CHAPTER II
COIR INDUSTRY IN INDIA - AN OVERVIEW
Indian economy, is dependent on agriculture for its economic development as 70 percent of the population is dependent on agriculture and allied activities. Agriculture is the chief source of raw material for major Indian industries like jute, cotton textiles, cane sugar, coir, cashew etc. and it also plays a major role in the export-trade of India.

Coir industry is one of the most important traditional cottage industries in the south-western coastal belt of India, with Kerala occupying the major position. At present the coir industry is agro-based, rural and export-oriented. The economic importance of this traditional industry is significant in terms of income, employment and foreign exchange. This traditional cottage craft provides, in Kerala, employment to 2.13 lakhs families and approximately 4 lakhs people. In Kerala, the coir industry is the second largest single source of non-agricultural employment for the rural poor.

The industry is mainly concentrated in the southern districts of Kerala namely Trivandrum, Alleppey and Quilon due to the natural retting facilities present in the lakes and lagoons of this area together with the availability of inland transportation. Hence Kerala holds world monopoly in the production of white fibre from retted husks. The two appealing aspects of the coir industry are the low volume of required investment at various stages of production and its labour intensive nature. The industry started in the late 1800s went into a rapid expansion as a premier rural industrial occupation with the production of coir yarn products, the majority of which were exported. Spanned on by the export demand, coir yarn spinning quickly spread along the coastal villages (Issac Thomas, 1981), which till then, had remained dominant in the moderate needs of rural economy. Hence to a European
observer, as early as 1861, the growth of coir industry was a recalling of the past experience of weaving in England many years ago.\(^1\)

Over the years, the coir industry in Kerala has registered an impressive development as a result of the mechanization of products (and due to the export oriented strategy). This is reflected in the various types of finished products with high export value ranging from coir mats of various designs, patterns, weaves and matting of coir products with rubber backing to coir rope in different diameters produced from retted fibre and spun yarn. A still newer technical addition is the use of coir rettings as geotextiles.

The main raw material of the industry is the coconut husks. Coir is extracted from the coconut husk, the fibrous mass covering the coconut, the fruit of the perennial plant cultivated extensively in the tropics, particularly in south and southeast Asia and East Africa. In majority of the countries coconuts are mainly cultivated for copra, the husks being either buried for manure, burned as fuel or discarded. The important producers of coir from coconut husks are India and Ceylon (Sri Lanka). While in Sri Lanka, the coir fibre is mainly exported directly, the coir fibre, in India is processed to coir yarn and various types of coir products which increases the value addition in the producing centres. Kerala accounts for about 59 percent (1,428,700 hectares) of the area under coconut cultivation and 64 percent of the production (75,623 million nuts) in India.\(^2\) Historical, geographical and economic factors govern the location of the industry.

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\(^1\) Isaac Thomas (1984), \textit{Class Struggle and Industrialization Structure: A Study of Coir Weaving Industry in Kerala (1851-1900)}, p.38.

ASPECTS OF PRODUCTION

A. History of Coir and Its Industry

The coir industry in India has a very long history. There is no clear evidence regarding the origin of the coconut palm in India.

"Some of them say that coconut palm came from Ceylon, others say that the coconuts drifted in the sea from Polenisia and found new homes in many parts of the world. According to early Greek chronicles, it was Magasthenes, Ambassador of Seleucus Nicator who told the Indian King Chandra Gupta about the coconut palms he found in Ceylon in 300 BC."³

The origin of coir industry can be dated back to prehistoric times. Coir Board, in one of its report states that, "Ropes and Cordages made out of coconut fibre have been used since ancient times. Indian navigators who sailed to Malaya, Java, China and to the Gulf of Arabia, centuries ago, had been using coir for their ships' cables. In their writings, the Arab writers of the eleventh century A.D. had mentioned the use of coir as shipcables, fenders, and rigging."⁴ Marcopolo, the Italian traveller of the thirteenth century A.D. mentions in his travel records the use of coir yarn in the building of ships in the Persian Gulf. In his travelling records, he has also recorded the extraction and hand spinning of coir fibre. From these evidences, it is inferred that Kerala might be the original home of the coir industry and coir production might have started here many years before the thirteenth century. According to one interpretation, Kerala takes its name from the coconut. In Malayalam, the vernacular

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³ Coir Board, Indian Coir (Cochin, Coir Board, 1957), p.2.
⁴ Ibid., p.5.
language of Kerala, Keram is the coconut palm and the adjective kera may pertain to the region of Kerala. The world coir is derived from the Malayalam word Kayar which means a cord or rope or from kayaru which means twisted cord.

B. Geographical Location of the Industry

As coconut husk is the only raw material required for the production of coir fibre, it becomes a necessity in any study of coir industry to look into the production of coconuts.

Coconut is a tropical palm and thrives best in coastal areas. Philippines, Indonesia, India, Sri Lanka, Malaysia and Thailand are the six major coconut producing countries. These countries account for over 75 percent of the global production of coconut estimated at 4662.2 crores in 1991.

Table 1
Country-wide Classification of Production of Coconuts
(Production in Million Nuts)

<table>
<thead>
<tr>
<th>Country</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1990</td>
</tr>
<tr>
<td>India</td>
<td>9,283</td>
</tr>
<tr>
<td>Indonesia</td>
<td>11,658</td>
</tr>
<tr>
<td>Malaysia</td>
<td>946</td>
</tr>
<tr>
<td>Philippines</td>
<td>11,940</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>2,532</td>
</tr>
<tr>
<td>Thailand</td>
<td>1,140</td>
</tr>
<tr>
<td>Other Countries</td>
<td>9,721</td>
</tr>
<tr>
<td>Total</td>
<td>47,220</td>
</tr>
</tbody>
</table>

Source: Coconut Development Board, Cochin.

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Philippines is the largest producer of coconut in the world and India occupies the third position and accounts for 14.25 percent of the total area under cultivation and 21.6 percent of total world production of coconuts in 1992.

In India, the west coast belt accounts for more than 80 percent of the area under coconut cultivation and is spread over the states of Kerala, Mysore, Madras, Andhra Pradesh, Maharashtra, Orissa, West Bengal, Assam, Goa, Laccadives and Pondicherry.

The statewise area under production of coconuts in the year 1992-93 (Table 2) shows that Kerala, Tamil Nadu and Karnataka together account for 80 percent of the area under production and cultivation of coconuts in India during 1992-1993.

In India, the average yield of coir fibre from one million husks is estimated to be 82 tonnes. However the production of coir fibre in 1992-93 is only 228,900 tonnes. The utilisation of husk potential in India is therefore only 24.54 percent of total husk potential.

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### Table 2
State-wise Classification of Area Under Cultivation and Production of Coconuts in India

<table>
<thead>
<tr>
<th>State</th>
<th>Area in '000 hectares</th>
<th>Production in million nuts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1992-93%</td>
<td>1992-93%</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>72 (4.45)</td>
<td>1082 (9.51)</td>
</tr>
<tr>
<td>Assam</td>
<td>15 (0.93)</td>
<td>103 (0.91)</td>
</tr>
<tr>
<td>Goa</td>
<td>24 (1.48)</td>
<td>113 (0.99)</td>
</tr>
<tr>
<td>Karnataka</td>
<td>239 (14.77)</td>
<td>1252 (11.01)</td>
</tr>
<tr>
<td>Kerala</td>
<td>913 (56.43)</td>
<td>5236 (46.03)</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>8 (0.49)</td>
<td>131 (1.15)</td>
</tr>
<tr>
<td>Orissa</td>
<td>38 (2.35)</td>
<td>219 (1.93)</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>249 (15.39)</td>
<td>2817 (24.76)</td>
</tr>
<tr>
<td>Tripura</td>
<td>11 (0.68)</td>
<td>5 (0.04)</td>
</tr>
<tr>
<td>West Bengal</td>
<td>20 (1.24)</td>
<td>285 (2.51)</td>
</tr>
<tr>
<td>A&amp;N Islands</td>
<td>24 (1.48)</td>
<td>84 (0.74)</td>
</tr>
<tr>
<td>Lakshadweep</td>
<td>3 (0.18)</td>
<td>21 (0.18)</td>
</tr>
<tr>
<td>Pondicherry</td>
<td>2 (0.13)</td>
<td>27 (0.24)</td>
</tr>
<tr>
<td>All India</td>
<td>1618 (100.0)</td>
<td>11375 (100.0)</td>
</tr>
</tbody>
</table>

