

## Chapter V

### INDUSTRIES AND POWER

**K**arnataka State is endowed with a large number of useful minerals, raw materials, marine resources, besides infrastructural facilities such as Transport and Communication, Banking, Technical Man-power, Industrial Estates, Industrial Areas, International Technological Park, Information Technology, Bio-technology, and Electronics etc. A sound industrial base has been built up over a period of time and good labour relations have helped the state achieve a pre-eminent position on the industrial map of the country.

The Central and State Governments have declared special incentives and concessions for the development of industries in the State. The mineral based industries such as iron and steel, manganese, cement, bricks, tiles etc., have played a vital role in the state. Agro-based industries such as sugar, cotton, textile, oil extraction, processing of cashew-nuts, fruit processing and food products are prominent. Wood-based industries such as saw mills, paper mills, plywood, poly-fibres etc., are flourishing in the State. The need for supporting institutions relevant for development of industries in the State was realised by the Government even before independence and some of the important measures which were introduced include starting of the Department of Industries and Commerce (1913), the Mysore Bank (1913), and the Chamber of Commerce (1915). Hydro electric power was first produced at Gokak Falls on a small scale as early as in 1887 and on a large scale, to meet the needs of Kolar gold mines in 1902 at Shivasamudram.

About 16 percent of the State's income is expected from the industrial sector during 2006-07. The growth of gross value added during 2002-03 which was about 8.2%, is expected to increase by about 10.7% in the year 2006-07 in the light of new industrial policy (2006-11). Manufacturing industries account for 63% of the secondary sector. The average annual growth of industrial production (mining, manufacturing and electricity) was 5.73 percent in 2005-06 against 6.39% in 2004-05. According to the index of industrial production, in 2005-06, manufacture of food products (7.06%) recorded the highest growth followed by paper and paper products (6.18%), wood and wood products (6.08%), rubber, plastic, petroleum and coal products (4.90%), wool, silk and synthetic fibre textiles (3.80%). Barring items like aluminium, pig iron, saleable steel, steel ingots, wrist watches, silk fabrics the production of the rest of the products showed a positive growth in 2002-03. During 2005-06, 12,780 small scale units were registered with an investment of Rs.43647 lakh crores, providing employment to 58133 persons. In the first nine months of the current year (April to December-2006) 8841 units were registered with an investment of Rs.31497 lakh by providing employment to 41430 persons. As on December 2006, totally 3,43,297 SSI units have been registered with an investment of

Rs. 7,67,116 lakh by providing employment to 19,25,541 persons (cumulative). In the year 2002-03 (up to Dec.'03) 5746 industrial sheds were constructed, 396 acres of land was developed and allotted to 235 entrepreneurs. In 2006-07 (upto December-2006), 653.80 acres of land was allotted to 389 units by the Karnataka Industrial Areas Development Board (KIADB) and a total expenditure of Rs. 5,568 laky was incurred for the development. KIADB is a statutory body established with the main objective of acquiring land for formation of industrial areas/estates with all infrastructure facilities for establishing industries. Action has been taken by the KIADB to provide 25,000 acres of land for industrial development with infrastructure facilities during the year and in future. KIADB has already identified 10,000 acres of land in various places for industrial development at an estimated cost of Rs.260 crore. 1472 joint stock companies were registered with an authorised capital of Rs.1947.84 crores in the State in 2002-03. In the first eight months of 2003-04, 1162 joint stock companies were registered with an authorised capital of 2046 crores.

In 2005-06 the sericulture industry produced 55,490 MT.s of cocoons of which 49,930 M.Ts. were marketed and provided employment to 11.40 lakh persons. In the first eight months of 2006-07 the sericulture industry produced 43,240 MTs. Of cocoons of which 42,330 MTs. Were marketed and provided employment to 12.75 lakh persons.

### Manufacturing Sector

The indices of 16 major industry groups in the manufacturing sector, for 2005-06 in comparison with those of the previous years are given in table 5.1. The provisional index of industrial production in the manufacturing sector registered 211.46 with a growth of 5.89 percent in 2005-06 as against 7.31 percent in 2004-05. Index of Beverages, Tobacco etc., recorded the highest increase of 14.13 percent followed by basic metal and alloys 13.49 percent, other manufacturing industry 12.61 percent, non-metallic mineral products 8.58 percent and Transport equipment 7.81 percent. For More details see table 5.1

**Table 5.1 : Index of industrial production in the Manufacturing sector by major industry groups 2003-04 to 2005-06**

Base:1993-94=100

Sl. No.	Industry Group	Weight	2003-04	2004-05*	2005-06*	2006-07*	2007-08*
1.	Food Products	20.22	188.49 (4.20)	213.50 (13.27)	222.53 (4.23)	245.23 (10.20)	267.87 (9.23)
2.	Beverages, Tobacco and Tobacco Products	5.03	206.45 (6.74)	214.29 (3.80)	244.57 (14.13)	217.46 (-11.08)	234.31 (7.75)
3.	Cotton Textiles	4.37	213.83 (1.84)	223.39 (4.47)	235.64 (5.48)	214.60 (-8.93)	217.47 (1.34)

4.	Wool Silk and Man Made Fibre Textiles	4.71	171.52	176.94	175.34	198.57	208.84
			(7.73)	(3.16)	(-0.90)	(13.25)	(5.17)
5.	Textile Products	4.96	184.56	189.85	203.85	238.43	252.84
			(0.28)	(2.87)	(7.37)	(16.96)	(6.04)
6.	Wood and Wood Products	1.95	196.95	193.23	193.46	198.31	204.76
			(4.44)	(-1.89)	(0.12)	(2.51)	(3.25)
7.	Paper and Paper Products	4.16	195.76	211.39	212.37	225.31	242.37
			(7.94)	(7.98)	(0.46)	(6.09)	(7.57)
8.	Leather and Leather Products	1.62	154.48	154.73	156.70	173.91	186.32
			(2.02)	(0.16)	(1.27)	(10.98)	(7.14)
9.	Chemicals and Chemical Products	6.66	164.64	178.24	184.76	209.58	222.91
			(-1.19)	(8.26)	(3.66)	(13.43)	(6.36)
10.	Rubber, Plastic, Petroleum and Coal Products	3.33	192.12	206.49	214.25	235.95	255.11
			(9.09)	(7.48)	(3.76)	(10.13)	(8.12)
11.	Non-Metallic Mineral Products	5.60	193.28	211.58	229.74	287.43	328.79
			(6.62)	(9.47)	(8.58)	(25.11)	(14.39)
12.	Basic Metal And Alloys	6.34	195.11	213.56	242.32	281.31	320.72
			(7.05)	(9.46)	(13.47)	(16.09)	(14.01)
13.	Metal Products and Parts	3.65	186.96	192.76	193.15	210.90	219.68
			(5.48)	(3.10)	(0.20)	(9.19)	(4.16)
14.	Machinery and Equipment other than Transport	19.15	179.82	190.96	203.07	219.38	234.43
			(7.92)	(6.20)	(6.34)	(8.03)	(6.86)
15.	Transport Equipment, Machinery and Parts	6.41	191.04	201.86	217.62	198.41	201.48
			(4.30)	(5.66)	(7.81)	(-8.83)	(1.55)
16.	Other Manufacturing Industries	1.84	133.79	135.05	152.08	146.74	156.06
			(1.26)	(0.94)	(12.61)	(-3.51)	(6.35)
<b>Total</b>		<b>100.00</b>		<b>186.08</b>	<b>211.46</b>	<b>228.01</b>	<b>245.71</b>
				<b>(5.13)</b>	<b>(5.89)</b>	<b>(7.83)</b>	<b>(7.76)</b>

Note: 1. Fig. in brackets indicate the % growth compared to previous year

2. \* Provisional Fig.

Source: Directorate of Economics and Statistics, Bangalore.

### Production of use-based groups of manufacturing industries

Utility-based groups are an integral part of the index of industrial production, classified into four major groups-basic goods, capital goods, intermediate goods and consumer goods. The average annual growth rate was 6.59 percent for the period 1990-91 to 1993-94, While it was 5.96 percent for the period 1994-95 to 2005-06. The basic goods industry registered an average annual growth rate of 7.00 percent followed by intermediate goods industry 6.60 percent, consumer

goods industry 6.46 percent and capital goods industry 6.42 percent during the period 1994-95 to 2005-06. Within the consumer goods industry group, industries producing durable consumer goods have registered an average annual growth rate of 5.87 percent as against 6.67 percent for non-durable consumer goods. For details see table 5.2

**Table 5.2 Index of industrial production in the manufacturing sector in Karnataka by utility-based groups 2003-04 to 2005-06**

Base: 1993-94=100

Sl. No	Industry Group	Weight	2003-04	2004-05*	2005-06*	2006-07*	2007-08*
1.	Basic goods	14.5738	185.05	201.18	224.11	267.46	303.77
			(6.17)	(8.72)	(11.40)	(19.34)	(13.57)
2.	Capital goods	10.5179	179.31	193.12	209.50	218.76	233.19
			(10.49)	(7.70)	(8.48)	(4.42)	6.60)
3.	Intermediate goods	24.1644	197.10	204.76	214.68	217.17	227.41
			(5.83)	(3.89)	(4.84)	(1.16)	(4.72)
4.	Consumer goods	50.7439	183.67	200.49	210.87	227.47	245.39
	a) Consumer durables	13.6005	174.15	190.16	197.12	211.81	228.00
	b) Consumer non-durables	37.1434	187.16	204.27	215.90	233.20	251.76
<b>Total</b>			<b>186.66</b>	<b>200.85</b>	<b>213.58</b>	<b>228.01</b>	<b>248.27</b>
			<b>(5.12)</b>	<b>(7.60)</b>	<b>(6.34)</b>	<b>(7.83)</b>	<b>(7.76)</b>

Note: 1. Fig. in brackets indicate the % growth compared to previous year

2. \* Provisional Fig.

Source: Economics survey 2008-09.

It is observed from table. 5.2, that the overall growth in these industrial groups was 6.34 percent during 2005-06 as against 7.60 percent in 2004-05. During the year Basic Goods industry group registered the highest increase of 11.40 percent and the consumer durables showed a least increase of 3.60 percent.

### Production of Selected Industries

During the first nine months of the current year (2005-06) ten out of fourteen selected industries showed an upward trend in production compared to the previous year. Industries which showed significant growth during the first nine months of the current year were Gold (246.5 percent), Sugar (106.4 percent), Aluminium (83.9 percent), Wrist watches (31.3 percent), Soap (25.6 percent), Paper (14.8 percent), Steel ingots (5.9 percent), Silk fabrics (3.8 percent), Fertilizer (2.9 percent) and cement 0.4 percent is shown in table 5.3

**Table 5.3 Production of selected industries and minerals in Karnataka for the year 2004-05 to 2006-07 (upto Dec 2006)**

Sl. No.	Products	Unit	2006-07	2007-08	April to Dec		% variation 2008 over 2007
					2007	2008	
1.	Aluminium	'000 Tonnes	67.36 (53.05)	107.80 (60.04)	94.18	96.38	+2.33
2.	Iron and Steel						
	a) Pig iron	'000 Tonnes	190.75 (-29.40)	217.89 (14.23)	155.66	126.82	-18.53
	b) Saleable Steel	'000 Tonnes	130.73 (0.10)	158.51 (21.25)	91.89	96.88	+5.43
	c) Steel ingots	'000 Tonnes	157.93 (3.63)	132.08 (-16.37)	112.34	90.47	-19.47
3.	Paper	'000 Tonnes	318.74 (15.12)	318.98 (0.06)	287.70	264.08	-8.21
4.	Sugar	'000 Tonnes	3061.29 (170.70)	2823.49 (-7.77)	2295.96	2296.70	+0.03
5.	Soap	'000 Tonnes	6.80 (9.68)	8.32 (22.35)	5.76	6.01	+4.34
6.	Fertilisers	'000 Tonnes	575.19 (1.48)	628.23 (9.22)	416.70	457.02	-1.01
7.	Cement	Lakh Tonnes	68.57 (-1.86)	104.47 (52.36)	51.56	87.87	+70.42
8.	Sandalwood oil	Tonnes	3.07 (9.64)	1.11 (-63.84)	0.80	0.19	-76.25
9.	Cigarettes	Millions	24247 (7.22)	21581 (-10.99)	16512	178.34	+8.01
10.	Wrist watches	'000 s	62.07 (2.09)	67.50 (8.75)	59.69	124.99	+109.40
11.	Silk Fabric	'000 Mtrs	380.22 (3.55)	352.27 (-7.35)	283.66	273.39	-3.62
12.	Iron Ore*	'000 Tonnes	33773 (-1.03)	41284 (22.24)	29317	29517	+0.68
13.	Gold*	Kgs.	2336 (-17.90)	2636 (12.84)	2204	1944	-11.80
14.	Silver	Kgs.	969.63 (9.60)	707.03 (-27.08)	205.04	193.20	-5.77

\* (Revised as per Indian Bureau of Mines, Nagpur Report).

