

CHAPTER V

INDUSTRIES

The Bangalore rural district is endowed with agricultural and horticultural crops such as ragi, rice, groundnut, castor, castor sugarcane, grapes, mulberry and adequate infrastructural facilities such as transport and communications, banking and credit, marketing and industrial estates. The soil and climatic condition of the district are congenial for cultivation of mulberry, rearing silk worms and production of silk, besides other agro-based industries. Though the mineral and forest resources of the district have not gained economic importance, the non-metallic mineral resources such as kaolin, quartz, clay and building and ornamental stones have been utilised for manufacture of tiles, bricks, stoneware, pipes etc.

OLD TIME INDUSTRIES

Even though people of the district of the ancient period depended mostly on agriculture for earning their livelihood, many crafts and industries flourished. Most of them were hereditary and the various caste name such as the Devangas, Kumbaras, Panchalas, Pattegars, Medars, etc. indicate the craft or industry which they followed.

Though industries like weaving, mining and smelting flourished in the area under study in ancient times, no information by way of details is available till the days of Buchanan's visit in 1800. Though Dodballapur had been a major centre of handloom weaving and hundreds of weavers from the town later came and settled down in Bangalore during the 16th to 18th centuries and called their new street as Ballapur Pete (present Rangaswamy Temple Street), no details about the weaving activities in Dodballapur are available in inscriptions. But the levy of loom tax or *maggadere* in various places helps one to conclude that weavers were scattered over a wide area. Thus records speak of existence of looms at Yaliyur and Banatiyahalli in 1278 (Cp

65), Sulleri during the days of Hoysala Narasimha II (MAR 1942, NO.26), Chakkere in 1534 etc. The Panchalas were craftsmen engaged in industries like smithy in addition to carpentry. They are mentioned in records from Istur (Dodballapur taluk: Db 52) of c1306 or Mudawadi (Kn 11) of Kanakapur taluk in the 13th century etc. The latter record makes it clear that they included carpenters, blacksmiths and goldsmiths. A huge bell at the Shivaganga temple was wrought in 1578 by some local brazier called Namashivaya vodeya (N1 109). It stands testimony to the skill in bronze work. Elekyatanahalli in Nelamangala taluk had also been a centre of bronze work known for its manufacture of vessels and images.

Extraction of oil, tanning, basket making, weaving of blankets (*kambli*), pot manufacture etc. were some of the traditional crafts flourishing from good old days. Kanakapura had also been a centre of weaving cloth. Chikkadeva Raja, and more than him, Tipu Sultan had made special efforts to encourage industries. The latter's efforts to help the growth of horticulture, sugar manufacture, weaving etc. are well known. This is testified by Buchanan also. Buchanan presents a description of iron mining in around Magadi and Ghattipure nearby was a centre of steel manufacture. He gives a detailed description of the processes of smelting. Dodballapur was a centre where red cotton cloth was manufactured. At Channapatna quality sugar was manufactured and he also describes the process of sugar production with suitable illustrations. He also speaks of the steel wires used in musical instruments being manufactured there, mainly by the efforts initiated by Tipu. Bottles and bangles of glass were also manufactured at Channapatna and this industry too grew by the efforts of Tipu. In Channapatna area, the community of Holeyas were engaged in the manufacture of coir ropes as coconut plantations were plenty in the area and raw material was readily available according to Buchanan. At Kanakapura, Tipu had founded a large-scale foundry to manufacture guns and also workshop to produce war materials like weapons. This was run by the government.

At the beginning of this century, Dodballapur had been a major weaving centre, engaged in the production of cheap sarees. Thyamagondlu was famous for weaving costly cloth. Silk sarees were manufactured at Kanakapura and in its surroundings. Magadi was famous for the manufacture of brass articles, mainly vessels. Tirumale near Magadi was renowned for musical instruments like *tambura* and *veena*. Devanahalli produced quality sugar and it is said that Tipu had commissioned experts from China to develop this sector. A tannery was founded at Channapatna in 1905 and it provided employment to 47 persons and produced goods worth Rs 1.10 lakhs in 1916. Lacquerware,

mainly manufacture of toys, provided jobs to considerable numbers in Channapatna. The silk weaving unit at Channapatna started as a joint stock company in 1916 can be reckoned as the first organised industry in the rural district. During the later parts of the 1920s and the early years of the 1930s, power was supplied to all major towns, and it also came to be used for industrial purposes. Power looms came to be started in many places, especially in Dodballapur and Kanakapura. The Government silk filature, Kanakapura was founded in 1943 to meet the war-time needs. Though some more organised new industries were started in the 1960s and 1970s, most of the new industries in the district are of recent origin, of the post 1980 period.

The most general manufactures, carried on all over the district, are those of cotton, silk and wollen fabrics; the extraction of oils from castor, groundnut, gingili etc: twisting of coir ropes, weaving of bamboo baskets and mats, and manufacture of carpentry and black-smithy articles including bullocks-carts, furniture and other household articles. Some famous articles which are being produced in the district are concentrated in one or a few places in the district. Channapatna is famous for its wooden toys. Lacquerware industry prevails at Channapatna and Ramnagaram. Weaving of silk sarees is done at Dodballapur, Tyamagondlu and Kankanhalli. Coarse cotton cloth and *kambli* are made at Devanahalli and many parts of Channapatna taluk. Mulberry growing, silkworm rearing, and reeling weaving are important occupations in the district. Pottery is another occupation which is scattered all over the district.

POLICY AND PROGRAMMES OF THE GOVERNMENT

The policy of the Government is to disperse industries over a wider area, to provide employment opportunities to the local people and thus halt the population movement from the rural areas. As a result of this, the industrial growth began to shift from Bangalore Metropolitan area to rural areas of the district as well as to other areas in the State. The Bangalore Rural district is the ideal place to start new industries or expansion of existing industries as it spreads around Bangalore Metropolitan area with district headquarter in Bangalore. Its taluk headquarters are within the distance of 20 to 60 km from district headquarter and they are having adequate infra-structural facilities such as transport and communication, banking, marketing, etc. besides the availability of agricultural commodities.

The Bangalore Rural District has not been declared as industrially backward district by Government of India and the entrepreneurs are not eligible for Central investment subsidy in fixed

investment. The State Government has selected some areas of the district under Zone I and Zone II to provide assistance and incentives to the industries set up in these areas. Devanahalli, Dodballapur, Hoskote, Nelamangala and Ramanagaram are coming under Zone I and Channarayana, Kanakapura and Magadi under Zone II.

INCENTIVES AND CONCESSIONS

The State level committee, consisting of Secretary to Government, Commerce and Industries Department as Chairman, Commissioner for Industrial Development and Director of Industries and Commerce as member-secretary, Secretary to Government, Finance Department or his nominee, Managing Director, Karnataka State Financial Corporation; Managing Director, Karnataka State Industrial Investment and Development Corporation and Managing Director, KEONICS as members, determines the package of incentives and concessions for new industrial projects. The commissioner for Industrial Development and Director of Industries and Commerce shall act according to the decisions of and guidelines issued by the State level committee. The State Level Committee is also authorised to constitute District Level Committee for the administration of the package of incentives and concessions in respect of small scale and tiny sector industries within jurisdiction of the respective districts.

The package of new incentives and concessions for new industrial projects units in the State which was introduced vide Government Order issued in December 1988 will be in force for five years with effect from 1st April 1988. The package will be applicable to new industries registered with the Director of Industries and Commerce on or before 31st March 1988 and having obtained sanction of financial assistance before the said date. New industries set up during the period with or without financial sanction obtained from the financial institutions on or after 1st November 1987 and on or before 31st March 1988, shall not be eligible for development loan and working capital loan. The investment subsidy of 15 per cent of the value of fixed assets subject to a maximum of Rs 15 lakhs for tiny, small scale industries, medium and large scale industries is available for new industrial units coming up in Zone II in the district. The new tiny and small scale industries coming up in Zone II are eligible for sales tax exemption for a period of five years. New large and medium industries in Zone II are eligible for deferment of sales tax for a period of five years.

Special concessions: : An additional 5 percent investment subsidy subject to a maximum of Rs 1 lakh shall be available for the new tiny and small scale units set up exclusively by SC/ST and physically

handicapped entrepreneurs in Zone II in the district. Tiny and small scale units set up exclusively by women entrepreneurs either individually or collectively and employing more than 51 per cent women in such units are eligible for additional 5 per cent investment subsidy, subject to a maximum of Rs 1 lakh and sales tax is exempted in Zone II in the district. Women entrepreneurs shall be given priority in allotment of scarce raw materials, allotment of sheds and preference in Government purchases.

The new tiny and small scale industries shall be eligible for exemption of stamp duty and concessional registration charges in respect of loan and credit documents executed for availing financial assistance from State Government and or/recognised financial institutions and also lease/sale deeds executed by the new industrial units in the tiny and small scale category for sheds/plots taken on lease-cum-sale basis from KSSIIC, KIADB, KEONICS or from other government agencies.

Terms and Conditions: These incentives and concessions shall be applicable for new industries whose investment has taken place on or after 1st April 1988 and subject to the condition that they have availed no such concessions in part. (1) All new industrial units shall provide minimum employment of 80 per cent to local people; (2) The quantum of investment subsidy shall be limited to the original cost of the project as approved by the financial institutions or the actual investment, which is less; (3) wherever the central investment subsidy is available, state subsidy would be granted except to the extent of the difference in the rate of central subsidy and state subsidy, where the state subsidy applicable is higher; (4) The total investment subsidy available for special categories of entrepreneurs including additional subsidy shall not exceed 25 per cent of the value of fixed assets.

MARGIN MONEY SCHEME FOR SICK INDUSTRIES

The Government of India have made certain modifications in the margin money scheme for revival of sick small scale units. A small scale unit should be considered sick if it satisfies the standard norms of sickness and only those units which are considered to be potentially viable should be taken up for rehabilitation under this scheme subject to the following terms and conditions: (1) Margin money in the shape of loan may be sanctioned to a sick small scale units only on the recommendation of the State Level Rehabilitation Committee (SLRC) for revival of sick units or its sub-committee or any committee constituted for this purpose by the State Government.

(2) Applications from only registered units are considered. (3) SLRC may arrange for visibility study of sick SSI Unit referred to it and only those cases which have been found potentially viable should be taken up for assistance under the scheme. (4) The maximum assistance under the scheme shall be restricted to Rs 50,000 per unit. The Central assistance would be limited to 50 per cent of the total margin money loan sanctioned by the State Government. (5) The loan sanctioned may not normally exceed 50 per cent of the margin money required by the entrepreneur to avail of the additional loan from financial institutions/banks under the rehabilitation programme. Similar percentage limit in case of tiny unit will be 75 percent. In certain cases, this amount may be increased upto 75 percent (or upto 90 per cent in the case of tiny units) subject to the maximum ceiling of Rs 50,000 per unit. (6) The period of moratorium if any, as well as the repayment schedule may be decided by the SLRC subject to the condition that the moratorium shall not in any case, exceed four years and the total period for the repayment of the loan inclusive of the moratorium period shall be nine years. The beneficiaries under the scheme of Margin Money for Sick Industries submit a performance report at the end of every quarter to the Director of Industries with copy to the Director of small Industries Service Institute.

MODERNISATION OF SMALL SCALE INDUSTRIES

Under the scheme of modernisation of selected small scale industries initiated by the Small Industries Development Organisation the following 26 industries in Karnataka have been selected for modernisation during 1988-89: (1) Bakery products/confectionery (2) Poultry food (3) Synthetic detergents (4) liquid rubber products (5) Electrical lamps and its components including GLS Lamps and miniature lamps (6) Power and distribution transformers (7) Welding electrodes (8) aluminium utensils (9) Ophthalmic lenses and optical lenses from glass bangles (10) stone industry (11) agricultural pumpsets (12) diesel engines (13) locks (14) sewing machines (15) bicycle industry (16) assembly of loud speakers (17) radio and T.V. coils and I.F. transformers (18) umbrella industries (19) electroplating industries (20) fruit and vegetable preservation (21) doll making industry (22) foundry (23) leather and leather garments (24) plastic furnitures (25) fibre glass (26) metal processing.

Small scale industrial units interested in participating in the programme of modernisation may contact the Director, SISI, for the prescribed application form. Priority will be given to industries engaged in the manufacture of import substitution items or with potential for export of their products.

