CHAPTER II

INDUSTRIAL DEVELOPMENT

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CHAPTER II

INDUSTRIAL DEVELOPMENT

2.0.0 Introduction

Industrialization has everywhere resulted in an excessive high concentration of industries and services in a few urban areas, leading to wide disparities in the level of income and development within country\(^1\). A critical study of geographical aspect of industrialization is essential for mitigating the social evils which are its consequences, in order that the economy of the country can be established on a stable footing\(^2\). The study of industrial development of a region, has a significant importance in its overall appraisal. The modern industry will help to switch the economy on a new technological basis which involves raising the standard of living through steady increase in efficiency of the production and economic status of a region.

An endeavour is made in the present study to understand the industries and their geographical relation with the growth of twin towns. Karnataka with its developing ports, infrastructure blooming plantations and industries, bids fair to emerge as a leading exporting and importing state. The state has been a pioneer in the field of modern industrial development. This is testified by the fact that the hydel project in the
country was first installed in the state at Jog. The
industrial development was very insignificant before the
advent of the British rulers. Since then development of
industries and exploitation of resources has been commenced
in the state. Recently the state government has taken
various steps to accelerate the pace of industrialization.
The state government has declared eleven growth areas.
Davangere and Harihar region is one of them.

The problems associated with urban and industrial
development in the growth areas are also numerous and of a
complex nature. However, industrialization is essentially a
process of technological innovations and division of labour,
which have inherent impulses to foster continuous and
cumulative growth. This region enjoys a legendary honour
of the leading industrial centre of the state. The evolution
of industry favours the urban pattern, because it favours
concentration. It is not growing merely in the size of
population or spatial expansion but also in respect of its
economy.

2.1.0 Locational Factors

Each region has its own peculiarities, which are
related to its geographic personalities. Davangere and
Harihar region is unique for its personality in the economic, social and demographic spheres and it occupies a geographical centre in the Karnataka. In assessing the potential of industrial development, the Geographer tends to make a close examinations of raw materials, fuel supplies, transport facilities, market and often to pass more lightly, over the factors of capital and labour. The region has attracted the private entreprenoueurs for the establishment of industries in and around the twin towns. The answers given by the industrial owners to the questionnaires reveal that, the following factors influence the establishment of various industries.

1. Easy availability of raw materials is one of the chief factors in the location and development of industries. The high quality of raw material is supplied sufficiently from the hinter land. As the study area is situated in the fertile land and other mode of agriculture facilities, there is no scarcity of raw materials to the industries. It is clear however that the success of industrialization depends upon the expansion and improvement of agriculture.

2. The textiles, oil mills and other industries require a large number of workers. In this respect the region is sufficiently provided with labour force from the hinter land.
3. Favourable climate is another important factor to locate the textile mills. The higher percentage of relative humidity (60\%) of the region is one of the major factors. The climate of this region is suitable for cotton, wool, and silk industries. Because this region has about 70 per cent relative humidity throughout the year.

4. The availability of electric power from Jog falls, Tungabhadra project and Vanivilas Sagar have helped the location of the industries.

5. As the region is situated in the area of high density, there is no problem of marketing the industrial products. Cloth, lathes, and pulp are sent out of the state and also to foreign countries. It reveals that apart from the raw material based industries, there is a lot of scope for market based industries also.

6. Industries also require large quantity of water for their process. Water is sufficiently supplied from the river Tungabhadra, as well as wells in Davangere and Harihar.

7. Transport and good communication systems are well connected to the twin towns. This type of infrastructure is the main cause for the location of textiles, oil mills, pulp, ferrous and nonferrous and general engineering units in the region. Government also encouraged the development of industries by various means of facilities such as improvement
of management, financial aid etc. This has helped private entrepreneurs to start various types of industrial units in this region.

2.2.0 Potentialities of Industries

There are three main potentials of raw materials available in this region viz., agriculture, minerals and livestock.

Davangere and Harihar region is surrounded by rich fertile land. Dharwad, Bellary, Chitradurg and Shimoga districts have been considered important agricultural zones in the state. The location of these two units is at a meeting point of the above four districts. All these four districts grow specific products such as cotton, groundnut, rice and sugarcane, etc. Thus, the regional characteristics of growth of industries depends on these raw materials. The agro-based industries, namely, textiles, oil mills, rice mills and sugar industries are major industries in the region. Annually 4 lakhs quintals of groundnut, 3 lakhs quintals of cotton and 2.1 lakhs quintals of rice are supplied to the Davangere market*. Out of it, more than 65 per cent of the arrivals are utilised by agro-based industries.