Note: Fig. in bracket indicate % change over the previous year.

Source: Economic survey 2008-09

## Traditional Industries

Many crafts and industries have flourished in the state from ancient times. Of the ancient industries of Karnataka, production of textile is an important industry. It had centres all over Karnataka and they included places like Binnamangala, Aigandapura (Bangalore Dt), Belgavi (Shimoga Dt), Arasikere (Hassan Dt) and Chinmali (Raichur Dt) to speak of the most prominent centres mentioned in inscriptions. During the medieval times Hubli, Gadag, Badami, Ilkal, Kodiyala, Guledgud, Bangalore and Doddaballapur became notable centres. The Adilshahi rulers of Bijapur started paper and agarbathi (joss stick) industries in their territory in North Karnataka. A British factory founded at Kadwad on the banks of the Kali in 1638 exported cloth from the hinterland at Hubli. Under Chikkadevaraya of Mysore, Bangalore had 12,000 families of Weavers and Dodballapur also grew to be a major centre of textile production. Under Tipu, many weavers from Baramahal in Tamilnadu settled down in Bangalore and surrounding places. Buchanan, while speaking of the Mysore State during his visit, says that there were a class of weavers called *Togataru* who wove coarse, thick, white cotton cloth with red borders and Holiars who wove coarse, white strong cloth called parakali. Karnataka women spun yarn using a *charkha* in their spare time and Buchanan says that a full-time spinner earned as much a farm worker. But the Industrial Revolution ruined spinning as a profession, and also throttled weaving on a major scale.

Weaving coarse blankets (*kambli*) also flourished and inscriptions speak of Davangere and Dodballapur as the two centres of this industry. Dr. A. Appadorai speaks of Budihal (Chitradurga dt.) as a centre of producing cloth from hemp fibre. Inscriptions speak of Pattedgars or silk weavers from Lakshmeshwar (Gadag dt.) and Varagiri (Haveri dt.). Though the raw silk was imported in ancient times, Tipu introduced sericulture in Mysore on a large scale. Buchanan speaks of the Khatris (Kshatriyas, people from the Southern part of Gujarat) in Bangalore who prepared very strong and rich clothes. They dyed much of their silk and were more wealthy than other weavers, he adds. These people had also settled in Hubli in good numbers. They were well-versed in brocade work too. Production of oil was another flourishing industry in the state, sesamum and linseed, soyabean, nigerseed, rape and mustard, sunflower, honge seed, castor, coconut, kusube (safflower) etc., were used to extract oil.

The Panchalas included blacksmiths, goldsmiths, coppersmiths, braziers and carpenters and they are also called Vishvakaramas. An inscription of 11th Century from Mysore district speaks of a blacksmith who was an expert in producing swords. Under Mysore Rulers, Chikkadevaraya had *Kabbinaadachavadi* (ಕಬ್ಬಿಣಾಚಾವಡಿ), perhaps to supervise production and sale of iron tools and implements. Tipu continued this monopoly and he also founded a state foundry at Kanakapura where even canons were forged. Buchanan speaks of manufacture of iron from sand accumulating in the rainy seasons at places like Madhugiri, Chennarayanadurga. Hagalavadi and Devarayanadurga. He



gives the technical details of iron smelting too at these places. He speaks of iron ore from Ghattipura in Magadi taluk. He also informs us of manufacture of steel which was used to produce sword blades and stone cutter chistles at Magadi near Bangalore and other places. He tells us that Channapatna was a centre of production of steel wires which had a demand all over was used in musical instruments too. Tegur near Dharwad, Halgur near Malavalli, Benkipura (modern Bhadravati) etc., were notable centres of iron production and charcoal to smelt iron was available in abundance in the forests of Western Ghats, which had also abundant iron mining centres.



*Pottery Making*

Production of jewellery was also a flourishing industry and Manasollasa gives a long list of jewellery worn by both men and women. Among the Panchalas, the goldsmiths make the jewels, earlier, they minted coins by paying a fee called *tanka* to the State. There were state mints at Lakkundi, Sudi, Kudutini, Belgavi, Mangalore, Barkur and other important cities. The Kasars or Kanchugars (braziers) produced bronzeware which included vessels, musical instruments like bells and trumpets, lamps of various kinds, mirrors and images of various deities. They are mentioned in many records and the one at Laksmeshwar of the 8th century is notable among them. Carpentry was another profession of the Panchalas and in addition to the production of agricultural implements and household furniture; they also produced chariots, carts, boats and palanquins. They also built palaces with decorated pillars, panels and ceilings. All old palaces were mostly wooden as can be seen even today by those surviving ones at Shimoga, Bangalore and Srirangapattana.

Production of foot-wear, waterbags, shields, beds and cushions, drums, etc. was undertaken by leather workers called Samagars (tanners) and Mochis. Footwears produced by them were of a variety of designs and colours as testified to by *Manasollasa*. A Badami record speaks of their guild. The Kumbaras or potters were producing earthen vessels and tiles. The vessels were both hand-made and wheel turned. Production of salt and lime were two other notable industries. Salt was produced from sea water on the coast and the salt stones mined. There were *uppina moles* or salt pans mentioned in records. Places like Uppina Kuduru, Uppinamogaru, Uppinapatna, Uppuru, Uppalli, Uppinangadi etc., are reminders of the fact that these places were centres of salt manufacture. The Uppars were the caste engaged in producing salt. This traditional industry which supported thousands, came to be ruined after the British made salt production a state monopoly. Buchanan speaks of the industry as flourishing at Tekal (Kolar dt) and gives details of the techniques of production adopted at the place. Lime was produced both from sea shells on the coast and from limestone mined. Buchanan also described the kilns at Kadugodi near Whitefield (Bangalore dt). There was a community called Sunagars engaged in this industry.

Production of glass bangles was also a flourishing industry. A record of 1161 from Belgaum district speaks of Senahalli, Kallakundarge (Kallakundi) and Nittur as centres of this industry. The Balegars formed a separate caste and Kannada poet Ranna was of this caste. Some of them had the surname Setti as seen from inscriptions. Buchanan speaks of Muttodu in Chitradurga district as a centre of bangle manufacture and he mentions that these bangles were of five colours viz., black, green, red, blue and yellow. He also states that glass produced there was opaque and coarse and materials needed for glass making were available in the neighbourhood of the place. He also describes manufacturing glass bangles and bottles at Channapatna and here this industry was started under the initiative of Tipu.

Production of jaggery, sugar candy was other notable industries. Inscriptions speak of *alemane* found in many parts of Karnataka where sugar cane juice was boiled and jaggery was manufactured. Buchanan speaks of this manufacture as seen by him at Maddur and surrounding villages. Palm juice was also used to produce jaggery. Tipu had made special efforts to foster sugar and sugar candy industry and has even secured the assistance of Chinese technicians. Buchanan speaks of sugar produced at Chikkaballapur which he describes as very white and fine and the sugar candy of the place was "equal to the Chinese". The Astagrama sugar works started at Palahalli (Mandya dt) in 1847 was famous for its crystal sugar. It had the privilege of participating in international exhibitions of 1850, 1861 and 1867 held at London and had even won a prize. But it stopped working later due to various reasons.

Manufacture of perfumes was another industry. *Manasollasa* in the section 'Snanabhoga' (on enjoying bath) refer to perfumed oil and ointments and also



speaks of the processes of their production, using mostly the raw materials derived from vegetable sources. A good number of craftsmen especially in villages were partly agricultural and also pursuing their craft which was hereditary and the training was mostly imparted by father to son. The craftsmen had their flourishing guilds, and even the Shatavahana records make a mention of these *nigamas, nikayas or shrenis* (in Sanskrit). In Kannada, the guilds were called *kottali, shreni, samaya, samuha or hittu*. A record of the Badami Chalukya times from the capital city speaks of the guilds of garland makers (*malekaras*), cobblers etc. A record of the days of the same dynasty from Lakshmeshwara mentions the guild of the braziers and another of *Pattegars* (silk weavers). The State did protect the guilds and maintained their privileges. Inscriptions speak of *saligasamaya* or *jedagottalli*, the guilds of weavers, *oddagottali* (the stone-cutters guild) or *telliganakhara* or oilmen's guild. Some of the guilds are mentioned with certain numerical suffixes attached to their professional name such as *telliga ayvattu* (fifty) or *ugura munnuru* (300), the *ugurus* being pluckers of betel leaves or *gale munnuru* (300), pluckers of fruits in orchards. *Uguru* literally means nail and they plucked leaves by attaching a small chistle to their nails, *ugundi*. *Gale* or bamboo was used to pluck fruits.

### Beginning of Modern Industries

Tipu made special efforts to introduce new industries and modern techniques in producing sugar, glass, etc. Buchanan informs that under arrangements made by Tipu, broad cloth, paper, watches and cutlery were manufactured by new techniques. He got new techniques from China to improve sugar production and men from Bengal to introduce sericulture and European experts, especially the French to produce watches and cutlery. Dewan Rangacharlu had stated as early as in 1881, his clear conviction that no country can prosper unless its agricultural and manufacturing industries were equally fostered. The later dewans like Sheshadri Iyer, Sir M. Visveswaraya and Sir Mirza Ismail also had such a conviction and they formulated their policies based on it.

In the erstwhile Mysore State, the Kolar Gold Fields had been started by an English Mining Company (John Taylor and Sons) in 1880. When the State was under direct British rule. Laying of railways was an added advantage. By 1900, two large scale textile mills came up i.e., the Bangalore Woollen, Cotton and Silk Mills Ltd. (1884) and the Mysore Spinning and Manufacturing Company Ltd. (1894) both at Bangalore. A Central Industrial Workshop was established by the State Government in 1897 at Bangalore. The State Government enterprises of Hydro-electric power generation at Shivasamudra (Mandya Dt) in 1902-03 may be said to have initiated the modern industrial development in the State.

Industrial development did take place in the Old Hyderabad and Bombay Karnataka area also. But they were incidental and not on any planned basis. At Gulbarga, a textile mill, the Mahaboob Shahi Kalburga Mills, was established in 1884 with the active support of the Government of Nizam of Hyderabad. The MSK. Mills Co, Ltd. was re-registered under the Indian Companies Act in 1888.

The Mill ran into difficulties in the early sixties of this century and the State Government of Karnataka acquired the controlling interest and took over the management in 1963 and later in 1973 the Mill was taken over by the National Textile Corporation.



*Traditional Jaggery Making (Alemane)*

Except for the English-owned textile mills established in 1885 at Gokak Falls and in 1889 at Hubli, there were hardly any major industrial enterprises in Bombay Karnataka area. There were however some crafts such as the Bidriware in Bidar taluk and handlooms in Bijapur, Bagalkot, Dharwad, Gadag and Haveri districts. In the thirties and forties of the 20th century, a few industries came up, the notable among them being the Cement factories at Shahabad and Wadi (Gulbarga dt), Sugar factories at Kittur and Ugarkhurd (both in Athani tq, Belgaum dt). The Swadeshi spirit did help the establishment of a few minor units like ceramic works at coastal Karnataka and many industrial units and beedi manufacture grew here as a home industry. Beedies with regular labels came to be manufactured from 1914 when Mahalakshmi Beedi Works started at Panemagalur in 1914 followed by PVS Beedies (1918), Bharat Beedies and Ganesh Beedies (both in 1930). Tile manufacture initiated by German missionaries (Basel Mission Tile works 1865) in Mangalore was a notable avenue. Cashew processing was another enterprise.