The State owned institution viz., Karnataka State Industrial Investment and Development Corporation, Karnataka Industrial Area Development Board and Karnataka State Financial Corporation are the vanguard of industrialisation in the State. For the development of Khadi and Village Industries and small scale industries, Khadi and Village Industries Board, Handloom Development Board besides other statutory Boards and Corporations such as Leather Industries, Sheep and Wool Development, etc., were set up. One Engineering college at Ramanagaram and one Polytechnic School at Channapatna besides three Artisan Training Institutes (at Channapatna, Ramanagaram and Nelamangala) and three Industrial Training Institutes (at Kanakapura, Devanahalli and Nelamangala) and two Lacquerware Training Institutes (at Channapatna and Kanakapura) are providing training facilities and to create technically skilled persons in the district. The Karnataka State Small Industries Development Corporation has given special emphasis to construct industrial estates in semi-urban and rural areas with the special assistance of unemployed technicians and thus help to develop small scale industries in the district. The Karnataka Industrial Area Development Board has developed industrial areas and allotted plots to the large and medium scale industries besides small scale industries. Finance is indispensable for industrial activities, and commercial banks and other financial institutions mobilise savings from the people and feed the same to the industries. In addition to this, Karnataka State Finance Corporation, a leading institution of the State Government has a branch in the district which is financing industries in the district.

POWER

Energy is the basic need for all aspects of life. Hydro-electric power is an important input for industries. Hydro-electricity is not generated in the district. But hydro-electric power generated at Shivasamudra and Shimsha generating station was supplied to the district. Bangalore city was electrified on 5th August 1905. The taluk headquarters and other towns of the district were electrified in the year as quoted in brackets against the town, viz., Kanakapura (14-7-1929), Devanahalli (16-8-1933), Dodballapura (1932) and so on. The Mahatma Gandhi Hydro-Electric Station at Jog commissioned in 1948 is supplying power to the district. At the end of March 1988, all the towns and 99 per cent of the inhabited villages of the district were electrified. They are getting electricity from Hydro-Power Receiving Stations and Voltage class of 66/11 KV Power stations are located at Kanakapura, Chandrapura, Ramanagaram, Channapatna, Nelamangala, Magadi, Dodballapura, KIAOB Dodballapur and Devanahalli and 33/11 K.V.

Station at Vijayapura. Taluk-wise total number of inhabited villages as per 1981 census and number of villages electrified in the district as on 31st March 1988 were as follows:-

| Name of the Taluk | No. of In-habited Villages | 1981 Census | |
|-------------------|----------------------------|--------------|-------------------|
| | | as per towns | including Hamlets |
| | | | Total |

| | 1981 Census | 1988 Census | Total |
|--------------|----------------|-------------|-------|
| Channarayana | 134(1) | 133 | 254 |
| Devanahalli | 193(2) | 239 | 269 |
| Dodballapur | 271(1) | 262 | 379 |
| Hoskote | 251(1) | 306 | 327 |
| Kanekapura | 236(1) | 235 | 591 |
| Magadi | 267(1) | 304 | 594 |
| Nelamangala | 228(1) | 295 | 467 |
| Ramanagara | 127(1) | 128 | 385 |
| Total | 1707(9) | | |

Sources: District Statistical Office and K.E.B. Office

Note: Figures in brackets are towns; (2) No. of villages electrified also include the village of Jala, Bidarehalli, Tavarekere and Desanapura Hoblis of Old Devanahalli, Hoskote, Magadi and Nelamangala taluks respectively.

Statement showing the taluk-wise and category-wise length of transmission lines in the district as on 31st March 1988 is presented in next page.

Statement showing the taluk-wise and category-wise number installations in the district as on
31st March 1988

254

| Name of the Taluk | Houses LTI | A.E.H. | Commercial | I.P. sets | Commercial industries | Drink- ing water | Street Light | Bhagya Jyothi | H.T.Consumers |
|-------------------|------------|--------|------------|-----------|-----------------------|------------------|--------------|---------------|---------------|
| Channarayana | 13,966 | 1,280 | 2,197 | 4,004 | 651 | 57 | 242 | 1,557 | 2 |
| Devanahalli | 15,176 | 1,092 | 1,125 | 11,400 | 788 | 39 | 1,446 | 1,902 | 6 |
| Dodballapur | 14,841 | 1,182 | 1,762 | 4,286 | 2,946 | 54 | 1,671 | 2,220 | 16 |
| Hoskote | 19,849 | 2,191 | 1,496 | 12,807 | 953 | 57 | 1,098 | 3,516 | 32 |
| Kanakapura | 16,285 | 1,017 | 1,706 | 6,689 | 892 | 86 | 375 | 1,017 | 3 |
| Magadi | 17,184 | 788 | 1,025 | 3,011 | 1,000 | 26 | 3,293 | 2,253 | 2 |
| Nelamangala | 14,534 | 1,468 | 1,153 | 2,625 | 467 | 56 | 2,446 | 1,780 | 10 |
| Ramenageram | 12,326 | 1,331 | 1,808 | 4,010 | 1242 | 26 | 306 | 1,331 | 9 |
| Total | 1,24,161 | 10,349 | 12,272 | 48,832 | 8,939 | 401 | 10,877 | 15,576 | 80 |

KARNATAKA STATE GAZETTEER

Source: K.E.B. Bangalore

Statement showing the taluk-wise and category-wise length of transmission lines in the district as on 31st March 1988

| Taluk | 11 KV lines in Km. | L.T. Lines in Km. |
|-------------|-----------------------|----------------------|
| Chennapatna | 385.000 | 1,840.090 |
| Devanahalli | 240.099 | 2,085.635 |
| Dodballapur | 525.495 | 1,347.055 |
| Hoskote | 565.895 | 3,051.797 |
| Kanakapura | 498.150 | 1,992.600 |
| Magadi | 553.570 | 1,568.887 |
| Nelamangala | 366.560 | 1,130.035 |
| Ramanagaram | 326.100 | 1,017.570 |
| Total | 3,460.869 | 14,033.669 |

Sources: K.E.B. Bangalore.

Statement showing the taluk-wise and item-wise supply of electricity in the district from
1985-86 to 1987-88

256

| Name of the Taluk | Total No. of villages electrified | | 1987-88 | Total No. of I.P. Sets electrified | | | No. of beneficiaries under Bhagya Jyothi | | |
|-------------------|-----------------------------------|---------|---------|------------------------------------|---------|---------|--|---------|---------|
| | 1985-86 | 1986-87 | | 1985-86 | 1986-87 | 1987-88 | 1985-86 | 1986-87 | 1987-88 |
| Channarayana | 19 | 3 | 2 | 401 | 368 | 219 | 155 | 300 | - |
| Devanahalli | - | - | - | 441 | 424 | 291 | 160 | 299 | - |
| Dodballapur | 24 | 20 | - | 276 | 333 | 249 | 160 | 399 | 100 |
| Hoskote | - | - | - | 638 | 620 | 348 | 325 | 460 | - |
| Kanakapura | 20 | 12 | 3 | 529 | 560 | 288 | 200 | 350 | 220 |
| Magadi | 34 | 5 | - | 415 | 309 | 121 | 210 | 313 | 250 |
| Nelamangala | 14 | - | - | 247 | 195 | 210 | 105 | 255 | - |
| Ramanagara | 22 | 7 | 4 | 298 | 360 | 172 | 105 | 250 | - |

Sources: Taluk Vikasa Patrike of Bangalore (Rural) District.

KARNATAKA STATE GAZETTEER

Statement showing the taluk-wise demand for electricity under different category in the district as on 31st March 1988

| Name of the taluk | Domestic lighting in MW | AEH in MW | Commercial lighting in MW | I.P. sets in MW | Water works MW | H.T. in MW | Others in MW |
|-------------------|-------------------------|-----------|---------------------------|-----------------|----------------|------------|--------------|
| Channarayana | 6.983 | 3.840 | 2.190 | 12.010 | 0.170 | 0.831 | 0.201 |
| Devanahalli | 7.588 | 3.276 | 1.125 | 34.200 | 0.117 | 1.925 | 0.259 |
| Dodballapur | 7.421 | 3.546 | 1.762 | 12.858 | 0.162 | 5.705 | 0.300 |
| Hoskote | 9.924 | 6.573 | 1.496 | 38.421 | 0.171 | 22.950 | 1.309 |
| Kanakapura | 8.140 | 3.050 | 1.700 | 20.050 | 0.250 | 10.245 | 0.080 |
| Magadi | 8.582 | 2.364 | 1.025 | 9.033 | 0.078 | 8.988 | 0.465 |
| Nelamangala | 7.267 | 4.404 | 1.153 | 7.875 | 0.168 | 4.350 | 0.352 |
| Ramanagara | 6.160 | 3.990 | 1.800 | 12.030 | 0.070 | 3.214 | 0.243 |

Source: K.E.B. Bangalore.

Statement showing the existing transmission lines in the district as on
31st March 1988

258

| Sl. No. | Village class | From | To | Double or single circuit | Station-located | Capacity in MVA | Length in Km. |
|---------|---------------|--------------------|--------------|--------------------------|-----------------|-----------------|---------------|
| 1. | 66/11KV. | Hoody | Chendrapura | SC | Chendrapura | 2 x 12.5 MVA. | - |
| 2. | - do - | Somanahalli | Kanakapura | - do - | Kanakapura | 2 x 8 MVA | - |
| 3. | - do - | Kanakapura | Ramenageram | - do - | Ramenageram | 2 x 8 MVA | - |
| 4. | - do - | Ramenageram | Chennapatna | - do - | Chennapatna | 2 x 8 MVA | - |
| 5. | - do - | Peenya | Nelamangala | | | | |
| 6. | - do - | Nelamangala | Tunkur | - do - | Nelamangala | 1 x 8 MVA | - |
| 7. | - do - | N.R.S. Rajajinager | Magadi | - do - | Magadi | 1 x 6 MVA | - |
| 8. | - do - | Magadi | Kunigal | | | | |
| 9. | - do - | Peenya | Dodballapur | | | | |
| 10. | - do - | Dodballapur | Gouribidenur | D.C. | Dodballapur | 2 x 8 MVA | |
| 11. | - do - | Dodballapur | Devanahalli | S.C. | Devanahalli | 2.8 MVA | |
| 12. | - do - | Dodballapur | K.I.A.D.B. | D.C. | K.I.A.D.B. | | |
| | | Dodballapur | Dodballapur | | Dodballapur | 1.8 MVA | |
| 13. | 33/11KV. | Dodballapur | Vijayapura | D.C. | Vijayapura | 2.8 MVA | |

Sources: K.E.B. Division Offices of South and North (Rural)

KARNATAKA STATE GAZETTEER

MEDIUM AND LARGE SCALE INDUSTRIES

The existing industries in the district can be studied under five groups, viz., Medium and Large Scale Industries, Small Scale Industries, Handlooms, Handicrafts and Khadi and Village Industries.

There were 24 medium and large scale industries in the district with a capital investment in plant and machinery of about Rs 2,500 lakhs and providing employment to about 6,500 persons at the end of March 1988. One feature of medium and large industrial activities in Bangalore Rural district was that out of 24 factories 21 were in private sector and remaining three factories viz., Karnataka Housing Board Brick Plant, Hoskote, Government Spun Silk Mills, Channapatna and Government Silk Filature, Kanakapura were Karnataka State Government ventures. Of the three factories under public enterprise, one factory i.e., Karnataka Housing Brick Plant, Hoskote is not working. Items manufactured in medium and large scale industries in the district were, spun silk fabrics, raw silk, viscose fibre yarn, cellulosic spun yarn, weaving and dyeing silk fabrics, cotton yarn, oil impregnated paper, condensor, bushings, press boards, press paper and filter paper, mica paper, mica products etc. In addition to the existing units, about half-a-dozen medium and large scale industrial units are in various stages of erection in the district.

Salient features of some of the existing medium and large scale industrial units in the district (information on whom was made available to this office) as on 31st March 1988 were as follows:

1. *Sree Valliappa Textiles* a public limited company, was established in 1963 at Hejjala Village in Ramenagaram taluk, with a view to produce cotton and synthetic yarn in cones and hanks. Cotton and synthetic man-made fibre are used as raw materials and these items are available adequately in local markets. Its finished products viz., cotton and synthetic yarns are selling mainly in Bombay market. It provided employment to 294 persons and paid Rs 55.87 lakhs as wages during 1986-87. It produced 11,134 quintals of yarn with the help of 37,168 spindles during the year 1986-87.

