CHAPTER V.

INDUSTRIES.

Old Time Industries.

There is no direct reference to any important industries either in ancient or mediæval times in any of the authoritative books. People were, apparently, entirely dependent on agriculture and their necessities of life were locally sought to be met in the villages. Of the old industries the wood-worker, the metal-worker, the tanner, the weaver and the potter deserve special mention. The wood-worker or carpenter not only made agricultural implements but also made boats to cross the rivers. Saran being a riverine tract required a great number of boats for crossing the important navigable rivers, such as the Ganga, the Gandak and the Gogra. Boat building was a flourishing industry of the district but started declining in the eighteenth century. The early British administrators being the servants of a trading company, the Magistrate of Saran was frequently asked to report on and had to encourage boat-building industry. It appears from a letter, dated the 20th March 1819, that the Magistrate of *zillah* Tiperah was contacted to send carpenters to make boats in Saran. The Magistrate of Saran, however, was informed that no body was willing to go from Tiperah to serve there at the rate of Rs. 50 per month, as the rate of pay was considered too inadequate. Hunter in his *Statistical Account of Bengal,* Vol. XI, published in 1877, mentions that "The boats used on the Saran rivers are principally of the following descriptions :—(1) The *ulakh* has a sharp bow and a rounded side; (2) the *melni* is a boat similar to the *ulakh* and must be carefully distinguished from the Tirhut *melhani* which is a flat bottomed boat, of a rectangular shape, used for ferries, and where the water is shallow, and of a low velocity; (3) the *patila* comes from the west; it is a broad boat, and does not draw much water; (4) the *chaina* and (5) *guria* also come from the west; (6) the *dinghi* and (7) *pansi* are small ferry boats". The boat-building industry has declined. But small size boats, i.e., *dinghis* are still manufactured in village Sonaut of the Baikunthpur police-station. The boat-building industry of Saran has been taken much beyond the limits of Saran district by her people. Many of the *ghats* and ferries of Northern India and of East Pakistan are still held by men of Saran district who maintain their own fleet of boats.

The metal-worker or smith worked on metal and catered to the needs of the villages. This industry is still carried on by a community known as *lohars* and *sonars.* Workers on leather were known as *chamars* and they still supply the villagers with thongs for their whips and fastenings for their ploughs, repairing the latter when necessary. The leather bucket or *mot,* which is still an indigenous irrigational contrivance, was known to the people and

was manufactured by the leather-workers. But now it is generally imported from the other districts of Bihar. Weavers included men as well as women. Cloth manufacture was an important industry of the district. This industry received a great set-back in the early nineteenth century. As early as 1856, the Collector of Saran in his letter no. 128, dated the 27th October 1856, reported to the Commissioner on the state of the cloth manufacture and the probable future demand for English cotton goods in Saran. This industry had declined particularly owing to the increased price of raw materials. Revelganj, once a great cotton mart of Saran, had registered a decline and the weavers in large number had given up weaving. The local imports from the north-west had largely decreased. The cotton found its way to Calcutta and England and in many parts of the district, the manufacture dwindled to some manufacture of the local grown cotton. The causes of the decay were the same as those operating in Bengal and other parts of India, i.e., the policy of the British Parliament, the competition of cheap goods produced by machinery and the unwillingness or inability of the then Indian Government to protect or encourage Indian arts and crafts.

Opium.

In 1773, the monopoly for providing opium from Saran was granted to one Mir Mannir, who had been employed by the Patna Board, and was best acquainted with the mode of managing. He was to answer for any outstanding balances, and was to deliver the opium at Rs. 320 per maund. In 1785, it was resolved to lease the contract to the highest bidder, and this system was carried on for some years. In 1793, the price paid for opium to the cultivator was Rs. 1-14-0 per seer. The contractor was to engage to deliver 6,800 maunds of Bihar opium, in chest containing two maunds each; he was to receive, in addition to the contract price, a gratuity of Rs. 50 per chest, but for every chest short of 3,400, he was to pay a fine of Rs. 300. In 1797-98 the advances were Rs. 1,12,050; in 1798-99 Rs. 2,67,100; in 1799-1800 Rs. 2,67,300; and in 1800-1801 Rs. 2,28,127. The cultivators were to have their option whether they would cultivate opium or not.

