CHAPTER II

REVIEW OF LITERATURE

A review of available literature on the subject coir co-operatives are of great help to trace out the various problems prevailing in the coir co-operative sector. Besides, it will provide an overall picture of the coir industry as well. However, most of the materials available are governmental reports which are prepared for the administrative requirement of the government particularly to take policy decisions or to introduce schemes or projects for the entire coir industry or to the coir cooperatives. A few research studies which would help to give insight into the various aspects of the coir industry and the coir cooperatives are also available. Therefore an attempt is made in this chapter to analyze those materials by categorizing it into two groups viz. Research Studies and Policy Papers and Governmental Reports.

Research Studies

Unnithan (1970) did the first systematic research work on Coir Industry. The study gave the focus on problems of marketing and foreign trade in the coir industry. He divided the entire study in three parts. The first part gives a background of the industry. It deals with the locational factors and the various processes in the manufacture of coir and coir products and the structure and organization of the industry. The importance is given to an analysis of the cost of production of different varieties of coir and coir products. For this he has prepared trend in costs and factor shares, coefficient of variation, ratio of variation of wages,
correlation between prices of end products and factory prices. In the second part he attempts to give a detailed analysis of marketing structure, internal marketing cooperative marketing, standardization and grading, trades and transport and prices trends and patterns etc. The third part he covered the external marketing or foreign trade. Then the foreign markets for coir are briefly surveyed and a study of the pattern of financing of foreign trade and the problems of export promotion is also studied. For the analysis he used primary as well as secondary data available with the various institutions. Regarding the data he himself admits the deficiencies. His study identified some of the problems facing the industry in the sphere of marketing and foreign trade. He recommends that the Co-operative sector of the industry needs reorientation both on the production side and on the marketing side.

Oommen (1972), in his research publication “Small Industry in Indian Economic Growth- A Study of Kerala” used efficiency indices to examine the choice of technique in traditional industries like coir and cotton. He tried to establish that a labour intensive technique that would generate a high reinvestible surplus per unit of capital seems to be the desirable technique in any programme of modernisation of traditional industries. He suggests the alternative technologies in fibre extraction and spinning sector of the coir industry in terms of reinvestible surplus. He also agrees that the adoption of machine technique invite the displacement of labour and so new technique could be introduced in areas where coir industry is newly established.

Pylee, (1975) in his study attempted to trace out the reasons for the problems which led to a crisis in the coir industry during 1974. He also examined the factors like production of coconut, process of fibre extraction, production of coir, internal consumption of coir and the world trade in coir. For gathering
information about the problems of the coir industry he interviewed all categories of people connected with the industry like husk dealers, coir workers, trade union leaders, manufacturers, exporters, professionals employed in the coir industry, members of the coir board and officials from the state and central government. His finding was that the shortage of coir fibre caused the crisis and that was due to the imposition of the controls. He remarked that the declining trend in exports and the rising cost of production must be viewed seriously and urgent steps shall be taken. His study suggested that improving productivity and to make the industry viable and competitive in the long run, modernization and mechanization of the coir industry need be considered and thereby ensure more value addition. He pointed out that this should be done without displacing workers and so preference should be given to the public sector and workers cooperatives to introduce husk beating machine. His study also recommends that the strategies for export promotion through product improvement, new products through R&D, advertisement and sales promotion are to be developed.

Nair, (1977) studied the structure of the coir industry with special reference to employment in Kerala for providing data support to the High Level team on Coir appointed by Government of India. The scope of the study was limited to employment and the working conditions of the coir industry. The coverage of the study was six taluks and from each taluk 100 households were taken as sample for the study. A separate survey was also conducted for cooperatives without using any questionnaire or schedules. Interviews and discussions were conducted with all the persons associated with coir sector including trade union leaders. His study revealed that the performance of the cooperatives were not encouraging. Despite the substantial assistance from the government by way of share capital
contribution, working capital loan and interest and managerial subsidy the cooperatives could not contribute much to the total business of the coir industry. He also commended on the need for an analysis of impact of governmental policies and supportive measures on the performance of coir co-operatives in achieving envisaged objectives.