* The data collected from A.P.M.C. Davangere, 1976.
Secondly, there is a specific mineral zone in each district. The mineral zones are located in the south eastern part of Dharwad, the central part of Bellary, the south central part of Chitradurg districts and are scattered in the Shimoga district. Most of the mineral resources are located within a radius of 150 kms. from the study area. Manganese, copper, asbestos and gold are found within a radius of 75 kms. and the rest are available in the remaining areas.

However the mineral based industries have not been sufficiently established in the region. This is mainly on account of emphasis given for agro-based industries both by public and private sectors. This has continued since historical period. Considering the resources available in the surrounding area, there is a lot of scope for the establishment of mineral based industries.

Thirdly in respect of livestock resources, the region is very rich and accounts for 482860* head of cattle in Davangere and Harivar talukas together. The neighbouring districts as referred in the previous paras are also rich in livestock resources, as these districts are agriculturally predominant in the state. As a result, the leather industries are

* District at a glance, 1974, Bureau of Statistics, Chitradurga.
function in the twin towns. Slaughtering is also done on a large scale. Daily about 250 and 85 cattle are slaughtered in Davangere and Harihar respectively. In addition to this, meat is also supplied from the neighbouring villages which are located within a radius of 3 kms. from Davangere and Harihar units. Such notable slaughtering is the result of concentration of population with mixed cultures. As a result of migration of various types of people who belong to different communities with their social background, they continue their original food habits and culture. Especially, during the last three decades, the consumption of meat has increased fifteen times on account of increase in population. Due to the association of migrants who are in the habit of consuming non-vegetarian food, the vegetarians have also changed their habit and consume meat and fish. This is a very important impact on food habits of the people, especially of those who are engaged in secondary and tertiary activities.

2.2.1 Sources of Raw Materials

Sources of raw materials have been collected from various industries to know the extent of raw materials supplied to twin towns. As per the information collected

* Data collected from the Slaughtered shops and houses at Both units.

** Data collected from the Slaughtered shops and houses at Both units.
SOURCES OF RAW MATERIALS

<table>
<thead>
<tr>
<th>Type of Industry</th>
<th>DAVANGERE</th>
<th></th>
<th></th>
<th>HARIHAR</th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Local</td>
<td>Within State</td>
<td>Nation</td>
<td>Local</td>
<td>Within State</td>
<td>Nation</td>
<td></td>
</tr>
<tr>
<td>Ceramic and Glass</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Ferrous and Nonferrous</td>
<td>8</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Food and Beverages</td>
<td>279</td>
<td>163</td>
<td>6</td>
<td>136</td>
<td>59</td>
<td>-</td>
<td>643</td>
</tr>
<tr>
<td>General Engineering</td>
<td>15</td>
<td>9</td>
<td>5</td>
<td>19</td>
<td>5</td>
<td>4</td>
<td>57</td>
</tr>
<tr>
<td>Printing</td>
<td>8</td>
<td>5</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>14</td>
</tr>
<tr>
<td>Textiles</td>
<td>8</td>
<td>7</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>19</td>
</tr>
<tr>
<td>Wood products</td>
<td>5</td>
<td>7</td>
<td>-</td>
<td>1</td>
<td>3</td>
<td>-</td>
<td>16</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>7</td>
<td>3</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>331</td>
<td>198</td>
<td>16</td>
<td>163</td>
<td>68</td>
<td>5</td>
<td>781</td>
</tr>
<tr>
<td></td>
<td>42.38</td>
<td>25.35</td>
<td>2.65</td>
<td>20.87</td>
<td>8.71</td>
<td>0.64</td>
<td>100.00</td>
</tr>
</tbody>
</table>

* Out of 643, 600 are parched rice and puvva mills and other small scale industries are running in twin towns. These are not registered. Hence, the data is collected from the town planning office and Municipal Office at Davangere and Harihar.
FIG. 3

SOURCES OF RAW MATERIALS

NATION
STATE
LOCAL

CERAMIC & GLASS
FERROUS & NON-FERROUS
FOOD & BEVERAGES
GENERAL ENGINEERING
PRINTING
TEXTILES
WOOD PRODUCTS
MISCELLANEOUS
from the industries, the raw materials supplied are classified into local (study region), within the state and nation. Table 1, exhibits the sources of raw materials for the industries. Most of the industries depend on the raw materials supplied locally and within the state and it accounts for 63.25 per cent and 29.06 per cent, respectively (Fig. 1). Easy availability of raw materials available locally is one of the important factor for the concentration of various industries.

2.3.0 Location Quotient

The Location Quotient measures the degree to which a specific region has more or less than its share of any particular industry or it can be used for any other economic endeavours. It means in brief, a quotient is ratio of ratios.