Statistics of opium cultivation in Saran from 1863-64 to 1873-74 as given in Hunter's *Statistical Account of Bengal*, Vol. XI, are given below :—

Years.	Subdivision.	Area cultivated.	Produce of each subdivision.	Average produce per bigha.
1	2	3	4	5
		B. K.	Mds. sr. ch. t.	Srs. ch. t.
1863-64 ..	Chapra ..	33,678 19	6,130 14 14 2	7 4 2
	Siwan ..	41,780 12	7,397 13 11 2	7 1 1

Years.	Subdivision.	Area cultivated.	Produce of each subdivision.	Average produce per bigha.
1	2	3	4	5
		B. K.	Mds. sr. ch. t.	Srs. ch. t.
1864-65	.. Chapra ..	33,230 15	4,368 6 14 2	5 4 0
	Siwan ..	40,992 6	3,812 24 15 1	3 11 2
1865-66	.. Chapra ..	33,771 10	5,62 017 9 2	6 11 2
	Siwan ..	41,729 6	4,091 4 6 0	3 14 3
1866-67	.. Chapra ..	37,645 9	5,979 32 13 1	6 5 3
	Siwan ..	44,581 7	6,623 31 4 0	5 15 0
1867-68	.. Chapra ..	38,016 0	4,418 3 6 1	4 9 1
	Siwan ..	45,026 0	5,864 8 11 0	5 3 1
1868-69	.. Chapra ..	35,098 19	4,226 11 15 2	4 13 0
	Siwan ..	44,595 19	5,301 16 1 2	4 12 0
1869-70	.. Chapra ..	39,176 7	6,091 9 12 0	6 3 2
	Siwan ..	46,959 1	7,256 19 12 0	6 3 0
1870-71	.. Chapra ..	38,743 0	3,998 1 15 2	4 2 0
	Siwan ..	47,742 0	4,946 11 6 0	4 2 1
1871-72	.. Chapra ..	39,731 0	4,252 27 4 0	4 4 2
	Siwan ..	48,068 0	4,429 0 6 0	3 11 0
1872-73	.. Chapra ..	37,643 0	3,968 27 3 2	4 3 2
	Siwan ..	44,373 0	4,876 36 9 2	4 6 1
1873-74	.. Chapra ..	34,317 0	5,096 23 9 1	5 15 0
	Siwan ..	41,596 0	5,567 37 13 3	5 5 3

The *Survey and Settlement Report* of 1893—1901 mentions that " in respect of opium Saran is second only to Champaran, having 3.13 per cent under that crop as against 3.7 per cent in the latter district, but as has been noticed by Mr. Stevenson Moor in his *Final Report on the Settlement of Champaran,* that district is the country where the opium crop is cultivated with least care, and the average outturn in Saran is considerably greater". From the *Final Report on the Survey and Settlement Operations* of 1915—1921 it appears that the cultivation of opium had been mostly abandoned. It was grown only on Government account. A particular reason for the decline was that it was becoming year by year less profitable to cultivators. Cultivators were gradually taking to the cultivation of sugarcane,

tobacco and other cash crops. The price of cereals and other grains had gone up owing to the increase in the population of the district, while the price paid for opium remained stationary. There was no wonder that the cultivators grew less of opium. The world market of opium, and particularly the great market of China was lost and the cultivation of poppy declined.

INDIGO.

When the British had stepped in Saran district there were mainly three industries—indigo, opium and sugar of which only the last remains. It appears that the cultivation of indigo was introduced in this district near about 1793-94 when Messrs. Ivory and Blake obtained permission from Government to build a factory at Akbarpur, now Sitalpur in Sonepur thana.

Any description of indigo industry should mention the name of Monsieur Louis Bonnaud who was the first indigo planter in India. Indigo was indigenous in various parts of India. In *Ain-i-Akbari* there is mention of excellent indigo being produced in Ahmedabad in Gujarat and that it was regularly exported to Constantinople and other places. The same source mentions that the highest price realised per maund for superior indigo produced at Biana near Agra was Rs. 16. In 1631, there was a large contract for the supply of indigo to the English at Agra and large loss was sustained as it found no ready sale either in Persia or England. Bernier had also mentioned about indigo in 1663.

Louis Bonnaud was at first a resident of Gondalpara, at Chandannagar. From Chandannagar he proceeded to Malda district. In 1814 he had joined the Bankipore concern and he was for some time proprietor of Nayahatti indigo concern in the district of Jessore. As mentioned in M. Wilson's *History of Bihar* : " Lastly he was the managing proprietor of the large indigo concern of Kalna in Burdwan, including the Mirzapore Indigo Factory not far from Krishnaghur. He terminated his connection with the Kalna Concern in 1819 when he made no less than 1,400 maunds of indigo, the largest quantity of produce yielded by probably any single concern in Bengal up to that period. He being part owner of it, however, caused him much loss, trouble, and anxiety owing to the principal proprietor, Mr. Edward Majoribanks of the Bengal Civil Service, who was deeply involved owing to losses on the turf, having mortgaged the property to Messrs. Fairlie Fergusson and Co."

