garden	22 8 0
Transport of coconuts from garden to Alleppey .	2 4 0
Copra manufacturer's cost price for 1,030 husked nuts	24 12 0
Consumer's price for husked nuts and husk together	27 12 0
Producer's share in consumer's price	90 per cent.

(ii) From a coconut grower in Tanjore district to consumers at Tanjore market (wet coconuts).

	Rs. A. P.
Grower's price for 125 nuts	2 10 0
Transport charges to Tanjore market	0 4 0
Cost of husking less amount realised by sale of husk	0 0 6
Commission agent's charges 4 annas (plus 5 nuts)	0 4 0
Retailer's purchase price for 120 nuts at Tanjore market	3 2 6
Retailer's margin	1 3 6
Retailer's sale price to consumers for 20 nuts at 9 pies each, 40 nuts at 7½ pies each and 60 nuts at 6 pies each	4 6 0
Producer's share in consumer's price	60 per cent.

APPENDIX LXII—*contd.*(iii) *From a coconut grower in East Godavari district to consumers at Jubbulpore (C. P.) (dry coconuts).*

	Rs. A. P.
Grower's price at Rs. 30 per 1,000 nuts (20 nuts extra)	30 0 0
<i>Village merchants' expenses.</i>	
Partial husking of nuts	0 11 0
Payment to grader	0 10 0
Counting	0 8 0
Transport to Amlapuram	1 4 0
Village merchants' margin (10 nuts retained)	2 15 0
Commission agent's purchase price at Rs. 36 per 1,000 (1,010 nuts)	36 0 0
<i>Commission agent's expenses.</i>	
Cost of 12 bags at 3 annas each	2 4 0
Commission to village merchant at 12 annas per cent.	0 3 6
Hundi discount	0 8 0
Union fund	0 1 0
Clerk, dharmada, etc., at 6 pies per bag	0 6 0
Cartage, etc., to Rajahmundry station at 1½ annas per bag	1 2 0
Price f.o.r. Rajahmundry	40 8 6
Railway freight to Jubbulpore	13 8 0
Price f.o.r. Jubbulpore	54 0 6
Transport from Jubbulpore station to wholesale merchant's godown	1 6 0
Station dala	0 4 0
Price at wholesale merchant's godown at Jubbulpore	55 10 6
Wholesale merchant's margin	3 7 0
Transport to retailer's shop	0 11 0
Cost at retailer's shop	59 12 6
Retailer's margin	3 5 6
Retailer's sale price to consumers at 1 anna each for 1,010 nuts	63 2 0
Producer's share in consumer's price	48 per cent.

APPENDIX LXII—*concl'd.*(iv) *From a coconut grower in Mulabar district to consumers at Narsingpur (C. P.) via Bombay (dry coconuts).*

	Rs. A. P.
Grower's price at Rs. 35 per 1,000 (1,020 nuts)	35 0 0
Transport charges to Badagara market	1 4 0
Agent's commission for collecting nuts	0 8 0
Cost of 1,020 nuts to wholesale merchant at Badagara	36 12 0
Takka (Commission) at Rs. 2-8 per cent.	0 14 0
Dharmam (charity) at 3 annas per 1,000 nuts	0 3 0
Sorting charges at 8 annas per 1,000 nuts	0 8 0
Wholesale merchant's margin	1 11 0
Wholesale merchant's sale price for 1,010 nuts (10 nuts rejected)	40 0 0
Transport from wholesale merchant's godown to exporting merchant's port godown	0 8 0
Cost of 15 gunnies for packing 10 bags at 3 annas each	2 13 0
Cost of twine, stitching, etc., for 10 bags	0 5 0
Exporting merchant's cost price for 10 bags coconuts at Badagara	43 10 0
Transport to lighters and loading at Rs. 1-8 per 100 bags	0 2 5
Charges for lighters up to steamer at Rs. 5 per 100 bags	0 8 0
Loading on steamer at Rs. 3-8 per 100 bags	0 5 7
Port dues	0 12 0
Steamer freight at 9 annas per bag (168 lb.)	5 10 0
Port dues at Bombay	5 8 3
Clearing charges at Bombay	0 11 6
Railway freight from Bombay to Narsingpur	11 10 3
Cost price f.o.r. Narsingpur	68 14 0
Terminal tax	0 4 6
Cartage from Narsingpur station to commission agent's godown	1 8 0
Exporting merchant's cost price at Narsingpur	70 10 6
Commission and other expenses at Narsingpur	1 9 0
Exporting merchant's margin	2 12 6
Wholesaler's purchase price at Narsingpur	75 0 0
Wholesaler's margin at Narsingpur	4 11 0
Transport to retailer's shop	0 10 0
Retailer's cost price	80 5 0
Retailer's margin	14 6 0
Retailer's sale price at 1½ annas each	94 11 0
Producer's share in consumer's price	37 per cent.

APPENDIX LXIII.

Imports of unmanufactured coir into India.*

(Tons.)

Year.	Through British India ports.	Through Travancore State ports.	Total.
1909-10	10	Not available.	19
1910-11	60		60
1911-12	22		22
1912-13	68		68
1913-14	170		170
Average	68		68
1914-15	262		262
1915-16	75		75
1916-17	538		538
1917-18	146		146
1918-19	47		47
Average	214		214
1919-20	801	Not available.	801
1920-21	148		148
1921-22	704		704
1922-23	275		275
1923-24	1,123		1,123
Average	610		610
1924-25	405		405
1925-26	753		753
1926-27	(a) 965		965
1927-28	651		651
1928-29	720		720
Average	699		699
1929-30	932	(b) 1	932
1930-31	(a) 727		727
1931-32	660		661
1932-33	807		807
1933-34	839		839
Average	793		793
1934-35	880		880
1935-36	1,029		1,049
1936-37	981		1,023
1937-38	995		1,034
1938-39	1,150		1,174
Average	1,007		1,032
1939-40	802	15	817
1940-41	787	2	789
1941-42	593	..	593
1942-43	227	..	227

*Excluding imports into Burma which was a part of India, up to 1936-37 and including imports into India from Burma.

(a) Including 1 ton imported from Burma.

(b) Imported through Kathiawar States ports.

Source.—Annual Statements of the Sea-borne Trade of British India, Annual Statements of the Sea-borne Trade and Navigation of Burma and Trade Statistics relating to the Maritime States in Kathiawar and the State of Travancore.

APPENDIX LXIV.
Imports of unmanufactured coir from different countries through British India ports.
(Tons.)

Sources.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	Average.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.	1940-41.	1941-42.
United Kingdom	85	62	25	..	158	66	82	4	96	60	..	48	..	..	..
Ceylon	841	618	625	738	679	701	798	1,020	885	935	1,150	958	793	786	..
Other countries	3	47	10	69	2	26	..	5	..	..	..	1	9	1	..
TOTAL	932	727	660	807	839	793	880	1,029	991	995	1,150	1,007	802	787	593
Share of Bengal	387	316	309	422	374	362	365	388	425	410	572	432	401	360	..
" Bombay	496	376	319	333	397	384	414	514	444	428	413	442	326	362	..
" Madras	9	9	10	9	21	12	49	45	28	27	19	34	4	19	..
" Sind	40	26	22	43	47	35	52	82	84	130	146	99	71	46	..

Source.—Annual Statements of the Sea-borne Trade of British India, Annual Statements of the Sea-borne Trade and Navigation of Burma.

APPENDIX LXV.

*Exports of unmanufactured coir from India.**

(Tons.)

Year.	Through British India ports.		Through Travancore State ports.		Total
	To other countries.	To Burma†.	To other countries.	To Burma†.	
1909-10	658	206		864	1,728
1910-11	619	21		640	1,280
1911-12	564	2		566	1,132
1912-13	466	218		236	920
1913-14	741	17		15	773
Average	610	93		464	1,167
1914-15	246	3		5	254
1915-16	333	6		7	346
1916-17	249	..		2	251
1917-18	153	..		..	153
1918-19	300	..		..	300
Average	256	2		3	261
1919-20	354	3		4	361
1920-21	410	23		1	434
1921-22	424	51	Not available.		477
1922-23	490	..			494
1923-24	384	5			398
Average	413	16			433
1924-25	361	3		73	437
1925-26	404	..		10	414
1926-27	260	..		..	260
1927-28	228	2		16	246
1928-29	343	4		41	388
Average	319	2		28	349
1929-30	227	2		14	243
1930-31	190	1		25	216
1931-32	96	5		9	110
1932-33	28	..		..	28
1933-34	6	..		..	6
Average	109	2		10	121
1934-35	54	..		..	54
1935-36	181	..	79	..	260
1936-37	138	..	132	..	270
1937-38	111	6	74	6	197
1938-39	186	..	138	7	331
Average	134	1	84	3	222
1939-40	523		516		1,039
1940-41	247		219		466
1941-42	899		176		1,075
1942-43	488		..		488

* Excluding exports from Burma (which was a part of India up to 1936-37) and including exports from India to Burma.

