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THE INDIAN CENTRAL COCOANUT COMMITTEE.

The Indian Central Cocoanut Committee, set up in February 1945, under the Indian Cocoanut Committee Act, 1944, is one of the youngest of the Commodity Committees. In order to understand better the problems facing the Committee and assess the value of the work it has done during the short period of its existence, it may be advantageous to have an idea of the background against which the Committee was set up.

The cocoanut crop of the world estimated at 14,000 million nuts comes out of an area of 8 million acres distributed over various countries of the East such as India, the Philippines, Ceylon and Indonesia.

The Philippines leads both as regards area and production with its two million acres and an annual yield of 3,500 million nuts. India and Indonesia come next each having an area of 1·5 million acres and producing about 3,200 million nuts.

In 1942, the Philippines and Indonesia were occupied by the enemy and an acute shortage in the supply of copra and cocoanut oil was experienced in India. This led to attention being focussed on the urgent need to initiate concerted measures for intensifying the production of cocoanuts in this country both in order to meet the immediate demands created by the war which was then at its zenith and also to rehabilitate the industry which in the past had not had full scope for development owing to competition from abroad. It was felt that both the short and long term aspects of the question would best be dealt with by an all-India organisation, similar to the Indian Central Cotton Committee and other Commodity Committees, whose duty it would be to watch over the interests of cocoanut growers and to assist in the development of the cocoanut industry in all its aspects.

Accordingly, the Indian Cocoanut Committee Act was passed by the Central Legislature in 1944, and the Indian Central Cocoanut Committee brought into existence. The Governments of Mysore, Travancore and Cochin also passed parallel Acts in their respective States and recognized the Indian Central Cocoanut Committee for puposes of their Acts.

Committee and its Functions.

The Committee consists of the Vice-Chairman of the Indian Council of Agricultural Research who is its President *ex-officio*, and twentyfive members of whom nine represent the growers of cocoanut and five represent the cocoanut oil industry. Of the remaining, three are appointed by the Governments of Madras, Mysore and Travancore to represent those Governments, one is nominated by the Travancore Chamber of Commerce, one appointed by the Central Government, three elected by the Central Legislature and three nominated by the Governments of Travancore, Mysore and Cochin. The representatives of the growers are drawn from the various cocoanut growing Provinces and States and are nominated by the Governments of Madras, Bombay, Orissa, West Bengal, Mysore, Travancore and Cochin. The representatives of the oil interests are nominated by the Governments of Madras, Travancore and Cochin by the Indian Merchants' Association, Bombay and the Bombay Chamber of Commerce.

The functions of the Committee fall under the following four main heads :—

1. Undertaking, assisting or encouraging agricultural, industrial and economic research.

2. Improving the marketing of cocoanuts and cocoanut products.

3. Supplying information regarding the cocoanut industry to the general public, giving technical advice to growers and carrying on propaganda in the interests of the cocoanut industry.

4. Tendering advice to the Central Government in respect of policy in matters connected with the development and improvement of the industry.

The Act provides for the creation of a Fund called the "Cocoanut Improvement Fund" which is to be expended by the Committee in the discharge of its functions outlined above. A cess at the rate of four annas per hundred weight of copra (indigenous or imported) crushed by them is collected from mills using power and coming under the definition of 'Factory', under the Factories Act, and credited to the Fund from time to time. The income from the cess is estimated at Rs. 5 lakhs per annum.

Indian Cocoanut Acreage and Production.

Two thirds of the area under cocoanut is concentrated in Kerala comprising the States of Travancore and Cochin and the Malabar District of Madras Province and the remaining one third is distributed over the South Kanara, East Godavari and Tanjore Districts of Madras Province, the State of Mysore and certain parts of the Provinces of Bombay, Orissa and West Bengal.