The Study reveals that the dominance of the middle men, inadequate financial resources of the societies and the absence of competent and trained managerial personnel and the inadequacy in the availability of retted husk is the factors contributed to the poor performance of the cooperatives. He added that the ability of the societies to procure and process the husks is too little to provide employment to its members. Only a small percentage of the members are actually employed and even for them they could not provide employment all the year round. He recommended conducting a cost benefit analysis of the coir cooperatives while depicting the picture of the poor performance of the societies.

Sivaraman (1978) conducted a study to examine and suggest a system of levy that can satisfactorily work with particular reference to the quantum of levy, the administrative implications, the point and price which levy should be made and to suggest how the service cooperative societies can be drawn into supplying of husk to cooperatives, scheme for monopoly procurement, areas of improvement required in the existing control order. The study suggested that in the interest of the industry to abolish husk control order and allow economic forces to act freely in the determination of prices in the market. This suggestion was made on the ground that the administrative machinery did not enforce the control orders and so the cooperatives were not obtaining their raw material requirements in full at notified
prices. The study recommended dual price arrangement since the implementation of the control order defeated the purpose.

Institute of Applied Man Power and Research (1979), conducted a study on employment in coir industry. The study covered all the establishments producing more than 500 gms of fibre / yarn per day. In the manufacturing and export sector samples were drawn to study the problem. The study was aimed at, inter-alia estimating the various economic parameters such as pattern of employment, utilization of manpower and inters relationships between fixed capital, installed capacity, production and employment by computing economic coefficients in respect of the coir sector. The study made an attempt to estimate the employment of household members, hired workers and members of cooperatives engaged in the industry.

Issac, (1984) in his doctoral thesis studied the class struggle and industrial structure with reference to coir weaving industry in Kerala during the period from 1859 to 1980. His major attempt was to document and analyze the evolution of industrial organization and structural transformation of coir weaving industry. The period he selected for the study was very critical to the coir industry because in this period the industry’s structure had subjected to many changes. The manufactures during the period with draw from the business and entered in the field as traders. Many manufactures either closed down or sold out the factories thereby causing loss of employment to the workers. The large scale manufacturer shippers became merchant shippers. Then small scale units sprang up in the coir industry. This has led to the rising trade union movement in the coir weaving industry. The structural change he explained with reference to the uneven development of the trade union movement and the consequent wage differentials between large scale and small
scale units. He establishes that the trade union movement and the rise in the wages forced the manufacturers to shift the technology by introducing power loom. His study also covered the production and marketing conditions of the coir weaving establishments.

Kerala State Planning Board (1990) examined in detail the present status of industry and recommended suitable measures for the improvement of the industry. The committee considered the problems of increasing availability husk and fibre, programmes for productivity of labour and quality of yarn in the spinning sector, measures for making coir cooperatives more efficient and economically viable, measures for improving manufacturing sector, measures for export promotion and development of internal and suggestions on priority areas of research and development. The committee’s recommendations include introduction of mechanical extraction of fibre in the cooperative sector, temporary suspension of three point levy system in northern districts, use of motorized treadle rats in the spinning sector, reorganization of coir cooperatives and introduction of semi automatic loom on experimental basis.

Issac, (1990) in a working paper, Evolution of Organisation of Production in Coir Yarn Spinning Industry made an attempt to study reasons for continuing the handicraft technology and petty scale of production in the coir yarn spinning industry. The author depended mainly on secondary data collected from various agencies. He admits that the data used by him to reach conclusions are outdated and so he could not incorporate important developments taken place in the industry. He describes that there is higher degree of differentiation in ratt spinning and it exhibits more developed forms of capitalist organization of production. He suggests that cooperative reorganization is a solution to the fragmentation of the
production structure and exploitation of the middlemen and to ensure a decent level of living for the producers and the workers in the coir industry. The working paper, documents and explains the organization of production in different regions and the changes occurred overtime during the present century and the need for technological change in the coir yarn spinning industry.

