

CHAPTER V

INDUSTRIES

Old-time Industries

THERE is no authentic record in the district of the existence of large industries in the ancient days or during the mediaeval period, except for the discovery of some ancient workings for gold in Ajjenahalli and Bellara villages. Obviously, the absence of fuel propulsion or power production in the ancient days prevented the exploitation of available raw-materials to manufacture finished products. Mainly, indigenous industries of a cottage type seem to have flourished in the district, their prosperity depending, by and large, on the needs of the local population. Weaving was the prominent cottage industry giving employment to many. A large number of handlooms existed in several parts of the district. The Chiknayakanahalli *ujju kambli* had attained a very high standard. Next to the woollen industry, *duppaties* or bed-sheets were woven in several parts of Tumkur district. This was a purely cottage industry and the manufactured articles found a ready market locally.

Next in importance came pottery, carpentry, extraction of oil and manufacture of oil-cakes. Comb-making was yet another industry for which Tumkur was famous for a long time. The manufacture of glass bangles worn on the wrists by ladies was pursued in Koratagere and Pavagada. These bangles had the same reputation as the Julupalya bangles of Kolar district. Carpentry, as practised by village craftsmen, existed from old days. The carpenters manufactured agricultural implements and also bullock-carts for the use of the cultivators. A number of country-cart making units flourished in the Tiptur area. The indigenous oilseed-pressing *ganas*, engaged in the milling of copra for extracting oil, were found in large numbers, also in the area around Tiptur.

Prior to the introduction of fuel propulsion, the Wesleyan Mission Workshop at Tumkur, which manufactured good furniture, marked the beginning of the factory-type industrial establishment in the district. In and around Tumkur, slate pencils were also manufactured on a small scale. Brass utensils

were made at Seethakal and Urdagere and strong tape in a few villages. To a small extent, dyes were prepared at Koratagere. Sira was once famous for the manufacture of country-shoes, which, in recent years, has been very much on the decline because of the import of footwear from other places. Kunigal taluk is chiefly noted for its silk industry. Mulberry growing, silk-worm rearing and silk-reeling are carried on in many places in the taluk. Pig iron for the use of agricultural implements was produced once in small quantities at Davanada-Hosahalli in Chiknayakanahalli taluk.

The hydro-electric power produced at the Shivasamudram Generating Station under the Cauvery Power Scheme was extended to Tumkur in 1929, and the town was electrified on the 12th May 1929. The extension of power facilities to other important places in the district had perforce to wait till the inauguration of the Mahatma Gandhi Hydro-Electric Works at Jog and the laying of a high tension power line from Bhadravathi to Bangalore through Tumkur district. But the needs of Tiptur, an important commercial place to the west of Tumkur, demanded the priority attention of the Electricity Department, and it was decided to extend the Tumkur line to Tiptur in 1940. Thus, Tiptur was electrified on 23rd August 1940 and this region was attached to Hassan Power and Lighting. Later on, after the commissioning of the Jog Generating Station, power was extended to other parts in the district. Nonavinakere and Turuvekere were electrified in 1951 and 1952, respectively. Chiknayakanahalli was electrified in 1953. With the resumption of prospecting in the Bellara Gold Mines, power was extended to that place in 1953. Kunigal, an important horse-breeding centre, was electrified in 1939 from the Cauvery Power Scheme. The eastern regions of the district were not neglected either; Koratagere and Madhugiri were electrified in 1949 and Pavagada in 1951. Gubbi was electrified in 1954. In the same year, the Kyatsandra village near Tumkur was also electrified.

**Power
development**

Tumkur, at the beginning, was only a sub-division for purposes of electrical power development, attached to the Chikballapur Electrical Division. In view of the growth of several small-scale industries and the increased demand for power in the district, a separate electrical division was formed with Tumkur as headquarters on 1st January 1958. The division was placed under the charge of an Executive Engineer, with two Assistant Engineers, one at the headquarters and the other at Tiptur. Subsequently, another Assistant Engineer was posted to Sira. Thus, there are now (1967) two electrical maintenance sub-divisions under the Tumkur Division, one at Tiptur and another at Sira, each under the charge of an Assistant Engineer. In addition, two more Assistant Engineers, with the necessary staff, have been recently

posted to Kunigal and Tumkur to look after exclusively new construction works in respect of rural electrification and power supply to irrigation pumpsets in the district. There is another Assistant Engineer at Tumkur who is in charge of investigation of new schemes.

Due to the rapid progress in electrification and the increase in the developmental activities of the Electricity Board in the district, as well as in the adjoining areas, a separate Electrical Circle, covering Tumkur, Kolar Gold Fields and Chikballapur electrical divisions, was formed in September 1965, headed by a Superintending Engineer (Electrical) with his headquarters at Tumkur.

At the end of the Second Five-Year Plan period, there were three step-down stations in the district, one each at Tumkur, Tiptur and Sira. There were, in all, 12,953 domestic and commercial lighting installations, 143 heating circuits and 2,779 irrigation pumpsets (run by electrical power). The total number of villages and towns electrified was 495. The electrification programme in the district was intensified during the Third Five-Year Plan and considerable progress was achieved in all directions. Three more step-down stations were established—one each at Madhugiri, Ammasandra and Pavagada; many more villages and towns were electrified and a large number of irrigation pumpsets were serviced. The important 220 kV transmission line from Shimoga to Bangalore, which passes very near Tumkur town and which runs further to the Madras State border as an inter-State link, was constructed. Another inter-State link transmission line at Vittalapura near Pavagada was also constructed during this period. A sum of about Rs. 78 lakhs had been provided for all these power development works in the district in the Third Plan. The following figures indicate the physical targets achieved in this regard upto the end of 1966-67 (including the Third Plan period) in the district:—

Step-down Stations.—The following were the six step-down stations and their capacity in kVA:—

| | | |
|---------------|----|-----------|
| 1. Tumkur | .. | 6,250 kVA |
| 2. Tiptur | .. | 1,500 kVA |
| 3. Sira | .. | 4,000 kVA |
| 4. Madhugiri | .. | 2,000 kVA |
| 5. Ammasandra | .. | 7,000 kVA |
| 6. Pavagada | .. | 2,000 kVA |

Electrical Installations.—The following were the various kinds of installations in service and their number in the district:—

| | | |
|--|----|--------|
| (a) Domestic and commercial lighting installations | .. | 26,397 |
| (b) Heating installations | .. | 397 |

| | |
|--|--------|
| (c) High tension power installations (for industries, etc.) .. | 1,280 |
| (d) Irrigation pumpsets serviced .. | 8,640* |
| (e) Number of villages electrified .. | 644* |

Rural Electrification.—Supply of power to as many villages as possible every year is an accepted objective of the Government. The following statement shows the number of villages electrified and the number of irrigation pumpsets serviced in the district so far (*i.e.*, upto the end of August 1967) yearwise :—

| Year | | Villages electrified | Pumpsets serviced |
|-------------------------|----|----------------------|-------------------|
| Prior to 1959-60 | .. | 464 | 2,322 |
| During 1959-60 | .. | 28 | 384 |
| „ 1960-61 | .. | 7 | 353 |
| „ 1961-62 | .. | 10 | 482 |
| „ 1962-63 | .. | 16 | 363 |
| „ 1963-64 | .. | 10 | 873 |
| „ 1964-65 | .. | 44 | 950 |
| „ 1965-66 | .. | 24 | 1,112 |
| „ 1966-67 | .. | 27 | 1,264 |
| Upto end of August 1967 | .. | 14 | 537 |
| Total .. | | 644 | 8,640 |

According to a tentative programme drawn up, 150 more villages were to be electrified and 3,800 more irrigation pumpsets were to be serviced in the district in the next five years at a cost of about Rs. 144 lakhs.

The Bellara Gold-Mining Block, situated about 95 miles north-west of Bangalore, lies amidst the area of a thickly wooded deciduous forest of Kammara trees (*Hardwickia binata*) in the district. It is 19 miles to the west of Sira, on the Sira-Huliyar road. Actually, the mine is about a mile north of the forty-third milestone on this road and can be reached easily from that spot through a connecting road which has been constructed for that purpose. The auriferous formation of this region consists of a massive basic igneous rock (locally called grey trap)—bouldery being for the most part or somewhat crushed and rudely schisted at places—penetrated by several quartz reefs of various dimensions exposed here and there as disconnected runs. Most of these reefs are found to be gold-bearing.

**Bellara Gold
Mines**

* Upto the end of August 1967

Early history

The gold-bearing reefs of this area, as in all other auriferous tracts in Mysore, had been worked to some extent by ancient miners. In 1897 or 1898, the State Geological Department discovered in this region some of those ancient workings. About the same time, one Mr. R. H. Morris, finding a few more of such workings, obtained a licence to prospect over an area of nine square miles. He transferred his interests, soon after, to the Indian Mines Development Syndicate Ltd., which took over the licence from him and conducted, in the early years of this century, some extensive underground investigations on two of the most promising reefs in the region.

Commencing their work in 1902 on the eastern reef, exposed prominently on the slope of a small hill, the Syndicate sunk three shafts to various depths and had driven levels at depths of 130, 230 and 330 feet from the surface. After considerable exploration of this reef, which they called the Bellara Reef, the work was, however, discontinued at the end of 1905.

At the foot of the hill, about $1\frac{1}{4}$ furlongs west of this reef, another reef was located by the Syndicate after a considerable amount of exploration and prospecting. On this reef, which they called the Tank Reef, ten shafts were sunk altogether over a length of some 2,000 feet, six of the shafts being in a line north and south, and the rest on the sides parallel to them. The shafts were sunk to varying depths, the deepest being a little more than 400 feet. Several levels had been driven at various intervals, to varying distances, from the different shafts and also a few winzes had been sunk connecting the different levels.

These extensive operations, conducted over some four or five years, had disclosed that the western reef (Tank Reef) varied in width from two or three inches to $2\frac{1}{2}$ feet and in gold value from a mere trace to about three ounces per ton with occasional richer shoots. It was estimated that a few thousand tons of quartz could be taken from this reef at an average of nine dwts. per ton; but still, the total tonnage of such quartz was considered insufficient for large-scale operations and the gold value of the reef in depth at some of the spots tested, was also considered too poor to tempt further extensive explorations beyond. Hence, the Syndicate abandoned the mine finally after several years of trial.

A couple of hundred tons of quartz, which had been taken out during the course of these operations, had been left stacked at the shaft-heads, being considered perhaps as unprofitable for treatment. Some of the local people, who were aware of the existence of this gold quartz, took advantage of the situation of the stacks in the midst of the jungle, far from inhabited villages, and started extracting gold surreptitiously. No one is quite sure for how long this

clandestine practice was carried on, but the culprits were, however, caught in January 1941. The concentrates recovered from them, on assaying in the chemical laboratory of the Geological Department, indicated very rich values varying from 90 to 500 ounces of gold per ton. Since it was more or less impracticable to prevent altogether such underhand and unlawful extractions by ordinary vigilance in that forest-covered area, the Geological Department took up, in 1943, the extraction of gold by washing the powdered pieces of quartz, and also the mine debris and soil nearby, in specially constructed washing cradles.

While this work was going on, it came to the notice of the Government that a small section of the workings on the Tank Reef contained a fairly rich zone which was believed to yield about 2,000 tons of auriferous quartz of an average grade of 11 dwts. per ton. On the strength of this information and after a careful consideration of all aspects, the Government of Mysore decided to have the area thoroughly investigated. In May 1944, they sanctioned the proposal of the Director of Geology to recover the available gold from this known reserve of 2,000 tons of auriferous quartz, at an estimated initial cost of Rs. 1.70 lakhs, and also to conduct further large-scale intensive investigations on the reef to ascertain its suitability or otherwise for commercial exploitation.

The work of the Indian Mines Development Syndicate had indicated that the Tank Reef formed a thin vein of auriferous quartz of an average width of about two feet, traceable for a length of over 2,000 feet north and south. The reef, with a pronounced westerly dip, seemed to have been followed for over 400 feet in depth, beyond which it had not been traced. In July 1944, almost the central portion of the reef was selected for mining operations. In accordance with the sanctioned programme for extracting gold from the proved reserve of 2,000 tons of quartz in this selected portion, the Geological Department started its operations with the clearing and reconditioning of the three of the old shafts which the Indian Mines Development Syndicate had sunk in this section and which, from disuse, had collapsed and partially filled with debris. The work was concentrated on thoroughly renovating these three shafts and 4,000 tons of quartz of an average estimated yield of about 10 dwts. of gold per ton were obtained, from which 300 to 320 ozs. (about 800 *tolas*) of gold were secured.

Further mining operations

A revised scheme for intensive operations was then formulated; but there was considerable delay in getting the necessary machinery and other equipment. Consequently, the milling and extraction of gold was not started. However, from washing the debris in the mined areas and from hand-pounding small pieces of rich quartz and panning and amalgamating the concentrates, about 464 ozs. (1,160 *tolas*) of crude sponge gold were recovered till

1st October 1946. Out of this, 320 ozs. (800 *tolas*) were got refined which yielded 285 ozs. (713½ *tolas*) of pure gold. The purified gold, sold locally in different lots, fetched, in all, Rs. 73,050. The remaining crude sponge gold brought in another about Rs. 25,000. It was thus found encouraging to have further explorations and the future of the mines seemed bright.

It was not until 1951 that active work was carried on and the required machinery and equipment were secured. In that year machinery worth about Rs. 40,000 was secured and a number of buildings were put up; there were 207 persons on the employment roll of the mines; 3,826 tons of ore were treated and the sponge gold obtained was 402 *tolas* which realised Rs. 49,468. In 1952, there were 208 persons working in the mines and the ore production amounted to 3,285 tons, from which 827 *tolas* of gold were extracted and sold for Rs. 75,596.