For illustration

The ratio of employment in industries to the population of Davangere and Harihar are taken separately. The location quotient of industries of employment for town is determined by dividing its percentage by the states percentage.
### Table - 2

**THE LOCATION QUOTIENT**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of Place</th>
<th>Location Quotient</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Davangere</td>
<td>2.16</td>
</tr>
<tr>
<td>II</td>
<td>Harihar</td>
<td>3.78</td>
</tr>
<tr>
<td>III</td>
<td>Davangere and Harihar</td>
<td>2.51</td>
</tr>
</tbody>
</table>

*City employment in Industry*  

\[
LQ = \frac{\text{City employment in Industry}}{\text{Total Population}} 
\]

Karnataka State employment in Industry  

\[
LQ = \frac{\text{Karnataka State employment in Industry}}{\text{Total population of the State}} 
\]

<table>
<thead>
<tr>
<th>I</th>
<th>Ratio of Davangere : ( \frac{9283}{121110} \times 100 ) = 7.66%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>State's Ratio : ( \frac{1038464}{29299014} \times 100 ) = 3.54%</td>
</tr>
<tr>
<td></td>
<td>( 7.66 ) = ( 3.54 ) = ( .... \ 2.16 )</td>
</tr>
<tr>
<td>II</td>
<td>Ratio of Harihar : ( \frac{4539}{33888} \times 100 ) = 13.39%</td>
</tr>
<tr>
<td></td>
<td>( 13.39 ) = ( 3.54 ) = ( .... \ 3.78 )</td>
</tr>
<tr>
<td>III</td>
<td>Ratio of Davangere &amp; Harihar : ( \frac{13822}{154998} \times 100 ) = 8.9%</td>
</tr>
<tr>
<td></td>
<td>( 8.9 ) = ( 3.54 ) = ( .... \ 2.51 )</td>
</tr>
</tbody>
</table>
A quotient 1.0 means that a region has neither more nor less of that state industry than its overall volume of manufacturing would suggest. A quotient over 1.00 indicates a high particular concentration of that locality in relation to local industrial units. A quotient less than 1.00 suggests that an industry is less developed in that region.

The computed figures for individual units and combined are more than 1.0 index of location quotient. The comparative figures for Davangere and Harihar clearly reveal that Harihar unit has more location quotient value than Davangere. This is mainly due to the higher concentration of working force in the industries of the total workers. While considering the combined units of the state, the location quotient is more than 1.00 i.e. 2.51 (table - 2). This is justified as the region is highly concentrated on the industrial activities in the state.

2.3.1 **Intensity Rating**

In addition to the location quotient for the region, the multiple rating criteria has been computed to know the industrial importance of the region in Karnataka. The intensity as used here, means the importance of manufacturing in the economy. Separate ratings are calculated for three criteria of intensity:

a) The number of labour force in manufacturing to the total population.
b) The number of labour force in manufacturing to the total working force.

c) Value invested in manufacturing to the total population. The resulting quotients are multiplied by 100, summed up, they are averaged to obtain a multiple criteria rating of intensity. The same is worked in respect of Davangere, Harihar and Karnataka State. The results are in Table -3.

Table - 3
INTENSITY RATING

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of the place*</th>
<th>Intensity rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Davangere</td>
<td>22445.84</td>
</tr>
<tr>
<td>II</td>
<td>Harihar</td>
<td>29691.20</td>
</tr>
<tr>
<td>III</td>
<td>Karnataka</td>
<td>3617.05</td>
</tr>
</tbody>
</table>

* Davangere

\[
\text{Intensity rating} = \frac{9283}{121110} \times 100 + \frac{9283}{36154} \times 100 + \frac{81512233}{121110} \times 100 = \frac{7.66 + 25.67 + 67304.2}{3} = \ldots... \times 100 = 22445.84
\]

Harihar

\[
\text{Intensity rating} = \frac{4539}{33888} \times 100 + \frac{4539}{10144} \times 100 + \frac{30165600}{121110} \times 100 = \frac{13.39 + 44.74 + 89015.5}{3} = \ldots... \times 100 = 29691.2
\]

Karnataka

\[
\text{Intensity rating} = \frac{278166}{29299014} \times 100 + \frac{278166}{10179114} \times 100 + \frac{3178209345}{29299014} \times 100 = \frac{949 + 2.73 + 10847.5}{3} = \ldots... \times 100 = 3617.05
\]
The computed figures alleged that Davangere and Harihar have higher intensity rating than that of Karnataka State.

