

Reprint from the Proceedings of Coconut Information Networking

COCONUT INFORMATION SERVICES IN INDIA

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ABSTRACT

This paper deals with the various agencies engaged in research development, economics and marketing of coconut in the country. National agencies responsible for generation, collection, processing and dissemination of both technical and economic/marketing information are also highlighted. The present status for technical and economic/marketing information services and networks including foreign information resources available and proposed on coconut in the country is outlined. The need for pooling the existing information resources in coconut available among the various coconut growing countries adopting latest technologies for information collection, processing, storage and retrieval, making it available to the end users is stressed.

1. INTRODUCTION

"Accessibility of precise reliable information- scientific, technological, commercial and managerial- at the right time to the right personnel in the form most conveniently usable by him, can hope to minimise the wastage of resources due to unnecessary and unintended re-invention, re-discovery, re-development and above all the making of unfruitful decisions which resulted in wastage of resources. A decision is generally no better than the information to which the decision maker has access. The availability of the right type of information can trigger new directions in research, development and managerial action" (Paul Artherton, 1977)

Almost all coconut growing countries are developing countries, where coconut is a poor man's crop. The research and development programmes undertaken for this crop are therefore at a low ebb when compared to those in other crops such as wheat, rice etc. For the success of any research and development programme, there should be a well-knit system for adequate supply of information in the relevant areas. Due to financial stringencies and lack of planning in the developing countries, the development of information resources has not received its due importance.

The establishment of the International Development Research Centre (IDRC) by the Canadian Government (in the 1970's) is therefore, a landmark in this regard. The Coconut Information Centre (CIC) established in Sri Lanka in 1979 is the sixth in the series of the IDRC sponsored International Information Centres in Agriculture. The others being on cassava, grain legumes, sorghum & millet, livestock and irrigation.

It is mandatory for any result-oriented information service to make periodical surveys among its users to assess the usefulness of the services and also to know about deficiencies including possible suggestions for improvement. The CIC has completed three years of its existence and running the fourth year. Now it is the right occasion to take stock of the services rendered, make an effort to assess their usefulness and also consider any future improvement of the system and its services.

The present workshop organised in this regard involving all the major coconut growing countries of the world is expected to be a productive one in conformity with IDRC's goal in this regard to fulfil its role as a 'World Authority' in the particular area of information.

1.1 National Centre

The Central Plantation Crops Research Institute (CPCRI) with sixteen Regional and Sub-Stations spread all over the country (Fig.1) is the major research institution in India under the Indian Council of Agricultural Research, system charged with the responsibility of conducting research on various agricultural plantation crops such as coconut, arecanut, cashew, cacao, oil palm and spices and is perhaps the biggest institute of its kind in the world. Coconut is the major crop on which majority of its scientists are working, since historically this institute started as a Coconut Research Station as early as 1916. It is also the co-ordinating agency for the research being done on these crops by other institutes, universities, State agricultural/horticultural departments through the All India Coordinated Coconut and Arecanut Improvement Project (Fig.1). This is also the national agency designed to serve as the focal point for technical information on coconut in the country, which incidentally forms one of the major objectives of the Institute.

The Coconut Development Board, an agency set up under an Act of Parliament in 1981 for the over-all development of coconut industry in India, is the major economic/marketing agency in the country where one of the important objectives is to serve as an information centre for economic and marketing aspects of coconut. The Board collects information from primary sources by adhoc sample surveys and also compiles from secondary sources all information pertaining to various aspects of coconut cultivation, processing, marketing and trade practices.

2. Technical Information: Libraries and Documentation Centres: Local Resources of Coconut Information:

The CPCRI Library and Documentation Centre combined with the resources of its sub-centres forms the major source for coconut information in the country. The Institute Libraries subscribe to about 700 periodicals out of which majority are foreign periodicals (400) and the collection of books including backvolumes of periodical numbers to 33,000. One of the major information services emanating from the CPCRI Library and Documentation Centre is the preparation of subject bibliographies on each plantation crop. On Coconut, two bibliographies have been brought out, viz, (i) "An Annotated Bibliography on Coconut in India (1936-76)" containing over 1400 scientific references covering agronomy, botany, breeding, chemistry and physiology, diseases, pests, statistics, economics and marketing, technology and general. An updated edition of this bibliography was brought out in 1981 covering the period upto 1979 in mimeographed form. Other information services generated from the Library and Documentation Centre of the CPCRI include, a list of monthly additions to the Libraries of the CPCRI and its Regional Stations. Current Awareness Service (Monthly), Contents Page Service covering the periodicals received in the CPCRI libraries, Technical Enquiry Service, Periodical Catalogues of Back Volumes, Current Periodicals List for the year etc.

