CHAPTER I

INTRODUCTION

When India became free, Kerala was made up of two princely states, Travancore and Cochin, and Malabar which was under the direct administration of the British. Under the States Re-organization Act of 1956, Travancore-Cochin State and Malabar were united to form the State of Kerala on 1st November, 1956. Some territorial adjustments had necessary to be made on re-organization. In this adjustment, Kerala lost the taluks of Thovala, Agasteeswaram, Kalkulam and Vilavancode in the far south and Shencotta in the east, while it gained the Malabar district and the Kasargod taluk of South Kanara district in the north. The Laccadive, Minocoy and Amindivi islands lying off the coast of Malabar were detached from Kerala and declared as Union Territory.

1.1. Industrialisation in Travancore-Cochin and Malabar

From the days immemorial, traditional industries like mat weaving, handlooms, bamboo products etc. were popular in different parts of Travancore, Cochin and Malabar. But concrete attempts for industrialisation were started only by the middle of the 19th century. The first
factory, a textile factory was started at Quilon in 1881 by an American group. Subsequently, coir, tea and rubber factories flourished in different parts.

While we trace the industrial development of Travancore, Sir C.P. Ramaswamy Diwan deserves special mention. He realised the fact that capital and skilled labour are not sufficiently available in Travancore or nearby states and hence he invited outsiders to start industries in Kerala. Even foreign companies reacted favourably to the call given by him. For instance 'Alakan', a Canadian Company expressed their willingness which led to the starting of 'Indian Aluminium Company' at Eloor. The other major industries started during the days of Sri C.P. were Travancore Sugars and Chemicals Limited, Ogale Glass Factory, Fertilisers and Chemicals Travanore Limited, Rayons, Perumbavoor and Travancore Titanium Products Limited.

The important industries flourished in Cochin state were coconut oil and textiles. One of the important textile mills in Cochin state was Pushpagiri Weaving Mills.

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started at Trichur in 1908, the present Sitaram Textiles. An industrial survey was conducted in 1909 by Cochin state government, followed by an economic survey in 1920. The survey committee suggested the starting of an Industrial Advisory Board. As per this recommendation, the Board was constituted but soon after it was merged with the Economic Development Committee formed in 1925.

Just like Cochin state, Malabar also earned good amount of foreign exchange from the export of coconut oil. Another important industry popular in Malabar was soap industry. While we trace the industrialisation of Malabar or even North Kerala, the works of Basel Mission deserves special reference.

1.2. Basel Mission activities

Basel Evangelical Missionary Society, or Basel Mission, a missionary organisation established in Basel, Switzerland started operating in the Madras Presidency from 1834 onwards. The activities of the mission concentrated in Malabar and South Canara (Karnataka state) may be chronologically placed under ²

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The early phase begins with the arrival of missionaries in the Malabar coast in 1834. Initially, the missionaries organised various industrial activities mainly based on local crafts. This phase was characterised by the initiatives undertaken by the industrial missionaries on their own.

During the middle phase (1852-1882) industrial activities became increasingly under the control of the industrial commission. This period was characterised by the establishment of factory type of production organisation. Handloom weaving establishments at various centres were set up beginning with Mangalore. The first tile factory, printing press and mechanical workshop were also established at Mangalore during this period. The phase also witnessed considerable diversifications of trading activity of the mission.

The final phase started from 1882 when the Industrial Commission was amalgamated with the missionary joint stock company. It enabled higher capital investment and expansion of industrial activities in Malabar coast.
However, in 1914 with the outbreak of the world war I, the missionary involvement in the industrial activities came to an end. In 1914, the Basel Mission sold their entire enterprises to the Common Wealth Trust.

1.3. Industrial Development in the state of Kerala

Kerala constitutes only 1.2 per cent of the entire land surface of India, but at the same time has to support about 3.8 per cent of the total population of the country (1981)\(^3\). This disparity between land and population lies at the root of her many economic problems especially those of mounting unemployment and chronic poverty. This problem cannot be solved by agricultural and social services alone unless it is supplemented by speedy industrialisation in which small, medium and large industries will have to play their legitimate role. The progress made by the state in the growth of factories, employment and production is presented in table 1.1:

Table 1.1. Growth performance of industries in Kerala

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Number of registered working factories</td>
<td>No.</td>
<td>2475</td>
<td>3024</td>
<td>9099</td>
<td>11489</td>
</tr>
<tr>
<td>2.</td>
<td>Estimated average daily employment</td>
<td>000s</td>
<td>172</td>
<td>208</td>
<td>303</td>
<td>300</td>
</tr>
<tr>
<td>3.</td>
<td>Number of registered small scale industrial units</td>
<td>000s</td>
<td>-</td>
<td>8.6</td>
<td>18.4</td>
<td>47.2</td>
</tr>
<tr>
<td>4.</td>
<td>Annual index of industrial production</td>
<td>-</td>
<td>-</td>
<td>100</td>
<td>187</td>
<td>171</td>
</tr>
<tr>
<td></td>
<td>(1970 = 100)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>


From table 1.1, it was found that the number of registered working factories recorded 364.20 per cent increase during 1961-88, while during the same period registered small scale industrial units showed 448.83 per cent increase. The total number of registered working factories in Kerala constituted 4.99 per cent of total registered working factories in India in 1961 which went upto 8.34 per cent in 1987-88. In the case of registered
small scale units, the share fall from 3.59 per cent in 1971 to 2.97 per cent in 1987-88. Also it was observed that the maximum growth in the number of working factories occurred during 1971-81 (299.89 per cent).

