CHAPTER IV

PRODUCTION AND CONSUMPTION OF COIR AND COIR PRODUCTS

India is not only the largest producer, but also the main consumer of coir in the world. Of the 185,000 tonnes of coir produced in India around 160,000 tonnes is now-a-days consumed in the country itself. Thus, the Indian market constitutes around 45 per cent of the world market for coir and coir products. Yet surprisingly, the available information on the nature, composition, and the regional distribution of the domestic market in India is still rather scanty and haphazard. Production is estimated in gross tonnages and there are significant differences between the official estimates of the Coir board and estimates made by the regional authorities. There is also no information regarding the regional distribution of the internal demand of details of the end uses coir and coir yarn utilised in the states. The above limitations of data severely restrict the scope and analysis of the present chapter.

* Data and information presented in this chapter are supplied by Coir Board and Government of Tamilnadu, Economics and Statistics Department, Madras.
With the decline in foreign exports, Tamilnadu Coir Industry became increasingly dependent on the home market. Therefore an analysis of the characteristics of the internal market of coir in India and the nature of the internal competition that Tamilnadu's industry faces from the newly emerging Coir producing centres in the rest of India assumes importance.

**Size Composition and Regional Distribution of the Internal Market for Coir in India**

While it is universally acknowledged that the internal market for coir in India has been expanding, we have no independent data for the consumption of coir and coir products in India. It is derived as a residual of production over exports. Since production estimates are basically also derived estimates both the production and internal consumption data are mutually dependent. The coir Board's estimates of production have often been criticised as too low and huge unsold stocks of coir have often been a characteristic feature of the industry.

The proportion of Internal consumption to total production has increased from 42 per cent to 82 per cent of fibre production during this period. The increased internal consumption was largely a result of the decline in exports (compensatory absorption). But in the eighties, in particular from the middle to that decade onwards, internal consumption, rather than being a compensatory factor for the decline of world import demand from India, began to assume the role of a dynamic growth factor. The increase in the
total fibre production in India in recent years has been largely in response to this internal demand.

The increase in fibre production is largely accounted for by the rapid expansion of the brown fibre industry. Table 1 reveals that brown fibre production which was less than 20,000 tonnes in the middle of the seventies, has increased to more than 65,000 tonnes. On the other hand, the production of white fibre reached a plateau in the sixties and has tended to decline in recent years. The total white fibre production in 1993 for example is estimated to be around 130,600 tonnes as against 146,500 tonnes in 1983.

The rapid increase in the internal consumption of coir is evident in all products groups. Almost the entire production of fibre is consumed in India, mostly for the spinning of coir yarn. Brown fibre is used for making rope and for other manufacturers. Exports are negligible. This contrast sharply with the Sri Lankan performance.

With the sharp decline in exports of coir yarn, the consequent dependency on the home market has been most remarkable. It would have been even greater, had not the production of yard declined over time, from 140,000 tonnes to 103,740 tonnes while domestic consumption increased from 59.35 per cent to 86.44 per cent during the period 1961-62 to 1989-90.
### TABLE 1

PRODUCTION OF WHITE AND BROWN FIBRE IN INDIA

<table>
<thead>
<tr>
<th>Year</th>
<th>White</th>
<th>Brown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>1,41,000</td>
<td>19,000</td>
<td>1,60,000</td>
</tr>
<tr>
<td>1983</td>
<td>1,46,500</td>
<td>19,000</td>
<td>1,65,500</td>
</tr>
<tr>
<td>1984</td>
<td>1,46,000</td>
<td>32,000</td>
<td>1,78,000</td>
</tr>
<tr>
<td>1985</td>
<td>1,51,600</td>
<td>32,300</td>
<td>1,83,900</td>
</tr>
<tr>
<td>1986</td>
<td>1,26,500</td>
<td>32,300</td>
<td>1,58,800</td>
</tr>
<tr>
<td>1987</td>
<td>1,40,300</td>
<td>30,100</td>
<td>1,70,400</td>
</tr>
<tr>
<td>1988</td>
<td>1,44,380</td>
<td>30,100</td>
<td>1,74,480</td>
</tr>
<tr>
<td>1989</td>
<td>1,44,380</td>
<td>30,100</td>
<td>1,74,480</td>
</tr>
<tr>
<td>1990</td>
<td>1,14,770</td>
<td>34,500</td>
<td>1,49,270</td>
</tr>
<tr>
<td>1991</td>
<td>1,22,880</td>
<td>43,700</td>
<td>1,66,580</td>
</tr>
<tr>
<td>1992</td>
<td>1,35,000</td>
<td>77,750</td>
<td>2,12,750</td>
</tr>
<tr>
<td>1993</td>
<td>1,30,600</td>
<td>66,012</td>
<td>1,96,612</td>
</tr>
</tbody>
</table>

Source: Coir Board Annual Report various issues.