The same book mentions : " In the ' Report of the Proceedings of the East India Company, in regard to the culture and manufacture of indigo ', it is stated that it was a well-known article of importation during the first century of their trade with this country; and in 1779-80 the Directors thereof used their best endeavours to increase the quantity and improve the quality of indigo, entering into a contract for the purpose with Mr. James Prinsep. That gentleman wrote to Lord North, in a letter, dated the 25th January, 1780, that

he wished to introduce 'indigo, sugar and tobacco, into Great Britain from the East Indies' and in a subsequent letter to the same nobleman he stated he had 'with the utmost trouble and expense' collected round him Europeans bred to different arts and science, as well as the most intelligent mechanics and planters of the East'."

"Although it must be admitted, as will be evident from the above collection of facts, that indigo was produced in India from ancient times, yet there can be no doubt that the manufacture of indigo according to the system practised in the West Indies, was introduced by Europeans in this country some time after the establishment of the British Government, and previous to that they do not appear to have had any connection with it as planters or manufacturers. A work on indigo planting published in 1835, and now out of print, written by Mr. John Phipps, states, and we believe quite correctly that the first European indigo planter in India was the late Monsieur Louis Bonnaud, and as, doubtless, any particulars regarding the list of one who introduced this great industry in its present form in this country will be interesting to all, more especially the indigo planters. We venture to put together in a connected narrative information derived from certain notes kindly placed at our disposal by the eldest and sole surviving son of the gentleman referred to, with free permission to make such use of them as we may think proper. This gentleman is now in the 15th year of his age, and takes a commendable pride in being a son of the first European indigo planter in India, and in this respect it may aptly be said of him *primus in Indis*. We have dedicated this slight biographical sketch to Mr. William Bonnaud as he is best entitled to have his name associated in connection with it, specially as he has been good enough to supply us with materials for constructing it".

Dr. Ivory was the Civil Surgeon of Chapra while Mr. Blake was the Assay Master at the Patna Mint. Mr. Shore in 1794 had obtained permission to start a factory at Darauli and after that a number of other English adventurers entered the field. They were the pioneers in this district.

Indigo plantation by the Europeans was controlled. The Europeans who wanted to start a factory had to take permission of the administration before starting it. Most of the factories in Saran district, which came to some prominence later, were built after 1847. Before 1847 there were smaller concerns at Ramcollah, Rajahputtee, Chaitanpursa, Jullalpore and some others.

It will not be correct to say that all the indigo concerns were owned by Europeans. Arrowah factory in the fifties came to be owned by Kazee Ramzan Ali who had a number of European managers. Two of his European managers were W. James and Tom Martin, who lived at Tilpah House which later on became the Saran Planters' Club. Kazee Ramzan Ali did a lot to spread indigo cultivation. He was trusted by the Government and during the 1857 insurrection

when the Commissioner ordered all the Europeans out of Chapra, Kazee Ramzan Ali was put in charge and acted to the perfect satisfaction of the Government. The Arrowah concern, however, changed hands during the Kazee's life time. The Zumunpore indigo concern was built by Munsi Zawwad Hussain who was the Judge's *Sheristadar* at Chapra in 1864-65. Gopalpore factory was built by Upendra Narain Singh in about 1867. Some of the other factories which were important in the later part of the nineteenth century were Bansghat which was closed when M. Wilson wrote his book *History of Behar* referred to in 1908, Balla Barhoga factory which had prominently figured in the aftermath of 1857 insurrection and Sudowah factory. Some of the other indigo concerns of the nineteenth century, many of which lingered on till about the twenties of the twentieth century, were Bhamo, Behrowlie, Hariharpore, Nawadah factories which also belonged at one time to Kazee Ramzan Ali, Jogapore with the two works, Bansopalli and Kahlla, Partabpur, Rajahputtee, Ramkola, Sadowah, Seereepore (owned by the Maharaja of Hathwa), Gopalpur, Geurs and Kehumia. Two Chapra bankers, Ganesh Lall and Gopal Dass, also owned indigo factories at one time as did the two Patna bankers, Muhomed Khan and Syud Iltaf Hasain.

Reference must be made to Mr. Grand who was sent to Tirhut as Collector in 1782 and was in a way a pioneer in indigo cultivation and manufacture. Grand himself had left an account that he had built three indigo factories and he conducted the manufacture of indigo after the manner of Europeans. Mr. Grand, however, got into trouble over his private indigo concerns and was relieved of his appointment. There is, however, no doubt that Grand did a lot in improving the indigo cultivation in Bihar.