Source: Coconut Development Board, Cochin.
C. Economic Importance of the Industry

The importance of the coconut palm in the economy of Kerala state arises from the fact that it is a means of livelihood for the people inhabiting the backward areas of the state. It also plays a vital role in the economy of the country as a source of foreign exchange. In Kerala "generations of men and women inhabiting the coastal regions have tended the coconut palm and under its still, cool vaults are found many occupations, the most universal of which is the making of coir fibre and the spinning of coir yarn."\(^8\)

Location of Coir Industry in India

Apart from historical and accidental factors, certain fundamental economic factors influence the location of an industry. These factors relate to the cost of raw materials and power, cost of labour and the cost of transportation. The cost of transportation of raw material, i.e., husk is an important factor because of the low value of the product.\(^9\) In India, therefore, the industry is localised in coconut growing areas such as Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Orissa, Gujarat, Goa, Maharashtra and Pondicherry.

In India, production of coir is concentrated mainly in Kerala due to the abundant supply of coconut in the state. There is absolutely no dearth of labour in Kerala. The banks of the backwaters and lagoons in Kerala provide excellent natural facilities for retting and defibering process, and for transportation of fibre at very low cost. Since the backwaters are spread over the entire length of Kerala, the retting, defibering and even the spinning process are dispersed widely. This virtually takes the coir-spinning industry to the doors of the

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labourers and brings about high degree of economy in the costs of production in the sector.\textsuperscript{10}

In the earlier days, spinning was done entirely by hands, without any mechanised tools. The spinning wheel called the "ratt" was brought to the area by Portuguese, Dutch and the English travellers of the sixteenth century. Currently about 85 percent of the yarn is spun at wheel and 15 percent still like ancient times is made by rubbing hands.\textsuperscript{11} The spinning of coir yarn a cottage industry in the coastal belt is thus distributed over a length of 350 miles from Neyattinkara in the South to Kannur in the north.

The gain from the coir industry has led different European nations to more or less colonize Kerala. It started with Portuguese in 1500 passed on to Dutch in 1615 and later to British in about 1800. However, historical research show that the development of the industry on a commercial scale began from the nineteenth century, when James Darrah an Irish born American established a manufacturing unit in Alleppey beach. This was the first of its kind in the Malabar coast.\textsuperscript{12} Manufacturing activity needed sources of power, skilled labour together with proximity to markets and facility for exports. Because of the presence of the above factors, manufacturing units of the industry are located at Alleppey, Shertallai and Vaikom. Alleppey whose life blood is coir due to its good transportation facilities and availability of cheap and skilled labour became the main manufacturing centre of coir products.

The central market for the industry was U.S.A. and slowly the market expanded to United Kingdom, Australia and British India.\textsuperscript{13} During this time, the price of yarn and fibre declined and the export value increased. This attracted major European coastal firms into

\begin{thebibliography}{99}

\bibitem{10} K.Bhaskaran Unnithan (1970), \textit{Coir Industry in India with Special Reference to Marketing and Track}, p.7.
\bibitem{11} Jurgen Sweegers (1888), \textit{Coir Industry in Kerala} (India), p.19.
\bibitem{12} H.G.Davey (1890).
\bibitem{13} K.George (1953), \textit{Early Market Conditions in the Industry}, pp.70-72.
\end{thebibliography}
the industry who found it to be a profitable venture. Europeans had a monopoly of the coir industry till the twenties of this century. The Indians entered the industry during the trade boom of the inter-war period. These new entrepreneurs came from diverse social backgrounds, such as the prosperous Ezhava farmers who had taken to coir yarn trade, the Gujarati merchants at Alleppey and the Syrian Christians involved in commercial cultivation and trade. There were also enterprising employees of the European firms who later themselves set up independent business and "prospered through the trading, speculative skills and contacts gained while in European service."

In tune with the demand, the production of coir yarn also increased. It was directly exported to Western countries for use in agriculture and in their coir manufacturing units. During this period, spinning by ratt gained momentum and it slowly replaced spinning by hand, in the southern regions of Kerala.

With the commercial expansion in the latter half of the nineteenth century, the number of independent petty producers who procured husk from landlords and sold spun yarn to the village dealers or producers of finished products began to rapidly decline. After the second world war, which affected the export oriented industry, the Europeans slowly disappeared from the scene leaving the industry to the Indians. Hence, in the 1950s, these factories of coir production were disintegrated to thousands of small scale units.

The growing sources of labour unions in "mobilising the masses" and making the labourers "conscious of their class interest" was an important development in the post-war period. It helped in regulating the wages in the industry apart from getting benefits such as

bonus for workers (in times of religious festivals). Further when the owners were trying to mechanise the products for maximum production benefits, the labour unions resisted the move. The government was forced to prohibit it as it would have led to more unemployment in the coastal area where the majority is dependent on this for daily bread.

The weaving was limited to Alleppey and its suburbs (i.e., from Ambalappuzha to Shertallai). There also arose in Alleppey, a new group of manufacturer shippers after the Europeans, mainly from the Ezhava caste who accumulated their capital through coconut cultivation or track and through liquor contracts. These people formed the backbone of the rural employers association called the "Associated cottage industrialists and shippers union", established in 1938 and Shertallai.\textsuperscript{16}

The quantum of exports of coir also started declining from 1940 onwards. It has come down from 80 percent of the total production in pre-war period to approximately one-third in the 1980s.

A glance at the history of the coir industry, thus, gives an indication of how a particular traditional industry flourished mainly by exports of its products, while utilizing cheap labour available at the time.

**ORGANISATION AND STRUCTURE OF THE INDUSTRY**

The structure of the coir industry is as follows,\textsuperscript{17}

(a) **Coconut cultivators**: The cultivators cultivate coconut trees and produce coconuts. Then they supply the raw husks to the coir industry.

(b) **Husk traders**: They collect the raw husks from coconut cultivators or from copra

\textsuperscript{16} Jurgen Sweegers (1988), op.cit., p.22.

\textsuperscript{17} V.O.Varkey (1982), *Coir Industry in India* (Bombay Commerce), pp.10-11.
dealers and sell the husk to retters.

(c) **Husk Retters**: The retters have a network for husk collection and they purchase the husk and ret it for a certain period.

(d) **Spinners**: Constitute the major chunk of workers in the industry and depend on retters for their work.

(e) **Traders**: The traders purchase yarn from spinners and sell it to the weavers.

(f) **Weavers**: The weavers purchase yarn from traders and accept work orders from large scale manufacturer or exporters.

(g) **Manufacturer-cum-exporters**: They either get the work done through placing orders with small scale weavers at a fixed rate or get it manufactured in their own factories and finally export it to other countries.

The organisation of coir industry in India is based on three sectors mainly:

(a) Retting and Fibre Extraction sector

(b) Spinning sector

(c) Weaving sector.

In addition to this there is also the exporting sector.\(^1\)

(a) **Retting and Fibre Extraction Sector**

The coir fibre is mainly produced from retted husks. Retting means soaking of grain husks in pits, ponds, lagoons and back water for a period of six to ten months.

During retting the husks are subjected to microbiological action involving the degradation by getting rotten of the non-fibrous components of the husk. Thus facilitates the loosening of coir-fibre from the husk. The impervious nature of the exocarp limits the access of the ret-liquor to the interior of the husk. But with the progressive elimination of

\(^{18}\) M.V. Pylee (1977), op.cit., p.15.
entrapped air, more efficient contact of the red-liquor with the husk is facilitated, leading to micro-biological action liberating large quantities of organic acid. This is why retted husks have a foul smell. Retting is essential to produce golden coir of best commercial grade.