Issac and Pyaralal (1990) in a working paper present the broad policy framework for the revitalization of coir industry in Kerala and put forward some suggestions. The suggestions are deregulation of the husk market and withdrawal of restrictions in the northern districts of Kerala and a flexible approach to the southern districts, encourage raw husk fibre extraction in the northern districts, intermediate technologies to improve the quality of products and to increase the labour productivity, develop internal market, rehabilitation programme for displaced workers. They also suggest that the technological up gradation is to be implemented within the cooperative sector which would facilitate a more equitable distribution of the work and the benefits of the increased productivity of the workforce.

Issac et al, (1992) and his team as the part of Indo-Dutch Studies on Development Alternatives studied on modernization and employment in the coir industry in Kerala. The main objective of the study is to review the socio-political, economic and technological factors that affect the trends in the coir industry in Kerala with a view to contribute to the development of the coir industry. The study reviewed the crisis in Kerala’s coir industry during 50s, trends and prospects of coir industry in the world economy, production and consumption of coir in India, Kerala’s husk potential and utilization and the technological alternatives in the white fibre industry. They pointed out that the technological change may result in
the displacement of labour unless it is accompanied by a rapid expansion of the industrial base. For technological up gradation of small scale industry should accompany with an employment policy so as to minimize the labour displacement. The authors stated the reasons as limitations of data on trends in production and consumption. The authors also stated that suppose they had done a detailed study of the cooperatives using primary data might have given more insights than what they had gained.

Thachadi Committee (1993), was appointed by the government of Kerala to study and recommend suitable measures to revitalise the coir co-operatives in Kerala. The committee after examining the performance of the coir co-operative societies in ten coir development projects in Kerala submitted their report. The committees’ responsibilities fixed by the government were to enquire about the working of the coir societies, to suggest measures to avoid wasting of money by the societies, to suggest recommendations for the future of the societies with permanent loss or defunct etc. The committee convened general meetings to collect evidences, discussed with trade unions, exporters, co-operative societies, private sector manufacturers, small scale manufacturers etc. They also used questionnaires to gather information about the societies. The report reveals the poor performance of the coir co-operatives. Then the committee suggested to classify the societies into three according to the working conditions as A, B and C. A grade is societies working satisfactorily, B grade is having potential for satisfactorily working and the grade C is societies working not satisfactorily and its registration have to be terminated. They also recommended amalgamation of small and inefficient societies, absorbing the workers from the grade C societies into the nearest working societies, refixation of area of activities of the societies, abolition of dual
membership and fake membership, administrative reforms in the societies and the mechanism for husk collection.

Rajan, (1994), attempted a study on the socio economic aspects of coir cooperatives of Kerala. He studied the problems of primary coir co-operatives but limited the study to the Kayankulam Project Area. His attempt was to identify the poor performance of the primary coir co-operatives in the coir industry and the reasons thereof. The study also attempted to reveal to what extent the workers of this sector benefitted through co-operativisation of coir industry and the prospects of the re-organisation of this co-operatives. He studied the issue in three phases, in the first phase starts from 1950 to 1970. The second phase is from 1970 to 1989. The third phase starts from 1990, the period, the revitalization of cooperatives was started. The study covered the six factors: organisational, Financial, Production, technological, marketing and wage structure of the workers and working conditions of the workers.

