

CHAPTER V

INDUSTRIES

OLD-TIME INDUSTRIES

Ganjam, once a part of the ancient Kalinga empire, was one of the major trade centres throughout different periods. The Kalingans were a great maritime people. As such, many ports like Rambha, Palur, Ganjam and Mantridi were established all along the coastal line of this historic land. The merchants of this region conducted brisk trade in spices, precious stones, silk, textiles, muslins and ivory goods mostly with the countries like, Burma, Thailand (then Siam), Malaysia, Srilanka, Indonesia, Cambodia, China and Japan.

The old-time industries of this area included ship building, casting and smelting of metal, stone dressing and stone masonry, making of sculptures and carving of decorative figures in relief and in round, wood carving, preparing textile goods, paintings, ivory works, etc.

The artistic skill and talent for weaving of cloth was developed through generations of craftsmen. During the British period the cloths made by the village weavers were always used by those who could afford them in preference to those English manufacturers. In Brahmapur, Tassar as well as fine silk clothes were manufactured with different designs, forms and colours. The work of finest muslin cloths of ancient times were exported to far off countries and earned fame for the people. The other manufacturers of the region included village potters, blacksmith and carpenters who fulfilled the wants of the local people.

During the fifties of the last century Parry & Co. of Madras had established a Gur (Jaggery) factory at Asika as sugar-cane was growing extensively in the Rushikulya belt. One young foreigner, Fredrick Vivian Minchin, employed as a clerk in the Parry & Co., established the first sugar factory of Asia at Asika in 1854. Richly deserving the name and fame as the "father of sugar industry", he made Asika synonymous with sugar all over South East Asia. The factory was so famous that the name 'Asika' is considered synonymous with sugar (unbleached) in many parts of Tamil Nadu even now. He invented 'assembly-line production' which was introduced in his

sugar factory, where virtually canes were fed at one end and sugar was bagged at the other.

The above factory, which also produced rum, was managed by a firm, viz., Messers Minchin & Co., composed of the European and Indian partners. The original value of the plant and machinery was estimated at Rs. 60,000 and the factory was furnished with machinery of the best design and efficiency driven by steam-power, for the generation of which there was large consumption of fuel.

The process employed for the manufacture of sugar was at that time termed in German as the "Diffusions Process". It consisted, briefly speaking, of chopping up the sugar-cane into small shavings by means of rapidly revolving knives, and the juice of the cane was then extracted by thorough saturation in water. The saturated extract was afterwards boiled down into sugar, after undergoing various processes of cleansing and refining. It was calculated that by the Diffusions Processes, some 80 per cent of sugar was extracted out of a possible 90 per cent in the cane. By the local method of manufacture, a large percentage of the sugar-cane juice remained unextracted. The refuse of the sugar-cane was used for fuel. The process employed was a continuous one, and fine white sugar could be bagged from the same within even 48 hours. The factory turned out from cane 14 tons of sugar in 24 hours. Centrifuged Chini of jaggery deprived of its syrups by the centrifugal process was also at times manufactured, when there was a demand for shipment to England. The refining power of the Asika factory, was equal to 2,000 tons of refined sugar of a value of Rs. 6,00,000 (@in 1880).

The factory contained, besides the machinery and buildings connected with the manufacture of sugar and rum, a coverage for making casks and a complete establishment for casting of iron and brass. In the busy season of the year it afforded employment to 1,000 men and women, of whom 300 were mechanics, brick-layers, coopers, stokers, engine-men and men engaged in the foundry. During the lean months of the year from 300 to 400 persons were employed, chiefly as mechanics. The factory continued production up to 1946.

The establishment of the Asika factory on so large and important scale in the heart of a village, had given not only a considerable stimulus to the cultivation of sugar-cane, but also had been at the same time the means of imparting to many of the local inhabitants,

a skill as mechanics which they would have had no opportunity of acquiring elsewhere and otherwise. The season of manufacture for sugar was that of the cane season, from January to the end of March.

The distillation of rum and other liquors was carried on the most approved fashion, and the liquors manufactured were much superior to those formerly distilled by the "Sundhis", in whose hands the liquor traffic formerly lay. The rum was chiefly manufactured out of the surplus syrup, which was not found profitable to be converted to sugar.

POWER

For the first time in 1936 a diesel power house was installed at Brahmapur and on 27th December of that year the town was electrified. In the year 1954 the Brahmapur Electrical Circle was created under the Chief Engineer, Electricity, Orissa and the power house was taken over by the State Government. This circle was looking after all the works including electrical transmission and distribution, construction of lines and maintenance through three divisions, two of which were located at Brahmapur, and third at Rayagada. Since 1961 the power generation and distribution in the district is being looked after by the Orissa State Electricity Board. Subsequently, the E. H. T. portion was handed over to a newly created E. H. T. circle at Brahmapur after reorganisation. In the year 1974 a separate circle at Koraput was created and the work load of Koraput district was transferred to Koraput circle. The jurisdiction of Brahmapur circle at present covers Ganjam and Khandhamal districts and the Krushnaprasad Community Development Block of Puri district.

Normally power supply is available from Machkund and Balimela hydro-electric stations. In case of emergency, Talcher thermal station also supplies power to the district. Power supply is maintained on 33 K. V. and 11 K. V. transmission lines through different 132 K. V. grid sub-stations situated at Mohana, Brahmapur, Chhatrapur, Ganjam, Asika and Bhanjanagar.