2. *Lakshmanan Isola*, a public limited company, was established at Achalu village in Ramenagaram taluk in 1976, with a view to manufacture of mica papers and mica paper products. It uses mica scrap, sulphuric acid, sodium carbonate, hydrochloric acid, caustic lye, epoxy resin, silicon resin, hardner, solvents, glass cloth etc. as raw materials and these items are obtained both from local and foreign

markets. It provided employment to 58 persons and paid Rs 9.24 lakh as wages during 1986-87. The production capacity of the firm was 300 M.T. and 200 M.T. of Mica paper and Mica products respectively and actual production during the year 1986-87 was 1,26,156 kg and 25,226 kg mica paper and mica products respectively. Its products are being sold directly to the customers.

3. *Soma synthetics.* a unit of Sree Valliappa Textiles limited, a public limited company, was established at Yedamadu village of Kanakapura taluk, with a view to produce polyester, synthetics and cotton yarn. It uses cotton and synthetic man-made fibre as raw materials and these items are available in plenty in Karnataka and synthetic fibres from Reliance and Gwalior Rayon. The capital investment on this mill was Rs 3.5 crores. It provided employment to 150 persons and paid Rs 12.12 lakh as wages during 1986-87. It produced 6,742 quintals of yarn by using 12,576 spindles during the year 1986-87. Its products are being sold in Bombay markets.

4. *Gemini Steel Tubes.* a public limited company was established in 1981 at KIADB Industrial Area, Hoskote, with a view to manufacture ERs precisions steel tubes and lancing pipes. The capital investment on this firm was Rs 1.70 crore. It provided employment to 79 persons and produced 3,352 M.T. of steel tubes and lancing pipes against the capacity of 15,000 MT/PA during the year 1985-86. Its raw materials viz., C.R. and H.R. coils and strips are obtained from Steel Authority of India Limited. Its manufacturing items are being sold mainly in South Indian markets.

5. *National Standard Duncan.* a public limited company, was established in 1984 at KIADB Industrial Area, Hoskote, with a view to produce tyre moulds. The capital investment on this firm was Rs one crore. It provided employment to 50 persons and paid Rs 1.35 lakh as wages during 1985-86. It produced 39 moulds of tyer during 1986-87. Its products are being sold in Bombay market.

6. *Sun Fruits (P) Ltd.* was established in 1984 at KIADB, Dodballapur for manufacturing pulps of mango, guava, papaya and RTS drinks. The capital investment on this firm was Rs 2 crores. It provided employment to 35 persons at the end of March 1988 and produced 500 M.T. of pulps and drinks as against the production capacity of 200 M.T. during the year 1987-88.

7. *Himatsingka Seide Limited.* was established in 1985 at KIADB Industrial Area, Dodballapur, with a view to produce export-oriented natural silk fabrics. The capital investment to this firm was Rs 8.77

crores. It uses pure silk as its raw material and silk yarn is imported from China. It provided employment to 88 persons besides 17 supervisory and technical staff at the end of December 1988. It has an installed capacity of 7,50,000 sq mtrs of natural silk fabrics per annum.

8. *Shrishma Fine Chemicals and Pharmaceuticals (Karnataka)*, a public limited company in joint sector with KSIIDC, was established in 1985 at KIADB Industrial Area, Dodballapur with registered office in Bangalore, with a view to produce salicylic acid and acetyl salicylic acid (Aspirin). The capital investment on this firm was Rs 4.35 crores. Sodium hydroxide, phenol, sulphuric acid, acetic anhydride and carbon dioxide are used as raw materials and these items are procured both from domestic as well as foreign markets. It provided employment to 241 persons at the end of December 1986 and produced 722.913 M.T. of Aspirin and 798.528 M.T. of Salicylic Acid as against the capacity of 2000 M.T/P.A. of each item. The items produced in this firm are being sold in both domestic as well as international markets.

9. *S and S Bushings*, a public limited company, was established in 1986 at KIADB Industrial area, Dodballapur, for manufacturing synthetic resin bonded fibre glass panels. The capital investment on this firm was Rs 1.10 crores. It provided employment to 25 persons and paid Rs 31.20 lakhs as wages during 1986-87. The production capacity of the firm is 10 tonnes per annum.

10. *Aditya Horologicals Limited* was established in collaboration with Pibor S.A. and Erma S.A. of Switzerland, in 1986 at KIADB Industrial Area, Dodballapur, for manufacturing watch crowns and crystals. The capital investment on this firm was Rs 1.50 crores. It provided employment to 20 persons. The production capacity of the firm is 40 lakh no. of crowns and 40 lakh no. of crystals and it produced 50 per cent of its capacity during 1987-88. Its manufacturing items are supplied to HMT Ltd., Titan Watches Ltd., Bifora Watch Co., and Hyderabad Allwyn Ltd.

11. *Indtech Speciality Chemicals Limited*, a public company, was established in 1988 at Hoskote, with a view to manufacture of cable, filling compounds, petroleum jelly, casting waxes and industrial waxes. The capital investment on this firm was Rs 2.83 crores. It provided employment to 30 persons at the end of December 1988. The production capacity of the firm is 10,000 tonnes per annum.

Statement showing the particulars of Medium and Large Scale Industries in Bangalore
Rural District as on 31st March 1988

262

| Sl. No. | Name and address of the unit | Year of establishment | Goods manufactured | Capital investment Rs in lakhs | Employment in No. |
|---------|--|-----------------------|--|--------------------------------|-------------------|
| 1. | Government Spun Silk Mills, Channapatna | 1936 | Spun silk yarn noil yarn fabrics and carpets | 1627.05 | 893 |
| 2. | Govt. Silk Filature, Kanakapura | 1943 | Raw silk yarn and fabrics | 5.75 | 445 |
| 3. | Sona Synthetics, Yadamadu Village, Kanakapura tq. | 1980 | Polyster synthetic and cotton yarn | 350.00 | 150 |
| 4. | Vallappa Textiles Ltd., Hejjala, Ramenagaram tq. | 1963 | Yarn & Fabrics etc. | 472.31 | 583 |
| 5. | Chamundeshwari Textiles & Silk Mills, Ramenagaram | 1950 | Pure silk fabrics | 61.00 | 382 |
| 6. | Senapathi Whitelays Ltd., Achal, Ramenagaram | 1960 | Electric insulations paper and base filth paper | 447.49 | 284 |

KARNATAKA STATE GAZETTEER

| 1 | 2 | 3 | 4 | 5 |
|--|-------------|---|--------|-----|
| 7. Lakshman Isola Ltd., Achal, Remanagaram | 1976 | Mica paper, integrated Mica Products | 167.52 | 51 |
| 8. K.H.B. Brick Plant, Kodi, Hoskote tq. | Not working | | | |
| 9. Gemini Steel Tubes Ltd., KIADB, Hoskote | 1971 | Steel tubes and lensing pipes | 170.00 | 79 |
| 10. T.T.K. Pharma Ltd., Industrial Area, Hoskote Taluk | 1985 | Freyums & ready to fry snack food | 150.12 | 48 |
| 11. International Coach Builders Industrial Area, Hoskote Taluk | 1982 | Luxury and Semi- luxury aluminium coach body building | 118.55 | 247 |
| 12. National Standard Duncan Ltd. Industrial Area, Hoskote | 1984 | Tyre moulds | 100.00 | 50 |
| 3. Lakshmi Boilers Ltd., Industrial Area, Dodballapur | 1986 | Steam boilers | 166.51 | 22 |

| 1 | 2 | 3 | 4 | 5 |
|--|------|--|--------|-----|
| 14. Standard Duncan Ltd., Industrial Area, Dodballapur | 1987 | Tyre tread wire | 166.50 | 30 |
| 15. Power Plough Ltd., Industrial Area, Dodballapur | 1987 | Synthetic enamel copper wire | 700.00 | 35 |
| 16. Aditya Horologicals Ltd., Industrial Area, Dodballapur | 1986 | Watch crowns and crystals | 150.00 | 20 |
| 17. Himatsingka Seide Ltd., KIADB., Dodballapur | 1985 | Pure Silk fabrics | 876.55 | 88 |
| 18. Geometric Tools Ltd., KIADB., Dodballapur | 1985 | H.S.S. cutting tools | 132.80 | 50 |
| 19. S & S Bushings Limited, KIADB, Dodballapur | 1986 | Synthetic resin bonded fibreglass panels | 109.56 | 26 |
| 20. Sun Crush Fruits (P) Ltd., KIADB, Dodballapur | 1984 | Fruit pulps and RTS drinks | 200.00 | 35 |
| 21. Kolar Woollen and Textiles Ltd., KIADB, Dodballapur | 1986 | Woollen yarn | 128.00 | 250 |

| 1 | 2 | 3 | 4 | 5 |
|---|------|---|--------|-----|
| 22. Shrishma Fine Chemical and Pharmaceuticals Ltd., Industrial Area, Dodballapur | 1985 | Acetylsalicylic Acid and salicylic Acid | 435.33 | 241 |
| 23. Dodballapur Spinning Mills Ltd., Dodballapur | 1970 | Cotton Yarn | | 155 |
| 24. Tulsiyan Synthetics (P) Ltd., KIADB, Dodballapur | 1984 | HDDC Woven sacks | 90.00 | 25 |

SMALL SCALE INDUSTRIES

At the end of March 1988, there were 2,831 registered small scale industrial units in the district, engaged in manufacture of various products such as food and beverages, leather goods, chemicals, textile goods, engineering items, etc. They provided employment to 13,771 persons. The capital investment on machinery of these units was Rs 959.07 lakhs. Among the small scale industrial units, textile-based industrial units stood first with 679 followed by forest-based industrial units (404) engineering and allied units (353), agro-based units (154) and chemical based units (147).

The growth of small scale industries constitute a significant feature in accelerating the rate of industrial growth. With the concentration of large number of giant public sector industries in both Bangalore rural and urban districts, requiring many components and sub-assemblies have provided scope for small scale industries. This sector has now entered many sophisticated fields like electronics, plastics, ceramics, etc. The work relating to the development of small scale industries as distinct from cottage industries, was taken up during the year 1956-57. A separate section under a Joint Director of Industries and Commerce was started to look after the small scale industries programme during the latter half of the year. A Board called the Mysore Small Industries and Handicrafts was constituted in the year 1959 with the object of advising Government, generally on the production and growth of small scale industries in the State. In 1960, the Government has set up a Corporation called the Mysore Small Industries Corporation Ltd. which later became the Karnataka Small Industries Development Corporation for rendering various types of assistance to small scale industries, like the construction of industrial estates and their management and opening of raw material depots at important industrial centres to stock and distribute supplies to small scale industries. In the field of finance small scale entrepreneurs are pleased with the changed attitude of the major banks after their nationalisation. The Government of Karnataka have reserved a number of items for exclusive production in this sector. The number of items reserved upto 31st March 1987 was 850 and they were broadly divided into products of food and allied items, textiles including hosiery and wood, leather, chemicals etc. In addition to this, the Government have reserved 379 articles for purchase from the tiny or small scale industries of the state.

AGRO-BASED INDUSTRIES

Bangalore rural district is a predominantly agricultural district with mulberry and horticultural items being its principal commercial

crop. Industrial units such as food products, flour and rice mills, paddy dehusking, oil extraction, silk reeling and twisting, beverages, etc. are the important small scale industries scattered in almost all the taluks in the district. At the end of March 1988, there were 154 registered small scale industrial units with Rs 54.58 lakhs investment on machinery and provided employment to 803 persons, besides adequate no. of non-registered small scale industrial units accommodated employment to more number of persons in the district.

Forest-based Industries: Wood based industrial units like saw mills, wooden furnitures, carpentry, wooden toys, bullock cart making etc. have scattered all over the district. Majority of them are in Channa-patna taluk. The total number of registered wood-based small scale industrial units in the district at the end of March 1988 were 404. The capital investment on machinery was Rs 53.24 lakhs. They provided employment to 1831 persons besides adequate number of persons engaged in non-registered industrial units in the district.

Engineering and Allied: Small scale engineering industrial units such as foundries, automobile workshops, repair works, welding, turning, cutting, smithy, agricultural implements, steel furniture, etc. are scattered all over the district. At the end of March 1988, there were 353 registered small scale engineering and allied industrial units providing employment to 1428 persons with Rs 125.10 lakhs capital investment on machinery. Besides this, adequate number of non-registered industrial units provided employment to large number of persons particularly in rural areas of the district.

Chemical Industries: Chemical industrial units such as soap chips and bars, wax candles, ink, detergent washing powder, lac and paint etc. are found scattered in the district. At the end of March 1988, there were 147 registered small scale chemical industrial units providing employment to 877 persons with capital investment of Rs 112.60 lakhs on machinery besides the unregistered units in the district.