Closure of operations

In 1953, several developmental schemes were drawn up and further mining operations were undertaken. But during this period, the production of ore was not encouraging and it was found that any further exploration would entail a heavy loss. Therefore, the Bellara Gold Mining Advisory Committee requested Messrs. John Taylor and Sons Ltd., of the Kolar Gold Fields to study the mining area to find out whether future workings would be profitable. Their report was also not encouraging and, therefore, in 1954 it was decided to close down the mining operations. The machinery, vehicles, buildings, stores and other properties of the mines worth over Rs. 11.27 lakhs were disposed of to several Government departments and some more of the properties, connected with water supply, electricity and buildings, worth over Rs. 4.44 lakhs were transferred, free of cost, to the Mysore State Adult Education Council. By 1956, the buildings on the mines were handed over to the Education and Public Works Departments, and thus, the gold mining operations which began in a hopeful atmosphere earlier had to be closed down subsequently as uneconomical.

Minerals

Tumkur district has considerable mineral wealth. Among the important minerals available in the district are manganese, iron ore, gold ore, limestone, corundum, granite, silver sand, quartz, soapstone and china clay. The manganese deposits occur mixed with limestone near Doddaguni in the district. Though correct figures regarding the quantum of manganese ore deposits in the district are not available, it is estimated that the deposits may be to the extent of about 100 million metric tonnes. The ore is exploited by private mine-owners and is exported to foreign countries. Large deposits of limestone, containing 49 per cent calcium oxide and 2.80 per cent magnesia, are reported to occur at Voblapura, and it is estimated that the deposits of this mineral in

Tumkur and Chitradurga districts are to the extent of about five crore tons. The limestone deposits in the district are being exploited for the manufacture of cement by the Mysore Cements Ltd., at Ammasandra. There are rich deposits of iron ore in this district. About 35 million tons of iron ore, containing 58 to 62 per cent iron, are estimated to be available in various parts of the district as follows :—

| | | |
|-----------------------|----|-----------------|
| 1. Karekurchi area | .. | 5 million tons |
| 2. Abbigegudda region | .. | 27 million tons |
| 3. Janehar region | .. | 3 million tons |

There are 38 mining leases current in this district. The mineral-wise distribution of the same is shown below :—

| <i>Minerals</i> | | | <i>No. of mining leases.</i> |
|-----------------------|----|----|------------------------------|
| 1. Iron ore | .. | .. | 8 |
| 2. Manganese | .. | .. | 7 |
| 3. Iron and Manganese | .. | .. | 17 |
| 4. Clay | .. | .. | 2 |
| 5. Soapstone | .. | .. | 1 |
| 6. Limestone | .. | .. | 3 |

As already stated, gold was being mined in the district at Bellara and Ajjenahalli in Chiknayakanahalli taluk in the olden days. It is said that the ancient workings for gold found at these places are about 2,000 years old. It is estimated that about 2½ lakh tons of ore would be available in the Bellara deposits. However, on account of the low gold content of the ore, large-scale exploitation of these deposits is considered to be uneconomical as already mentioned. Corundum deposits are spread over a length of about 40 miles in Koratagere and Pavagada taluks. Only a small quantity of this mineral is being used in the State for industrial purposes. Quartz is reported to occur to the west of Koratagere and some other places and the total deposits in the district are estimated to be of the order of about 10,000 tons. Glass-sand, to the extent of about 25,000 tons, is reported to be available in Gubbi, Tiptur and Chiknayakanahalli taluks. There is china clay in abundance in the district, but it is being used only for manufacture of tiles and bricks. The clay available in Sira and Chiknayakanahalli taluks is of a high grade and is quite suitable for manufacture of roof and floor tiles. Soapstone and ochres are also available in the district. Extensive deposits of dolomite also occur near Voblapura in the district. Details of production of the different minerals in the district with their value are given in the table appended at the end of the chapter.

LARGE-SCALE INDUSTRIES

Till recently, there was no large-scale industry in Tumkur district and it was only in 1960 that a large-scale cement factory was established at Ammasandra in Turuvekere taluk by Messrs. Mysore Cements Limited. There are also no medium-scale industries in the district and even the one that was established a few years ago, *viz.*, the Parshwanatha Rice and Oil Mills, on the Sira road in Tumkur town, has not been functioning for some time past. But there are many small-scale industrial units in the district, especially in places like Tumkur and Tiptur, which are engaged in the manufacture of agricultural implements and builders' hardware, in automobile body-building and repairs, in wood working, carpentry and blacksmithy, in making bricks and tiles, in manufacturing soaps and beedies and in rice-milling and oil production, etc. There are also quite a number of cottage and village industries dispersed throughout the district, which provide both full-time and part-time occupation to a sizable number of rural population. A brief account of these small-scale, village and cottage industries is given elsewhere in the chapter.

**Cement
manufacture**

Cement, like steel, is to-day an essential material for building construction. As is well known, the cement industry is playing a very important role in the various development programmes of the country. The extent of utilisation of cement reflects the developmental activities of a nation. Thus, in these days of planning, when cement and steel are the essential commodities for building construction, cement manufacture is vital to the economy of a region, and the district of Tumkur which, hitherto, had no large-scale industries, came to have a large-scale cement factory at Ammasandra recently.

The cement factory is located just one mile north-east of Ammasandra Railway Station, which is seven miles away from Turuvekere, and one mile from Dandinashivara, which is a hobli headquarters in Turuvekere taluk. The factory is located in a vast *maidan* area, having to its north and north-east (four miles away from the factory but quite visible) the Hatyal range of hills as a fine and picturesque background. The State Government have granted 185 acres and 12 guntas of land for locating the factory and other buildings.

The scientific location of industrial units is an essential adjunct of industrial efficiency. The optimum of production may vary with different localities due to the advantages which one locality may possess over another. Thus, a region better equipped with resources in power, raw-materials, labour and transport may easily be a centre of industrial concentration. While deciding the question of setting up the cement factory at Ammasandra, these

points were critically examined. As regards transport facilities, the site is close to Ammasandra Railway Station, which is on the Bangalore—Poona main line. About three miles north of the factory site, runs the Bangalore—Honnavar highway and this has added to the transport facility. The cement factory has been provided with railway sidings from the Ammasandra Railway Station which is very close. The railway siding was opened in September 1961. In view of the expansion of the factory, this siding is being expanded considerably. This area is mainly agricultural, but the agricultural labour is not fully employed all the time and as such, there is easy availability of abundant labour. The strength of labour in the factory in 1967 was about 700. Just near the factory, the main electric power line from Jog to Bangalore runs, and the Government have established a step-down station to supply power to the factory.

The main raw material of this industry is limestone, which is available in plenty in the locality. It was found by the Mysore Geological Department as early as 1948-49 that deposits of limestone suited for cement manufacture existed at Voblapura in Tumkur district which is very near the factory-site. Detailed examination of the surrounding places, including the nearby hill ranges, has shown the existence of very large quantities of high calcium limestone needed for cement manufacture. Physical and chemical tests have shown that the limestone is suitable for the manufacture of portland cement. The other raw-materials like clay and sand are also available. Gypsum of the required quality is available in sufficient quantities at an economic price from the neighbouring State of Madras. As for coal, it is obtained from the coal fields of West Bengal, Bihar and Madhya Pradesh. Ample quantity of power is supplied by the Mysore State Electricity Board and water is also available nearby. Thus, it is seen that the present site is ideally suited for the production of cement.

Raw materials

The original intention of the State Government was to set up a cement factory at Ammasandra as a State-owned concern. But it was subsequently assigned to private enterprise as the Planning Commission indicated that cement factories should, as far as possible, be developed in the private sector. At this time, Shri P. K. Sarangapani Mudaliar, a mine-owner of the State, came forward to undertake this venture. An industrial licence was obtained in July 1959 and in November of the same year, the consent of the Central Government was also received for the issue of capital. The company was incorporated on 13th May 1958 and obtained its Certificate of Entitlement to commence business on 12th October 1959. The inauguration ceremony was held on 27th November 1960 and on the same day, the foundation-stone of the administrative block of the company was also laid. The first

Mysore Cements Limited

cement plant of the factory, with a production capacity of one lakh tonnes of cement per annum, started production in October 1962.

Technical assistance

The company originally entered into an agreement with the renowned Kaiser Engineers Overseas Corporation of the United States of America for engineering assistance in the design and construction of the plant. That foreign organisation also participated in the equity share capital of the company. From 1st September 1964, the managerial and secretarial responsibility of the company was taken over by Messrs. Kaisers from Shri P. K. Sarangapani Mudaliar who withdrew from the business. In January 1966, Messrs. Kaisers handed over the management of the company to Messrs. Birla Brothers who expanded the capacity of the cement factory to two lakh tonnes per annum. This capacity is now being further expanded to a total of four lakh tonnes per annum with the help of Messrs. Birla Consultants (Private) Limited.

Capital structure

The authorised capital of the company is rupees three crores and the total issued and paid-up capital works up to Rs. 1.80 crores. Of this amount, the State Government has participated financially to the extent of Rs. 15 lakhs. The United States Export Import Bank (which administers the United States Public Law 480 rupee funds in India) has granted a loan of Rs. 55 lakhs to the company. The United States Agency for International Development has also granted a loan of Rs. 82.50 lakhs and the Industrial Credit and Investment Corporation of India Rs. 64.33 lakhs.

Machinery

The first cement plant of the capacity of one lakh tonnes was supplied by Messrs. Klockner-Humboldt-Deutz of West Germany, while the electrical equipment was supplied by Messrs. Allgemeine Elektrizitäts-Gesellschaft (A. E. G.) of West Germany. The second plant, which started production in February 1966, is also of similar type and capacity. Since then, the company has gone ahead with a further expansion programme and orders had been placed for another dry process plant of the capacity of two lakh tonnes with Messrs. ACC-Vickers-Babcock Ltd., Durgapur. After the installation of this plant by the end of 1968, the production of cement would go up to four lakh tonnes per annum. The Mysore Cements Company is at present manufacturing 'portland cement' and is considering the possibility of undertaking the manufacture of other products associated with cement.

Process of manufacture

After trial production tests carried out by Messrs. Kaiser Engineers Overseas Corporation, the Board of Directors of the company chose to adopt the 'dry process' for the factory instead of the 'wet-process'. Preliminary studies conducted indicated that with the 'dry process', the company would be able to realise

savings in costs of production, since this process involves lesser fuel consumption. In addition, the dry process is economical in its requirements of water and is also otherwise suitable for the conditions in which the factory operates. In recent years, dry process plants have become increasingly popular in West Asia, where economy in fuel and water consumption is important. The process of cement manufacture is comparatively simple. The basic raw materials like limestone and clay or other calciferous and siliceous materials in pre-determined proportions are ground very fine either in water or dry state and passed through calcination process, *i.e.*, burnt in kilns to produce clinker, which is ground with gypsum upto a fineness of 170 Mesh and then packed in gunny bags. The machinery used for this purpose is designed to deal with raw materials by way of crushing, grinding, burning, milling into powder and packing into bags.

SMALL-SCALE INDUSTRIES

As stated earlier, Tumkur district has, since early days, been famous for a few small-scale and cottage industries, like oil extraction, pottery, carpentry, comb-making and handloom-weaving. But, by and large, there was not much industrial development in the district until recently, and whatever industries that had come up, mainly related to the processing of agricultural produce and the like. In 1962-63, the Small Industries Service Institute of the Government of India conducted a survey on the industrial development potentialities of the district. In 1963-64, another survey was conducted by the Department of Industries and Commerce of the Government of Mysore, through its Rural Industries Project office located at Tumkur, to study the possibilities of industrial development in the areas, *viz.*, Tumkur and Gubbi taluks, covered by the Rural Industries Project. According to these reports, attempts had been made in the district to start only such industries as were based on the available local agricultural raw materials. Though Tumkur is nearer to Bangalore, the State capital, and though there is no dearth of either mineral resources or commercial enterprise, the industrial bias as such was not perceptible in the district and capital was shy to venture on the establishment of bigger industries till recently. However, with the various incentives and assistance offered by the Government, there has been considerable improvement in the establishment and development of small-scale and village industries in the district in recent years.

According to the surveys* conducted by the Small Industries Service Institute, Bangalore, and the Rural Industries Project,

* (1) Report on Industrial Development Potentialities of Tumkur District, Small Industries Service Institute, Bangalore, 1962.

(2) Report on the Survey of Possibilities of Industrial Development of the Rural Industries Project, Tumkur-Gubbi, 1963.

Tumkur, referred to above, there were, in all, 164 small-scale industrial units in Tumkur district in 1963-64, employing, on an average, 2,225 persons daily. Their capital investment was estimated at about Rs. 80.72 lakhs, with an annual estimated production worth about Rs. 183.54 lakhs. Of these, the oil and rice mill industry alone accounted for about 41 per cent of the total investment and 74 per cent of the total production. A brief account of the several small-scale industrial units working in the district (in 1963-64) is given in the following paragraphs.

Oil and Rice Mills

There were 41 oil and rice mills in the district, of which 23 were oil mills, 11 were rice mills and 7 were composite mills engaged both in hulling of rice and crushing of oilseeds. Of the 41 mills, 14 were at Tumkur, 11 at Tiptur, 7 at Gubbi and the remaining 9 units at other places in the district. Almost all the oil mills at Tiptur were engaged in crushing only copra, while the remaining oil mills crushed groundnut and castor seeds. The oil and rice mill industry in the district provided employment to about 450 persons. The total annual production of oil was of the order of 1,300 metric tonnes valued at Rs. 65 lakhs and the quantity of rice hulled was about 4,000 metric tonnes valued at Rs. 40 lakhs. About 75 per cent of the oil extracted in the district is exported to other places.

Before the introduction of oil mills, oil was being produced by means of only *ganas*; the persons connected with oil-pressing are called *ganigaru*. Even now, the *ganas* are in use. According to a survey conducted by the Marketing Department some time ago, there were over 420 village *ganas* in Tumkur district.