All the urban areas of the district coming under different municipalities and Notified Area Councils, 2,498 villages including 10 solar panel villages and 457 hamlets were electrified by the 31st of March, 1988. This included the electrification of 466 Harijan Bastis in which 891 street lights were provided.

The consumption of electricity in the district during the year 1980-81 is given below.

Category	No. of consumers	Consumption (in units)
(1)	(2)	(3)
Domestic	62,639	1,84,70,885
Commercial	17,009	88,67,055
Industrial (Small and Medium)	1,513	1,28,55,019
Industrial (Large)	9	5,15,38,223
Public Lighting	1,214	15,73,805
Lift Irrigation	2,707	26,08,965
Public Water works	109	14,91,238
Bulk Supply	1	3,31,060
General purpose	6	6,40,557

The number of consumers has increased considerably since then. The following table contains number of consumers with consumption of electricity (in million units) in the four* Electrical Divisions located at Brahmapur, Chhatrapur, Bhanjanagar and Paralakhemundi during 1987-88.

Name of the Electrical Division	Domestic		Commercial	
	No. of consumers	Units consumed	No. of consumers	Units consumed
1	2	3	4	5
1. Brahmapur Electrical Division, Brahmapur.	36,372	35,104	7,773	7,314
2. Ganjam North Electrical Division, Brahmapur.	33,227	28,618	5,691	4,359
3. Bhanjanagar Electrical Division, Bhanjanagar.	24,852	20,889	5,351	3,671
4. Paralakhemundi Electrical Division, Paralakhemundi.	8,122	5,553	1,943	1,351

*Covers mainly the Ganjam district.

Name of the Electrical Division (1)	Industrial (Small & Medium)		Industrial (High)	
	No. of consumers (6)	Units consumed (7)	No. of consumers (8)	Units consumed (9)
1. Brahmapur Electrical Division, Brahmapur.	861	7·667	4	4·297
2. Ganjam North Electrical Division, Brahmapur.	656	6·175	8	79·472
3. Bhanjanagar Electrical Division, Bhanjanagar.	556	4·507	1	6·225
4. Paralakhemundi Electrical Division, Paralakhemundi.	153	1·630	2	845

Name of the Electrical Division (1)	Street lights		Irrigation points	
	No. of consumers (10)	Units consumed (11)	No. of consumers (12)	Units consumed (13)
1. Brahmapur, Electrical Division, Brahmapur.	216	1·288	876	3·54
2. Ganjam North Electrical Division, Brahmapur.	504	660	2,023	9·10
3. Bhanjanagar Electrical Division, Bhanjanagar.	540	613	1,461	7·13
4. Paralakhemundi Electrical Division, Paralakhemundi.	215	262	366	2·50

Name of the Electrical Division	Public Water Works		General purpose (Including public Institutions)	
	No. of Consumers	Units consumed	No. of Consumers	Units consumed
	(1)	(14)	(16)	(17)
1. Brahmapur Electrical Division, Brahmapur.	75	1.031	33	465+2.49
2. Ganjam North Electrical Division, Brahmapur.	45	4.219	15	2.785+1
3. Bhanjanagar	23	.35	6	.931+.12
4. Paralakhemundi Electrical Division, Paralakhemundi.	12	.366	4	.153+.07

Name of the Electrical Division.	Total No. of consumers	Units consumed (in million units)
(1)	(18)	(19)
1. Brahmapur Electrical Division, Brahmapur.	46,210	63.196
2. Ganjam North Electrical Division, Brahmapur.	42,169	136.388
3. Bhanjanagar Electrical Division, Bhanjanagar.	32,790	44.446
4. Paralakhemundi Electrical Division, Paralakhemundi.	10,817	12.730

MINING

Compared to some other districts of Orissa, Ganjam is rather poorly endowed with mineral resources. However, minerals like sand dune, quartz, lime, Kankar, etc., are found in the district. This apart, other minerals like ferruginous bauxite, iron ore (float), manganese ore mica and beryl, monazite, red ochre and china clay are also noticed. There is an open cast sand mine operated by the Indian Rare Earth Ltd., at Matikhal.

At present the mining leases are granted as per the provisions of the Mines and Minerals (Regulation and Development) Act, 1957 and the Mineral Concession Rules, 1960. Since 21st March, 1979 an area of 2994.66 hectares has been given on mining lease to the Indian Rare Earth Ltd.

During the last few years mineral prospecting work has been undertaken by the State Mining & Geology Department (now Department of Steel & Mines) as a result of which, occurrences of beryl and mica bearing pegmatites have been encountered in the interiors of Paralakhemundi subdivision. Mica appears to be of good grade. Besides, occurrences of china clay, red ochre, lime kankar etc., have also been brought to light as a result of this investigation. The work is under progress to assess the extent and grade of the different mineral occurrences in the district.

INDUSTRIES**Large and Medium Scale Industries**

The industries both large and medium which are under production, under implementation and identified to be set up in the district are indicated below:—

1. Asika Co-operative Sugar Industries, Ltd., Asika
2. Jayashree Chemicals, Ltd., Chatrapur
3. Indian Rare Earth, Ltd., Chatrapur
4. Asika Spinning Mill, Kotinda, Asika

An account of the above four industries are given below :—

Asika Co-operative Sugar Industries Ltd., Asika

Asika is traditionally a sugar-cane growing area. As stated earlier, a sugar factory was in operation at this place from 1854 to 1946. After about a decade of its closure, the present sugar factory was set up in 1954. Named as the Asika Co-operative Sugar Industries Ltd., the factory is managed by a co-operative society. The factory has a crushing capacity of 1000 T. D. C. per day and is operated by electricity and coal. For utilisation of its by-products molasses, the industry has got a distillery unit with manufacturing capacity of 36 lakh bulk litres of industrial alcohol per annum. The total investment made in the sugar factory and its distillery units was

Rs. 86.84 lakhs up to 1984-85. It provides permanent employment to 407 persons and seasonal employment to 462 persons both skilled and unskilled. During 1981-82, 1,99,231 metric tons of sugar-cane were procured and crushed. The quantity of sugar produced was 16,247 metric tons. The quantity of sugar produced by the industry during 1984-85 was 86,900 bags. It also produced 19,20,040 litres of rectified spirit during the same year. The factory is managed according to the provisions of the Orissa Co-operative Societies Act.