Tiles and Bricks: Production of bricks and tiles, ceramics, pottery etc. is widespread in the district. At the end of March 1988, there were 113 registered units of the group coming under the small scale sector in the district providing employment to 1056 persons with a capital investment of Rs 151.04 lakhs on machinery. Besides this, there were adequate number of unregistered small scale industrial units of the district providing employment to a large number of persons.

Food and Beverage: Small scale industries, such as extracting oil, preparing coffee powder, bakery products, biscuits, pickles, fruit processing, paddy milling and hulling, beedi rolling etc., are scattered in this district. At the end of March 1988, there were 75 registered industrial units providing employment to 305 persons with capital investment of Rs 31.36 lakhs in the district besides adequate number of unregistered industrial units providing employment to a large number of persons.

Leather and rubber products: Units of leather and rubber production which are manufacturing footwear, suit cases, rubber-stamps, tyre-retreading and repairing etc. are scattered in the district. At the end of March 1988, there were 97 registered leather based industrial units providing employment to 559 persons with a capital investment of Rs 67.53 lakhs, besides large number of unregistered units.

Textile based Industries: Small scale textile industrial units are mainly scattered in Hoskote, Devanahalli, Dodballapur and Nelamangala taluks in the district. At the end of March 1988, there were 679 registered units providing employment to 3,536 with capital investment of Rs 185.07 lakhs on machinery besides adequate number of unregistered units in the district.

Coir products: The District Industries Centre of Bangalore rural district has established a production centre of coir products at Thungani in Kanakapura Taluk with a view to provide employment to the Scheduled Caste people of the area. Subsequently it was handed down to Karnataka State Coir Development Corporation. The Corporation has taken up the programme to produce quality yarn by training the local artisans. Subsequently looms have been installed and trial production has commenced with six looms. This will be a model centre for the entire State in coir products development and is providing employment to 100 persons.

Other units: Small Scale industrial units producing items, such as hosiery and garments, woolen carpets, cane furniture, silk reeling and twisting, lime burning, printing, domestic utensils, etc. are scattered all over the district. At the end of March 1988, there were 809 registered small scale industrial units providing employment to 3,376 persons with a capital investment of Rs 178.55 lakhs on machinery besides, adequate no. of unregistered units providing employment to a large number of persons in the district.

Statement showing the taluk-wise and category-wise registered number of small scale industrial units in Bangalore Rural District as on 31st March 1988

| Name of the Taluk | Category-wise number of S.S.I. Units | | | | | | | | |
|-------------------|--------------------------------------|--------------|------------------------|----------------|---------------|------------------|---------------|---------------|-------------------------------------|
| | Agro based | Forest based | Engineering and allied | Chemical based | Mineral based | Food & beverages | Leather based | Textile based | Others including reeling & twisting |
| Channarayana | 22 | 137 | 13 | 68 | 75 | 07 | 15 | 03 | 58 |
| Devanahalli | 16 | 30 | 95 | 04 | 11 | 12 | 14 | 161 | 14 |
| Dodballapur | 13 | 113 | 85 | 26 | 02 | 16 | 23 | 127 | 96 |
| Hoskote | 12 | 14 | 50 | 11 | 07 | 11 | 05 | 217 | 14 |
| Kanakapura | 37 | 13 | 23 | 10 | 02 | 06 | 14 | 08 | 121 |
| Magedi | 28 | 22 | 08 | 09 | 01 | 03 | 02 | 05 | 168 |
| Nelamangala | 06 | 65 | 65 | 09 | 09 | 09 | 09 | 144 | 48 |
| Ramanagara | 20 | 10 | 14 | 10 | 06 | 11 | 19 | 14 | 290 |
| Total | 154 | 404 | 353 | 147 | 113 | 75 | 97 | 679 | 809 |

Source: D.I.C. Bangalore Rural District

Statement showing the taluk-wise total No. of small scale industrial units and other particulars as on 31st March 1988 in Bangalore Rural District

| Name of the Taluk | No. of SSI Units | Investment on machi- nery Rs in lakhs | Employment in No. |
|-------------------|---------------------|--|----------------------|
| Channarayana | 398 | 57.06 | 2,413 |
| Devanahalli | 357 | 71.79 | 2,054 |
| Doddaballapur | 501 | 232.33 | 1,745 |
| Hoskote | 341 | 380.91 | 2,298 |
| Kanakapura | 234 | 36.66 | 1,876 |
| Magedi | 246 | 53.80 | 1,393 |
| Nelamangala | 360 | 82.71 | 1,318 |
| Ramanagara | 394 | 43.81 | 674 |
| Total | 2,831 | 959.07 | 13,771 |

Source: D.I.C. Bangalore Rural District

HANDICRAFTS

Handicrafts are described as a part of cultural heritage. They flourished through the ages, cherished by aesthetically conscious people and nourished by royal and rich families. The Department of Industries and Commerce has right from its inception, been giving sustained and continuous attention to the resuscitation and development of handicrafts in the State. The Bangalore Rural district is known for its ivory, sandalwood carving, rich variety of silks, ceramics, unique lacquerware and toys.

Toys & Dolls : Colourful dolls and toys made of wood are manufactured in Channarayana. The raw material used mainly for toys is *hale* wood which is very soft and light in weight and is grown near Channarayana and Ramanagara. It is ideally suited for lacquering. Lacquerware, one of the oldest crafts, is pursued mostly by Muslims, confined largely at and around Channarayana. About a century ago, the lacquerware processed at Channarayana was crude in finish and a few lacquerware items were made. The credit of organising the industry in a small way

and improve the technique of craft, goes to a school teacher of Channapetha. He used a metal turning lathe for the manufacture of lacquerware and turned out articles with distinctive brightness by substituting litho phone for sulphur in manufacture of colour. Wooden toy industry is said to have emerged during the early years of the present century with the efforts of one Baba Sahib Miyan of Channapetha. In the initial stages, it was confined to Channapetha area and was purely a household industry, engaging members of the family as workers. Now it is a small scale industry manufacturing a large quantity of articles such as miniature imitations of toys representing birds, fruits, animals besides agarbathi stands, ink stands, pen-holders, toy dolls, etc. Ramasanjiva Chetty's Toy Works, Channapetha manufacturer of lacquerware toys provides employment daily to 23 persons and is run by hand power. As per the survey conducted by the Handicrafts Development Corporation in 1984, there were 922 lacquerware (wood articles) units in Channapetha taluk providing gainful employment to 1247 male and 350 female artisans. The amount of investment in tools and equipment in these artisan units has been found to be Re 554 lakhs and it derived an annual income of Re 34.34 lakhs.

Pottery: Pottery production once a craft of necessity mainly used for making vessels has to-day become a fine art. The hereditary potters called Kumbhars make exquisite earthenware. Ramnageram of Bangalore rural district is famous for a wide range of pottery and it is really heartening to see the variety of terracotta figures and artistic items that are in the market. Potters Co-operative Societies functioning in the district receive help from Khadi and Village Industries Board. The Rural Marketing and Service Centre of the Karnataka State Handicrafts Development Corporation, a State Government Undertaking at Ramnageram was taken over by the Karnataka State Handicrafts Development Corporation about 18 years ago from the Department of Industries and Commerce. Here beautiful varieties of lamp shades, light stands, flower vases, ash-trays, candle sticks, *brindavans* and art panels are made. Bevuru of Channapetha taluk is famous for preparing a variety of pots in different sizes and the village is popularly called as *Kudike Bevuru*. The most popular article of this village made out of earth by Bettasetty Kadeish is the bells, which imitates not only the type but also the sound of bells made out of metals. The Kumbhars of the village are manufacturing artistic lamps in large scale in *deepavali* season. Making of Ganesha images in clay keeps some of the artists of the district busy during the month of August and September. Among them Gamarunissa of Davanahalli is one. She is trained in Shilpakala Shala, a residential institute, at Davanahalli by Hernumanthacharya who is popularly called 'acharya' by the people.

Sculpture : The craftsmen engaged in sculpture belong mainly to the Vishwakarma community. The type of stone used by them are either the soft soap-stone or the variety known as granite. Images are made strictly in accordance with Shilpaśhastras. Hanumanthacharya (Acharya) is running a residential institution called Shilpakala Shala at Devanahalli. This institution has been recognised by the All-India Handicrafts Board. Although Acharya specialises in traditional sculpture, he has produced many modern art pieces also. He has trained his eldest daughter in the line. His wife is also good at painting and carving. There are 12 candidates sponsored by the All India Handicraft Board, undergoing training at the Shala during the year 1988-89, and four of them are Muslim girls. Polishing of corrandum stone is another activity which is localised in Channapatna taluk. During 1984-85 there were 117 artisans engaged in this work.

Other crafts : There are a number of good craftsmen engaged in the crafts like gold and silver-smithy, cane and bamboo, pithwork, etc. in the district. Usually goldsmithy and the silversmithy are practised by some set of people mostly in rural areas. The goldsmith was considered as one of the 12 village functionaries under the *Barabaluti* system. The jewellers are a community by profession known as Akkasale, Achar or Vishwakarma in the district. In addition to their professional works, they make *basinḡas* (marriage coronet) in pith during the marriage season. Cane is used to make furnitures, whereas bamboo on the other hand is used mainly for weaving utility articles like vegetable baskets, winnowing fans, flat containers for grains, etc. The craft is pursued by the caste Medars closely related to cane and bamboo is the art of mat weaving. The preparation of lace was an important occupation of *Sarigevaru*, caste in Bangalore district and this highly artistic art industry was ruined due to severe competitions of imports from France in recent years.

KARNATAKA STATE HANDICRAFTS DEVELOPMENT CORPORATION LIMITED

In order to help the artisans, the Karnataka State Handicraft Development Corporation Limited was formed in 1964. It has taken up a number of developmental programmes for the betterment of the craft and craftsmen like starting a residential institute, crafts complexes, production procurement centres, establishing raw material depots, rural marketing and servicing centres and show rooms and sales emporia in important places. The craft complex programmes provides facilities of credit and marketing, and supplies wax material, tools and equipments, etc. The craft complexes help eliminate the middlemen and ensure higher returns to the craftsmen. At present there is a craft

complex at Channapatna for lacquerware artisans. The production procurement centre of Channapatna, procures *hale* wood and lithophone for lacquerware artisans. In order to provide advanced training to the traditional craftsmen, at the request of the Corporation, the All-India Handicraft Board, New Delhi, has opened advanced training centre for lacquerware artisans at Channapatna. In 1980, the Corporation established rural marketing and servicing centre at Channapatna for lacquerware and at Ramnagaram for artistic pottery.

Regional Design Technical Centre: With a view to revise and revitalise the age-old traditions and hereditary crafts, the All India Handicrafts Board has opened the Regional Design Technical Centre in 1958 at Bangalore. This centre has two wings, viz., the design wing and technical wing. The design wing undertakes research and development works in design of Southern region, while the technical wing undertakes development work in various material and technical aspects. The design wing also acts as a liaison between the manufacturers of handicrafts and various marketing agencies.

HANDLOOM INDUSTRY

Bangalore rural district is not known for the predominance of cotton and woollen handloom as much as for silk handloom. The handloom survey conducted by the Government of India in 1976 revealed that there were 6,502 handlooms that provided employment for 9,525 persons. Of the 6,502 handlooms, 105 were cotton, 319 woollen and 6,078 silk handlooms providing employment to 100, 820 and 8,605 persons respectively. According to the action plan 1985-90 of the District Industries Centre, Bangalore Rural District, there were 100 cotton handloom weaving, 175 woollen weaving and 1,500 silk weaving looms, functioning in the district in 1986. They are selling their products either through Handloom Development Corporation or through co-operative societies.