### **Economic Conference**

The starting point of planned economic development as a concept and State policy began with the appointment of Sir M. Visveswaraya as Chief Engineer in 1909 and he dominated the industrial scene for over five decades. It was

at his instance that the First Mysore Economic Conference was held in 1911 and its report dealt in great detail the natural resources of the State and identified a number of industrial possibilities. The Government accepted the recommendation of the Economic Conference and set up a separate Department of Industries and Commerce in 1913. The Department was reorganised in 1922 and strengthened periodically to meet the growing needs of industrial enterprise, in both public and private sectors.

The Government Sandal Oil Factories were located in Mysore City (1915) and Shimoga (1944) to augment the production and distillation of sandal wood oil. The manufactured items included sandal wood oil B.P. Quality, special 'A' Quality oil, sandal wood oil residue and sandalwood baloon dust.

The Government Soap Factory was established in 1918 in Bangalore with an objective of manufacturing laundry soaps and toilet soap in sandal, jasmine and lavender perfumes, Mysore Sandal Soap, shaving soap, Indo-cure quickfix, glycerine etc. The Karnataka Soaps and Detergents Ltd., a State Government undertaking has taken over the management of the Government Soap Factory at Bangalore and the Sandalwood oil factories at Mysore and Shimoga in 1980. The Company is having the following units (1) Detergent Unit commissioned in 1976, (2) Fatty Acid Unit commissioned in July 1981 (3) Soap expansion project to boost the manufacture of soap from 6,000 tonnes to 26,000 tonnes . (4) Sandal oil divisions at Mysore and Shimoga, and (5) the agarbathi units at the Sandalwood oil divisions.

The Minerva Mills, a private enterprise was established in 1919 in Bangalore. The products manufactured were 10 to 40m. single folded cloths - shirting, long cloth, dhoties, chaddars and towels. The first major public sector undertaking was the Mysore Iron and Steel works at Bhadravati, which was established in 1923 with the objective of converting the vast iron deposits of Kemmanugundi in the ranges of the Bababudan Hills into pig iron and manufacture of allied products. The nomenclature was changed to The Mysore Iron and Steel Works' with the commissioning of cast iron pipe plant, open hearth furnace, rolling mills and a cement plant. In the year 1962, it was changed into a company called 'Mysore Iron and Steel Ltd.', with Central Government share of 40 percent of its equity. This departmental undertaking became a Government company jointly owned by the Central Government and the State Government of Karnataka in the ratio of 40:60 respectively. In 1975, in order to pay tribute to its founder the name was changed as 'Visveswaraya Iron and Steel Ltd.' Now it is under the administrative control of the Steel Authority of India.

The Pierce Leslie and Company, Mangalore (1924), and Siddeshwara and Company, Hubli, also came up during early twenties. The former was processing cashew nuts and the latter manufacturing cash chests and steel furniture.

By the late twenties of this century, the old Mysore State had 26 major industrial concerns excluding the Kolar Gold Fields, the textiles and hydro-

electric works. Prior to the States Reorganisation in 1956, the decade 1931-1941 was the most active period in the economic development of Mysore.

The Mysore Industrial and Testing Laboratory to produce Pharmaceuticals, chemicals, malt extracts and medicinal specialities were started in 1931 as a Government concern. It was converted into a joint stock company with the Government hold of 40 percent of its shares in 1945. The Mysore Match Company Shimoga, was another enterprise of this time. The Government Silk Weaving Factory was also established in 1932 at Mysore for manufacture of high grade silk fabrics, sarees, cholies etc.

The Government Electric Factory was started in 1934 at Bangalore to produce electric transformers, motors, pumps, transmission towers, etc., The Mysore Sugar Company Ltd., at Mandya was started in 1933 with Government holding about 55 percent of the shares to produce sugar, and alcohol such as potable liquors, industrial spirits and power alcohol were the other important products. The Mysore Paper Mills Ltd., at Bhadravathi was established in 1936 with the Government holding a portion of its shares. The products manufactured were cream laid, writing and printing bonds, azure laid, ledger papers and other varieties of paper. The Mysore Spun Silk Mills at Channapatna was started in 1936 as a public limited company for manufacturing fabrics out of silk waste. The products manufactured include spun silk yarn, raw silk fabrics, sarees, waste silk druggets, pile carpets, coatings and shirtings, etc. It was under liquidation in 1960 when the Government took it and is being run as a Government concern.

The Davanagere Cotton Mills was established in 1936 in the private sector with a view to manufacture cotton yarn, grey and bleached mull, long cloth, dhoti, etc. The Mysore Lamp Works Ltd., Bangalore was established in 1936 with government holding 17.6 percent of the shares to manufacture all types of incandescent electric lamps, neon signs and other components. The Mysore Stone ware and Potteries Ltd., Chickbanavar was established in 1937. The products manufactured were stone ware pipes, and other products and it was managed by the Mysore Industrial Development Company. The Mysore Tobacco Co. Ltd., a tobacco curing unit was established in 1937. It has curing centres at Mandya, Mysore, Kolar and a grading station at White Field.

The Mysore Chemicals and Fertilisers Ltd., was established in 1937 at Belagola (Mandya District) and it manufactured ammonium sulphate, sulphuric acid, super phosphate, nitric acid, oleum, anhydrous ammonia and ammonium salt. It is the pioneer in the establishment of the first synthetic ammonia plant or fertiliser unit in India.

In 1932, the Mysore Government pioneered the manufacture of insulators for the Electric Department by starting the Government Porcelain Factory. During 1957, the Government obtained technical collaboration of NGK Insulators Ltd., Nagoya, Japan for the first phase of expansion from 50 tonnes of ceramics per

month to 200 tonnes. The second space of expansion to 600 tonnes per month was completed in 1967. It was converted into a Government Company, viz. Mysore Porcelains Ltd. In 1976, this company became a subsidiary of Bharat Heavy Electrical Ltd. The insulators manufactured by this company are unique and are of international standard.

The Mysore Vegetable Oil Products Ltd., was established in 1938 at Bangalore. The products manufactured were hydrogenated oil (Vanaspati) and refined oil. The Mysore Coffee Curing Works Ltd., was established in 1938 at Chikmagalur. The manufactured products include curing coffee, steamed bonemeal and other requisites. The Mysore Implements Factory at Hassan was established in 1939 to produce agricultural, estate and garden implements and tools, domestic articles, cutlery, sheet-metal work, light structures, ornamental gates and grills, etc. During 1975 the Karnataka Implements and Manufacturing Company Ltd., was established, under the provision of the Company Act of 1956. It was formed by the merger of two erstwhile departmental undertakings of the Government viz, Central Industrial Workshop at Bangalore and the Mysore Implements Factory, Hassan. The Bangalore Factory is currently engaged in the fabrication of 20 T and 100 T trailers. The other products are road rollers, concrete mixers, tar boilers, white washing machines, etc. The Hassan unit is manufacturing agricultural implements like *mumties*, axes etc.

The Second World War not only gave a greater impetus to all the industries but also made them self-reliant as foreign materials, machineries and spare parts could not be imported. The needs of the war front were also considerable as little could be imported. The industrial activity expanded substantially.

### **Public Sector Units**

After India became independent, Bangalore was selected as the venue for many Central enterprises. Among the public sector undertakings of the Central Government, the following are important.

The Bharat Earth Movers Ltd., (BEML) commenced operations on January 1st 1965 in Bangalore. It is engaged in the manufacture of high technology transportation equipment. Bharat Electronics Ltd. (BEL) is engaged in the manufacture of Electronic and Communication equipments for use by Defence Sector, AIR, Meteorology Dept, and Post and Telegraph Dept. The Bangalore Complex has 19 Ancillary Units. Bharat Heavy Electrical Ltd., 1976 (BHEL) has produced for the first time truly distributed control system in the country. Hindustan Machine Tools Ltd. 1953 (HMT) has bagged two contracts for supply of machine tools worth Rs. 24.15 crore to Bulgaria and Soviet Union during the year 1987-88. It has also entered into an agreement to render technical assistance to telephone manufacturing unit in Algeria. It has a wrist watch unit also. Indian Telephone Industries Ltd., (ITI) is the first public sector undertaking set up in India in 1948 in Bangalore with five divisions, one each for manufacture of strowger, crossbar transmission, telephones and defence



equipments respectively. It had also set up three more electronic switching units during the Seventh Plan Period.

Hindustan Aeronautic Ltd., (HAL) was established at Bangalore during 1940 by the noted industrialist, the late Walchand Hirachand with Central and State Governments as partners. It was originally intended to be an automobile factory. The pressure of the British manufacturers of cars forced the enterprise to switch over to aircraft servicing and assembling. At the time of the Second World War, repairing of aeroplane, over-hauling etc., was undertaken. The first fighter jet plane was manufactured within a period of six months from the date of inception of the unit. During the war time, the number of workers was around 16,000. After the war, the number of workers was reduced to 3,000. The Rail Coach Division of the HAL commenced functioning from 1947. During 1951, the administration was taken over by the Ministry of Industries and Commerce and latter by the Defence Ministry.

HAL made a major contribution for a standardisation of road transport vehicles by producing pre-fabricated bus body which can be easily assembled by operators in their workshops. It was during 1964 that all the Aero Engine Units were amalgamated and called the Hindustan Aeronautics Ltd. The rail coach division was retransferred to BEML. HAL has a very reliable and extensive maintenance division for the repair and over-haul of aircraft, aero engines, accessories and systems.

The wide product mix of HAL ranges from rotary and fixed wing aircraft of indigenous design to the manufacture of jet and piston engines to power them, matched avionics and accessories to obtain operations capabilities. It manufactures supersonic aircraft designed for specific strike, combat, interception, observation and surveillance roles equipped with advanced technology power plants, avionics, accessories and armament. The civilian needs like agricultural passenger, training and cargo uplift requirements are also met.

The Wheel and Axle Plant, Bangalore was commissioned on 15th Sept 1984 at a cost of Rs. 146 crores. The plant has unique features incorporating the latest designs and technology in the manufacture of wheels. At the time of installation the estimated capacity was 56,700 wheels and 23,000 axles. With the introduction of productivity linked incentives scheme in 1990 the plant capacity has been fixed at 67,500 wheels and 35,250 axles. In 1991-92 there were 69,887 wheels and 43,470 axles manufactured in this plant.

In addition to these industries, Southern Railway workshops at Mysore and Hubli and others are also noted Central Government public sector undertakings.

The Karnataka Government has been running many industrial enterprises. They are broadly divided into seven groups viz.



**Public Utilities:**

1. Karnataka Power Transmission Corporation Ltd.,
2. Karnataka State Road Transport Corporation and
3. Karnataka Power Corporation.

**Financial institutions:**

1. Karnataka State Financial Corporation Limited and
2. Karnataka State Industrial Investment and Development Corporation Limited.

**Development Enterprises(non-commercial):**

1. Karnataka S/C and S/T. Development Corporation Ltd.,
2. Karnataka Backward Classes Development Corporation Ltd.,
3. Karnataka State Police Housing Corporation Ltd.,
4. Karnataka Minorities, Development Corporation Ltd., and
5. Karnataka State Women's Development Corporation.

**Development Enterprises (Commercial):**

1. Karnataka State Handicraft Development Corporation Limited,
2. Karnataka Agro Industries Corporation Ltd.,
3. Karnataka Film Industries Development Corporation Ltd.,
4. Karnataka Fisheries Development Corporation Ltd.,
5. Karnataka Forest Development Corporation Ltd.,
6. Karnataka Compost Development Corporation Ltd.,
7. Karnataka Handloom Development Corporation Ltd.
8. Karnataka Leather Industries Development Corporation Ltd.,
9. Karnataka State Electronics Development Corporation Ltd. \
10. Karnataka Cashew Development Corporation Ltd.,
11. Karnataka Inland Fisheries Development Corporation Ltd.,
12. Karnataka State Coir Development Corporation Ltd.
13. Karnataka industrial area development board.
14. Karnataka state industrial investment and Development Corporation.