† Imports into Burma from India up to 1936-37.

Source.—Annual Statements of the Sea-borne Trade of British India, Annual Statements of the Sea-borne Trade and Navigation of Burma and Trade Statistics relating to the Maritime States in Kathiawar and the State of Travancore.

APPENDIX LXVI.
Exports of unmanufactured coir to different countries through British India ports.
 (Tons.)

Destinations.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	Average.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.	1940-41.	1941-42.
United Kingdom	108	67	48	3	..	45	13	21	45	49	57	37	42	205	..
Other British possessions	9	19	16	19	..	13	1	6	16	15	15	11	128	28	..
Belgium	69	26	12	3	5	23	8	30	22	21	37	23	32	..	..
France	..	..	..	..	..	..	..	76	24	..	45	29	140	2	..
Other foreign countries	43	79	25	3	1	30	32	48	31	32	32	35	181	12	..
TOTAL	229	191	101	28	6	111	54	181	138	117	186	135	523	247	899
Share of Bengal	..	..	..	1	..	..	..	1	..	..	4	1	78	14	..
" Bombay	7	13	11	18	1	10	5	7	1	..	..	3	4	1	..
" Madras	222	178	90	9	5	101	49	173	137	117	182	131	441	232	..

Source.—Annual Statements of the Sea-borne Trade of British India and Annual Statements of the Sea-borne Trade and Navigation of Burma.

APPENDIX LXVII.

*Imports of manufactured coir (excluding rope and cordage)
into India.**

(Tons.)

Year.	Through British India Ports.		Through Kathiawar States ports.	Total.
	From other countries.	From Burma.†		
1909-10	299	..		299
1910-11	219	11		230
1911-12	156	6		162
1912-13	143	..		143
1913-14	284	3		287
Average	220	4		224
1914-15	259	1		260
1915-16	134	..		134
1916-17	251	1		252
1917-18	198	..		198
1918-19	181	1		182
Average	204	1		205
1919-20	125	24	Not avail- able.	149
1920-21	776	..		776
1921-22	413	1		414
1922-23	300	3		303
1923-24	144	7		151
Average	352	7		359
1924-25	119	1		120
1925-26	183	1		184
1926-27	91	2		93
1927-28	77	..		77
1928-29	44	1		45
Average	103	1		104
1929-30	35	12		47
1930-31	40	..		40
1931-32	37	3		42
1932-33	31	1		33
1933-34	34	..		34
Average	35	3		39
1934-35	25	..		25
1935-36	34	3		37
1936-37	33	6		39
1937-38	163	..		163
1938-39	24	..		28
Average	56	2		68
1939-40	67	..	2	69
1940-41	36	..		36
1941-42	92	..		92
1942-43	24	..		24

* Excluding imports into Burma (which was a part of India up to 1936-37) and including Imports into India from Burma.

† Exports from Burma to India.

Source.—Annual Statements of the Sea-borne Trade of British India, Annual Statements of the Sea-borne Trade and Navigation of Burma and Trade Statistics relating to the Maritime States in Kathiawar and the State of Travancore.

APPENDIX LXVIII.

Imports of manufactured coir (excluding rope and belting) from different countries through British India ports:

(Tons.)

Sources	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	Average.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.	1940-41.	1941-42.
Ceylon	35	33	34	30	34	33	25	34	33	153	23	54	64	34	..
Burma*	12	..	3	1	..	3	..	3	6	..	..	2	3	..	..
Other countries	..	7	3	1	..	2	..	..	..	10	1	2	..	2	..
Total	47	40	40	32	34	38	25	37	39	163	24	58	67	36	92
Share of—															
Bengal	Not available.	1	Not available.	Not available.	..	Not available.	3	Not available.	Not available.	..	..	..	2	2	..
Bombay	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Madras	..	33	..	..	34	..	22	..	..	163	23	..	65	34	..

* Exports from Burma to India.

Source.—Annual Statements of the Sea-borne Trade of British India and Annual Statements of the Sea-borne Trade and Navigation of Burma.

APPENDIX LXIX.

Exports of manufactured coir (excluding rope and cordage)
from India.*

(Tons.)

Year.	Through British India ports.		Through Travancore State ports.		Total.
	To other countries.	To Burma.†	To other countries.	To Burma.†	
1909-10	33,865	2,231		158	36,254
1910-11	32,091	1,859		491	34,441
1911-12	37,418	2,320		402	40,140
1912-13	36,215	1,771		810	38,796
1913-14	38,613	1,805		1,243	41,661
Average	35,640	1,997		621	38,258
1914-15	24,029	1,076		1,170	26,275
1915-16	27,133	1,186		1,122	29,441
1916-17	28,486	1,317		1,473	31,276
1917-18	19,908	2,196		1,284	23,388
1918-19	13,080	2,639		1,433	17,152
Average	22,527	1,683		1,296	25,506
1919-20	38,295	2,729		1,625	42,649
1920-21	30,040	3,604		1,089	34,733
1921-22	27,737	3,094		2,909	33,740
1922-23	33,115	1,661		2,020	36,796
1923-24	31,459	1,272		2,924	35,655
Average	32,129	2,472	(Not available)	2,113	36,714
1924-25	36,534	1,234		4,026	41,794
1925-26	29,839	1,041		4,079	34,959
1926-27	27,869	1,045		3,658	32,572
1927-28	33,358	1,980		8,179	43,517
1928-29	31,985	1,500		2,916	36,401
Average	31,917	1,360		4,572	37,849
1929-30	31,492	1,473		2,317	35,282
1930-31	25,844	1,307		2,035	29,186
1931-32	26,373	1,332		1,858	29,563
1932-33	26,900	1,304		1,740	29,944
1933-34	31,091	2,277		1,319	34,687
Average	28,340	1,539		1,854	31,733
1934-35	31,297	3,239		909	35,445
1935-36	34,197	3,764	26,350	553	64,864
1936-37	27,444	3,903	30,222	178	61,747
1937-38	34,151	3,033	25,639	35	62,858
1938-39	31,899	2,710	26,708	1,168	62,485
Average	31,797	3,330	27,231†	569	62,927
1939-40	41,255	1,812	29,335 (a)		72,402
1940-41	22,476	2,696	11,371 (a)		36,543
1941-42		25,718	3,998 (a)		29,716
1942-43		31,984	69 (a)		32,053

*Excluding exports from Burma (which was a part of India up to 1936-37) and including exports from India to Burma.

†Imports into Burma from India up to 1936-37.

‡Average of 4 years.

(a) Including 5 tons, 7 tons, 4 tons and one ton exported from Kathiawar States ports during 1939-40, 1940-41 and 1941-42 respectively.

Source.—Annual Statements of the Sea-borne Trade of British India, Annual Statements of the Sea-borne Trade and Navigation of Burma and Trade Statistics relating to the Maritime States in Kathiawar and the State of Travancore.

APPENDIX LXIX.
Exports of manufactured coir (excluding cordage and rope) to
different countries through British India Ports.

(Tons.)