The following table gives the figures of acreage and production of cocoanut for the different parts of the country in the year 1945-46,

Province/State.	Acreage.	Production (in 1000 nuts.)
Madras ...	6,13,997	14,36,400
Travancore ...	5,76,882	12,11,453
Mysore ...	1,75,796	2,81,272
Cochin ...	64,988	1,29,976
Bombay ...	24,675	53,000
Orissa ...	10,949	19,073
West Bengal ...	16,448	22,205
Assam ...	3,600	21,534
Pudukottai ...	1,569	157
Other minor areas ...	1,000	2,000
Total ...	14,89,904	32,77,070

Of the Commodity Committees, the Indian Central Cocoanut Committee has been least affected by the partition of India. Nevertheless, 42,590 acres under cocoanut (nearly all situated in East Bengal) with an estimated productive capacity of 66,745,000 nuts have been lost to India as a result of the partition.

It may be seen from the table given above that Madras, Travancore, Mysore and Cochin claim for themselves about 95 per cent of the Indian acreage. But in no other part of India does the cocoanut tree so vitally influence the lives and fortunes of the people as in Kerala where it may truly be said that it is the staff of life on which millions lean. Copra-making, oil-crushing and coir spinning and weaving are some of the industries which have grown round the tree in Kerala and provide occupation and the means of livelihood to tens of thousands.

But in spite of its great economic importance, the cocoanut industry had not received in the past the attention it deserved. The result has been that a general backwardness and a slow deterioration have marked it in recent years.

Prior to 1913-14, when there were no great industries in India consuming cocoanut oil, she used to export her copra and cocoanut oil to foreign countries, but since 1919-20 this position has steadily changed. There has been an increasing demand within the country for cocoanut oil to feed its growing industries, particularly those connected with the manufacture of soaps and toilet articles.

It has been estimated that out of the total Indian production of cocoanuts, 1,500 millions are converted into copra and the rest used for edible and religious purposes. The total quantity of copra produced is of the order of 2,20,000 tons of which about 20 per cent. or 44,000 tons are retained for edible purposes and the remainder or 1,76,000 tons utilized for milling. The above quantity of milling copra yields 1,08,000 tons of cocoanut oil. The present Indian consumption of coconut oil is, on the other hand, estimated at 160,000 tons, the difference between the consumption and production being made up by imports. It is anticipated that the consumption of coconut oil will increase considerably during the next five years when it is expected to be about 2,10,000 tons per annum. The difference between production and demand thus bids fair to be of the order of 102.000 tons of coconut oil, which has to be met either by increased home production or imports from abroad.

The problem of problems set for the Indian Central Coconut Committee thus is how best to rehabilitate the industry and bridge the gulf between production and demand, so that the industry may be able to stand on its own legs and be freed from the menace of foreign competition.

During the short period that has elapsed since it was set up, the Committee has initiated schemes that are designed, from the immediate as well as the long range points of view, to increase the production of coconuts, improve the marketing of copra and encourage research into the cultural, manurial, disease and other problems of the coconut palm.

Distribution of quality seedlings.

Almost the first thing that the Committee took up was the question of distributing among growers of coconut, seedlings of guaranteed quality. Having regard to the fact that the coconut palm is a perennial tree which takes about 8 years to start bearing and lives up to an age of 80 years, the importance of planting seedlings of guaranteed quality cannot be over-emphasized. Any mistake in this regard could be discovered only after about 8 years when already much labour and money would have been spent on the tree. The importance therefore of the need for the careful selection of planting material cannot be exaggerated. There is a large and regular demand for coconut seedlings from growers in the producing areas but there are no reliable private nurserymen who could supply seedlings of guaranteed quality. The Committee has,

therefore sanctioned schemes to start coconut nurseries at various centres in collaboration with Provincial and State Governments. Thus, as from the 1st January 1946, nurseries were set up at Samalkot (East Godavari District) and Pattukottai (Tangore District) in Madras Province, Puri in Orissa, Arsikere in Mysore State and Vaikom and Kazhakuttam in Travancore State. The annual target fixed for the above nurseries was 5,000 seedlings each, except for the Puri Nursery whose target was fixed at 10,000 seedlings per year. A seventh nursery was started at Irinjalakuda in Cochin State on the 1st September 1946, with an annual target of 20,000 seedlings and an eighth one at Pattambi (Malabar District) in Madras Province on 1st September 1947 with an annual estimated production of 5,000 seedlings.