Balakrishnan and Pushpangadan (1994a), in their paper on ‘Total Factor – Productivity Growth in Manufacturing Industry: A Fresh Look’, made an attempt to construct a standard measure of productivity for Indian industry having account for changes in the relative price of material inputs. The paper is presented in two sections. The section I of the paper deals with the relevance of the constancy of the relative price of materials to measuring total factor productivity using value added. It is examined that how changes in the relative price of material inputs can affect the measure of real value added and thus the productivity. The temporal behaviour of raw material prices in India is also examined in this paper. The section II explains the method of computation of total factor productivity. The total factor productivity is estimated from real value added arrived at by the single as well as
the double deflation procedures. The authors have chosen the period of the study considering the data availability and the behavior of the relative price of raw materials. The Wholesale Price Index Manufacturers (1970-71=100) has treated as the price of output. Capital stock is estimated using the Perpetual Inventory Method. Total Fixed Capital (excluding the intangible assets) were grouped into four categories. 1. Land and improvement of land, 2. Building and construction, 3. Plant and machinery, and 4. Transport and other fixed assets. The gross-net-ratio for the land is assumed to be unity. GNR for other three items was taken from another study.

Balakrishnan and Pushpangadan (1994b), a paper on ‘What Do We Know about Productivity Growth in Indian Industry?’ published in continuation of the earlier paper published in 1994 the authors try to justify their earlier findings and conclusions by presenting it in three sections. In section I they discusses productivity and policy and also why do we study productivity growth and the productivity growth and policy regimes. In section II, measurement methodology and in section III the productivity growth in Indian industry. In the methodological part they describe two methods to measure productivity viz., growth accounting and econometric estimation of the production function. The growth accounting method defines total factor productivity growth as the difference between the growth in output and the growth in aggregate inputs. The econometric estimation approaches in two routes. One route is to estimate flexible functional forms without giving much importance to the requisite economic properties of cost/production functions and the equilibrium conditions arising from optimization. The second route is to impose the properties and the equilibrium conditions and to estimate total factor productivity growth. The authors conclude
that two equally mainstream approaches to estimation yield significantly different results.

Anathalavattom Committee, (1997), was another committee appointed by the government to study the performance of the coir co-operatives and to make suggestions for the revival of the sick industrial coir co-operatives in Kerala. The committee used certain parameters to evaluate the performance of the coir co-operatives such as member’s contribution to shares of co-operatives, government’s share, total share capital, total assets, total liability and cumulative loss. The committee assessed the performance of the A, B and C grade societies and found that the performance of the grade A societies are not at all satisfactory and they are poorly functioning. The committee stated that such classification is unscientific and so it should be classified as efficiently and not efficiently working societies. The committee recommended that those spinning societies give employment to at least 150 workers and the manufacturing societies giving employment to 50 workers are to be treated as working societies. They also recommended to convert the loans and interest of the efficiently working societies as government shares, increase the government share value, reduce interest of the loans of given to the societies, limit the husk subsidy and rebate etc. to coir fed, purchase the entire products of the societies by the coir fed equal to the production cost, manufacturing societies to act as training centers also and the public sector undertakings engaged in the coir industry should purchase coir and coir products from the coir fed only.

The Kerala Statistical Institute (1997) conducted a survey of coir industry in Kerala. The main focus of the survey was to estimate; 1) quantity and value of coconut husk used in coir industry and of fibre and yarn and coir products
produced in Kerala 2) Number of workers engaged in coir industry 3) extent of utilization of machinery in the industry 4) pattern of disposal of fibre, yarn and coir products 5) demand for fibre, yarn and coir products 6) movement of fibre, yarn and coir products from Kerala and to Kerala and 7) socio economic aspects of coir industry in Kerala. The data of the above detailed items were collected by conducting sample survey in establishments working in coir industry and from the households of the workers.