**Service Enterprises:**

1. Karnataka Housing Board,
2. Karnataka State Warehousing Corporation,
3. Karnataka State Small Industries Development Corporation Limited,

4. Shree Kanteerava Studios Ltd.,
5. Karnataka State Construction Corporation Ltd.,
6. Karnataka Urban Development Corporation Ltd.,
7. Karnataka State Tourism Development Corporation Ltd.,
8. Karnataka Food and Civil Supplies Corporation Ltd.,
9. Karnataka Land Army Corporation Ltd.,
10. Jungle Lodges and Resorts Limited,
11. D. Devaraj Urs Truck Terminals Ltd.,
12. Krishna Basin Lift Irrigation Corporation Ltd. and
13. Cauvery Basin Lift Irrigation Corporation Ltd.

**Manufacturing Enterprises:**

1. Mysore Sugar Company Ltd.,
2. Mysore Paper Mills Ltd.,
3. Mysore Lamp works Ltd.,
4. Mysore Tobacco Company Ltd.,
5. Mysore Paints and Varnishes Ltd.,
6. Mysore Match Company Ltd.,
7. Mysore Chrome Tanning Company Ltd.,
8. Mysore Electrical Industries Ltd.,
9. Hatti Gold Mines Company Ltd.,
10. New Government Electrical Factory Ltd.,
11. Mysore Acetate and Chemical Company Ltd.,
12. Mysore Minerals Ltd.,
13. Mysore Cosmetics Ltd.,
14. Karnataka State Agro Corn Products Ltd.,
15. Karnataka State Forest Industries Ltd.,
16. Karnataka State Veneers Ltd.,
17. Chamundi Machine Tools Ltd.,
18. Karnataka Implements and Machines Company Ltd.,
19. Karnataka Agro Proteins Ltd.,
20. Karnataka Vidyuth Karkhane Ltd.,
21. Karnataka Silk Industries Corporation Ltd.,
22. Karnataka Soaps and Detergents Ltd.,

23. Karnataka Milk Products Ltd.,
24. Karnataka Co-operative Milk Producers Federation Ltd.,
25. Karnataka State Textiles Ltd.,
26. Karnataka Telecom Ltd.,
27. Karnataka Plywood Ltd.,
28. Karnataka Tungsten Moly Ltd., and
29. New Government Electric Factory (Hubli) Ltd.

#### **Marketing and Advertising Enterprises:**

1. Mysore Sales International Ltd.,
2. Marketing Consultants and Agencies Ltd.,
3. Karnataka State Seeds Corporation Ltd.,
4. Karnataka Meat and Poultry Marketing Corporation Ltd.,
5. Karnataka Silk Marketing Board Ltd., and
6. Karnataka small Industries Marketing Corporation Ltd.

Of the Industries of Post-War years, REMCO is notable. The Mysore Government established a company called, the Radio and Electrical Manufacturing Company Ltd., at Bangalore, in the year 1946 to manufacture radios and the components, electricity and water meters, PVC wires and cables. It has three divisions at present viz : Radio Division, Plastic Division and Metal Division. The capital invested for Radio Division was Rs. 25 lakhs, the then Government of Mysore holding 60 percent of the shares. The other two divisions are wholly owned by the State Government. Domestic and community radio receivers and their component parts are manufactured in the radio division, extended plastic insulated wires and cables. It has been taken over a subsidiary unit of Bharat Heavy Electrical Ltd.,

**The Karnataka State Forest Industries Corporation** was established during 1973 with a proposed equity share capital of Rs. 200 lakhs provided by the State Government. The following projects have been taken up by the Corporation viz, extraction of essential oils, cultivation of pine apple, cultivation of nutritional grasses, dehydration and pelletisation of the nutritional grasses and running of saw mills. The decorative veneer factory has been established in 1974 at Kavachur in Uttara Kannada District in collaboration with the Italian Plywood Manufacturing Co., Ltd. (Dandeli). It produces attractive wood veneers of various types and colours. The Mysore Match Factory near Shimoga has been revived by an agreement entered into with West India Match Company. The saw milling activities have been further expanded by creating two units in Uttara Kannada.

**Leather Industries Development Corporation Ltd.,** (LIDKAR) was established in October 1976 in Bangalore. The primary objective of the

corporation is so set up a common facility centre, establishing a raw material depot, financial assistance for various leather industries and establishing joint sector projects for tanneries, processing and manufacturing of leather goods.

***The Karnataka Vidyut Karkhane Ltd.***, was registered in 1976 with an authorised share capital of Rs. 200 lakhs. Its important objectives are to manufacture all kinds of electrical operators, electrical machines and equipments required for being used in connection with generation, transmission, distribution and utilisation of electricity, and all kinds of transformers, rectifiers, generators etc. It has secured orders for its transformers and motors from all over India and abroad.

***The Thungabhadra Steel Produce Ltd.***, was established near Hospet in 1952 which was originally started as a machinery division of the Thungabhadra Reservoir Project. It was converted into a Shutter manufacturing factory for the manufacture of gates, hoists, and penstocks. This is the only industrial unit which is a joint undertaking with the Government of Andhra Pradesh.

***The New Government Electric Factory (NGEF)*** was established in Bangalore in 1961 in technical collaboration with AEG Telefunken of West Germany. It was converted into a joint stock company during 1965. It has the most up-to-date manufacturing facilities with separate factories for transformers, switch gears, motors, silicon power diodes and power rectifiers. The new addition to the NGEF product is the line of silicon power diodes and power rectifiers. It was making a significant contribution to the industrial development programmes in the country. Now the unit is in the red and efforts are on to privatise it.

***Karnataka Industrial Area Development Board*** : Since its inception KIADB has acquired an extent of 58,865 acres and developed 81 industrial areas in an extent of 21,220 acres in all districts of the state. It has taken up programme of implementation of i) Export promotion, Industrial park at Whitefield Bangalore, ii) Mini Growth Centre in five location, iii) Major water scheme for seven Industrial Areas, iv) Acquisition of land for airport during the year 1998-99.

### **Keonics**

In the industrial map of Karnataka, Electronics play a very vital role. It accounts for nearly 20 percent of the total Indian output of about Rs. 10,000 crores worth of items in 1994. In order to expand the electronics production base, KEONICS has promoted 10 joint ventures by participating in equity with foreign companies and Indian industrial houses. The Karnataka State Electronics Development Corporation (1976) is involved in the promotion of electronics industries in the State. KEONICS activities include establishment of its own manufacturing units, promotion of joint venture electronics units, providing package assistance to entrepreneurs, assisting industries in producing raw materials and marketing of end products. It has established an electronic city on 300 acres of land about 18 km from Bangalore on the Bangalore-Hosur Road. Being the centre of electronics industries Bangalore has a large number

of public sector electronics giants such as Bharat Electronics, Bharat Heavy Electrical Ltd., Hindustan Aeronautics Ltd., Hindustan Machine Tools Ltd., etc., which provide a market for the electronics goods.

### **Information Technology**

The Information Technology industry is poised for accelerated growth in the near future. The state of Karnataka has been in the forefront as far as the location and growth of Information Technology industry is concerned. It proposes to have an increased focus on this sector and aims to provide the necessary infrastructure and environment that would facilitate and give impetus to the significant growth expected in the IT sector. It also proposes to go in for changes in the manner of functioning of the government machinery by introducing the system of E-Governance. For the first time in the country the state has formulated an industrial promotion policy for the Information Technology industry in June 1997 offering attractive incentives and concessional and other support for its growth.

The Department of Information Technology is a newly created department in which four organisation viz. Karnataka Government Computer Centre, Karnataka State Remote Sensing Application Centre, Indian Institute of Information Technology, Bangalore and KEONICS has been brought under the administrative control of the Information Technology.

### **International Technology Park Ltd.**

The International Technology Park is a high tech park built to provide a one stop solution to multinationals and other conglomeration for conducting high tech business in India. It is a futuristic park built to exacting standards with the latest state of the art infrastructure and managed by professionals. The park houses corporate majors operating in a wide range of business such as information technology, biotechnology, telecom(R & D), financial services and other IT related services. Located in whitefield, 18 km. from Bangalore, the ITP is spread over 27 hectares (68 acres) on perfectly landscaped habitat. It has taken some of the world's finest brain and corporate giant from Singapore and India to conjure upon this business paradise. The ITP has been jointly promoted by :

1. Tata industries Ltd, (47%)
2. Information Technology Park investment (P) Ltd., a consortium of Singapore Companies (47%)
3. Karnataka Industrial Area Development Board, a statutory body of the Government of Karnataka (6%).

A special Task Force has been created in December 1999 to prepare an action plan for the development of Information and Technology Industry. Infosys and Wipro are the other corporate giants in the software field who have grown in a big way.



*A Panoramic View of ITPL, Bangalore*



*A front view of IT Park, Hubli*





*Infosys, Bangalore*



*Inner view of Infosys, Bangalore*

## **Indian Space Research Organisation (ISRO)**

Government of India established the Department of Space in 1972 to promote development and application of space science and technology for socio-Economics benefits. Indian Space Research organization (ISRO) is the primary agency under the Department of Space for executing Space programmes. During the seventies India undertook demonstration, broadcasting and Remote sensing; designed and built experimental satellites Aryabhata, Bhaskara, Apple and Rohini and experimental satellite Launch Vehicles-SLV-3 and ASLV. Today India has established space systems that form an important element of the National Infrastructure. India successfully sent the Chandrayana -I space craft to moon in November 2008 and became the fourth individual Country to send a probe to the lunar surface.

### **Indian National Satellite (INSAT) System**

Commissioned in 1983, INSAT is a multipurpose satellite for telecommunications, television broadcasting, meteorology, disaster warning and search and rescue. Besides telecommunications and regular broadcasting services, INSAT is widely used for interactive education, developmental communication and telemedicine. Meteorological imaging and direct-to-community broadcast capabilities of INSAT help in issuing warnings on impending cyclones. INSAT also carries transponders dedicated to search and rescue operations as part of international COSPAS/SARSAT programme.

### **Infrastructure for Space Development**

India has established a strong infrastructure for executing its space programme. They include facilities for the development of satellites and launch vehicles and their testing; launch infrastructure for sounding rockets and satellite launch vehicles; telemetry and command network; data reception and processing systems for remote sensing. A number of academic and research institutions as well as industries participate in the Indian Space Programme. Several Indian industries have the expertise to undertake sophisticated jobs required for space systems.

### **Space Sciences (CHANDRAYANA-I)**

Earlier India has flown Gamma-Ray and Retarding Potential Analyser payloads on two of its Stretched Rohini Satellites launched in 1992 and 1994. IRS-P3, launched in 1996, carried an X-ray astronomy payload.

Chandrayana-1, India's first spacecraft mission to moon, was successfully launched by PSIV-C11 on October 22, 2008 into an Earth orbit, Carrying 11 payloads built in India and abroad, the spacecraft later reached the moon and went into an orbit around it with the help of its Liquid Apogee Motor. After reaching its final operational path of 100 km height from the surface, the spacecraft's Moon impact separated and successfully reached the lunar

surface 25 minutes later, carrying Indian tricolour with it on November 14, 2008.

### International Co-operation

International co-operation has been the hallmark of Indian space programme. India participates in major space forums including the UN, IAF, COSPAR and CEOS. India has set up the Centre for Space Science and Technology Education in Asia and the Pacific (CSSTE- AP) which is sponsored by the United Nations. India offer in space applications to personnel from developing under the programme Sharing Experience in Space (SHARES). Chandrayana-1 a 1400 kg unmanned spacecraft built by ISRO for exploring the moon, carried 11 scientific instruments from India, the United States, the European Space Agency and Bulgaria. ISRO and the French Space Agency CNES have undertaken a joint atmospheric satellite mission Megha-Tropiques to be launched in 2009-10.



*Chandrayana - 1*

### Bio-technology

Karnataka has the training knowledge base necessary to drive the next revolution in biotechnology. The critical mass of the Bio-tech Companies and best research institutions have to be used to nurture that innovation, promote entrepreneurship and facilitate effective technology transfer to the end users. To work out the future strategies- a vision group on Bio-technology was setup. Millennium Biotech policy has been formulated. Achievement in bio-technology sector for the year 2003-04. Investment in Biotech sector Rs.321.22 crores number of projects cleared by SLSWA six, turnover-Domestic Rs.63.00 crores export Rs.177.00 crores.