Coir rope production has always been largely meant for the home market. Rope production has steadily increased from 13,560 tonnes to 35,000 between 1961-62 and 1989-90. At present 99.89 per cent of the rope produced is utilised within India.
Interstate trade in Coir

Such estimates regarding the domestic consumption of coir and coir products in India derived on the basis of the residual nature of the internal market, is not useful for estimating state-wise consumption. The only reliable data regarding differences in Inter-state consumption concern the movement of coir and coir products by rail and coastal shipping.

The wide gap between the aggregate estimates of internal consumption and the data is due both to the internal consumption of the producing states and to the increasing transportation by road on which there are no data. Roadways are becoming an increasingly important mode of transport and, therefore, figures based on coastal and rail movement are likely to underestimate the inter-state trade in coir rather seriously.

Coastal shipping, which was the major mode of inter-state trade at the time of Independence, declined rapidly from the mid-1960s so that today, there is hardly inland-coastal trade in coir. The rapid increase in rail transport more than offset this decline in coastal shipping. From the data below, we can observe that the total transportation of coir by both rail and ship increased from
around 60,000 to 82,000 tonnes in the period 1965-66 to 1973-74. Since then as we have noted, transportation by road has increased at the expense of rail transport.

**Movement of Coir by Rail**

The data refer only to rail transport, it indicates the broad regional distribution of demand for coir outside the major producing states. The conclusions reached on the basis of movement by rail would tend to underplay the relative importance of states in the north-east, Kashmir and Himachal Pradesh, which are not well-connected by rail. The movement of coir by rail into Andhra Pradesh, Tamilnadu and Karnataka which was earlier substantial, has declined rapidly in the last two decades and is now negligible. The sharpest decline has been in the case of Tamilnadu (about 99 per cent), while Andhra Pradesh recorded a decline of more than 90 per cent and Karnataka of about 80 per cent. Even after taking into consideration the significant diversion of trade into the roadways, it is clear that the growth of the domestic coir industry in these southern states has contributed significantly to the decline in their imports.
The most important market for coir today outside the producing states is Uttar Pradesh (26.6 per cent in 1993). Maharashtra, a traditional market, seems to have reduced its purchases considerably during the early 1990s (from 12,530 tonnes in 1990 to 3,302 tonnes in 1993). The most notable increase in the share of marketed coir has occurred in the states of Haryana (from 0.36 to 2.22 per cent) and Punjab (from 4.2 to 9.0 per cent). The share of Bihar has also increased (from 4.9 to 8.2 per cent). While West Bengal, another traditionally important market, increased its market share in the recent period to become the second-most important market (14.5 per cent).

Yarn constitutes the most important product accounting for 50 to 60 per cent of the goods transported by rail. The next in importance is coir rope, whose share in rail transport has increased from less than 20 per cent in the latter half of the sixties to over 35 per cent in the latter half of the sixties to over 35 per cent by the mid-eighties. Coir fibre has shown a steady decline in interstate trade, since it is increasingly converted into rope, yarn or other products within the producing states.

Traditionally, around 80 to 90 per cent of the coir fibre requirements of Tamilnadu's rope making industry was met from Tamilnadu.
But partly due to the restrictions imposed by the Tamilnadu State Government on the movement of fibre and partly due to the rapid growth of fibre production in Tamilnadu, the rope industry in the state has become self-reliant with respect to its raw material requirements. As only the aggregate data of coir product transportation by rail have been presented so far. An examination of the disaggregated data of each type of coir product by destination is necessary so as to reveal the relative importance of states in inter-state trade per product. For example, more than 50 per cent of coir yarn exports are destined for the states of Maharashtra, Uttar Pradesh and West Bengal, Maharashtra, which in the past accounted for no less than a quarter of the inter-state trade of yarn has sharply decreased its imports in the 1990s. One cannot say whether this involved a real reduction or merely resulted from change of transport. Bihar, Delhi, Gujarat, Madhya Pradesh, Punjab are the other major markets accounting for another 25 to 30 per cent of the market. Coir yarn is widely used for various agricultural and construction purposes in these states.

Uttar Pradesh has the largest market for coir rope. Its share in the total rail borne inter-state trade in coir rope has risen steadily and in 1993, it accounted for more
more than 45 per cent of the total trade in rope. Maharashtra, which accounted for another 20 per cent of the coir rope market, appears, as we have seen to have sharply reduced its imports during the eighties. Madhya Pradesh and Punjab are the other major consuming states. Andhra Pradesh and Karnataka once again consistently reduced the import of coir rope. Coir rope is used for agricultural purposes, drawing water and tethering cattle.