After retting, the husks are taken from saline water, washed with water to remove impurities and the outer-skin is peeled off. It is then hand beaten with wooden mallets to extract the fibre from the pith. The wet-fibre is dried in shade and passed through a willowy machine to remove the last trace of pith and other impurities. The fibre is rolled for spinning. This fine golden fibre is called the "white fibre" which is flexible and is used for spinning of yarn and ropes and also for manufacture of mats and mattings. Over 80 percent of this retted fibre is produced in Kerala.

Mechanical Extraction of Husks

By 1964-65, the extraction of fibre by hand beating was gradually replaced by the introduction of a simple mechanical process represented by husk-beating machines. These machines beat about 8,000 to 10,000 husks per 8 hour shift which implies that, each machine could do the work of eighty to ninety workers. There were around 400 husk beating machines operating in Kerala until the government banned it in 1974. The fibre so extracted through machines is called "Brown fibre" which is deeper in colour, stiff and resilient. It is mainly used for the manufacture of brushes, upholstery materials etc. Brown fibre is mainly produced in Tamil Nadu, Andhra Pradesh, Karnataka and Orissa.

Spinning Sector

The spinning sector which follows the defibring can be done theoretically through four methods: by hand, by ratt, by treadle ratt and also mechanically. In Kerala only the first two are put into practise, the third being confined to the building of coir research institute at Kalavur.20

For spinning, the fibre has to be cleaned, dried and slivers arranged in the same direction before spinning can start. Traditionally coir yarn was spun by twisting or rolling the fibre between the palms of the hand into short length. In the case of ratt or wheel spinning, a stationary wheel with two spindles and a moving wheel are used. The stationary wheel is rotated by a person while the spinners feed the fibre slivers to the spindle to make the strands which are then connected to the moving wheel to give counter twist to make the two ply yarn. Majority of the ratts are two spindled, but rafts with three, four or six spindles are also in use. Usually two women are needed for feeding the slivers and one woman for rotating the wheel. Predominantly women workers are employed in this sector. This is highly labour intensive and employs about 80 percent of the total workforce. At present, motorised rafts and automatic spinning are also being introduced. The above two sectors together are known as "Handicraft Technology".21

In Kerala different kinds of yams are commercially produced which vary according to the methods of extraction and end uses. Of these, the mate fibres or the yarn fibres is the finest and longest variety obtained through retting and is mainly used for manufacture of yarn mats and mattings. The different yarn are named after the places where they are

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21 Isaac Thomas (1990), Evolution of Organisation of Production in Coir Yarn Spinning, pp.4-6.
originally made. This classification of yarn is based on the belief that yarns produced in different areas have definite characteristics in respect of colour, twist, pith, sand etc. The important varieties of coir yarn produced for commercial uses are mainly,\textsuperscript{22}

1. **Anjengo yarn**

   This is considered the most superior of all varieties of raft spun coir yarn due to its smooth texture and good bright natural colour. It is less hairy, evenly twisted and spun in the scorage ranging from 15 to 20. The name of the yarn is derived from the village "Anjengo" on the coast between Trivandrum and Quilon. The important varieties of Anjengo yarn traded are "Anjengo superior" and "Anjengo ordinary". This is mainly produced in places like Pachelloor, Panathura, Azhoor, Chirayankeezh, Kadakavoor, Vakkam Anjengo, Vettor and Paravoor. This is mainly used for the manufacturing of best quality mats and meettings.

2. **Mangadan Yarn**

   It is produced in and around the village "Mangad" near Quilon. It is a hard twisted light golden coloured yarn spun in scorages ranging from 10 to 15. The important varieties are "Mangadan Special" (thinner variety), "Mangadan ordinary" (thicker variety) and "Sandy Mangadan" which is mostly consumed in Indian markets for agricultural purposes. Important centres of production are Mangad, Perinad, Prakulam, Panmana and Kollam villages.

3. **Ashtamudy Yarn**

   The yarn produced in the villages situated on either sides of Ashtamudi lake and the

\textsuperscript{22} Coir Board (1966), *A Study on Different Types of Coir Yarn Produced in India*, pp.8-145.
Kaallada river is known as Ashtamudi yarn. It is a brownish colour yarn containing small percentage of sand and is usually spun inscorage from 8 to 13. It is mainly produced in Munroe Island, Peruman and Kallada. It is mainly used in Western countries for rope making and agricultural process.

4. **Alapat Yarn**

   The coir yarn produced in and around the small village "Alapat" situated 27 kms north of Kollam town on the sea coast is known as Alapat yarn. This is a superior quality hand spun yarn of soft twist, soft texture, less hairy and containing little or no pith. It is a golden brown yarn with scorage of 11 to 15. The important centres of production are Edappalikotta, Kuttivattom, Alumkadavu, Vallikkavu etc. It is mainly used for the manufacture of floor carpets.

5. **Aratory Yarn**

   It is a yarn produced in and around "Arathupuzha", a village situated on either sides of Kayamkulam lake and 37 km south of Alleppey. It is a variety of wheel spun yarn obtained from long or medium staple coir fibre of reddish brown to bluish grey colour. It is more irregular in twist and thickness compared to Anjengo or Mangadan and is spun in scorages of 11 to 18. The important centres of production of this yarn are Arattupuzha, Muthukulam, Karuvatta, Karthikappalli, Kurikad etc. It is mainly used in matting.
6. **Vycome Yarn**

The yarn derives its name from the place called "Vycome" situated on the eastern bank of the Vembanad lake and 32 kilometers south-east of Cochin. It is characterised by soft-texture containing small pits of pith or sand. It is usually hairy, soft twisted, fairly even in thickness and twist, and spun in scorrages of 11 to 17. The important production centres are Shertallai, Vayalar, Aroor, Kokathanangalam, Thuravoor, Vaikom, Veehoor, Kumbalangi etc. Mainly used for tuft brush for mats and carpets.

7. **Parur Yarn**

Parur yarn is produced in Trichur district, on the banks of the Cranganore lake. This light golden coloured yarn is a thick variety of hand twisted yarn. It is mainly produced in Parur, Chandamangakam, Kottuvally, Njarakkal, Cherai etc. It is largely used for the manufacture of ropes.

8. **Beypore Yarn**

This variety of hand spun bluish yarn containing a small amount of pith and husk spun from coir fibres extracted from insufficiently retted husks from a coastal village, "Beypore" situated on the banks of Beypur river which is 11 kms south of Calicut. The scorage of this yarn is between 6 and 9. The important production centres are Quilandy, Elathur, Calicut etc.
9. **Quilandy Yarn**

It is a natural light golden greyish coloured yarn produced in "Quilandy" a place situated 26 kms north of Calicut. It is similar in texture and appearance to Ashtamudi. The important production centres are Ramanathkara, Beypore, Feroke, Kadalundy etc.

10. **Beach Yarn**

This light yellow coloured yarn is an inferior variety of hand spun yarn produced from soaked or unsoaked husks and is mainly produced in the beach side of Alleppey district particularly Ambalapuzha and Shertallai taluks. It is soft twisted with very little twine in the single ply, less hairy, contains large proportion of pith and spun on scorage from 9 to 14. The main production centres are Muhamma, Punnapra, Thumboly, Kadakarapalli, Shertallai, etc.

11. **Fine Unsoaked Yarn**

This is the cheapest variety of all types of yarn commercially produced in Kerala. It is produced from unsoaked husks and contains a very large amount of pith and range in colour from brownish yellow to dark reddish brown. It is less hairy and soft twisted. Parappanagadi, Vallikkunnu, Edakkad etc. are the main centres of production.