In November 1947 the Committee sanctioned a more comprehensive scheme for seedlings distribution in Madras Province by which eight nurseries (including the three existing ones) with an annual output of 1.50.000 seedlings are being run jointly by the Madras Government and the Committee.

In November 1947, the Committee also sanctioned a scheme to set up a nursery at Kumta (North Kanara District) in Bombay Province with an annual target of 6,000 seedlings and another scheme to set up a nursery at Tezpur in Assam with a production target of 37,500 seedlings per year. In April 1948, sanction was accorded to start a nursery at Balia (Orissa) with an annual target of 5,000 seedlings.

In October 1948 the Committee sanctioned a scheme by which four more nurseries each with an annual output of 8,000 seedlings will be set up in Travancore in North Parur, Changanacherry, Chirayinkil and Kunnathur Taluks and the output of the existing nurseries at Vaikom and Kazhakuttam increased to 9,000 seedlings per annum. The scheme will start functioning on the 1st April 1949.

All the nursery schemes are sanctioned in the first instance for a period of 5 years from the date of commencement and the Committee contributes to the Provincial/State Governments concerned 50 per cent of the recurring expenditure, the other 50 percent of the recurring expenditure and the whole of the non recurring expenditure being met by the Provincial/State Government concerned. At the time the first nursery schemes were sanctioned the Committee had stipulated that seedlings should be sold at 4 annas each, but recently it has been decided to raise the price to 8 annas per seedling. It is felt that even at eight annas, the price cannot be regarded as too high having regard to the assured quality of the seedlings.

It is estimated that about 2 per cent of the existing number of coconut trees are required to be replaced every year and including a negligible demand for seedlings for opening up new plantations the number of seedlings required to be produced annually in the country is of the order of about 2·1 millions. The annual output of the Committee-sponsored nurseries functioning at present is about 60,000 or 3 percent of the total demand and after the new sanctioned nursery schemes are put into operation the output is expected to be increased to 2.9 lakh seedlings or about 14 percent of the annual requirments. It is, therefore, clear that we have at present been able to touch only the fringe of the problem and that there is considerable lee-way to be made in the matter of supply of quality seedlings. As the distribution of selected and guaranteed quality seedlings is one of the most effective ways of increasing the production of coconut in the country it would be worthwhile encouraging the production and distribution of seedlings by a system of registering private nurserymen under the auspices of the Committee. The matter is under the consideration of the Committee and it is hoped to give it a practical shape and put it into operation in the near future.

Indian council of Agricultural Research Schemes taken over.

On the 1st January 1948 the Committee took over from the Indian Council of Agricultural Research its share of liability in respect of two important research schemes the Council was financing. The first of these was started on the 15th September 1938 and its technical programme includes the establishment of criteria for the selection of seedlings that would ultimately grow into high-yielding trees. the study of the copra and oil content of coconuts in relation to the bearing capacity and morphological characters of the trees and the investigation of the quality and quantity of copra, oil and fibre obtained from nuts of varying stages of maturity. The scheme is due to terminate on the 31st March 1949. The other scheme was for investigations on the diseases of the coconut palm, particularly the root and leaf diseases which are rampant in the States of Travancore and Cochin and causing widespread destruction of coconut palms. The scheme was started in March 1937.

Central Coconut Research Stations.

With effect from the first April 1948 the coconut palm diseases scheme, Travancore has been amalgamated with the Committee's Central Coconut Research Station at Kayamkulam (Travancore) set up to investigate diseases of the coconut palm The Central Coconut Research Station is one of two Central Research Stations that have been set up under the Committee. The other one is situated at Kasaragod in South Kanara District for work connected with the fundamental aspects of research on coconut.