The sale of sugar and release of stock are controlled by the Central Government. As per the partial de-control system, 65 per cent of the stock are released at the statutory price fixed by the Government of India. The balance 35 per cent are sold in open market.

Jayashree Chemicals Ltd., Ganjam

The Jayashree Chemicals Limited was established in the private sector at Ganjam in 1962 and started its production from 4th August, 1967. The industry is running by electricity. It has a production capacity of 16,500 tonnes of caustic soda, 14,850 tonnes of chlorine and 14,650 tonnes of hydrochloric acid (33%) per annum. The raw materials used for this purpose are mainly salt, soda ash, barium carbonate / chloride and sulphur. These are mostly purchased from the open market and through the M. M. T. C. The industry with an investment of Rs. 16.79 crores up to 31st March, 1985, produced finished products of 11,066 metric tons of caustic soda, 7,169 mt. of chlorine, 6,160 mt. of hydrochloric acid (33%), 1,009 metric tons of sulphur dioxide and 5,400 metric tons of sulphuric acid. It is having a good market in the eastern parts of India. Moreover, it provided employment to 196 skilled, 110 semi-skilled and 198 unskilled persons till 31st March, 1985. The Industrial Development Corporation of Orissa has subscribed Rs. 0.20 crore as share capital of the capital outlay of Rs. 5.05 crores to this industry.

Jayashree Chemicals had been discharging mercury right from its inception along with its effluents for which there have been many public complaints. Recently, however, it has taken steps for segregation and recycling of mercury bearing effluents.

In its expansion programme there will be no mercury discharge because of advanced technology in which no mercury will be used. Also frequent discharge of chlorine gas into atmosphere in the past had created public commotion. Recently additional absorption towers have been installed for control of chlorine emission in the air for which frequency and intensity of such omission have been reduced.

Indian Rare Earth Ltd., Chhatrapur (Orissa Sand Complex)

The Indian Rare Earth Ltd., (Orissa Sand Complex) has been established as a Government of India undertaking at Aryapali (Chhatrapur) at a capital investment of rupees 133 crores. The factory produces ilmenite, rutile, zircon, sillimanite, monazite and synthetic rutile and has given employment to 1,116 persons of whom 496 belong to the skilled category. It started commercial production from October 1986. The factory uses, per annum, 36 lakhs tonnes of beach sand available along the coast of the Bay of Bengal, 12,000 tonnes of hydrochloric acid (30 % W/W conc) supplied by M/s Jayashree Chemicals Ltd., Ganjam, 30,000 to 40,000 tonnes of 'C' grade coal from the Talcher coal field and 55,000 tonnes of furnace oil from the Visakhapatnam Refinery (I. D. C.).

The strategic importance of setting up of the unit is to produce different mineral sands including monazite to cater to the domestic needs and for the use in atomic energy programme of the Government of India.

The following statement gives the figures of finished products of the factory from the date of production till end of February, 1989.

Produce	Production for marketing in tonnes		
	1986-87	1987-88	1988-89 (up to February 1989)
(1)	(2)	(3)	(4)
1. Ilmenite ..	20,800	64,000	18,500
2. Rutile ..	437	1,310	900
3. Zircon ..	5	265	188
4. Sillimanite ..	360	1,100	1,120
5. Monazite	7	45	188
6. Synthetic Rutile	300	1,850	5,500

A thorium plant is to be set up in the above complex in the near future. There are also proposals to establish monazite processing plant and Titanium pigment plant.

Asika Spinning Mill, Asika

The Asika Spinning Mill at Asika has been set up as a unit of the Industrial Development Corporation Ltd, of Orissa at a capital investment of Rs.11.00 crores. The mill started commercial production of fine cotton yarn from March 1987. The production capacity of the unit is 13 lakhs kg. of fine cotton and synthetic yarn with 24,752 spindles per annum. The employment potential in the mill is 600.

Two medium industrial units named as the East Coast Salt and Chemicals at Sumandi and the Co-operative Solvent Extraction Plant at Brahmapur were set up by the Industrial Development Corporation Ltd., Orissa and the Central Multipurpose Co-operative Society Ltd., Asika respectively. The East Coast Salt and Chemicals was brought under commercial production in 1969-70 with a capital investment of Rs.46.04 lakhs, of which the Industrial Development Corporation's share was Rs.44.03 lakhs. This unit was producing 13,000 tonnes of salt annually and provided employment to 126 persons. The Co-operative Solvent Extraction Plant Brahmapur was producing sal and rice bran oil. The factory with an investment of Rs.46,73,000 started commercial production on 30th December, 1977. Both the units were closed due to continuous loss. The Government have already accorded permission for disposal of the Co-operative Solvent Extraction Plant.