**Investment in Industrial Sector**

Industrial development in the state sector did not receive much attention in majority of the five year plans due to resource constraint. Because of the social, political and economic compulsions, the state had to give more emphasis to other sectors like social services sector during the five year plans. The plan outlay/expenditure for the industrial sector includes mining is given in table 1.2 as a percentage of the total outlay/expenditure incurred by the state government during the plan periods. From table 1.2, it is evident that the industrial sector of the state did not attract adequate investment in the earlier plans. This calls for heavy investment in the vital sector of the economy by the central government, national term lending institutions and private entrepreneurs. On the other hand, the share of the state in the central sector investment is coming down since 1971-72. Though in absolute terms it has shown
Table 1.2. Planwise expenditure/outlay provided for industrial sector, large and medium industries and small scale industries as a percentage of total outlay/expenditure under state plans

<table>
<thead>
<tr>
<th>Five-Year Plans</th>
<th>Outlay/expenditure for industry and mining</th>
<th>Outlay/expenditure for large and medium industries</th>
<th>Outlay/expenditure for small scale industries</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1.9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>II</td>
<td>7.4</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>III</td>
<td>7.9</td>
<td>4.4</td>
<td>2.2</td>
</tr>
<tr>
<td>IV</td>
<td>7.5</td>
<td>4.5</td>
<td>0.57</td>
</tr>
<tr>
<td>V</td>
<td>11.1</td>
<td>7.3</td>
<td>0.35</td>
</tr>
<tr>
<td>VI</td>
<td>8.2</td>
<td>5.8</td>
<td>0.61</td>
</tr>
<tr>
<td>VII (first 3 years)</td>
<td>10.9</td>
<td>8.2</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: Compiled and computed from


increase over the past few years, the percentage share of the state declined from 2.9 per cent in 1971-72 to 1.6 per cent in 1987-88.4

Similarly, the total financial assistance disbursed by the All India financial institutions such as IDBI, IFCI, ICICI, LIC and GIC to Kerala has also found to be very low. States like Maharashtra, Gujarat and Tamil Nadu received much higher quantum of financial assistance compared to Kerala which is visible from table 1.3.

Composition of labour force

Another important indicator of industrial development is the increase in the percentage of labour force depending on industries and allied sectors. Table 1.4 gives a detailed picture of the composition of workers in Kerala which shows that in 1981, 51.7 per cent of the workers depend on primary sector compared to 47 per cent in 1961. Also the percentage of workers engaged in agriculture sector increased from 38.3 per cent in 1961 to 41.3 per cent in 1981. The percentage of workers

Table 1.3. Financial assistance disbursed by public sector non-banking financial institutions to selected states

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gujarat</td>
<td>12.5</td>
<td>11.9</td>
<td>12.6</td>
<td>14.3</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>21.4</td>
<td>22.2</td>
<td>17.1</td>
<td>16.6</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>3.2</td>
<td>5.8</td>
<td>8.0</td>
<td>7.4</td>
</tr>
<tr>
<td>Karnataka</td>
<td>10.1</td>
<td>8.9</td>
<td>8.7</td>
<td>6.1</td>
</tr>
<tr>
<td>Tamilnadu</td>
<td>13.2</td>
<td>10.7</td>
<td>10.0</td>
<td>9.1</td>
</tr>
<tr>
<td>Kerala</td>
<td>2.6</td>
<td>3.1</td>
<td>2.1</td>
<td>2.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sectors/subsectors</th>
<th>1961</th>
<th>1971</th>
<th>1981</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Cultivators</td>
<td>20.9</td>
<td>17.8</td>
<td>13.1</td>
</tr>
<tr>
<td>ii. Agricultural labourers</td>
<td>17.4</td>
<td>30.7</td>
<td>28.2</td>
</tr>
<tr>
<td>A. Sub Total - Agriculture Sector (i + ii)</td>
<td>38.3</td>
<td>48.5</td>
<td>41.3</td>
</tr>
<tr>
<td>iii. Livestock, forestry and fisheries</td>
<td>8.7</td>
<td>7.0</td>
<td>9.6</td>
</tr>
<tr>
<td>iv. Mining &amp; Quarrying</td>
<td>-</td>
<td>0.5</td>
<td>0.8</td>
</tr>
<tr>
<td>B. Sub total - Primary sector (A + iii + iv)</td>
<td>47.0</td>
<td>56.0</td>
<td>51.7</td>
</tr>
<tr>
<td>v. Household industry</td>
<td>8.7</td>
<td>4.3</td>
<td>3.7</td>
</tr>
<tr>
<td>vi. Manufacturing other than household</td>
<td>9.4</td>
<td>11.4</td>
<td>12.2</td>
</tr>
<tr>
<td>vii. Construction</td>
<td>1.2</td>
<td>1.7</td>
<td>3.0</td>
</tr>
<tr>
<td>C. Sub total - Secondary sector (v + vi + vii)</td>
<td>19.3</td>
<td>17.4</td>
<td>18.9</td>
</tr>
<tr>
<td>viii. Trade and commerce</td>
<td>5.7</td>
<td>9.1</td>
<td>11.0</td>
</tr>
<tr>
<td>ix. Transport, storage and communication</td>
<td>2.7</td>
<td>3.9</td>
<td>5.0</td>
</tr>
<tr>
<td>x. Other sources</td>
<td>25.3</td>
<td>13.6</td>
<td>13.4</td>
</tr>
<tr>
<td>D. Sub total - Tertiary sector (viii + ix + x)</td>
<td>33.7</td>
<td>26.6</td>
<td>29.4</td>
</tr>
<tr>
<td>Total (B + C + D)</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

engaged in the secondary sector, which includes the sub sectors, household, manufacturing and construction actually declined to 18.9 per cent in 1981 from 19.3 per cent in 1961. This clearly reveals the low rate of industrialisation in the state.