Destinations.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	Average.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.	1940-41.	1941-42.
United Kingdom	5,152	4,687	5,850	4,980	6,188	5,372	6,877	7,932	6,803	7,690	7,630	7,386	17,773	11,810	8,014
Burma*	1,423	1,307	1,332	1,304	2,277	1,539	3,239	3,764	3,903	3,033	2,710	3,330	1,812	2,696	3,076
Ceylon	125	110	58	37	417	133	168	72	33	46	43	72	273	31	..
Union of S. Africa	291	311	292	256	526	375	548	520	265	373	281	397	587	752	..
Canada	67	31	74	46	94	62	124	150	92	145	246	151	270	350	..
Australia	56	11	33	8	244	74	334	226	316	417	535	365	914	1,702	2,336
New Zealand	3	..	14	..	36	11	102	50	64	74	70	72	27	..	..
Other Empire Countries	365	338	200	305	209	283	256	306	288	270	319	290	355	559	..
Germany	7,913	4,780	4,624	5,106	6,574	5,800	5,331	7,980	4,896	8,022	7,414	6,729	2,401	1,096	..
Netherlands	5,022	4,547	4,317	5,500	5,186	4,985	5,337	4,504	2,741	3,955	3,834	4,074	4,840	..	..
Belgium	5,072	4,208	4,240	3,280	3,652	4,094	2,817	2,716	2,718	2,755	2,239	2,649	1,675	49	..
France	3,258	3,151	3,609	3,750	2,665	3,287	2,381	2,201	2,785	1,994	1,910	2,294	2,211	778	..
Portugal	..	106	165	281	934	297	762	1,345	633	1,296	1,058	1,023	1,450	75	..
Italy	1,847	1,728	1,517	1,962	1,998	1,810	2,409	1,268	1,236	1,744	1,455	1,622	1,564	352	..
Japan	350	241	331	278	253	291	501	478	768	692	550	598	476	..	..
U. S. A.	640	573	298	239	902	530	1,082	1,605	1,405	1,886	1,639	1,741	2,035	3,284	6,348
Other foreign countries	731	822	722	1,113	1,193	916	2,068	2,844	2,291	2,783	2,676	2,534	4,404	1,344	5,014
Total	32,965	27,151	27,705	28,204	33,368	29,870	34,536	37,961	31,347	37,184	34,609	35,127	43,067	25,172	25,718
Share of Bengal	198	122	71	150	45	117	30	49	68	42	49	59	33	64	..
" Bombay	124	101	56	70	68	84	91	91	109	97	87	93	79	106	..
" Madras	32,639	26,926	27,578	27,631	33,254	29,676	34,365	37,818	31,107	37,044	34,473	34,073	42,955	24,911	..
" Sind	4	2	..	3	1	2	1	3	3	1	..	..	..	1	..

*Imports into Burma up to 1936-37.

Source.—Annual Statements of the Sea-borne Trade of British India and Annual Statements of the Sea-borne Trade and Navigation of Burma.

APPENDIX LXXI.

*Exports of coir yarn to different countries through British India Ports.**

(Tons.)

Destinations.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.	1940-41.	1941-42.
United Kingdom	4,197	4,463	3,861	4,371	4,279	4,234	9,793	8,640	4,941
Burma	Not available.			3,004	2,663	1,134	1,788	2,634	3,076
Germany	5,330	7,979	4,896	8,022	7,414	6,728	2,401	..	..
Netherlands	5,214	4,451	2,668	3,843	3,744	3,984	4,708	1,052	..
Belgium	2,806	2,708	2,719	2,755	2,233	2,644	1,670	49	..
France	2,581	2,201	2,785	1,994	1,906	2,293	2,211	778	..
Italy	2,404	1,262	1,236	1,746	1,455	1,621	1,562	105	..
United States of America	850	1,446	1,310	1,550	1,365	1,304	1,644	1,751	3,778
Other countries	4,237	5,591	4,386	5,473	5,016	4,941	7,536	3,237	3,671
Total	27,619	30,101	23,861	32,758	30,075	28,883	33,313	18,246	15,461
Share of Bengal	79	39	46	36	43	40	32	31	..
„ Bombay	60	79	89	80	59	73	59	158	..
„ Sind	..	2	1	..	..	1	..	..	..
„ Madras	27,480	29,981	23,725	32,642	29,973	28,760	33,222	18,057	..

* Excluding exports from Burma (which was part of India up to 1936-37).
 Source.—Annual Statements of the Sea-borne Trade of British India.

APPENDIX LXXII.

Exports of coir yarn to different countries through Travancore State Ports.

(Tons.)

Destinations.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.	1940-41.	1941-42.
United Kingdom	2,465	2,721	2,726	2,652	2,641	4,420	2,393	1,744
Burma	Not available.			1,137	284	2,326	1,218	176
Germany	2,293	2,785	2,513	2,691	2,570	716	..	..
Netherlands	733	1,101	1,192	1,922	1,237	1,567	501	..
Belgium	592	514	568	553	557	142	19	..
Italy	723	1,077	760	1,079	910	429	235	..
United States of America	820	474	417	393	526	615	448	82
Australia	661	405	488	518	518	532	241	35
"For orders" cargoes	15	2	..	165	45	..	..	..
Other countries	1,060	1,033	899	846	960	1,198	305	1
Total	9,362	10,112	9,563	11,956	10,248	11,945	5,360	2,038

Source.—Trade Statistics relating to the Maritime States in Kathiawar and the State of Travancore.

APPENDIX LXXIII.

*Exports of coir mats and mattings to different countries through British India Ports.**

(Tons.)

Destinations.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.	1940-41.	1941-42.
United Kingdom	2,292	2,230	1,960	2,190	1,954	2,125	4,551	1,620	2,296
Burma	Not available.			28	47	16	23	50	..
United States of America	207	126	137	249	213	187	346	1,077	1,907
Union of S. Africa	102	38	26	52	72	58	215	419	(a)
Australia	170	132	115	179	244	168	491	759	1,688
New Zealand	102	44	56	62	49	63	16	70	..
Netherlands	89	39	38	67	49	56	98	17	..
Other countries	198	170	163	293	312	227	404	559	1,176
Total	3,160	2,779	2,495	3,120	2,940	2,899	6,144	4,571	7,067
Share of Bengal	1	..	..	..	..	..	..	1	..
„ Bombay	13	10	10	16	27	17	9	33	..
„ Sind	..	1	1	1	..	1	1	1	..
„ Madras	3,146	2,768	2,475	3,103	2,913	2,881	6,134	4,536	..

* Excluding exports from Burma (which was part of India up to 1936-37).
 (a) Included with "other countries".
 Source.—Annual Statements of the Sea-borne Trade of British India.

APPENDIX LXXIV.

Exports of coir mats and mattings to different countries through Travancore State Ports.

(Tons.)

Destinations.	1935-36.	1936-37.	1937-38.	1938-39.	Average.	1939-40.	1940-41.	1941-42.
United Kingdom	7,799	8,362	7,536	8,586	8,071	7,422	2,418	1,029
Netherlands	204	156	337	262	240	132	8	..
United States of America	748	640	727	518	658	367	532	2
Australia	1,109	1,372	1,471	879	1,208	873	481	65
New Zealand	489	540	458	514	500	127	29	..
Union of South Africa	232	344	336	332	311	210	1	13
Other countries	940	897	729	646	803	582	164	17
Total	11,521	12,311	11,594	11,737	11,791	9,713	3,633	1,126

Source.—Trade Statistics relating to the Maritime States in Kathiawar and the State of Travancore.

APPENDIX LXXV.

Average monthly prices of coir fibre at Cochin.
(Per candy of 6 cwt.)

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1931-32	67 3 0	60 8 0	60 8 0	50 6 0	50 6 0	48 12 0	42 0 0	42 0 0	40 5 0	43 11 0	43 11 0	43 11 0	49 6 9
1932-33	40 5 0	38 0 0	38 10 0	36 15 0	36 15 0	36 15 0	38 10 0	38 10 0	38 10 0	38 10 0	38 10 0	38 10 0	38 4 8
1933-34	38 10 0	38 10 0	38 10 0	42 13 0	47 1 0	47 1 0	47 1 0	48 12 0	50 6 0	47 1 0	48 12 0	48 12 0	45 4 9
1934-35	48 12 0	48 12 0	48 12 0	50 6 0	48 12 0	48 12 0	48 12 0	48 12 0	48 12 0	48 12 0	48 12 0	47 14 0	48 13 0
1935-36	47 1 0	47 1 0	47 1 0	47 1 0	43 11 0	43 11 0	43 11 0	43 11 0	42 0 0	42 0 0	42 0 0	40 5 0	44 1 9
1936-37	40 5 0	40 5 0	40 5 0	40 5 0	40 5 0	40 5 0	42 0 0	40 5 0	42 0 0	43 11 0	48 12 0	47 1 0	42 2 3
1937-38	47 1 0	46 12 0	40 12 0	47 1 0	50 6 0	52 1 0	52 1 0	48 12 0	50 6 0	50 6 0	48 12 0	48 12 0	49 6 10
1938-39	49 9 0	46 3 0	45 6 0	46 10 0	44 15 0	43 11 0	42 7 0	42 0 0	40 15 0	36 9 0	35 4 0	33 10 0	42 4 3

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APPENDIX LXXVI.