There also exist Technical and Agricultural Extension units in the Institute which attend to all major scientific and technical queries. Institutions having a good collection of information resources on coconut are given in Appendix 1.

Almost all of the cited research development, economic/marketing and trade agencies are having their own Library set up. Most of them become part of the main establishments. Geographically these Centres are distributed in major coconut growing areas like Kerala, Karnataka, Tamil Nadu, Orissa, Gujarat, West Bengal, Andhra Pradesh, Andamans, Lakshadweep etc. Most of these libraries generally hold very small collections of literature, relevant to coconut research and allied aspects.

2.1 Information Services

The information services provided by the different research and development agencies are mainly confined to the particular centre only. There is no central information service as such in the country except the limited efforts being made by CPCRI and Coconut Development Board in the national sphere which are quite insufficient for meeting the requirements on a national scale.

CPCRI and the Coconut Development Board supply information on request to coconut workers regardless of the location of their work. CPCRI Research information is mainly carried through the Institution annual reports and the All India Coordinated Coconut & Arecanut Improvement Project reports, which are of limited circulation only. In addition to this, CPCRI and other related agencies and individuals have brought out a number of publications on coconut and its related aspects in the Country (Appendix II).

On the other hand, the economic and marketing information is collected, processed and disseminated by the Coconut Development Board through its various reports and the monthly journal, viz. Indian Coconut Journal published both in English and regional languages.

There are a few other scientific journals in India which publish contributions on coconut, viz. Journal of Plantation Crops, Agricultural Research Journal of Kerala, Madras Agricultural Journal, Andhra Agricultural Journal, Agricultural Situation in India, Indian Journal of Agricultural Sciences, Indian Journal of Genetics and Plant Breeding, Indian Journal of Agronomy etc.

2.2 Coconut document delivery service

There is no inter-library document delivery service available among the Library and Information centres attached to the coconut research and development centres and the research workers, except among CPCRI and its sub-stations and to a certain extent the agricultural universities. Photocopying facilities are also not available in many of the centres. There is a national agency i.e. the Indian National Scientific documentation Centre (INSDOC) functioning under the Council of Scientific and Industrial Research (CSIR) located in Delhi, which provides photocopying/microfilming services on a national scale. As this Centre is catering to the needs of the entire country in this regard, there is considerable delay in its services. The Indian Agricultural Research Institute (IARI) under the ICAR is also doing similar services in the agriculture sciences to a limited extent.

There is also a unit for rendering translation services in the INSDOC. They maintain a national register of translators and translation facilities available in the country. This service also is not a prompt one, since they are so much overloaded with requests.

2.3 Information networks

There is no coconut information network in India as such. Under the National Information System for Science and Technology (NISSAT) programmes Sectoral Information Centres have been established on leather, food science & technology, machine tools etc. Under the NISSAT programme there is a provision for a National Agricultural Library and Information System (NALIS) in which coconut information can form a component but so far the efforts towards establishing the proposed national network have not been successful.

The World Agricultural Information System (AGRIS) input Centre in India i.e. The Agriculture Research Information Centre (ARIC) located in the Indian Agricultural Statistics Research Institute (IASRI) (New Delhi) collects and supplies references on articles, books, reports etc. on Indian agriculture to the AGRIS data base located at Vienna at the rate of approx. 400 per month which covers 20-25% of the total Indian Agriculture literature. The Centre also provides crop-wise Selective Dissemination of Information (SDI) services (computer print outs) on request basis. With the operation of the Indian Communication Satellite, IINSAT-IB the ARIC also recently became part of the AGRIS global information network and thus got a direct access to the AGRIS database at Vienna. One of the important responsibilities of the ARIC include to keep an upto date record of the on-going agriculture research projects in the country.