### Industrial Status

As in other States, the power sector has been going through a major change in perception regarding the public-private sector mix in respect of both generation and transmission and the right approach to pricing to ensure efficiency in the use and costing of power to different categories of consumers. At present, the public sector in Karnataka has a monopoly of both generation and transmission in the area of conventional energy sources like hydel and

thermal power with limited captive power generation permitted for individual entrepreneurs along with sales to the grid. This approach has now been questioned and private power companies welcomed into the area of generation through carefully worked out legal and financial arrangements. A related issue that has gained prominence is the need to set up an independent regulatory framework to arbitrate on pricing issues between producers, consumers and government. Serious discussions have also commenced on this issue so that a formal mechanism is ready by the time independent power producers are likely to commence the supply of power in accordance with power purchase agreements executed with the government.

Karnataka State has evolved from a basically agricultural economy into an industrial one. Its ranking in the industry scenario in 1994 was as low as VIII in the country. The growth of industrial production in the State during the VII Plan was 6.6 percent compared to only 3.6 percent during VI Plan. This 6.6 percent growth is still less than the national industrial growth of 7.6 percent.

In 2006-2007 there were about 1485 large and medium scale industrial units with a total investment of about Rs. 46614.87 lakhs, employing about 4,72,873 persons in the State.

In 2007-08 the small and village industries comprise around 3,62,020 registered units with an investment of Rs.8,94,816.18 lakhs and employment of nearly 20,68,027 persons. Besides there were about 5.48.334 unregistered units spread all over the State providing employment to over three million people and there were about 15,986 women in registered SSI enterprises all over the State. As per the Third All India Census of Registered and Unregistered Small Scale Industries in Karnataka (up to 31-3-2001). For more details see table 5.4

**Table 5.4 Registration of small scale industries in Karnataka**

SL. NO	DISTRICT	Cumulative up to 2004 - 05			Cumulative up to 2008 - 09		
		UNIT in Nos	Rs. Lakhs	EMP in Nos	UNIT in Nos	Rs. Lakhs	EMP in Nos
1.	Bagalkot	6030	10444	27175	7261	15545	33840
2.	Bangalore (U)	56540	175562	473442	64107	265716	573356
3.	Bangalore (R)	15002	36884	78841	16700	48612	88632
4.	Belguam	28232	47551	117546	31791	62242	135019
5.	Bellary	12254	29854	55383	14818	47676	70541
6.	Bidar	7238	12787	39197	7578	14271	41483
7.	Bijapur	6350	10673	36649	7947	14108	41712
8.	Chamaraja-nagar	7120	6989	29895	7812	8447	34124
9.	Chikka-ballapur	0	0	0	375	1791	2246
10.	Chikmagalur	5870	9427	25722	7525	12182	31684
11.	Chitradurga	7645	13138	32788	9318	16590	38299



12.	D.Kannada	15565	31558	84246	18729	43482	96431
13.	Davangere	6817	15474	32655	8099	17410	37340
14.	Dharwad	13195	28841	119582	15613	44373	134630
15.	Gadag	6463	8511	23711	7243	9887	27164
16.	Gulbarga	12323	19493	55794	15146	27070	65153
17.	Hassan	9264	15784	41189	10768	19526	46927
18.	Haveri	7549	6707	27959	8659	12153	32424
19.	Kodagu	3133	5780	21692	3464	6748	23398
20.	Kolar	12150	35946	77448	13767	48661	87811
21.	koppal	3855	11697	26077	4847	18527	31377
22.	Mandya	7668	13200	35150	8873	16785	40331
23.	Mysore	19177	32340	100226	21623	45704	113406
24.	Raichur	7772	15833	38135	8754	19005	41679
25.	Ramanagara	0	0	0	481	2395	3660
26.	Shimoga	12033	18734	50537	14099	22881	59380
27.	Tumkur	18697	35906	96416	20882	46944	108798
28.	Udupi	6457	27292	41258	7719	35166	51258
29.	U. Kannada	7277	15567	40265	8868	20441	47848
	<b>Total</b>	<b>321676</b>	<b>691971</b>	<b>1828978</b>	<b>372866</b>	<b>964340</b>	<b>2139921</b>

### Handlooms

The traditional industry of weaving had been a major phenomenon in the State. There were 83,395 handloom units in the State in 1990, of which 10,126 units under co-operative fold, 14,395 units under corporate fold and 58,874 units under private/ independent/master weavers. As per the 1995-96 census, there were about 89,127 power looms and 76,173 handlooms in the State. The Department of Handlooms and Textiles is implementing various schemes for the development of Handlooms, powerlooms and textile mills in the state. The state textile policy which was amended in the year 1993 envisages the overall development of ginning, pressing and spinning units and textile mills, handlooms, powerlooms, knitting and garment units. It contemplates training to handloom weavers, setting up of a technology centre and the Powerloom Development Corporation, welfare schemes for handloom weavers, subsidy to electricity generating units in textile mills and the development of markets for handloom products and minimum wages to weavers. Handloom and Powerloom products worth 80 million metres and 138 million metres respectively were produced during 1997-98.

### Handicrafts

Karnataka with a rich heritage of tradition in arts and crafts, is one of the leading States in handicrafts industry. The handicrafts of the State include lacquer ware, sandalwood carving, rosewood inlay work, pith work, toys and dolls, Bidiriware, decorative pottery, bronze work, cane and bamboo crafts, leather work, sculpture, gold and silver jewellery, brocade weaving,



*Artisan (Brass working)*



*Channapattana Toys*



horn carving etc., There are about 1000 identified master artisans and the coverage of Handicraft Development Corporation is included to sixty percent, at present. The assistance given by the department to the craftsmen includes supply of raw materials at subsidised rates, training of craftsmen and intensive development projects in various crafts. The Corporation has set up complexes for sandalwood, bidriware, inlay-works and laquer ware. It has set up six raw material depots and nine show rooms besides a bronze production and design centre at Bangalore and procurement centre for Kinal toys.

There are 2,45,826 small scale units in the State with an investments of Rs. 43,569 crores providing employment to 14,69,388. The state is giving cash incentives and providing infrastructure to Small Scale Industries. The Canara Bank has also taken up a lead in organising two residential workshops, *Kausalya*, at Jogaradoddi in Ramnagaram and another at *Karkala*. Skilled craftsmen not only work here, but also train young persons in a variety of handicrafts.

#### Physical Targets and Achievements of Handicrafts (KSHDC)

1999-2000		2000-2001	
	Target	Achievement	Target
a) Production (Rs. in Lakhs)	300.00	300.00	300.00
b) Employment (No. of Families)	3875	3875	3750

#### Coir Industries

Karnataka ranks second in the production of coconut and have great potential for the development of Coir industries. The State Government has set up a Coir Development Corporation for promoting coir based industries and to provide employment in rural areas besides procurement-cum-distribution and training centres.

**Integrated Coir Development Project :** Rs. 200 lakhs have been provided of which Rs. 100 lakhs is grant and Rs. 100 lakhs is investment to assist 4 Primary Coir Co-operative Societies and take up 18 programmes in the area of Manpower development through the Karnataka State Coir Co-operative Federation Limited, Primary Coir Co-operatives Societies and Karnataka State Coir Development Corporation. Rs. 4 crores have been provided as State's share to set up new mini tool rooms at Bagalkot, Bidar and Shimoga.

#### Khadi and Village Industries

Karnataka State Khadi and Village Industries Board came into existence under the Karnataka Khadi and Village Industries Act 1956 (Karnataka Act of 1957). The board was established by the Government of Karnataka with

the objective to organise, develop and regulate Khadi and Village Industries activities in Karnataka

The main objective of the KVIB is to give priority for Khadi and Village Industries in rural areas and to develop provide assistance, generate employment opportunities in rural areas and improve the economic status of the rural artisans.

About 3 lakh artisans are employed In the Khadi and Village Industries, of whom, the Karnataka State Khadi and village Industries Board has been assisting 1.4 lakh artisans. The Board has taken steps to organise new institutions in the uncovered areas of the State. It also extends assistance for village industries like oil industry, carpentry, blacksmithy, leather industry, soap industry, mat weaving etc., It has also initiated a concerted drive to install biogas plants in the State. Karnataka is famous for producing national flags and printed khadi silk sarees in this sector.

Of the agro-based industries, bee-keeping is also notable and the Western Ghats districts like Kodagu, Hassan, Chikmagalur and Shimoga produce honey in large quantities.

### **Rural Employment Generation Programme (Margin Money Scheme) (Present scheme under operation)**

The Government of India has launched Rural Employment Generation Programme to provide more employment opportunities of rural artisans. The Margin Money will be provided to the units of these entrepreneurs identified by Khadi and Village Industries Commission/ Khadi and Village Industries Board. This Margin Money will be adjusted to the loan account of the entrepreneur only after two years of successful establishment of the unit. For more details see table 5.5

This Scheme is applicable to the rural area.

- ❖ This is applicable only to rural village industries which are not in the Negative list of industries.
- ❖ Margin Money Scheme benefits will not be provided to Khadi, Polyvastra, Wool and Silk Industries.
- ❖ The loans for the projects are extended by the selected Nationalized Banks, Private Scheduled Banks, Grameena Banks and Co-operative Bank which are approved by Khadi and Village Industries Board.
- ❖ 69 Banks have been recongnised by KVIB to take up the scheme.

**Table 5.5 Progress achieved under Rural Employment Generation programme for the year 2006-07**

(Rs. In Lakhs)

Sl. No	District Name	Target for the year 2006-07			Achievement for the year 2006-07		
		Units	Margin Money	Employment	Units	Margin Money	Employment
1.	Bagalkot	35	39.00	650	26	33.60	538
2.	Bangalore Rural	33	37.00	617	43	58.43	935
3.	Bangalore Urban	41	46.00	767	15	41.23	660
4.	Belgaum	46	51.00	850	42	53.03	848
5.	Bellary	48	53.00	883	53	41.16	659
6.	Bidar	40	44.00	734	38	54.35	870
7.	Bijapur	34	38.00	634	39	53.12	850
8.	Chamarajanagar	23	26.00	425	07	9.19	147
9.	Chickmagalur	20	22.00	367	37	52.61	842
10.	Chitradurga	30	33.00	550	42	30.42	487
11.	Dakshina Kannada	57	63.00	1050	77	144.12	2306
12.	Davanagere	37	40.00	667	61	57.82	925
13.	Dharwad	33	37.00	617	31	46.09	737
14.	Gadag	23	26.00	425	23	23.73	380
15.	Gulbarga	59	64.00	1062	37	50.42	807
16.	Hassan	24	27.00	450	19	32.35	518
17.	Haveri	46	51.00	850	34	29.34	469
18.	Kodagu	12	15.30	255	15	19.77	316
19.	Kolar	49	54.00	900	17	42.12	674
20.	Koppal	42	47.00	800	41	39.99	640
21.	Mandya	30	33.00	550	18	19.44	311
22.	Mysore	38	42.00	700	32	30.18	483
23.	Raichur	36	40.00	667	33	23.70	379
24.	Shimoga	34	38.00	634	60	50.73	812
25.	Tumkur	28	31.00	517	39	53.68	859
26.	Udupi	68	75.00	1250	72	125.83	2013
27.	Uttara Kannada	40	44.00	734	63	90.64	1450
	<b>Total</b>	<b>1006</b>	<b>1116.30</b>	<b>18605</b>	<b>1014</b>	<b>1307.09</b>	<b>20913</b>

**Vishwa Programme:** Vishwa programme was launched in order to rejuvenate the traditional crafts and village industries and to provide self-employment to the youth while encouraging them to make use of the raw materials available locally. This programme was named after Sir M. Visveshwaraya. This was launched on 2nd October 1991. The programme is intended to overcome the scarcity of raw materials and proper marketing faced by craftsmen in rural Karnataka. This will enable them to prosper with their own traditional know how. Under this programme, it is envisaged to give institutional status to rural industries and crafts, to train the youth so as to enable them to take up

proper industrial activity and to provide financial assistance to take up self employment.