12. **Muppiri Yarn**

This is a very thick variety of three ply yarn produced mostly in the Kanyakumari district of Tamil Nadu and Neyattinkara taluk in Trivandrum district.
13. **Rope Yarn**

This extra ordinary thick hand-spun yarn contains varying amounts of pith and is characterised by its extra ordinary thickness and sturdy structure and is spun in scorage from 4 to 6. The main centres of production of this year are the Chavakkad taluk of Trichur district and Ponnani taluk of Malappuram district. It is mainly used in rope making and agricultural purposes.

C. **Weaving Sector or Manufacturing Sector**

This phase includes the making of a whole range of coir products like mats, mattings, rugs and carpets etc. using the output of the spinning sector, i.e. coir yarn. Traditional handlooms are commonly used for the manufacture of coir mats. Coir mattings are produced in both semi mechanised loom and traditional loom. In Kerala out of 2072 units in this sector, 1982 are registered. Only 170 units are registered under Factories Act and are located in and around Alleppey.

Those who are engaged in the industry in this sector can be distinguished as

(a) Big manufacturer-shippers who control about 50 percent of the entire export business. They export not only their goods produced but also products of other factories.

(b) Small manufacturers who are not shippers.

(c) Small producers on a cottage basis.

(d) Producers who are merely shippers.

The process of the production of finished goods involves a lot of steps other than coir weaving which is the main one. The others include sizing by removal of weft yarn, binding, trimming and shearing, clipping, stencilling, dipping, smoking to improve the
D. **Export Potential of Coir Yarn and Coir Goods**

The coir industry is highly export oriented and is dominated by the private sector which accounts for more than 90 percent of the export trade. Prior to independence the yarn market was controlled by half a dozen European exporters of coir yarn who were also major manufacturers of coir products. These European trading firms which owned the bailing presses and had better market facilities monopolised the export field. Till the economic depression on coir goods due to competitive price reduction in the industry coupled with high export rate and low export price, these firms continued their exports to London from where the yarn was exported to other European countries.

In 1959, the competition increased with the introduction of standardized wages in bailing and rehanging resulting in the decentralization of the rehanging activity. During the Second World War, the export prices of products had declined due to severe inter-capitalist competition which was mainly because of (a) stagnation of the overall demand for coir products, (b) At the expense of others, some exporters were steadily increasing their share of the market. This resulted in the entry of Indian industrialists and the withdrawal of Europeans from the Indian markets. In 1967, the export of coir yarn began to decline with the introduction of floor-prices and pre-shipment inspection for coir yarn by the Coir Board.

Initially, the decline was mainly in respect of coir yarn. It is seen that during 1966-67 when the first dramatic decline took place, export of coir yarn went down by 8,000 tonnes. However, over the 70s and 80s both yarn and products continued their downward slide due to product innovation, poor quality and packaging. Though the quantum of exports showed a declining trend during the recent years, the value has been raising mainly
because of the improvement in the unit value per tonne of coir exports.

One of the major problems regarding exports from Kerala is the failure of timely supply of goods, high labour costs involved in converting coir yarn to finished products, excessive tariff levy on finished products and inadequate shipping facilities. Exports have always absorbed a large part of production on Kerala and lately it has come down from around 80 percent in pre-war period to approximately one third now.

The main markets of coir and coir products from India are the member countries of EEC, which account, on an average of about 60 percent of Indian total annual exports. USA and Canada in the American region are the next important markets with a share of 18 percent. In the East mainly Australia and Japan share 7 percent and West Asian countries 6 percent. Small quantities of coir and coir products are exported to South Asia and Africa. The major markets of coir yarn are France, Germany, Italy, the UK, the Netherlands, USA, Portugal, Belgium etc. The major markets of coir products are France, UK, Italy, Germany, the Netherlands, USA, Denmark, Australia, etc.
Table-3
Export of Coir and Coir Products from India

<table>
<thead>
<tr>
<th>Period</th>
<th>Quantity (in tonnes)</th>
<th>Value (in Rs. cr.)</th>
<th>Unit value (in Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961-62</td>
<td>76,076</td>
<td>11.35</td>
<td>1,492</td>
</tr>
<tr>
<td>1971-72</td>
<td>52,312</td>
<td>14.86</td>
<td>2,841</td>
</tr>
<tr>
<td>1981-82</td>
<td>30,079</td>
<td>26.94</td>
<td>8,956</td>
</tr>
<tr>
<td>1982-83</td>
<td>30,133</td>
<td>26.17</td>
<td>8,685</td>
</tr>
<tr>
<td>1983-84</td>
<td>27,949</td>
<td>24.37</td>
<td>8,709</td>
</tr>
<tr>
<td>1984-85</td>
<td>25,788</td>
<td>26.42</td>
<td>10,241</td>
</tr>
<tr>
<td>1985-86</td>
<td>24,672</td>
<td>32.85</td>
<td>13,313</td>
</tr>
<tr>
<td>1986-87</td>
<td>23,214</td>
<td>31.44</td>
<td>13,544</td>
</tr>
<tr>
<td>1987-88</td>
<td>25,148</td>
<td>32.20</td>
<td>12,804</td>
</tr>
<tr>
<td>1988-89</td>
<td>24,979</td>
<td>33.32</td>
<td>13,339</td>
</tr>
<tr>
<td>1989-90</td>
<td>27,458</td>
<td>40.18</td>
<td>14,633</td>
</tr>
<tr>
<td>1990-91</td>
<td>27,927</td>
<td>47.25</td>
<td>16,919</td>
</tr>
<tr>
<td>1991-92</td>
<td>30,999</td>
<td>74.12</td>
<td>23,910</td>
</tr>
<tr>
<td>1992-93</td>
<td>32,354</td>
<td>95.95</td>
<td>29,656</td>
</tr>
<tr>
<td>1993-94</td>
<td>37,633</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Compound growth rate (%)</td>
<td>-2.72</td>
<td>7.24</td>
<td>10.12</td>
</tr>
</tbody>
</table>

Source: Coir Board, Annual Reports.

Levels of Management in Coir Industry

Coir industry may be broadly divided into coir yarning sector which is highly unorganised and the coir weaving sector which is organised. Due to this economical differentiation there exists in coir industry a wide spectrum of pre-manufactory production organisations like independent domestic producers, varied forms of putting out systems and occasionally direct use of hired labour under a common shed.
As the industry is export oriented the small producers of coir yarn scattered along the coastal belt of Kerala are totally dominated by the traders in raw material markets and finished good markets. The operation of these traders and fluctuations in the export demand have made the existence of petty producers very precarious. Squeezed between the monopolistic husk market and monopolise products market, the workers primarily and the petty producers secondarily are left with bare subsistence.23

It is very clear that the coir industry is primitive and simple and that there is no investment in machinery. The industry has been facing a crisis since the 1950s as the export value was declining and internal consumption though rising was not able to keep up with the export value. Because of popular pressure, the government made an attempt to cooperativize the coir industry. This was a landmark in the history of coir industry.

Coir-cooperatives have come up in Malabar from the early twenties and in 1940s the Cochin area also started cooperatives, but these remained as isolated experiments and did not have any significant impact on the industrial structure. The new phase in cooperativization opened with the formation of United Travancore-Cochin Government after Independence.

The Cooperative scheme was launched in 1950s to reorganise coir industry on cooperative bans. The aim of this was to standardise the quality of coir produced, to discourage adulteration prevalent, to attract foreign markets for coir products, to eliminate middle men engaged in various stages of the industry swallowing up the profits to ensure reasonable wages and regular work for the labour class.24 This was intended as a programme for rehabilitation of the industry. Even with substantial support from

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government, co-operative societies still amount for only a small share of the total business.