2.4 Foreign Information Resources

The most consulted information resources in coconut in the country is of the Commonwealth Agricultural Bureau's (CAB) indexing and abstracting services, specialised bibliographies, etc., even though only 30 to 40 per cent of the Indian as well as world literature on coconut is covered by them. Many libraries have started subscribing to the AGRIS, monthly publication, viz. Agrindex, which also forms another important information source. Agrindex however, contains comparatively very little information on coconut. CPCRI Library also gets computer print-outs free of cost on various plantation crops from National Agricultural Library (NAL (Agricola) (USA). Commonwealth Agricultural Bureau (UK), FAO Library & Documentation Centre (Italy), AGRIS Data base (Austria), Royal Tropical Institute (Netherlands), Biological Abstracts Information Service (BIOSIS) (Philadelphia) etc. through FAO Library and Documentation Centre, Rome. Institute for Scientific Information (ISI), (Philadelphia) publications viz. Current Contents agricultural, biological and environmental sciences and Current Contents biological science also forms one of the important current information sources to the coconut research workers, The semi-monthly publication, Biological Abstracts also contains quite a few references on coconut. The Cocommunity quarterly Bulletin and the Cocommunity Newsletter brought out by the APCC is a useful source especially on economic/marketing aspects. The abstract bibliographics brought out by the Philippine Coconut authority (PCA) is another important information source. The

bibliographies brought out by Institut de Recherches pour les Huiles et Oleagineux (IRHO) (France) viz. La Nutrition du Cocotier bibliographic (1900-1974) compiled by A. Croix-Mavie and its supplement covering the period upto 1979 is yet another important source. Of course, the "COCONIS" Newsletter, the 'Bibliographical Series on Coconut and Directory of Coconut Research Workers' brought out by the Coconut Information Centre (CIC) Sri Lanka has now become the foremost foreign information resource for coconut workers in the country. The primary journals on coconut viz. Philippine Journal of Coconut Studies, Ceylon Coconut Quarterly, Pemberitan, Oleagineux, The Planter, Principes and other general journals on agriculture, annual reports, technical reports and other publications brought out by different organisations engaged in the area forms the first hand primary foreign information resources

3. Economic/Marketing Information

Government Departments in the various States have administrative arrangements to collect information on area and production, arrivals of coconut and coconut products in the different market centres and prices are quoted for different products at the wholesale level. Coconut is, however, one among the many agricultural commodities on which such information is collected. The data so collected are tabulated at the state level and forwarded to the Directorate of Economics and Statistics under the Ministry of Agriculture, Government of India, New Delhi for compilation at national level and released periodically through Government publications.

Trade Associations such as chambers of Commerce, Oil Merchants Associations, Regulated Market Committees, Commodity Promotion councils also collect such information for the use of their Members. However collection of such data is usually localised and intended to serve the purpose of the members of the Associations, committees, etc.

The information on the Copra utilised for oil production is also compiled by the Statistics and Intelligence Branch of the Central Excise, Government of India along with the mode of movement of products into different parts of the country. However, such information will invariably be under-estimated because of suppression of facts at the primary source of production due to obvious reasons.

3.1 Data collection and use

The agencies involved in the collection of economic / market information are the following:

1. Government Departments such as Directorates of Economics and Statistics, Director General of commercial, Intelligence and Statistics, Collectorate of Customs and Central Excise, concerned departments of various state governments such as Statistics/Marketing/Agriculture.
2. Statutory Bodies such as Coconut Development Board, Coir Board etc.
3. Regulated Market Committees in various places
4. Trade Associations such as Chamber of Commerce, Copra and Coconut Oil Merchants' Associations in important centres, manufacturer's Associations etc.
5. Newspapers and Periodicals

Statistics regarding area and production are being collected by the concerned departments of coconut growing states. Area under coconut in different states is estimated along with other crops by complete field to field enumeration/ survey by the regular reporting agencies. Crop estimation survey for estimating per hectare yield is also undertaken by the same agencies. All-India estimates of area and production are finalised by the Directorate of Economics and Statistics on the basis of the information received from various State governments. The figures released by the Directorate of Economics and Statistics are the official figures.

Market intelligence data such as prices, arrivals etc. are regularly collected by the Government Agencies, Market Committees, Trade Associations and Newspapers. All State Governments have separate market intelligence wings attached to the concerned Departments such as Statistics/Marketing/Agriculture. Adequate staff are employed for the regular collection of data at village/market levels. Data of prices, arrivals etc., on coconut and its products are collected along with that of other agricultural commodities. At the national level the Directorate of Economics and Statistics exercises the over all supervision on the market intelligence activities.