Process of oil manufacture

Groundnut is one of the most important commercial crops in the district. Next in importance is coconut. Castor is also grown in the district to a considerable extent. It is the production of these oilseeds that has given much scope to the oil industry in the district. Coconut oil is not produced on a very large scale in the district; there were nine mills in Tiptur engaged in the extraction of oil from copra. Copra of an inferior quality called *kantu* is crushed into oil and is used in the manufacture of soap and also as hair oil. The best variety of copra is used for crushing oil required for edible purposes, but the quantity so pressed is small. The methods and process of production of oil for edible purposes, for soap manufacture and also for use as hair oil is the same. Generally, power-driven rotaries are employed for crushing copra into oil. Before feeding the rotary, the copra is cut into small pieces and filled into a tin of 16 seers' capacity and poured into the rotary. The capacity of each charge is 48 lbs., and to complete one charge, it requires about an hour. It has been estimated that for every 100 lbs. of copra, 57 lbs. of oil are obtained. Village *ganas* are also used for crushing copra into oil. The percentage of

oil obtained in village *ganas* is comparatively less than that obtained in rotaries.

There were 11 saw mills and seven wood working units in the district in 1964. Of these saw mills, five were at Tumkur, two at Tiptur and one each at Kunigal, Gubbi, Madhugiri and Kallur. While the saw mills were engaged in sawing of timber on job basis, the wood working units were engaged in the manufacture of furniture, carts, wooden toys and the like. They had together invested a capital of about Rs. 4.92 lakhs and had employed about 90 persons. The total annual average production of these units was valued at Rs. 10 lakhs. The wood required for the saw mills and for the manufacture of carts, furniture, etc., is obtained from Shimoga and Mysore districts. The carts manufactured in the district are known for their quality and durability and, as such, find ready market both within and outside the district. The number of saw mills and wood-based industries in the district had increased to 29 by the end of 1967.

Easy availability of improved agricultural implements is an essential factor for the development of agriculture. There were 10 units in Tumkur district manufacturing agricultural implements in 1964. Of these, six were in Tumkur town and the remaining four were in other parts of the district. Out of these units, the Lazar Workshop in Tumkur town seems to be the earliest having been established in 1930. The Aryan Industries and Engineering Works was started in 1946 and the remaining units came into being after 1950. Of these, the Shiva Industries, which was established in 1956 to manufacture improved agricultural implements, was the biggest. Of the units started later, three were in the co-operative sector, *viz.*, the Kunigal Taluk Agricultural Produce Marketing Society Ltd., Kunigal, and the Smithy Workers' Craft Co-operative Societies at Mallaghatta and Resala. Of these, the Society at Kunigal was the largest, with a membership of 950 and a share capital of Rs. 1.51 lakhs. It had a production capacity of Rs. two lakhs worth of agricultural implements per year. The implements manufactured by these and other units included ploughs, weeders, seed drums, mixers, trolleys, tractor parts, cultivators, manure trawlers, wheel barrows, paddy weeders and the like.

The total estimated capital investment of these ten units was Rs. 6.73 lakhs and the value of their average annual production was about Rs. 5.45 lakhs. They had together employed about 140 persons. The requirements of almost all agricultural implements in the district are met by these local units. A part of the local production is also being sent outside the district. On account of the modern methods of cultivation that are being

pursued by an increasing number of agriculturists and the provision of more and better irrigation facilities, the demand for improved agricultural implements is generally on the increase. Consequently the number of units making agricultural implements in the district had gone up to 26 by the end of 1967.

**Automobile
body-building**

The number of small-scale industrial units engaged in automobile body-building and repairs in the district was nine in 1964, of which, seven were located at Tumkur and two at Madhugiri. The concentration of these units at Tumkur may be attributed to the heavy vehicular traffic in the town on account of its being situated on the Bangalore—Poona road and also on account of its being the district headquarters and a centre of trade and commerce as well. While two of these units were exclusively engaged in body-building of automobiles, the other units were engaged in auto-repairs and servicing works. Again, only two of the units were organised on modern lines. The total capital investment of these nine units was estimated at about three lakhs of rupees, while their annual turn-over was of the order of about Rs. nine lakhs. They had provided employment to about 120 persons.

**Printing
Presses**

Tumkur district had, in 1964, 33 printing presses, located in the district and almost all the taluk headquarters. There were 14 of them in Tumkur town, four at Tiptur, three each at Sira, Madhugiri and Kunigal, two each at Gubbi and Turuvekere and one each at Pavagada and Chiknayakanahalli. Most of them were engaged in job works. Four of the units also undertook printing of text books. The types and printing paper required by this industry are obtained from Bangalore. The capital invested in this industry in the district was estimated at about Rs. 5.5 lakhs and the annual output at Rs. two lakhs. The industry provided employment to about 120 persons.

Match Industry

There were two match factories in the district, one in Tumkur and the other at Tiptur, employing, in all, 76 persons in 1964. They had invested a capital of about Rs. 52,500 and produced matches worth about Rs. 1.5 lakhs annually. The soft-wood required for veneers is obtained from the forests in Shimoga district, while the chemicals are imported from outside. By 1967, the number of match factories in the district had increased to three.

**Carpentry and
Blacksmithy**

There were, in 1964, six carpentry-cum-blacksmithy units in the district, which were run on small-scale industry basis. All these units were concentrated at Tiptur. They had invested a capital of about Rs. 15,000, the average annual production being worth about Rs. 1.20 lakhs. They had employed, in all, 76 persons.

There were three small-scale industrial units in the district in 1964, engaged in the manufacture of domestic utensils. All the units were, however, located in Tumkur town. The total capital investment of these units was about Rs. 83,000, while they produced utensils worth about Rs. 1.10 lakhs per annum. They had together employed about 25 persons. By the end of 1967, the number of units manufacturing domestic utensils, including other non-ferrous metal industries, had increased to 18.

**Domestic
utensils**

There were four units manufacturing washing soaps on a small-scale in the district in 1964, and of these, three units were located in Tumkur town itself and the other at Tiptur. The total capital investment of these concerns amounted to Rs. 2.02 lakhs and there were about 60 persons on their employment rolls. The raw materials required for this industry are caustic soda and coconut and other oils; the former is imported from Bombay and the latter is locally procured from the oil mills and, to some extent, from outside the district. It was estimated that soaps worth about 13 lakhs of rupees were produced by these units annually. About 40 per cent of the total production was exported outside the district, while the rest was consumed within the district. By the end of 1967, the number of soap-making units in the district had increased to six.

Soap-making

The only concern in the district manufacturing bolts, nuts, rivets and insulator pins is the Aryan Forge Factory at Tumkur. This unit, which was established in 1959, had invested a capital of about Rs. 1.55 lakhs and had employed about a dozen persons. The iron and steel requirements of the factory are obtained from the Mysore Iron and Steel Works, Bhadravathi, and the production capacity of this unit was about 110 metric tonnes per annum.

Bolts and Nuts

Manufacture of tiles is another industry which is carried on on a small scale in Tumkur town. There were six bricks and tiles factories in the district in 1964 and all of them were located in Tumkur town itself. Of these, the Standard Brick and Tile Company, which is a subsidiary concern of the Standard Brick and Tile Company at Yelahanka near Bangalore, was the largest. The main reason for the location of this industry at Tumkur may be attributed to the availability of a suitable type of natural clay round about Tumkur, cheap and abundant firewood (from Devarayanadurga forest) and cheap labour. The clay required for the manufacture of tiles is plastic and smooth and has a mixture of dull colours of ash, grey and amber. The raw clay is moulded and compounded well, layer by layer, sprinkling water whenever necessary and removing stones and other hard impurities. Then, this is fed to the de-airing pug mill to make the clay a compact mass, free from air cavities. The out-coming stiff clay from the pug mill is cut to slices, each slice just sufficient for a

**Bricks and
Tiles**

single tile. The clay slice is then fed to the mould and pressed by hand-operated press. The excess of clay coming out from the sides of the mould is cut and removed by means of a smoothing flat wooden blade. This raw tile is then transferred from the mould to the wooden base and from there it is carried away and set on the racks for natural drying under absolute shade. It has been estimated that with the help of a hand-operated press with seven workers, about 2,500 tiles can be produced per day of eight hours.

The tiles, after complete natural drying, are fixed in the kiln. The kiln takes about six hours to work up the heat, eight hours for heating up, eight hours for firing and two days for cooling. The tile factories in Tumkur manufacture 'Mangalore pattern' roofing tiles; besides, ridges, ventilators, hollow bricks, cable covers, wirecut bricks and other allied products are also manufactured. It has been estimated that bricks and tiles worth about Rs. 18 lakhs are produced by the six units in the district annually. The total investment of all these units was estimated at about Rs. 14 lakhs and about 400 persons had been employed by them. This industry works in full strength and capacity for about six to seven months in a year when there is good sun shine and almost the entire production is consumed within the district.

Beedi manufac- ture

There were 13 organised beedi-making units in the district in 1964, of which, five were at Tumkur, six at Sira and one each at Madhugiri and Kytsandra. In making beedies, *tembhuri* (tupra) leaves are used for the cover. The veins are removed before the leaves are cut into rectangular pieces. Tobacco powder is put in one of the corners of each piece, which is then rolled into a tapering shape on the palm of the left hand. It is then tied with a string, the mouth of which is closed by pressing the edges, and the bottom end is pressed, but not entirely closed. The total capital investment of the beedi industry in the district was estimated at Rs. four lakhs, the value of production being of the order of about Rs. 16 lakhs. The industry provided employment to about 800 persons in the organised sector. Beedi manufacture is undertaken also on cottage industry basis at several places in the district.

Slate pencils

Tumkur town had two slate pencil units belonging to private manufacturers in 1964. They were located just outside the town. According to the survey conducted by the Small Industries Service Institute, the total investment of these two units was about Rs. 10,000, while the value of their annual production was estimated at Rs. 15,000. There were, in all, 25 persons working in these units. 'Tumkur *Balapa*', as it is locally called, has, for long, kept its reputation for quality. This industry is said to be in existence in the district for over a century. The clay required

for making slate pencils is brought from the clay deposits found in some parts of the district, thoroughly cleaned and cast in prepared moulds, after which they are heated in a furnace. These pencils have a ready market within the district itself and small quantities are also exported to other districts.

There were, in Tumkur town, two ribbon manufacturing units in 1964, engaged in producing art silk ribbons. There were 27 persons on the employment roll of these units. Their total capital investment was about Rs. 42,000, while the average annual production of ribbons was of the value of Rs. 75,000. The ribbons produced by these units have a ready market both within and outside the district.

**Ribbon
manufacture**

Among the other small-scale industries in the district in 1964, were two units manufacturing builders' hardware, two units manufacturing scissors, two tyre-retreading units, two general engineering units, three footwear-making units, two wire-drawing units, one unit for assembly of radios and amplifiers and one unit for making cement-concrete products. These units had together invested a capital of about Rs. 1.50 lakhs and their average annual production was worth about Rs. 1.36 lakhs. They had employed, in all, about 60 persons.

**Other Small-
scale Industries**

As a result of the various financial, technical and training facilities provided by the Government for the development of industries, the number of small-scale industries in the district has considerably increased in recent years, especially during the Third Five-Year Plan period. This is evident from the fact that by the end of 1967, the total number of *registered small-scale industries alone* stood at 257 as against 164 units, both registered and unregistered, in 1963-64. The following is the categorywise number of registered small-scale industrial units in the district as at the end of 1967 :—

| <i>Sl. No.</i> | <i>Category of units</i> | <i>Number of units</i> |
|----------------|--|------------------------|
| 1. | Consumer industries .. | 33 |
| 2. | Saw Mills and wood-based industries .. | 29 |
| 3. | Confectionery (including food products) .. | 28 |
| 4. | Agricultural implements .. | 26 |
| 5. | General engineering .. | 19 |
| 6. | Domestic utensils (non-ferrous metals) .. | 18 |
| 7. | Coir and coir products .. | 15 |
| 8. | Auto-parts manufacture .. | 8 |
| 9. | Dairy farming .. | 7 |
| 10. | Rice, Flour and Oil Mills .. | 6 |
| 11. | Soap manufacture .. | 6 |

| <i>Sl. No.</i> | <i>Category of units</i> | <i>Number of units</i> |
|----------------|------------------------------------|------------------------|
| 12. | Coffee roasting and grinding | 6 |
| 13. | Electrical goods manufacture | 6 |
| 14. | Agarbathi manufacture | 6 |
| 15. | Printing presses | 5 |
| 16. | Plastic and nylon industries | 5 |
| 17. | Brick and tile industries | 3 |
| 18. | Ready-made garments | 3 |
| 19. | Cycle-parts manufacture | 3 |
| 20. | Varnish, French-polish and pomades | 3 |
| 21. | Frame works | 3 |
| 22. | Match industries | 3 |
| 23. | Wire-drawing units | 2 |
| 24. | Tobacco curing | 2 |
| 25. | Arecanut processing | 2 |
| 26. | Tamarind-seed powdering | 2 |
| 27. | Cement-based industry | 1 |
| 28. | Activated charcoal manufacture | 1 |
| 29. | Slate pencil manufacture | 1 |
| 30. | Hosiery unit | 1 |
| 31. | Dye-house unit | 1 |
| 32. | Educational aids manufacture | 1 |
| 33. | Footwear manufacture | 1 |
| 34. | Beedi manufacture | 1 |
| Total | | 257 |

VILLAGE AND COTTAGE INDUSTRIES

According to the survey conducted by the Rural Industries Project, Tumkur, there are about 20 different types of village and cottage industries in the district. Among the more important of these categories of industries, mention may be made of handloom-weaving, pottery, leather-stitching, carpentry and smithy, oilseed-pressing by *ganas* and making of coir products. During 1963-64, there were about 11,780 village and cottage industries units in the district, providing employment, either full-time or part-time, to about 24,800 persons. Their total capital investment was estimated at Rs. 45.5 lakhs while the value of their total annual production was about Rs. 110 lakhs. In addition, tailoring, gold-smithy and sericulture are also carried on extensively in the district.

Handloom weaving

Handloom-weaving is an important occupation of a considerable number of families in the rural areas of the district. It is learnt that there are more than 9,000 registered handlooms in the district,

of which about 33 per cent are engaged in cotton-weaving, 25 per cent in silk-weaving and 42 per cent in woollen-weaving. While the cotton-weaving industry has provided employment to about 3,000 families, the silk-weaving industry has about 1,500 families working in it. The woollen-weaving industry has provided whole-time employment to about 1,700 persons and part-time employment to about 5,000 persons. Nearly 80 per cent of these handlooms have been brought into the co-operative fold. In this connection, it may be pointed out that the handloom sector accounts for more than 50 per cent of the total production in the entire village and cottage industries sector in the district.