Besides, two more industries viz., The Orissa Tubes (P) Ltd., Kolathigaon and the Manorama Chemicals Ltd., at Ganjam have been established as small scale units with financial assistance of the Industrial Promotion and Investment Corporation of Orissa Ltd. (IPICOL). These industries have been set up with a capital investment of Rs. 48.24 lakhs and Rs.92.60 lakhs and have given employment facilities to 48 and 60 persons respectively. The Orissa Tubes (P) Ltd., with a capacity of 5000 metric tons started production of block steel tubes from November 1983 while the Monarama Chemicals Ltd., with a capacity of 15 tons per day started production of bleaching powder from July 1994.

The Industrial Promotion and Investment Corporation of Orissa Ltd. has also identified the following industries in the district under large/medium sector for implementation:—

Name of Industries	Location	Investment (Rs. in lakhs)	Employment potential
(1)	(2)	(3)	(4)
1. Titanium Dioxide Pigment (40,000 TPA)	Chhatrapur	15,800	700
2. Refampicin (100 TPA)	Chhatrapur	3,000	160
3. Garnet Processing	Chhatrapur	100	75
4. Vitamin 'A'	Chhatrapur	530	150
5. (a) Oxalic Acid (1200 TPA)	Chhatrapur	213	98
(b) Diathy Oxalate (400 TPA)			

Small Scale Industries

Till the beginning of the seventies the district was not industrially much developed. Thereafter some promotional efforts were made both by the Small Industries Service Institute and the State Directorate of Industries to motivate people to establish new small scale industries in the district. Upto the end of the Fourth Five Year Plan (1969-70 to 1973-74), there were 273 small-scale units in the district. During the Fifth Five Year Plan i. e., from 1974-75 to 1978-79 an appreciable change in the set up of tiny and small-scale industries was marked with the establishment of another 475 units in the district. In the year 1979-80, 267 new units were added. Besides, there were many unregistered units operating also.

During Sixth Plan period (1980-81 to 1984-85), 1393 new small-scale industries were established. By 31st March, 1987 the total number of such units went upto 3120, with a capital investment of Rs. 2,229.26 lakhs and employment opportunity for 20,497 people, both skilled and unskilled.

Food and Allied Industries

The food and agricultural processing industries include rice and flour mills, bakery, toffee and confectionery units, bread, biscuit, vermicelli, *dal*, spices grinding, Papad and mixture. There are 1,091 food and allied industries in the district mainly located at Brahmapur, Hinjilicut, Kodala, Kasinagar, Dharakot, Jagannath-prasad, Khallikot, Mohana, Bhanjanagar, Chhatrapur and Asika. All these units, established with a capital investment of Rs. 830.92 lakhs, have provided employment to 5,463 persons.

Chemical-based Industries

Acids, fine chemicals, phenyle, candles, Agarbati, soaps, soft drink, soda water, ice candy, medicated hair oil etc., are produced by chemical based industries. Most of the chemical-based industries are market-oriented and as such these units are located in places having advantages of transport and accessibility to urban markets. There are 248 such industries in the district in which 1,609 persons have been employed. These were established with a capital investment of Rs. 1,72.89 lakhs and mainly located at places like Bhanjanagar, Brahmapur, Hinjilicut, Asika, Chhatrapur and Ganjam.

Electrical and Electronic Industries

Among others, storage of batteries, manufacturing of television and television antenna, cassette recording and data processing come under electrical and electronic industries. There are 26 such industries in the district employing 141 persons. These industries are mainly located at urban centres like Brahmapur, Bhanjanagar and Kukudakhandi. Rupees 23.73 lakhs has been invested in these industries.

Engineering and Metal-based Industries

The engineering and metal-based units manufacture light engineering articles like fabricated gates and grills, G.I. buckets, agricultural equipments, steel utensils, hospital equipments, brass and bell-metal utensils, ferrous and non-ferrous castings and cast aluminium products and light engineering works. These industries, 328 in number, are mainly located at places like Brahmapur, Purusottampur, Dharakot, Asika and Hinjilicut. These units were established with a capital investment of Rs. 3,09.40 lakhs and had employed 1,979 persons.

Forest and Wood-based Industries

The rich forests of the district have led to the growth of the forest-based industries. The saw mills of the district are fed by the timbers obtained from the forests. The furniture produced get good market in the urban areas. There are 203 such units in the district giving employment to 1071 persons. These units, which are located at Brahmapur, Ganjam, Dharakot, Kodala, Chhatrapur, Asika, Paralakhemundi, Bhanjanagar and Khallikot have been established with a capital investment of Rs. 73.41 lakhs.

Glass and Ceramic Industries

The glass and ceramic units mainly manufacture lime, coal, briquette, micro power, glass slides, bricks. etc. These industries are 380 in number and have given employment to 6300 persons. These were established with a capital investment of 208.98 lakhs. These units are located in places like Sheragad, Kotinada, Hinjilicut, Brahmapur, Purusottampur, Polasara, Kodala, Chikiti, Mohana and Jagannathprasad.

Live-stock and Leather products Industries

Poultry, manufacturing of shoes and chapals, leather handbag etc., come under the live-stock and leather products industry. There are 25 such industrial units in the district with a capital investment of Rs.10.33 lakhs which provide employment to 130 persons. These units are located at Brahmapur, Chikiti, Jagannathpur, Gopalpur and Kabisuryanagar.