Average monthly prices of three types of coir yarn at Cochin.
(Per candy of 6 cwt.)
Anjengo Superior.

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1931-32	72 8 0	62 8 0	60 0 0	56 8 0	56 8 0	48 8 0	51 8 0	73 8 0	70 0 0	61 8 0	61 8 0	68 8 0	61 14 8
1932-33	57 8 0	57 8 0	56 8 0	55 0 0	59 8 0	64 0 0	63 0 0	60 8 0	58 8 0	60 0 0	60 0 0	57 8 0	59 2 0
1933-34	62 0 0	56 0 0	55 0 0	63 0 0	59 8 0	59 8 0	60 0 0	63 0 0	67 0 0	64 0 0	66 0 0	70 0 0	62 2 0
1934-35	68 8 0	65 8 0	60 0 0	58 0 0	58 0 0	55 8 0	56 8 0	54 8 0	54 8 0	58 0 0	59 8 0	57 8 0	58 13 4
1935-36	57 0 0	56 8 0	55 0 0	55 0 0	62 0 0	58 0 0	59 0 0	59 0 0	59 0 0	59 0 0	59 0 0	59 0 0	58 2 0
1936-37	58 0 0	58 0 0	58 0 0	58 0 0	58 0 0	61 0 0	63 0 0	63 0 0	65 0 0	73 0 0	77 0 0	72 0 0	63 10 8
1937-38	76 0 0	74 0 0	73 0 0	71 0 0	74 0 0	78 0 0	74 0 0	72 0 0	73 0 0	70 0 0	66 0 0	65 8 0	72 3 4
1938-39	64 0 0	60 0 0	58 0 0	61 8 0	58 4 0	59 12 0	..	..	..	..	..	..	..

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Source.—Cochin Chamber of Commerce.

APPENDIX LXXVI—contd.

Average monthly prices of three types of coir yarn at Cochin.

(Per candy of 6 cwt.)

Alapat.

Year.	April.	May.	June.	July.	August.	Septem- ber.	October.	Novem- ber.	Decem- ber.	January.	February.	March.	Average.
	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.
1931-32	87 8 0	72 8 0	60 0 0	55 0 0	55 8 0	55 0 0	55 0 0	55 0 0	80 0 0	70 0 0	60 0 0	65 0 0	64 3 4
1932-33	65 0 0	54 0 0	51 0 0	48 0 0	50 0 0	58 0 0	62 0 0	60 0 0	57 0 0	58 8 0	60 0 0	62 0 0	57 2 0
1933-34	64 0 0	60 0 0	60 0 0	65 0 0	62 0 0	63 0 0	65 0 0	65 0 0	75 0 0	80 0 0	85 0 0	90 0 0	69 8 0
1934-35	90 0 0	82 0 0	71 0 0	72 0 0	66 0 0	66 0 0	72 0 0	68 0 0	69 0 0	69 0 0	69 8 0	68 0 0	71 14 8
1935-36	67 0 0	66 8 0	58 0 0	58 0 0	58 8 0	56 0 0	56 8 0	54 8 0	54 8 0	54 8 0	50 8 0	56 0 0	53 0 8
1936-37	54 0 0	54 0 0	54 8 0	54 8 0	55 8 0	57 0 0	59 0 0	58 0 0	59 0 0	63 8 0	67 0 0	64 0 0	58 5 4
1937-38	67 0 0	65 0 0	64 0 0	63 8 0	67 8 0	71 0 0	72 0 0	67 0 0	69 0 0	66 8 0	64 0 0	63 0 0	66 10 0
1938-39	62 0 0	52 8 0	51 8 0	52 3 0	44 4 0	51 8 0	..	..	..	..	..	..	..

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Rope yarn.

1931-32	28 0 0	26 8 0	26 8 0	26 8 0	24 8 0	24 8 0	24 8 0	25 0 0	26 8 0	30 0 0	26 8 0	25 8 0	22 0 0	25 12 0
1932-33	22 0 0	22 0 0	22 0 0	22 8 0	21 0 0	19 0 0	24 0 0	24 0 0	24 8 0	24 8 0	24 8 0	24 8 0	24 8 0	22 14 8
1933-34	24 8 0	25 8 0	25 8 0	32 0 0	30 0 0	30 0 0	31 0 0	32 8 0	32 8 0	32 8 0	32 0 0	32 0 0	33 0 0	30 0 8
1934-35	34 0 0	32 0 0	31 8 0	28 0 0	26 0 0	25 0 0	30 0 0	30 0 0	29 8 0	29 0 0	31 4 0	32 0 0	31 0 0	29 14 8
1935-36	30 0 0	30 0 0	28 8 0	28 8 0	30 0 0	28 0 0	28 0 0	28 0 0	27 0 0	27 0 0	27 8 0	27 0 0	26 8 0	28 4 0
1936-37	25 8 0	26 0 0	26 0 0	25 8 0	26 8 0	28 0 0	28 0 0	28 0 0	27 8 0	27 8 0	31 0 0	34 0 0	33 0 0	28 3 4
1937-38	38 0 0	41 0 0	37 0 0	37 0 0	39 0 0	40 0 0	37 0 0	37 0 0	36 8 0	37 0 0	37 0 0	37 0 0	36 8 0	37 12 8
1938-39	36 8 0	33 8 0	31 4 0	33 4 0	30 12 0	30 0 0	..	..	..	..	..	..	..	..

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Source.—Cochin Chamber of Commerce.

APPENDIX LXXVII.
Average monthly prices of different qualities of coir yarn at Alleppey.

(Per candy of 6 cwt.)

Alapat Real.

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1931-32 .	69 0 0	53 8 0	49 8 0	51 0 0	53 0 0	52 0 0	46 8 0	70 12 0	67 8 0	56 0 0	58 0 0	58 8 0	57 1 8
1932-33 .	52 8 0	49 4 0	47 8 0	49 4 0	53 0 0	57 0 0	53 8 0	52 0 0	53 0 0	57 8 0	59 0 0	61 0 0	53 11 4
1933-34 .	57 12 0	54 0 0	60 0 0	61 0 0	61 0 0	61 8 0	67 0 0	71 8 0	75 0 0	81 0 0	83 8 0	90 0 0	88 8 4
1934-35 .	82 0 0	69 8 0	66 0 0	64 8 0	64 0 0	68 4 0	59 0 0	66 8 0	65 12 0	70 0 0	67 8 0	65 0 0	68 2 8
1935-36 .	64 4 0	61 8 0	58 8 0	61 8 0	59 12 0	57 12 0	58 12 0	59 8 0	56 8 0	57 8 0	59 0 0	56 8 0	59 0 0
1936-37 .	55 0 0	54 12 0	54 12 0	55 8 0	56 0 0	59 8 0	62 0 0	60 0 0	64 0 0	72 8 0	66 8 0	62 0 0	60 3 4
1937-38 .	64 0 0	64 8 0	62 8 0	63 8 0	69 0 0	73 4 0	72 4 0	70 0 0	72 8 0	72 0 0	68 8 0	68 0 0	68 5 4
1938-39 .	69 0 0	63 0 0	60 0 0	63 8 0	61 12 0	65 0 0	64 12 0	64 8 0	65 8 0	64 0 0	60 12 0	59 12 0	63 7 4
1939-40 .	58 8 0	58 0 0	58 0 0	56 14 0	56 8 0	51 8 0	52 3 0	52 0 0	53 0 0	53 13 0	53 0 0	52 0 0	54 9 10
1940-41 .	50 4 0	49 13 0	47 12 0	44 8 0	44 8 0	44 0 0	42 3 0	41 8 0	40 8 0	40 13 0	39 0 0	38 0 0	43 9 1
1941-42 .	38 0 0	38 0 0	39 0 0	39 0 0	39 0 0	39 5 0	42 0 0	51 14 0	51 14 0	53 2 0	54 8 0	58 8 0	45 9 7
1942-43 .	62 13 0	62 2 0	62 4 0	59 8 0	60 0 0	60 8 0	62 12 0	84 4 0	104 9 0	88 2 0	90 0 0	90 3 0	73 14 9

Alapat Imitation.—*Carruwa.*

[illegible]

APPENDIX LXXVII—contd.