Though the cotton handloom-weaving industry is scattered all over the district, it is mainly concentrated in Halepalya in Tipturn taluk, Gubbil, Kallur and Somalapura in Gubbil taluk, Mavinakere in Turuvekere taluk and Y. N. Hoskote and Gangasagara in Ravagada taluk. There are about 3,000 families, belonging mainly to the Devanga community, engaged in this industry. In 1964, there were 3,170 registered cotton looms in the district, of which 2,416 were in the co-operative fold. Sarees in counts of 20s, 30s and 40s, *chaddars*, bedsheet and *dhoties* are the important items produced in the handloom sector. However, about 80 per cent of the products are accounted for by sarees of lower counts. Turuvekere taluk is noted for its cotton checks.

Generally, fly-shuttle pitlooms are used. Pitlooms of the antiquated throw-shuttle type are also used to a small extent in certain places. Dobbies are used according to the type of weaving. Frame looms, take-up motion attachments and pedal looms are very rare.

The raw materials required for the cotton handloom-weaving industry are cotton yarn, art silk and silk for borders, colours and chemicals. These materials are mainly obtained from Bangalore. About 25 to 30 per cent of the requirements of the handlooms in the co-operative sector are obtained through the Apex Cotton Handloom Society at Bangalore and the balance by direct purchases through the usual trade channels. It is estimated that cotton fabrics worth about Rs. 12 lakhs are produced annually by the cotton handlooms in the district.

There were 18 cotton handloom weavers' co-operative societies in the district in 1967 with a total membership of 2,757 and a loomage of 2,807. Their total paid-up share capital was about Rs. 47,000. The following statement indicates the location, membership and loomage of each society:—

| <i>Sl. No.</i> | <i>Name and location of the society</i> | <i>No. of members</i> | <i>Number of looms</i> |
|----------------|--|-----------------------|------------------------|
| 1 | 2 | 3 | 4 |
| 1. | Cotton Weavers' Co-operative Society, Tumkur .. | 323 | 143 |
| 2. | Cotton Weavers' Co-operative Society, Gubbi .. | 135 | 140 |
| 3. | Cotton Weavers' Co-operative Society, Halepalya, Tiptur taluk. | 323 | 486 |
| 4. | Cotton Weavers' Co-operative Society, Akkalapura (Yangalammanahalli), Madhugiri taluk. | 75 | 73 |
| 5. | Cotton Weavers' Co-operative Society, Y. N. Hoskote, Pavagada taluk. | 463 | 317 |
| 6. | Cotton Weavers' Co-operative Society, Somalapura, Gubbi taluk. | 51 | 50 |
| 7. | Cotton Weavers' Co-operative Society, Kallur, Gubbi taluk. | 250 | 120 |
| 8. | Cotton Weavers' Co-operative Society, Chiknayakanahalli. | 314 | 314 |
| 9. | Cotton Weavers' Co-operative Society, Kunigal town. | 62 | 100 |
| 10. | Cotton Weavers' Co-operative Society, Ittigadibbanahalli, Madhugiri taluk. | 80 | 175 |
| 11. | Cotton Weavers' Co-operative Society, Gangasagara, Pavagada taluk. | 119 | 230 |
| 12. | Cotton Weavers' Co-operative Society, Muniyur, Turuvekere taluk. | 122 | 127 |
| 13. | Cotton Weavers' Co-operative Society, Mavinakere, Turuvekere taluk. | 62 | 123 |
| 14. | Cotton Weavers' Co-operative Society, Gummanaghata, Pavagada taluk. | 73 | 75 |
| 15. | Cotton Weavers' Co-operative Society, Hosur, Pavagada taluk. | 48 | 49 |
| 16. | Cotton Weavers' Co-operative Society, Inturayanahalli, Pavagada taluk. | 50 | 55 |
| 17. | Cotton Weavers' Co-operative Society, Somapura (Hosahalli), Koratagere taluk. | 147 | 180 |
| 18. | Cotton Weavers' Co-operative Society, Pavagada | 60 | 50 |
| Total .. | | 2,757 | 2,807 |

The cotton weavers' co-operative societies at Y.N. Hoskote and Somalapura have a dye-house each, for the establishment of

which they were given a loan of Rs. 1,800 and Rs. 1,500 respectively. Besides, 12 of the societies have been given working capital loans to the extent of Rs. 1,96,300, and three of the societies, share capital loans of Rs. 9,667. For the development of Khadi industry in the district, the Mysore State Khadi and Village Industries Board has also given financial assistance to the extent of Rs. 2,56,841, both in the form of loans and grants, to two other societies in the district, *viz.*, the District Khadi Gramodyoga Co-operative Society, Tumkur, and the Rural Industrial Co-operative Society, Turuvekere. The bulk of the assistance, *i.e.*, Rs. 2,45,966 is given to the society at Tumkur.

The wool-weaving industry has been in existence in Tumkur district since early times. It is on record that there were 1,822 looms in the district in 1893. It is mostly carried on as a seasonal industry, providing a subsidiary occupation to about 5,000 Kurubas, whose main occupation is agriculture. However, in some of the places, this industry is carried on as the main occupation throughout the year, providing employment to about 1,700 persons. Wool-weaving is extensively carried on in Sira, Madhugiri, Chiknayakanahalli and Pavagada taluks and, to a certain extent, in Gubbi and Tiptur taluks. This industry is mostly concentrated in places like Chiknayakanahalli, Bevinahalli, Hagalvadi, Ittigadibbanahalli, Y. N. Hoskote and Ganganaghatta. In 1964, there were 3,762 woollen handlooms in the district, of which 2,886 looms were in the co-operative sector. Woollen blankets of a coarse type (*kamblies*), which are in demand in plantation areas, are manufactured. The total capital investment in this industry is estimated at about Rs. four lakhs, while the value of the total annual production is put at about Rs. 9.50 lakhs.

Sheep, the source of supply of raw wool, are found in almost all the taluks of the district. According to the livestock census of 1966, the total number of sheep in the district was 7,23,499. Sheep thrive well in the district on account of the favourable climate and abundance of pasture lands. The Mysore breed of sheep is known to be a good woolly breed, superior to many other breeds in the rest of India. The sheep gives an average clipping of about one pound per year in two clippings. Clippings are done twice a year, once in January and again before the onset of the rainy season, *i.e.*, by June. It is believed that the winter (January) clipping gives a slightly greater quantity of wool than the June clipping. In Hoskote in Pavagada taluk, a flock of 100 sheep gives an average of two maunds of wool (the local maund for weighing of wool at Hoskote is of 1176 *tolas*).

Before shearing, the sheep are washed in a pond on the morning of the day of shearing and are allowed to dry. Then, the shearing is done by means of an implement resembling a large pair of

scissors. After shearing, the wool is collected and cleaned. This process is done by means of a bow or *billu*, as it is locally called. The next process is that of rolling the wool into slivers and then spinning it into yarn. This work is usually done by women at home. The instrument used for spinning the wool is the same as that used for spinning cotton (*charka*). After spinning, warping is done. The yarn is next removed and taken on for the sizing process and then on to the loom. The loom on which the *kumbli*s are woven, is of the simple old type throw-shuttle pit-loom. At the end of the loom, where the weaver sits, one rod of the warp is fixed to the big beam of the loom and the other rod is fixed to a peg at the other end. The weaver sits at the base of the loom and weaves. The shortest width woven is 18 inches and the broadest 72 inches.

There were 17 woollen weavers' co-operative societies in the district in 1967, with a total membership of 3,376 and a loomage of 3,907. The total paid-up share capital of these societies was about Rs. 64,000. Particulars showing the location, membership and loomage of each of these societies are given below :—

| <i>Sl. No.</i> | <i>Name and location of society</i> | <i>No. of members</i> | <i>No. of looms</i> |
|----------------|---|-----------------------|---------------------|
| 1 | 2 | 3 | 4 |
| 1. | Woollen Weavers' Co-operative Society, Bevinahalli, Sira taluk. | 224 | 342 |
| 2. | Woollen Weavers' Co-operative Society, Y. N. Hoskote, Pavagada taluk. | 428 | 275 |
| 3. | Woollen Weavers' Co-operative Society, Chiknayakanahalli. | 478 | 850 |
| 4. | Woollen Weavers' Co-operative Society, Hagalvadi, Gubbi taluk. | 218 | 300 |
| 5. | Woollen Weavers' Co-operative Society, Ittigadibbanahalli, Madhugiri taluk. | 321 | 380 |
| 6. | Woollen Weavers' Co-operative Society, Sira town. | 147 | 150 |
| 7. | Woollen Weavers' Co-operative Society, Dwaranakunte, Sira taluk. | 127 | 127 |
| 8. | Woollen Weavers' Co-operative Society, Kodigenahalli, Tiptur taluk. | 115 | 115 |
| 9. | Woollen Weavers' Co-operative Society, Ganganaghatta, Tiptur taluk. | 249 | 260 |
| 10. | Woollen Weavers' Co-operative Society, Venkatapura, Pavagada taluk. | 106 | 180 |

| 1 | 2 | 3 | 4 |
|----------|---|-------|-------|
| 11. | Woollen Weavers' Co-operative Society, Pavagada town. | 157 | 100 |
| 12. | Woollen Weavers' Co-operative Society, Yelanadu, Chiknayakanahalli taluk. | 63 | 100 |
| 13. | Woollen Weavers' Co-operative Society, Baragur, Sira taluk. | 223 | 190 |
| 14. | Woollen Weavers' Co-operative Society, Kama-gondanahalli, Sira taluk. | 283 | 283 |
| 15. | Woollen Weavers' Co-operative Society, Chirthahalli, Sira taluk. | 125 | 130 |
| 16. | Woollen Weavers' Co-operative Society, Arasapura, Koratagere taluk. | 75 | 80 |
| 17. | Woollen Weavers' Co-operative Society, Shivana-halli, Kunigal taluk. | 37 | 45 |
| Total .. | | 3,376 | 3,907 |

Of these, the societies at Bevinahalli, Chiknayakanahalli, Baragur and Chirthahalli have been given loans to the tune of Rs. 65,540 for establishing dye-houses. Besides, 15 of the societies have been given also working capital loans aggregating to Rs. 3,59,882 and six of them share capital loans amounting to Rs. 67,500. Worksheds have been provided to five societies at a total cost of Rs. 25,540 and six more societies have been supplied with carding machines at a cost of Rs. 1,200 each. Moreover, the societies at Venkatapura and Baragur have been provided with housing colonies, by providing them with financial assistance amounting to Rs. 1,38,000 and Rs. 1,22,400 respectively in the form of loans and grants. The Khadi and Village Industries Board has also extended financial assistance to the tune of Rs. 2,10,401 to four of these societies.

The silk handloom-weaving industry has been playing an important role, contributing about 30 per cent of the entire production in the cottage industries sector. This industry is mainly concentrated in Gubbi, Kallur and Chelur in Gubbi taluk, Halepalya, Kotanayakanahalli and Nonavinakere in Tiptur taluk, Chiknayakanahalli and Kadenahalli in Chiknayakanahalli taluk, Krishnapura in Pavagada taluk and, to some extent, in Tumkur town. In 1964, there were 2,249 registered silk looms in the district, of which 1,774 looms had been brought under the co-operative fold. Only pitlooms with fly-shuttle and fitted with jacquards were in use. Of late, a few looms are engaged in weaving of art silk sarees, using both imported and indigenous yarn. However, the silk handloom production consists mainly

Silk weaving

of pure silk sarees with lace borders. To some extent, the raw materials, *viz.*, dyed silk yarn and gold thread (*jari*) required by the industry are supplied by the Apex Silk Society at Bangalore, while the balance is purchased from the traders at Bangalore. The capital investment in this industry, as in 1964, was estimated at Rs. 16.75 lakhs, while the total annual production of pure silk sarees was worth about Rs. 36 lakhs. About 85 per cent of the production was marketed at Bangalore and the balance within the district.

In 1967, there were 15 silk handloom weavers' co-operative societies in the district, with a total membership of 1,822 and a loomage of 2,389 as shown below :—

| Sl. No. | Name and location of society | No. of members | No. of looms |
|----------|---|----------------|--------------|
| 1 | 2 | 3 | 4 |
| 1. | Silk Weavers' Co-operative Society, Tumkur .. | 11 | 80 |
| 2. | „ Dandinashivara, Turuvekere taluk .. | 55 | 80 |
| 3. | „ Muniyur, Turuvekere taluk .. | 109 | 150 |
| 4. | „ Kallur, Gubbi taluk .. | 159 | 159 |
| 5. | „ Kallur, Gubbi taluk .. | 473 | 660 |
| 6. | „ Chelur, Gubbi taluk .. | 59 | 95 |
| 7. | „ Kotanayakanahalli, Tiptur taluk .. | 106 | 135 |
| 8. | „ Nonavinakere, Tiptur taluk .. | 115 | 140 |
| 9. | „ Chiknayakanahalli .. | 134 | 150 |
| 10. | „ Halepalya, Tiptur taluk .. | 224 | 280 |
| 11. | „ Gubbi town .. | 101 | 125 |
| 12. | „ Mavinakere, Turuvekere taluk .. | 62 | 70 |
| 13. | „ Krishnapura, Pavagada taluk .. | 62 | 73 |
| 14. | „ Kadenahalli, Chiknayakanahalli taluk .. | 50 | 112 |
| 15. | „ Annapura, Tiptur taluk .. | 102 | 80 |
| Total .. | | 1,822 | 2,389 |

Thirteen of these societies had been given working capital loans aggregating to Rs. 1,73,000 and 12 of them share capital loans amounting to Rs. 46,888.

Three Sales Emporia, one each at Tumkur, Tiptur and Madhugiri, have been established in the district for the purpose of marketing the handloom fabrics produced by the handloom weavers' co-operative societies, as also the handicrafts produced by the other craft co-operative societies. They also serve as publicity and propaganda media for these products and help to promote their sales.