Mr. John and Dr. Menon's Report.

Even at its first meeting the Committee ducided to request the Provinces and States which had done cocoanut research to send the Committee short resumes of the work so far done in them. These were received and considered at the 2nd meeting (September 1945) when it was decided to request Mr. C. M. John. Oilseeds Specialist and Dr. K. P. V. Menon, Plant Pathologist to examine the existing data in the Provinces/States in regard to investigations concerning manurial treatments, selection, breeding for hybrid vigour and pest and diseases control and to advice the Committee on the future lines of work.

Accordingly Mr. John and Dr. Menon visited typical and representative cocoanut tracts and cocoanut research stations, in the Madras and Orissa Provinces and the States of Mysore, Travancore and Cochin and after examining existing research and other data submitted a joint report early in 1946. The two Central Research Stations mentioned already have been set up pursuant to the recommendations contained in the above report.

Regional Research Stations.

Besides two Central Research Stations, the authors of the joint report had also recommended the establishment of 12 Regional Stations for carrying out experiments on the cultural and manurial aspects of cocoanut cultivation and for solving local problems.

Three such stations recommended for Travancore and one for Orissa have already been started while the Committee has sanctioned the setting up of three Regional Stations in Madras Province.

The Committee meets 50 per cent. of the recurring expenditure on the Regional Stations, the other 50 per cent. and the non-recurring expenditure being met by the Provincial/State Governments concerned. The receipts from the stations are shared between the Committee and the Government concerned in the proportion of 40:60.

Production and distribution of green manure seeds.

Inclusion of green leaf in the manurial regimen of cocoanut trees has been found to pay. As a matter of fact application of green manure to the cocoanut plantations of the West Coast deficient in organic matter seems to be a necessity. The most economical way of doing it is to grow a green manure crop during the monsoon and incorporate it into the soil by ploughing or digging with mamotty. The Committee has, therefore, sanctioned two schemes, one for Madras and the other for Cochin State for the rapid multiplication and dirstibution of seeds of *Crotalaria Striata* on a systematic scale under seed farm conditions in selected centres. The scheme in Madras is being worked in eight taluks in the first instance for a period of five years while under the Cochin scheme. the work is

proposed to be started to begin within different centres in the Cochin-Kanayannur Taluk and later extended to other taluks.

The working of the above schemes will be watched and similar schemes for the popularisation of green manure started in other cocoanut-growing regions.

Co-operative Copra-Marketing Societies.

With a view to promoting co-operative efforts among growers the Committee sanctioned two schemes for the co-operative marketing of copra at Vaikom (Travancore) and Narakkal (Cochin) sharing the recurring expenditure on them with the State Government concerned on a 50 : 50 basis. The schemes which started functioning in January 1946 were sanctioned for a period of three years each, but have been extended for a further period of 2 years each. The two societies have done much good to their members and it is hoped to start more such societies. The preliminaries for starting a society each at Ernakulam and Nileswar are under way. The Committee attaches great importance to co-operative marketing as a means not only of bettering the lot of the cocoanut grower but of ensuring the quality of the copra placed in the market.

Standard grade specifications for copra and cocoanut oil.

At present several grades and qualities of copra are recognized in the trade, but the classification is based mostly on visual examination and the seller, who almost always is a small producer, suffers on account of this arbitrary classification. With a view, therefore, to drawing up accurate grade specifications and standards for copra and cocoanut oil, the Committee sanctioned a scheme for the collection and analysis of trade quality samples of copra and cocoanut oil from various parts of the country for the different seasons. The analysis which were conducted under the supervision of the Oilseeds Specialist at Coimbatore have been completed and the report and data have been forwarded to the Agricultural Marketing Adviser to the Government of India so that precise grade specifications may be drawn up for the guidance of the trade. It is proposed to introduce them as soon as ready, in the transactions of the two co-operative societies at Vaikom and Narakkal, and it is hoped that once the advantages of adopting precise grade standards are thus demonstrably proved, they will come to be adopted more and more by the trade.