Average monthly prices of different qualities of coir yarn at Alleppey.

(Per candy of 6 cwt.)

Alapat Imitation.—Ashtamudi.

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average
	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.
1931-32.	45 8 0	40 0 0	37 8 0	35 0 0	40 0 0	40 0 0	42 0 0	60 12 0	50 0 0	44 0 0	42 0 0	47 0 0	43 10 4
1932-33.	46 0 0	45 0 0	45 0 0	47 8 0	49 8 0	49 0 0	44 0 0	45 0 0	45 0 0	51 0 0	49 0 0	52 0 0	47 5 4
1933-34.	53 0 0	49 8 0	49 8 0	58 8 0	58 12 0	59 0 0	59 8 0	63 0 0	61 0 0	62 0 0	62 8 0	63 0 0	58 8 4
1934-35.	62 8 0	57 8 0	53 8 0	55 0 0	54 0 0	50 8 0	51 0 0	49 8 0	50 12 0	60 8 0	59 8 0	56 12 0	55 1 4
1935-36.	56 0 0	55 8 0	50 8 0	53 0 0	52 8 0	51 8 0	51 12 0	50 8 0	50 8 0	52 8 0	52 8 0	48 0 0	52 1 8
1936-37.	47 0 0	46 12 0	47 8 0	47 8 0	47 0 0	51 0 0	51 8 0	49 12 0	57 8 0	65 0 0	61 0 0	59 0 0	52 8 8
1937-38.	61 0 0	61 0 0	60 0 0	62 8 0	65 12 0	67 8 0	64 8 0	62 0 0	62 8 0	65 8 0	59 8 0	58 0 0	62 7 8
1938-39.	56 4 0	51 0 0	47 12 0	48 0 0	43 0 0	47 0 0	46 12 0	44 8 0	44 12 0	44 4 0	41 12 0	41 0 0	46 5 4
1939-40.	40 12 0	41 10 0	40 8 0	38 10 0	40 13 0	38 4 0	38 10 0	37 6 0	40 8 0	42 13 0	41 14 0	42 0 0	40 5 0
1940-41.	39 12 0	38 6 0	37 8 0	33 4 0	32 8 0	31 8 0	31 0 0	30 8 0	29 8 0	29 0 0	29 0 0	28 8 0	32 8 6
1941-42.	29 3 0	28 8 0	28 8 0	29 6 0	32 0 0	33 0 0	35 3 0	41 14 0	39 13 0	37 8 0	37 8 0	38 8 0	34 3 11
1942-43.	39 0 0	38 2 0	46 6 0	50 0 0	57 7 0	56 11 0	63 0 0	83 0 0	108 11 0	90 0 0	86 4 0	88 14 0	67 4 7

Anjengo Superior.

1931-32.	62 8 0	55 0 0	54 0 0	52 0 0	51 0 0	49 12 0	53 8 0	72 0 0	66 0 0	55 0 0	62 8 0	59 0 0	57 11 0
1932-33.	58 0 0	57 0 0	53 0 0	57 0 0	60 0 0	62 8 0	62 0 0	57 8 0	58 0 0	64 0 0	60 0 0	60 0 0	59 1 4
1933-34.	59 0 0	59 0 0	62 0 0	62 0 0	59 8 0	61 0 0	62 0 0	65 8 0	68 8 0	66 4 0	72 0 0	72 8 0	64 1 8
1934-35.	71 0 0	62 8 0	58 8 0	59 0 0	59 0 0	62 0 0	60 0 0	61 8 0	62 0 0	67 8 0	64 0 0	62 0 0	62 6 8
1935-36.	62 0 0	60 0 0	59 8 0	58 8 0	58 0 0	57 0 0	57 8 0	58 0 0	58 8 0	58 0 0	57 8 0	55 8 0	58 6 8
1936-37.	55 0 0	54 0 0	53 0 0	56 0 0	56 8 0	60 0 0	62 0 0	62 8 0	72 0 0	81 0 0	76 0 0	78 8 0	64 0 8
1937-38.	75 0 0	72 0 0	71 0 0	73 8 0	77 0 0	75 0 0	71 0 0	71 0 0	71 0 0	71 0 0	63 0 0	65 0 0	71 4 8
1938-39.	68 8 0	58 0 0	58 0 0	60 0 0	57 4 0	58 0 0	60 0 0	59 8 0	62 12 0	60 4 0	58 8 0	58 0 0	59 11 8
1939-40.	57 12 0	58 10 0	57 8 0	54 8 0	54 0 0	47 4 0	51 0 0	49 5 0	54 12 0	55 6 0	52 14 0	52 0 0	53 11 11
1940-41.	48 12 0	46 3 0	45 8 0	43 4 0	42 0 0	41 12 0	42 0 0	40 2 0	38 0 0	36 0 0	35 4 0	34 12 0	41 2 1
1941-42.	35 10 0	35 12 0	36 0 0	26 10 0	38 0 0	40 0 0	41 10 0	52 3 0	48 13 0	43 14 0	43 0 0	46 14 0	41 8 6
1942-43.	47 0 0	55 8 0	56 12 0	60 3 0	60 0 0	61 13 0	69 10 0	96 8 0	115 10 0	93 12 0	103 2 0	114 11 0	77 14 1

APPENDIX LXXVII—contd.
Average monthly prices of different qualities of coir yarn at Alleppey.
(Per candy of 6 cwt.)
Anjengo Ordinary.

Year.	April.		May.		June.		July.		August.		September.		October.		November.		December.		January.		February.		March.		Average.	
	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.	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.
1931-32	53 0 0	45 0 0	45 0 0	43 0 0	43 0 0	40 0 0	40 0 0	40 0 0	40 0 0	38 0 0	44 0 0	44 0 0	52 12 0	52 12 0	49 0 0	63 0 0	58 8 0	58 8 0	46 8 0	46 8 0	52 0 0	53 8 0	53 0 0	53 0 0	48 0 0	48 0 0
1932-33	51 0 0	48 0 0	48 0 0	43 0 0	43 0 0	45 4 0	49 8 0	49 8 0	49 8 0	52 0 0	52 12 0	52 12 0	52 12 0	52 12 0	49 0 0	63 0 0	50 0 0	50 0 0	55 0 0	55 0 0	53 8 0	53 8 0	54 0 0	54 0 0	50 4 0	50 4 0
1933-34	50 0 0	40 0 0	40 0 0	55 0 0	55 0 0	53 0 0	54 0 0	54 0 0	54 0 0	54 0 0	55 8 0	55 8 0	55 8 0	55 8 0	60 0 0	60 0 0	60 8 0	60 8 0	57 0 0	57 0 0	59 8 0	59 8 0	62 0 0	62 0 0	55 12 8	55 12 8
1934-35	61 0 0	55 0 0	55 0 0	52 0 0	52 0 0	52 8 0	52 8 0	52 8 0	52 8 0	53 8 0	51 8 0	51 8 0	51 8 0	51 8 0	52 0 0	52 0 0	53 0 0	53 0 0	57 8 0	57 8 0	54 0 0	54 0 0	51 8 0	51 8 0	53 12 4	53 12 4
1935-36	52 8 0	50 0 0	50 0 0	47 8 0	47 8 0	50 0 0	47 8 0	47 8 0	47 8 0	48 0 0	49 8 0	49 8 0	49 8 0	49 8 0	50 0 0	49 0 0	49 0 0	49 0 0	50 8 0	50 8 0	48 8 0	48 8 0	47 0 0	47 0 0	40 2 8	40 2 8
1936-37	46 8 0	46 8 0	46 8 0	46 0 0	46 0 0	46 8 0	46 8 0	46 8 0	46 8 0	51 0 0	51 0 0	51 0 0	51 0 0	51 0 0	52 0 0	52 0 0	60 0 0	60 0 0	74 0 0	74 0 0	63 0 0	63 0 0	65 0 0	65 0 0	54 0 0	54 0 0
1937-38	65 0 0	62 8 0	62 8 0	61 0 0	61 0 0	62 8 0	62 8 0	62 8 0	62 8 0	67 0 0	66 0 0	66 0 0	66 0 0	66 0 0	66 0 0	66 0 0	66 0 0	66 0 0	66 0 0	66 0 0	59 8 0	59 8 0	60 0 0	60 0 0	64 2 0	64 2 0
1938-39	59 4 0	51 8 0	51 8 0	46 0 0	46 0 0	50 0 0	46 12 0	46 12 0	46 12 0	48 8 0	49 0 0	49 0 0	49 0 0	49 0 0	49 4 0	49 4 0	52 8 0	52 8 0	50 12 0	50 12 0	48 4 0	48 4 0	47 0 0	47 0 0	49 14 4	49 14 4
1939-40	42 12 0	43 10 0	43 10 0	44 2 0	44 2 0	41 0 0	43 0 0	43 0 0	43 0 0	38 4 0	43 3 0	43 3 0	43 3 0	43 3 0	42 6 0	42 6 0	44 0 0	44 0 0	46 0 0	46 0 0	46 10 0	46 10 0	44 0 0	44 0 0	43 7 11	43 7 11
1940-41	42 0 0	39 13 0	39 13 0	38 0 0	38 0 0	35 4 0	33 8 0	33 8 0	33 8 0	32 8 0	33 0 0	33 0 0	33 0 0	33 0 0	31 4 0	31 4 0	29 0 0	29 0 0	29 6 0	29 6 0	29 0 0	29 0 0	28 0 0	28 0 0	33 4 11	33 4 11
1941-42	28 6 0	30 0 0	30 0 0	30 0 0	30 0 0	30 10 0	31 6 0	31 6 0	31 6 0	33 0 0	34 0 0	34 0 0	34 0 0	34 0 0	45 0 0	45 0 0	41 6 0	41 6 0	36 12 0	36 12 0	35 9 0	35 9 0	40 0 0	40 0 0	34 11 2	34 11 2
1942-43	42 6 0	46 8 0	46 8 0	51 8 0	51 8 0	55 5 0	55 2 0	55 2 0	55 2 0	56 6 0	64 4 0	64 4 0	64 4 0	64 4 0	87 12 0	87 12 0	107 2 0	107 2 0	90 0 0	90 0 0	98 2 0	98 2 0	100 2 0	100 2 0	71 3 6	71 3 6