The Market Intelligence Wing of each State Government has arrangements for the collection of farm prices, wholesale prices, arrivals and despatches of coconut and its products along with those of other important agricultural commodities. The prices are collected daily, weekly, fortnightly and monthly. The farm prices are collected at the farm level itself and the wholesale prices are collected from all important primary and secondary centres. Direct contact with the products and processors is the method adopted for the collection of prices.

Agricultural Market committees, Chamber of Commerce, Trade Associations, etc., collect data on prices, arrivals, etc. from the centres within their areas of operation and publish the data daily for the use of their members and other people in the locality.

All important newspapers have their own market columns where the information on prices, arrivals, market trend etc. of agricultural commodities collected by their reporters are published on a regular basis. Wherever coconut and its products occupy an important position in the market transactions, the relevant information usually occupies prominence in the market reports.

Generally, collection of data on the prices of coconut and its products is easy and the information so collected and disseminated is fairly accurate. However, collection of information on arrivals, despatches, inter-state transactions, processing, and end use pattern is not easy and the information available is far from satisfactory.

3.2 Data Processing and Dissemination

The data on coconut is processed along with the data on other agricultural commodities by trained personnel. Computer system is not yet introduced for processing data.

Price data are released periodically through newspapers, Radio broadcasts and Bulletins published by the Government Departments along with the data on other agricultural commodities. Daily price data published in newspapers and broadcast through Radio are widely used for the local transactions of the commodities. Government publications publish daily, weekly, monthly and yearly prices of coconut and other commodities and also give the data on arrivals, despatches, production etc. However, the information given in the Government publications have only limited use, being utilised mainly for official purposes. No data on coconut and its products are disseminated abroad. The Coconut Development Board is publishing market reviews and prices of various coconut products every month through its publication "INDIAN COCONUT JOURNAL".

4. Suggestions for organising both technical and economic/marketing information service in India

4.1 Filling up Information gaps

It has been realised that there is always an information gap in published documents at any point of time. This is due to the delay in publication, non-publication due to reasons of secrecy etc. Again, the information on on-going projects at various stages of development does not get published till the projects are complete. Such information has to be obtained from the Institutes/individuals concerned. CIC and its collaborating units in the coconut growing countries should jointly take up compilation of: one "International Directory of Ongoing Research Projects in Coconut".

In the COCONIS Newsletter, information regarding forthcoming conferences, symposia, job opportunities in the field etc. also will be useful additions. The publications of a monthly current awareness service viz. "Coconut Abstracts" can also be published by the CIC as well as by co-ordinating units located in different countries.

4.2 International Information Network among coconut growing countries

A syncretism is an appropriate metaphor for an international network, i.e. with many centres inter-connected and without geographical institutional, psychological boundaries. The nuclei are the institutions and individuals, the users and providers of information, who frequently shift rolls and deal with the other in different combinations and under a variety of conditions, as boundaries. Similarly, the CIC (Central Unit) located in Sri Lanka should have a viable network with participating units located in major research and development organisations in each coconut growing country, for e.g. with OPCRI (India), PCA (Philippines), Institut Penyelidikan dan Kenajuan Pertanian, (Malaysia) Lembaga Penelitian Tani Industri (Indonesia), IRHO (France) etc. for co-ordinating, information generated. The central unit and the participating units should have computerised information network with terminals in each co-ordinating country, so that the required information will be easily assessable to all units and the present time lag in this regard can be avoided. These terminals can also be used for feeding information from each country unit to the Central unit and also will help in easy retrieval of the needed information through specialised information searches and also the publication of periodical current awareness bulletins, updating of existing bibliographies, updating of directories of research personnel and institutions etc.

4.3 National Plan

In the Central Plantation Crops Research Institute efforts are being made to locate a National Information Centre on Plantation Crops (NICPLAC), in which coconut forms the major crop; to serve the research organisations, trade organisations, plantation crops educational institutions, manufacturers of plantation crops products, govt./quasi govt. Institutions, trading communities and individuals connected with plantation crops and allied subjects. An integrated approach is proposed with related and co-ordinated systems and its sub-systems which would help to conserve the resource potential and intellectual products. This has resulted in proposing a three-tier model as follows:

1. A central facility located at CPCRI, Kasaragod. 2. Regional facilities in all regional stations of CPCRI. 3. Local information units (LIU) on all libraries/ information centres forming part of organisations concerned with plantation crops. The plan as such is mainly concerned with the central facility and the regional facilities. The functioning of the whole system when fully implemented, would depend on the coordination between the Central facility and other agencies including those of LIUs. The networking would help in information steering to achieve maximum productivity and avoid unnecessary duplication of resources and finance.