Dodballapur, Devanahalli, Kanakapura, Magadi and Kudur are the centres of handloom weaving in the district. With the advent of the British, the industry had to face severe competition from the textile mill products. But manufacture of cotton, wool and silk fabrics under cottage industry conditions did not disappear totally. Establishment of the Department of Industries and Commerce in 1913 and the Swadeshi movement helped to rejuvenate, revitalise and foster the handloom industry. After Independence, the Mysore State Cotton Handloom Weavers Co-operative Society was established to look after cotton handloom weavers in 1951. Mysore State Woollen Handloom Weavers Society was formed in 1955 and the Mysore State Silk Handloom Weavers Central Co-

operative Society was formed in 1956. Handloom weavers are given assistance by arranging for supply of yarn through the Apex Weavers Co-operative Society and also by conducting demonstrations in the use of the improved equipments and in weaving new designs. All-India Handloom Board has set up the Weavers Service Centre at Bangalore in 1963. It provides the following assistance in (1) supplying modern and attractive designs for dress, saree borders, bed sheets etc., (2) rendering spot technical assistance in introducing new design; and (3) rendering spot assistance on problems connected with bleaching, dyeing and printing. During the V plan period, a separate Directorate of Handloom of the Government of India started functioning to look into the problems of handloom industry in the State. To ensure the flow of working capital to individual weaver families, provide term loans for modernising the equipments, make arrangements for training in modern methods of weaving and processing and to take up the marketing of handloom products, the Handloom Development Corporation was formed in the State in 1975. The Government of Karnataka is giving package of facilities like supply of improved appliances, modernisation of looms, living-cum-workshed and collective weaving centre facilities and also dye house to societies, share capital investment, etc. It also indirectly assists them in marketing through rebate for sale of handloom cloth. The Government has undertaken the social benefit scheme under the Thrift Fund Scheme, a contribution from both the side (50% weavers and 50% from craft). Interest together with the total sum collected is paid back to the weavers in their old age. The Government through Handloom Development Corporation or through Societies imparts training to interested weavers to encourage and expand handloom weaving.

During 1983-84, the Karnataka Handloom Development Corporation supplied silk yarn valued at Rs 50.6 lakhs and obtained 1.28 lakh metre of silk yarn fabrics valued at about Rs 61.72 lakhs from 302 project looms in the district. It has granted Rs 1.24 lakhs as loan to 104 looms (45 looms at Kudur of Magadi taluk, 59 looms at Thyamagondlu of Nelamangala taluk) up to the end of March 1988. Of the 104 beneficiaries, 40 beneficiaries were covered under Rural Integrated Development Scheme and they obtained Rs 30,000 as subsidy.

Statement showing the taluk-wise total number of handlooms in
Bangalore Rural District during the year 1987-88

| Name of the Taluk | Number of looms | | Total |
|-------------------|-----------------|------------|--------------|
| | Working | Idle | |
| Channapatna | 100 | 63 | 163 |
| Devanahalli | 138 | 5 | 143 |
| Dodballapur | 52 | - | 52 |
| Hoskote | 120 | 20 | 140 |
| Kanakapura | 143 | 2 | 145 |
| Magadi | 349 | 41 | 390 |
| Nelamangala | 332 | - | 332 |
| Ramanagaram | 2 | - | 2 |
| Total | 1,236 | 131 | 1,367 |

Sources: Provisional figures supplied by Directorate of Industries and Commerce, Government of Karnataka

Power looms: The power looms have played a vital role in the productive activity in Dodballapur, Kanakapura and Magadi taluks. Taluk-wise total number of powerlooms and workers engaged in them in Bangalore rural district at the end of March 1988 were as follows:

| Sl. no. | Name of the Taluk | Powerlooms No. | Labourers No. | To be started near future | |
|---------|-------------------|----------------|---------------|---------------------------|----------------|
| | | | | Looms No. | Employment No. |
| 1. | Channapatna | - | - | - | - |
| 2. | Devanahalli | 19 | 24 | 17 | 22 |
| 3. | Dodballapur | 3057 | 3820 | 1479 | 1850 |
| 4. | Hoskote | 8 | 10 | 8 | 10 |
| 5. | Kanakapura | 32 | 40 | 12 | 15 |
| 6. | Magadi | 26 | 33 | 14 | 18 |
| 7. | Nelamangala | 8 | 10 | 24 | 30 |
| 8. | Ramanagaram | - | - | - | - |
| | Total | 3150 | 3937 | 1554 | 1945 |

Source: Department of Industries & Commerce

KHADI AND VILLAGE INDUSTRIES

The Khadi and Village Industries are a labour-intensive sector. The important industries in the schedule of the Khadi and Village Industries Board are: khadi - cotton, woollen and silk; processing of cereals and pulses; village oil; manufacture of cane gur and khandasari; cottage match works; non-edible oil soap; village pottery; village leather; carpentry and black smithy; lime; etc. The Khadi and Village Industries Board generally organises and implements the programmes for development of khadi and village industries in the State. It is based on the Gandhian principles of decentralisation of production and strengthening the village crafts with a view to help attain self-reliance by villages. The State Planning strategy has been devised for Khadi and Village Industries Sector with the twin objective of arresting the displacement of labour from the existing crafts and creation of new work opportunities in the rural area. The scheme for reviving the hereditary industries in rural areas in the State was first tried to be implemented through the rural artisan training institutes during 1959-60. The institutions laid emphasis on providing training to the hereditary artisans in the use of improved tools and equipments to improve their efficiency and skill and to settle them in the industry in their own villages.

In the village industries sector, pottery, leather, carpentry and blacksmithy and village oil industry are the important cottage industries in the district. At the end of March, 1988, there were 389 khadi and village industry units in the district providing employment to 1,637 persons. The Khadi and Village Industries Board has spent Rs 71,83,225 on khadi and village industries in the district since its inception. During 1987-88, about 97 khadi and village industrial units in the district have drawn Rs 7.52 lakhs loan and Rs 2.45 lakhs grant from Khadi and Village Industries Board.

Khadi Industry: Khadi Industry consists of mainly cotton khadi, woollen khadi, silk khadi, spinning and weaving and manufacturing of charakas. Gandhiji's tour in the State in 1927 inspired the local leaders to start this industry in the district. At present silk khadi is being produced in Bangalore Rural district. There were nine registered units providing employment to 287 persons in the district at the end of March 1988. These units are mainly concentrated in Kanakapura and Ramanagaram taluk in the district. The Khadi and Village Industries Board has advanced Rs 39.65 lakhs loan to these units since its inception. It has provided Rs 2.35 lakhs loan to the silk khadi unit at Kanakapura during the year 1987-88.

Cane and bamboo units: Cane and bamboo industrial units are generally making articles like bamboo mats, baskets, cane chairs, etc., on order. The raw materials viz., bamboo and cane are purchased from the Forest Department and from open market. These units are found all over the district mainly in taluk headquarters. The Khadi and Village Industries Board has advanced Rs. 0.75 lakhs as loan and Rs. 1.13 lakhs as grant to 29 units during 1987-88. There were 40 registered industrial units providing employment to 200 persons in the district at the end of March 1988. The Khadi and Village Industries Board has advanced Rs. 0.89 lakhs loan to this unit since its inception.

Carpentry and blacksmithy: Carpentry is being pursued in almost all bigger villages and towns. The village carpenter is mostly engaged in preparing and repairing agricultural implements and household and building materials. In urban centres, they manufacture various items of furniture. The carpenters are mostly Hindu Vishwakarmas or Gudigers and Muslims. The Gudigers of Channapatna are engaged in production of wooden toys. The blacksmiths manufacture and repair in the traditional way various implements such as plough-share, bullock shoes, cart wheel rings, sickles, etc. This industry is mainly found at Channapatna and Devanahalli. The Khadi and Village Industries Board has advanced Rs. 6.94 lakhs as loan and grant to this unit since its inception. There were 63 registered units which provided employment to 175 persons in the district at the end of March 1988. During 1987-88, about 34 units have drawn Rs. 2.05 lakhs as loan and Rs. 0.73 lakh as grant from Khadi and Village Industries Board.

Pottery: Unglazed pottery work is carried on by the hereditary craftsmen called Kumbaras throughout the district. They engage themselves in agriculture during rainy season and pottery work can be carried on from November to May end. The important centres of this craft in the district are Ramanagaram, Devanahalli, Dodballapura, Hoskote, Kodamballi in Channapatna taluk and Nagavara in Ramanagaram are the famous centres for this industry. They prepare all types of country vessels and also bricks and country tiles. Mangalore tiles are manufactured in large scale in some factories. There were 48 registered units providing employment to 160 persons in the district at the end of March 1988. The Khadi and Village Industries Board has advanced Rs. 3.46 lakhs as loan and grant to these units since its inception. During 1987-88, eight units in the district have drawn Rs. 0.65 lakhs as loan and Rs. 0.23 lakhs as grant from Khadi and Village Industries Board.

Leather works: Tanning and leather works are an age-old industry and persons engaged in this craft prepare foot-wears, drums, belts, etc.

The workers engaged in this industry are called Chammars. The Department of Industries and Commerce has plans for the construction of living-cum-work sheds, tanning yards etc. Karnataka Leather Industries Development Corporation Limited is another institution, set up by the Government for the development of this industry. LIDKAR Leather Emporia have been established to increase their commercial activities. It is mainly found at Channapatna, Dodballapura and Hoskote in the district. There were 126 registered units providing employment to 220 persons in the district at the end of March 1988. The Khadi and Village Industries Board has advanced Rs 6.11 lakhs as loan and grant on this unit in the district since its inception. During 1987-88, 11 units in the district have drawn Rs 0.11 lakh as loan and Rs 0.17 lakh as grant from the Khadi and Village Industries Board.

Village oil industry: The age-old village oil industry can be seen today in some places of the district. It is a family occupation of the Ganigas. They extract oil from groundnut, castor seed, sunflower seed, etc., by using *ganas* or indigenous oil press. Though the traditional *ganas* exist, oil extraction is being gradually taken over by mechanised (power operated) mills also. This industry is mainly concentrated at Kudur in Magadi taluk and Thyamagondlu in Nelamangala taluk. There were 26 registered units which provided employment to 60 persons in the district at the end of March 1988. During 1987-88, one industrial unit has drawn Rs 3,028 as loan from Khadi and Village Industries Board. The Board has also advanced Rs 3.53 lakhs loan to these units since its inception.

Processing foodgrains: At the end of March 1988, there were 30 registered pulses and cereals processing industrial units in the district providing employment to 150 persons. The Khadi and Village Industries Board has advanced Rs 2.12 lakhs as loan and grants to this unit since its inception. The Board has also advanced Rs 28,500 as loan and Rs 500 as grant to four *masala* units in the district during 1987-88.

Other cottage industries: There were 41 registered other cottage industries units engaged in producing items such as lime, NEO and soap, gur and khandasari, hand-made paper, cottage match, fibre, etc., in the district providing employment to 385 persons. The Khadi and Village Industries Board has advanced Rs 8.92 lakhs as loan and grant to them since its inception. During 1987-88, the Board has advanced Rs 9,000 as loan to one lime unit, Rs 6,250 as loan and Rs 1,250 as grant to five fibre units.

Statement showing the taluk-wise and category-wise total number of Khedi and Village Industries
in Bangalore Rural District as on 31st March 1988

| Sl. No. | Name of the Industrial Unit | Number of Units in the taluk | | | | | | | Total | |
|--------------|------------------------------|------------------------------|------------------|-------------------|-----------|-----------------|-----------|------------------|-----------|------------------|
| | | Channe- patne | Devans- halli | Dodballa- pura | Hoskote | Kanaka- pura | Megadi | Nela- mangala | | Rama- nageram |
| 1. | Oil Industries | 1 | 3 | 3 | 2 | 4 | 5 | 6 | 2 | 26 |
| 2. | Leather Industries | 19 | 3 | 2 | 71 | 7 | 6 | 12 | 6 | 126 |
| 3. | Village Pottery | 19 | 7 | 3 | 4 | 6 | 3 | 4 | 2 | 48 |
| 4. | Carpentry & Black- smithy | 18 | 21 | 8 | 6 | 7 | 1 | 2 | - | 63 |
| 5. | Cane and Bamboo | 13 | 16 | - | 4 | 5 | 5 | - | - | 40 |
| 6. | P.C.P.I. | 10 | 2 | 4 | 1 | 4 | 2 | 3 | 4 | 30 |
| 7. | Lime | 4 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 14 |
| 8. | NEO & Soap | 2 | 1 | - | 3 | 2 | 4 | - | 1 | 13 |
| 9. | Gur & Khandasari | - | - | - | - | - | - | 1 | - | 1 |
| 10. | Silk | 3 | 2 | 1 | 1 | 1 | - | - | 1 | 9 |
| 11. | Hand-made Paper | - | - | - | - | 1 | - | - | - | 1 |
| 12. | Agerbathi | - | - | - | - | - | - | - | - | - |
| 13. | Khedi | 1 | 1 | - | 1 | 2 | - | 1 | - | 6 |
| 14. | Cottage Match | 1 | 2 | 2 | - | 1 | - | - | - | 6 |
| 15. | Fibre | - | 1 | 5 | - | - | - | - | - | 6 |
| Total | | 91 | 61 | 29 | 92 | 42 | 27 | 30 | 17 | 389 |

Source: Khedi and Village Industries Board, Bangalore.