2.4.0 Growth of Industries

The development of industries in Davangere and Harihar can be classified into three phases. This can be seen in the establishment of industries:

First phase .... 1940
Second phase .... 1941 - 1951
Third phase .... 1951 - 1961 and onwards

During the fifties and later, the region changed its complex into a considerable extent. Since then, a major step has been taken in the field of industrial development by the state government. Such an encouragement and other locational advantages have helped this kind of development in the region. Our industries should not cater either to sophisticated tastes or to the requirements of the western pattern of life. More stress has been laid upon the development of industries connected with food, cloth, building, chemicals and pharmaceuticals rather than upon motor cars and such other luxuries. In view of this the agro-based and other needed industries have developed to a considerable extent. Such a development of industries is seen in the table - 4(Fig. 2 and 3).
### Table 4

**GROWTH OF INDUSTRIAL UNITS**

<table>
<thead>
<tr>
<th>Types of Industries</th>
<th>Before 1940</th>
<th>1941-50</th>
<th>1951-60</th>
<th>1961 onwards</th>
<th>Total</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>D</td>
<td>H</td>
<td>D</td>
<td>H</td>
<td>D</td>
<td>H</td>
</tr>
<tr>
<td>Ceramic and Glass</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Ferrous and Non-ferrous</td>
<td>3</td>
<td>-</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Food and Beverages*</td>
<td>7</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>General Engineering</td>
<td>1</td>
<td>-</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Printing</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>Textiles</td>
<td>3</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Wood Products</td>
<td>1</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
<td>1</td>
<td>29</td>
<td>7</td>
<td>31</td>
<td>21</td>
</tr>
</tbody>
</table>

Source: Industrial Directory 1971 and Field work.

* 600 Parched rice, Puvva mills and other small mills are not included in the table - 4 as they have not been registered. These have been taken from the town Planning office Davangere.
INDUSTRIES OF DAVANGERE

TEXTILES

GINNING MILL

ENGINEERING

SAW MILL

RICE MILL

OIL MILL

FOOD PRODUCTS

PARCHED RICE MILL
Before 1941 the growth of industries was very slow. During this period medium and small scale industries like food, ferrous and non-ferrous metals were predominant. Most of the oil mills were started between 1930-40. The establishment of large scale industries was commenced during this period. In case of Harihar the growth is very negligible. Between 1941 and 1950 considerable growth of industries and employment opportunities have been taken in the twin towns. This is chiefly due to the emphasis given by the government and private sector to provide employment opportunities. During this period only various types of industries like Mysore Kirloskar, Davangere cotton mills and oil mills were commenced. Subsequently the some trend on growth of industries has been noticed during 1951-60 and 1961 onwards. The net growth of industries at Both units is 965 per cent. It indicates the rapid development of industries at the twin towns for four decades.

During the planning period i.e. from 1951, the growth of industries was very fast. This was because of emphasis given to exploit the prospect of raw materials locally within the state and outside the state. Government also provided financial aid and other concessional benefits to new industries. As a result, a good number of industries were commenced in all categories.
Recently the development of industries has taken place so fast that any recount of industries of Davangere and Harihar region at a given point of time, is bound to be out dated within a few couple of years or so. Thus new role in industrial growth presents both a challenge and an opportunity to this region. If we compare the rate of growth of industries in both units, we can understand that within a couple of decades both units would flourish as a bee-hive of industries and industrial estates.

The present industries of the region is marked with apparent changes in their characteristics as compared to those industries of old time. This is chiefly because of the change in time, demand, transport system, trend of population growth and process of urbanisation.

2.4.1 Size of Employment of Industries

Industries range in size from small family workers to the giant multinational corporation with many thousands of employees. Size of industries are classified on the basis of employment and capital invested in these. Generally, small scale (1-50 workers) medium (51-500) and large scale (500 and above) industries are categorised by the government. The table number 5 indicates the number of industries based on the employment size in the study area.
Table - 5

THE SIZE OF INDUSTRIES ON THE EMPLOYMENT
IN DAVANGERE AND HARIHAR

<table>
<thead>
<tr>
<th>Group</th>
<th>No. of units</th>
<th>Percentage</th>
<th>Total workers</th>
<th>% of the total workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 50</td>
<td>685</td>
<td>87.72</td>
<td>5186</td>
<td>28.34</td>
</tr>
<tr>
<td>51 - 500</td>
<td>87</td>
<td>11.33</td>
<td>3874</td>
<td>21.17</td>
</tr>
<tr>
<td>500 and above</td>
<td>9</td>
<td>1.15</td>
<td>9240</td>
<td>50.49</td>
</tr>
<tr>
<td>Total</td>
<td>781</td>
<td>100%</td>
<td>18300</td>
<td>100%</td>
</tr>
</tbody>
</table>


With the help of table - 5, we can understand the number of units and size of the employment in different categories. The share of small scale industries is more than 87 per cent of the total industries and ranks first in the industrial type employing 28.34 per cent of the workers. The medium scale industries share 11.33 per cent of the total units with 21.17 per cent of the workers. The large scale industries stand 3rd in respect of total units but employing highest percentage of working force (50.49%) in the twin towns.
2.4.2 Industrial Products

Main Products

The main products of the industries in Davangere and Harihar region are (a) general engineering products - vessels, agricultural implements, spare parts, utensils, and castings, veterinary equipments, bolts, nuts, machine tools, steel furniture, automobile parts etc. (b) The textile and pulp products - chiefly cotton yarn, cloth, ready made dresses and hosiery blended cotton and pulp etc. (c) The food products - Bakery, vanaspati oil, solvent, sharples, seed decorticating, castor oil, soap and sugar (d) other products - chemicals, wood products, chappals, shoes, etc.