Regulated markets for copra.

Organisation of regulated markets for agricultural commodities has come to be recognized as one of the best methods of effecting improvement of their marketing facilities and of obtaining better returns for the growers' produce. The organisation of regulated markets for copra also has been engaging the Committee's attention and the appointment of a Special Officer for drawing up schemes

for establishing regulated markets at Alleppey, Cochin, Calicut etc., has been sanctioned. With the co-operation of the Governments concerned who have to introduce legislation for the purpose, regulated markets for copra are expected to be accomplished facts in the near future.

Technological Researches.

For lack of adequate funds to set up a fully equipped Technological Laboratory, the Committee has not yet started work on problems of coconut technology, although they are important and numerous. However, a survey of the field has already been made. In September 1945 the Committee set up a Special Sub-Committee in this connection who suggested that a study of the coconut technological work undertaken in Ceylon should be made. Accordingly, a three-man delegation was sent out to Ceylon whose report was considered in October 1946. The list of problems suggested for investigation in the report includes the drying of copra in hot air kilns, the extraction of coconut oil with reference to yield, colour, acidity, keeping quality etc., better utilisation of coconut oil and coconut oil cake and the reduction of the oil content in it, the utilisation of the shell in chemical industries, improved methods of retting and extraction of fibre and bristles from the husk, the manufacture of compressed boards from the husk etc., etc. The list has been approved by the Committee but the question of the construction of the Technological Laboratory has been deferred for the time being having regard to the present financial position of the Committee and the financial commitments already entered into by the Committee. The question will be taken in hand as soon as funds become available for undertaking the work.

Establishment of hot air kilns.

Copra-making is confined practically to the West Coast where the process usually adopted for the purpose is to dry the coconut kernels in the sun. But, sun-drying is not possible in this region throughout the year, as it receives heavy rains for about six months. During the rainy months the kernels are dried in crude smoke chambers and the resultant copra is of poor quality. The Committee has, therefore, been anxious to introduce and popularise a modern type of kiln which would enable quality copra being made, independent of the weather factor. The Committee's delegation that visited Ceylon in August 1946 had this mind and having made a study of the various types of kilns in vogue on the Island recommended the adoption of the Estate Kiln with some modifications. The construction of such a kiln on the premises of the Badagara branch of the Malabar Produce Sale Society has been sanctioned by the Committee and it will soon be undertaken. The working of the kiln at Badagara will be watched and on the basis of the results obtained the setting up of more kilns will be encouraged, particularly by co-operative societies.

The Estate Kiln is, however, adapted only for the large scale production of copra and is costly. (The Kiln proposed for Badagara is estimated to cost Rs. 12,900. The Committee is, therefore, considering the question of designing a cheaper kind of kiln which will be within the means of the small grower. It is understood that such small kilns are in vogue in Malaya and full information regarding them is being collected so that a suitable one may be designed for the small growers of this country.

Collection of Statistical Data.

As required of it, under the Act, the Committee has been devoting attention to the collection of accurate statistics regarding the various aspects of the coconut industry. The existing statistics of area and production cannot be said to be accurate. The Committee is, therefore, endeavouring in co-operation with the Governments of the Provinces and States a system of recording area and yield which will reduce the margin of inaccuracy to the minimum possible. The Committee collects and maintains lists of all power-driven copra crushing mills in the Provinces/States with details regarding their crushing capacity, the number of hands employed by them, the number of rotaries or expellers worked by them etc., and also information regarding the quantity of copra crushed, oil extracted and coconut oil cake produced in the various mills. Export and Import statistics of coconuts and coconut products and prices in Indian and foreign markets are also collected and maintained.

Cost of Cultivation.