Statement showing the taluk-wise disbursement of funds by Khadi and Village Industries Board through Co-operative Societies, Registered Institutions and directly to individuals to set up Khadi and Village Industries in Bangalore Rural District during 1986-87 and 1987-88
(Amount in rupees)

| Taluk | <u>Through Co-operative Societies</u> | | | | | |
|--------------|---------------------------------------|-----------------|--------------|--------------|-----------------|---------------|
| | 1986-87 | | | 1987-88 | | |
| | No. of units | Loan | Grants | No. of units | Loans | Grants |
| Channapatna | - | - | - | - | - | - |
| Devanahalli | - | - | - | 18 | 1,22,600 | 29,500 |
| Dodballapur | 5 | 5,000 | 7,500 | 15 | 50,415 | 16,815 |
| Hoskote | - | - | - | - | - | - |
| Kanakapura | 1 | 6,30,000 | - | 2 | 55,165 | 17,965 |
| Magadi | - | - | - | 5 | 2,600 | 3,900 |
| Nelamangala | - | - | - | 2 | 13,000 | - |
| Ramanagaram | - | - | - | - | - | - |
| Total | 6 | 6,35,000 | 7,500 | 42 | 2,43,780 | 68,180 |

| Taluk | <u>Through Registered Institution</u> | | | | | |
|--------------|---------------------------------------|-----------------|--------------|--------------|-----------------|---------------|
| | 1986-87 | | | 1987-88 | | |
| | No. of units | Loan | Grants | No. of units | Loan | Grant |
| Channapatna | 1 | 15,000 | - | 1 | 32,000 | 8,000 |
| Devanahalli | - | - | - | - | - | - |
| Dodballapur | - | - | - | 1 | 70,700 | 30,000 |
| Hoskote | 5 | 19,500 | 5,500 | - | - | - |
| Kanakapura | - | - | - | - | - | - |
| Magadi | 1 | 2,20,000 | 3,000 | - | - | - |
| Nelamangala | - | - | - | - | - | - |
| Ramanagaram | - | - | - | - | - | - |
| Total | 7 | 2,54,500 | 8,500 | 2 | 1,02,700 | 38,000 |

| Taluk | Directly to Individuals | | | 1987-88 | | |
|--------------|-------------------------|-----------------|---------------|--------------|-----------------|---------------|
| | No. of units | 1986-87 Loan | Grant | No. of units | Loan | Grant |
| Channapatna | 22 | 80,690 | 45,090 | 19 | 71,180 | - |
| Devanahalli | - | - | - | 19 | 76,530 | 67,110 |
| Dodballapur | - | - | - | - | - | - |
| Hoskote | - | - | - | - | - | - |
| Kanakapura | 1 | 50,000 | - | 2 | 21,000 | - |
| Magadi | - | - | - | 1 | 15,000 | - |
| Nelamangala | 1 | 44,000 | - | 1 | 15,000 | - |
| Ramenagaram | - | - | - | 2 | 11,530 | 7,530 |
| Total | 24 | 1,74,690 | 49,090 | 44 | 2,14,440 | 75,240 |

Source: Khadi and Village Industries Board.

Statement showing the funds sanctioned for the year 1987-88 under various industries for Bangalore Rural District

| Industry | No. of units | Loan in lakhs | Grant in lakhs |
|---------------------------|--------------|---------------|----------------|
| Silk | 1 | 2.35 | - |
| Khadi (Bhandar) | 3 | 1.14 | 0.19 |
| Massala | 4 | 0.29 | 0.005 |
| Fibre | 5 | 0.06 | 0.01 |
| Carpentry and Blacksmithy | 34 | 2.05 | 0.01 |
| Village Pottery | 8 | 0.65 | 0.73 |
| Village Leather Industry | 11 | 0.11 | 0.23 |
| Cane and Bamboo | 29 | 0.75 | 0.17 |
| Lime (Chalk unit) | 1 | 0.09 | 0.13 |
| Village Oil Industry | 1 | 0.03 | - |

Source: Khadi and Village Industries Board

Statement showing the category-wise Khadi and Village Industries and their production and sale value and employment during 1986-87 and 1987-88 in Bangalore Rural District

| Industries | Production value in Rs. | | Sales Value in Rs. | | Employment | | | |
|-------------------------|----------------------------|--------------------------|--------------------|---------------|------------|-----|---------|-----|
| | 1986-87 | 1987-88 | 1986-87 | 1987-88 | 1987-88 | | 1987-88 | |
| | Rs. in Lakhs | | (Rs. in Lakhs) | | FT. | PT. | FT. | PT. |
| Khadi, Silk | 42.56 Yarn 8.02 | 45.46 Yarn 1.15 Cloth | 43.78 7.76 | 26.84 2.09 | 96 | - | 287 | 10 |
| Wool | - | - | - | - | - | - | - | - |
| Village Oil | 11.00 | 12.00 | 14.30 | 15.60 | 50 | 25 | 60 | 25 |
| N.E.O. & Soap | 20.00 | 25.00 | 28.00 | 28.00 | 300 | 100 | 325 | 125 |
| Carpentry & Blacksmithy | 21.00 | 25.00 | 27.00 | 33.00 | 150 | 50 | 175 | 60 |
| Cane & Bamboo | 4.00 | 6.00 | 5.20 | 7.80 | 150 | 70 | 200 | 80 |
| Gur & Khandessari | - | - | - | - | - | - | - | - |
| P.C.P.I. | 10.00 | 12.00 | 13.00 | 13.60 | 100 | 40 | 150 | 60 |
| Village Pottery | 15.00 | 20.00 | 19.50 | 26.00 | 150 | 50 | 160 | 25 |
| Lime | 4.00 | 5.00 | 5.20 | 6.50 | 30 | 10 | 40 | 20 |
| Village Leather | 25.00 | 30.00 | 32.50 | 39.00 | 200 | 100 | 220 | 130 |
| Cottage Matches | 1.20 | 1.30 | 1.55 | 1.60 | 15 | 10 | 20 | 12 |
| Total | 161.78 | 180.91 | 197.79 | 200.03 | 1241 | 455 | 1637 | 597 |

Source: Khadi and Village Industries Board, Bangalore.

SERICULTURE

Sericulture is a labour intensive agro-based industry. It includes growing of mulberry plants, rearing of silk worms, production of cocoons and reeling of silk yarn. Cultivation of mulberry and rearing of silk-worms are agricultural in character, whereas reeling of silk, twisting and weaving are distinctly industrial in nature. The reeling of cocoons is carried on either in cottage establishments or in large scale factories called filatures.

The beginning of sericulture can be traced back to the last quarter of 18th century. Tipu Sultan, the ruler of erstwhile Mysore State organised a silk-worm rearing unit in the southern parts of his dominion. Channapatna is believed to be one such centres and experts were procured from Bengal. He imported the old yellow multivoltine silk worm race. They are surviving to-day and popular as 'Pure Mysore Race'. The Department of Sericulture was opened in 1913-14. As early as in 1914, a Silk Farm was established at Channapatna. Under the able guidance of the Italian expert, Mari (whose services were obtained by Dewan Visveswaraya), it produced disease-free silk seeds for the sericulturists. In 1914, twelve races of silk worms were imported from Italy for trial, and they were housed in an old building offered for the purpose by an important silk merchant at Channapatna. In 1915, the Italian expert successfully prepared a hybrid between the Mysore race and the exotic races. Navarathna Rama Rao, officer in the sericulture Dept took serious steps to obtain disease free layings in 1916. He also commissioned the services of Japanese expert Yonemura in 1919. By 1917, the disease-free layings were produced and supplied. The credit of evolving high yielding varieties, modern methods of grainage and silk farm works and hybridisation between multivoltine and bi-voltine silk-worm race goes to Yonemura. With an intention to develop sericulture in the State, a syllabus for a two years course in Sericulture was furnished to the Education department during 1926-27 and suitable proposals were set up for introducing the subject in high schools at Mysore and Channapatna. The Silk Re-reeling and Twisting School at Channapatna started work during the year 1926-27 and trained about 120 students.

In 1928, three varieties of mulberry seeds were obtained from Kashmir and seedlings had been raised at Channapatna, Mysore and Sidlaghatta. The seedling from bush and tree mulberry in Mysore had been raised in the mulberry gardens at Mysore and Channapatna. The laboratory attached to the silk farm at Channapatna carried on research work on embryology of silk worms in connection with the refrigeration of silk worm eggs. Experiments were conducted

regarding the natures fit for mulberry, improvement of local varieties by grafting, budding, etc., finding out the comparative merits of bush and tree mulberry lead, rearing foreign races of worms and their cross-breeds at the farms of Channapatna and Mysore. M5/ Kanva-2 variety was evolved in this laboratory at Kanva Silk Farm. A Government Grainage was opened at Mallenahalli of Devanahalli taluk in 1941 to meet the increasing demand for disease-free layings in Devanahalli and Hoskote taluks. The Mysore spun silk was established at Channapatna in 1936. A small filature was started as a Government concern at Channapatna under the management of the Mysore Spun Silk Mills, Ltd. Channapatna in 1941. In 1942, the Government of Mysore sanctioned the Silk Conditioning and Testing House at Channapatna to test and issue certificates in respect of filature silk to be supplied to the Government of India. The Second World War gave an impetus to the silk industry. All cocoons produced in the State were taken to the Mysore Silk Filatures Ltd. and all the filatures in the State were turned on to war production (to manufacture parachutes) in 1942. This increased production in the Filature at Kanakapura. The area under mulberry increased. The post-war period faced a slump in filature production. The Government took over all the filature except the one at Sidlaghatta, Kolar district. During the Five Year Plans period sericulture has been developed significantly.

The climatic condition and soil of the district are congenial for cultivation of mulberry, rearing silk worms and production of silk. The principal mulberry growing areas are Channapatna, Ramanageram, Hoskote, Devanahalli and Kanakapura. From the year 1980-81 the silk industry suffered due to the attack of a type of fly called *uzi* which started from Bylaneresapura of Hoskote taluk due to contamination of materials brought from W.Bengal. It spread to other rearing centres of the district and other parts of the State. It was brought under control by covering nylon mesh to the windows, doors and ventilators of the rearing house. At the end of March 1988, there were about 55,465 farmers cultivating Mulberry in 41,127 acres of land in 2032 villages including hamlets in the district. Taluk-wise total number of villages including hamlets, area and number of workers engaged in mulberry cultivation in the district at the end of March 1988 were as follows:

| Sl. No. | Name of Taluks | No. of villages | No. of Cultivators | Area of land in acres |
|---------|----------------|-----------------|--------------------|-----------------------|
| 1. | Channapatna | 227 | 13,567 | 8,047.26 |
| 2. | Devanahalli | 152 | 5,080 | 4,367.11 |
| 3. | Dodballapur | 186 | 01,222 | 1,039.15 |
| 4. | Hoskote | 244 | 6,592 | 6,001.17 |
| 5. | Kanakapura | 538 | 14,595 | 11,598.27 |
| 6. | Magadi | 348 | 6,220 | 04,044.23 |
| 7. | Nelamangala | 139 | 499 | 413.13 |
| 8. | Ramanagaram | 200 | 7,690 | 5,614.28 |
| Total | | 2032 | 55,465 | 41,127.00 |

Source: Deputy Director of Sericulture, Bangalore Rural District.

Silk Farms: Silk farms perform several functions such as maintenance and propagation of breeder stock of silk worm races, propagation of high yielding varieties of mulberry, maintaining the mulberry garden, harvesting and preservation of mulberry leaves, rearing of silk worms, mounting and harvesting of cocoons control of diseases and imparting training to the farmers. At the end of March 1988, there were 13 Government Silk Farms in the district and they were at Channapatna, Iggalur and Kanva of Channapatna taluk; Lalagondanahalli and Mallenahalli of Devanahalli taluk; Sulibele and Hindiganal of Hoskote taluk; Magadi and Solur of Magadi taluk; Krishnapuradoddi, Sugganahalli and Bidadi of Ramanagaram taluk; and at Dodballapur. There is no private silk farm in the district.