Servicing and Repairing Industries

Servicing and repairing of automobiles, two wheelers, etc., tyre retreading and resoling, binding of books, body building of rickshaws, repairing of bicycles and rickshaws, welding of motor vehicles and cycles, repairing of watches, radio, television, etc., come under the servicing and repairing industries. There are 249 such industries in the district with a capital investment of Rs. 166.45 lakhs and employ 876 persons. These units are mainly located at Sorada, Asika, Brahmapur, Bhanjanagar, Paralakhemundi, Chhatrapur, Ganjam, Digapahandi, Sheragad and Kabisuryanagar.

Paper and Paper Product Industries

There are 65 paper and paper products industries in the district. They produce various kinds of printing papers, paper bags, exercise books, paper boards, water-proof paper, polythene coated paper, paper plates etc. Rs. 46.82 lakhs have been invested in these industries which provide employment to 352 persons. These units are located at Brahmapur, Paralakhemudi, Bhanjanagar and Asika.

Plastic Product Industries

Manufacturing of plastic fishing floats, toys and baskets, polythene bags and spectacle frames come under the plastic product industries. 45 such industries have been established with a capital investment of Rs. 29.77 lakhs and have given employment to 184 persons. These units are mainly located at Brahmapur and Digapahandi.

Other Miscellaneous Manufacturing Industries

Stone crushing, spray painting, rubber stamp, xerox and photo studio units are placed under the miscellaneous manufacturing industries. There are 128 such units established in different places of the district such as Bellaguntha, Bhanjanagar, Brahmapur, Asika, Chhatrapur, Ganjam, Khallikot, Kodala, Patrapur and Paralakhemundi. These units involved a capital investment of Rs. 191.54 lakhs and have given employment to 836 persons.

Textile Industries

The first power-loom factory of the district was started in July, 1961 by the Brahmapur Power-loom Weavers Co-operative Society at Brahmapur with a target to produce 21 lakhs metres of cloth per annum. During 1981-82, 31 power-loom factories were established in private sectors with a capital investment of Rs. 11.21 lakhs. These looms produce *sarees / patas* with specially Brahmapuri designs, *dhoti, gamuchhas, lungis*, etc. These apart, other textile goods like screen printing, dyeing yarn, ready-made

garments, handloom fabrics are also manufactured in the district. There were 332 textile units in the district located mainly at Brahmapur, Hinjilicut, Polasara, Asika, Gahangu and Paralakhemundi. The capital investment in all these units, which provided employment to 1,556 persons, was Rs. 165.84 lakhs.

To provide infrastructural facilities to the above mentioned industries in the district, the growth centres have been identified at Brahmapur, Chhatrapur, Ganjam, Asika, Bhanjanagar and Paralakhemundi.

Weaving, bee-keeping, processing of cereals and pulses, oil processing, carpentry, smithery, pottery making, leather fibre, brass and bell-metal work, bamboo work, etc., are the main categories of cottage industries found in the district catering to the simple needs of the people. Developed since centuries, these traditional but unrecognised industries are being patronised by the Government and the Khadi and Village Industries Board from time to time for their survival. Industrial co-operative societies have now been formed which provide technical and financial assistance for the improvement of the industries. Many co-operative societies have also been formed to facilitate easy marketing of the products of these industries in an organised manner.

Artisan-based Industries

The artisan-based industries of the district are divided into the village and cottage industries, and handicrafts including modern crafts. Some of the village and cottage industries are blacksmithy, carpentry, pottery, leather tanning and production of leather goods, handloom, Khadi and tussar products, manufacture of salt, oil pressing, brass and bell-metal works, cane and bamboo products, Bidi making, food processing and preservation, bricks and tile making, preparation of Gur and Khandsari and making of fibre ropes of all kinds. The handicrafts include grass and fibre products, palm-leaf and othersimilar goods, stone carving, terracota, horn works, Dhakora casting, filligree and jewellery works, applique works, durry and carpet weaving, making of glass bangles and beads and brass and bell-metal products. This apart, electrical repairing and servicing, repairing of cycles, radios and other machineries, tailoring and ready-made garments are placed under the modern crafts. During the Sixth Plan (1980-81 to 1984-85) period, 31,227 artisan-based units were set up in the district whereas in the first three years of the Seventh Plan period ending 1987-88 another 36,822 such units have been added.

An account of three artisan-based industries of the district is given in the next page.

Handloom Weaving

Among the cottage industries, weaving occupies a prominent place. It is an age-old cottage industry of the district. The rural artisans of Ramgiri area, Tanti (Mati Bansa), kuli and some of the castes belonging to Telugu community namely Selia, Patsalia and Debangulu are engaged in this industry. All of them were accustomed to plain weaving inherited from their forefathers. They were weaving in throw shuttle looms with a meagre production capacity of 2 to 3 yards of cloth per day. After independence when the development schemes were taken up, the weavers were supplied with labour saving and improved appliances on 75 per cent subsidy and 25 per cent loan basis. So a mass scale conversion of throw shuttle looms into fly shuttle looms was undertaken which increased the production upto 8 to 18 yards of cloth per day. With this conversion, the weavers could produce larger quantities of clothes with new texture and designs. Gradually the weavers accepted fine count weaving and now it has gone from 60 to 80's and 100's yarn. Specially the fabrics of Pitala Weavers' Co-operative Society working at Brahmapur town have earned accolades in the handloom production of Orissa. The Silk Weavers Co-operative Society of Brahmapur has adopted special technique of weaving. Silk sarees manufactured by the society have established reputation of excellence in texture and durability.