The records show that up to about 1850 the cultivation of indigo combined with the cultivation of sugarcane and manufacture of sugar. Between 1850 and 1898 the sugar industry was practically ousted from the district and indigo industry continued to flourish till the end of the nineteenth century when there were 35 factories with 36 outworks and 45,500 acres under cultivation. From then onwards the industry had to compete with artificial dyes widely imported and from the high price of foodgrains and consequent demand for land in Bihar.

Indigo cultivation had its other side as well. The European planters had a very great say in the administration of the district and with the help of the administrators they managed to consolidate holdings in order to get a consolidated block for the cultivation of indigo. They saw to the making of good roads for their indigo carts to pass. They, however, used to force the *raiyats* to cultivate indigo even if the cultivation was not as profitable as the cultivation of foodgrain. The growing consciousness of the *raiyats* of their rights led to a certain combination and agitation among them

not to grow indigo. In Champaran district there was a wide agitation in the first decade of the twentieth century against indigo cultivation. There was a combination among the *raiyats* not to grow indigo and a large number of arrests were made. The planters were given judiciary powers which went to demoralise the *raiyats*. The administration appreciated the difficulties of the *raiyats* but it was difficult to curb the European planters who were mostly in the hands of their *amlas*. Some of the European planters became absentees and left their concerns in the hands of junior and inexperienced men. The troubles in Champaran district had their repercussions in Saran as well where also the conditions were almost the same.

Champaran district was visited by Mahatma Gandhi in 1916 in connection with the campaign of the *raiyats* for the cultivation of the indigo. There was a great agitation and ultimately Government were forced to remove many of the anomalies of indigo cultivation by law. Gandhiji's visit and his great work undermined the indigo cultivation in Bihar which was already in an uneconomic position. All these factors combined with the import of synthetic indigo and the natural inclination to cultivate such crops that yielded more money led to the decline of the indigo cultivation. The indigo concerns slowly turned to sugarcane plantation or ordinary farms producing grains. Most of the European planters wound up their interest and left the country by the twenties of the present century. Affluent Indian zamindars or big cultivators acquired the indigo concerns from them and have converted them into agricultural farms.

SALTPETRE.

Saltpetre was formerly one of the most important industries of Saran. The soil of Saran is highly saliferous; and the extraction of saltpetre and salt had for long afforded employment to a community of labourers who came to be known as *Nuniyas* (*nun* : salt). When Bernier visited India in the reign of Aurangzeb, he had observed the extensive saltpetre industry in Bengal. The saltpetre zone was more or less in Bihar. He had mentioned that a huge quantity of saltpetre was imported from Patna. By 1660 the factories at Patna and Singhia (now in Muzaffarpur) were established from where an extensive saltpetre trade radiated through the rivers. There were smaller trade points for saltpetre in Saran. Saran was once the best saltpetre producing district. Thousands of persons were employed in scraping this natural efflorescence of the soil.

It appears that the indigenous saltpetre industry was first exploited by the Dutch who had established a factory at Chapra even before 1666. Tavernier in his description of Patna, which he had visited with Bernier in 1666, mentions : "The Holland Company have a house there, by reason of their trade in saltpetre, which they referred as a great town called Choupar (Chapra)". Later the

English were also attracted to Chapra for trade in saltpetre, which was in great demand for the manufacture of gunpowder. The trade must have been subject to interruption, for in 1711 the Council at Fort William learnt from the Agent at the Patna factory that a formidable rebel had plundered Chapra, and when the *Nawab* sent a force of 2,000 men against the marauders " they fled, setting fire to all before them, amongst the rest our petre godown by which it is feared we shall lose about 500 maunds ".

With the advent of the English the Dutch had lost their monopoly in saltpetre and a business rivalry started between the two. By 1700 the sign of decline of the Hollanders was perceptible in Saran so far as the saltpetre trade was concerned. But their factory at Daulatganj (a part of Chapra) was still quite formidable and the Dutch boats used to ply with merchandise for some years following 1700. The saltpetre collected by the Dutch in Saran was usually sent to Patna Factory. The refining of the saltpetre was done in the *karkhanas* at Singhia, Chapra and Futwah. The Dutch had brought boilers from Holland as described by Tavernier; they had initial difficulty, because the people would not supply them with sufficient quantity of whey without which saltpetre could not be bleached. The value of saltpetre increased with the whiteness of its colour and its transparency.