Rammohan (1999), in a discussion paper presented on Technological Change in Kerala Industry: Lessons from Coir Yarn Spinning addresses the implications of the ongoing technological change in coir yarn spinning industry in Kerala. In particular, the following questions: What are the context, nature, and scale of technological modernisation? Which are the agencies and what are the processes of technological diffusion? What is the potential of technological modernisation from a growth perspective of the industry? What could be its possible income distribution effects in relation to labour? What are the likely social implications, in particular in terms of the socio-economic standing of caste and gender groups involved in the industry? The commodity chain analysis, drawn from the Braudel Center theorists, is deploying in this paper, only as a proxy. This is privileged over competing methods primarily because it helps to integrate the aspects of both production and trade. A commodity chain analysis method is also explained in this paper. The focus of interest of the study is global commodity chains. The observations made in this paper are based primarily on fieldwork. As the ongoing technological change is confined to the co-operative sector, a major share of the data was drawn from it also. He selected all the five co-operatives that had opted for the new technology and one co-operative that had chosen not to go in
for it. The fact he has explored which has prime importance is “Despite a membership of 100 to 150 workers, a cooperative will have only half or even less number of actual workers. One co-operative that we had selected had a membership of 700 workers. However, the number of actual workers in this co-operative was just about 100”

Menon, (2002), studied the Technological Changes in the Coir Industry in Kerala and Tamil Nadu for the purpose of his Doctoral Thesis. His study’s major objectives were to make an overview of the coir industry, analyse the emergence, growth and present status of coir industry in Tamil Nadu, measure the extent of technological change in the coir industry in Kerala and Tamil Nadu, analyse the growth performance, productivity, capacity utilisation and capital intensity of coir industry in Kerala and Tamil Nadu, analyse the process of technological change in the coir industry of Kerala, analyse the indicators and characteristics of technical change and to analyse the progress and success of Integrated Coir Development Project(ICDP) in Kerala. The methodology adopted for the study is the production function approach. Some of the recommendations in his study are to encourage R&D activities through Coir-Fed, Directorate of Coir Development, Coir Corporations and private exporters. He further recommends collecting a cess for finding finance, and necessary training programmes to the producers to make them aware the new products and processes.

Nair, (2003), studied the Role of Co-operative and private sectors in coir industry. In his study he made an attempt to give an overview of the coir industry, evaluate the working of the co-operatives, evaluate working of the private units, compared the working of the co-operatives and private sector, compared the fringe benefits of the workers, analyzed the causes for the poor performance of the
cooperatives as well as the private sector units, analysed the issues connected with the marketing of coir products. He also compared the living condition of the workers in cooperatives and private sectors. He used primary data and secondary data for the study. He also used ‘t’ tests, averages, graphs and diagrams for various analysis. He limited his study to Kollam, Kayamkulam and Alappuzha coir project area and took 120 samples each from co-operatives and the private sector. He recommended a structural rearrangement or re-organisation of the coir industry in public, private and the co-operative sectors.

Balakrishnan (2004), in a paper on “Measuring Productivity in Manufacturing Sector”, attempted to establish the total factor productivity as a measure of productivity, rather than labour productivity. Labour productivity according to him is a measure of potential consumption and as such a leading claimant for the indicator of standard of living, which makes it important in programmes for poverty reduction. The total factor productivity possesses superiority over labour productivity because the former takes into account all inputs and not the input of labour alone. He defines labour productivity as the output per unit of labour. For manufacturing we may take gross output or net output or value added as the indicator for estimating Total Factor Productivity and for labour input we use employment measured either the number of workers or the number of hours of worked by them. According to the author TFP is a measure of the efficiency of a productive process or a production unit. He explains two approaches to the measurement of TFP. The first approach is a Crude Index of TFP growth and the second one is the Divisia Index of TFP. Since all the industries produce many outputs while using many inputs. The crude index of TFP growth is the difference in the rate of growth of an output index and the rate of growth of an
input index. He also discusses the two approaches to the estimation of real value added. Under single deflation nominal value added is deflated by an index of the price of gross output and under double deflation, gross output and material input are first deflated separately by an output and input price index, respectively. The difference is explained as real value added. The change in value added is reflective of the change in the relative price of materials, at the economy wide level imports are the only intermediate inputs and so when they become cheaper the economy is viewed to be better off even without a change in productivity. This can be considered only when we look for measuring welfare, but not when we are seeking to spot a change in productivity.