According to local legend, the craft of silk weaving was introduced to Brahmapur town in 14th century A.D. by the Mohuri kings. Previously the first grade ornamental products with zari work were sent to Rajas and their families. The second grade products were kept for the courtiers and Dewans, and the customers for the last grade products were the rich persons and money-lenders. Brahmapuri Pata has long been famous for its quality in the coastal tracts of West Bengal, Orissa and Andhra Pradesh. The warp yarn used by the weavers is of 18—22 senior grade organdie silk, and weft yarn is five ply reeled or *charkha* silk. This ensures strength without coarseness. The borders are of extra designs. The border (*kumbh*) is prominent on both sides. 'Zari is used for border and Anchala'. For reinforcement of designs, gold, silver and other *zaris* are used. The weavers used to purchase only best quality silk from Karnataka. Now silk of same specification is also being purchased from Tamilnadu and West Bengal.

The silk of Ganjam has a flourishing market in South India. This could explain, perhaps, the fact that the motifs of Ganjam silk resembles those of Kanchipuram, rather than that of Sambalpur or Cuttack.

6.3 million metres of handloom clothes valued at 31.8 million rupees (ex-factory) were produced in the district during 1982-83. The weaver population comes to about 1.8 per cent of the total population of the district and covers 9,244 families. The industry suffered badly during the twenties of the last century as the East India Company imposed taxes (Moturpha) on looms including looms for silk weaving operating in the district. Many weavers of Ganjam had migrated mainly to the Western India as wage-earners but some of them, thanks to the efforts of the State Government, have come back to start their own units.

There are 75 weavers co-operative societies in Ganjam district with a membership of 5,447 weavers. These societies were established with a capital investment of Rs.33,39,000/-. The cost of raw material invested by these co-operative societies during the years 1981-82, 1982-83 and 1983-84 was Rs. 74.43 lakhs, Rs. 131.16 lakhs and Rs. 181.96 lakhs respectively. These societies produced finished goods worth Rs.252.05 lakhs, Rs. 260.53 lakhs, Rs. 339.12 lakhs respectively during these three years and Rs. 577.39 lakhs in 1984-85.

There are at present 6,045 persons employed in these units as workers with an average earning of Rs. 300/- per month. The weavers have no subsidiary sources of income. Besides, these establishments engage daily labourers according to requirement. 2,015 looms are in operation at present. The main centres of activity of the co-operative societies are Brahmapur, Pitala, Beguniapada and Jagannathprasad.

The Brahmapur Powerloom Weavers' Co-operative Societies Ltd., as mentioned earlier, was established in the year 1961 with a capital investment of Rs. 9,71,611. This unit is operated by electricity and produce dhotis, sarees, napkins, markin Chadar and Lungis on cotton and staple etc. 134 persons are employed in this unit. It is managed purely on co-operative basis. The calendering plant at Brahmapur was established in the same year also with a capital investment of 6 lakhs of rupees. This unit is managed on co-operative basis and is operated manually. The main function of this unit is to dye yarn and bleach the cloth. 15 persons are engaged in this unit.

The Orissa Handloom Weavers' Co-operative Society Ltd., procures the products from the primary weavers' co-operative societies of the district to market them through its sale depots situated in urban and semi-urban areas.

Several measures, like organisation of exhibitions, providing rebate on sale of handloom cloths etc., are being implemented to popularise handloom products. However keen competition with mill made cloth and powerloom products poses serious challenge to the growth and development of handloom industry in the district.

Sericulture

Development of sericulture is carried on in four Community Development Blocks of the district viz., Mohana, R. Udayagiri, Rayagada and Nuagada. A Bivoltine Sericulture Project has commenced operation in Mohana and R. Udayagiri Blocks since April 1987 to provide financial, technical and other forms of assistance to persons engaged in tassar rearing. The State Tassar and Silk Co-operative Societies Ltd. is the implementing agency for this project and is assisted by the Central Silk Board and the State Directorate of Textiles. The Project envisages cover of one thousand acres (about 405 hectares) of mulberry plantation in the private lands of 1,300 beneficiaries of the above two Blocks which are mostly inhabited by the Lanjia Soura and Khond tribals who are economically not very well off. During trial rearing, approximately 4,00,000 of Bivoltine cocoons have been harvested by the poor sericulturists of the area giving them a return of approximately Rs. 2,00,000/-. Fifty three farmers have been trained locally and one hundred forty farmers have been covered under training and visit programme to other states. 811 persons, of whom 740 belong to Scheduled Tribes, have been benefited by the project and 592 acres (239.52 hectares) of private land have been covered till 1989. A factory, set up by the Government at Nuapatna, processes tassar cocoons to various kinds of yarn.

Horn Work

Horn work was originally well known among the tribals of Paralakhemundi subdivision. Among others they used to make a blowing instrument from horn. In the later part of 19th century, this was given a big boost when the ruler of Paralakhemundi engaged some skilled craftsmen of Badhei caste from a village known as Pitala near Asika. During the second World War, horn-ware from Paralakhemundi was exported to the United States of America

and European countries. At present horn products like comb, crane, crab, crocodiles, monkey, camel, elephant, cow and calf, deer, duck, fighting bulls, elephant-pulling-a-log, horse, lady with pitcher, the wise crow sitting on a pitcher, lizard, lion, peacock, snake, tiger, giraffe, mongoose-and-snake, prawn, different statues, lamp stand, ash-tray, cigarette case, pen stand of various designs, etc. are made by the artisans. In Paralakhemundi town, 30 artisans are engaged in the craft through the co-operative society. About 50 artisans are also working outside the society. This industry engages 30 women as part-time workers.