The market for coir mats and matting is largely urban centres, particularly in the metropolitan cities. Delhi alone accounts for 20 to 30 per cent of the total rail borne inter-state trade in coir fabrics. Maharashtra and West Bengal are the other two major consuming states accounting for 30 to 35 per cent of inter-state trade. The share of Uttar Pradesh and Gujarat is also significant. Coir floor coverings are largely used in India for commercial offices and institutions. Household use is still largely confined to doormats.

As for consumption within the producing states, a significant proportion of the production caters to the demand of the producing state itself. According to a survey of the consumption of coir and coir products in Tamilnadu conducted in 1993-94, the gross consumption of coir in both
the household and non-household sector in the state was around 15,000 tonnes. Of this, coir yarn and rope accounted for around 6,500 tonnes each and coir mats and matting around 1,500 tonnes. These figures are probably a serious underestimation of the actual consumption of coir, particularly of coir yarn in Tamilnadu.

The Regional spread and potential of Coir Production

An examination of the rail-trade statistics reveals that almost the entire inter-state coir trade originated from the southern states, viz., Tamilnadu, Karnataka and Kerala. Table 2 gives the distribution of the origin of rail borne traffic in coir from 1989 to 1993. Some of the important points emerging from this Table are discussed briefly.

Of the total gross traffic, Tamilnadu accounts for around 66 per cent, Kerala for 30 per cent and Karnataka is listed third with around 4 per cent. The regional specificity of the products transported is another significant aspect. Karnataka is the major fibre exporter, accounting for around 40 per cent of the fibre, closely followed by Tamilnadu, Tamilnadu's share in the fibre trade concerns only white fibre, while that of Tamilnadu and
## Table 2

**Rail-Borne Traffic in Coir by State of Origin Average**

<table>
<thead>
<tr>
<th>Item</th>
<th>Total Traffic</th>
<th>Kerala</th>
<th>Originating from Kerala</th>
<th>Originating from Karnataka</th>
<th>Originating from Tamilnadu</th>
<th>Share of Kerala</th>
<th>Share of Karnataka</th>
<th>Share of Tamilnadu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coir Fibre</td>
<td>2,802</td>
<td>1,049</td>
<td>1,149</td>
<td>604</td>
<td></td>
<td>37.44</td>
<td>41.01</td>
<td>21.55</td>
</tr>
<tr>
<td>Coir Yarn</td>
<td>28,022</td>
<td>26,202</td>
<td>451</td>
<td>1,369</td>
<td></td>
<td>93.51</td>
<td>1.61</td>
<td>4.83</td>
</tr>
<tr>
<td>Coir floor covering</td>
<td>4,030</td>
<td>3,446</td>
<td>120</td>
<td>464</td>
<td></td>
<td>85.51</td>
<td>2.98</td>
<td>11.51</td>
</tr>
<tr>
<td>Coir rope</td>
<td>15,275</td>
<td>2,358</td>
<td>281</td>
<td>12,636</td>
<td></td>
<td>15.44</td>
<td>1.84</td>
<td>82.72</td>
</tr>
<tr>
<td>Total</td>
<td>50,129</td>
<td>33,055</td>
<td>2,001</td>
<td>15,073</td>
<td></td>
<td>65.94</td>
<td>3.99</td>
<td>30.07</td>
</tr>
</tbody>
</table>

Source: Coir Board, Annual Report, Various years.
Karnataka mainly involve brown fibre. Around 80 per cent of the trade in rope is accounted for by Tamilnadu. The major share of the rope produced in Tamilnadu is consumed within the state itself. Tamilnadu has a near monopoly in the yarn trade and in the trade of coir floor coverings in India.

An important aspect that is not brought out by Table 2 is the declining share of Tamilnadu in the inter-state trade of coir in India. This is clearly reflected in Table 3 which traces the share of Tamilnadu in the total inter-state movement of coir through rail and coastal shipping.

We have already noted that the exports of coir products from Tamilnadu to the three southern states have significantly declined. In these states the regional coir industries have made rapid advances in recent years due to the implementation of various coir development schemes particularly relating to the processing of brown coir fibre.
TABLE 3
TREND IN TAMILNADU'S SHARE IN THE TOTAL TRAFFIC OF COIR IN INDIA

<table>
<thead>
<tr>
<th>Year</th>
<th>Total traffic</th>
<th>originating from Tamilnadu</th>
<th>Share of Tamilnadu(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965</td>
<td>59,724</td>
<td>48,769</td>
<td>81.65</td>
</tr>
<tr>
<td>1989</td>
<td>62,928</td>
<td>47,399</td>
<td>75.32</td>
</tr>
<tr>
<td>1990</td>
<td>59,716</td>
<td>37,832</td>
<td>63.35</td>
</tr>
<tr>
<td>1991</td>
<td>56,553</td>
<td>31,090</td>
<td>54.97</td>
</tr>
<tr>
<td>1992</td>
<td>48,454</td>
<td>26,446</td>
<td>54.58</td>
</tr>
<tr>
<td>1993</td>
<td>45,542</td>
<td>22,507</td>
<td>49.42</td>
</tr>
</tbody>
</table>