4.4 Constraints

One of the main reasons for the poor state of affairs of the information services in the country is attributed to the lack of recognition and importance attached to it when compared to other disciplines and services in the research set up. Generally the information centres are understaffed and lack modern facilities. Hence there should be adequate financial support for participating countries for data collection, equipments, personnel, training facilities in advanced documentation/information techniques in major agricultural data/information centres for its proper functioning.

4.5 Resource sharing

Each coconut growing country should bring out periodically, technical, economic/marketing information bulletins which may be exchanged between the participating countries. There should be a provision for resource sharing by way of supplying free of cost the publications brought out by the major coconut research and development agencies of each country. The CIC should take initiative in bringing out a thesaurus on coconut terminology, which will form the basis for information storage and retrieval in the CIC as well as in participating centres. Finally, the CIC should also come forward with the publication of an international journal on coconut research and development which would ultimately become a forum for learned articles in the area with an international scope. This will also serve as a scientific communication medium for coconut workers all over the world and will fill the vacuum now exists due to the lack of such a publication on coconut.

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APPENDIX I

INSTITUTIONS ENGAGED IN COCONUT RESEARCH DEVELOPMENT, ECONOMIC/
MARKETING AND PROCESSING IN INDIA

1. Central Plantation Crops Research Institute, Kasaragod - 670 124, and its Sub-Stations
2. Coconut Development Board, Ernakulam, Cochin -682 011, Kerala and its Regional Stations
3. Kerala Agricultural University, Trichur, College of Agriculture, Vellayani and Regional Research Stations, Pillicode, Chalakudy, Balaramapuram and Kumarakam
4. Tamil Nadu Agricultural University, Sub-centre, Veppankulam - 614 906, Tamil Nadu
5. Regional Coconut Research Station, Konkan Krishi Vidya Peeth, Bhatya Ratnagiri - 416 212.
6. University of Agricultural Science, Arasikera (AICCAIP), Karnataka
7. Andhra Pradesh Agricultural University Research Centre, Razole-533 242 East Godavari District, Andhra Pradesh.
8. Bidhan Chandra Krishi Viswa Vidyalaya Research Centre (AICCAIP), Kalyani - 741 235, West Bengal.
9. Orissa University of Agricultural and Technolgy Research Centre (AICCAIP), Ponar, Bhubaneswar- 75211, Orissa.
10. Coconut Research Station, Andhra Pradesh Agricultural University, Ambajpet, East Godavari District, Andhra Pradesh.
11. Coconut Research Station, Sakhigopal -715 014, Orissa.
12. Coconut (wilt) Disease Scheme, Muthupet -614 704, Orissa.
13. Haldane Research Centre, Negercoil, Tamil Nadu.
14. Dept. of Botany, University of Kerala, Kariavattom, Trivandrum, Kerala.
15. Dept. of Botany, Karnataka University, Dharwar, Karnataka.
16. Dept. of botany, Vallabhai Patel University, Gujarat.
17. Dept. of Bio-chemistry, K.A.R. Colege, Mathura-281 001, Uttar Pradesh.
18. Tissue Culture Laboratory, St. Aloysius College, Mangalore, Karnataka.
19. School of Life Science (Tissue Culture Laboratory), Jawaharlal Nehru University, Delhi -001 067.