The contribution of the secondary sector to the net state domestic product is another yard stick to measure the levels of industrial development. The details of the net state domestic product is illustrated in table 1.5 which shows that the share of the secondary sector increased from 15.24 per cent in 1960-61 to 22.33 per cent in 1980-81. But the quick estimates for the year 1987-88 indicates that the share of the secondary sector has marginally declined to 21.55 per cent.

Major reasons for the low rate of industrialisation in Kerala are:

i. Non availability of deposits of industrial fuel like coal or oil or other resources.

ii. Lack of industrial skill and traditions of industrial enterprise.

iii. Acute labour troubles.
Table 1.5. Sectoral composition of net state domestic product (1970-71 series)

<table>
<thead>
<tr>
<th>Items</th>
<th>1960-61</th>
<th>1970-71</th>
<th>1980-81</th>
<th>1987-88*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net State Domestic Product (Rs crores)</td>
<td>432</td>
<td>1255</td>
<td>3505</td>
<td>7830</td>
</tr>
<tr>
<td>Sectoral contribution</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Primary</td>
<td>55.98</td>
<td>49.44</td>
<td>41.38</td>
<td>35.32</td>
</tr>
<tr>
<td>b) Secondary</td>
<td>15.24</td>
<td>16.32</td>
<td>22.33</td>
<td>21.55</td>
</tr>
<tr>
<td>c) Tertiary</td>
<td>28.78</td>
<td>34.24</td>
<td>36.29</td>
<td>43.13</td>
</tr>
</tbody>
</table>

*figures correspond to 1980-81 series

QE - Quick estimates

Source: Ibid.

Twenty five years ago, in his report on the Techno-Economic Survey of Kerala, Lokanathan remarked "Trade unionism, prevalent in the state, which is not always unmixed with political motives, has been responsible for retarding the progress of investment in Kerala by potential investors from outside the state". Even today, his observation holds true.

1.4. Traditional industries in Kerala

Traditional industries in Kerala assume importance because of the large labour force employed in these industries. The major traditional industries in the state are coir, handlooms, cashew, Khadi and Village industries, handicrafts, bamboo, beedi and tiles with a total employment of about 10 lakh persons (coir 44 per cent, handloom 20 per cent, cashew 10 per cent, Khadi and Village Industries 11 per cent and others 15 per cent)\(^6\).

There are certain characteristics common to all the traditional industries. Firstly, these industries are concentrated in certain regions of the state on account of geographical, historical and sociological factors and resource endowments. Other characteristics common to the traditional industries in the state are, low level of technology and reluctance to adopt modern techniques of production. The labour force in traditional

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industries do not get full time employment throughout the year owing to multiplicity of reasons, the most important among them being scarcity of raw materials and slump in the market.

a) Coir industry

Among the traditional industries of the state, coir has the foremost place. The back waters of Kerala suitable for husk retting and the traditional skills of the workers have been responsible for the concentration of this industry in the state. The main centres of this industry are Chirayankeezhu, Quilon, Karunagappilly, Karthikappilly and Ambalapuzha taluks. Although, coir industry has found a place in Karnataka and Tamil Nadu, Kerala still produces 70 per cent of the coir and coir products in the country. Thirty per cent of coir and coir products manufactured in the state are exported.\(^7\)

During 1988-89 the export earnings from coir and coir products reached Rs 3332.12 lakh compared to Rs 3219.74 lakh in 1987-88.\(^8\)

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8. Ibid.
The internal market for coir and coir products is steadily increasing. The internal consumption of coir and coir products in India during 1986-87 was found 61000 tonnes.\(^9\) Sales through the sales depots of the Coir Board increased from Rs 145 lakh in 1981-82 to Rs 250.03 lakh in 1985-86.\(^{10}\) In order to expand the domestic market further, a system of rebate of 20 per cent on sale of coir and coir products for 90 days in a year was introduced from 1987 onwards.\(^{11}\)

The total number of workers in coir industry in Kerala including part-time workers is estimated to be 4.30 lakh.\(^{12}\) In 1988 the state government, with the assistance of the Coir Board, has issued family benefit cards to 222886 coir worker families including families of part-time coir workers.\(^{13}\)

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The main thrust of coir development programmes in the five year plans has been the strengthening of the co-operative sector by bringing more workers into the co-operative fold and enabling them to have more days of work and better way of living. There were 828 coir co-operative societies in Kerala as on June 30, 1988. Of these, 448 societies are working, 120 newly registered societies have not started functioning, 68 are dormant and 192 are under liquidation.\(^{14}\) The major constraints of this industry are:

i. Difficulties in getting the raw materials

ii. Declining foreign market for coir and coir products

iii. Reluctance to modernise the factories due to historical and sociological reasons.

b) **Cashew industry**

Most of the cashew processing units are confined in and around Quilon town. Cashew industry is mainly in the factory sector, but it is considered as a traditional industry because of the low level of technology involved in the processing of cashew nuts.

14. Ibid.
There were 274 cashew factories in the state at the end of 1988 employing 1.11 lakh persons, which show an increase of 10 factories and 4000 labourers over those at the end of 1987.\textsuperscript{15} Cashew industry accounted for only 2.2 per cent of the total number of registered factories in the state, but it reached 35.9 per cent of the total number of factory workers.\textsuperscript{16}

The industry had flourished on large imports of raw nuts from East African Countries of Mosambique, Kenya and Tanzania. Over the last decade, these countries have developed their own cashew processing units and have almost ceased to export nuts. Traditional sources of raw cashew nuts have also dried up and there arose strong competition from countries like Brazil and China for purchase of raw nuts. Hence, scarcity of raw nuts and the consequent unemployment of workers are the major problems facing the cashew industry in the state.

\textsuperscript{15} Ibid.