Source: Coir Board (Various years) India's Production, Exports

Not only have these states become relatively self-reliant in meeting their requirements for coir, but they have also begun to increase their exports to other Indian states. This is particularly true of Tamilnadu. Therefore it is important to briefly survey the broad contours of industrial development in these new coir producing states.
Tamilnadu has been in the forefront of coir development during recent decades. It has a diversified production structure, producing both brown and white fibre as well as turning out various coir products. The white fibre industry of Tamilnadu is largely confirmed.

**TABLE 4**

**TRENDS IN NUMBER OF MECHANISED BROWN FIBRE UNITS IN CERTAIN STATES OF INDIA**

<table>
<thead>
<tr>
<th>State</th>
<th>1985-86</th>
<th>1987-88</th>
<th>1989-90</th>
<th>1990-91</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tamilnadu</td>
<td>68</td>
<td>95</td>
<td>140</td>
<td>401</td>
</tr>
<tr>
<td>Karnataka</td>
<td>56</td>
<td>54</td>
<td>78</td>
<td>116</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>n.a.</td>
<td>18</td>
<td>18</td>
<td>61</td>
</tr>
<tr>
<td>Orissa</td>
<td>n.a.</td>
<td>4</td>
<td>n.a.</td>
<td>10</td>
</tr>
<tr>
<td>Kerala</td>
<td>n.a.</td>
<td>16</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Source: Coir Board, Annual Report, various years.

White fibre production in Kanyakumari increased in the early seventies, partly due to the restrictions that Tamilnadu then imposed on the inter-state movement of white fibre. It is estimated that of the total 15,000 tonnes of white fibre produced in Tamilnadu around 13,000 tonnes are
from Kanyakumari district. Almost the entire production is converted into yarn. The characteristic yarn product in Kanyakumari district is three-ply yarn. However, of late two-ply yarn, which is suitable for weaving, is being produced in significant quantities. There are about 1,400 yarn ratts in this district. Around 6,300 workers are employed in the fibre and spinning sector in Kanyakumari district.

The pace at which the fibre industry has developed in Tamilnadu is remarkable. Examination of trends in the number of defibreing units presented in Table 4 reveals that the lead of Tamilnadu over the other states has tended to increase over time. In 1990-91 the defibreing units in Tamilnadu accounted for around 65 per cent of installed capacity and produced more than 70 per cent of installed total production of brown fibre in India. (Coir Board 1991).

A variety of machines are used in the defibreing units including the Ceylong-type combing drums to produce bristle and mattress fibres, and decorticating machines for the production of mixed fibre. The decorticator has been more popular due to the lower capital outlay required and greater demand for mixed fibre. Bristle fibre is used for
brush making and mattress fibre for upholstery filling. For 1992-93 the production of brown fibre in Tamilnadu was estimated at 45,000 tonnes.

The major portion of brown fibre is used in the production of coir rope. In 1990, a census count revealed that there were 4,493 rope ratts, of which Salem accounted for 40 per cent and Kanyakumari for around 28 per cent (Government of Tamilnadu 1980). Salem rope enjoys a national reputation and has a very long tradition. The Salem rope rises have increasingly shifted to using brown fibre. More than 20,000 tonnes of coir rope are produced in Tamilnadu.

The importance of Tamilnadu has increased further by the emergence of a weaving industry in Kanyakumari District. The powerloom factory at Ammandivillai has a capacity of producing around 7,500 tonnes of coir mats and matting per annum. The factory and its management have been responsible for the development of two-ply coir yarn production in the district.

The sum up, Tamilnadu has emerged as a major producer of coir and coir products, accounting for around 60,000 tonnes of coir fibre viz., around 30 per cent of the officially estimated fibre production in India.
Other Coir-Producing States

Karnataka also has a white fibre industry in the district of South Kanara, adjacent to the northern border of Kerala. However, the white fibre industry has not exhibited any vigorous signs of growth and the focus of development has been on the brown fibre processing units. Unlike in Tamilnadu, there has not been any significant development in rope making nor in other coir products based upon processed brown fibre. It is estimated that about 20 per cent of the total output of coir is consumed as fibre in the state and merely 20 per cent processed into yarn and rope. The remaining 60 per cent is sold outside the state.