Brass and Bell-metal

Brass and bell-metal are the two earliest known alloys of India. Large consumption of these two alloys is believed to be the reason for depletion of ores like zinc, copper and tin in this country. Kamara, Kansari, Khadara and Sunari or Bania are some of the professionally distinguishable castes engaged in metal ware. Metal ware can be best described as the result of a classical tradition where art and profession are ideally married.

The flexible brass fish and snakes of Bellaguntha and Nuapada are popular in the country. This is an exclusive craft of the district. The metals used for these products are brass, white-metal, silver and occasionally gold. Fish manufactured in this area is generally sold outside the district whereas brass snakes are sold locally which people buy for Siva temples.

The Central Co-operative Banks at Brahmapur and Asika, and the Bhanjanagar branch of the State Bank of India give financial assistance in the shape of loans to all the artisans, co-operative societies. Apex Marketing Society is also rendering necessary assistance for the marketing of the goods of the societies.

There were 110 Co-operative Societies in the district dealing with various industries. Some details about these establishments (till 31st March 1987) are given in the next page table :—

(Rs. in lakhs)						
Category	No.	Location	Production	Capital investment	Persons employed	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Carpentry	5	Kasinagar, Khallikot, Buguda, Chhatrapur, Hinjilicut	Shutters, Chouk-kathas and furniture	75,27,40	19	Panchayat Samiti Industries Units
Fabrication	1	Rambha	Grill gates, rolling shutters, truses, Gobar Gas Plant etc.	14,71,00	21	
Tile and bricks	2	Asika, Baragam	Tiles and K. B. Bricks	24,64,40	169	
Saw Mill	1	G. Nuagan	Sleepers	16,31,00	13	Handicrafts, Salt & Coirs Industrial Co-operatives.
Oil	1	Sahapur	Oil	29,75,57	3	
Horn work	2	Paralakhemundi, Gumma	Fancy H o u s e articles.	21,33,20	37	

INDUSTRIES

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Cofir Industries ..	2	Brahmapur, Gopalpur	Ropes, Footrests and mattings	42,43,76	14	
Salt Industry ...	10	Surala, Ganjam Sufani, Paluru	Salt out of brine	1,87,69,97	2,674	
Brass and Metal	8	Bell Dharakot, Patrapur	Brass and Metal articles	42,77,07	105	Handicrafts, Salt & Coirs Industrial Co-operatives
Handicrafts ..	8	Chourangi, Patrapur, Konchana, Brahmapur	Woolen articles, Assans, Shamianas & other applique articles	1,01,27,57	163	
K. V. I. ..	70	Throughout the district in each block headquarters.		3,51,13,65	2,100	Khadi and Village Industries

Panchayat Samiti Industries

There were 10 Panchayat Samiti Industries in the district till the 31st March 1989. These included five carpentry units viz., the Biswakarma Carpentry Co-operative Society, Kasinagar, the Mahabir Carpentry Co-operative Society, Chhatrapur, the Khallikot Co-operative Wooder Works Ltd., Khallikot, the Biswakarma Carpentry Co-operative Society, Hinjilicut and the Buguda Wood Works Industrial Co-operative Society, Buguda, two tile factories viz., the Asika Tile Factory, Asika and the Nrusingharath Mangalore Roofing Tile Co-operative Society, Bargan; one saw mill and one oil mill, viz., the Bijaya Saw Mill, Gosaninuagan and the Sahapur Oil Mill, Sahapur; and one fabrication unit viz., the Utkal Light Engineering Co-operative works, Rambha. 225 employees were engaged in these industries.

District Industries Centre

Presently topmost priority is being accorded to the development of small, tiny and cottage industries with the primary objective of generating maximum employment opportunities in the rural and semi-urban areas and thereby reducing economic inequality. Speedier process of rural industrialisation is the strategy of the Governments at both the Centre and State level. Therefore, District Industries Centres (D. I. C.) were established to provide all necessary inputs under one roof in a co-ordinated manner to all aspiring entrepreneurs for promoting and establishing industries.

Keeping this in view, the District Industries Centre with a General Manager as the head, was opened at Brahmapur on the 15th August 1978. The General Manager is assisted by five functional managers who look after the economics, investigation and marketing, explain different schemes to new entrepreneurs, help in research extension and training in selecting product line and quality control methods and assess the requirement of machineries and equipments for various types of small-scale and village industries. One Manager has been assigned for the particular task of paying attention to the Khadi and cottage industries in the district.

The cumulative achievements of the District Industries Centre till the 31st March 1985 was as follows :—

(a) Number of industries started production	Rs. 2,385 lakhs
(b) Investment made therein	Rs 14,16.84 lakhs
(c) Employment generated	Rs. 15,570 lakhs
(d) Loans sanctioned :—	—
(i) By Orissa State Financial Corporation	Rs. 6,29.30 lakhs
592 Nos.	
(ii) By Banks	473 Nos. .. Rs. 1,86.58 lakhs

Assistance to Industries

The State Government have provided many facilities for the development of existing industries as well as for the establishment of new industries (both small-scale and cottage). Under the State-Aid to Industries Act, these industries are allowed financial assistance to obtain raw materials from outside India on liberal terms. They are also assisted to obtain machineries on hire purchase basis. Electricity is made available at subsidised rate and steps are taken for proper marketing of their products. The industries avail free technical advice and the State Government offer stipends to technical students keeping in view the requirement of technical hands for different industries. For this purpose, training centres have been established to train student-artisans in different technical trades.

A statement given in Appendix I contains figures relating to finance and other forms of assistance given by the District Industries Centres, Ganjam to the Small Scale and cottage industries units of the district for the year 1986-87.