\textsuperscript{16} Ibid.
c) Handloom industry

The industry is greatly concentrated in the districts of Trivandrum, Kozhikode and Cannanore providing employment to about 2 lakh persons. The northern districts produce handloom fabrics to cater to the export market and the southern districts specialise in the production of finer varieties for meeting domestic demand.

Handloom weaving has been traditionally associated with particular caste and communities of Kerala for several centuries. The Pattaryas of Kottor, Erawiel in the erstwhile South Travancore and the Chalias in the other parts of the state are examples of caste guilds which grew up around the handloom industry.

Production of handloom cloth in the state during 1988-89 is estimated to be 104.88 million meters, valued at Rs 69.82 crores. Fifty seven per cent of the production was contributed by the co-operative sector, while

18. Ibid. '
the corporate sector and private sector produced three per cent and 40 per cent respectively.\(^{19}\)

The number of looms in the corporate sector increased to 6984 as on 31.3.1989 from 6370 at the end of 1987-88.\(^{20}\) On the other hand, the number of looms in the unorganised sector decreased by 2.7 per cent during the year 1988-89 compared to 30,130 at the end of the previous year.\(^{21}\)

In recent years, the industry has been facing many difficulties such as high price of yarn, and dyes and the continuous threat from the mill sector with its superior production technology, design and marketing strategy. Though the industry could rehabilitate itself to a certain extent and improve its production and marketing services owing to the liberal assistance from the central and state governments, the problem of accumulation of unsold stocks still persists.


20. Ibid.

21. Ibid.
d) Beedi industry

Beedi industry provides employment to about 3 lakh workers.\footnote{Ibid. p. 68.} There is hardly any village without a beedi rolling shop. Yet it is seen unorganised to some extent in the erstwhile Malabar area of the state, where the industry is carried on a big scale employing a large number of workers and where it remains concentrated.

Co-operativisation of beedi industry is unique and the story started about 40 years back. In 1937, when the congress government came to power for the first time in the state of Madras, a noted trade union leader from Kerala, C.P.Krishnan, put forward the idea of organising beedi workers in the co-operative front. Later in 1957, the government which came to power in Kerala organised about 20 beedi employee co-operative societies. For some time, these societies worked rather satisfactorily. Today, only 3 to 4 of them continue to exist. But the Dinesh Beedi Co-operative which was started in 1969 at Cannanore has been making remarkable strides.
Twenty two primary beedi workers co-operative societies are functioning under the Kerala Dinesh Beedi Workers' Central Co-operative Society. The Society provided employment to 32670 workers during 1988-89 including 8168 women workers. The total number of beedies manufactured by the society during the year 1988-89 was 531.06 crores, valued at Rs 27.04 crores. More than 99 per cent of the raw materials consumed by the society are imported from other states, while about 87 per cent of the sales proceeds are realised from the domestic market.

e) Handicrafts

The Handicrafts Development Corporation of Kerala is the primary agency for promotion and development of handicrafts industry in the state. Procurement and distribution of raw materials and marketing of finished goods are the main activities of the corporation. During 1988-89, the corporation has procured raw materials such as sandal wood, rose wood, etc. valued at Rs 4.09 lakh

23. Ibid.
24. Ibid.
25. Ibid.
and distributed the above items worth Rs 3.28 lakh to handicrafts artisans.\textsuperscript{26} The total sales proceeds of the corporation have increased from Rs 244.92 lakh in 1987-88 to Rs 282.21 lakh in 1988-89, registering an increase of 15 per cent over the previous years.\textsuperscript{27} The performance in the export of handicrafts was also encouraging as the value of exports rose by 21 per cent from Rs 16.37 lakh in 1987-88 to Rs 19.83 lakh in 1988-89.\textsuperscript{28}

f) Bamboo industry

The Kerala State Bamboo Corporation Limited is the sole agency engaged in the promotion and development of bamboo industry in the state. The procurement and distribution of bamboo reeds to traditional workers and collection and sale of mats produced by them are the main functions of the corporation. The manufacturing and marketing of resin bounded bamboo boards is another activity recently started.

\begin{footnotesize}
26. Ibid. p.64.
27. Ibid.
28. Ibid.
\end{footnotesize}
The corporation has collected and distributed 120 lakh reeds valued at Rs 137 lakh during 87-88. Mats procured and sold during the year was 695 lakh sq.ft. worth Rs 161 lakh, compared to 629 lakh sq.ft. worth Rs 174 lakh during the previous year. Bamboo boards manufactured was 3.29 lakh sq.ft. worth Rs 23.20 lakh and the effective sale was 2.18 lakh sq.ft. for Rs 11.76 lakh. Thus the total turnover of the corporation during 1988-89 was Rs 370 lakh registering an increase of 16 per cent over Rs 318 lakh during the previous year.

The corporation provides employment to 15000 weaver families, 2500 reed cutters and 1000 other workers mostly belonging to the weaker section.

g) Khadi and village industries

The Kerala Khadi and Village Industries Board was constituted under the provisions of the Kerala Khadi and Village Industries Act of 1957. It is the function of the Board to organise, develop and regulate Khadi and Village Industries recognised by the Khadi and Village Industries Commission. The Board also organises

29. Ibid.
30. Ibid.
31. Ibid.
32. Ibid.
co-operative societies for the development of Khadi and Village Industries and sanctions loans and grants and provides other assistance to the co-operative societies registered institutions and individual artisans which mainly include (i) village pottery industry (ii) fibre and screpine industry (iii) blacksmithy and carpentry (iv) village leather industry (v) non edible oil and soap industry (vi) cottage match industry (vii) cane and bamboo industry (viii) fruit processing and preservation industry and (ix) gobar gas.