Even as late as the beginning of the nineteenth century, saltpetre was one of the flourishing industries of the district. In *Hamilton's Description of Hindostan* (1820) it is mentioned that the greater part of the saltpetre intended for the company's investment was procured from Hajipur and the adjacent division of Saran. W. W. Hunter in the *Statistical Account of Bengal,* published in 1877, had mentioned that "The Godna or Revelganj saltpetre was formerly much esteemed". After that there had been a great set back in the saltpetre industry owing to the low price and the withdrawal of the European capital. During the First World War (1914–1918) there was a temporary revival of the industry and the output of the district had increased from 72,000 maunds in 1913-14 to 93,000 maunds in 1917-18. There was naturally a great demand for saltpetre for the manufacture of munitions. After the cessation of war a great slump occurred. In 1923-24 the output was only 22,000 maunds. The industry had declined owing to the importation of Chilian nitrate and of a cheap German nitrate. There do not appear to be authenticated official records of the output after 1923.

The price of ordinary saltpetre in the eighteenth century varied from Rs. 3 to Rs. 4 per maund, while under competition it went up to Rs. 7 per maund. The actual cost of refining was very small, about 9 pies per maund. The Europeans used to export annually about 10 million pounds of saltpetre and they sold for about 5 *d.* a pound. This margin of profit, after deducting all the expenditure, was staggering but very little of it went to the *Nuniyas* who actually

slogged. Their daily wages were 5 pice only or they were employed on a contract basis for working in a particular portion for a specified sum.

The *Nuniyas* have now turned to other occupations. A few of them still scrape out the natural saltpetre a bit and sell the quantity locally.

DYES.

The dye industry was in a flourishing condition in the latter part of the nineteenth century. In the *Statistical Account of Bengal*, Vol. XI, published in 1877, it is mentioned that "The two principal dyes grown in this district are indigo and safflower; and from a combination of these two in varying proportions are produced many beautiful tints, most of which, however, are not permanent". The reason for the decline of the indigo industry has been described previously. So far as the safflower or *kusum phul* (*Carthamus terictorius*) is concerned, it was chiefly grown in Basantpur, Manjhi, Masrakh and Siwan thanas. The greater part of the produce was used by the cultivators themselves, the rest was purchased by the professionals (*Rangrez*) in various parts of the district. Some of the produce also found its way to Nepal, Gorakhpur, Ghazipur and places on the other side of the Ganga. The average outturn of safflower in Saran was estimated to be about 2,000 maunds per annum; and the average price per maund Rs. 36-10-0. No European capital or agency was engaged in this industry. The other substances, which were used for dyeing purposes are: *Tinkaphul*, the flowers of *Cadrela toona*; *palas ka phul*, flowers of the tead, *Butea frondosa*, *anar ka chilka*, bark of the pomegranate and *Punica granatum*. The average price at which these dyes were sold was as follows: *tinka phul*, 12 seers per rupee, *singharhar ka phul* 1½ seers per rupee, *palas ka phul*, 12 seers per rupee; and *anar ka chilka*, 5 seers per rupee. The *tun* tree and bastard teak were not cultivated; but the *singharhar* and pomegranate were grown in gardens as ornamental shrubs. Very little dye was exported, nearly all being used for local consumption.

There was another species of dye produced by the lac insect, found on pipal trees. It was estimated that about 200 maunds of the dye were exported to Calcutta. As mentioned under indigo, the dye industry has suffered from the competition of the artificial dye of Europe.

INDUSTRIES DURING THE CURRENT CENTURY.

Sources of power supply.

There are no hydro-electric or thermal stations in the district.

The industries that are run by power have either their own electricity plants or derive the power from the Electric Supply Companies or from the power-generating stations maintained by

Government. The Sugar Mills and other big industries have all their own power-generating plants.

Mining and Heavy Industries.

There are no mining and heavy industries in Saran. There are no minerals except nodular limestone (*kankar*) of good quality which is found throughout the district except in the north-west corner. It is used for metalling roads and for ballast on the railway.

Large-scale Industry.

The sugar industry is now a principal industry of the district. The sugar industry has passed through several vicissitudes. As has been mentioned before, the industry faced a decline between 1850 and 1878 and had to give way to indigo. But with the advent of the twentieth century and especially after the First World War the cultivation of indigo practically disappeared from the district and its place was taken by sugarcane. The Cawnpore Sugar Works was started in 1904, while the New Siwan Sugar and *Gur* Refining Company was established in 1918. The third factory, the Bihar Sugar Works, Pachrukhi, was started in 1921. The other sugar mills were established later.

In the thirties there was a tremendous fall in the price of grain and other crops, while the price of sugar was much higher than the other crops. The sugar industry of the country received beneficial *tariff* protection with the passing of the Sugar Industries Protection Act in 1932 for a period of fourteen years.