Levinsohn and Petrin (2004), ‘Production Function Estimation in Stata using Inputs to Control for Unobservables’, the authors introduced a new model for the estimation of production functions by reducing unobservable shocks in productivity. Their model is very close in spirit to Olley and Pakes approach. Olley and Pakes (OP) (1996) develop an estimator that uses investment as a proxy for the unobservable shocks. Livinsohn and Petrin (LP) instead of investment, they suggested intermediate input as proxy. The LP model thus approached the key issue in the estimation of production functions, the correlation between unobservable shocks and input levels. LP model show the conditions under which intermediate inputs can solve the simultaneity problem. The production technology in this model is assumed to be Cobb-Douglas. The LP method estimation technique is programmed in a software “STATA” extension called levpet which is user-friendly.

KITCO, (2005) conducted a detailed study on various important aspects of coir industry and prepared the report “Survey on Status of Coir Industry In
Kerala,” and submitted to the Coir Board, Cochin. The objectives of the study are to assess the availability and consumption of raw materials like coconut husk, critically evaluate the quality and marketability of coir products of the state, analyze the Socio-economic conditions of the workers engaged in the industry and ways to ameliorate their problems, study the movement of fibre, yarn and coir products from and to Kerala and to suggest measures to optimize methods and save costs, make an assessment of the socio-economic aspects of coir industry in Kerala and its impact on the larger economy of the state, study the present status of technology in the industry and to consider the opportunities for technological upgradation with a view to achieve improvement in productivity and product quality, analyse the credit flow and suggest ways and means to increase the same to enable the industry to increase production and exports. The report recommends that the present husk collection prevailing in the industry is not conducive for working units and so help of Kudumbasree or self help groups are to be sought, to ensure quality of husk, diseases affected coconut needs to be controlled, alternative methods for husk retting process is considered, mechanical defibering units or mobile defibering units are to be established, mechanization in the spinning sector is to be allowed for ensuring quality and productivity, more mechanization in weaving sector is to be introduced, new varieties of products and its marketing sustainability should be considered and so many other recommendations are also included in the report.

Arnold, (2005), in the paper, “Productivity Estimation at the Plant Level: A practical guide”, provides a brief overview of simple methods available for estimating plant productivity from establishment-level Panel data sets. It includes examples for implementing the methods in the STATA software package. The
paper mainly addresses the issues of simultaneity and selection problems and the methods to remedy such problems in estimating productivity. The author explains that the simultaneity problem is at least a part of the total factor productivity will be observed by the firm at a point of time early enough so as to allow the firm to change the factor input decision. Then profit maximization of the firm implies that the realization of the error term of the production function is expected to influence the choice of factor inputs. This makes the regressors and the error term correlated and makes ordinary least squares estimates biased. One remedy suggested is the fixed-effect estimation techniques. If one has sufficient reason to believe that the part of TFP that influences firm behavior is a plant specific attribute and invariant over time then the fixed effect of panel regression will solve the problem. As an alternative to fixed-effect regressions a consistent semi-parametric estimator developed by Olley and Pakes is suggested.

Lieberman and Kang (2007), tried to explain how the performance of manufacturing company should be assessed in relation to firms producing similar products. They also show how company level productivity measures can be developed from financial data to give a comprehensive gauge of firm performance than profit. The study focuses on the Korean steel company, POSCO’s efficiency in terms of labour and profitability. The Study found that the broader assessment of POSCO’s performance is tempered by the firm’s high capital intensity relative to producers in Japan and the United States.