### Sericulture

The area covered under mulberry in the state was about 0.88 lakh hectares. Sericulture provided employment to 11.40 lakh persons in 2005-06. The production of raw silk in the state was about 7470 tonnes in 2005-06 as against 7300 tonnes in 2004-05. In the first eight months of 2006-07 production of cocoons increased from 35,520 Mts to 43240 Mts during the corresponding period of previous year. The quantum of cocoons marketed has increased from 33,310 Mts to 42,330 Mts during the same period. For more details see table 5.6

**Table 5.6 Sericulture in Karnataka**

Sl. No.	Category	Unit	2004-05	2005-06	April to November		Percent variation 2006 over 2005
					2005	2006	
1.	Area under Mulberry	000' hectares	77.99	87.73	86.76	98.06	13.02
2.	Production of cocoons	000 mts.	54.21	55.49	35.52	43.24	21.73
3.	Quantum of cocoons marketed	000 mts	47.02	49.93	33.31	42.33	27.08
4.	Raw Silk production	000 mts	7.30	7.47	4.74	5.78	21.94
5.	Employment in Sericulture	Lakhs	10.13	11.40	11.28	12.74	12.94

Source: Department of Sericulture, Bangalore



*Cocoons*



*Silk Weaving*

### **Large and Medium Scale Industries**

The Industrial policy of 1993 replaced the division of the State into zones by the three fold classification under which Bangalore and its surrounding became ineligible for subsidy; growth centres got a higher subsidy of 30% and other areas a subsidy of 25%. This was modified in 1996 and subsidy restricted to small scale industries, with medium scale industries being extended only sales tax incentives. Hitech and renewable energy projects, non polluting and exporting units were given special attention apart from exemption from power cuts and stamp duties. The 2001-2006 new industrial policy, in order to achieve the objectives as set out in this policy and to ensure that the strategy/approach detailed in this policy is implemented successfully, the government offers the following incentives and concessions for new investment made in industrial sector on or after 1st April 2001. For the purpose of various incentives and concessions, the state has been classified into four zones namely; Zone - A Developed areas, Zone-B developing areas, Zone-C backward areas and Zone - D growth centres and mini growth centres, specialised industrial parks.

In the 8th Plan 77 mega projects with investment of Rs. 54,700 crores and employment potential of 90,490 have been approved, Vijayanagar Steel Plant was started. Mangalore Refinery was commissioned, the Singapore Information Technology Park at Whitefield commissioned, a textile policy is announced, the National Institute of fashion Technology project is initiated, a software services support and education centre with ECC and Government of India and an Electronics Trade and Technology centre set up. Major projects approved

include the TVS Suzuki two wheeler project with an investment of Rs. 150 crores, a heavy duty truck manufacturing facility by Volvo with an investment of Rs. 300 crores and a special purpose vehicle manufacturing unit of Telco with an investment of Rs. 300 crores. The high level committee has cleared seven major projects, important among them being construction of Equipment manufacturing plant of Eicon, two cement grinding units at Toranagallu and Kolar, a fertiliser plant of Jindal fertilisers Ltd. At Toranagallu, expansion projects of Mahadeshwara sugar along with a co-generation plant, a multi-disciplinary high technology Rand D centre of GE India Technology Centre at Whitefield, Bangalore.

In 1999-2000, the high level committee cleared seven major projects involving investment of Rs. 11,108.28 crores. The state level single window agency cleared large and medium projects involving Rs. 1,862 crores despite the general economic and industrial slowdown in the country.

During the year 2007-08, the state level window clearance committee has approved 779 large and medium projects with an investment of Rs. 64762.54 crore and to employment potential of 361051, besides, State High Level Clearance committee cleared 36 projects with an investment of Rs. 62,173.79 lakh and to employment potential of 6,33,260. See more details table 5.7 and table 5.8

**Table 5.7 District-wise large and medium scale industries**

(Rs. in Crores)

Sl. No.	District	No. of Units	Investment	Employment
1.	Bangalore Urban	375	11326.15	202248
2.	Bangalore Rural	74	1577.15	27941
3.	Bagalkote	14	889.76	4380
4.	Bidar	07	229.69	2554
5.	Bellary	48	24775.78	21941
6.	Belgaum	26	1932.53	17893
7.	Bijapur	02	146.41	874
8.	Chamarajanagar	04	182.92	353
9.	Chickmagalur	02	10.71	302
10.	Chitradurga	04	111.68	557
11.	Chickballapur	02	15.47	117
12.	Dakshina Kannada	17	7602.68	5083
13.	Davanagere	07	294.97	1506
14.	Dharwad	19	754.38	3791
15.	Gadag	02	49.98	1591
16.	Gulbarga	07	1683.95	4960
17.	Hassan	08	589.58	4112
18.	Haveri	08	369.41	3793



19.	Kodagu	00	00	00
20.	Kolar	05	123.83	519
21.	Uttara Kannada	03	795.20	4006
22.	Koppal	15	1260.88	2453
23.	Mandya	09	535.22	3324
24.	Mysore	56	3387.80	19758
25.	Raichur	09	3110.27	6967
26.	Ramanagar	14	1093.84	5646
27.	Shimoga	11	848.74	6922
28.	Tumkur	26	894.92	4704
29.	Udupi	05	168.64	2756
	<b>Total</b>	<b>779</b>	<b>64762.54</b>	<b>361051</b>

**Table 5.8 Achievements from 2001 to 2006 up to December**

Year	No. of Products approved	Investment (Rs. in Crores)	Employment (in Nos)
2000-01	292	4,511.35	1,38,204
2001-02	103	2,042.92	46,007
2002-03	195	1,822.97	32,072
2003-04	164	3,893.47	1,11,453
2004-05	202	4,524.76	1,09,028
2005-06	204	4,665.40	1,25,406
2006-07 (Up to December 2006)	630	8,882.43	5,73,343
<b>Total</b>	<b>1630</b>	<b>30,343.30</b>	<b>11,35,513</b>

The state was able to attract severe competition from other states, regarding the prestigious project of the Toyota Motor Corporation covering an investment of Rs. 4,200 crores to establish an automobile unit for the manufacture of passenger cars.

### Minerals in Karnataka

Karnataka is also producing minerals like Chromite, Kyanite, Dolomite, Magnesite, Bauxite, Felsite, Dunite and Quartz. During 2006-07 Mineral wise leases and production is given in table 5.9

**Table 5.9 Mineral Production in Karnataka**

Name of the Mineral	Total no. of leases	Production for the year 2006-07 (in metric tonnes)
Iron	178	4,16,72,254
Manganese	37	1,82,064
Soap Stone	05	690
Moulding	39	1,00,220
Limestone/Dolomite	157	1,47,45,413
Quartzite	05	-
Aluminous laterite	06	1,75,748

Clay	14	30,603
Bauxite	04	1,15,797
Graphite	06	1,997
Vermiculite	02	-
Kyanite	06	2,264
Felsite	13	972
Magnesite	11	11,720
Gold/Copper	06	23,94,722
Silica sand	23	2,06,541
Lime Shell	17	7,17,182
Quartz	44	57,371
Total	580	580,20,86,995

Karnataka state is bestowed with vast resources of granite deposits. These granite deposits had brought the Karnataka State into the international scenario. It is essential to bring back the glory to the granite industry of Karnataka by way of initiatives in the current mineral policy. Total granite production for the year 2006-07 is 1.96 lakh cu.m. The granite varieties resources and number of leases are given in table 5.10 and minerals export in Karnataka given in table 5.11

**Table 5.10 Minerals Resources in Karnataka**

Granite Varieties	Resources in million cu. m	No. of Leases
Pink Multi-coloured Granite	133	288
Pink Granite-Prophecy, Red	15	205
Grey Granite	65	130
Black and Green granite	07	186
Yellow granite	04	04
Quartzite/sand stone	574	-
Total	798	813

**Table 5.11 Minerals export in Karnataka during 2006-07**

(In lakh tones)

Ore	Domestic use (annual)	Export (Annual)
Iron Ore	201.81	271.35
Manganese	3.5	-
Limestone	145.26	-
Dolomite	3.74	-
Dunite	0.13	-
Chromite	0.11	-
Bauxite	11.37	-
Clay	0.31	-
Quartz	11.37	-
Soapstone	0.002	-
Gold	2.39	-
Silica Sand	1.01	-

Limeshell	0.55	-
Redoxide	0.16	-
Felsfer	0.03	-
Moulding sand	0.5	-
Felsite	0.01	-
Kyanite	0.02	-
Magnesite	0.01	-
Graphite Aluminous laterite	1.18	-
Shell	1.9	-

### Export from Karnataka

International Trade is one of the important means for developing the country's economy. The present era of Liberalisation, Privatisation and Globalisation poses up several challenges as well as opportunities. After the formation of World Trade Organisation (WTO), the world has shrunk into a Global Village. World is now one Market place.

Exports from Karnataka have shown tremendous growth in recent past. From the value of Rs. 29,898 crores in 2002-2003, exports have increased nearly five times and have crossed Rs.1,32,703 crores from the year 2007-08. It has to be noted that during 2007-08 the share of Karnataka in the country's exports was 16.23% and as on now Karnataka stands 4th in the country in merchandise exports.

Karnataka has made rapid and spectacular strides in exports of Electronic and Computer software. Petroleum and Petroleum Products, Ready made garments, Gem and Jewellery, Engineering goods, Iron ore and Minerals apart from the traditional sectors like silks, cashews, spices, coffee and handicrafts etc.

A major attraction of the State is the excellent living conditions, which brings talented professionals from all over the country and overseas to live and work here. A number of residential and international schools offer quality education in a stimulating environment.

### Export Promotion Drive of Karnataka Government

Visvesvaraya Industrial Trade Centre (VITC), is the Nodal Agency of the State Government of promotion of exports from Karnataka. VITC regularly conducts export related programmes/workshops and participates in trade fairs/ exhibitions at both national and international level. It also offers regular counselling to exporters and also resolves their grievances through various committees like State Level Export Promotion Council, State Level Export Promotion Committee, Export Facilitation Co-ordination Committee and also through Committees of other Central and State Government Organisations. VITC is working closely with District Industrial Centres, District level ChambersAssociations for undertaking export promotion programmes for improving the of export scenario of the state and also assisting the exporters to participate in international events by offering financial support under the MDA scheme of the state.

Table 5.12 Export Performance of Karnataka Satate

SL. No	Commodity	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09 (Apr-Sept)
1.	Electronic and Computer Software	11533.05	15899.77	20522.28	31488.73	42180.81	56478.16	79517.50	28033.00
2.	Readymade Garments	2820.00	4000.00	4038.00	4500.00	4980.00	6773.00	4125.00	2433.66
3.	Petroleum and Petroleum Products	NA	1915.00	4472.15	6186.00	11912.00	11602.25	11232.00	9205.58
4.	Engineering	1048.07	1650.11	1899.49	3021.35	3052.00	5461.00	8301.00	2649.43
5.	Iron Ore and Minerals (incl. granites)	691.56	1524.00	2093.43	4480.00	5920.10	8791.32	10197.00	2934.10
6.	Silk Products	672.24	746.09	967.99	898.80	1050.68	1273.94	912.12	354.73
7.	Coffee Products	881.42	730.65	757.57	705.65	1103.94	1476.65	1307.60	876.26
8.	Basic chemicals, Pharmaceuticals and Cosmetics	320.24	413.33	649.22	746.03	1018.63	1839.05	2069.70	1499.90
9.	Agriculture and Processed Food Products	349.51	366.99	361.25	362.41	384.11	398.36	415.51	275.47
10.	Gem and Jewellery	281.05	295.85	2631.00	4644.00	5725.00	7799.11	9749.00	5406.97
11.	Cashew and Cashew Kernals	163.54	279.83	265.72	518.35	521.81	552.78	527.05	369.39
12.	Handicrafts	48.59	---	260.58	324.28	330.15	360.01	389.01	428.36
13.	Leather Products	237.64	---	221.58	276.51	186.75	214.59	218.05	201.28
14.	Chemicals and Allied products	201.22	215.36	338.62	705.52	732.00	745.12	399.28	175.24
15.	Marine Products	85.76	96.91	---	51.58	91.65	98.22	136.13	153.46
16.	Plastic Goods	83.07	96.84	---	749.07	2779.10	1850.70	552.15	215.25
17.	Spices	69.12	76.80	---	91.65	99.58	109.54	160.98	219.72
18.	Wool and Woollen	44.46	---	89.25	109.40	124.86	140.03	147.29	47.29
19.	Miscellaneous and others	615.03	1016.55	1053.25	775.13	880.16	2529.76	2559.52	1258.11
	Total	20145.58	299289.96	---	29897.99	41670.24	62638.56	82279.60	107375.59
	Country's Exports State's	245517.97	299289.96	349581.93	430888.00	546466.00	709641.87	877872.00	---
	Share in Country's Exports	8.27%	9.99%	11.92%	14.54%	15.06%	15.13%	16.23%	---

Ministry of Commerce, Government of India releases funds Under Assistance to States for Developing Export Infrastructure and Allied Activities (ASIDE) to the State based on the export performance. VITC is the Nodal Agency for the above scheme.