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Antony Superior.

1931-32	58 0 0	42 8 0	39 0 0	37 0 0	40 0 0	34 0 0	38 0 0	38 0 0	58 0 0	50 0 0	45 0 0	48 8 0	59 0 0	46 4 0	46 4 0
1932-33	45 0 0	41 8 0	40 0 0	43 8 0	46 0 0	47 0 0	45 0 0	43 0 0	43 0 0	45 0 0	50 0 0	52 0 0	56 0 0	46 2 8	46 2 8
1933-34	54 0 0	55 0 0	60 0 0	59 8 0	59 0 0	60 8 0	62 8 0	65 4 0	65 0 0	69 0 0	65 0 0	65 8 0	68 4 0	61 15 4	61 15 4
1934-35	65 12 0	56 0 0	50 0 0	45 8 0	46 8 0	50 0 0	48 0 0	48 8 0	48 8 0	50 8 0	56 0 0	54 8 0	53 4 0	52 0 8	52 0 8
1935-36	54 0 0	53 8 0	50 0 0	52 0 0	52 0 0	52 8 0	53 0 0	53 8 0	53 8 0	54 0 0	55 0 0	54 0 0	53 0 0	53 0 8	53 0 8
1936-37	50 0 0	48 8 0	48 0 0	46 8 0	47 0 0	51 8 0	52 0 0	53 0 0	53 0 0	56 0 0	64 0 0	60 0 0	61 8 0	53 2 8	53 2 8
1937-38	62 8 0	61 8 0	60 0 0	61 0 0	66 0 0	67 8 0	65 0 0	64 0 0	64 0 0	65 0 0	67 0 0	63 0 0	64 0 0	63 14 0	63 14 0
1938-39	60 12 0	51 0 0	48 0 0	48 8 0	46 8 0	47 0 0	49 0 0	47 8 0	47 8 0	50 0 0	48 4 0	46 4 0	47 0 0	49 2 4	49 2 4
1939-40	44 4 0	44 13 0	45 2 0	44 0 0	44 6 0	39 8 0	41 0 0	40 10 0	40 10 0	42 8 0	45 6 0	43 8 0	45 8 0	43 6 1	43 6 1
1940-41	44 4 0	41 10 0	39 12 0	35 8 0	33 0 0	33 8 0	33 6 0	31 12 0	31 12 0	30 0 0	30 0 0	29 4 0	28 0 0	34 2 8	34 2 8
1941-42	80 0 0	32 0 0	33 0 0	33 0 0	31 14 0	33 5 0	35 13 0	47 4 0	43 6 0	38 8 0	41 0 0	44 4 0	44 4 0	36 15 2	36 15 2
1942-43	45 8 0	46 8 0	50 6 0	51 0 0	55 10 0	57 2 0	64 8 0	84 8 0	110 10 0	90 0 0	93 2 0	96 8 0	96 8 0	70 6 5	70 6 5

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APPENDIX LXXVII—contd.
Average monthly prices of different qualities of coir yarn at Alleppey.
 (Per candy of 6 cwt.)
Aratory Ordinary.

Year.	April.		May.		June.		July.		August.		September.		October.		November.		December.		January.		February.		March.		Average	
	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.
1931-32 .	47	12 0	34	0 0	27	8 0	30	0 0	31	0 0	29	0 0	33	12 0	50	0 0	45	0 0	39	0 0	37	0 0	40	0 0	37	0 0
1932-33 .	37	0 0	39	0 0	39	0 0	42	0 0	45	0 0	43	8 0	44	0 0	33	0 0	32	0 0	43	0 0	42	0 0	46	0 0	40	4 8
1933-34 .	46	0 0	46	8 0	46	8 0	46	0 0	49	0 0	50	8 0	52	0 0	56	8 0	61	0 0	56	0 0	56	0 0	58	0 0	52	0 0
1934-35 .	55	8 0	48	8 0	40	0 0	37	0 0	36	0 0	40	0 0	40	0 0	43	0 0	41	0 0	47	0 0	45	0 0	44	0 0	43	1 4
1935-36 .	49	0 0	48	0 0	45	0 0	47	0 0	47	0 0	47	8 0	48	8 0	48	8 0	50	8 0	51	8 0	50	8 0	49	8 0	48	8 8
1936-37 .	46	0 0	44	0 0	43	0 0	43	0 0	44	0 0	47	8 0	47	8 0	48	0 0	51	0 0	62	0 0	54	8 0	57	0 0	43	15 4
1937-38 .	57	8 0	39	0 0	56	0 0	57	0 0	62	0 0	43	8 0	62	8 0	61	4 0	62	8 0	64	8 0	62	0 0	62	0 0	60	13 0
1938-39 .	58	0 0	45	8 0	40	0 0									Not available.		Not available.									
1939-40 .									Not available.																	
1940-41 .	41	12 0	39	6 0	37	12 0	33	8 0	31	0 0	31	0 0	31	3 0	29	12 0	23	0 0	27	3 0	28	0 0	26	0 0		
1941-42 .	27	13 0	29	0 0	30	0 0	29	10 0	29	2 0	29	11 0	30	14 0	43	2 0	39	14 0	33	0 0	36	8 0	38	0 0		
1942-43 .	40	3 0	41	4 0	48	0 0	48	10 0	53	2 0	54	2 0	61	8 0	80	0 0	106	14 0	87	8 0	83	2 0	92	0 0	66	12 5

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Vaikom.