In the 1980s, there was a nominal increase in the number of co-operatives, but majority of them remained on dormant societies and new ones which had not yet started functioning. Of the working, 70 percent were incurring losses. As on 30 June 95, there are 476 working societies, out of which 446 are primary societies, 30 in the manufacturing side and 2 husk procurement and distribution societies. Even after many reorganisation schemes, co-operatives account for only less than a third of the workforce in the industry and less than 15 percent of industrial production. But it had a significant positive impact on labour conditions and industrial organizations. The majority of the co-operative members also work in the private sector, either as wage workers or self employed producers. The wages of the above sectors remain lower than the co-operatives and is normally forced on a relative proportion of the co-operative wages. Thus the cooperatives have improved the labour conditions by increasing the wages in the unorganised and organised sector of the industry. But due to high wage and establishment changes, societies are not able to compete with the private sector.25

Major problem faced by the cooperative societies is the non-availability of retted husks and inadequate employment to all the members. The factors which contribute to the poor performance of cooperative societies are the dominance of middlemen of the industry, inadequate financial resources of society and absence of competent and trained managerial personnel; the complete reorganization of the industry on a cooperative basis seems to be a far off dream today than before the scheme was initiated nearly four decades back.

Mechanisation of Coir Industry in Kerala

In Kerala, while the co-operative movements have given some relief to the work, an alarming development in the coir industry recently won an attempt to introduce mechanisation at various levels of production leading to displacement of labour. As the workers tried to organise themselves through trade unions, the factories retaliated through introducing machines to replace labour. This serves to increase the profit of the capitalists as well as disrupt the workers unity. Hence it was started as an easy way of making workers more helpless and also kept the wages at low levels. The machines, by throwing thousands out of employment, creates a reserve army of unemployed people, forcing those who are still employed to be more submissive for fear of being replaced at any time.

At the lower level of production machines were introduced in the defibring sector which was labour intensive. The machine introduced was a larger and modified version of the willowing machine consisting of revolving nail, barbed drums to which husks were fed through two closely pressed retters. The nails on the drum shredded the husk into fibres. The machines are called Kerala drums. This mill would defibre in an eight hour shift around 8000 husks which normally would have needed around 100 manual workers.

In 1955, there existed only six defibring machines but as the unionization became more intensive, the number of machines also increased. The labour recruitment was further decreased by another new technological innovation resulting in significant cost reduction. This new machine had a shaft which when rotated at high speed and husks when fed from one end produced clean fibre through the other end. By 1973, there were 4000 such machines operating in Kerala.
With the installation of these machines there was deterioration in the quality of fibre with its value more in the field of reducing labour. These moves enabled to deny work for defibring workers who constituted 30 percent of the workforce.

This large scale displacement of workers created widespread rural unrest in the coir belt. It was estimated by the Planning Board and many economists working in the area that complete mechanisation of defibring would displace 86,400 out of 112,000 workers engaged in production. In 1972, the struggle against mechanisation reached its zenith (peak) as cases of starvation were reported. To curb violence the police started firing which ended up in the killing of one worker, arrest of thousands and torture many more. At last in 1973, Government was forced to ban the husk beating machines from operating in Kerala.

The companies which originally implemented technological methods were the Aspinwal company which had a fibre processing factory at Anjingo (1920) and Arnold Chennery and Company in Alleppey (1922). This mechanical fibre processing technology was successfully used in Sri Lanka to produce brown fibre. But in Kerala, these mechanical defibring factories could not withstand the competition from the hand processing sector and has to be closed down. Even in spinning, attempts were made to set up motorised units which again had to be banned due to wide social unrest. The case of mechanisation in manufacturing or weaving sector was also the same as handlooms were mainly used for weaving. In Kerala only 3 powerloom units are working in this

26 E.Balanandan, TVM (1969), Jeevikkan vendi tozhulalikal natathia samaram (Malayalam).
29 Government of Travancore (1931), Travancore Depression Enquiry Committee Report, p.61.
sector. Thus, the surplus labour in Kerala’s coastal belt and the cheap labour it provided, enabled the survival of the primitive methods of production and kept out labour saving technological improvement which would have otherwise benefitted only a few.

Industrialists saw mechanisation as a way to improve productivity and to meet competition in international markets. But the actual motive behind it was "to break the organised strength of workers", and to earn quick profits.

But it is highly unlikely that the present situation will continue, as the growth of mechanised coir industry in other countries like Sri Lanka and other states in India like Tamil Nadu has posed a threat for the traditional handloom based industry of Kerala. If these threats materialise, Kerala will have no choice but to modernize its industry in a phase manner.

PRODUCTION AND CONSUMPTION OF COIR

Production of Coir in Kerala

The production of coir in India is estimated on the basis of exports, internal sales and movement of coir products from the producing centres to other places in India by rail and road. In the past coir industry was the monopoly of Kerala. But with coconut cultivation becoming popular in non-traditional areas, coir industry has started developing in the states of Tamil Nadu, Karnataka, Andhra Pradesh etc.

With regard to the coir industry rules, 1958 every unit engaged in the production of coir and coir products is to be registered with the coirboard. The number of units, hence registered in Kerala as on 31 March 1993 is 3,962 (80.92 percent). But according

31 Issac and Raghavan (1990), op.cit., p.5.

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to the survey on production and consumption of coir goods is estimated to be around 97,405 (Table 5). The districtwise distribution of coir producing units shows that 72 percent of the units are in Alleppey district and among these around 92 percent of the units are set up in household premises.

Table 4
Districtwise Distribution of Coir Products Units in Kerala

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Districts</th>
<th>No. of units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Trivandrum</td>
<td>1,356</td>
</tr>
<tr>
<td>2.</td>
<td>Quilon</td>
<td>4,480</td>
</tr>
<tr>
<td>3.</td>
<td>Alleppey</td>
<td>70,160</td>
</tr>
<tr>
<td>4.</td>
<td>Kottayam</td>
<td>4,780</td>
</tr>
<tr>
<td>5.</td>
<td>Ernakulam</td>
<td>4,359</td>
</tr>
<tr>
<td>6.</td>
<td>Trichur</td>
<td>1,608</td>
</tr>
<tr>
<td>7.</td>
<td>Malappuram</td>
<td>4,928</td>
</tr>
<tr>
<td>8.</td>
<td>Calicut</td>
<td>3,900</td>
</tr>
<tr>
<td>9.</td>
<td>Cannanore</td>
<td>1,138</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>97,405</td>
</tr>
</tbody>
</table>


The process for the production of coir begins with the collection of raw husks from coconut cultivators and hence it depends primarily on the collected coconut husk. The percent distribution of the units in various activities of the industry are given in Table 6.
Table 5
Activity-wise Classification of Coir Workers in Kerala

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Activity</th>
<th>% distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Retting</td>
<td>4.11</td>
</tr>
<tr>
<td>2.</td>
<td>Beating</td>
<td>14.16</td>
</tr>
<tr>
<td>3.</td>
<td>Fibre-cleaning</td>
<td>2.09</td>
</tr>
<tr>
<td>4.</td>
<td>Spinning</td>
<td>70.08</td>
</tr>
<tr>
<td>5.</td>
<td>Drying and bundling</td>
<td>2.27</td>
</tr>
<tr>
<td>6.</td>
<td>Works related to manufacture of coir products</td>
<td>5.38</td>
</tr>
<tr>
<td>7.</td>
<td>Finishing and packing of coir products</td>
<td>0.31</td>
</tr>
<tr>
<td>8.</td>
<td>Other works related to coir sector</td>
<td>1.60</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100.0</td>
</tr>
</tbody>
</table>


A unit usually engages in more than one activity. The estimated production of coir and cor products from 1985-86 to 1992-93 is presented in Table 7A.