The power-loom scheme was first introduced in the district in 1959-60 and, at the beginning, there were only 74 power-looms in the district. But gradually, the number increased in the subsequent years. In 1964, there were about 400 power-looms in the district, of which as many as 300 were at Halepalya in Tiptur taluk; 86 power-looms were in the co-operative sector. Cotton fabrics worth about Rs. 17.5 lakhs were produced annually in the district by these power-looms, employing about 600 persons. By 1967, the number of power-looms in the district had increased to about 500. There were two Power-loom Weavers' Co-operative Societies in the district.

Power-looms

Sericulture is practised mainly as a cottage industry by about 20,000 people in the district. It is one of the oldest industries in the district and is traced to the time of Haidar Ali and Tipu Sultan. The seasonal conditions, the nature of the soil, the location of the villages separated from one another by hillocks and the skill of the local people in rearing silk worms are the factors which make this a seed area. The silk worm race here which is called the 'pure Mysore race', is widely reared in the district, especially in Kunigal, Tumkur, Gubbi and Turuvekere taluks. This race is local in character and is said to thrive in all parts of the district, except, perhaps, Pavagada taluk. The 'pure Mysore race' silk worms are disease-resistant and are, therefore, considered to be the best. After a long and sustained research, it was found necessary to confine these special race of silk worms to Tumkur district and some of the taluks of Bangalore and Mandya districts, so as to evolve the best qualities of silk-worm race for the growth and promotion of silk industry in the entire State.

Sericulture

The cocoons of the 'pure Mysore race' are largely used for seed purposes. In the process of evolving the best of silk worms, the female moths of the 'pure Mysore race' are crossed by the male moths of the foreign variety, which are being reared for purposes of cross-breeding. The combination of the 'pure Mysore race' and the 'imported races' has resulted in the production of high yielding quality cocoons. It may be safely said that the success of the sericulture industry in the rest of the State depends, to a considerable extent, upon the supply of good seeds from this district. Kunigal taluk, in particular, occupies a pride of place as a seed area for the production of Mysore seed cocoons.

The total extent under mulberry cultivation in the district in 1961 was about 2,100 acres. By 1967, this acreage had in-

creased to about 2,475, and of this, Kunigal taluk alone had 2,148 acres as could be seen from the following table :—

| Taluk | Acreage | | | | | |
|---------------|---------|--------|-------|--------|-------|--------|
| | Dry | | Wet | | Total | |
| | Acres | Guntas | Acres | Guntas | Acres | Guntas |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Kunigal .. | 1,462 | 35 | 686 | 01 | 2,148 | 36 |
| Tumkur .. | 191 | 31 | 30 | 36 | 222 | 27 |
| Gubbi .. | 75 | 17 | 13 | 21 | 88 | 38 |
| Turuvekere .. | 12 | 04 | 1 | 30 | 13 | 34 |

There are about 4,990 families engaged in this industry in the district and the average extent of land per family set apart for mulberry cultivation works out to about half-an-acre. Generally, an agriculturist sets apart a portion of his land for growing mulberry (which is the food for the silk worms) for rearing silk worms. The income derived from the sale of these cocoons goes a long way in improving his economic condition. Besides, the litter of the silk worms provides fodder to the cattle and also serves as manure.

In 1956-57, about 25.94 crores of cocoons were produced in the district. Since then, there has been a gradual increase in the production of cocoons, which stood at 28.65 crores in 1960-61 and at 34.91 crores in 1966-67. The following statement indicates the production of cocoons, their disposal and the distribution of disease-free layings during the period from 1962-63 to 1966-67 :—

(Figures in lakhs)

| Year | Cocoons produced | Disposal | | Disease-free layings distributed |
|------------|------------------|-------------------|----------------------|----------------------------------|
| | | For seed purposes | For reeling purposes | |
| 1 | 2 | 3 | 4 | 5 |
| 1962-63 .. | 2,883.70 | 1,474.00 | 1,409.70 | 18.14 |
| 1963-64 .. | 3,042.06 | 1,560.25 | 1,481.81 | 22.91 |
| 1964-65 .. | 3,233.45 | 1,694.67 | 1,538.78 | 22.22 |
| 1965-66 .. | 2,999.30 | 1,580.58 | 1,418.72 | 22.12 |
| 1966-67 .. | 3,491.05 | 1,727.32 | 1,763.72 | 25.01 |

There are two Government Silk Farms in the district, *viz.*, the Government Silk Farm at Kunigal and the Government Basic Seed Farm at Bilidevalaya in Kunigal taluk. The number of cocoons produced at these farms during the period from 1962-63 to 1966-67 was as follows :—

| <i>Year</i> | <i>Government Basic Seed Farm, Bilidevalaya.</i> | <i>Government Silk Farm, Kunigal.</i> |
|-------------|--|---------------------------------------|
| 1962-63 | .. 16.31 lakhs | 1.40 lakhs |
| 1963-64 | .. 21.70 lakhs | 2.18 lakhs |
| 1964-65 | .. 15.12 lakhs | 3.26 lakhs |
| 1965-66 | .. 20.17 lakhs | 4.42 lakhs |
| 1966-67 | .. 24.55 lakhs | 5.27 lakhs |

There are also five Government Grainages and five Cocoon Markets in the district located at Kunigal, Santhemavathur, Huli-yurdurga, Hebbur and Kempanahalli. The requirements of silk-worm eggs of the sericulturists of the district are entirely met by the Government Grainages, while the cocoons required for the production of layings are made available from the Government Silk Farms and selected rearers. The nucleus seed centre in the Kunigal Silk Farm prepares the nucleus seeds required for rearing purposes. This Farm is also engaged in improving the seeds by selective breeding.

Out of the total production of seed cocoons in the district, nearly 50 to 55 per cent is used for seed purposes and the rest is utilised for reeling purposes. There are 48 licensed reelers in the district, and they have to use only the pure Mysore seed cocoons for reeling. To provide assistance to the sericulturists in securing silk worm eggs required by them from time to time and to give them technical guidance in the cultivation of mulberry and the rearing of silk worm, the Government have established 24 ranges, each in charge of a Range Officer. The average number of villages included in a range is about 18, located within about a radius of five miles from the headquarters of the Range Officer. He inspects the crops at every stage during the course of rearing and guides the sericulturists in conducting, rearing and getting successful crops.

The Mysore Silk Worm Seed and Cocoon (Regulation of Production, Supply and Distribution) Act, 1959, is in force in the sericultural area of Tumkur district. But even before the introduction of this Act, the provisions of the then existing Silk Worm Seed Control of Distribution Act, 1952, was in force in this area from 1954. According to the provisions of the Act of 1959, all the silk worm-rearers are licensed and they are prohibited from rearing any race other than the 'pure Mysore race'. They are

required to obtain their requirements of silk worm eggs of 'pure Mysore race', only from Government grainages established in the area. The rearers have to dispose of the seed cocoons produced by them only to the licensed seed-preparers and the cocoons, which are not required for seed purposes, should be disposed of through the Government cocoon markets, only to the licensed silk reelers for reeling purposes.

Development schemes

With a view to developing the silk industry in this area, the following development schemes were taken up during the Second Five-Year Plan period :—

- (1) Establishment of a Basic Seed Farm at Bilidevalaya in Kunigal taluk ;
- (2) Providing financial assistance to seed-rearers for sinking wells ; and
- (3) Supply of improved appliances to sericulturists at subsidised rates.

The Basic Seed Farm at Bilidevalaya was established in 1959-60 in an area of about 25 acres at an expenditure of Rs. 3,45,370. Under the scheme for providing financial assistance to seed-rearers for sinking wells, a sum of Rs. 41,250 was granted for sinking 102 wells. About 5,800 improved *chandrikes* or mountages were supplied to 1,160 sericulturists at a total cost of Rs. 36,187. Under the Third Five-Year Plan, seven development schemes, costing, in all, about 19 lakhs of rupees, were taken up in the district. The schemes included, among other things, establishment of *chawki* rearing centres, starting of multivoltine seed cocoon stations to conduct cellular rearing and assistance to sericulturists for construction of rearing houses.

Carpentry and Blacksmithy

Carpentry and blacksmithy units of cottage type are found all over the district. It is learnt that there were about 1,440 such units in the district in 1964, providing employment to about 2,190 persons. Of these, 190 units were engaged both in carpentry and smithy, 422 units exclusively in carpentry and 627 units in blacksmithy only. The total capital investment of these units was estimated at Rs. 6.80 lakhs, while their total annual production was worth about Rs. 16.6 lakhs. Of this, more than 60 per cent was accounted for by the carpentry units alone. The smithy units undertake mainly the manufacture and repair of agricultural implements and re-tyring of cart-wheels. The village carpenters mostly produce the common-type building fixtures like doors, windows and roofing materials, as also agricultural implements like wooden ploughs, etc. A few units also undertake the manufacture of furniture. In this connection, it may be mentioned that the manufacture of carts is a specialised item of work practised by some carpentry units in the district, especially

in Gubbi taluk. It is estimated that at Gubbi and in the neighbouring villages alone about 1,500 carts are manufactured annually and sold both within and outside the district.

The workers in these industries generally use old type of tools and implements. Though they are keen to replace them by improved kinds, it has not been possible for them to do so for want of financial and other facilities. To obviate these difficulties, seven industrial craft co-operative societies have been established in the district. They have a total membership of about 430. Two of the smithy societies and one carpentry society have been given financial assistance by the Government as follows :

| | <i>Loan</i> | <i>Grant</i> | <i>Total</i> |
|--|-------------|--------------|--------------|
| | Rs. | Rs. | Rs. |
| 1. Smithy Craft Co-operative Society Ltd., Mallaghatta | 1,54,634 | 3,933 | 1,58,567 |
| 2. Smithy Workers' Craft Co-operative Society Ltd., Resala | 1,50,884 | 3,572 | 1,54,450 |
| 3. Carpentry and Cart Manufacturing Society Ltd., Gubbi. | 30,954 | 705 | 31,659 |

Besides, the Mysore State Khadi and Village Industries Board, through its District Office at Tumkur, has also extended financial assistance to the following four carpentry and smithy co-operative societies in the district :—

| | <i>Loan</i> | <i>Grant</i> | <i>Total</i> |
|---|-------------|--------------|--------------|
| | Rs. | Rs. | Rs. |
| 1. Harijan Industrial Co-operative Society Ltd., Byalya, Madhugiri taluk. | 3,875 | 2,200 | 5,875 |
| 2. Carpentry and Blacksmithy Co-operative Society Ltd., Boranapalya, Gubbi taluk. | 2,500 | 3,500 | 6,000 |
| 3. Carpentry and Blacksmithy Co-operative Society Ltd., Turuvekere | 4,937 | 3,500 | 8,437 |
| 4. Carpentry and Blacksmithy Co-operative Society Ltd., Devaroor, Tumkur taluk. | 14,050 | 7,450 | 21,500 |

The village pottery is a hereditary profession practised **Pottery** mainly by the Kumbar community. In Tumkur district, this industry is mostly concentrated in the taluks of Tumkur, Gubbi, Turuvekere, Tiptur, Madhugiri and Koratagere. In the urban areas, this industry is carried on as a full-time occupation, while in

the rural parts, it forms a subsidiary occupation. There are about 450 pottery units in the district, in which about 860 workers are engaged. The capital investment in this industry is estimated at Rs. 1.60 lakhs, while the value of the total annual production of pottery is put at Rs. 3.60 lakhs.

The pottery units are generally located in the vicinity of big tanks. Clay, which is the most important raw material required by the potters, is mostly obtained from tank-beds, free of cost; in a few cases, it is obtained from private lands after making some nominal payments. Fuel required for burning is gathered from nearby scrubs and also obtained on payment basis. The products manufactured are mostly pots for daily use, chimney and water pipes, country tiles and storage pots. These articles are produced on the traditional potter's wheel and burnt in country kilns.

In 1967, there were seven Potters' Industrial Craft Co-operative Societies in the district, with a membership of more than 400. The Mysore State Khadi and Village Industries Board has given financial assistance, in the form of both loans and grants, to these societies as shown below:—

| Name of the Society | Loan | Grant | Total |
|--|--------|-------|--------|
| | Rs. | Rs. | Rs. |
| 1. Malleshwara Swamy Potters' Craft Co-operative Society Ltd., Madhugiri | 2,000 | .. | 2,000 |
| 2. Siddheshwara Swamy Potters' Craft Co-operative Society Ltd., Baraka, Koratagere taluk. | 3,760 | 700 | 4,460 |
| 3. Bidare Potters' Craft Co-operative Society Ltd., Bidare, Gubbi taluk. | 7,500 | 1,000 | 8,500 |
| 4. Kumbeswara Kumbarara Kaigarika Sahakara Sangha Ltd., Rayasetti-halli, Tiptur taluk. | 4,395 | 520 | 4,915 |
| 5. Byreshwara Swamy Potters' Craft Co-operative Society Ltd., Goni-Tumkur, Turuvekere taluk. | 2,400 | 400 | 2,800 |
| 6. Multi-purpose Industrial Co-operative Society Ltd., N.R. Pura, Tumkur | 17,250 | 2,500 | 19,750 |
| 7. Kumbeshwara Kumbarara Kaigarika Sahakara Sangha Ltd., Handanakere, Chiknayakanahalli taluk. | 3,855 | 980 | 4,835 |

Village Oil Industry

The village oil *gana* industry is found to exist mostly in the areas where the non-edible oilseeds like *honge*, *hippe*, castor, etc., are extensively grown. This industry is carried on mainly in

Pavagada, Madhugiri, Gubbi, Tumkur and Chiknayakanahalli taluks. Among the important centres of this industry, mention may be made of Pavagada, Y. N. Hoskote, Madhugiri, Mayasandra, Kamagondanahalli, Devarahalli, Bukkapatna and Chikonahalli. There are nearly 220 village oil *gana* units in the district consisting of about 420 *ganas* and about 450 persons are engaged in this industry. The total capital investment of these units is estimated at Rs. 1.60 lakhs, while their total annual production of oil is said to be worth about Rs. three lakhs.