1931-32.	55	0 0	47	0 0	46	8 0	41	0 0	40	0 0	40	0 0	40	0 0	43	8 0	55	0 0	52	0 0	52	0 0	49	0 0	55	0 0	43	0 0
1932-33.	51	8 0	46	0 0	43	0 0	42	0 0	42	0 0	40	0 0	40	0 0	40	0 0	40	0 0	42	8 0	48	0 0	46	8 0	54	0 0	44	10 0
1933-34.	50	0 0	52	0 0	52	0 0	52	0 0	52	0 0	52	0 0	52	0 0	54	0 0	60	0 0	60	0 0	53	0 0	53	0 0	62	0 0	55	2 8
1934-35.	62	0 0	54	0 0	53	0 0	53	0 0	46	8 0	53	0 0	52	0 0	51	0 0	51	0 0	55	0 0	55	0 0	55	0 0	65	0 0	54	1 4
1935-36.	53	0 0	52	0 0	45	0 0	46	8 0	46	8 0	46	8 0	46	8 0	46	0 0	45	8 0	50	0 0	50	0 0	50	0 0	51	8 0	43	8 8
1936-37.	51	8 0	51	0 0	51	0 0	51	0 0	52	0 0	52	0 0	55	8 0	58	0 0	58	0 0	59	0 0	66	0 0	65	8 0	64	8 0	56	14 8
1937-38.	63	8 0	60	0 0	58	8 0	61	0 0	62	0 0	62	0 0	62	8 0	61	0 0	59	8 0	58	8 0	58	0 0	55	0 0	57	0 0	59	11 4
1938-39.	54	12 0	55	0 0	52	8 0	50	12 0	47	8 0	46	4 0	46	4 0	46	12 0	47	0 0	50	0 0	49	0 0	47	8 0	52	0 0	49	14 8
1939-40.	50	0 0	50	0 0	49	4 0	48	0 0	46	10 0	39	12 0	39	12 0	44	2 0	46	3 0	47	0 0	48	6 0	47	8 0	51	4 0	47	5 5
1940-41.	49	10 0	48	10 0	43	2 0	34	12 0	33	12 0	35	2 0	34	0 0	34	0 0	35	8 0	35	0 0	34	10 0	35	0 0	34	10 0	37	13 0
1941-42.	23	12 0	32	4 0	32	8 0	32	6 0	30	10 0	29	11 0	31	8 0	31	8 0	33	12 0	31	8 0	31	8 0	35	0 0	37	2 0	32	10 1
1942-43.	43	8 0	43	8 0	46	10 0	46	2 0	48	2 0	49	13 0	52	8 0	65	14 0	65	14 0	87	0 0	82	8 0	79	2 0	91	12 0	91	13 5

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APPENDIX LXXVII—concl'd.
Average monthly prices of different qualities of coir yarn at Alleppey.
 (Per candy of 6 cwt.)
Beach.

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Average.
	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.
1931-32.	35 0 0	33 0 0	29 0 0	25 0 0	25 0 0	25 0 0	27 0 0	36 0 0	33 0 0	33 0 0	42 0 0	42 8 0	32 2 0
1932-33.	40 0 0	34 0 0	31 0 0	30 8 0	33 8 0	30 0 0	27 0 0	23 0 0	30 8 0	37 0 0	33 8 0	33 8 0	32 6 0
1933-34.	35 0 0	29 0 0	28 0 0	28 0 0	29 0 0	28 0 0	30 0 0	33 0 0	35 8 0	40 0 0	40 0 0	39 0 0	32 12 8
1934-35.	36 0 0	32 8 0	30 0 0	29 0 0	29 0 0	27 0 0	26 0 0	26 0 0	35 0 0	30 0 0	30 0 0	30 0 0	30 0 8
1935-36.	30 0 0	30 0 0	29 8 0	27 0 0	28 8 0	28 8 0	28 8 0	28 8 0	30 0 0	32 8 0	35 0 0	35 0 0	30 4 0
1936-37.	35 0 0	36 0 0	35 0 0	32 0 0	31 0 0	33 8 0	33 8 0	37 0 0	41 8 0	46 8 0	44 8 0	45 0 0	37 8 8
1937-38.	45 0 0	43 8 0	41 8 0	40 8 0	42 4 0	45 8 0	45 8 0	41 8 0	41 8 0	40 0 0	35 0 0	35 0 0	41 6 4
1938-39.	33 0 0	31 0 0	30 0 0	29 8 0	27 8 0	25 0 0	26 12 0	27 8 0	30 0 0	30 0 0	30 0 0	33 4 0	29 7 4
1939-40.	32 0 0	30 13 0	30 0 0	30 8 0	29 10 0	21 4 0	25 8 0	31 3 0	32 0 0	34 6 0	36 4 0	38 2 0	30 15 6
1940-41.	36 6 0	35 0 0	30 0 0	22 12 0	17 8 0	17 4 0	17 8 0	17 0 0	17 0 0	16 10 0	15 0 0	15 0 0	21 7 2
1941-42.	15 0 0	15 0 0	15 0 0	13 12 0	13 12 0	13 11 0	19 3 0	20 10 0	20 8 0	20 0 0	20 0 0	20 0 0	17 5 0
1942-43.	23 0 0	25 0 0	25 0 0	25 0 0	25 0 0	25 0 0	27 8 0	33 2 0	36 0 0	34 0 0	30 0 0	40 0 0	29 0 10

Note.—Prices are for the middle grades of the trade descriptions named.
Source.—Travancore Chamber of Commerce.

APPENDIX LXXVIII.

Results of analysis of various samples of coir yarn of different commercial types and qualities.

Types and qualities of yarn.	Number of samples.	Colour (Number on specially prepared chart).	Scourage.	Diameter inches.			Number of twists per foot.			Number of yards per lb.			Breaking strength (22" length) (lb.).			Pith content.			Moisture content.		
				Maximum.	Minimum.	Average.	Maximum.	Minimum.	Average.	Maximum.	Minimum.	Average.	Maximum.	Minimum.	Average.	Maximum.	Minimum.	Average.	Maximum.	Minimum.	Average.
Anjengo Special.	11	1 & 2	13 to 19	·133	·078	·102	93	61	76	265	104	165	36·9	18·4	27·1	4·85	·10	·87	13·10	7·92	10·77
Anjengo Superior.	16	1 & 2	11 to 17	·137	·084	·107	90	54	70	206	102	142	43·2	21·0	33·2	3·93	·07	·81	11·89	5·88	10·09
Anjengo Ordinary.	16	1, 2 & 3	9 to 14	·161	·092	·125	72	52	62	136	80	108	59·8	28·3	39·0	6·78	·58	2·04	12·57	8·70	11·26
Mangadban.	7	1 & 2	11 to 15	·160	·101	·129	68	59	64	142	96	110	50·6	26·3	37·3	2·81	·40	1·06	12·02	10·76	11·58
Aratory Superior.	11	1, 2, 3 & 4	11 to 17	·158	·087	·116	77	45	60	244	97	159	35·7	16·9	26·8	2·98	·72	1·57	11·21	9·69	10·45
Aratory Ordinary.	8	2, 3 & 4	12 to 16	·147	·095	·108	69	49	55	186	97	132	40·7	23·3	32·2	3·12	·79	1·82	11·46	9·72	10·52
Ashtamudy.	10	1, 2 & 3	11 to 15	·157	·095	·128	49	42	46	135	77	106	58·2	41·1	47·3	2·93	·75	1·66	14·52	9·20	11·78
Alapat.	23	1 to 5	9 to 18	·153	·075	·109	64	32	41	228	56	138	53·0	19·2	36·7	2·46	·14	1·10	13·0	9·32	11·43
Vaikom.	24	1 to 5, 7, 8 & 10	11 to 15	·142	·061	·111	46	30	36	168	100	145	48·4	17·1	35·7	13·67	·50	4·77	11·98	9·07	10·40
Beach.	7	5 & 6	10 to 14	·175	·097	·137	37	26	33	178	103	137	31·8	22·0	28·4	23·03	8·84	15·66	11·56	9·79	10·50
Beypur.	10	1 to 3	7 to 9	·225	·180	·208	31	25	26	62	47	53	115·8	78·9	96·6	5·41	1·25	3·44	13·98	11·58	12·47
Kollandy.	9	1, 2, 4, 8 & 10	8 to 12	·198	·133	·154	36	28	32	105	68	83	71·4	42·1	60·6	6·59	1·33	3·71	12·88	11·12	11·97
Unsoaked yarn.	12	1 & 3 to 6	7 to 13	·226	·117	·150	33	21	29	136	49	109	38·8	17·7	28·7	49·06	13·53	23·11	18·09	10·4	12·64

APPENDIX LXXIX.
Tentative specifications for some important trade descriptions of coir yarn.