The Committee has also been collecting statistics regarding the cost of cultivation of coconuts and of the production of copra. Although figures regarding the latter could be had without much difficulty, it has not been so in the case of cost of cultivation statistics. Most growers are small-scale cultivators who do not maintain accounts of money spent on cultivation or records of yield. Even the majority of the owners of sizable farms have not been careful in this regard. However, as a result of diligently pursuing its enquiries through official and non-official agencies it has been possible for the Committee to collect and collate some valuable information. Further information is being collected and it is proposed to publish in due course whatever material has been gathered and analysed for the information of the public.

Regulation of imports of copra and coconut oil.

The Committee has always tried to reconcile the growers' and consumers' interest which not unoften have been found to be diametrically opposed. Growers desire better prices and naturally want to shut out imports from foreign countries. Consumers, on the other hand, like to keep the price as low as possible and would welcome imports from abroad which would help to make good the deficit production in the country and also check the tendency on

the part of prices to soar, on account of inadequate home supply. After the matter was threshed out by the representatives of the interests involved, the Committee has recommended to the Government of India a ceiling of 1,00,000 tons in terms of copra for importing coconuts and coconut products from abroad. The Committee has also recommended that the duty on the imported product should be such as to keep its price in the Indian market higher than that of the indigenous product. It may also be mentioned here that the Committee has under consideration a scheme for setting up a statutory Commercial corporation for the purpose of regulating the volume and prices of imported coconuts and coconut products so that local prices may not be depressed or local requirements starved. This would help not only to ward off the evil effects of the dumping of foreign copra and coconut oil but also to maintain the prices of local produce at a level fair both to the producer and the consumer.

Possibilities of increasing the production of coconut.

The existing coconut growing regions such as the West Coast including South Canara District are practically all fully planted up and there is little further area available for being brought under coconut. Moreover, with the emphasis on food crops, unplanted acres would rather be used for raising food crops than for planting coconut. Further, even if new acres are planted, the yield will be available only about 8 years after. The only way of increasing the production in the immediate future is, therefore, to give the existing trees proper care and increase the yield per tree. It has been demonstrated that by regular intercultivation and manuring, the production of nuts can be stepped up by 50 per cent which will almost serve to bridge the gulf between the present home demand and home production. The Committee has, however, to contend with two adverse factors in this connection. One of them is that coconut is grown in this country mostly in small holdings by poor growers. The other is that the result of applying manure is not visible in the shape of increased yield until after 3 years.

Propaganda among Growers.

The Committee is thus faced with the big task of persuading thousands of small holders to realise their own interests and appreciate the need for giving proper attention to their coconut trees and get better returns from them.

It is realized that persistent propaganda alone can shake the ordinary run of coconut growers from their habitual inertia and persuade them to adopt better methods of cultivation and pests and diseases control, which have been proved to be effective. Besides, the results of research will not yield adequate results unless the practical advantages accruing from them are visually demonstrated to the growers and even simple matters constantly re-iterated.

The Committee has accordingly arranged with the Governments of the Provinces and States to take up demonstration work on the cultivators' own lands so that they could be shown in their own gardens in a practical manner that by adopting measures such as inter-cultivation, manuring, growing of surface crops, proper spacing and the planting of quality seedlings they would get a considerable increase in the yield.

In order to stimulate in the growers real interest in cocoanut cultivation and marketing and make them welcome new ideas and put them into practice the formation of growers' associations is encouraged and the associations assisted with advice and free literature in their propaganda activities.

"Bulletin" and "Journal".

Exhibitions, fairs and festivals in rural and urban areas are also taken advantage of for the propagation of correct ideas of coconut cultivation and pamphlets and periodical publications issued by the Committee are sold at these functions

Of the two periodical publications issued by the Committee, one is a monthly "Bulletin". It is brought out both in English and Malayalam and is primarily meant for the benefit of the ordinary cultivator. Besides market reports, it furnishes very useful practical information to the growers regarding cultural and manurial practices. The Bulletin which was started in August 1947 is extensively circulated and is proving itself to be a popular publication. Its readers may be reckoned at not less than 20,000.