Table 6
Production of Coir and Coir Products from 1985-86 to 1992-93

<table>
<thead>
<tr>
<th>Period</th>
<th>Production (Quantity in tonnes)</th>
<th>% of variation over previous year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985-86</td>
<td>335,740</td>
<td>1.18</td>
</tr>
<tr>
<td>1986-87</td>
<td>346,820</td>
<td>3.30</td>
</tr>
<tr>
<td>1987-88</td>
<td>358,480</td>
<td>3.36</td>
</tr>
<tr>
<td>1988-89</td>
<td>375,170</td>
<td>4.66</td>
</tr>
<tr>
<td>1989-90</td>
<td>404,190</td>
<td>7.74</td>
</tr>
<tr>
<td>1990-91</td>
<td>428,900</td>
<td>6.11</td>
</tr>
<tr>
<td>1991-92</td>
<td>440,000</td>
<td>2.59</td>
</tr>
<tr>
<td>1992-93</td>
<td>463,600</td>
<td>5.36</td>
</tr>
<tr>
<td>Compound growth rate (%)</td>
<td></td>
<td>5.50</td>
</tr>
</tbody>
</table>

Source: Coir Board, Annual Reports
Table 7
Item-wise Classification of Production of Coir and Coir Products in India (Quantity in tonnes)

<table>
<thead>
<tr>
<th>Item</th>
<th>1992-93</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Coir fibre white</td>
<td>127,000</td>
</tr>
<tr>
<td>2. Coir fibre brown</td>
<td>101,900</td>
</tr>
<tr>
<td>3. Coir yarn</td>
<td>143,900</td>
</tr>
<tr>
<td>4. Coir products</td>
<td>25,900</td>
</tr>
<tr>
<td>5. Coir rope</td>
<td>35,300</td>
</tr>
<tr>
<td>6. Curled coir</td>
<td>16,200</td>
</tr>
<tr>
<td>7. Rubberised coir</td>
<td>13,400</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>463,600</strong></td>
</tr>
</tbody>
</table>

Consumption of Coir Products

By and large, coir has been an export commodity and the foreign market remains the mainstay for the bulk of coir products. The internal markets were on a subsidiary market absorbing excess production over export requirements. The exporters neglected the Indian market which became synonymous with inferior quality products and export rejects.

The internal market was developed by the efforts of the Coir Board, by opening up showrooms in major urban centres and accredited dealers through whom standardized quality products were promoted. The major suppliers today other than Coir Board are private manufacturers, co-operatives, COIRFED and KSCC.
### Table 8
Consumption of Coir and Coir Products in India

<table>
<thead>
<tr>
<th>Item</th>
<th>Year-wise consumption 1992-93</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Coir fibre</td>
<td>56,300 (31.48)</td>
</tr>
<tr>
<td>2. Coir yarn</td>
<td>65,980 (36.89)</td>
</tr>
<tr>
<td>3. Coir products</td>
<td>6,160 (3.44)</td>
</tr>
<tr>
<td>5. Curled coir</td>
<td>1,870 (1.05)</td>
</tr>
<tr>
<td>6. Rubberised coir</td>
<td>13,330 (7.45)</td>
</tr>
<tr>
<td>Total</td>
<td>178,870 (100.0)</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses are percentage.

The rural household sector for agricultural purposes and the urban customers for construction and packing purposes consume 60 to 70 percent of coir yarn. In the coir product market, mattings are mostly purchased. For institutional buyers coir door mats have a high percentage of demand from household sector. The itemwise analysis of internal consumption of coir products in 1992-93 is given in Table 8.

About 37 percent of output of yarn is being consumed within the country whereas
the consumption of products is just 3.5 percent of the total output.

Over time, the major determinant of consumer preference shifted from quality to price of the products. The entry of machine made brown fibre had enabled people to get coir goods at very low prices and this adversely affected the traditional superior quality products of Kerala. Hence, in recent years the monopoly of Kerala over coir products has declined considerably.\textsuperscript{32} The important issue that has emerged from the analysis is that, the internal market potential and the need for such a strategy would probably help the traditional sector and the lakhs of workers engaged in production rather than an export oriented strategy which encourage mechanisation and thereby benefit only a few.

CONDITIONS OF LABOUR AND RELATED ISSUES

A. Labour Recruitment in the Industry

The coastal region of Kerala is one of the most densely populated tracts in India flourished by its traditional coir industry which employs around 4 lakhs of rural population. Only less than half of the rural population is employed in the agricultural sector, the rest are accommodated in any of the traditional industries like coir, cashew, fisheries etc. This is because exclusive dependence on agriculture for work meant low and uncertain income, arbitrary terms and conditions of work and long spells of forced idleness. The establishment of coir industry opened up avenues for regular wage employment for the agricultural workers. The overriding desire to overcome social barriers and achieve freedom to work was another strong incentive to seek work in these factories. More specifically work in these meant the prospect of money wages, fixed hour of work and more importantly continuity in employment, although it meant longer working hours.

\textsuperscript{32} Report on Survey of Number of Coir Workers, Kerala State, 1981.

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However regarding labour supply, "the relation between coir and agricultural sector is natural depending upon the crisis in each sector in specific periods. Thus there is constant intermigration from these two sectors."

The employment in the coir industry has more than kept pace with the expansion in the production throughout the century. There is lack of reliable data to trace the growth of the workforce. The workers were recruited and supervised through the institution of moopan. The moopans were trusted skilled workers who had been in the employment of the industry for a long period. They were responsible for the maintenance of discipline in their respective departments and had the right to impose fines. The wages were dispersed through moopans whose earnings consists of a commission (moopan kasu) deducted from the wages of the workers.

Table 9
Sector-wise Classification of Labour Force Employed in the Industry

<table>
<thead>
<tr>
<th>Sector</th>
<th>No. of workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Retting</td>
<td>50,000</td>
</tr>
<tr>
<td>2. Beating sector</td>
<td>132,500</td>
</tr>
<tr>
<td>3. Spinning sector</td>
<td>216,900</td>
</tr>
<tr>
<td>4. Manufacturing sector</td>
<td>46,500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>445,900</strong></td>
</tr>
</tbody>
</table>


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34 Isaac and Raghavan (1990), op.cit., p.10.
In an estimate by the Coir Board\(^{36}\) (1980), it has been reported that the total employment in the coir industry in India is 4.46 lakhs of which about 4.30 lakhs are in Kerala. The sector-wise distribution of persons employed in coir industry as per the Coir Boards estimate as presented in Table 9.

According to the latest coir workers census\(^{37}\) the total number of persons employed in the industry in Kerala are 383,394. According to this survey, the earlier (tabulized) figures of employment are slightly high because the same worker sometimes works in different units on different days which leads to multiple counting.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>District</th>
<th>Total no. of workers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Trivandrum</td>
<td>38,643</td>
<td>10.08</td>
</tr>
<tr>
<td>2.</td>
<td>Quilon</td>
<td>53,621</td>
<td>13.99</td>
</tr>
<tr>
<td>3.</td>
<td>Alappuzha</td>
<td>175,191</td>
<td>45.69</td>
</tr>
<tr>
<td>4.</td>
<td>Kottayam</td>
<td>18,199</td>
<td>4.75</td>
</tr>
<tr>
<td>5.</td>
<td>Ernakulam</td>
<td>25,409</td>
<td>6.63</td>
</tr>
<tr>
<td>6.</td>
<td>Trichur</td>
<td>10,306</td>
<td>2.68</td>
</tr>
<tr>
<td>7.</td>
<td>Malappuram</td>
<td>14,592</td>
<td>3.81</td>
</tr>
<tr>
<td>8.</td>
<td>Calicut</td>
<td>42,489</td>
<td>11.08</td>
</tr>
<tr>
<td>9.</td>
<td>Kannur</td>
<td>3,330</td>
<td>0.87</td>
</tr>
<tr>
<td>10.</td>
<td>Kasargod</td>
<td>1,614</td>
<td>0.42</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>383,394</td>
<td>100.0</td>
</tr>
</tbody>
</table>


It is clearly evident that 46 percent of coir workers are concentrated in Alleppey district mostly in three taluks of Cherthela, Ambalapuzha and Karthikapally, followed by

\(^{36}\) Coir Board (1982), Annual Report, p.18.
Quilon with 14 percent. Kasargod has the lowest with 0.42 percent. A comparison of the survey results of 1975-76 (361,345 workers) and 1981 (267,180 workers) shows that there is decline in all the four sectors of the industry. This apparent decline in the industry could be due to longer period of leave season and inadequate wages in the industry.