Bye Products

Bye products are many. This is because of high concentration of agro based industries. There are 6-8 bye-products of existing industries which can be treated as raw materials available as bye products e.g. oil cake, waste cotton, husk, and molasses, etc.

Out of eight textile factories, six factories produce cloth. In the process of cloth and yarn, some of the cotton waste will remain. Part of this cotton waste is
used by the local industries and automobiles and partly sent outside the region.

The groundnut and cotton seed obtained from the decorticating factories are being used for making oil and the residual left in this process for oil cake. The cake is exported to foreign countries - namely to Australia, Newzeeland and Shrilanka. Nearly 20,000 tone are exported to these countries. Recently the extraction of edible oil from cotton seed has commenced, due to high demand from the consumers as it contains high vitamin content and has a good taste. The cake of this is of higher quality than groundnut cake.

The sugar factory at Bati produces a large quantity of Molasses as a bye product. But there are no industries which use it for beverages. Part of it is used by the local dairies and chocolate producers. The rest is sent to Bangalore and out of state, namely, to Kerala and Goa.

2.5.0 Case Study of Some Industries

To know the individual categories of industries, the detailed study has been dealt in the proceeding paras. This is based on the actual survey in the twin towns.
2.5.1 Davangere

I) The Textile Mills

There are nine textile mills in the Chitradurga district, out of which eight are located in Davangere and one at Harihar.

The first textile mill in the district was established at Davangere in 1939 i.e. 'Davangere Cotton Mills Limited' by private entrepreneurs. Before this, only weaving by handloom was popular and the whole industry depended upon cottage industrial base. Initially this mill confined itself to spinning only. Later it started to produce a variety of cloths of good quality. Within a short time it became popular in cloth manufacturing industry in the country. It exports to foreign countries particularly to Shrilanka, Bangla Desh etc. This is the only composite textile mill in the region. The production of this mill are of fine, medium and low grades. It provides employment to nearly 2,000 workers. The other textile mills were established during subsequent period. The table 6 shows the particulars of textile mills of Davangere (Photos 1602).

The study reveals that the region is one of the oldest in textile categories. After 1940 the textile mills were established by private sectors. In all about Rs. 6.12
Table - 6

LARGE AND MEDIUM SCALE TEXTILES IN DAVANGERE

<table>
<thead>
<tr>
<th>Name of the firm</th>
<th>Types of work</th>
<th>Year of establishment</th>
<th>Persons employed</th>
<th>Capital invested in lakh</th>
<th>Spindes</th>
<th>Production in '000 kg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shankar Textiles</td>
<td>Spinning</td>
<td>1945</td>
<td>650</td>
<td>25</td>
<td>18040</td>
<td>34</td>
</tr>
<tr>
<td>Ganesh Textile</td>
<td>Spinning</td>
<td>1946</td>
<td>1100</td>
<td>100</td>
<td>21720</td>
<td>1621</td>
</tr>
<tr>
<td>Siddheshwar Textile</td>
<td>Hoseries</td>
<td>1957</td>
<td>700</td>
<td>103</td>
<td>15260</td>
<td>1142</td>
</tr>
<tr>
<td>Chandrosaya Textile</td>
<td>Spinning</td>
<td>1957</td>
<td>446</td>
<td>17</td>
<td>13200</td>
<td>709</td>
</tr>
<tr>
<td>Chigateri Mills</td>
<td>Spinning</td>
<td>1962</td>
<td>165</td>
<td>60</td>
<td>12000</td>
<td>4</td>
</tr>
<tr>
<td>Anjaneya Mill</td>
<td>Spinning</td>
<td>1966</td>
<td>158</td>
<td>51</td>
<td>12180</td>
<td>3.5</td>
</tr>
<tr>
<td>Yallamma Cotton, Wool and Silk Mill Ltd.</td>
<td>Spinning</td>
<td>1972</td>
<td>440</td>
<td>70</td>
<td>10968</td>
<td>31</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>-</td>
<td>5643</td>
<td>612</td>
<td>1444232</td>
<td>6804 Mts.</td>
</tr>
</tbody>
</table>

C = Cloth

Source: Industrial Survey conducted 1976-77.
crores has been invested in the textiles. These mills manufacture their own yarn out of the indigenous cotton both of medium and short staple yarns. Though the cotton is purchased locally, the large scale mills import long staple cotton from foreign countries to spin yarn of higher counts. The main products, manufactured here, are long cloth, suitings, shirtings, sarees, dhoties, silk and other cloths. These textile mills have occupied 82 hectares of land which has created an industrial atmosphere in the city. Totally the textile mills have been created employment opportunity to more than 5643 workers in which the share of the largest industrial workers is found in this category (Fig. 4A).