During the year 1988-89, the Khadi and Village Industries Board has registered 25 co-operative societies, raising the total number of co-operatives under its control to 1997. During the year the Board could provide employment to 1.79 lakh persons through its various production centres, registered institutions and co-operative societies. The value of production of khadi cloth increased from Rs 246.50 lakh in 1987-88 to Rs 360.31 lakh in 1988-89. The sales value also recorded an increase of 27.5 per cent during 88-89 to

33. Ibid. p. 65.
34. Ibid.
Rs 510.98 lakh compared to previous year's Rs 400.85 lakh. The value of production of village industries increased from Rs 46.03 crores in 1987-88 to Rs 51.66 crores in 1988-89.  

1.5. Tile industry

The tile industry is about a century old in Kerala. About 12,000 persons are directly employed in this industry and the indirect employment is estimated to be 3000. The main centres of tile industry are, Calicut, Feroke, Trichur, Ollur, Pudukad, Chalakudy, Alwaye and Quilon together accounting for 85 per cent of the tile factories in the state. The installed capacity is 100 crore tiles per annum currently producing 55 crore tile per annum valued at about Rs 60 crores. Seventy per cent of the products were sold outside the state till the middle of 1960s, main markets

35. Ibid.


being Tamil Nadu, Andhra Pradesh, Gujarat, Rajasthan, Orissa and Maharashtra. 38

1.6. **Statement of the problem**

Kerala was enjoying a dominant position in tile production in the country for a century. The demand for Kerala tiles was steadily increasing till 1965 both in the local and external markets. The number of tile factories also doubled in early 1960s as natural clay, firewood and unskilled labour were easily available. But the situation changed since 1965. Development of tile factories in other states like Tamil Nadu, Karnataka, Andhra Pradesh and Gujarat reduced Kerala's external trade. Preference for RCC type houses crippled internal markets also. Scarcity of good clay, stiff resistance from environmentalists towards clay mining, scarcity and high price of firewood and other inputs and increase in the cost of labour adversely affected the tile industry and the majority of the factories are on the brink of sickness.

1.7. **Objective of the study**

i. To study the economics of the tile industry in Kerala for the period 1978-79 to 1987-88.

ii. To examine the regional variations in the economics of the industry.

iii. To identify the major problems and constraints confronted by the tile industry in Kerala.

iv. To examine the prospects of tile industry in Kerala.

1.8. **Methodology**

a) **Sample selection**

The tile industry in Kerala is a traditional one and due to various reasons like availability of quality clay, firewood etc. it has certain regional concentration. The basic organisational structure also differs from place to place. Further, the units vary in their production capacity also. The type of control, the quality of tiles and cost of production also differ from unit to unit. Therefore, it was felt that a stratified analysis will be more appropriate based on location and size.
Classification on the basis of location

On the basis of location, the tile industry in Kerala can be classified into four regions namely Calicut region, Trichur region, Alwaye region and Quilon region.

In northern part of Kerala, the industry is concentrated in Calicut and Feroke which constitute Calicut region. Superior variety of clay is available in plenty in this area. The facility of water transport in this region reduces the cost of transportation of raw materials and the finished goods.

Trichur region constitutes the factories located at Trichur, Ollur, Pudukad and Chalakudy. Majority of factories located in this region are very small in size.

The factories spread around the banks of Periyar river form Alwaye region. Just like Calicut region, facility of water transport is an advantage in this region.

In southern part of Kerala, the industry is located at Quilon. Just like Trichur and Alwaye regions,
factories located in Quilon region are also small in size and modernisation is yet to take place in this region.

Classification on the basis of size

The men and machinery of a factory are related to its size. The Small Industries Service Institute, Trichur classified the industry according to its size in 1981 as follows.\textsuperscript{39}

Category A: Those units producing less than 7500 tiles per day come under this category and their share in the total factories in the state is worked out to be 76 per cent.

Category B: Units producing between 7500-20,000 tiles per day are included in this group, percentage share being 21.

Category C: Units producing more than 20,000 tiles per day come under this group (3 per cent)

\textsuperscript{39. Small Industries Service Institute (1980), Status Report on Tile Industry in Kerala, Trichur, pp. 3.4 - 3.5}
However, while selecting the sample for the purpose of this study, size wise classification is not considered due to

i. inadequate number of units under Category C

ii. Even if a strata is formed from category C or from category B, they cannot be combined with units from category A.

b) Sampling size

Of the total 324 factories in Kerala* 33 are located in Calicut region (10.18 per cent), 157 in Trichur region (48.45 per cent), 36 in Alwaye region (11.11 per cent) and 51 in Quilon region (15.74 per cent). The remaining 47 factories are spread in other areas. 40 Sample consists of 32 factories selected at random from each region, comprising of five factories from Calicut region, sixteen factories from Trichur region, five factories from Alwaye region and six factories from Quilon region.


*Note: Economic Review 1987 showed that there are 337 factories in the state. But field enquiry revealed that, 13 factories have stopped production due to various reasons and hence, for the purpose of this study, population is taken as 324 factories.
factories from Quilon region. Data were collected for a ten year period from 1978-79 to 1987-88 with the help of pre tested structured schedule.

In order to examine the economics of the industry, details on capital structure, inputs, output, workers' emoluments etc. were required. All these concepts are developed for large manufacturing concerns and it varies even from industry to industry. For tile industry, exclusive definitions are not available and hence the definitions adopted by Annual Survey of Industries have been used for the study and hence modifications were also made wherever necessary. Collected data were analysed with the help of percentages and structural ratios.