Grade designation.	Colour not deeper than standard.	Scorage not less than	Number of twists per foot. Not less than	Pith not more than	General characteristics.
Anjengo Special Fine	1	16	70	.75 per cent.	The yarns shall be 2 ply and prepared by wheel spinning from fibre extracted from retted coconut husks. They shall be reasonably dry* and uniform in thickness and twist.†
Anjengo Special Medium	1	14	65	.75 per cent.	
Anjengo Superior Fine	2	14	65	1 per cent.	
Anjengo Superior Medium	2	12	60	1 per cent.	
Anjengo Ordinary	3	10	55	1.5 per cent.	
Aratory Superior	3	14	55	2 per cent.	The yarns shall be 2 ply and prepared by hand spinning from fibre extracted from retted coconut husks. They shall be reasonably dry* and uniform in thickness and twist.†
Aratory Ordinary	4	12	50	2 per cent.	
Alapat No. 1	3	12	45	1 per cent.	
Alapat No. 2	5	10	30	2 per cent.	
Valkom No. 1	4	12	40	3 per cent.	
Valkom No. 2	7	10	30	5 per cent.	

* The yarn shall be considered reasonably dry if the loss in weight on drying for 1 hour in oven at 105°C. does not exceed 5 per cent. by weight.
† The yarn shall be considered uniform in thickness and twist if the diameter of the yarn and number of twists per foot determined at 5 different places over any 10 feet length do not differ by more than 10 per cent.

GLOSSARY OF INDIAN TERMS.

<i>Alpai</i>	A quality of edible copra (from Alleppey).
<i>Arhatiyas</i>	Commission agents.
<i>Attics</i>	Specially constructed bamboo platforms over the hearth or fireplace for drying copra.
<i>Bajnewala</i>	Literally rattling. Coconuts in which the water has completely dried and the kernel has become detached from the shell, also called <i>gatgata</i> .
<i>Bandars</i>	Harbours or wharves.
<i>Barik</i>	Literally thin. Term used for copra balls of small size.
<i>Binabajnewala</i>	Literally non-rattling. Coconuts in which the water has not completely dried and kernel has not separated from the shell; also known as <i>bongu</i> .
<i>Bombay chil</i>	A type of husking in which the nuts are partly husked and the bottom is rounded.
<i>Bombay Nottum</i>	A quality of edible copra.
<i>Bongu</i>	See <i>binabajnewala</i> .
<i>Broach type</i>	A type of husking in which the outer skin only of the husk is removed.
<i>Candy</i>	A unit of sale standing for varying weights in different areas.
<i>Chakram</i>	A local coin in the Travancore State equivalent to 6-8 pies.
<i>Chambu</i>	A liquid measure in Madras, equivalent to 1½ Madras measures.
<i>Chekku</i>	A primitive arrangement for extraction of oil from oil seeds, largely used in villages and generally driven by bullocks.
<i>Chitta</i>	Small sized coconuts.
<i>Chokkappan</i>	A quality of edible copra.
<i>Chowdana</i>	120 coconuts. The term also indicates a system of selling coconuts under which the price of a candy of coconut oil is reckoned to be the price of 25 <i>chowdanas</i> , i.e., 3,000 coconuts.
<i>Churas</i>	Bangles.
<i>Cuttack chil</i>	A type of husking in which the nuts are completely husked except for a tuft of fibre over the eyes.
<i>Dala</i>	Large sized copra cups.
<i>Dilpasand</i>	A quality of edible copra.
<i>Edangali</i>	A liquid measure equivalent to 44 oz. used in the Cochin State.
<i>Eda</i>	A unit of weight equivalent to 1½ of a candy in the Travancore State.
<i>Fariyas</i>	Itinerant merchants.
<i>Feriwalas</i>	Hawkers.
<i>Gadgatta</i>	Medium sized coconuts.
<i>Gandera</i>	Big sized coconuts.
<i>Gatgata</i>	See <i>bajnewala</i> .
<i>Goni</i>	A score.
<i>Hamals</i>	Labourers.
<i>Hundekar</i>	A station broker, clearing or forwarding agent (also called <i>station dala</i>).
<i>Jagannathi</i>	Small sized coconuts.

<i>Kaithathali</i>	. . .	A variety of coconut trees which produces nuts having soft and fleshy husk.
<i>Kalipat</i>	. . .	Literally black cover. Copra cups with blackish or dark brown outer skin.
<i>Kanom</i>	. . .	A system of land assessment in Malabar under which a tenant taking a coconut garden on lease receives compensation at the time of ejectment for the trees planted by him.
<i>Kavathu</i>	. . .	Term used in the Mysore State for rejected edible copra.
<i>Kavu</i>	. . .	A unit of weight equivalent to 93½ lb. used in Malabar district and Cochin State.
<i>Kazhippu</i>	. . .	Inferior quality of copra cups of <i>rashi</i> grade.
<i>Keralam</i>	. . .	"Land of coconuts." The term is used to denote the coconut areas extending over a narrow strip of land between the Western Ghats and the Arabian Sea.
<i>Kirana</i>	. . .	Spices.
<i>Kodi</i>	. . .	A score.
<i>Kollis</i>	. . .	Bundles of coconut husks in coir nets prepared for retting the husks; also called <i>mallis</i> .
<i>Kottai</i>	. . .	Dry coconuts; also known as <i>sukha</i> .
<i>Kothas</i>	. . .	Rooms used for storage of produce.
<i>Kutchu</i>	. . .	Literally raw and unfinished. <i>Kutchu</i> coconut oil indicates oil which has not been subjected to any processing after extraction.
<i>Lavangi</i>	. . .	Medium sized copra cups.
<i>Lalpat</i>	. . .	Literally red cover
<i>Lalpilli</i>	. . .	Literally red and yellow
<i>Madras Nottam</i>	. . .	A quality of edible copra.
<i>Mallis</i>	. . .	See <i>kollis</i> .
<i>Mamool</i>	. . .	Literally ordinary. Medium or ordinary sized coconuts.
<i>Moghlay chil</i>	. . .	A type of husking in which the nuts are partly husked so that the shell is not exposed.
<i>Mungi</i>	. . .	Medium sized copra cups.
<i>Murhas</i>	. . .	A particular type of packing for copra.
<i>Nazhi</i>	. . .	A liquid measure equivalent to 11 oz. used in the Cochin State.
<i>Palla</i>	. . .	A unit of sale representing varying weights in different areas.
<i>Panicha</i>	. . .	Coconuts having water inside the kernel (from <i>pani</i> meaning water).
<i>Pazhom Thengai</i>	. . .	A quality of edible copra.
<i>Pucca</i>	. . .	Literally true or mature or real. <i>Pucca</i> coconut oil indicates the oil which has been heated and the sediment allowed to settle.
<i>Rai</i>	. . .	Small sized copra cups.
<i>Rashi</i>	. . .	A grade of milling copra consisting of rejections from "office pass" quality or copra made from immature nuts.
<i>Rathal</i>	. . .	A pound.
<i>Ravenadars</i>	. . .	A term used in the Mysore State for commission agents who consign goods to outside markets.

<i>Sap sol</i>	. . .	A type of husking in which the nuts are husked completely.
<i>Sattedar</i>	. . .	A term used in the Mysore State for commission agents.
<i>Satta</i>	. . .	A unit of sale common in the Mysore State representing varying weights in different places.
<i>Shandy</i>	. . .	A periodical market.
<i>Sripthal</i>	. . .	A coconut.
<i>Sukha</i>	. . .	Literally dry. <i>Sukha</i> coconuts mean dry coconuts, i.e., nuts in which the water inside has been absorbed by the kernel during storage, also known as <i>kottai</i> .
<i>Taluk</i>	. . .	A sub-division of a district.
<i>Telis</i>	. . .	Oil crushers or oil dealers.
<i>Theruthengai</i>	. . .	A variety of coconut trees producing nuts which even when mature have no hard kernels.
<i>Thirurashi</i>	. . .	Better quality copra cups of <i>rashi</i> grade.
<i>Tial</i>	. . .	Small coconuts which pass through the hole made by joining the thumb and four fingers of the two hands.
<i>Thulam</i>	. . .	A unit of weight equivalent to 35 lb. at Calicut.
<i>Vakharwalas</i>	. . .	A term for brokers at Bombay who function as commission agents.
<i>Valla</i>	. . .	High quality edible copra cups.
<i>Vettumani</i>	. . .	Best grade of milling copra, also called "office pass".
<i>Zamindar</i>	. . .	Landlord.

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