The Kerala Coir Commission (2008), conducted an indepth study on the present problems and challenges faced by the coir sector and submitted a report to the government for the integrated reorganization of the entire coir industry in Kerala. The Commission also realized the graveness of the problem, shortage of
husks and fibres which arrest the future progress of the coir industry. The Commission blames the Coir Directorate, Govt. of Kerala, stating that they were inactive for the last two decades and did nothing to solve the shortage of raw material of the industry. Even the defibring units started to solve the problem could not find adequate quantity of husks for their functioning. The Commission agrees that at present Kerala’s coir industry is totally depends the fibres produced from Tamil Nadu except, Thiruvananthapuram district. The wages in coir sector is unattractive since it is very less compared to the employment guarantee scheme and the minimum wages. The small producers and the societies are not getting prices to their products at least to meet their cost. The societies are still utilizing the centuries old ratts and looms. Considering all these issues the commission recommends to start husk collection mechanism. In all the districts available husks should be collected and it should be converted into fibre by the defiberring mills. It is targeted to collect 120 to 150 crores husks annually. After that the Commission recommends to strengthen the defibring mills to utilize the entire husks so collected. The commission recommends to revitalize the co-operatives since they still have the assets about rupees 1000 crores. The Commission also recommends to begin production Automatic Spinning Machines to face the threat from other states. The commission covered almost all issues of the coir sector.

Abad, (2008) in a paper ‘Development of Productivity Assessment Methodology for Concreting Process’ discussed the measurement of productivity in construction industry. The authors define the term productivity as “effective and efficient utilization of all resources, labour, plant, and materials”. They also tried to distinguish between the terms performance and productivity. Performance is a broad term which comprises four elements, namely productivity, safety, timeliness
and quality. Productivity is measured primarily in term of cost. According to the authors low technology and low skilled employment make construction industry as low productivity sector. They also outlined the factors contributing to low productivity in construction industry as Presence of large number of unskilled workers and shortage of suitable trained and skilled workers, Poorly developed subcontractors and subcontracting sector role, Lack of site management and construction management skills in projects teams and inadequate mechanization and automation in some sectors of the construction industry. They also explain productivity as the ratio between index of inputs and index of outputs. The authors conducted a case study of concreting work and measured the productivity.

Kathuria (2010) studied Indian manufacturing industries and published the paper titled “Organized versus Unorganized Manufacturing Performance in India in the Post-Reform Period” as the part of a larger study examining the effect of state-business relations on the productivity of Indian firms funded by IPPG-University of Manchester, U.K. This study analyses the productivity performance of the Indian manufacturing sector using unit level data for the period from 1994-95 to 2004-05 for 15 major Indian states. The study focuses on both the organized and unorganized segments of the manufacturing industry. To trace the productivity performance both partial and total factor productivity estimates besides computing capital-labour ratio have been used. TFP is estimated using Cobb-Douglas production function and employing Levinsohn-Petrin method to reduce potential simultaneity bias in production function estimates. The variables used in this study are, Output, Labour, Capital and intermediate inputs. To make the values of the four variable comparable, overtime and across industries and states suitable
deflators like WPI for machine and machinery and WPI for all commodities etc. have been used.

This estimator solves the simultaneity problem using firms investment decision to proxy unobserved productivity shocks. The Olley and Pakes method estimate production function on certain conditions are satisfied i.e., monotonous relationship between the proxy (investment) and output. This means that observation with zero investment has to be dropped from the data in order for the correction to be valid. This may cause considerable drop in the number of observations because every firm will not have positive investment in every year. Then the method adoptable is Levinsohn and Petrin which is very close in spirit to Olley and Pakes method of estimation. This method suggests intermediate inputs as proxy rather than investment. Many plant-level data sets contain missing values associated to plants dropping out of the sample. If these plants are selected in a non-random manner, e.g. because they stop producing, then the sample may become biased. The Olley and Pakes method offers a correction for this attrition bias by using a fitted value for the probability of exiting from the sample.

**Governmental Reports:**

Indian Institute of Foreign Trade (1971) conducted a ‘Survey of Indian Export Promotion for Coir Based Products’ and covered the structure of the coir industry in India and Sri Lanka with a view to determine the scope and extent of improvements in production, processing, manufacturing and export marketing of Indian coir and coir based products. The objective was to improve the competitiveness of the industry in the world market. Another aspects covered are to identify the impediments affecting export and suggest remedies, to identify the
synthetic substitutes and to suggest product development and diversification, and to recommend specific involvement required from the side of government.