**Working definitions**

a) **Fixed capital**

Fixed capital represents the value of fixed assets owned by the factory as on the closing day of the accounting year. Fixed assets include land, buildings and plant and machinery.
Strictly speaking, while calculating fixed capital, depreciation is also to be accounted. But all the survey units were started years and years back and hence, depreciation in the value of fixed assets is not considered.

b) **Physical working capital**

Physical working capital is defined to include all physical inventories owned, held or controlled by the factory as on the closing day of the accounting year such as stock of materials, stock of semi-finished goods and stock of finished goods.

c) **Working capital**

Working capital is the sum total of the physical working capital and the cash deposits in hand and at bank and the net balance of amounts receivable over amounts payable at the end of the accounting year.

d) **Productive capital**

Productive capital is the total of fixed capital and working capital as defined above.
e) **Invested capital**

Invested capital is the total of fixed capital and physical working capital as defined above.

f) **Workers**

Workers are defined to include all persons employed in the factory.

If we go for strict definition, the administrative staff is to be treated separately. But in tile industry, the number of administrative staff is only one or two in each factory and even they participate in production process occasionally. Hence workers include administrative staff also.

g) **Emoluments**

Emoluments are defined to include wages/salaries and also the other benefits enjoyed by the workers.

h) **Inputs**

Inputs comprise gross value of materials, fuels etc. consumed during the accounting year.
i) **Cost of production**

The total cost of production is the sum total of inputs costs, wages/salaries and other establishment costs.

j) **Value of output**

Value of output is defined to include the ex-factory value of products and by products manufactured during the accounting year.

k) **Gross profit (output cost)**

Gross profit at output cost is defined as the difference between value of output and total cost of production.

l) **Value added**

Value added is obtained by deducting the value of total inputs from the value of total output.

Structural changes over the reference period were discussed with the help of selected structural ratios namely, fixed capital to invested capital ratio, fixed capital to productive capital ratio, input output ratio,
value added to output ratio, fixed capital to output ratio, invested capital to output ratio, value added to invested capital ratio, value added to input ratio, output input ratio, output invested capital ratio and input invested capital ratio.

In order to examine the regional variations ANOVA and Critical Difference Test were used. Capital labour relationship was examined with the help of Cobb-Douglas production function. Problems were identified from discussions with owners, managers, workers, brokers and customers.

The prospects of tile industry is related to the demand from housing sector. Hence, the population, housing demand and housing stock were projected until 2001 AD using exponential function of form $y = ab^t$. The pattern of houses in Kerala is not available from the secondary source since 1971. Hence the researcher collected the details of 600 houses built since 1975 from the offices of local bodies. This 600 houses included 200 houses from south Kerala, 200 from central Kerala and 200 from north Kerala and 200 houses represented 100 rural house and 100 urban house from each strata.
Based on these details collected, the annual requirement of roofing tiles and company produced bricks were estimated until 2001 AD under different alternatives. An attempt was also made to indicate the area where the industry can diversify.

1.9. Review of literature

The literature available on tile industry includes papers published/presented and a few reports prepared by various individuals and institutions. Below an attempt is made to review the available studies and they are placed in chronological order.

Ceramics is an old industry. Ceramic products were manufactured and used for centuries. The first knowledge about the art of ceramics is available from the Vedas itself especially Atherva Veda, Rig Veda and Yjur Veda. Of the different ceramic products, the most popular are tiles and bricks.

The work which is claimed to be the first complete work on bricks and tiles in the English language is the one entitled "A Rudimentary Treatise on the Manufacture of Bricks and Tiles" by Edward Robson (1889). In the
work, he explained in detail the ancient importance of tiles and how this formed an important part of monuments in different parts of the world. The book also gives a detailed account of different designs existed in olden days.41

In India, the tile factories were first started by Basel Mission. The Basel Mission also contributed to the entire development of north Kerala. These efforts were well explained by Hoffman in his book "The Basel Mission Industries" (1913). Basel Mission decided to start tile factories in Mangalore and northern belt of Kerala because of the favourable factors existed there like the availability of good quality clay, labour and cheap transportation facilities.42 Further information about the origin and development of tile industry are available from the workers of Appaswamy et al. (1948).43


43. Appaswamy et al. (1948), Introduction to Modern Indian Sculpture, Bright and Singh Publishers, Bombay.
Bose (1948)44 Chandler (1949)45 Chaudhury (1949)46, and Duby (1950).47

The first research work on tile industry in India came from Karat (1955). His thesis entitled "History and Development of the tile industry in Mangalore", examined the factors responsible for the concentration of tile industry in Mangalore. He was of the opinion that, the availability of good quality clay and cheap labour were the primary factors which led to the concentration of the industry in and around Mangalore. He also made a comparison between new trends in housing construction and suggested that unless the industry diversifies by 1980, the future of the industry will become very gloomy.48

In 1957, the Department of Industries, Government of Madras, evaluated the merits and defects of different building construction technologies. The survey carried out in Madras city led the team to conclude that, when compared to RCC roofing, tiled roofs are more suitable to Indian conditions. ⁴⁹

An early evaluation of the tile industry in Kerala is available from the "Report of the Minimum Wage Committee for Employment in Tile Industry" headed by V.R. Pillai (1961). The report closely examined the extent of labour absorption in the industry and also pointed out that the extent of labour absorption is coming down over the years. ⁵⁰

National Council of Applied Economic Research (1962) discussed the factors which led to the localisation of the industry in Kerala in their report "Techno Economic Survey of Kerala". The team also examined the market potential of the products. Their analysis also revealed

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⁴⁹. Government of Madras (1957), Manufacture of Building Materials, Department of Industries & Commerce, Madras

that the demand for tile and other products of the industry are much influenced by the goodwill of the firm. 51

A call for modernisation of tile industry came from Poornam (1962) in his article "Common Tile Industry in Kerala". He was of the opinion that the only remedy to uplift the fast declining industry is diversification. 52