In Andhra Pradesh, production is also mostly confined to brown fibre. Traditional methods are used in making two-ply and three-ply yarn. Recently, improved implements like the Salem type Charkha have been introduced in certain parts of East and West Godavari. The yarn manufactured is converted into rope and utilised within the state for the towing of barges, for tethering cattle and also for cartage and other general purposes in agriculture. There has been a significant increase in defibreing units in recent years.
This brief survey reveals the rapid development of the coir industry in the other coconut-producing states in South India, while coir production within Kerala seems to have flattened out during the same period. Consequently, Kerala’s share in India’s production of coir has declined. An examination of the industrial potential of the other coconut-producing states would reveal that this trend is likely to continue in the future. An analysis of trends in coconut production in these states will, moreover, provide useful insights into the industrial potentials of different states.

The potential for coconut and coir production outside Tamilnadu

The area under coconuts in India, which was about 0.62 million hectares in the early 1950s, has increased to around 1.5 million hectares by the late eighties. During this period, the production of coconuts in India increased from 3,582 million to 8,161 million nuts (See Table 5). Thus, there was an increase of about 137 per cent in the acreage and a 128 per cent increase in production, while productivity in this period decreased approximately 4 per cent.
<table>
<thead>
<tr>
<th>Year</th>
<th>Area (000 ha)</th>
<th>Change (%)</th>
<th>Productivity (nuts/ha)</th>
<th>Change (%)</th>
<th>Production (min.nuts)</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-51</td>
<td>622</td>
<td>--</td>
<td>5,759</td>
<td>--</td>
<td>3,582</td>
<td>--</td>
</tr>
<tr>
<td>1960-61</td>
<td>717</td>
<td>15.27</td>
<td>6,470</td>
<td>12.35</td>
<td>4,639</td>
<td>29.51</td>
</tr>
<tr>
<td>1970-71</td>
<td>1,046</td>
<td>45.89</td>
<td>5,808</td>
<td>-10.23</td>
<td>6,075</td>
<td>30.95</td>
</tr>
<tr>
<td>1980-81</td>
<td>1,083</td>
<td>3.54</td>
<td>5,282</td>
<td>-9.06</td>
<td>5,720</td>
<td>-5.84</td>
</tr>
<tr>
<td>1990-91</td>
<td>1,473</td>
<td>36.01</td>
<td>5,541</td>
<td>4.90</td>
<td>8,161</td>
<td>42.67</td>
</tr>
</tbody>
</table>

Source: Centre for Monitoring Indian Economy (1989)
Unpublished official records of the Coconut Development Board, Ernakulam (for the most recent annual data)
The increase in acreage and in production of coconuts was uniform neither over the period nor across different states. During the fifties, for example, increases in both the area under production and productivity were moderate. In the sixties, while area under cultivation grew rapidly, productivity declined, thereby depressing the expansion of production. In the subsequent decade, the expansion of area also slowed down, depressing production still further. These trends seem to have reversed around the mid-eighties, when both area and productivity and consequently production seem to have picked up. More than the trends in overall production of coconuts, it is its regional distribution that is of importance for our present analysis.

Within India, the States of Tamilnadu, Karnataka and Kerala are the major producers of coconuts. The trends in area under cultivation and in productivity of coconuts in these three states have been disparate over the period of our analysis. During the fifties, Kerala showed a moderate increase in area and Tamilnadu and Karnataka showed no increase at all. The sixties was a period of rapid expansion of area in all the states. During the next decade
the trend continued in Tamilnadu and Karnataka, while in Kerala there was a reversal of the earlier trend.

Productivity increases were marginal in Tamilnadu during the fifties and have been negative since then, while Karnataka showed a moderate increase in productivity during the first two decades and stagnancy since then, Tamilnadu showed a consistent increase from the sixties onwards till the middle of the eighties. The share of Tamilnadu has therefore been declining steadily.

To what extent have Tamilnadu and Karnataka utilised this potential? Assuming that 50 per cent of the husks produced in these states are available for the coir industry, a comparison of the estimated production of coir fibre and availability showed that in Tamilnadu almost 70 per cent and in Karnataka almost 33 per cent of the husk is utilised for the coir industry.

Hence, there is clear potential for expansion of the coir industry in both Tamilnadu and Karnataka, and more in the latter. As we have seen before, the expansion of the coir industry in Tamilnadu has been remarkable, obviously contributing to the increased utilisation of the husk potential.
TABLE 6
ESTIMATES OF POTENTIAL AND PRODUCTION OF COIR FIBRE IN INDIA

<table>
<thead>
<tr>
<th>State</th>
<th>Production of nuts (millions)</th>
<th>Fibre potential (50% utilisation tonnes)</th>
<th>Estimated production (tonnes)</th>
<th>Percentage Utilisation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tamilnadu</td>
<td>1,578</td>
<td>64,698</td>
<td>45,000</td>
<td>69.55</td>
</tr>
<tr>
<td>Karnataka</td>
<td>1,096</td>
<td>44,936</td>
<td>14,642</td>
<td>32.58</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>480</td>
<td>19,680</td>
<td>5,000</td>
<td>25.41</td>
</tr>
<tr>
<td>Orissa</td>
<td>114</td>
<td>4,674</td>
<td>1,370</td>
<td>29.31</td>
</tr>
<tr>
<td>Total</td>
<td>3,268</td>
<td>133,988</td>
<td>66,012</td>
<td>49.27</td>
</tr>
</tbody>
</table>