VITC (Government of Karnataka Centre for Export Promotion), Export Agencies and Exporting Community should work hand in hand to accelerate the export growth from the state and to achieve envisaged target.

### **New Industrial Policy 2006-2011**

Karnataka is one of the top five industrialized States in the country. It has a history of pioneering industrial development initiatives since the time of the Princely State of Mysore and subsequently in the post independence era. The State was the first in the country to have brought out a State Industrial Policy during 1982-83, followed by successive State Industrial Policies in 1988, 1990, 1993, 1996 and in 2001.

During the just concluded 2001-06 Industrial Policy period, investment approvals of projects (with investments of over Rs. 50 crores each) by the State High Level Clearance Committee (SHLCC) and large and medium projects by the State Level Single Window Agency (SLSWA) have shown sustained increase/growth. The number of projects approved by the SHLCC is 148 with an investment of Rs.1,15,882 crores and with an employment potential of 11,03,824 persons. Similarly, the number of projects approved by SLSWCC is 861 with an anticipated investment of Rs. 19,043.73 crores and employment potential of 5,90,869 persons. During the same Policy period 65,231 SSI units registered with Rs. 2,079.62 crores of investment and provide employment to 2,95,487 persons.

The State GDP growth rate during 2005-06 was 8.7% with industrial sector accounting for 18%. Having regard to this it is felt that the new policy should have a mission to achieve GSDP growth of over 9%.

The industrial recession, which was prevalent upto 2002-03 has now given way to increased investments and growth, as is evident in the year-wise investment approvals by SHLCC and SLSWCC.

However, this increased flow of investment need to be supported with (i) On demand infrastructure availability, (ii) Human resource for diverse sectors, (iii) Support to technology up-gradation, quality improvement and (iv) Single Window support and facilitation mechanism, so that the project are implemented expeditiously and go into operation.

Today, there is intense competition between States for attracting investments. Investors naturally choose the State that offers best combination of (i) Industrial and Social infrastructure, (ii) Human resources, (iii) Technology savvy work force and (iv) The State that offers "Ease of doing Business"



The fiscal/taxation regime and incentives & concessions offered by the States and Government of India also have important bearing on the locational decision of projects.

His Excellency, the President of India Dr. A.P. Abdul Kalam, in his address to the members of the Karnataka Legislature on 20-10-2005 on the occasion of “Suvarna Karnataka celebrations” had advocated 11 Missions for Karnataka prosperity. Of these, Missions on Textiles, Bio-fuel, Agro processing and Entrepreneurship are related to industries sector and addressed in this Policy.

Government accords highest priority to the objectives of dispersal of industrial investments in various backward regions/districts of the State so that the fruits of economic development and employment opportunities are shared by segment of society and in all parts of State in as equitable manner as possible.

The New Industrial Policy 2006-2011 attempts to address the above aspects in a balanced manner.

## **VISION**

Policy to help facilitate the State achieves a GSDP growth of over 9%, which in turn call for an industrial sector growth of over 12%.

To focus on strengthening of the manufacturing industry in the State and to increase it's percentage share of the GSDP from the present average of 16.70% to over 20% by the end of the policy period.

To achieve an increased share of Karnataka's exports in the National exports from the present 15% to 20% by the end of the policy period.

To create additional employment generation to at least 10.00 lakh persons in the manufacturing and service sectors during the Policy period.

Promote diversified industrial base with strength in both old economy and new economy fields.

Facilitate reduction of regional imbalance in the matter of economic opportunities, employment and growth.

Endeavour to promote sustained industrial growth by facilitating accelerated flow of investments.

In short, to promote sustained, growth oriented industrialization with employment and revenue generation, for overall social-economic development of the state.

**STRATEGY:** Keeping the above objectives in mind, the strategy for further industrialization of the State during the next 5 years would be:

To classify various taluks of the State into 3 Zones for the purpose of focused attention:-

- i) Zone-1** :- 79 Taluks- most/more backward Taluks as categorized by Dr. D. M. Nanjundappa Committee Report.
- ii) Zone-2** :- 85 Taluks- (Taluks not covered in Zone 1 and 3).
- iii) Zone-3** :- 12 Taluks- of Bangalore Urban and Rural Districts (excluding Taluks of Kanakapura and Magadi) Mangalore and Mysore Taluks.

To develop industrial infrastructure facilities ahead of the requirements, in various key location of through the KIADB/KSSIDC. Annually a minimum of 5,000 acres of quality industrial infrastructure would be created, during the Policy period. Such industrial Areas will be developed in an integrated manner reserving up to 25% of the area for housing and other social infrastructure. The equity base of KIADB would be strengthened through greater support.

Keeping in view the fact that water is a crucial support requirement for industrialization, Government would facilitate implementation of mega industrial water supply schemes for potential locations through Special Purpose Vehicles (SPVs).

A comprehensive Power Policy would be formulated by the Department of Energy. This Policy would encourage power generation from IPPs and also through captive power generation.

To meet the rising energy requirements of the State on account of rapid industrialization, Government would facilitate preparation of a “Gas Distribution Master Plan” to enable public/private sector players to bring in gas from diverse sources for distribution.

Apart from standard infrastructure in the form of industrial areas and industrial estates, specialized industrial infrastructure for specific sectors and Special Economic Zones (SEZ) (Multi-product, Product specific, Sector specific and Free Trade Zones) would be encouraged to be established through both KIADB as well as private sector promoters. The establishment of multi-product and product specific SEZs will be encouraged in all districts of the State except Bangalore Urban District. However, establishment of SEZs even in Bangalore Urban District will also be encouraged if the proponent of SEZ comes forward to do so in his/her own land or through a joint development agreement with the land owners.

The ONGC in association with Govt. of Karnataka is already implementing a large Multi-product SEZ that would predominantly house Petroleum refining and Petro-Chemical projects. Govt. would take up with Govt. of India for enlargement of the size and scope of Mangalore SEZ Ltd. In to Petroleum, Chemicals and Petro-chemicals investment Region (PCPIR).

Industrial corridor/Cluster development would be encouraged in potential locations.

State would encourage alternate partnership & financing options for infrastructure development.

Focused attention on sub-sectors/areas where the State has core competency i.e., Aerospace, Engineering, Automobile, Machine-tools, Steel, Cement, Pharmaceuticals, Food Processing, Apparel and Textiles, Electronics, Information Technology, Bio Technology etc.,

In view of the fact that the silk reeling sector is highly employment oriented, a separate package will be formulated in consultation with the Sericulture Department.

Impetus for development of renewable and non-conventional energy sources through Mission approach.

Human Resource Development-Government would promote/help facilitate establishment of specialized skill development institutions at key locations suitable for the manufacturing industries and emerging vocations in the service sector. A scheme of State support through public, private partnership would be evolved and implemented.

## **POWER**

Karnataka was a pioneer in the development of hydro power and had a power surplus situation till the seventies. Due to rapid industrialisation and other structural problems, now it is facing acute power shortage. In 1998-99 against an unrestricted demand of 26,300 MUs generation from the State Grid has only 17,245 MUs leaving a gap of 9055 MUs. After the contribution of Central Stations to the extent of 5,549 MUs, the state is left with an annual deficit of 35,506 MUs. It is estimated that energy demand and peak load in the state at the end of the Ninth Plan (2001-2002) will be 31,208 MUs and 5,422 MWs respectively as per the 15th Power Survey Report of Central Electricity Authority. A major reason for the chronic power shortage is the dependence on hydel power. The hydel-thermal mix is 70:30, leaving the State with a heavy dependence on rainfall in the catchment area. Karnataka is endowed with hydro power potential of about 7,800 MWs of which only about 2,836 MWs has been harnessed, 472 MWs can be expected from hydro projects under various stages of execution. Environmental issues connected with the submersion of forests, rehabilitation of displaced persons as well as delay in the settlement of interstate disputes have affected the utilisation of available hydel power.



*Geru Soppa Hydro Electric Project*



*Sir K. Sheshadri Iyer Hydro Power Station, Shivasamudra Malavalli Taluk, Mandya District*





*Bhadra Project*



*Raichur Thermal Power Station (RTPS)*





*Almatti dam, Bijapur District*

In 1887, Gokak Mills (formerly Gokak Water Power and Manufacturing Company) by an agreement with the Government of erstwhile Bombay State, made use of 170 ft falls of the Ghataprabha known as the Gokak Falls, to generate power at the foot of the hills for working their cotton ginning mills situated nearby. It is said that they generated water power with 3 units of 500 kw each in 1911 and one unit of 1000 kw in 1924 using Francis Hydro Turbines.

By 1902, the east-bound Cauvery had been harnessed to generate 4.3 MW at Shivasamudram making use of the Cauvery falls popularly known as Gaganachukki and Bharachukki. The electricity of this station was supplied to Kolar Gold Mines, a distance of 147 km through 78 KV transmission lines which at that time was the world's longest transmission line. Subsequently the generating station was extended by the second installation in 1903, the third in 1907, the fourth in 1914-15, the fifth in 1918 and the sixth in 1919. The seventh installation was sanctioned in 1925. The power generated in this station was supplied to Bangalore and Mysore cities besides important industrial concerns. The Shimsha power house was commissioned in 1940. It is located at the confluence of Shimsha and Cauvery rivers near Shimshapura village of Malavalli taluk (Mandya dt.) It has an installed capacity of 17.2. MWs.

The Mahatma Gandhi Hydro-Electric Station was established during 1947-48 on the west-flowing Sharavati near Jog Falls with an installed capacity of 48 MW. This project is producing the bulk of energy that is consumed by the State at present.

The Bhadra Power house is at the main dam on the Bhadra river and was commissioned in 1962. The Munirabad Power Station (1962) located on the left bank of the Tungabhadra Dam near Hospet has three generating units of 9MW each. The Right Bank Power House releases 14.40 MW of power to the State, which is 20 percent of the total production and the rest is utilised by Andhra Pradesh. The Kali Hydro-Electric Project was cleared for execution in March 1971. The work on Varahi Project has been commissioned.

The Raichur Thermal Plant is the first power plant of its kind in the State and is the first attempt to achieve the much needed power mix. It has the following seven units. RTPS Stage I commissioned on 29.3.1985 (210 MW); Stage II on 2.8. 1986 (210 MW); Stage III 3.10.1991 (210 MW); Stage IV 29.9.1994 (210 MW) ; Stage V on 31.1.1999 (210 MW) Stage VI on 22.7. 1999 (210 MW); Stage VII On 18.10, 2000 (210 MW). The Nuclear Power Project at Kaiga of Uttara Kannada District put up by the Central Government, will bring in further diversification has been commissioned during 1993-94. It has already gone critical . The diesel power station at Yelahanka near Bangalore has also been commissioned.

During the year 1999-2000 the plan outlay was Rs. 672,18 crores and revised estimate was Rs.325 crores. It was programmed to create an installed capacity of 250 MWs. The third unit of Kodalalli dam and powerhouse (40 MWs) was commissioned in July 1999 in 34 months with considerable savings in project costs. Thus, the total installed capacity of 250 MWs. as per target was already achieved.