Bhaskaran (1963) opined that modernisation is the urgent necessity of the tile industry. He examined the pattern of declining role of tile industry in the industrial map of Kerala with the help of relevant structural ratios. 53 Menon, P.K.S. (1963) also believed that the tile industry can survive only if the industry goes for modernisation. As a first step, he suggested that, the industry can think of producing glazing tiles. 54

Tile industry in Kerala had a glorious past. But the situation started deteriorating by mid 1960s. This aspect was considered in depth by Lokanathan (1965). He

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54. Menon, P.K.S. (1963), Ceramic Glazes, Regional Research Laboratory, Trivandrum.
was of the view that the major factors responsible for the decline were, the falling external market, high labour cost and non-availability of good quality clay.55

John et al. (1966) highlighted how the scientific knowledge can be used for developing tile industry. He observed that one of the drawbacks of the roofing tile industry is the absence of technological innovation.56

The problems of the tile industry in the country are listed in the paper prepared by the economic research wing of the Syndicate Bank (1968). The paper highlighted that the modernisation programme is delayed due to the problem of finance particularly working capital. It was suggested that, the survival of the industry is possible only if, the banks and other financial institutions come forward to liberalise the conditions.57


56. John, N.C. et al. (1966), Bricks and Tile Research in Indian, Central Building Research Institute, Roorkee.

Another important study on tile industry in the state was made by John Thomas Chirayath (1969). This study, besides tracing the origin and growth of the industry, assembled the main statistical data relating to its structure.\(^5^8\)

Earlier studies highlighted that, one of the important reasons for the concentration of the industry in Kerala was the availability of good quality clay. But Ayyappan Nair (1973) in his article on clay deposits cautioned that our clay deposits are fast declining and the adequate supply of clay will be a problem in the near future.\(^5^9\)

The new trends emerging in tile industry was examined in detail by Karunakaran (1975) who suggested that the tile manufacturing process should be changed to suit the new trends in construction.\(^6^0\)

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One of the important steps in tile manufacturing process is kiln firing. A detailed account on different types of kilns, their relative merits and demerits are available from "Developments in the technology of kilns" by Sreedharan Nair (1975).61

The memorandum submitted to the Minimum Wages Revision Committee for Employment in Tile Industry in 1979 gives a detailed account of the problems of the industry. The memorandum also highlighted the necessity of fixing minimum wages in tile factories.62

Radha (1979) discussed the economics of the tile industry in Trichur district in terms of the distribution of units, total amount of capital invested, output and demand. She also listed out the major problems of the industry, which included, non availability of good


clay, high fuel cost, high labour cost, lack of demand and loss of "external" market. 63

A comparative study on different construction methods were made by Anto (1979) with the help of social cost benefit analysis and came to the conclusion that RCC roofing is not preferable under Kerala conditions. 64

Another major study in this area was the status report prepared by Small Industries Service Institute, Trichur in 1980. The primary objective of this study was to examine the status of tile industry in Kerala and the study team suggested the introduction of quality control, implementation of new model kilns and modernisation schemes. 65

63. Radha C.V. (1979), Economics of Tile Industry in Kerala with Special Reference to Trichur District, MA dissertation submitted to Dr. John Mathai Centre, University of Calicut (unpublished).


Information on tile industry particularly in Trichur district is available from the works of Shyam Bhat (1981)\textsuperscript{66} and Paul (1981)\textsuperscript{67}.

Aminya Rao (1981) surveyed the sufferings of tile industry workers in Gujarat and concluded that the rich class very much exploits the tile workers in Gujarat.\textsuperscript{68}

Khosala (1983) discussed the various alternatives of building technology and claimed that even today, the rural population use tiles for roofing purposes and there is sufficient scope for this industry in rural areas. She also suggested that the problem can be solved if credit sales are introduced.\textsuperscript{69}

\begin{itemize}
\item \textsuperscript{66} Shyam Bhat, K. (1981), Role of Traditional Industries, MA dissertation submitted to Dr. John Mathai Centre, University of Calicut (unpublished).
\item \textsuperscript{67} Paul, K.A. (1981), Structure and Pattern of Industrial Development in Trichur District, MA dissertation submitted to Dr. John Mathai Centre, University of Calicut (unpublished).
\end{itemize}
Aravindakshan (1983) classified the tile industry in Kerala into 3 categories - small, medium and large and a study was made with the following important objectives.  

a) to ascertain the degree of modernisation required  

b) to ascertain the volume of financial requirement  

c) to ascertain the agencies that can act as catalysts for modernisation.

The major findings of this study were the following.

i. There is technological stagnation in the tile industry  

ii. More units are becoming sick because of the high production cost.  

iii. Preference towards tile roofed houses are fast declining.  

iv. Intermediaries are responsible for a high selling price  

v. The industry is highly labour intensive.

In earlier days, Mangalore and Kerala had a predominant position in tile production. But, later the industry spread to other parts of the country, particularly to Morvi in Gujarat. An account about the tile industry in Morvi is available from the survey report prepared by the Government of Gujarat (1984). From a comparison of the findings with Kerala scene, it was found that the problems which are predominant in Kerala are equally relevant in Gujarat also.\textsuperscript{71}

Balan (1986) is of the opinion that the industry stagnated because of the static nature of the industry. He also observed that, the majority of the tile units in Kerala are following traditional methods mainly due to the lack of R & D facilities.\textsuperscript{72}

Ananthasubramanian (1986) is of the view that modernisation is delayed due to the lack of finance.

\textsuperscript{71} Government of Gujarat (1984), Roofing Tile Industry in Morvi, Department of Industries, Gandi Nagar.