Source: Coconut Development Board, Cochin, 1990 (for the production data nuts)
Coir Board, Annual Report 1988-89, Coir House, Cochin (for the estimated production of coir fibre)
Competition from Neighbouring States for Tamilnadu's Coir Industry

The discussion so far has shown that (1) the internal market for coir and coir products in India has been expanding and (2) the coir industry in other coconut-producing areas, particularly in Tamilnadu, has been developing rapidly claiming an increasing share of the domestic market. Judged the husk potential the scope for future industrial development in Tamilnadu and especially Karnataka is also bright. The crucial issue that we now take up is the inter-relationship between the industry in Tamilnadu and that of other coconut-producing states in India. Are they competitive or complementary to each other?

It has been widely held in Industrial circles till recently that Industrial development in the latter states was complementary to Tamilnadu. Except for the expansion of white-fibre production in Kanyakumari district in Tamilnadu, other coconut-producing states have been concentrating on the brown fibre industry. Brown Fibre, mechanically extracted by decorticating or combing dry husks, has very different end-uses from white fibre. While the entire white fibre production in Tamilnadu is converted into yarn and other coir products, very little of the brown fibre is used for yarn. Brown fibre is considered greatly
inferior to retted white fibre is largely used for upholstery, rubberised coir products and to some extent for making coir rope. Traditionally, coir ropes were also manufactured from white fibre. As we have already noted the substitution took place during the seventies as a response to the scarcity of white fibre available in the traditional rope-making centres, like Salem (Tamilnadu).

The establishment of a powerloom coir floor-covering materials factory in Kanyakumari district was considered a serious challenge to the traditional coir-weaving industry at Alleppey. However, there has been no further expansion of powerloom capacity since then.

Threat of green husk production

The complementarity of the coir industry in Tamilnadu with that of other states has, however, the undergone rapid change in the last few years in a most unexpected manner. The turning point came with the production of coir fibre from green husks, through the use of defibreing machinery in the brown fibre centres. The fibre produced from green husks is hardly distinguishable from the traditional white fibre obtained from retted husks, particularly with regard to the most visible features during the first few weeks immediately following are extraction.
The fresh green husk fibre is moreover, flexible enough to be spun into yarn on an ordinary ratt or by hand. It may even appear to be superior in colour to the white fibre made from retted husk, where the colours vary according to the season in which the retting takes place, the retting practices adopted, and the brackishness of the water. In contrast, the fresh fibre extracted from the green husk has a uniform golden colour throughout the year and across regions. The problem with green husk fibre, however, is that over time, with exposure to the air, it tends to dry, lose its golden colour and darken like the brown fibre. The tenacity and resilience of the fibre also decline. However, this problem can be solved to some extent if the green husks are defibred immediately after being harvested and the fresh fibre is soaked in water for a week or so, thus removing a substantial portion of the tannic acid in the fibre and significantly reducing decoloration. It is also claimed that fibre qualities akin to white fibre can be achieved by increasing the period of soaking.

This product innovation is so simple and its impact so significant that it is rather surprising that it was not conceived or practised long before in an industry with a commercial history of more than a century. We can
only speculate as to the reasons. In Tamilnadu, the traditional sources of white fibre. There was no tradition of mechanical extraction of fibre. Green husk fibre, however, cannot be extracted manually. Besides, in Sri Lanka, the major source of brown fibre where mechanical extraction of fibre was in vogue, harvesting and dehusking practices were not suitable for the production of green husk fibre. The coconuts were not plucked till they became ripe and given the plantation system cultivation, delays in dehusking were also not uncommon. Therefore, the mills used dry husks for the fibre extraction. However, in Tamilnadu both the harvesting and dehusking practice were similar to those prevalent in Tamilnadu. The fibre mills there also had an incentive for producing the cheaper green husk fibre as they were able to find a ready market in Tamilnadu for 'adulterating' retted husk fibre in the production of yarn.