### **Karnataka Electricity Board**

Unlike the electricity boards in other states, the Karnataka Electricity Board is vested mainly with the function of transmission and distribution. The KEB purchases power generated by Karnataka Power Corporation at the rates specified from time to time by the State Government. Another unique feature is that the two power houses in the Tungabhadra river situated in the State are owned and operated by Tungabhadra Board which is represented by the State Government of Karnataka and Andhra Pradesh and the Government of India, and 20 % of the energy generated by these stations is the share of Karnataka Electricity Board. Further, there is Central allocation to Karnataka from the National Thermal Power Corporation and other agencies. Karnataka has 16% share out of this. The following were the position of the KEB as on June 1993. 1) 53,45,805 installations, 2)45,381 workers 3) 354 sub stations with an aggregate capacity of 8233.95 MVA; 4) 3,78,543.366 Kms of distribution lines; 5) 79,665 distribution transformers with an aggregate capacity of 5,154 MVA; 7) 2,21,948 low tension installations and 8) 7,33,000 irrigation pump sets energised.

After corporatising Karnataka Electricity Board to Karnataka Power Transmission Corporation Ltd. on 1st August 1999, the Viswesvaraya Vidyuth Nigama Ltd (V.V.N.L) was set up to control and maintain the generating stations (348 MW) which was earlier under the KEB. KPTCL has also constituted an eight

in-house working groups for implementation of Reforms and restructuring. These working groups are actively functioning giving directions for successful implementation of reforms and restructuring in power sector.

Investigation, formulation, design, construction, operation and maintenance of power projects and generation of power in Karnataka is handled by the Karnataka Power Corporation, a wholly owned Stated Government company

### **Energy Potential**

Energy consumption and demand for energy has become exponential in view of the acute imbalance that developed in the power sector. At the end of VII Plan, power generation was 11,108 MW, whereas the demand was 19,756 MW leaving a gap of nearly 8,648 MW. In 1996-97 against an unrestricted demand of 26,409 MUS generation from the State Grid was 12210 MUs leaving a gap of 11,199 MUs. After importing from neighbouring states and the contribution are of Central Stations to the extent of 6,275 MUs, the state was left with an annual deficit of 4,924 MUs. The energy generation in 2000-2001 at 20,787 MUs was expected to show a decrease of 1.4 % over the 1999-2000 level of 21,092 MUs.

The power transmission and distribution system is said to be characterised by several weaknesses. There are heavy line losses, frequent load shedding and variation in voltage. The tempo of construction of major transmission lines and Sub-station and system improvement works has been intensified to bring down transmission distribution losses. To check theft the vigilance cell of the KPTCL has been strengthened. Tamper proof plastic tubes have been provided for suspect installations. The State Government further proposed to bring about necessary laws making theft of power a cognisable offence. The present Act did not provide for punishment to those involved in power theft.

### **Non-conventional sources**

To promote renewable energy sources and to admit the availability of energy and provide viable options in wide range of applications, Government of India, has established a separate department in 1982 to exclusively deal with renewable energy technology for the same reason and for co-ordinating and integrating activities undertaking by the KPTCL Karnataka Power Corporation, KSCST and RDP and a separate organisation called KRED (Ltd.) (Karnataka Renewable Energy Development Ltd.) was established March 1996. Projects started under this scheme.

### **Rural Energy**

Near 90% of the energy consume by the rural people consists of non-commercial fuels like firewood, cow dung and agricultural waste which account for 40% of energy consumed in the country. The continued and wide spread use of the sources of energy is resulting in the large scale destruction of environment through deforestation, atmospheric pollution, soil erosion and consequent loss of fertility. Next the renewable source of energy and maximisation of potential

of bio-energy. The popularise bio-gas plans the state has initiated programme called Anila Yojana. For more details see table 5.13 and 5.14

**Table 5.13 Details of Major Electric Stations under different Basins as on 31-03-2008 (owned by Karnataka Power Corporation Ltd)**

Sl No.	Power Station	No. of Units X Capacity in MW	Installed Capacity in MW
A.	Hydel		
1.	<b>Cauvery River Basin Project</b>		
a.	Sri Sheshadri Iyer Hydro Elect. Station (Shivasamudram)	4X6 6X3	42.00
b.	Shimsha Hydro Electric Station	2X8.60	17.20
	<b>Total</b>		<b>59.20</b>
2.	<b>Sharavathi Hydro Electric Project</b>		
a.	Linganamakki Dam Powerhouse	2X27.50	55.00
b.	Mahatma Gandhi Hydro Electric Station	4X21.60 4X13.20	139.20
c.	Shravathi Generating Station	10X103.5	1035.00
d.	Gerusoppa Dam Powerhouse	4X60	240.00
	<b>Total</b>		<b>1469.20</b>
3.	<b>Kalinadi Hydro Electric Project</b>		
a.	Supa Dam Powerhouse	2X50 3X135	100.00
b.	Nagjhari Powerhouse	4X150	855.00
c.	Kadra Dam Powerhouse	3X50	150.00
d.	Kaddasalli Dam Powerhouse	3X40	120.00
	<b>Total</b>		<b>1225.00</b>
4.	<b>Varahi Hydro Electric Project</b>		
a.	Mini Dam Powerhouse	2X4.50	9.00
b.	Varahi Underground Powerhouse	2X115	230.00
	<b>Total</b>		<b>239.00</b>
5.	<b>Krishna River Basin Projects</b>		
a.	Almatti Dam Powerhouse	1X15 5X55	290.00
	<b>Total</b>		<b>290.00</b>
6.	<b>Mini Hydro Electric Projects</b>		
a.	Bhadra Right Bank	1X7.2 1X6	13.20
b.	Bhadra Left Bank	2X12 1X2	26.00
c.	Ghataprabha	2X16	32.00
d.	Mallapur	2X4.5	9.00
e.	Sirwar	1X1	1.00

f.	Kalmala	1X0.40	0.40
g.	Ganekal	1X0.35	0.35
h.	Munirabad Powerhouse	2X9	
		1X10	28.00
	<b>Total</b>		<b>109.95</b>
	<b>Total A:</b>		<b>3392.35</b>
<b>B.</b>	<b>Thermal</b>		
a.	Raichur Thermal Power Station	7X210	1470.00
<b>C.</b>	<b>Diesel Generating Station</b>		
a.	Yalahanka Diesel Generating Station	6X21.32	127.92
<b>D.</b>	<b>Wind</b>		
a.	Kappatagudda Wind Farm	9X0.225	
		11X0.230	4.55
	<b>Grand Total</b>		<b>4994.82</b>

### On Going Projects

Sl. No.	Name of Project	Units	Installed Capacity in MW	District
<b>A.</b>	<b>Thermal</b>			
1.	Bellary Thermal Power Station Unit-1	1X500	500	Bellary
2.	RTPS Unit VIII	1X250	250	Raichur
3.	Bellary Thermal Power Station Unit-2	1X500	500	Bellary
	<b>Total</b>		<b>1250</b>	
<b>B.</b>	<b>Hydro</b>			
1.	Varahi Hydro Electric, Project-II Stage Unit-3 and 4	2X115	230	Udupi
2.	R.M. and U of NPH Units 4,5, and 6	3X15	45	North Karnataka
	<b>Total</b>		<b>275</b>	
	<b>Grand Total</b>		<b>1525</b>	

### Proposed New Projects

Sl.No.	Name of New Project	Units	Installed Capacity in MW	District
<b>A.</b>	<b>Thermal</b>			
1.	Kalgarki T.P.S.	2X500	1000	Bijapur
2.	Annechakana Halli T.P.S.	2X500	1000	Hassan
3.	Edlapur T.P.S.	1X500	500	Raichur
4.	Yermarus T.P.S.	2X500	1000	Raichur
5.	Yadgir T.P.S.	2X500	1000	Gulbarga
6.	BTPS Units-3	1X500	500	Bellary
7.	Kuditini T.P.S.	3X500	1500	Bellary
<b>B.</b>	<b>Hydro</b>			
1.	Gundia Hydro Power Project	2X200	400	Hassan
<b>C.</b>	<b>Gas</b>			
1.	Bidadi Combined Cycle Power-Station	2X700	1400	Ramanagar
	<b>Total</b>		<b>8300</b>	



**Table 5.14**  
**Districtwise and Sectorwise Consumption of Electricity as on 2006-07**

Sl. No	Districts	Domestic consumption		Industrial consumption		Commercial consumption		I.P. Sets consumption		Street Lights	
		Nos	Units in Lakhs	Nos	Units in Lakhs	Nos	Units in Lakhs	Nos	Units in Lakhs	Nos	Units in Lakhs
1	Bangalore (Urban)	2411455	24768.20	70392	27334.10	358545	20434.20	21731	1900.80	13618	1063.40
2	Bangalore (Rural)	493946	1622.40	20351	4524.90	39018	673.20	103722	7842.50	3753	441.30
3	Chitradurga	286779	770.90	5261	611.70	20969	151.50	62005	3983.30	2103	247.00
4	Davanagere	354932	1304.30	6560	791.50	31232	293.40	66183	4403.90	2205	235.40
5	Kolar	533763	1676.80	10387	1291.52	45675	290.70	126014	13600.30	5223	952.40
6	Shimoga	273896	1298.98	5096	2901.48	36162	296.04	37042	2887.12	3540	136.38
7	Tumkur	565763	1556.20	10233	1357.70	38827	301.60	134504	8071.30	5411	564.50
8	Chikmagalur	189272	716.96	3208	305.20	21091	158.11	35295	2436.54	2410	172.79
9	Dakshina Kannada	346951	3065.30	0	1860.43	51171	1404.00	57022	1675.60	4391	196.55
10	Udupi	202827	1495.99	4084	820.10	28861	666.62	45414	602.23	618	54.58
11	Hassan	326760	873.10	5400	401.51	28652	217.81	54610	3019.17	3583	206.89
12	Kodagu	95586	417.25	1290	76.47	11554	126.97	4809	145.12	755	16.33
13	Mandya	326378	871.99	8000	529.09	29517	168.79	54967	5104.89	2976	373.81
14	Mysore	457708	2502.20	9137	3730.33	58967	831.35	39529	3056.34	4837	285.86
15	Chamarajanagar	129100	363.19	2262	107.90	12100	72.69	41525	3532.80	1546	212.06
16	Belgaum	654241	2457.28	22298	3789.42	59163	595.11	161536	12795.79	2970	155.79
17	Bijapur	260755	850.03	6859	273.27	23238	372.70	78373	4144.96	1959	116.00
18	Bagalkot	255844	796.32	10105	712.86	24155	199.99	70380	7499.42	1615	117.00
19	Dharwad	318046	1741.10	7178	1541.72	38411	647.43	14416	583.85	1735	143.51
20	Gadag	191768	551.98	3544	346.15	15186	113.93	16965	1353.12	1152	91.15
21	Haveri	245500	635.76	4128	353.01	19543	119.13	40725	3241.08	1639	179.57
22	Uttara Kannada	274981	1191.46	3974	531.91	28471	301.15	37041	453.76	2291	103.90
23	Bellary	288154	1288.97	7549	2756.36	35502	436.00	46150	4524.12	1203	154.79
24	Bidar	155923	610.28	5408	504.93	25099	156.77	49290	3043.41	1013	415.22
25	Gulbarga	346164	1535.17	13475	1776.17	50957	433.53	51892	3275.00	2890	365.51
26	Raichur	171552	661.92	5606	1000.96	22935	209.22	30760	2940.06	1054	135.52
27	Koppal	116952	425.73	3445	1583.48	16620	117.07	33996	3933.29	1441	185.07
	<b>State Grand Total</b>	<b>10274996</b>	<b>56049.76</b>	<b>255230</b>	<b>61814.17</b>	<b>1171621</b>	<b>29789.01</b>	<b>1515896</b>	<b>110049.77</b>	<b>77931</b>	<b>7322.28</b>

Numbers: Indicate Number of consumers.

Source : Karnataka At a Glance 2006-07- Directorate of Economics and Statistics, Bangalore.