20. ICAR Project Laboratory, Kasturba Medical College, Manipal-576, 119, Karnataka.
21. Regional Research Laboratory, Industrial Estate, Trivandrum - 695 019, Kerala.
22. Central Food Technological Research Institute, Mysore, Karnataka.
23. Hindustan Lever Research Centre, Andheri, Bombay, Maharashtra
24. School of Biological Sciences, Madurai Kamaraj University, Madurai Tamil Nadu.
25. National Bureau of Soil survey and Land Use Planning Regional Centre, Bangalore - 560 024, Karnataka
26. Biochemical Division, National Chemical Laboratory, Poona, Gujarat.
27. Vancorfarm, Sanguel, Goa.
28. Dept. of Agric., Government of Kerala, Trivandrum.
29. Dept. of Agric., Government of Tamil Nadu, Madras.
30. Dept. of Horticulture, Government of Karnataka, Bangalore.
31. Dept. of Agriculture, Panaji, Goa.
32. Dept. of Agric., Port Blair -744 101, Andamans.
33. Dept. of Agric., Government of West Bengal, Calcutta.
34. Dept. of Agric., Government of Orissa, Bhubaneswar.
35. Dept. of Agric., Government of Gujarat, Gandhinagar.
36. Central Coir Research Institute, Kalavoor -688 522, Kerala.
37. Coir Board, Cochin - 682 011, Kerala.
38. Coconut Development Office, Facit Nagar -361 001, Gujarat.
39. Kerala State Coconut Development Corporation, Trivandrum, Kerala.
40. Indian Plywood Industries Research Institute, Tumkur Road, Bangalore, 560 014, Karnataka.
41. Oil-Seeds Experiment Station, Trivandrum, Kerala.
42. Oil Technology Research Institute, Anandapur, Andhra Pradesh.
43. Indian Statistical Institute, Calcutta- 600 035, West Bengal
44. Karnataka Carbons, Ltd., Bangalore - 560 014, Karnataka.

APPENDIX II

List of books, reports, thesis etc. published on Coconut
(excluding articles) in India

1. Abraham, K.J. Effect of palm density and levels of NPK Fertilizers on yield and quality of coconut. Vellayani (Trivandrum), College of Agric., Kerala Agric. University. 1978. 125p.
2. All India Co-ordinated Coconut and Arecanut Improvement Project.(AICC & AIP); Progress Report, 1972/73 - 82-83. Kasaragod, CPCRI, (v.d.)v.p.
3. All India Co-ordinated Coconut and Arecanut Improvement Project. (AICC & AIP): Proc. of the Workshop, 1-6(1972/73-1982/83).
4. Asana, Rd. Some reflections on the production physiology of the coconut palm. Kasaragod, CPCRI, 1976. 6p.(popular lecture).
5. Central Coconut Research Station (Kasaragod and Kayangulam):Annual Report; 1961-63.
6. Central Coconut Research Station (Kasaragod). Annual Report; 1966- 68.
7. Central Coconut Research Station (Kayangulam).Annual Report; 1961- 68.
8. CPCRI (Kasaragod) Annual Report; 1970-1981, Kasaragod, v.d.v.p.
9. CPCRI (Kasaragod). Coconut Diseases of uncertain etiology. Kasaragod, 1976. 30p. (CPCRI Technical Bull. No. 1)
10. CPCRI. Coconut root (wilt)disease a practical approach "contain the disease and live with it".Kasaragod, 1982. 5p. (CPCRI Technical Bull. No. 8).
11. CPCRI. Coconut Bunch support. Kasaragod, 1980. 3p. (CPCRI Pamphlet No. 14.)
12. CPCRI. A discourse on coconut root (wilt)disease. 1980. 40p.
13. CPCRI. International Symposium on Coconut Research and Development Dec. 28-31. 1976. Abstracts of papers, Kasaragod, Indian Soc. for Plantation Crops. CPCRI, 1976. 62p.
14. Mycoplasma diseases of coconut with a special reference to root (wilt) disease. CPCRI, Kasaragod, 1983. 8p. (CPCRI Tech.Bull.)
15. Manual on technical procedure for coconut and arecanut.CPCRI, Kasaragod, 1971.. 46p.
16. Nematodes, fungi,insects and mites associated with coconut palm. CPCRI Kasaragod, 1976 236p. (CPCRI Tech. Bull. No.2)
17. Review of Research on Coconut root (wilt) disease. CPCRI Kasaragod, 1981.
18. Six decades of coconut research in India. CPCRI, Kasaragod. 1976,13p.
19. Souvenir: 1976,diamond jubilee of coconut research in India. International Symposium on Coconut Research Development. CPCRI, Kasaragod, 1976. 95p.
20. Choudhuri, HC. Coconut in West Bengal, Calcutta, State Coconut Development Board, Government of West Bengal, 1959. 19p.
21. Coir Board (Cochin). Possibilities of coir development; report of the Coir Board Study Team.Cochin,1970. 71p.