**Labour Conditions in the Coir Industry**

The wages obtained by worker in the industry are very low, regardless of the work done. In 1966, the average monthly income of a handspinner was around Rs.1,000 and that of a spindle spinner Rs.3,000. A worker in the weaving sector will get around Rs.40 to Rs.60 per month.

The workers in the coir industry especially handspinning workers still continue to be the most sweated and under paid in Kerala. The workers generally work for about 9 to 10 hours a day as they usually take a break in the mornings and afternoons to attend to their household chores.

The mode of payment universally prevalent in the industry is the piece-rate system which imposed self-discipline on the worker as his earnings depended on the turn out. Workers are usually made to work over time without extra payment. Majority of the workers in coir industry find employment only for about two hundred days a year. They lead a life of abject poverty and starvation, with nothing to fall back on and nowhere to work for nearly three months of an year and many of the workers had left agriculture in the hope of regular employment.

In 1972, the Government of Kerala fixed the minimum wages in the manufacturing sector of Rs.3.50 to Rs.4 depending on the type of mats woven and in spinning sector at Rs.2.40 per worker for hundred yards of spin yarn and Rs.2.80 per hundred husks for

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38 Isaac (1990), op.cit., p.12.
beating. The incompatibility of the price of husk with the finished products is the basic factor which has contributed to such a low wage level.

Deterioration of Labour Conditions in the Industry

A number of malpractices continue in the industry such as not maintaining proper registers, recruiting people on a temporary basis, no extra payment for over time etc. Even the majority does not get the fixed minimum wages. Most of the workers are not aware of the exact minimum wages declared by the government. Working on the piece-rate system, they put in long and tenacious hours in unsanitary conditions. As a result, most of them suffer from diseases related to the nature of their job and poor working conditions.

Women form the bulk of the labour force (around 70 percent) in the industry. The following description about the coir worker in the rural areas of central Kerala given in the Minimum Wages Committee Report (1953), might convey the miserable plight of coir workers better than any statistical exercises.

For a long time, the workers have not been able to obtain a good meal on any day except on festival days.... Even that was made possible only by starvation on subsequent days. Usually they take a little 'black tea' early in the morning and go to the workspots. In the noon intervals, they are able to take a little dug tapioca and groundnut cakes which they supplement by drinking water. After returning from work, they prepare kanji and drink the watery portion, giving the residue portion to men and children in the family. Most of the workers are found to wear rags in working spots.... Girls between 16 and 20 years of age were dwarfed on account of insufficient nourishment. Women between 25 and 30 were so worn out by work and starvation that they looked forty to fifty years of age. The workers generally cannot work for more than four or five days a week. Generally they start work in the early morning, have a small break in the afternoon and continue working till 5 or 6 O'clock. This craze of long working hours is the outcome of their desire to earn as much as they could by turning out more work on piece-rate system.... At this rate a worker is able to get Re.1 to Rs.1.40 per

The coir industry thus presents a picture of archaic production structures under the unbridled control of exporters and middlemen and hardly providing a minimum subsistence for the majority of workers who are dependent on it. Even forty years after the publishing of the report the workers are still in the same level as described in the minimum wages committee report and they still remain as the lowest paid in the country regardless of the rise in wages due to unionisation. The average family whether it is in spinning or weaving sector has to be in perpetual debt just to live at subsistence levels. Among the whole set of workers, the handspinners are highly exploited by both dealers and petty traders as there is no formal employer-employee relations. It was found that in the manufacturing sector, for same work, the wage rates are different for men and women. Thus, underemployment and low wages with long hours of work is the main reason for the deterioration of labour in the industry.

Trade Unionisation and Its Impact in the Coir Industry

The emergence of trade union in the coir industry was not a post 1950s phenomenon. The coir weaving industry at Alleppey was the cradle of the trade union movement in Kerala. The Alleppey coir factor formed their association mainly because of the neglect of the bourgeoisie towards their social needs. A philanthropic association that already emerged in 1922, grew into a militant trade union fighting against wage reductions caused by economic depression and the capitalist competition during the 1930s. The trade union movement developed into political radicalism and Alleppey coir workers come to

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constitute one of the main strongholds of the left movement in Kerala.\textsuperscript{41} The Ezhava centre
happened to be the major caste composition of the coir workers, 65 percent of the work
force in 1921 being from this caste. Thus Ezhava social movement against Savarna
domination also might have contributed to the militancy of the coir workers.

During 1940, coir workers had a major role in the uprising against automatic
monarchy in Travancore. The Punnapara-Vayalar mass upsurging took place in this period.
The organised and politically conscious working class under the leadership of the
communist party added a glorious chapter to long history of Indian struggle for
independence which shook the foundation of British imperialism in India and of the
princely rule in the native state.\textsuperscript{42} This inducted high level of politicization of coir workers
and their refusal to be incorporated in to a proper trade union channel.

In the spinning sector, local worker organizations emerged during the 1950s. The
spread of union was mainly among husk beaters who worked in the yards of the merchants
houses. An important feature of the industry which the minimum wages committee of 1954
mentioned was that whenever labour was organized under trade unions, the conditions of
labour were comparatively better.\textsuperscript{43} The workers in Trivandrum and Quilon were organized
and were conscious of their rights and claims. The fixation of maximum wages and
widespread struggles of workers to implement them led to a virtual turmoil in the industry.

The immediate impact of the struggles of the workers and the introduction of
minimum wage legislation was the gradual extinction of centralized production system.
The big factors were decentralized to numerous small units scattered over the place which
in turn led to exploitation of workers by middle men. The unions were not successful in

\textsuperscript{41} Isaac (1984), op.cit., p.28.
\textsuperscript{42} George, K.C. (1975), Immortal Punnapara Vayalar, Communist Party of India, p.2.
\textsuperscript{43} Isaac (1990), op.cit., p.21.

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preventing the development of the contract system. Physical violence on workers was another coercive method adopted by factory owners to put down trade union movement to which the workers retaliated and finally ended up in the reduction of wages by the management. The month long strike which adopted a militant posture against police violence and starvation was withdrawn and left for adjudication.44

Therefore, the initial phase of trade union movement was not very successful in effecting any dramatic improvement in the labour conditions. The second minimum wages committee which toured the coir industry districts in 1961, "found very little change in the working conditions in the industry."45 It took more than a decade for the wages to reach the subsistence minimum recommended in 1954.

The formation of the United Front Government in 1967 and the active entry of CITU into the coir industry marked a new stage in the struggles of the coir industry. As mentioned earlier, it was the strong trade union movement which could block the move for mechanization. The struggles of the coirworkers were not merely for their immediate gains, they also campaigned for the demands of farmers, spinners and rural poor.46

Even with the increase in daily wages, the struggle still continues for labour problems remaining in the industry. According to Susheela Gopalan, the president of CITU workers union, "there has not been a single day when a struggle has not take place on the question of raw material prices, minimum wages and hours of work."47

Thousands of workers are still participating in the trade union struggle continuously for their upliftment. Development of unionization, helping the workers slowly but steadily

45 Das (1953), pp.42-43.
46 The Voice of Working Women, no.9, 1981.
to erode the capitalist vision of cheap labour has highlighted the paramount importance of protecting employment in the industry.

Development of Industry Under Five Year Plan

In pursuance of the coir development scheme, the five year plans of the state have been given due consideration for the development of the industry under this plan period. During the First Five Year Plan (1951-52 to 1953-56) the programmes under coir development were aimed at organising a network of co-operative societies for coirworkers in order to provide full employment and better wages. The programme of co-operativization was mainly concentrated in the spinning sector.

The second plan (1956-57 to 1960-61), emphasised on improving the conditions of primary producers through the organisation of cooperatives, by undertaking research and assisting in the marketing of coir products.