A considerable impact of these mills on the rural areas can be identified on the occupational pattern. Economy of some village is based on supplying the necessary raw materials of hosiery and textile mills. Power looms and hand looms feed these textiles in the form of supplying yarn, good quality silk, weaving yarn of sericulture and in colouring. Thus the cotton mills have much influenced the economy of Davangere and its surrounding villages. These also earn foreign exchange through their exports. This can be seen in the table given below.
A) PERSONS AND SPINDLES OF TEXTILES

- Davangere Cotton Mill
- Shankar Textile
- Ganesh Textile
- Siddheswar Textile
- Chandrodaya Textile
- Chigateri Mill
- Anjaneva Mill
- Yallamma Textile

B) EXPORT PERFORMANCE OF TEXTILES

- Malaya
- USA
- Others
Table - 7

<table>
<thead>
<tr>
<th>Name of country</th>
<th>Export goods</th>
<th>Total value in lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.A.</td>
<td>Silk cloth</td>
<td>7.7</td>
</tr>
<tr>
<td>Ceyloné</td>
<td>Cloth, Sarees, Dhoties</td>
<td>2.8</td>
</tr>
<tr>
<td>Australia</td>
<td>Suits, hosseries</td>
<td>2.1</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Cloth and hosseries</td>
<td>1.8</td>
</tr>
<tr>
<td>Phillippines</td>
<td>Ready made dresses</td>
<td>1.9</td>
</tr>
<tr>
<td>Malasia</td>
<td>Dhoties and hoshiery</td>
<td>0.8</td>
</tr>
<tr>
<td>Others</td>
<td>Towels, Silk, Ready made dress, etc.</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>17.5</strong></td>
</tr>
</tbody>
</table>

Source: From various textile mills collected in 1976-77.

Long staple cotton is imported mainly from U.S.A. and Egypt. The export of textile products from Davangere are in great demand from various countries (Fig. 4B). In such a way these have brought a good name to this region as well as the country as a whole. The show rooms of these mills are located in the country i.e. in Bangalore, Belgaum, Hubli, Dharwad, Shimoga, Bombay and Delhi.
Other industries in this category are ginning and pressing mills. Ginning is one of the oldest industrial concern in the region. This can be seen that, the first ginning factory, viz., the Kotturabasaveshwar ginning factory was established in 1905. The total number of ginning and pressing factories in the district are twenty one and out of them fifteen are located in Davangere. Even though, these are seasonal, sometimes, these factories work throughout the year in one way or the other activities in ginning or decorticating groundnut and other seeds. Such a routine processing has made the labourers not to be idle. They enjoy throughout year working. Women are specially appointed in these industries. Thus the working force of women in the city is highly appreciable.

Only one textile mill is running at Harihar i.e. Hamsagar textile mill. It produces hosiery goods such as sarees, dhoties, banians, bedsheets, etc. The trade aspect of this industry is chiefly derived from the trade with Davangere. About 210 workers are employed in this factory.

Oil Mills

Oil mills are next important industry in Davangere. The extraction of oil is fairly old in this region. In olden days the oil was extracted by means of expellers of the old type. After 1950, this type of industry developed due to
4. Makanur Malleshappa Industries

5. Mysore Kirloskar Ltd., Harihar

6. Harihar Plyfibre - Harihar
high demand and technological advancement. As the oil mills grew to a considerable extent, much impact was identified on agriculture and village economy of the region. The remarkable impact was noticed in the products and area under groundnut, cotton, sunflower and other oil seeds in the region. The area under the production of oil seeds has been increased from 41,000 acres in 1961 to 65,000 acres in 1975.

There are seventeen oil mills with sixty six expellers of standard size in the district of the total, ten are located in Davangere and one at Harihar. The important industries are B.T. Oil mill, Ravi vegetable oil mill and Chandrodaya oil mills. These control the whole region in respect of trade and agricultural products of the oil seeds (Photos34). The table - 8 depicts the structure of oil mills of Davangere.