A new scheme to provide self-employment for the educated unemployed youth has been started throughout the State since 1983-84. The beneficiaries under the scheme are sanctioned loan upto Rs. 35,000 by different banks on the recommendation of the District Industries Centres to start industry or business. The loanee is also allowed twenty-five per cent subsidy against the loan sanctioned. The following statement contain information about the achievements under the scheme in the district from 1983-84 to 1987-88.

Year	Target	No. of applica- tion received	No. of cases recommended to the Banks
(1)	(2)	(3)	(4)
1983-84 ..	1,000	2,194	1,209
1984-85 ..	800	2,710	1,077
1985-86 ..	1,050	1,932	1,157
1986-87 ..	1,050	2,534	1,478
1987-88 ..	455	1,829	610

Year	No. of cases sanctioned by the banks	Total No. of cases disbursed	Total No. of units gone into production
(1)	(5)	(6)	(7)
1983-84	699	423	248
1984-85	820	688	707
1985-86	864	751	327
1986-87	1,053	847	333
1987-88	488	22	721

Industrial Estates

Two industrial estates are functioning in the district, one at Brahmapur and the other at Paralakhemundi having 54 and 4 sheds respectively. Out of these 58 sheds, 56 have been occupied. Another 6 sheds have just been constructed newly at Bhanjanagar. These sheds have not yet been occupied.

Industrial Potential

An industrial potential survey was undertaken in different Community Development Blocks of the district which identified the prospect potential for establishment of various industries. Besides, the Industries Department undertakes survey from time to time to identify the industrial potentiality of the district.

LABOUR EMPLOYEES ORGANISATION

About 5,217 workers/labourers were employed in 170 factories and other establishments of this district by 31st December, 1990.

58 Trade Unions were registered in the district till the 31st December, 1989. Approximately 17,289 workers of different organisations formed the trade unions to safeguard their interest. Many of these unions are affiliated to Central Organisations like A.I.T.U.C., C.I.T.U., H.M.S.C., C.R.T.E.F., S.T.E.F. etc.,

Some of the registered factories have provided, welfare facilities to the employees as per the provisions of the Factories Act, 1948. The welfare measures include safe, clean and healthy working conditions, recreation clubs, rest sheds, canteen, first-aid, drinking water, medical facilities, creches, etc.

The State Labour Department takes necessary steps for proper implementation of various labour laws in force in the district through their district level officers. Also the Central Government look to the interests of the workers engaged in different Central Government undertakings.

The details of the Industrial disputes and complaints received and disposed of from 1984—86 find mention in the Chapter XVII, 'Other Social Services'.

APPENDIX I

Financial and other forms of assistance given by the District Industries Centre, Ganjam to the Small Scale and Cottage Industries Units of the district for the year 1986-87.

I. Small Scale Industries Wing (Assistance in the shapes of machinery, equipments and raw materials)

(i) No. of cases assisted for power supply—10

(ii) No. of cases allotted scarce raw materials—207

(iii) No. of cases recommended for allotment to higher authorities/organisations—42

(Financial assistance provided in the shape of Loan)

1. Orissa State Financial Corporation

(i) No. of applicants sanctioned loan—61

(ii) Amount sanctioned—Rs. 211.56 lakhs

(iii) No. of applicants sanctioned Seed Capital loan—61

(iv) Amount sanctioned—Rs. 4.56 lakhs

2. Commercial Banks

(i) No. of cases where loan sanctioned—176

(ii) Amount sanctioned—Rs. 103.14 lakhs

(Financial assistance provided in the shape of investment subsidy)

(i) Number of applicants sanctioned investment subsidy—63

(ii) Amount sanctioned—Rs. 22.40 lakhs

II. Cottage Industries Sector

1. Co-operatives

Financial Assistance Loan, share capital, investment

(I) Sanctioned to Co-operatives from Central/State Khadi and Village Industries Board	No. of cases sanctioned 34 Amount sanctioned—Rs. 15.14 lakhs
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(II) Marginal subsidy sanctioned	No. of cases sanctioned—4. Amount—Rs. 0.30 lakhs
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(III) Other kinds of grants	No. of cases—3. Amount—Rs. 0.13 lakhs
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2. Artisans

- (i) No. of artisans trained-613
- (ii) Amount spent for training-Rs. 5.06 lakhs
- (iii) No. of trained persons rehabilitated-368
- (iv) No. benefited under DRI Scheme-778
- (v) Amount spent-Rs. 10.56 lakhs
- (vi) No. of applicants sanctioned loan by Co-operative Bank-166
- (vii) Amount Sanctioned-Rs. 1.97 lakhs
- (viii) Loan sanctioned source-wise

By Orissa Khadi and Village Industries Board-No. of cases-131

- (ix) Amount sanctioned-Rs. 5.48 lakhs
- (x) Subsidy/Free tool kit given source-wise/IRD/ITDP/Trysem and other area development schemes
 - (a) Loan-linked subsidy-No. of cases 2193
 - (b) Amount.—Rs. 41.84 lakhs
 - (c) Free tool kits-No. of cases-315
 - (d) Amount-Rs. 1.13 lakhs
- (xi) (a) TRIP/RAP Scheme- No. of cases-78
 - (b) Amount -Rs. 0.52 lakh

(xii) ERRP

- (a) No. of persons trained-64
- (b) No. for whom loan has been sanctioned-8503
- (c) Amount sanctioned-Rs. 133.99 lakhs
- (d) No. for whom subsidy has been disbursed-8503
- (e) Amount disbursed -Rs. 98.58 lakhs
- (f) No. started production-8394