Mostly, stone-*ganas*, run by a single bullock or a pair of bullocks, are in use in the district. Efforts are, however, being made to popularise the Wardha-type *ganas*. Since the major oil-seeds like groundnut, castor and copra are mostly consumed by the oil mills in the district, the village oil *ganas* generally use non-edible oilseeds in addition to limited quantities of edible oilseeds like *huchellu*, *achellu*, etc. The non-edible oils produced by these units are made use of by the villagers for lighting purposes. By and large, this is a seasonal industry which is carried on for about 5—6 months in a year.

There are nine Oil Gana Industrial Co-operative Societies in the district, at Kamagondanahalli, Baragur and Bukkapatna in Sira taluk, Gubbi and Devarahalli in Gubbi taluk, Chikkonahalli in Kunigal taluk, Turuvekere, Tipptur and Chiknayakanahalli. Besides, seven other co-operative societies have also taken up this industry in addition to their other activities. The Mysore State Khadi and Village Industries Board has given financial assistance to these societies to the tune of Rs. 1,11,146 for their working capital, purchase and storage of oilseeds, purchase of improved *ganas* and for construction of workshops. The assistance is in the form of both loans and grants.

It is estimated that annually about 81,000 raw hides and three lakhs of raw skins are available in the district. But there are no organised tanneries in the district to utilise these hides and skins nor is leather-tanning carried on on a large scale. However, tanning is done in a crude way in some places, utilising just about 10 per cent of the total production. The remaining 90 per cent of hides and skins are collected by the traders in village shandies and are sent to Bangalore for processing. The process of tanning adopted in the district is vegetable tanning, using wattle barks and myrobalans. Heggere in Tumkur taluk and Hulikunte in Koratagere taluk are the main tanning centres. Leather-stitching is practised by the *Mochis* in both urban and rural areas. There are about 660 cobblers in the district depending upon this industry and mostly engaged in the manufacture and repair of chappals and shoes. The capital investment in this industry is about Rs. 40,000, while the value of the total annual production is estimated at about Rs. 2.7 lakhs.

Leather
Tanning and
Stitching

There are two Leather Industrial Craft Co-operative Societies in the district, one at Heggere and the other at Hulikunte. Besides, there is also a Cobblers' Co-operative Society at Pavagada. The first two societies have been helped financially by the Mysore State Khadi and Village Industries Board to the extent of about Rs. 12,000 mostly in the form of grants, while the Cobblers' Co-operative Society, Pavagada, has been given a financial assistance of Rs. 31,659 by the Government, including a grant of Rs. 705. There is another Leather Workers' Co-operative Society at Byalya in Madhugiri taluk, which, along with the large-sized co-operative society at Palavalli in Pavagada taluk, is also rendering assistance to cobblers for increasing their production.

Mat and Basket Weaving

The mat-weaving industry is mainly concentrated in Sira taluk and is largely a subsidiary occupation of the Lambani community. In all, there are about 170 mat-weaving units in the district, providing employment to over 300 persons and producing mats worth about Rs. 30,000 annually.

The basket-making industry is carried on mainly in Tumkur, Turuvekere and Gubbi taluks. There are also a few units in Sira and Kunigal taluks. This industry is practised mainly by the members of the Medar community. Bamboo, the main raw material required for this industry, is mostly obtained from Shimoga district. The main items of production include articles such as winnows, sieves, vegetable and fruit baskets. A special type of mango baskets, which are manufactured at Kyatsandra, are in good demand both inside and outside the district. There are more than 150 basket-making units in the district, providing employment to about 300 persons. The total annual production of these units is estimated to be worth about Rs. 2.80 lakhs.

There are five Bamboo and Mat-Weavers' Craft Co-operative Societies in the district. Of these, the following three societies, with a total membership of 276, have been given financial assistance to the tune of Rs. 80,281 by the Handicrafts Board for the development of the industry:—

| Name of Society | Loan | Grant | Total |
|---|--------|--------|--------|
| | Rs. | Rs. | Rs. |
| 1. Mat Weavers' Craft Co-operative Society Ltd., Manangi, Sira taluk. | 26,666 | 25,000 | 51,666 |
| 2. Bamboo Workers' Craft Co-operative Society Ltd., Kyatsandra, Tumkur taluk. | 14,280 | 9,835 | 24,115 |
| 3. Bamboo Workers' Craft Co-operative Society Ltd., Kora-tagere. | 3,800 | 700 | 4,500 |

There is extensive cultivation of coconut in Tumkur district and this has facilitated the establishment of some Coir Production Units in the district. This industry is carried on mainly in Tiptur, Turuvekere, Gubbi and Chiknayakanahalli taluks. There are nearly 100 Coir Production Units in the district, employing about 400 persons. (Some of these units, about 15 in number, have registered themselves as small-scale industries). The total annual production of these units is said to be worth about Rs. 50,000.

Coir Industry

The fibre, made of green or dried coconut husk, is mostly used for preparing ropes, which find market both in rural and urban areas. The process of preparing coir from coconut husk is a simple one. The husk taken out from the coconuts is kept in water tanks or pits or water canals for four to five months till it completely decays so as to enable the removal of fibre from the skin of the husk. Then it is beaten with heavy wooden or iron mallets, and the fibre is separated. It is then dried in the sun for a few hours and the coir thus produced is used in the manufacture of rope. The turn-out expected from husks of 100 coconuts is about 17 lbs. of coir. Out of this coir, ropes of different sizes are prepared and are sold in nearby shandies. Recently, efforts have been made, through co-operative organisations, to introduce improved techniques of production, as also to manufacture new products, such as, foot-rugs and floor-mats. There are three Coir Craft Co-operative Societies in the district, one each at Hulyiar, Turuvekere and Tiptur, with a total membership of about 300. These societies have introduced improved types of rope-making machines. The Coir Board has assisted these societies financially as shown below :

| | <i>Loan</i> | <i>Grant</i> | <i>Total</i> |
|---|-------------|--------------|--------------|
| | Rs. | Rs. | Rs. |
| 1. Coir Co-operative Society Ltd., Hulyiar .. | 18,100 | 7,200 | 25,300 |
| 2. Coir Co-operative Society Ltd., Turuvekere .. | 11,100 | 8,870 | 19,870 |
| 3. Coir Co-operative Society Ltd., Tiptur .. | 5,400 | 3,210 | 8,610 |

There are also two mechanised coir industry units in the district, one at Kenchaghatta in Tiptur taluk and another at Hulyiar in Chiknayakanahalli taluk, run by the State Industries Department. During 1966-67, they produced coir products worth Rs. 35,653.

Two places, namely, Sataghatta and Seethakal in Tumkur taluk, were once famous for the manufacture of copper and brass vessels. Now, this industry is carried on mainly in Sataghatta,

Brass and
Copperware
Industry

Gundalapalya and Tumkur town. In Sataghatta alone, there are 28 families engaged in this industry. In all, there are 42 units in Tumkur taluk, employing about 160 persons. The total capital investment of these units is estimated at Rs. 1.20 lakhs, while their total annual production is worth about Rs. three lakhs.

The raw materials required for this industry, *viz.*, copper and brass, are obtained from Bangalore. The finished products are sold both within and outside the district. A Brass Workers' Co-operative Society has been organised at Sataghatta with a membership of about 120. The society has been given a financial assistance of Rs. 46,770 (Rs. 45,000 as loan and Rs. 1,770 as grant) by the Government.

Wooden Combs

In the past, Tumkur was famous for its wooden hair-combs. But the manufacture of the same has declined in recent years due to importation of modern hair-combs. However, about 100 families in Tumkur town are still engaged in this industry. For making wooden combs, well-sized, slightly rectangular wooden pieces are prepared and polished. The pieces have a tapered surface, the ends being sharper. In the sharper edges, teeth are cut. Nice varieties of combs out of sandal wood and black wood are also manufactured. The price of an ordinary comb is about 10 paise, but that of the better variety is about 20 to 30 paise. These combs are sold locally, and the villagers of the area still prefer these combs to the imported ones.

Limestone burning

There are large limestone deposits in Tumkur district. Limestones of softer variety are obtained from the mining areas and used for the manufacture of slacked lime. This industry is carried on mainly in Chiknayakanahalli, Kunigal, Turuvekere and Tumkur taluks. The limestones are burnt in country kilns, and there are more than 130 limestone burning units in the district, employing about 200 persons. The total annual production of these units is worth about Rs. 5.40 lakhs. There is good demand for slacked lime in Bangalore and, as such, about 30 per cent of the production is marketed at Bangalore and the rest is consumed within the district. An industrial co-operative society for the workers engaged in this industry has been organised at Tumkur, to which the Khadi and Village Industries Board has given a financial assistance of Rs. 3,000.

Tailoring

The tailoring industry is mostly concentrated in urban areas, hobli headquarters and bigger villages. It is estimated that there are about 1,200 tailoring units in the district, providing employment to about 1,600 persons. In most cases, the sewing machines are owned by the tailors, and in a few cases, they are hired from cloth-shop owners. The tailors are especially busy during marriage and certain festive seasons. But, at other times, some of them do not

have full-time work. Therefore, efforts are being made to organise co-operative societies for tailors in some important centers for the manufacture of ready-made garments so as to provide them employment throughout the year.

According to a survey of village industries conducted by the State Department of Industries and Commerce sometime back, there were over 600 goldsmiths in the rural areas of the district. They were engaged in the manufacture of small gold ornaments like ear and nose-rings, gold and stone-studded rings, *thalies* used in marriages, wristlets and bangles, etc. But after the enforcement of the Gold Control Order, a number of goldsmiths were considerably affected. With a view to rehabilitating them, six Goldsmiths' Industrial Co-operative Societies have been organised in the district, and they have been provided with alternative employment in these societies. The industrial activities undertaken by the societies include wood works, engineering works, making of steel furniture and agricultural implements, and the like. These societies, which have a total membership of about 530, have been given financial assistance by the Government to the tune of Rs. 3,22,550. Particulars of the financial assistance given and the membership of each of these societies are as given below :—

Gold and Silver-smithy

| <i>Sl. No.</i> | <i>Name of society</i> | <i>No. of members</i> | <i>Financial assistance given (in Rs.)</i> |
|----------------|--|-----------------------|--|
| 1 | 2 | 3 | 4 |
| 1. | Vishwakarma Kushala Kaigarika Sahakara Sangha Ltd., Tumkur. | 166 | 56,000 |
| 2. | Swarnakarara Kushala Kaigarika Sahakara Sangha Ltd., Tumkur. | 40 | 63,500 |
| 3. | Vishwakarma Kushala Kaigarika Sahakara Sangha Ltd., Chiknayakanahalli. | 53 | 50,500 |
| 4. | „ „ Gubbi .. | 73 | 60,500 |
| 5. | „ „ Turuvekere .. | 122 | 46,000 |
| 6. | „ „ Tiptur .. | 77 | 46,000 |

Besides the financial assistance given to these societies, a number of individual goldsmiths have also been assisted financially in order to enable them to start cottage industries and petty shops. Educational concessions have been given to their children. Training facilities and employment assistance are also provided to them.

**Bee-keeping
Industry**

Apiculture is also pursued in some villages in the district as a cottage industry. There are two apiculture or bee-keeping centres in the district, one at Tumkur and the other at Gubbi. There is also a Bee-keepers' Industrial Co-operative Society at Tumkur. The Mysore State Khadi and Village Industries Board has helped this society financially to the extent of Rs. 9,710 (Rs. 7,710 as grant and Rs. 2,000 as loan). This industry is concentrated mostly in Tumkur and Gubbi taluks. In 1967-68, there were, in all, 916 bee-hive boxes in the district, of which nearly 50 per cent *i.e.*, 425 boxes, were in Tumkur taluk, followed by Gubbi taluk, which had 119 boxes. Similarly, of the total number of 312 bee-keepers in the district, these two taluks alone had nearly 200 bee-keepers. The total production of honey by all the bee-hives in the district in 1967-68 was about 9,200 kilograms.

**Other Village
Industries**

Among the other village industries that are functioning in the district, mention may be made of non-edible oil soap manufacture, hand-pounding of paddy, manufacture of *gur* and *khandasari* and *neera* and palm-*gur*. There are five co-operative institutions in the district, which have taken up manufacture of non-edible oil soaps, one each at Tumkur, Madhugiri, Devarahalli and Thyagatur in Gubbi taluk and Mayasandra in Turuvekere taluk. These societies have been financially assisted by the Mysore State Khadi and Village Industries Board to the extent of Rs. 1.31 lakhs, of which a sum of Rs. 91,588 was in the form of loan and the balance in the form of grant. Similarly, there are also four co-operative units engaged in hand-pounding of paddy, two units each in the manufacture of *gur* and *khandasari* and *neera* and palm-*gur*, one hand-made paper unit and one fibre unit, all of which have also been given financial assistance by the Khadi and Village Industries Board, to the extent of Rs. 1.24 lakhs, in the form of both loans and grants.

**Rural Indus-
trialisation
Scheme**

The Rural Industrialisation Scheme, as sponsored by the late Dr. M. Visvesvaraya, was introduced in Tumkur district in 1954-55. It was the declared objective of the scheme to make the rural people to take the initiative of establishing and developing small industries and, as far as possible, depend upon themselves without looking for external aid. For this purpose, the district was divided into group-circles, taking density of population as the main consideration. The people constituting each group area were more or less responsible for their own earning and welfare. Every one in the unit area had his share of work under the scheme. The most important thing in the scheme was the selection of a particular industry or industries, which would be best suited to the area and which would give a fair return. After obtaining requisite funds, equipment, tools and raw materials, the scheme was put into operation.