22. Divakaran Pillai, M. Comp.Bibliography on coconut (1936-1979). Kayangulam, CPCRI (Regional Station) 1981. 349p. (Mimeo.)
23. Divakaran Pillai, M. et al Comp. Annotated bibliography of coconut in India. Kasaragod, CPCRI, 1976. 270p.
24. George, K.V. ed. Placrosym III: Processing technology and marketing. Kasaragod, Indian Soc. for Plantation Crops 1980. 43p.
25. Indian Central Coconut committee (Ernakulam). Annual Report of the Central Coconut Res. Stations, (Kasaragod and Kayangulam) 1955-68. Ernakulam, v.d.v.p.
26. Indian Central Coconut Committee (Ernakulam). First Conference of Coconut Research Workers; Proc. and papers. Ernakulam, 1959. 464 p.
27. Indian Central Coconut Committee (Ernakulam). Meeting of the Indian Central Coconut committee, 1962. Proc. Ernakulam. 1962. 546 p.
28. Jacob Mathew. Trend and fluctuations in prices of coconuts and coconut oil: Trivandrum, Centre for Development Studies, 1978. 48 p. (M.Phil. Dissertation).
29. John. C.M. Coconut Cultivation. Ernakulam, Indian Central Coconut Committee, 1952. 72 p.
30. John, C.M. Coconut Cultivation in India. New Delhi, Indian Council of Agric. Research, 1964. 48 p.
31. Kerala, Government of Comprehensive report on the survey for the correct estimation of area under and production of coconut crop in Kerala (1962-65). Trivandrum, Bureau of Economics and Statistics, 1967. 51p.
32. Kerala, Government of Comprehensive report on the survey for the correct estimation of area under and production of coconut crop in Kerala (1959-60 to 1961-62). Trivandrum, Bureau of Economics and Statistics, 1962. 24 p.
33. Kerala Agricultural University (Trichur). Coconut Convention, Oct. 9-10, 1975. Vellanikkara, 1975. 89 p.
34. Menon, K.P.V. and Pandalai, K.M. The Coconut palm; a monograph. Ernakulam, Indian Central Coconut Committee, 1960. 384 p.
35. Nayar, N.M. ed. Coconut Research and Development; Proc. of the International Symposium, Dec. 27-31, 1976. New Delhi, Wiley E Easteran, 1983. 518 p.
36. Nayar, N.M. etc. Kerala Coconut Replanting project. Kasaragod, CPCRI, 1981 8p. (CPCRI, Tech. Bull. No. 4).
37. Nelliatt, E.V. ed. Placrosym I: agronomy, soils, physiology and economics of plantation crops. Kasaragod, Indian Soc. for Plantation Crops, 1978. 531 p.
38. Patel, J.S. The coconut: a monograph. Madras, Govt. Press, 1938.313p.
39. Ramachandran Nair, P.K. Intensive multiple cropping with coconuts in India; Principles-programmes-prospects. Berlin,Verlag Pacel Parey,1979.(Advances in Agronomy and Crop Sci. 6).
40. Ramanmutty Menon, S. The coconut industry of Travancore. Quilon, SRV Press, 1973. 180 p.

41. Rangarao, D.S. Consolidated report of the pilot survey of the estimation of area and production of coconut. Maharashtra State:1959-60 to 1961-62. Poona, Dept. of Agric. Govnt.of Maharashtra,1963.83p.
42. Sasikumar Nair. Studies on the microflora of the root region of plantation crops coconut and cacao. New Delhi, Division of Microbiology, IARI, 1974. 79 p. (Ph.D. thesis).
43. Susamma, Jacob. Coconut cultivation (Malayalam) Trivandrum, State Inst. of Languages, 1974. 112p.
44. Thampan, P.K. Coconut profile of India. Cochin, Directorate of Coconut Development, 19.? 56p.
45. Thampan, P.K. The coconut palm and its products. Cochin, Greenville Publishing House, 1975. 302 p.
46. Thampan, P.K. Handbook on coconut palm. New Delhi, Oxford and IBH. 1981. 311p.
47. Thampan, P.K. The dwarf coconut. Cochin, directorate of cococnut development, 1973. 24 p.
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