An important development in the field of sugar industry was the legislation of 1937, known as the Bihar Sugar Factories Control Act, 1937. According to this Act, some area round each factory is reserved to each factory, of which the factory concerned is bound to purchase cane. Some factories, moreover, have some lands of their own or leased to them on which they themselves grow cane but most of the sugarcane is purchased from the cultivators. As it is worth while for the manufacturers to make sowing advances in order to insure that good cane is grown and properly cultivated, the cultivators get a double benefit. They get cheap loans for the expenses of cultivation, and prompt and fair payment for their produce.

The Bihar Sugar Factories Control Act, 1937, gave an impetus to the formation of the canegrowers' co-operative societies. At the outset, these societies were organised by the growers themselves but now they are organised by the Government and are registered under the Co-operative Societies Act. The internal management of these societies is entrusted to a Committee of Management consisting of educated members and the supervision and audit is done by the auditors appointed by the Government. These Canegrowers' Co-operative Societies, operating in the area of each sugar factory, are affiliated to the Central Co-operative Development and Cane

Marketing Union which enters into contract with the factory and regulates supply of cane on behalf of the Societies. There is also a Provincial Canegrowers' Co-operative Association and a Provincial Co-operative Federation to which all these Societies and the Central Unions are affiliated. In 1956-57, there were 2,161 Canegrowers' Co-operative Societies with 1,05,866 members and the number of Cane Marketing Unions was 25 with a membership of 2,191.

So far as the financial aspect of these Societies are concerned, they have their share capital but they also get some commission on the cane-supply through them. Besides, they also get loans from the Co-operative Bank. The value of share capital of these Societies is generally considerably less than the actual amount of help given by the Societies to their members. In 1956-57, the share capital of the Canegrowers' Co-operative Societies was 3,01,948, reserve fund Rs. 2,63,185, own capital Rs. 5,65,143, deposit Rs. 66,659 and the working capital Rs. 13,01,193.

Sugar Industry in the Nineteenth Century and the beginning of the Twentieth Century.

W. W. Hunter in his *Statistical Account of Bengal,* Volume XI, published in 1877, has mentioned that sugar was principally made at Sarya, Semeria, Guthni and Patan in the west of the district, where sugarcane was largely grown. As has been mentioned above, the cultivation of sugar received a great set back between 1850 and 1878 and gave place to indigo. But at the beginning of the twentieth century sugar replaced indigo again. The resuscitation of the sugar industry was pioneered by the India Development Company which established a head factory in Muzaffarpur district with a branch at Barhoga in Saran. After the closing of the factory at Barhoga, modern sugar works were started at Marhowrah by the Cawnpore Sugar Works in 1904. At present there are seven sugar factories in the district. The other three sugar concerns, i.e., the Indian Sugar Works, Siwan, Maharajganj Sugar Mill and the *Gur* Sugar Works, Siwan, have been closed.

There were two main reasons for the decline of the industry till the beginning of the twentieth century. The first was the difficulty of transport and the higher prices obtained for indigo for the same labour and land. The principal market for sugar was Ghazipore in Uttar Pradesh where it was sold at eleven rupees per maund in 1877. The Collector in his Annual Report for 1872-73 had mentioned that the principal mart for sugar in the district was Revelganj. In 1872 about 43,019 maunds of sugar were exported by boat to Patna from Revelganj. A country boat took one or two days to go from Revelganj to Patna in rains, two or three days in other seasons; 15 days to Calcutta in the rains, 40 in the dry weather. With the development of communications, these difficulties have been removed to a great extent but still a lot has to be done in this

direction. Sugar industry here faces competition from the south of India.

The Sugar Factories Control Act of 1937 had its effects. Under the provision of the Act the price level and marketing of sugarcane were regularised, a cane cess was levied and an Advisory Committee was set up to advise the Cane Commissioner on the issue of allotment of area to different factories.

The minimum price of sugarcane is fixed by the Government every year on the basis of cost of cultivation, output and the price level of competitive crops. This minimum price is normally paid by each factory and their agents. The cane price varied between annas 5 to Rs. 2 per maund from 1937 to 1952. The price was Rs. 1-5-0 per maund at outstations and Rs. 1-7-0 per maund at factory gate in 1956-57. The cane price has to be paid within a fortnight from the date of weighment or within a week of a subsequent demand. Sugarcane is supplied in bullock-carts and trucks which are weighed at the factory gate or at the outlying purchasing centres. The receipts indicating the weight of cane along with the amount of price payable to the seller is issued to the persons delivering cane. These receipts are subsequently presented for payment at the payment centres and the payment is made with a copy of payment sheet delivered to payees. The main sugar mills are described below.