At the commencement of the Second Five-Year Plan, *i.e.*, in 1956, the scheme in the district comprised 51 Hobli Rural Industrial Co-operative Societies, and the work was handled by Village Development Committees. The total loans issued to the members of these societies for various rural industries amounted to Rs. 4,59,120. The industries for which loans were advanced were carpentry, smithy, pottery, brick-making, sheep-rearing, poultry-farming, pig rearing, cotton weaving, mat weaving, oil *ganas* and leather industry. In addition to the above, eight craft societies were organised during the early part of the Second Five-Year Plan. The amount of loans and grants given by the Government to these societies amounted to Rs. 5,30,193 and Rs. 19,480 respectively. Besides, there were also 17 cotton, 15 woollen, and 7 silk weavers' co-operative societies functioning in the district at that time.

As it was decided to amalgamate all the Hobli Rural Industrial Co-operative Societies into Taluk Rural Industrial Co-operative Societies at the taluk level, 10 Taluk Rural Industrial Co-operative Societies were formed with effect from the 1st April 1958. The Taluk Rural Industrial Co-operative Societies had a membership of about 25,900 and a paid-up share capital of Rs. 3,64,204. These societies still continue to function and provide credit facilities for development of rural industries. But the Rural Industrialisation Scheme, as such, was merged with the activities of the Industries and Commerce Department with effect from 1st January 1960.

Upto 1960, there was no single unit office at the district-level representing the Industries and Commerce Department as a whole. There was a Superintendent for implementing the rural industrial schemes of the district and another Superintendent for implementing the textile schemes. In January 1960, after the re-organisation of the Industries and Commerce Department, a combined district agency, headed by an Assistant Director of Industries and Commerce, was set up in the district.

In the sphere of village and small-scale industries, about 25 schemes, costing nearly 14.42 lakhs of rupees, were undertaken in the district during the Third Plan period. These schemes included granting of rebate on sales of handloom cloth, setting up of dye-houses, supply of improved appliances, construction of common worksheds, training of weavers and other artisans, share-capital contribution to weavers' societies, development of handicrafts through establishment of craft co-operative societies, granting of financial assistance to coir co-operative societies, etc. Efforts were made to introduce scientific and systematic methods of working the indigenous village industries. Besides extending financial facilities to several rural industries, technical assistance

was also rendered, wherever necessary, and efforts were also made to find spare-time occupations for the agriculturists who have no full-time work throughout the year.

Rural Industries Project

With a view to developing village and small-scale industries in semi-urban and rural areas, mainly based on local resources and skill, so as to provide increased employment opportunities and income and bring about a more balanced and diversified rural economy, the Central Planning Commission recommended the establishment of Rural Industries Projects in all the States. On the basis of these recommendations, the Government of Mysore established two such projects in the State in 1962-63 for the intensive development of rural industries in Tumkur—Gubbi and Dharwar—Hubli areas. The Rural Industries Projects are entirely financed by the Government of India. In addition, there are other sources of finance available for these projects, *viz.*, funds from the State Plan and All-India Boards, loans and credits from financial and co-operative institutions and under the State Aid to Industries Act. The main functions of the Rural Industries Projects are: (1) disseminating industrial information useful for starting industries, (2) introduction of improved types of tools and equipment in traditional industries, (3) imparting training to artisans through recognised institutions in modern methods of production and technology, (4) starting of common facility centres for artisans and (5) extending financial assistance to industrialists for starting new industries or expanding the existing ones.

The Tumkur—Gubbi Project area consists of five blocks comprising 743 villages. It covers the entire revenue taluks of Tumkur and Gubbi, with an area of 869 square miles and a population of about 3.65 lakhs. The project authorities have conducted a survey of the existing village and small-scale industries in the project area, as also of the possibilities of starting new industries based on demand, availability of raw materials, etc. The survey has revealed the possibilities of setting up several agro-based and other industries in these two taluks.

The Small Industries Service Institute, Bangalore, in co-operation with the State Department of Industries and Commerce, the National Small Industries Corporation and other organisations, conducted a 'Group Industrial Extension Service' in the project area in 1965. A group of technical officers of these organisations visited all centres of industrial importance in the project area, contacted the local entrepreneurs and advised them about the possibilities of starting suitable small industries and also apprised them of the various types of incentives and assistance that are being given by the Government and other institutions. Demonstrations on the new techniques and use of modern

machinery and implements were conducted, and on-the-spot technical assistance was rendered wherever necessary. As a result of these activities, the following industries have been started in the project area : (1) manufacture of agricultural implements, (2) wood industries, (3) general engineering, (4) foundries, (5) confectionery, (6) manufacture of cosmetics, (7) dairy and (8) poultry farming.

Establishment of ten common facility centres for artisans engaged in blacksmithy, carpentry, brass and copperware manufacture, wool-weaving, pottery and coir manufacture, repairing and servicing of oil engines, electric motors and pumpsets has been taken up under the project in places where there is some concentration of these industries. The centres are being established either through the respective industrial craft co-operative societies or through the respective Taluk Development Boards of the two taluks. Besides, three schemes, one for dairy farming, another for poultry farming and the third for starting of a training-cum-production centre for manufacture of ready-made garments, have also been taken up through the respective co-operatives. Some of these schemes have already been implemented and others are in various stages of progress. Upto the middle of 1967-68, a sum of Rs. 5.52 lakhs for establishing common facility centres and another sum of Rs. 1.82 lakhs for the other schemes had been sanctioned. Of these, a sum of Rs. 1.97 lakhs and Rs. 0.66 lakh had been spent for the two categories of schemes during the same period.

In addition, a sum of Rs. 1,22,750 has been sanctioned under the project for supply of tools and equipment to artisans in the project area, through the District Industrial Co-operative Bank, Tumkur. Upto the middle of 1967-68, the Bank had purchased tools and equipment worth Rs. 1,02,179 and the same were being supplied to about 250 artisans, such as, carpenters, washermen, barbers, cobblers and blacksmiths in the project area. During the period from 1963-64 to 1966-67, an amount of Rs. 7.825 lakhs was also sanctioned under the project for advancing loans to 159 individuals and 13 industrial craft co-operative societies in the two taluks. Of this sum, upto the middle of 1967-68, a sum of Rs. 5.475 lakhs had been disbursed among several individuals and societies through the District Industrial Co-operative Bank.

An Information Centre has been attached to the Rural Industries Project office at Tumkur for the benefit of the entrepreneurs and others interested in starting industries. The centre has been provided with demonstration equipment, a library and a reading room.

Home
Industrial
activities

The Department of Industries and Commerce is also giving grants-in-aid to various institutions in the district for undertaking rural arts and crafts activities, such as, tailoring, embroidery, knitting, rattan work, mat-weaving, cloth-weaving, etc. Besides, equipment like sewing machines, weaving looms are also supplied to some of the institutions. Technical assistance, if required by the institutions, is also provided. There are about 20 *Mahila Samajas* in the district. Of these, the following 12 *Mahila Samajas* received grants-in-aid for the purpose from the Department of Industries and Commerce in 1967-68, as shown below :—

| <i>Sl. No.</i> | <i>Name of Mahila Samaja</i> | <i>Maintenance grant given during 1967-68 (in Rs.)</i> |
|----------------|-------------------------------------|--|
| 1 | 2 | 3 |
| 1. | Akkamahadevi Samaja, Tumkur | 1,000 |
| 2. | Mahila Samaja, Tumkur | 2,218* |
| 3. | Bharati Stree Samaja, Tumkur | 922 |
| 4. | Kasturba Mahila Samaja, Hirehalli | 1,000 |
| 5. | Indira Mahila Samaja, Kyatsandra | 1,000 |
| 6. | Sharada Mahila Samaja, Turuvekere | 1,000 |
| 7. | Mahila Samaja, Mayasandra | 1,000 |
| 8. | Mahila Samaja, Madhugiri | 1,000 |
| 9. | Mahila Samaja, Holavanahalli | 1,000 |
| 10. | Sarvodaya Mahila Samaja, Kadaba | 1,000 |
| 11. | Mahila Samaja, Koratagere | 1,000 |
| 12. | Akkana-Balaga Mahila Samaja, Tumkur | 1,000 |

* Includes a building grant of Rs. 1,218.

The community development blocks in the district also provide financial assistance for the development of rural arts and crafts. In the annual budget of every block, a certain amount is set apart for this purpose. The subjoined statement indicates the financial assistance given by each development block in the district, under its rural arts and crafts programme, during the year 1966-67 :—

| <i>Sl. No.</i> | <i>Name of Block</i> | <i>Financial assistance given</i> |
|----------------|----------------------|-----------------------------------|
| 1 | 2 | 3 |
| | | Rs. |
| 1. | Tumkur | 1,800 |
| 2. | Kora | 1,500 |
| 3. | Koratagere | 4,000 |
| 4. | Madhugiri | 6,000 |
| 5. | Kodigenahalli | 8,000 |
| 6. | Kunigal | 3,000 |

| 1 | 2 | 3 |
|-----|-------------------------|---------------|
| 7. | Tiptur-I | 6,500 |
| 8. | Tiptur-II | 7,000 |
| 9. | Pavagada | 4,000 |
| 10. | Chiknayakanahalli | 2,500 |
| 11. | Turuvekere | 1,000 |
| 12. | Sira | 1,500 |
| 13. | Patnayakanahalli | 8,500 |
| 14. | Gubbi | 500 |
| | Total .. | 55,800 |

Even as a princely State, Mysore was noted as a pioneer in **Credit facilities** the field of industrial development. The Government of Mysore, in their declaration of industrial policy, made it clear that all possible assistance would be given to help the growth of industries in the State, both in the public and private sectors. The Mysore State Aid to Industries Act, which was adopted in 1951, had been very helpful to the industrial entrepreneurs in the State. Under the provisions of this statute, a number of small, medium and big industries in the State had been given financial assistance by the State Government. Till the enactment of the new State Aid to Industries Act, 1959, loans aggregating to Rs. 1.59 lakhs had been sanctioned (under the old Act) to nine small-scale industrial units in the district. The State Aid to Industries Act, 1959, has laid down the mode and method of extending financial help for the establishment and development of industries. Under the Act, provision has been made to extend financial assistance in the form of loan or bank guarantee to such of the industries as are not covered by the Mysore Financial Corporation Act and also when the loan required does not exceed one lakh rupees. The Director of Industries and Commerce in Mysore, Bangalore, is the statutory authority for sanctioning advances to industries under this Act. In Tumkur district, the following four small-scale industries have so far (1967-68) been given financial assistance under the new Act :—

| <i>Type of Industry</i> | <i>No. of units</i> | <i>Amount of assistance</i> |
|-------------------------|---------------------|-----------------------------|
| | | Rs. |
| Tile factories .. | two | 18,149 |
| Wood-based industry .. | one | 9,800 |
| Bone-meal industry .. | one | 9,000 |
| Total .. | | 36,949 |

Besides, 13 more applications for financial assistance, involving a sum of Rs. 81,050, had been processed and recommended to the authorities concerned for sanction.

The Mysore State Financial Corporation, which was established by the Government of Mysore in March 1959, in furtherance of their policy of industrial development, also grants loans from Rs. 10,000 to Rs. 10 lakhs to industrial units of all categories. Since 1960, and upto the end of 1967-68, the Corporation had sanctioned loans to the extent of Rs. 11.80 lakhs to 24 industrial units in Tumkur district as noted below :—

| <i>Sl. No.</i> | <i>Type of Industry</i> | <i>No. of units</i> | <i>Amount of loan sanctioned</i> | <i>Amount disbursed</i> |
|----------------|--|---------------------|----------------------------------|-------------------------|
| 1 | 2 | 3 | 4 | 5 |
| | | | Rs. | Rs. |
| 1. | Food manufacturing industries | 1 | 1,00,000 | 1,00,000 |
| 2. | Rice Mills | 3 | 2,47,000 | 97,000 |
| 3. | Fertiliser industries | 1 | 75,000 | 50,000 |
| 4. | Tile industries | 4 | 3,05,000 | 2,05,000 |
| 5. | Iron and steel casting and forging industries. | 2 | 75,000 | 75,000 |
| 6. | Brooms and brushes manufacture | 1 | 10,000 | 10,000 |
| 7. | Transport services | 12 | 3,68,000 | 3,33,000 |
| | Total | 24 | 11,80,000 | 8,70,000 |

Besides, the Tumkur District Industrial Co-operative Bank Ltd., which was established in 1963 with a view to providing credit and other banking facilities to rural artisans, industrial co-operatives and other small industrialists in the district, has also advanced loans to the extent of Rs. 21,11,799 to as many as 1,150 individuals and institutions. The following statement indicates the types and amounts of loans advanced by the Bank since its inception upto the end of December 1967 :—

| <i>Sl. No.</i> | <i>Type of loan</i> | <i>No. of cases</i> | <i>Amount of loan</i> |
|----------------|-----------------------------------|---------------------|-----------------------|
| 1 | 2 | 3 | 4 |
| | | | Rs. |
| 1. | Short-term loans | 93 | 2,82,100 |
| 2. | Pledge loans | 60 | 4,15,719 |
| 3. | Project area loans | 128 | 5,66,650 |
| 4. | Displaced goldsmiths' loans | 776 | 2,83,050 |

| 1 | 2 | 3 | 4 |
|-----|---|-------|------------|
| 5. | Supply of tools and equipments | 65 | 10,298 |
| 6. | Dairy and poultry development loans | 2 | 1,57,127 |
| 7. | Loans to Goldsmiths' Co-operative Societies | 5 | 1,90,000 |
| 8. | Hire-purchase loans | 2 | 75,484 |
| 9. | Medium-term loans | 8 | 63,996 |
| 10. | Small-scale industries loans | 8 | 42,750 |
| 11. | Loans to Power-loom Weavers' Co-operative Society | 1 | 12,625 |
| 12. | Loans to Silk Handloom Weavers' Co-operative Societies. | 2 | 12,000 |
| | Total .. | 1,150 | 21,11,799* |

The State Bank of Mysore, which has its branches in almost all the taluk headquarters of the district, as also some of the branches of the commercial banks working in the district, have been extending credit facilities to different industrial undertakings in the district. As on 31st March 1968, the State Bank of Mysore had granted loans to the extent of Rs. 5,40,500 to 16 small-scale industrial units in the district, under its liberalised scheme of assistance to industries. The following statement indicates the types of industries to which loans were advanced, the number of units and the amount of loans advanced to each type of industry :—

| Sl. No. | Type of Industry | No. of units | Amount of loan |
|---------|-------------------------------|--------------|----------------|
| 1 | 2 | 3 | 4 |
| | | | Rs. |
| 1. | Light Engineering Units | 5 | 2,75,000 |
| 2. | Saw Mills | 4 | 95,000 |
| 3. | Printing Presses | 2 | 3,000 |
| 4. | Bricks and Tiles Unit | 1 | 1,25,000 |
| 5. | Utensil-making Unit | 1 | 25,000 |
| 6. | Radio Unit | 1 | 5,000 |
| 7. | Bakery | 1 | 6,500 |
| 8. | Others | 1 | 6,000 |
| | Total .. | 16 | 5,40,500 |

* This figure includes also amounts of financial assistance sanctioned by the Government to the industrial and craft co-operative societies, which are channelised through the District Industrial Co-operative Bank.