Department of Economics and Statistics, Government of Kerala (1981), published a ‘Report of the Survey on Coir Workers 198’ which is one of the authentic report on coir workers. The survey was conducted to identify the actual coir workers and the production units in the area where survey was conducted. The study covered 209 revenue villages completely and 47 villages partly and collected the data. Two forms were used for the survey, Form A was used to list the coir workers and Form B was used to list the production units in the coir industry. In the Form A Identification particulars, demographic details, working status, experience etc. of the workers were collected. In Form B name of the unit, type of the establishment, type of activity, number of workers employed, number of days employed and the equipments used etc. were collected. The survey identified only 2.83 lakhs coir workers from 1.53 lakh households, but giving some consideration finally accepted the figure as 3.00 lakhs. Nearly 47 percent coir workers are concentrated in Alleppey district. The major activities in the coir industry in which the workers were engaged was also ascertained in the survey. The survey identified 94127 production units and the two third of the units are functioning in Alleppey district.

‘Report of the Survey on Production and Consumption of coir and coir Products in Kerala’, published by the Department of Economics and Statistics, Government of Kerala (1986), provides data on production of coir and coir products in Kerala. The survey was initiated to make an attempt to assess the effectiveness of the various measures implemented for the development of the coir industry in terms of production and consumption of coir and coir products, number
of persons employed and the socio economic conditions of the coir workers. The
survey covered entire state except Idukki, Palghat and Waynad districts. The
survey covered only the unorganized sector. The report provides data on coir
production potential, production of coir and coir goods and consumption of coir
and coir goods in Kerala.

‘Report on Coir Worker’s Census in Kerala’, published by the Department
of Economics and Statistics (1990), presents statistics on persons working in the
coir sector in Kerala. The report also provides data on socio economic conditions
of the coir workers in the state. The objective of the census was to identify the
actual coir workers in order to issue family benefit identity cards to them. The
present census covered 256 revenue villages spread over 29 taluks in the state. The
districts of Wayanadu, Palakkad, Idukki and Pathanamthitta were not covered in
the census. The census result reveals that in Kerala there were 212813 coir worker
households with a population of 11.08 lakhs. Out of this 34.62 pc are coir workers
ie., 3.83 lakhs. Total coir workers in the state were classified according to the
sector in which these workers were employed. They are retting, beating, fibre
cleaning, spinning, drying and bundling, relates to manufacturing works, finishing
of coir products and other works related to coir sector. Major findings of the census
are presented in the form of statistical tables in the report.

Several reports and surveys conducted and published by various agencies
like State Planning Board, Government of Kerala, Coir Board, Coir-Fed,
Department of Economics and Statistics, Government of Kerala, Directorate of
Coir Development etc. are also available to give the picture of the situation of the
coir industry in India and Kerala. For a research purpose these would supplement
data to a certain extent only and so these are not reviewed here however that has been treated as references.

The various reports and studies reviewed above have so many limitations. Certain studies to reach conclusions depended largely on outdated data or made generalizations based on small samples. Certain other studies were conducted in entirely different circumstances and situations prevailed in the coir industry which has no much relevance now, since the issues then prevailed are irrelevant in the present day situation. None of the above studies except the three works by Nair, Rajan and Nair made serious attempts to study the coir co-operative societies in Kerala. Even in these three studies no systematic attempt is seen made by the researchers to conduct an analysis of the performance of coir co-operative societies in Kerala in terms of productivity performance in the primary and manufacturing sectors of the co-operative sector. Hence an in-depth study on the present working of Coir Co-operative Societies and how far does the Coir Co-operatives succeeded in achieving the declared objectives stated at the eve of its formation becomes significant. The present study is an attempt towards this direction filling this visible critical gap in the literature of coir co-operatives and its performance.