During the Third Plan period (1961-62 to 1961-66), out of the required schemes, 139 primary coir societies, 11 coir mats and matting societies, 19 husk retting union, 2 bristle and mattress fibre manufacturing societies and model coir factory were formed.

In the Annual Plan periods, the co-operative sector was further extended to spinning and manufacturing sectors.

The Fourth Plan (1969-70 to 1973-74) proposed at the Coir Development Scheme through improving the existing levels of production techniques of coir products so that the volume of gainful employment relating to the industry may not fall. This was implemented through the establishment of an export house for coir products for promoting sales, loans and assistance no coir-cooperatives and export promotion of coir products.

The development plan till the fourth plan did not achieve the targeted goal due to the
failure of the co-operative sector.

In the fifth five year plan (1974-78), the commission appointed a Taskforce to suggest measures for restructuring the coir industry. This scheme envisaged organisation of more cooperatives, strengthening the existing cooperatives, development of internal and external market, measures like price control etc. Because of the lack of central assistance physical targets of this plan could not be achieved. In the Sixth Five Year Plan (1980-85), the emphasis was on strengthening share capital base of coir cooperatives welfare measures and administrative expenses of cooperatives.

During the Seventh Plan (1985-90) financial assistance was provided to coir-cooperatives by way of loan and grant for constructing godowns, working capital loan etc. A new scheme called Medicare Programme with 50 percent assistance was complemented during the Annual Plan of 1988-89.

The Annual Plans (1990-91 and 1991-92) gave special attention to the development of the industry in the cooperative sector and providing assistance to government agencies in coir sector like Kerala State Coir Corporation, Foam Mattings (India) Limited etc.

Uses of Coir

In a wide sense the term "coir" includes coir fibre, coir yarn, different coir products like coir door mats, mattings, rugs, carpets, curled coir, rubberised coir and many other articles made up of coir fibre and yarn.

Coir enjoys its dignified status as a fine decorative material in the mansions of the rich and as an article of utility in the huts of the poor. It is amazing to note that coir matting had been used to cover the floor of St.George's Hall, Windsor, at the baptism of Edward VII in 1892 and was displayed at the great exhibition of 1851.
Coir is one of the most important industrial hard fibre of great economic importance. It has certain unique qualities and can be used for a variety of purposes such as floor covering, door mats, beautifully woven tapes by hangings on the walls of the modern drawing rooms etc. It has the best resistance to wear and tear and is moth-proof and damp-resistant. Its acoustical qualities are good. It gives cool comfort in summer and retains warmth in winter. It has a refreshing crispness in all conditions. Coir is also used in upholstery, brush making, and rubberised coir products. Above all, coir fibre and coir yarn are exclusively used as packing material to protect goods against shock in transport.

NEW OPPORTUNITIES FOR COIR

Coir Geotextile

Throughout the world growing awareness of the far reaching benefits of preserving the natural environment has generated mounting pressure to expand and accelerate the protection of areas damaged by natural or industrial causes.

Coir on a geotextile is a new application or development in the world market having the potential for export from the coir producing countries. According to the latest available estimate, the global market size of geotextile is around 1000 million sq.mtr., which is 120,000 tonnes of coir equivalent. The geotextile derives its name from two words geo and textile and therefore it means the fabric in use in association with earth. Broadly, the product name includes the textile materials or related products used in contact with ground, stone or soil and water, in civil engineering applications. The main functions of geotextile are: (a) separating (b) filtering (c) reinforcing (d) draining.

There are various types of coir geotextiles made from white and brown coir fibre. Woven fabrics of coir in the form of coir netting is the most commonly used coir geotextile.
Others are in the form of stitched coir pads, needled fits and rubberised coir pads. The major areas of applications of geotextiles are:

(a) In hydraulic constructions to protect bank bed of water ways against soil erosion.
(b) As soil reinforcement of slopes
(c) In construction connected with land scaping
(d) As a drainage material.
(e) In road construction to control erosion of soil slopes.

With its biodegradability, yet relatively high durability, it is specially suitable for temporary constructions. Coir geotextiles help to accelerate the establishment of viable vegetation on banks and slopes thereby increasing its erosion resistance. Biodegradability in the decisive reason for preferring coir geotextile over synthetic materials for specific uses. Coir fabrics can be used to stabilize the soil temporarily when constructing roads or in railway embankments.

Coir geotextiles are now manufactured in India by the small scale manufacturers. It is a less value added item compared to those of doormats and carpets.

In India we have lot of erosion problem. The Coir Board in association with research institutes had undertaken many field trials to establish and demonstrate the efficiency of coir as a geo-textile. The latest field demonstration is the one started in October 1994 in Muvattupuzha Irrigation Project which was highly successful.

Coir Industry: Present Status and Important Textures

Coir industry, since a monopoly of Kerala is at present passing through difficult times. Only less than 10 percent of the workforce is in the organized sector. The rest are in
small scale or cottage units employed as part time, self employed or casual wage labourers. Hence, the industry disguises unemployment in the regional economy.

As mentioned earlier, although significant changes like introduction of machines occurred in the industry, the government had to ban any such move as it would have led to more unemployment in the rural areas. Other states in the country like Tamil Nadu, Karnataka etc. have introduced machines in their coir industry which have now become a growing threat to Kerala's traditional industry. Increase in the cost of production resulting in high prices for coir products has placed the industry in a disadvantageous position.

In the world economy, India and Sri Lanka are the two largest producers and exporters of coir, while India caters mainly to the world requirements in coir yarn and coir mats and mattings, export from Sri Lanka consists predominantly of brown fibre. The world trade in coir is dominated by brown fibre and hence Sri Lanka has held a virtual monopoly position for decades. While Kerala's share in the world trade of coir yarn has declined from 90 percent in 1970s to 70 percent in 1990s, Sri Lanka has increased its share from 10 to more than 25 percent during the same period.48

Within the national market, there is a potential threat from Tamil Nadu, where mechanised fibre production is rapidly expanding. Currently the raw husk fibre production centres of Tamil Nadu are catering to the fibre requirements of Kerala's spinning sector.49 The only obstacle in Tamil Nadu's coir industries is the lack of skilled hands for the spinning of the fibre into the yarn. They are trying to overcome this by experimenting with mechanised spinning mills. If such a development materialises, it would be disastrous to Kerala's traditional coir industry and workers engaged in this activity.

48 Isaac and Raghavan (1990), op.cit., p.9.
The Government of India has started many development schemes with the help of the Coir Board for the amelioration of the conditions of the workers regarding minimum wages and full time employment through cooperativization of the industry. But the scheme failed due to lack of resources in many societies, affecting the availability of raw materials, limited profit and overall poor managerial efficiency.

The other welfare measures started by the Coir Board in January 1987 consists of

(a) Model coir village scheme: In which the workers of the selected villages can avail all facilities like electricity, drinking water scheme, hours for SC/St, worksheds, etc., and

(b) Medicare programme to improve the health status of coir workers for which the government has allocated Rs.200 lakhs.

This programme currently is available at present only to fifty villages in Kerala out of a total of 260 identified coir villages. A large majority of workers are thus outside the orbit of this scheme and still lead a miserable life. For them, a few rupees they earn make a difference between starvation and mere subsistence.

The following issues emerge from the overview of the different facets of the coir industry:

The Coir Industry, one of the traditional industries of Kerala, is heavily export-oriented and from its early years has been concentrated in the hands of a few industrialists. The rural poor driven by insecure conditions in agriculture constantly migrate to coir industry centres. Majority of the workers though skilled are from the lower economic strata and find themselves equally insecure as industrial workers because they are at the mercy of the management who, having a vast army of impoverished and unemployed to choose from can hire and fire at their will and depress wages below subsistence and starvation levels.
Though battling against poverty malnutrition and unemployment there are many young workers with a long history of struggles in unions. Even the existing low wages has been ensured only by a series of struggles. But poor working conditions and meagre wages make them more prone to illness and hence the struggle for better wages thereby to a better standard of living still continues.