The table - 8 reveals that this category of oil mill is one of the oldest in the industrial setup. Most of the industries were established between 1930-1950. This is due to the encouragement given by the Government. More than one thousand workers are employed in these industries. Other than this, the skilled and unskilled workers have been employed on temporary basis.
### Table - 8

**STRUCTURE OF OIL MILLS**

<table>
<thead>
<tr>
<th>Name of firm</th>
<th>Year of establishment</th>
<th>No. of persons employed</th>
<th>Production of oil in 00 quintals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bharamappa Tavarappanavar oil mill</td>
<td>1890</td>
<td>250</td>
<td>118</td>
</tr>
<tr>
<td>Jayadev ginning mill</td>
<td>1929</td>
<td>48</td>
<td>23</td>
</tr>
<tr>
<td>S.G.S. oil mill</td>
<td>1930</td>
<td>58</td>
<td>33</td>
</tr>
<tr>
<td>Jayalaxmi oil mill</td>
<td>1934</td>
<td>52</td>
<td>26</td>
</tr>
<tr>
<td>Jyanahalli oil mill</td>
<td>1935</td>
<td>60</td>
<td>32</td>
</tr>
<tr>
<td>Hindustan oil mill</td>
<td>1936</td>
<td>42</td>
<td>22</td>
</tr>
<tr>
<td>Ravi vegetable oil mill</td>
<td>1956</td>
<td>260</td>
<td>121</td>
</tr>
<tr>
<td>Chandrodoy oil mill</td>
<td>1967</td>
<td>232</td>
<td>112</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>-</td>
<td>1002</td>
<td>487</td>
</tr>
</tbody>
</table>

Source: Collected from various industries, 1976.

Thirty five per cent of the production of oil is sold out locally and forty six per cent trade is sold out of the state while nineteen per cent is exported to foreign countries, namely Australia, Newzealand, Shrilanka, and Bangla Desh. Vanaspati oil, oil cake, washing soap, solvent oil, castor oil etc., are exported to the above said countries. Totally much scope exists for the development of oil mills in this region. Other than these mills, oil is extracted from oil
producer in the city and they are running on small scale base and accounting thirty in number. These are not progressive because of indigenous method of production of oil and the competition from the big mills. The reason for this is due to crude method of production, besides the quality is not superior to that produced by modern mills. Recently Government has been trying to improve small scale and cottage industries by supplying modern machines, financial aid, etc. They have also a larger scope, if they adopted the modern method in processing.

The other agro-based industries in the city are puvva mills, flour mills rice mills, dairy products, Bakeries, coffee works and jaggery. The dairy products, jaggery, and puvva are sent to Bangalore, Belgaum, Gangavati, etc.

2.5.2 Harihar

Even though the outskirt of the twin towns is only 7 kms, there is an indication of merging of the two units in a short period. Davangere attracted the agro-based industries whereas Harihar unit attracted ferrous and non-ferous, general engineering and pulp industries. The impact of these industrial establishments at Harihar has changed the functional character. Today the face of Harihar has changed from a centre of pilgrimage to an industrial town. Today it is known as an industrial centre in the country.
During pre war period, none of the Indians had taken up any decision to establish industry at Harihar. But the credit for putting up a factory at this place goes to Kirloskar Bros. Ltd., who were the pioneers in this field (M.K. report, 1967, p. 2). The necessity for such a venture became more obvious, when India was completely isolated from the rest of the world after the fall of France in 1940 and the country had to depend upon her own resources. With this background, the late Shri Laxman Rao Kirloskar, the founder of M.K. group of industries, with the help of the Mysore government established the Mysore Kirloskar unit at Harihar in 1941 (Photo:- ).

Since then the unit had several expansion schemes and the notable one is the development in the diversification on the line of manufacturing in collaboration with M/S. Affered Herbert of Coventry, U.K. in 1958. (Mysore Kirloskar report, 1967). Today the unit manufactures different types of machine tools besides lathes. During the first year, the factory turned out 149 machines and in 1951, its turnover was 858 machines (Table - 9).
### Table - 9

**PRODUCTION OF MACHINE TOOLS**

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of machines manufactured</th>
<th>Sales of machine tools in lakh of Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>1300</td>
<td>113.40</td>
</tr>
<tr>
<td>1965</td>
<td>3050</td>
<td>334.14</td>
</tr>
<tr>
<td>1970</td>
<td>3928</td>
<td>443.73</td>
</tr>
<tr>
<td>1975</td>
<td>8964</td>
<td>1011.43</td>
</tr>
</tbody>
</table>

Source: Survey conducted, 1976-77.

Today 12 per cent of the total Indian output in machine tools comes from Mysore Kirloskar Limited* (Including the units at Hubli and Sattur), the following table gives the labour force and its decadal variation from the inception.