The study team appointed by the Western India Tile Manufacturers Association (1986) evaluated the growth of the industry in Mangalore for the last 100 years in terms of technology, production, finance and market. The team observed that, the coming up of factories in Morvi in Gujarat poses a threat to tile factories in Mangalore and also in northern Kerala. The team also suggested liberalised lending to tile factories.\footnote{Western India Tile Manufacturers Association (1986), Problems and Prospects of Roofing Tile Industry.}

An overview on the different aspects of raw material processing based on red clays is available from "Red clay based ceramic products - An overview" by...
Warrier et al. (1987). The entire discussion is based on important parameters, such as raw material quality, processing conditions and quality of products. Some of the recent developments in the red clay product manufacture, such as, the concept of vitrified red clay tiles and firing practices were also discussed in this paper. 76

National Productivity Council (1987) made some attempt to measure the productivity of tile industry in Kerala. The study revealed that, eventhough the industry is expanding in terms of number of units, the capital and labour productivity are declining particularly since 1975, mainly due to high labour cost and raw material cost. 77

According to Kotti Reddy (1987) it is necessary that all the tile units in Kerala state should immediately form a single organisation to represent their problems


to the government and to take necessary steps to solve marketing and technical problems collectively and in association with various research bodies and other agencies. 78

Hajela (1988) critically examined the problems and approaches for the modernisation of clay roofing tile industry. He listed the following factors responsible for slow modernisation. 79

i. Industry is small scale, labour-intensive and rural based

ii. Lack of R & D facilities

He also suggested the following areas where modernisation is required:

i. Standardisation of products

ii. Diversification of kiln design

iii. Introduction of semi-mechanisation at various stages of clay preparation.


A detailed account on the level of modernisation required at different levels is available from the paper "Modernisation aspects of tile Industry" prepared by Balachandran (1988). The paper pointed out that the cost of production of tile has been increasing due to high cost of firewood, clay, labour and transportation. He is of the view that cost reduction is possible only if modernisation is introduced at different levels. 80

Besides the above mentioned studies, annual reports of the tile manufacturers association, profiles prepared by different tile factories and such other materials also give insight into the various aspects of tile industry. However, barring a few, almost all the studies suffer from the following deficiencies.

1. The studies are made by individuals or associations and not by authentic sources.
2. The studies are not based on any scientific methodology.

3. Almost all the studies suggested that, the prospects of tile industry lies in, to what extent the industry can diversify. But not a single study so far attempted to quantify the prospects or direct the area or magnitude where the industry should diversify.

The present study is an improvement over the earlier studies in the following respects.

1. This is an attempt to study the economics of tile industry in Kerala drawing samples from all the four regions namely, Calicut, Trichur, Alwaye and Quilon together accounted for 85 per cent of tile factories in the state.

2. In order to study the economics of the industry, the methodology followed by the Annual Survey of Industries was used.

3. The study also examined the intra variations (variations for the same region over the years) and inter variations (variations between regions)

4. In order to examine the prospects of tile industry, an attempt was also made to estimate the average
annual requirement of roofing tiles and burnt bricks in Kerala till 2000 AD and thus to identify the area where the industry can diversify.

1.10. Limitations of the study.

1. Tile industry is a traditional one and the factories rarely followed the practice of keeping proper records. Hence sufficient difficulty was experienced in getting required data for a ten year period.

2. In an industry like this, details of quantity of inputs used and quantity produced is important. But because of the non-availability of quantity details, the major part of the analysis was done in value terms.

3. Majority of the tile factories were started before 1947 and hence, while calculating fixed cost, depreciation is not accounted.

4. While selecting the samples, classification based on location and size are to be considered. But the samples for the present study were drawn exclusively
on the basis of location because of the inadequate number of factories in category C.

5. Standard definitions of various concepts developed for manufacturing industries are not relevant for a traditional industry like tile industry. So certain working definitions are also used for the analysis.

6. Though tile industry is also producing certain items like ceiling tiles, floor tiles, ridges and bricks, in the entire literature, the tile industry is discussed on the basis of the production of roofing tiles only. Even in studies made by Annual Survey of Industries, the industry is examined strictly on the basis of production of roofing tiles. Hence in the present study also, major thrust is placed on roofing tiles.

7. Similarly, accurate information of sales are not known. So sales analysis is not done in a detailed manner.

8. In the Sixth chapter, an attempt is made to estimate the average annual requirement of roofing tile and burnt bricks in Kerala till 2001 AD. But about this,
earlier studies were not available and also the requirement of roofing tiles and burnt bricks will vary from design to design. Hence the estimates made by the researcher cannot be considered as 'final' eventhough every effort was made to give possible accuracy by computing under different alternatives.

1.11. Scheme of the study

The present study is arranged in seven chapters.

The introductory chapter starts with a discussion on the industrial development of Kerala and a review of important traditional industries. This is followed by the statement of the problem, objectives, methodology, review of literature and limitations.

The second chapter traces the evolution of the industry and reviews the growth. After this, the manufacturing process of tiles is also described.

The economics of the tile industry in Kerala is discussed in the third chapter with reference to the capital structure, input costs, labour cost, product mix, value added and gross profit with the help of the
data collected from the samples. Structural changes were examined with the help of selected structural ratios.

A regional analysis of the industry is attempted in the next chapter. Economics of four regions namely Calicut, Trichur, Alwaye and Quilon were studied separately and compared.

The third objective of the study, ie. the identification of the problems and constraints confronted by the tile industry in Kerala is covered in the fifth chapter.

The sixth chapter examines the prospects of the tile industry in Kerala. The chapter starts with a discussion on housing problem in India followed by a detailed analysis of the situation in Kerala. The annual addition to the total housing stock till 2001 AD is also estimated. Based on these estimates, the average annual requirement of roofing tiles is derived under different alternatives. This chapter also examines the scope of diversifying tile industry into the production of low cost bricks.

The conclusions emerged from the study and a few recommendations are listed in the final chapter.