The available scientific literature primarily deals with the technical properties of brown and retted husk (white) fibre and their advantages and disadvantages. Such a comparison is not possible for green husk fibre since it is a relatively new product. However, going according to traditional wisdom, fibre made from retted husks should be superior to the former in term of tensile strength, length of fibre, flexibility and durability. Therefore there would
always certainly be a specific demand for retted husk fibre yarn for uses like stringing carts, water transportation etc., where durability is an important criterion for the choice of the hard fibre. But for the major segment of the yarn market consisting of the weaving industry and packaging and the agricultural sector etc., green husk fibre yarn could present severe competition. Because of the uniformity of colour, some of the coir fabric manufacturers expressed a decided preference for the yarn made from green husk fibre to that made of retted husk fibre despite the latter's superior dye absorption qualities. They are able to save a considerable amount of expenditure in sorting yarn by colour and shade before they are dyed. Given present consumer preferences the durability of coir fabrics may not have as much premium at present in the industrialised countries as in the past. As for the vast rural agricultural market for coir yarn, it has been pointed out by market studies that consumers are not very quality conscious and that the important determinant of the consumer's choice is the relative price. In terms of price, green husk fibre has definite advantages since the expensive retting process has been eliminated, with the result that green husk fibre costs about half the price of fibre extracted through the traditional retting process.
Another important factor to be borne in mind is that even if the tensile strength of retted husk fibre is higher than that of the green husk fibre, the advantage may be neutralised by improving the quality of spinning. The tensile strength of the yarn is in the end, dependent not only on the quality of fibre, but also on the uniformity of twist and thickness. It has been an almost universal complaint that the quality of the Tamilnadu ratt-spun yarn has deteriorated rapidly. Yarn breakage is a major problem plaguing the powerloom industry and hop cultivators in Europe. Now, yarn which is machine-spun, even from brown fibre, has been found superior to many lots of ratt-spun yarn from retted husks, which is being exported. Sri Lankan machine spun yarn, for example, has been able to displace Tamilnadu's exports on the European markets and steadily raise its international market share to around 25 per cent within a fairly short period of time, because of its better and more uniform quality apart from its relative cheapness. Similar dangers are also looming over Tamilnadu's traditional yarn spinning industry in India's domestic market, particularly if mechanised yarn spinning spreads to other coconut-producing states.
Our analysis has revealed the rapid expansion of the domestic market for coir in India. It is no longer a subsidiary market absorbing excess production as in the colonial period. The domestic market at present absorbs around 85 per cent of the total coir produced in India.

An important aspect of the expansion of the domestic market is that it has occurred without any serious planned intervention by the authorities or by established exporters. The efforts of the Coir Board were confined to a small number of showrooms in the major urban centres and accredited dealers. Till recently, there was hardly any knowledge whatsoever about the internal market, its potential capacity, regional differences in demand, etc., The first study on the internal market for coir was commissioned only as late as 1980.

In our view, the spontaneous nature of the market expansion underlines the vast untapped market potential in India. The growing urban middle class and the boom in large building construction offer ample scope for continued expansion of the demand for both floor coverings and rubberised coir products (e.g. for mattresses). Apart from the traditional uses, there is still immense scope for product diversification. We have already discussed coir geo-textiles in the context of the international market for
2 Financial assistance for construction of loomsheds

Cor Board extends substantial financial assistance for construction of loomsheds to individuals having 2-5 looms with 2 cent plot of land

1 Excise Duty Exemption

All cor products manufactured in Cor units registered with the Cor Board are exempted from Excise Duty.

2 Sales Tax Exemption

All cor products except Rubbersed Cor Products are exempted from Sales Tax in Kerala and Tamilnadu.

Subsidy for:

<table>
<thead>
<tr>
<th>Type of Units</th>
<th>New Units (Rs)</th>
<th>Renovation (Rs)</th>
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<tbody>
<tr>
<td>Fibre unit/Mechnised</td>
<td>100000</td>
<td>50000</td>
</tr>
<tr>
<td>Deliining Unit</td>
<td>40000</td>
<td>20000</td>
</tr>
<tr>
<td>Spinning Unit</td>
<td>20000</td>
<td>10000</td>
</tr>
<tr>
<td>Rope Unit</td>
<td>30000</td>
<td>15000</td>
</tr>
<tr>
<td>Mats &amp; Matting Unit</td>
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<td>10000</td>
</tr>
<tr>
<td>Corridor Mat Unit</td>
<td>10000</td>
<td>50000</td>
</tr>
<tr>
<td>Rubbersed Cor Unit</td>
<td>50000</td>
<td>25000</td>
</tr>
<tr>
<td>Curling Unit</td>
<td>100000</td>
<td>50000</td>
</tr>
</tbody>
</table>

3. Financial Assistance for power generating set

Cor Board provides 25% subsidy up to a maximum of Rs 50,000/- for installation of power generating set in fibre production/looming units.

4. Testing facility

Testing facilities at Central Cor Research Institute, Alappuzha and Central Institute of Cor Technology, Bangalore are available on nominal charge.

5. Extension Service

Cor Board provides on the spot extension services in dyeing, bleaching, mensuration, automatic spinning and weaving to the manufacturers and exporters.