S. K. G. Sugar Mills, Ltd.—Situated at Mirganj on the North-Eastern Railway, it is managed by Messrs. Dalmia Jain and Co., the head office of which is at Dalmia Nagar in Shahabad district. It came into being in 1933. Its daily crushing capacity is about 1,400 to 1,500 tons. The factory is fitted with double sulphitation system of production. In 1952-53 it crushed 29.50 lakh maunds of sugarcane. The sugar recovery was 10 per cent and molasses, 3.3 per cent. The sugar produced was 2,95,000 maunds as against 3,48,553 maunds in 1956-57. The average number of persons employed in this factory was 1,000 in 1952-53 as against 1,500 in 1956-57 and it paid Rs. 9 lakhs as wages. It has one Manager, one Chief Chemist and one Chief Engineer. It maintains one allopathic and one *ayurvedic* dispensaries for the treatment of its staff. The welfare of the workers is looked after by a Welfare Officer who is a wholetime employee of the management. The capital investment is near about Rs. 35 lakhs.

Sasamusa Sugar Works, Ltd.—Located at Sasamusa on the North-Eastern Railway, its managing agents are Monsell and Company, Calcutta. It has a capacity of crushing 800 tons daily and is fitted with double sulphitation system of production. During 1952-53, it crushed 15 lakh maunds of sugarcane with 10 per cent recovery of sugar. It has manufactured 1,50,000 maunds of sugar. The labour strength of the factory is about 725 daily. It maintains a high school for the education of children of the workers. A doctor has been appointed for the benefit of the labourers and their families.

New Siwan Sugar and Gur Refining Company, Ltd.—Established in 1918, this factory is situated about a mile west of Siwan on the North-Eastern Railway. It is on lease to the Standard Refinery and Distillery Company, Ltd., and its managing agents are Messrs. Karamchand Thapar and Bros., Ltd., Calcutta. The daily crushing capacity of it is 900 tons and is fitted with double sulphitation system of production. In the year 1956-57, it crushed sugarcane to a tune of 17 lakh maunds and its recovery was 10 per cent, sugar produced being about 1,70,000 maunds. During the season it employed in 1952-53, 750 persons daily as against 1,193 in 1956-57. The factory is managed by a Manager and a Chief Engineer. It maintains one dispensary for the treatment of the labourers.

The Bihar Sugar Works, Pachrukhi.—The factory is situated near the Pachrukhi Railway Station of the North-Eastern Railway. Its managing agents are Messrs. Bakubhai Ambalal and Company, Ahmedabad. It was established in 1921. A distillery is also associated with the sugar factory which runs on the production of molasses. The crushing capacity of the factory is 1,100 tons per day and it is equipped with double carbonation system of production. In 1952-53, it crushed 25 lakh maunds of sugarcane and the recovery of the sugar was 10 per cent with the total production of 2,50,000 maunds of sugar as against 2,51,197 maunds in 1956-57. During crushing season in 1957, it employed the average number of workers of about 1,400 per day and paid Rs. 7,09,116 as wages. It maintains one dispensary and a middle school for the welfare of the workers.

Bharat Sugar Mills, Ltd., Sidhwalia.—The factory was established in 1931 near the Sidhwalia Railway Station of the North-Eastern Railway. The managing agents are Messrs. Cotton Agents, Ltd., of Calcutta. Its crushing capacity is 650 tons per day and is fitted with double sulphitation system of production. During crushing season the factory employs 600 workers per day. The total capital invested in 1956-57 amounted to Rs. 3,75,000 and Rs. 2,76,000 were paid as wages. The total production in 1956-57 was 8,533.09 tons, valued at Rs. 93,24,461. It maintains a hospital and a middle school for the welfare of the labourers.

The Vishnu Sugar Mills, Ltd., Harkhua.—It is situated near Harkhua Railway Station on the North-Eastern Railway. Its managing agents are Messrs. Bilasrai Banarsilal and Company of Bombay. Its daily crushing capacity is 800 tons and is fitted with double sulphitation system of production. It crushed 24 lakh maunds of sugarcane in 1952-53 with 10 per cent recovery of sugar, and it produced 2,40,000 maunds of sugar. The factory has 1,150 workers on its roll.

Cawnpur Sugar Works, Ltd., Marhowrah.—The factory is situated near Marhowrah Railway Station of the North-Eastern Railway. Its managing agents are Messrs. Begg Sutherland and

Company, Ltd. Its daily crushing capacity is 939 tons and is fitted with double carbonation system of production. It is the oldest modern sugar factory of the district as it was started in 1904. In 1952-53 it crushed about 30 lakh maunds of sugarcane with 10 per cent recovery and produced 3 lakh maunds of sugar. The molasses produced was 3.3 per cent which was consumed in its distillery situated alongside the sugar factory. It employs about 1,500 labourers both on permanent and seasonal basis. It maintains a hospital for the welfare of the workers and gives some subsidy to the local high school where the children of the workers receive education.