Since October 1947 the Committee has also been publishing a quarterly periodical in English entitled "The Indian Coconut Journal" four issues of which have already been brought out.

A handbook on coconut cultivation describing in non-technical language improved methods of cultivation is being prepared by an expert. The book when ready will be translated into the languages of the principal coconut growing areas.

Another handbook designed to contain information on various aspects of the coconut industry and trade has also been projected. Yet another publication under preparation is a summary of the Report on the Marketing of Coconuts and Coconut Products in India, with a view to its translation into Tamil, Telugu, Canarese and Oriya. A Malayalam summary has already been prepared and will shortly be published.

Growers Wake up.

There is no doubt that the propaganda activities of the Committee have to a large extent woken up the bulk of coconut growers to a sense of their responsibility. They have obviously begun to sit up and take notice. A measure of it may be found in the innumerable enquiries received in the Committee's office from individuals as well as organisations regarding ways and means of improving the industry.

As has already been mentioned, the supply of technical advice and other useful information to growers, Government departments and others interested in the coconut industry is one of the functions of the Committee. All enquiries received are promptly replied to. If they are of a technical nature they are referred to the experts concerned and replies furnished as soon as possibe. A special section entitled "YOU ASK, WE ANSWER", in the monthly Bulletin issued by the Committee, is devoted to answering questions which are of interest to cocoanut cultivators in general. This has been a very popular feature of the "Bulletin". In this connection mention may also be made of the fact that the Committee has been consulted on various occasions by the Government of India in the matter of the development of the cocoanut industry in the Andaman and Nicobar Islands and that the information called for was supplied by the Committee.

Results in terms of cash.

As the Committee has been in existence only for about three and a half years it is as yet too early to assess the results of its activities in terms of additional area brought under the crop, increased production or increased returns in terms of money to the growers. But there is no doubt that the cocoanut growers have gained considerably by the activities of the Indian Central Coconut Committee. As far as fundamental research is concerned it must be admitted that it is full of great potentialities. It may lead to the evolution of strains yielding better and more abundant coconuts, strains which will start bearing early and cut down the present period of long waiting. It may wholly revolntionise cocoanut cultivation. But as far as the cultural and manurial practices advocated by the Committee for immediate adoption are concerned, it may safely be said that if they are followed in earnest by the bulk of the growers the present Indian production could be stepped up by 45 to 50 per cent. It has been proved beyond doubt that intercultivation alone without any special manuring is capable of increasing the yield of trees by about 50 per cent. If, however, in addition to this practice regular manuring with green leaves, wood-ash, bone meal, ammonium sulphate, compost etc., is also resorted to, the yield is bound to go up further and make such manuring worthwhile. The cost of intercultivating the entire area under cocoanut in the country may be estimated at about Rs. 6 crores, while the increase in the income of the growers may be estimated at Rs. 19 to 22 crores. And this can be achieved in about five to eight years too.

Development of Coir Industry.

An attempt has been made in the foregoing pages to present an account of the present activities of the Indian Central Coconut Committee and its plans for the future. There is, however, one important aspect of the industry about which mention has not been made so far. It relates to the manufacture of coir and coir products.

Out of deference to the wishes of the Government of Travancore, coir and coir products have been, for the time being, kept outside

the purview of the activities of the Committee. There has, however, been a growing demand that coir, an important byeproduct of the coconut, should not be kept outside the Committee's jurisdiction and that the development of the coir industry should be as much the concern of the Committee as coconut cultivation or the making and milling of copra. The whole matter is under high level discussion between the Government of India and the Travancore Government and it may be hoped that coir may be brought within the Committee's purview before long.