For production of Mysore Seed Cocoons, Seed Area is organised in Magadi Taluk for production of P1 Mysore seed cocoons. For supply of disease free silkworm eggs, there are 18 Government Grainages and 167 Licenced Seed Preparers in the Bangalore district. The annual production of layings is 527.87 lakhs. Under Karnataka Sericulture Project assisted by the World Bank, two grainages in Bangalore district for production of hybrid silkworm eggs, each with a capacity to produce one crore have been established at Channapatna and Sulibele.

Cocoon Markets: Cocoon markets facilitate the securing of good prices for cocoons produced in the district. At the end of March 1988, there

were seven cocoon markets functioning in the district at Channapatna, Kanakapura, Ramenagaram, Magadi, Vijayapura (Devanahalli taluk), Kudur and Veeragowdana Doddi (Magadi taluk). The average transaction in Ramenagaram market is 30 tonnes per day, and on 28-1-1989 it was 57 tonnes, the highest record. Cocoons from A.P., Tamilnadu and Maharashtra are also brought here. (See also chapter VI).

Co-operative Societies: Several silk co-operative societies have been working for promoting silk industry in the district. They are mainly divided into two groups viz., Sericulturists-cum-Farmers Co-operative Societies and Silk Reelers Industrial Co-operative Societies. At the end of March 1988, their number in the district was seven and five respectively in the first category, functioning at Hoskote, Sulibele, Jadigenahalli, Nelavagilu, Shivanapura, Devanahalli and Nalluru and latter category functioning at Channapatna, Sulibele, Vijayapura, Kanakapura and Ramenagaram. (See also Chapter VI)

Rearing of Silk-Worms: The rearing of silk worms required a certain environmental condition particularly proper temperature and humidity. For rearing the silk worms under hygienic conditions and to feed the worms with succulent tender mulberry leaves, chawki rearing centres are being organised. These centres are maintained by the Sericultural demonstrators and daily waged workers. In these centres young age silk worms are reared for 9 to 10 days under technical supervision and distributed to the sericulturists for further rearing. At the end of March 1988, there were 21 Technical Services Centres and 247 Chawki Rearing Centres in the district. During 1987-88, 247 Chawki Rearing Centres of the district have reared 127.28 lakhs disease-free-layings; of which 124.76 lakhs were cross-breed disease-free layings and 2.52 lakhs Bivoltine disease-free layings, and they were supplied to the 21,832 beneficiaries of the district.

The technical guidance and training facilities are provided to the Sericulturists in 26 Technical Service Centres and Sericultural Training School of Channapatna.

Reeling of Cocoons The operation of unwinding of the bave from cocoon is called reeling. The reeling process comprises of cocoon drying, boiling, brushing, reeling, re-reeling, testing, etc. Silk reeling consists of two operations viz. cooking the cocoons to separate the thread from the cocoon, and combining some 8 to 12 single threads into single yarn on to a reel. Charakas and cottage basins besides filatures are adopted for reeling silk. At the end of March 1988, there were 4142 charakas, and 400 cottage basins and 4775 filature basins which include Government Filature Kanakapura. About 1924 persons were engaged in reeling of cocoons in the district.

MYSORE SPUN SILK MILLS, LTD., CHANNAPATNA

During the year 1936, a Joint Stock Company with the assistance of the Government of Mysore (now Karnataka) was started the Spun Silk Mills with a capacity of 3,000 spindles at Channapatna. K.R. Srinivas Iyengar was its first Chairman. Its foundation was laid by the Maharaja in 1937 and production began in 1939. By 1946, the capacity was increased to 6,000 spindles. The company went into liquidation in 1958-59, and the State Government purchased the Mill from the Official Liquidator at a cost of Rs 1.6 million in 1960 and revived it. In 1966 under modernisation scheme 1,500 spindles and a carding machine were set up. It is manufacturing spun silk yarn, noil yarn, fabrics and carpets. The raw materials viz., silk waste is purchased in the open market through tenders. The capital investment on this mill at the end of March 1988 was Rs 1627.05 lakhs. It provided employment to 893 persons and they have drawn Rs 145 lakhs as wages during 1987-88. The production capacity of the mill is 165 tonnes of spun silk yarn and 45 tonnes of noil yarn and actual production of spun silk yarn and noil yarn during the year 1987-88 was 78 tonnes and 21 tonnes respectively. The manufactured items of the mill are being sold through the Company's showroom or through agents.

SILK FILATURE, KANAKAPUR

For manufacturing raw silk and silk fabrics, Government Silk Filature was started at Kanakapura in 1943. It was taken over by Karnataka Silk Industries Corporation in 1981. The capital investment on this mill at the end of March 1988 was Rs 5.75 lakhs. This unit provided employment to 445 persons and has paid Rs 65.77 lakhs as wages to them during 1987-88. The production capacity of the filature is 0.12 lakh metres of fabrics and 30 tonnes of silk yarn. A total of 0.05 lakh metres of fabrics and 18 tonnes of raw silk yarn, were manufactured during 1987-88. The raw material viz., cocoons are purchased through cocoon markets of Government of Karnataka. The end products of the filature are sold through authorised dealers or Company show-rooms.

Central Workshop: For reconditioning of machinery of industries of Karnataka Silk Industries Corporation, the Central Workshop was started in 1983 at Channapatna. The Karnataka Silk Industries Corporation has invested Rs 56.93 lakhs on this workshop. It provided employment to 47 persons and paid Rs 8.50 lakhs as wages during 1987-88.

ASIAN INSTITUTE FOR RURAL DEVELOPMENT

The Asian Institute for Rural Development, a public charitable trust, was registered in Bangalore in 1976. One of the founder trustees viz., M.V. Rajashekharan has been elected as the Executive Trustee since 1976. Initially, AIRD undertook some projects in Bangalore South Taluk and later it shifted its field activities to Kanakapura taluk. Programmes relating to Lab-to-Land project, TRYSEM and Rural Industries have also been implemented in this taluk.

Sericulture Project: In order to improve the quality of the cocoons and their silk filament produced by silk-worm rearers in the villages, specially in the project villages, it has established a Silkworm Seed Production Centre. . The Centre produces disease free layings (DFL) and supplies them to beneficiaries. Since its inception (1981) it has supplied 95,23,474 DFL to various sericulture farmers. It takes follow-up action through its extension and service wing. It is imparting training to farmers through village camps conducted by it. Its extension and service wing helps the farmers by caring chaukis. The personnel of service centres visit the farmers regularly and supervise the rearing processes. The sericulture training wing of AIRD so far trained 6,036 farmers of 291 villages through its village camps. It has also established a centre for sericulture training for rural participants at Kanakapura. The service centres have been established at Seethalawadi, Paduvanagere and Kanakapura in Kanakapura taluk. There is also a service centre at Ramanagaram.

Rural Industries: In order to promote rural industries AIRD has established people's autonomous boards in four hoblies of Kanakapura taluk viz., Harohalli, Kodihalli, Maralawadi and Sathnur. The rural industries programme of AIRD is carried on firstly, under people's plan for Integrated Development Project and secondly, Self-Help Rural Integrated Development Project. Under these two plans, so far modest units have been set up for brick manufacturing, carpentry and blacksmithy, rope making machines, spinning of silk thread from waste silk and cut cocoons, silk reeling unit and leaf-cut unit.

Other Programmes: The villages in Kanakapura taluk are covered by many programmes such as mini-bakery units, social forestry, agro-forestry, transfer of technology in bio-conversion of crop residues, etc. They are also covered under Lab-to-Land and TRYSEM programmes. AIRD has implemented a scheme for popularising fuel and energy saving Priyagni Stoves.

HOTEL INDUSTRY

The hotel industry has acquired greater significance in recent decades in view of the increasing mobility of population. Tourists spots, industries, offices, markets, schools, colleges etc., force people to move out of their native places. Hotels cater to their food needs. According to the Commissioner of Labour in Karnataka there were 130 registered hotels at the end of March 1988 providing employment to about 603 persons in the district. Some of the hotels in the district and taluk headquarters are well equipped and are providing both boarding and lodging facilities. Hotels in rural areas are under-equipped and a majority of them are run by individuals without appointing any labourers. At times family members assist the hotel keeper in such ventures. Taluk-wise total number of registered hotels and workers (outside municipal towns) engaged in them given in brackets, in the district as in 1988 are as follows: Channapatna 15 (65), Devanahalli 4 (12), Dodballapur 28 (96), Hoskote 7 (28), Kanakapura 40 (260), Magadi 9 (9), Nelamangala 12 (75), Ramanagaram 15 (58). Total number of hotels in the municipal jurisdiction of the district as at the end of March 1988 and the workers engaged in them as given in brackets were as follows: Channapatna 77 (200), Devanahalli 32 (70), Dodballapur 70 (240), Hoskote 60 (200), Kanakapura 85 (400), Magadi 62 (186), Ramanagaram (NA) and Vijayapura 36 (213).

GOBARGAS AND ASTRA OVEN

Energy is the basic need for all aspect of life. In any of our rural reconstruction programmes for betterment in lifestyles we are largely dependent on the availability of energy. Higher energy inputs are required to increase the productivity of land under cultivation. Drinking water, cooking and lighting needs more and more inputs of energy. The device such as family type and community type biogas plant (*gobar gas plant*) and smokeless efficient improved *chulhas* (ASTRA oven) are already making very good impact on the development and life style of our rural areas. They save conventional sources of energy and environment such as wood and forests. Though Astra oven requires wood, the higher thermal efficiency of Astra oven cut down the fire-wood requirements by 1/4 to 1/8 thereby saving money and time of the user. Out of many conceivable renewable energy sources (bio-energy, solar energy, wind energy, etc.) bio-gas (*gobar gas*), stands as one of the most important alternative sources. Animal and agricultural wastes are the major raw material for bio-gas production which are abundant in the rural areas. Besides the generation of combustible gas, the animal and other wastes are converted into enriched manure. The slurry which is the waste output of bio-gas plant, is much superior to farm yard

manure. This slurry is completely digested and it can be applied to the soil directly for better crop yields. The age-old practice of burning of cattle dung needs to be dispensed with through installation of biogas plants, thereby diverting all collectable dung for manuring of soil and increasing agricultural production. Further use of biogas adds to protection of our environment by not cutting the forest for fuel purposes and polluting the atmosphere by burning fire wood or dry animal dung.

The technical guidance and supervision for construction and maintenance of *gobar* gas plants are provided by Khadi and Village Industries Board and Zilla Parishad. The training for using Astra oven will be provided by Zilla Parishad. At the end of December 1988, taluk-wise distribution of gober gas plants and Astra oven units, as given in brackets, were as follows from the year of inception of the programmes: Channapatna 151 (119), Devanahalli 408 (1,177), Dodballapur 162 (1,574), Hoskote 240 (1,107), Kanakapura 322 (1,144), Magadi 189 (883), Nelamangala 114 (2,001) and Ramanagaram 71 (1,153), of the district, total 1,657 (10,158). The above two agencies also extend subsidy for the installation of bio-gas plants and the banks extend loan facility also for installation purposes.

INFRASTRUCTURAL FACILITIES

Industrial development involves several factors and infrastructural facility is a prominent factor among them. Infrastructural facilities like power, transport and communication, banking and credit, industrial estates, man-power etc. have played a vital role in the development of industries in an area. The details of some of the factors are discussed in earlier and later chapters of this volumes. Brief accounts of some of the factors are as follows:

TRANSPORT AND COMMUNICATION

Railways & Roads: Bangalore Rural district is having a good network of railways and roads, some of them being broadgauge and national highways respectively. The total length of railways and roads were 97 km and 5,038 km (including four hobbles of the district now transferred) respectively during 1987-88. The length of railway lines per 1000 sq km area in the district is about 26.5 km and Devanahalli, Channapatna, Dodballapur, Nelamangala, Ramanagaram and Hoskote taluks are connected to Bangalore City. All taluk headquarters are connected with Bangalore City through a network of good roads. The State Highways connect the interior areas of the district. Total length of category-wise surfaced roads at the end of 1987 was, National Highway

118 Km, State Highway 190 km, Major District Roads 500 km, other District Roads 290 km and village roads 3,318 km and the total length of surfaced roads was 4,416 km. Buses, minibuses, trucks, etc. ply regularly between district headquarters and taluk headquarters and other important places. In the rural areas bullock-carts are the chief means of transport. There were 14,674 registered motor vehicles in the district during 1987-88.

Air and Water transport: Bangalore rural district has got the facility for air transport through H.A.L. Airport located in Bangalore district. There is no facility for transporting the products of the industries in this district through waterways. The nearest place for the purpose is Mangalore which is well connected with roads and railways. Facilities for booking goods by water transport through sea to other countries are available in Bangalore City.