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Telephone 55191
1 Financial assistance for Market Development

Cor Board extends financial assistance at 50% of annual rent up to a limit of Rs 60,000/- for five years, Rs 25,000/- for minor decoration and Rs 10,000/- for initial publicity to set up sales outlets for products.

n sales

Cor Board provides State Govts. with 50% of the expenditure on new sales outlets of cor industries through State supported organisations.

3 Cooperativisation Scheme

1st an assistance of 50% of the expenditure to cooperatives in the cor industry. The quantum of assistance to potentially viable societies through State Govts. are

i) Share capital assistance
   a) Primary cooperatives Rs 1,000/- per member
   b) Product societies Rs 2,000/- per member

Managerial subsidey

1st year Rs 12,000/-
2nd year Rs 9,600/-
3rd year Rs 7,200/-
4th year Rs 4,800/-
5th year Rs 2,400/-

iii) Assistance for Modernisation

Subsidy up to 25% with a ceiling of Rs 1 lakh is available for various types of equipments to modernise production

<table>
<thead>
<tr>
<th>Category</th>
<th>Item</th>
<th>Subsidy</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Primary Society</td>
<td>1 Spinning unit</td>
<td>Rs 400,000/-</td>
</tr>
<tr>
<td></td>
<td>2 Weaving machine</td>
<td>Rs 15,000/-</td>
</tr>
<tr>
<td></td>
<td>3 Boa' machine</td>
<td>Rs 10,000/-</td>
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<tr>
<td></td>
<td>4 Dyeing machine</td>
<td>Rs 30,000/-</td>
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<tr>
<td></td>
<td>5 Crusher</td>
<td>Rs 64,000/-</td>
</tr>
<tr>
<td>(2) Weavers Society</td>
<td>1 Shearing unit</td>
<td>Rs 20,000/-</td>
</tr>
<tr>
<td></td>
<td>2 Looms-including</td>
<td>Rs 80,000/-</td>
</tr>
<tr>
<td></td>
<td>3 Winding System</td>
<td>Rs 15,000/-</td>
</tr>
<tr>
<td></td>
<td>4 Motorised Ratt</td>
<td>Rs 5,000/-</td>
</tr>
</tbody>
</table>

4 Common Facility Centre

Cor Board gives financial assistance on a case to case basis for setting up Common Facility Centres by Cooperative Societies.

5 Corr Industry Survey

Cor Board gives financial assistance of a minimum of 50% of expenditure on Corr Industry Survey.

5 Integrated Corr Development Project

Cor Board gives a financial assistance of 20% of the cost as subsidy for integrated projects.

7 Model Corr Villages

Cor Board gives assistance to Model Corr Villages to provide better working conditions to cor workers.

8 Assistance for g

Cor Board provides financial support on a case to case basis of training and production infrastructure.

9 Contribution Workers Welfare Fund

Cor Board contributes substantial amounts to Workers Welfare Fund from time to time.
coir products, and they are no less relevant for the domestic market. Tamilnadu itself, for example, with its erosion-prone undulating terrain and its major schemes for renovation of waterways, could take the lead in these innovative uses of coir. Coir walls (bags) have further more proved to be effective in checking erosion by sea.

Because of these possibilities, we are optimistic about the future for coir and coir products, not only for Tamilnadu but also for the other coconut-producing states. The old notions of the residual nature of the market and the attendant neglect of internal market developments has to give way to an integrated, planned and co-ordinated marketing strategy. A rather aggressive campaign for stimulating product awareness and quality consciousness would be the key element of this strategy. Product differentiation according to the nature of the fibre, viz., retted, green and try husk, should be established. Tamilnadu might there be opt for a product spectrum of not only traditional retted husk fibre products, but also of green and dry husks. The present tendency of mixing green and retted husk fibre is likely to harm the future of the coir industry. Instead, quality specifications must be made and standards enforced. Today, there are hundred of
qualities of yarn in the market that serve no purpose other than bewilder the customer and facilitate the spread of inferior products.

There is another issue which our analysis has revealed. The coir industry in Tamilnadu and that in other states in India is no longer complementary in nature. Going by present trends, Tamilnadu may have to face severe competition from other states. Coir is not any longer Tamilnadu's monopoly. Key issues that have therefore to be settled are:

Should Tamilnadu continue to be solely reliant on retted husk fibre or permit an increase in the production of green husk defibreing? What is the appropriate technology to be used in defibreing the husk?

What steps should be taken in the weaving sector to prevent a further migration of the weaving industry to other states? To what extent could semi-automatic looms be introduced in Tamilnadu.

How to develop modern sophisticated coir products, like tufted mats, coir tiles, rubberised and latex-based coir products for which there will be a buoyant urban market within India?
Answers to these questions hinge on the choice of the most appropriate technology.