Further, the Mysore State Khadi and Village Industries Board, an agency of the Khadi and Village Industries Commission, also provides grants and loans to khadi and village industries in the district. The financial assistance of the Board is given only to industrial and craft co-operatives of artisans and craftsmen and such other registered institutions. Including the grants and loans given to the several industrial and craft co-operative societies already referred to, the Board had, upto the end of September 1967, granted a total financial assistance of Rs. 9,23,094 to 43 co-operative societies and one registered institution in the district. Given below is a taluk-wise break-up of the financial assistance given by the Board in the district :—

| Sl. No. | Name of taluk | No. of societies | Financial assistance given | | |
|---------|-------------------|------------------|----------------------------|----------|----------|
| | | | Loan | Grant | Total |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | | | Rs. | Rs. | Rs. |
| 1. | Tumkur | .. 8 | 2,86,054 | 1,29,900 | 4,15,954 |
| 2. | Sira | .. 6 | 1,32,449 | 33,888 | 1,66,337 |
| 3. | Chiknayakanahalli | .. 3 | 81,755 | 3,780 | 85,535 |
| 4. | Gubbi | .. 5 | 46,300 | 19,680 | 65,980 |
| 5. | Turuvekere | .. 6 | 35,716 | 20,625 | 56,341 |
| 6. | Kunigal | .. 2 | 41,513 | 4,929 | 46,442 |
| 7. | Madhugiri | .. 5 | 28,889 | 9,250 | 38,139 |
| 8. | Koratagere | .. 3 | 12,260 | 6,670 | 18,930 |
| 9. | Pavagada | .. 4 | 10,275 | 8,346 | 18,621 |
| 10. | Tiptur | .. 2 | 9,695 | 1,120 | 10,815 |
| | Total | .. 44 | 6,84,906 | 2,38,188 | 9,23,094 |

Machinery on hire-purchase

The State Department of Industries and Commerce also helps small-scale industrial units to obtain modern machineries on hire-purchase basis from the National Small Industries Corporation, New Delhi. Under this scheme, financial assistance is rendered to small industrial units for purchase of machines, of the value exceeding Rs. 500, and repay the amount in easy instalments, normally spread over seven years. Upto the end of 1967, 35 industrial units in the district had been supplied with different types of modern machineries under the scheme. More than half the number of units thus benefited, i.e., 19, were in Tumkur taluk. Besides, under the hire-purchase scheme sponsored by the Mysore Small Industries Corporation, Bangalore, for supply of plants and machinery to industries based on coir and its by-products, seven applications had been entertained, of which three units had already obtained the required machinery.

Apart from these Government and other agencies, which provide financial and other assistance to small-scale and village industries, other agencies like the Small-scale Industries Board, the Handloom Board, the Handicrafts Board, the Coir Board and the Silk Board also extend assistance to industries in their respective fields. Besides, the Small Industries Service Institute, Bangalore, which is one of such institutes set up by the Government of India to promote the development of small-scale industries in the country, also provides technical guidance and other forms of assistance to industrialists in the district.

The small-scale industries in the district are mostly **Industrial Estates** concentrated in urban areas like Tumkur, Tiptur, Sira, Gubbi and Madhugiri towns. With a view to providing suitable factory accommodation and modern facilities to the small-scale industrialists, the State Government decided to establish two Industrial Estates in the district, one at Tumkur and the other at Sira. The Mysore Small Industries Corporation was entrusted with the construction, maintenance and management of the Industrial Estates. Facilities like industrial worksheds and office accommodation with power, water and sanitary facilities, canteens, technical libraries, show-rooms and godowns are being provided in these estates. Of the two Industrial Estates sanctioned for the district, the one at Tumkur, with six worksheds, has been completed, while the other one at Sira, which is to have four worksheds, was under construction during 1967-68.

The Siddhaganga Institute of Technology, Tumkur, which was established in 1963, offers higher education facilities to students in engineering subjects, while the Government Polytechnic Institute at Tumkur conducts three-year diploma courses. (See Chapter XV for particulars). **Training facilities**

The State Industries and Commerce Department is running an Artisan Training Institute at Madhugiri with a branch at Tumkur. The main Institute at Madhugiri, which was established in 1960, imparts training in carpentry, smithy, coir, cotton-weaving and leather-stitching. It has an intake capacity for about 100 candidates and the duration of training is one and a half years. During 1966-67, about 75 candidates were undergoing training in the Institute in the various trades. In the Branch Institute at Tumkur, which is exclusively meant for ladies, training is imparted in tailoring, hosiery and doll-making, mat-weaving and making of glass beads. During 1966-67, one hundred candidates were undergoing training in these trades in the Institute. During the period of training, the local trainees are paid a monthly stipend of Rs. 20 each, while those coming from mofussil areas are paid Rs. 30 each per month. **Rural Artisan Institute**

**Agricultural
Machinery
Training Centre**

There is also an Agricultural Machinery Training Centre at Tumkur, run by the Industries and Commerce Department, where training is imparted in trades like smithy, welding and carpentry to interested candidates. This Institute was established in 1961 and the first batch of eight candidates completed their training during 1962-63. During 1966-67, ten candidates were undergoing training in the Institute. The candidates are also trained in servicing and repairing of agricultural implements, the duration of training being one year. A stipend of Rs. 30 per month is paid to each trainee during the period of training.

**School of
Industries**

There is also a School of Industries at Tumkur run by the Church of South India (Methodist Mission). This institution, which was started as a workshop as early as in 1879, has been imparting training to orphan and poor boys in crafts like carpentry, weaving, smithy, rope-making, etc. A revised three-year course in carpentry training was introduced in the School in 1966. The course includes practical carpentry, rattan work, technical and free hand drawing and designing. Annually 15 boys between the ages of 14 and 17 are admitted to this course.

Apart from these institutions, which impart training to candidates in various trades, there are also some other institutions in the district, which provide similar training facilities in the industrial field, such as the Training Centre at Gubbi, started by the local Taluk Development Board, which provides training in repairing and servicing of oil engines, electric motors and pump-sets, the Training-cum-Production Centre for coir industry run by the Coir Handicrafts Co-operative Society Ltd., Tyagatur, at Gubbi and the Training-cum-Production Centre for ready-made garments started by the Tumkur District Mahila Industrial Co-operative Society at Tumkur.

**Industrial
Associations**

There is one District Small-scale Industries Association at Tumkur. It considers the requirements of the industrial units and disseminates information received from the Assistant Director of Industries and Commerce of the district and other sources pertaining to industrial and related matters. In 1965, there were 43 members in the Association, representing various types of artisan trades. Besides, there is also a District Mill Owners' Association in the district. In 1965, it had about 20 members and was limited to rice and oil-mill owners only.

**Industrial
potentialities**

As already stated, a cement factory is the only large-scale industrial unit functioning in the district. There are a number of cottage industries in some of the taluks of the district, which call for a new approach towards improving the technique employed in them and their size. Besides, there is need for establishing

more industries based on the available resources, as also on the demand for manufactured products in the district. The Small Industries Service Institute, Bangalore, which conducted a survey in this regard in 1962 at the instance of the State Government, has pointed out the possibilities of starting some new industries, both resource-based and demand-oriented, in the district.

Based on the number of livestock in the district, it is estimated that about 1,500 tons of bones are available in the district every year. As they are not being utilised in the district, they are generally collected by private traders and sent out to other places. Since the demand for fertilisers is increasing every year, there is good scope for setting up a few bonemeal factories in the district to utilise this raw material and also to meet the local demand for bonemeal. Again, there are large extents of land under ragi cultivation in the district, and the total production of ragi in the district is estimated to be more than 2 lakh tons. In view of the good demand prospects for ragi malt and the availability of sufficient raw materials, there is scope for taking up the manufacture of this product.

As already stated earlier, about five crore tons of limestone deposits are said to occur in Tumkur and Chitradurga districts. Limestone can be used for the manufacture of hydrated lime and calcium carbonate. Since constructional activities are on the increase and the demand for quick-lime is growing, there is scope for setting up an industry in the district for manufacture of hydrated lime. Similarly, the consumption of calcium carbonate is also expected to increase at the rate of about 25 per cent per annum. At present, the requirements of calcium carbonate in the country are mostly met by imports from foreign countries. Since Tumkur district has huge deposits of limestone, a small-scale industry for the manufacture of calcium carbonate can also be established in the district.

Tumkur district has large extents of land under cocoanut cultivation and substantial quantity of coir is available, which is mostly being used for manufacture of ropes and as fuel. Brushes, mattresses, foot-rugs and floor-mats can be manufactured out of this coir, since there is good demand for these products in cities like Bangalore. Besides, large quantities of dried copra are also available in the district, which are now partly made use of for manufacture of coconut oil and partly sold for edible purposes. As dessicated copra is in demand for manufacture of confectionery and toffees, a few small-scale industrial units for the manufacture of the same can be established in the district. Since Tumkur is just about 40 miles from Bangalore city, one of the important marketing centres in the country, there is also scope for setting up some demand-based industries for making of radio components,

rubber contraceptives, fountain-pens and the like. Among the other industries for the setting up of which there is scope in the district, may be mentioned manufacture of tooth powder using paddy husk, refined and hydrogenated oils out of groundnut, scented hair-oils out of cocoanut oil, activated carbon from cocoanut shells, druggets out of wool, abrasives from corundum, sheet glass out of silver sand, bran oil from paddy husk and ferromanganese out of manganese.

The district has enough mineral and other resources which can be exploited for further industrial development. The district has also other advantages, such as, being on the main railway line (Bangalore—Poona line) and trunk road connecting it to other parts of the State. Facilities such as transport, water and power are also available. The Government, through the Department of Industries and Commerce, is also providing adequate incentives to entrepreneurs, who come forward to establish industries in the district, where there is a good economic climate for the establishment of small industries.

**Welfare of
industrial
labour**

Welfare of industrial labour is an important factor for development of industries in any district. All the Central and State Labour Laws are applicable to Tumkur district. The provisions of the Mysore Minimum Wages Act, Mysore Shops and Establishments Act and the Mysore Beedi Industrial Premises (Regulation of Conditions of Work) Act, 1964, are also made applicable to Tumkur, Gubbi, Tiptur, Pavagada, Sira and Madhugiri towns. In Tumkur district, the only industry, which has a large labour force, *viz.*, 700, is the cement factory at Ammasandra. The cement company has provided several welfare amenities to its workers, such as free medical aid, education facilities to the children of workers, recreation and other facilities as required under the labour laws in force. Residential accommodation is also being provided to the workers in a phased manner. The other industries in the district are rice and oil mills, soap works, beedi factories, agricultural implements factories and the like, which are only small-scale industries, employing only a few workers. The women employed in the factories are given maternity benefits as provided under the law. (*See also Chapter XVII*).

Production of minerals and their value in Tumkur district

| <i>Minerals</i> | 1961 | | 1962 | | 1963 | | 1964 | | 1965 | | 1966 | |
|------------------|----------------------------|--------------------|----------------------------|--------------------|----------------------------|--------------------|----------------------------|--------------------|----------------------------|--------------------|----------------------------|--------------------|
| | <i>Production (Tonnes)</i> | <i>Value (Rs.)</i> | <i>Production (Tonnes)</i> | <i>Value (Rs.)</i> | <i>Production (Tonnes)</i> | <i>Value (Rs.)</i> | <i>Production (Tonnes)</i> | <i>Value (Rs.)</i> | <i>Production (Tonnes)</i> | <i>Value (Rs.)</i> | <i>Production (Tonnes)</i> | <i>Value (Rs.)</i> |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1. Iron ore .. | 1,00,656 | 7,24,154 | 2,09,370 | 13,59,481 | 2,13,907 | 12,71,857 | 81,758 | 4,37,786 | 1,13,597 | 11,02,049 | 1,39,820 | 6,96,100 |
| 2. Manganese ore | 13,591 | 5,44,450 | 8,516 | 2,07,090 | 3,582 | 84,740 | 5,015 | 1,60,305 | 10,463 | 5,86,190 | 3,722 | 37,220 |
| 3. Dolomite .. | 4,572 | 31,500 | 152 | 3,344 | 3,192 | 12,568 | 1,358 | 9,581 | 6,445 | 54,583 | 6,445 | 96,675 |
| 4. Limestone .. | 77,013 | 5,44,474 | 1,14,830 | 7,98,667 | 1,28,831 | 9,01,817 | 1,09,249 | 4,54,308 | 1,36,269 | 2,53,269 | 9,193 | 45,965 |
| 5. Kaolin .. | 3,049 | 9,000 | N.A. | N.A. | 3,192 | 12,568 | 3,365 | 15,142 | 2,827 | N.A. | 2,74,578 | 13,72,890 |
| 6. Red-oxide .. | .. | .. | .. | .. | .. | .. | 3,197 | 14,387 | 1,500 | 6,750 | 3,231 | 16,155 |
| 7. Fire clay .. | .. | .. | .. | .. | .. | .. | .. | .. | 4,545 | 13,635 | .. | .. |
| 8. Soapstone .. | 122 | 36,000 | 225 | 2,28,110 | .. | .. | .. | .. | 30 | 9,600 | .. | .. |

N.A.—Not Available