During the year 1987-88, there were 304 post offices, 69 telegraph offices, 54 telephone exchange centres and 3,220 phones in Bangalore rural district. Taluk headquarters and other important towns and villages are well served in respect of postal and telecommunication facilities. (See also Chapter VII)

Banking and credit facilities: The network of financial institutions to mobilise savings from the people and feed the same to the industries is fairly good in the district. During the year 1987-88, there were 88 branches of commercial banks in Bangalore rural district. Besides, there were branches of district Central Co-operative Banks in all taluk headquarters of the district. There is also a branch of Land Development Bank in each taluk headquarters. Further, there is a branch of Karnataka Industrial Co-operative Bank Limited at Dodballapur. At the end of March 1988, Kalpatharu Grameena Bank had four branches each at the taluks of Devanahalli, Ramnagar and Kanakapura, three branches at Hoskote taluk, two branches each at taluks of Magadi, Channarayana and Dodballapur and one branch at Nelamangala taluk to provide credit facilities.

The Karnataka State Financial Corporation, a leading institution of the State Government has a branch in the district and it is financing small scale industries in the district. The headquarters office of the KSFC is located in Bangalore City. Karnataka State Industrial Investment and Development Corporation is a public sector bank set up by the Government of Karnataka for financing medium and large scale industries in the State.

Industrial Finance Corporation of India has taken up a scheme of subsidy for implementing the modernisation programme of tiny, small scale and auxiliary units which have been in operation at least for a period of five years and where implementation of modernisation programme is considered to be necessary in order to keep pace with the changing technology, consumer needs or productivity investment etc. It helps the entrepreneurs through the agency of Technical Consultancy Organisations. Industrial Development Bank of India had a scheme of refinance for modernisation assistance at concessional rate to small and medium scale industrial units.

The Karnataka State Financial Corporation has advanced Rs 1,738.33 lakhs as loans to 345 persons in Bangalore rural district since its inception upto 31st March 1988. The taluk-wise disbursement of amount in lakhs and persons benefited as given in brackets were as follows: Channapatna- Rs 69.64 (74), Devanahalli- Rs 72.65 (26), Dodballapur- Rs 530.42 (51), Hoskote- Rs 769.88 (77), Kanakapura- Rs 47.86 (27), Magadi- Rs 15.95 (10), Nelamangala- Rs 135.30 (35), Ramnageram- Rs 96.62 (45) and of total Rs 1,738.33 lakhs (345 persons).

The credit plan for 1985-86 (Lead Bank Report), provided a total amount of Rs 3,579 lakhs for financing industries in the district; out of this, share of KSFC was Rs 715 lakhs. (See also Chapter VI)

ARTISAN AND INDUSTRIAL TRAINING INSTITUTES

In order to improve the skills of artisans and industrial labourers, the artisan and industrial training institutes have played a vital role. Artisans who take up the occupation of their parents acquire skill at the hands of their elders. But they have to undergo training to use modern equipments and to adopt themselves to new techniques to run modern sophisticated industries. The scheme for reviving the hereditary industries in rural areas in the State was first tried to be implemented through the Rural Artisan Training Institute. The Training centres were recognised during 1959-60 and Rural Training Institutes were started. The Rural Artisans Training Institutes were reconstituted as Artisan Training Institutes in 1963. The institutes laid emphasis on providing training to the hereditary artisans in the use of improved tools and equipment to improve their efficiency and skill and to enable them to settle in industries in their own villages. In Bangalore Rural District, artisans in all trades are available to run the traditional industries, but they require adequate training institutes to provide higher and modern

training. In Bangalore rural district, at the end of March 1988 there were two Artisan Training Institutes at Channapatna and Nelamangals.

Artisan Training Institute, Channapatna, was opened as Industrial Training School in 1902 to impart training to the rural artisans. The subjects taught in this school included carpentry, smithy, weaving, rattan works, lacquerware and engraving. The name of the school had been changed as Artisan Training Institute from 1960. At present it is imparting two-year training course to the artisans in carpentry, lacquerware and coir industry. The sister concern of this institution is imparting training in blacksmithy as two-year course and pottery as one-year course at Ramanagaram. Artisan Training Institutes which were under the administrative control of the Department of Industries and Commerce have been shifted to the administrative control of Zilla Parishad. The minimum qualification and age of the trainees prescribed are Vth standard and 13 years respectively and they are provided a monthly stipend of Rs 40. During 1987-88, the institution used raw materials valued at Rs 2,187, produced goods valued at Rs 2,470 and sold it for Rs 4,901.

Artisan Training Institute, Nelamangala, with the name Sri Krishnarejendra Industrial School was opened in 1933. Subsequently its name has been changed as Rural Artisan Training Institute and then as Artisan Training Institute. It is a branch of the Artisan Training Institute, Channapatna. It is imparting training in blacksmithy, weaving and *bachanike*. Duration of training is two years. This institution is imparting six months training to the artisans under the scheme of TRYSEM, SCP, RAP and RIP since 1983-84. Under the TRYSEM scheme 25, SCP 62 and RAP 19 persons were trained and were provided a monthly stipend of Rs 150, Rs 100 and Rs 250 for each trainee under each scheme respectively. During 1987-88 the trainees used raw materials valued at Rs 5,584 and produced goods valued at Rs 3,801 and sold it for Rs 4,043.

The Industrial Training Schools which were opened even before independence had specialised in weaving as early as in 1935. The subjects taught in Industrial Training School of Channapatna and Dodballapur include carpentry, smithy, weaving, rattan works, lacquerware and carving. Two lady candidates were granted scholarship during 1936-37 to undergo training in weaving, knitting, embroidery and tailoring with the object of opening a Girls' Industrial School at Channapatna. Subjects like pottery and button work were introduced in the School at Channapatna during the year 1938-39. Students at Dodballapur were trained in manufacture of different designs of

bedsheets and the Bihar pattern curtains. During the year 1941-42, a leather goods class was started at the Industrial School, Channapatna. In the subsequent year, smithy centre was started at Ramnagaram (Clospet) where people were trained in the manufacture of agricultural implements such as plough shares, bullock shoes, bolts, nuts, sickles, etc. The Pottery Centre at Ramnagaram was improved by the construction of the glazing kiln in 1942. The Mat Weaving Centre of Dodballapur was another such institute. The Pottery centres of Dodballapur and Ramnagaram are imparting training in the manufacture of improved pottery. Besides this, there are two lacquerware training centres, imparting training in the lacquerware at Channapatna and Kanakapura.

Besides the existing Artisan Training Institutes, there are three Industrial Training Institutes imparting industrial training at Devanahalli, Kanakapura and Nelamangala, the last one being a private body. Industrial Training Institutes of Devanahalli and Kanakapura were opened in 1983. They are imparting training in courses like electrician, draughtsman, assembling, spinning and mechanics. The duration of courses is two years. The minimum qualification for trainee is S.S.L.C. Sri Jagadguru Chandrasekharanatha Swamiji Industrial Training Institute, Nelamangala, was also opened in 1983. It is imparting training for one-year course in printing technology and secretarial practice and two year course in mechanics and general electronics. The maximum number of candidates admitted to the institution is 32 and qualification required for the trainee is S.S.L.C.

In addition to these, there is one Engineering College at Ramnagaram and two polytechnics each at Channapatna and Hoskote. Besides this, there are adequate number of Engineering Colleges and polytechnic in Bangalore City which is situated centrally to the Rural district, having Tool Room Centres which impart training to the engineers and diploma-holders in the line of Tool Room Technology. (See also Chapter XV).

INDUSTRIAL ESTATES

The Karnataka State Small Industries Development Corporation has constructed two industrial estates in the district at Dodballapur and Ramnagaram. The industrial estate at Dodballapur has got 50 sheds and Ramnagaram has got 20 sheds, and all sheds have been allotted to the entrepreneurs of small scale industries. It has taken up the construction work of industrial estates at Magadi, and industrial estate of Devanahalli is yet to be taken up. There is a proposal to

construct industrial estates in the taluks of Hoskote, Channapatna, Nelamangala and Kanakapura.

The Government of Karnataka has established Karnataka Industrial Area Development Board to acquire and develop land and allot plots of different sizes to large, medium and small scale industries in the State. The details of land acquired and developed and land allotted in Bangalore rural district are presented below:

The extent of land developed, approximate extent available and rate per Square Metre in Bangalore Rural District at the end of February 1989 were as follows:-

| Sl. No. | Name of the Area | Extent developed in acres | Approximate extent available in acres | Rate per Square meters in Rs. |
|---------|------------------|---------------------------|---------------------------------------|-------------------------------|
| 1. | Hoskote | 375.00 | 80-00 | 56.25 |
| 2. | Dodballapur | 343.00 | 5-00 | 62-60 |

Source: Karnataka Industrial Area Development Board.

OTHER FACILITIES

Availability of other facilities such as land, water, raw material, marketing, labour, entrepreneurs etc. in the district indicate the possibility of speedy industrial growth. Identification of growth centres is an added tool in the hands of the Department of Industries and Commerce to develop industries in the district.

During 1987-88 the fallow and uncultivable land in the district was 80,197 hectares and 86,339 hectares respectively. Availability of water is another important factor. The Arkavathi, the South Pinakini and the Kanva rivers flow in some parts of the district. The river Cauvery flows along the southern border of the district. Annual net recharge of ground water in the district as in 1983 was 62,230 hecta metre and annual discharge of water as in 1987 was 25,629 hecta metre. Though mineral resources are inadequate in the district non-metallic minerals such as kaolin, quartz, clay corundum and building and ornamental stones are available in considerable quantity.

At present there are 40 mines working, located in different places in the district extracting different kinds of minerals. Mineral based industries, such as bricks, flooring tiles, roofing tiles, terracotta and earthenware, stone-polishing, stoneware pipes, refractory bricks, etc. can be developed in the district. As in 1988 census, the total population of the district is 14,52,044 and this provides sufficient number of workers, both skilled and unskilled. Market potential for the products of the district is vast due to the nearness of Bangalore City. The Large and Medium sector industries existing in Bangalore provide scope for ancillary industries in Bangalore rural district. The Entrepreneurship Development Programme, conducted by the Department of Industries and Commerce should enable the trainees to identify their products and set up industries in their native places in the district.

DEVELOPMENTAL PROSPECTS

The existing large and medium scale industries in Bangalore Rural and Bangalore (urban) district numbering about 200 can utilise some of the small scale industrial units as their ancillary units. Large quantity of ragi, potatoes and horticultural crops are grown in Bangalore rural district. There is good scope for setting up one or two units for manufacturing ragi malt, dehydration of potatoes and potatoe chips, fruit and vegetable products such as syrups and squashes, jams, jellies, canned fruit products, dehydration of vegetables, clarified fruit juices, etc. Dessicated coconut powder is used in the preparation of biscuits, sweets, confectionary, scented supari etc., and in view of the existence of a number of biscuit and confectionery manufacturing units in the district and good demand for dessicated coconut powder in northern states due to non-availability of fresh coconuts, there is ample scope for setting up one or two units for manufacturing dessicated coconut powder, in addition to the one existing unit near Ramanagaram in the district. Coir in the district is now being used mostly as fuel. It can be used for making coir products, such as ropes, door-mats, carpets, by setting up one or two industrial units in Kanakapura and Ramanagaram taluks. Essence Oils are made from *dhavana*, citronella, eucalyptus and lemon grass. They are used in the manufacture of soap, perfumes and cosmetics and pharmaceutical industries. The climatic condition of the district is suitable for growing *dhavana* and citronella grass. A special variety of flowers known as *sugandharaja* are growing in Devanahalli taluk. There is a scope for setting up one or two units in the district for manufacturing essences oils. Clay suitable for the manufacture of tiles is available in several parts of the district and there is scope for setting up a few units for the manufacture of tiles in the

district. In addition to this there is a wide scope for setting up one or more units in the district of demand-based industries such as bakery, poultry and cattle feed, aerated water, ready-made garments, hosiery, wax-coated paper, paper bags and envelopes, paper cups and plates, corrugated paper-board boxes, drinking straw, exercise books and registers, leather products, cycle tyres, plastic products, ball-pen refills, agarbathi, safety matches, washing soap and powder, cosmetics and toilet preparations, domestic electrical appliances, beedi rolling, etc. Entrepreneur development, programme, seminars and intensive industrial campaign to educate the people regarding the services offered by the various organisation for promoting industry in the district have to be organised.