When once coir is included within the Committee's jurisdiction the development of the industries connected with it and the marketing of their products are bound to prove important items on the Committee's programme of work. The retting of coconut husks, the extraction of coir from them, the spinning of coir yarn and the weaving of the yarn into various types of fabrics are at present almost a monoply of the State of Travancore. It has been estimated that only about 43 per cent of the potential supplies of husks in India are utilized for coir making. Where they are not used for coir extraction, the husks are burnt as fuel. Thus a huge reservoir of fibre which is wasted at present awaits to be exploited by the Scientist and put to better uses.

Coir is at present extracted by retting the husks on the shores of backwaters and beating the fibre out of them. Where natural facilities for retting do not obtain, the husks are as good as wasted. If chemical or mechanical methods of retting which are also economical could be devised more husks could be used for the coir industry and the income of the cocoanut growers increased to that extent.

Another serious defect noticed in the coir industry is the absence of well defined grades and standards for coir yarn. This stands in the way of coir being quoted in the well-organised commodity markets of the importing countries. It is, therefore, of the highest importance that coir yarn should be graded and marked under the Agricultural Produce (Grading and Marketing) Act.

As soon as coir is brought within the Committee's purview, schemes for the purposes mentioned above may be expected to be put through by the Committee as expeditiously as possible and a great expansion of the coir industry may be looked forward to.

Summing up.

To sum up: The Committee has gone to the root of the problem of coconut cultivation and is advocating the use of seedlings of guaranteed quality only. It is financing jointly with Provincial/State Governments eight coconut nurseries which at present are capable of supplying 60,000 quality seedlings per annum. In another year the number will be increased to twenty nurseries with an annual output of 2,00,000 plants. Proposals for licensing reliable private nurserymen so that the entire demand for quality seedlings may be met at a very early date, are under consideration.

Two Central Cocoanut Research Stations have been set up, one to investigate diseases of the cocoanut palm and the other the fundamental aspects of coconut research.

Four Regional Stations, three in Travancore and one in Orissa have been set up to tackle cultural and manurial problems of local significance while the setting up of three such stations for Madras has been sanctioned.

Two schemes for the multiplication and distribution of *Crotalaria Striata* seeds to raise green manure in coconut gardens have been sanctioned and the use of green manure advocated and urged.

Two schemes—one each in Travancore and Cochin—for the Co-operative Marketing of copra are being financed by the Committee jointly with the Governments concerned. Two more schemes, one in Cochin and the other in South Kanara are under consideration.

A scheme for drawing up grade specifications and standards for copra and coconut oil has been put through and the specifications will be published shortly.

The organisation of regulated markets for copra is under active consideration and a Marketing Officer is being asked to draw up schemes for the purpose.

The whole field of technological research connected with the cocoanut has been surveyed by the Committee and a list of the important problems for investigation drawn up pending the construction of a Technological Laboratory. Meantime, the popularisation of kiln-drying of copra has been taken up and a kiln costing about Rs. 13,000 sanctioned to be put up at the Badagara Co-operative Copra Marketing Society as an experimental measure. Steps are being taken to design a cheap kiln which would be within the means of the small grower.

In consultation with the Provincial/State Governments more accurate methods of recording area and production statistics are being worked out. Statistics regarding cost of cultivation of coconut and production of copra, the quantities of copra crushed, oil extracted and cake produced, and the mills crushing copra in the country are being collected and maintained.

The setting up of a Commercial Corporation which will, under legislative authority, regulate the volume and prices of imported cocoanuts and coconut products is under consideration.

Intensive propaganda among cocoanut growers is being undertaken. A monthly "Bulletin" in English and Malayalam and a quarterly periodical in English are being published. Two handbooks, one on coconut cultivation and the other on coconut industry and trade are being prepared. Growers' associations are encouraged and demonstration work on growers' plots organised.

The inclusion of coir within the purview of the Committee is under negotiation and several major schemes for betting the lot of the cocoanut grower will be undertaken when the inclusion is effected.