### Table - 10

**LABOUR FORCE VARIATION**

<table>
<thead>
<tr>
<th>Year</th>
<th>Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1941</td>
<td>50</td>
</tr>
<tr>
<td>1951</td>
<td>1170</td>
</tr>
<tr>
<td>1961</td>
<td>1678</td>
</tr>
<tr>
<td>1971</td>
<td>2678</td>
</tr>
<tr>
<td>1975</td>
<td>3083</td>
</tr>
</tbody>
</table>

Source: Mysore Kirloskar Factory, Harihar.

Actually the factory was commenced in 1941 by employing 50 workers. Presently, the number of workers employed here increased 62 times (3083 workers). Table - 10 reveals that by 1950 the increase in workers is seen in the employment strength in this unit.

Export Performance of Mysore Kirloskar Limited

Earlier the country exported only raw materials and khadi crafts and imported finished products. Later it has emerged as a major exporter of machine tools. The Mysore Kirlosker has blazed new trials in the export of precision machine tools to advanced countries as follows:

Table - 11

<table>
<thead>
<tr>
<th>Countries Exported</th>
<th>Value in lakh Rs.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.A.</td>
<td>55.00</td>
<td>41.79</td>
</tr>
<tr>
<td>Australia</td>
<td>22.15</td>
<td>16.82</td>
</tr>
<tr>
<td>Canada</td>
<td>18.00</td>
<td>13.67</td>
</tr>
<tr>
<td>U.K.</td>
<td>8.00</td>
<td>6.08</td>
</tr>
<tr>
<td>Indonesia</td>
<td>10.00</td>
<td>7.59</td>
</tr>
<tr>
<td>Newzealand</td>
<td>4.2</td>
<td>3.19</td>
</tr>
<tr>
<td>Philipines</td>
<td>3.8</td>
<td>2.88</td>
</tr>
<tr>
<td>Others</td>
<td>10.5</td>
<td>7.98</td>
</tr>
<tr>
<td>Total</td>
<td>131.65</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: Survey conducted in 1976-77.
Table - 11 depicts that most of the exports of finished goods are sent mainly to advanced countries. The major share is to U.S.A., Australia and Canada with 79%, 82% and 13.67% respectively. This unit has given rise to a number of small ancillary industries. These small units, since they are mostly depending on the Mysore Kirloskar, are located in the industrial estates to minimize transport cost.

Among the ancillary units, the Craft Tools Private Limited is the biggest unit. In addition to the making of job works of Mysore Kirloskar, they also manufacture small machine tools like universal machine tool, hacksaws, machine quick tool post. This unit employs about 90 workers. There are other units for packing, boxes, etc.

Apart from these, there are a number of puwva mills, rice mills, saw mills, engineering, beedi works and parched rice mills in the town which contribute a large share in the industrial setup.

The Harihar Polyfibre Factory (Photo-6)

The Harihar Polyfibres which is one of the Birla concerns in India, is situated on the other side of the river Tungabhadra. But its location is in the revenue area of Ranebennur taluka which belongs to Dharwad district.
Later an industrial area named Kummar pattan. Harihar is the nearest town located on the other side of the river. Hence it is named 'Harihar Polyfibres'. The very name of industrial units makes it clear that, it has something to do with the Harihar town. Even from a functional point of view, it is completely linked with Harihar town. Most of the people of this industrial concern reside at Harihar itself. Government also gave some facilities to establish the factory at this place.

The Harihar Polyfibres unit started in 1970 and it is one of the modernised industrial units in India. Most of the work is done by machines and there is a closed television system too, to watch the progress of work in the various sections.

Eucalyptus Wood is the raw material used for manufacture of the pulp which is finally utilised in the manufacture of the synthetic yarn. The pulp is packed and sent to Nagda a place in Madhya Pradesh State, where the yarn is made and supplied to textile in dust.

The majority of the labour strength comes from the Harihar town and surrounding villages. This is the 'labour link' of the industrial unit with the town. It employs about 1600 workers. This industry consumes huge quantity of water and emits a huge quantity of water and smoke. Earlier, this
waste water flowed into the river. As a result, the river water become polluted. Later it was purified and joined with the river. The purification started as a result of complaints from the public on large scale delegation to the Government and Factory. So immediate arrangements were made by the factory.

All these large scale industrial units of Harihar form a sound industrial base for Harihar town in the industrial map of Karnataka. The products manufactured in these twin towns are exported to different parts of the nation and also to different countries of the world. Hence, the industrial importance of twin towns not only depends on the productivity but also on the qualitative aspects of the production. Necessary arrangements have been made by the factories to maintain the standard of quality of various products.
REFERENCES

   Market towns and spatial development", New Delhi, p. 121.


11. Ibid., p. 418.


ADDITIONAL REFERENCES