ENGINEERING.

Saran Engineering Company, Ltd.—The registered name of this firm is Begg Sutherland Company, Cawnpore. Its workshop is located at Marhowrah which was established in 1921. It manufactures machine parts and rollers required in the sugar mills. Within a short time it has captured a good market. It supplies 300 rollers per year. It is equipped with up-to-date machineries and furnaces and carries on works on modern lines. The total number of workers engaged in this factory was 1,424 in 1957. The annual wages bill of the workers came to over Rs. 8 lakhs in 1957.

The value of total production in 1957 amounted to Rs. 31 lakhs. The process of manufacture includes castings, ferrous and non-ferrous in foundry, turning and finishing in machine shop and structural works in plate shop. The firm gets supplies of iron and steel from the stockists at Calcutta and Jamshedpur and coal from the collieries of West Bengal. In this factory both fixed and working capital amounts to about Rs. 70 lakhs.

CONFECTIONERY.

C. C. E. Morton (India), Ltd.—The firm is located at Marhowrah and was established in 1929. It has earned a reputation for the manufacture of sweets and confectionery. The total capital invested comes to about Rs. 30 lakhs and in 1957 it gave employment to 130 labourers per day as against 150 in 1951. It uses both imported and indigenous materials. It consumes about 200 bags of sugar and 150 tons coal per month. The factory is fitted with modern machines and equipments required for an integrated confectionery factory. The value of goods produced in 1957 amounted to Rs. 30 lakhs. However, the production was far short of its actual capacity. It is also facing shortage of raw materials and packing materials on account of trade restrictions. It has captured a good market and Morton's sweets are popular.

DISTILLERIES.

There are three distilleries in the district. The Marhowrah Distillery Firm belongs to Messrs. Begg Sutherland and Company, Private, Ltd. It was established in 1909. The total capital invested

exceeds Rs. 6 lakhs. It receives raw material (molasses) from its parent sugar factory, Marhowrah. The total production in 1957 came to 3,84,550.5 L. P. gallons and the total number of labourers employed was only 78.

The other distillery is at Pachrukhi. It is the side-industry of the Bihar Sugar Works, Pachrukhi, and was started in 1950. It gets raw material (molasses) from the sugar factory. Its production capacity is 1,560 L. P. gallons per day and employed daily 21 labourers.

The third distillery is at Mirganj. The average number of workers employed at Mirganj Distillery comes to about 110.

Medium-scale Industries.

The main medium-scale industry of the district is the engineering industry. The following are the important concerns :—

The Bihar Industrial and Engineering Company, Chapra.—It is located near the Chapra Railway Station of the North-Eastern Railway. It was established in 1947. The capital investment of this industry is about 3 lakhs of rupees. It is engaged in steel processing, moulding smithy and engineering works. The average production of the factory is about 150 tons annually. The factory gets raw materials from Government on quota basis. The finished goods consist of coach and wagons, nut and bolts, hume pipe and small vessels. The firm employed 37 persons in 1957 and paid Rs. 25,000 as wages.

Jain Engineering and Company.—The concern is located at Katra Bazar of Chapra. It manufactures buckets, agricultural implements and domestic utensils. The capital investment of this firm is about Rs. 50,000. Its annual production of buckets is 1,000 dozens and consumes about 60 tons of raw materials. The finished goods are mostly sold locally and in the neighbouring districts of the State.

Hind Engineering and Company.—This is a small concern at Katra Bazar of Chapra and manufactures boxes, agricultural implements and domestic utensils. The capital investment of this concern is Rs. 25,000. It employs, on an average, 12 workers per day. The finished goods are sold locally and in the neighbouring districts of Uttar Pradesh.

Krishna Chaturbhuj Works, Chapra.—It manufactures only domestic utensils and agricultural implements. The manufactured goods are sold in the local markets.

Vishwakarma Agricultural Implements Works.—Located at Sasamusa, it came into existence in March, 1954. It is run by an individual proprietor. It has a capital outlay of nearly Rs. 80,000 and employs 20 to 30 persons daily. It manufactures agricultural

implements with the help of human power. It has gathered wide reputation in the field of agricultural implements.

Soap Industry.

Soap-making industry is another important medium-scale industry of the district. The first soap manufacturing factory was started in the district in 1929. Washing soap only is made and that too on the semi-boiled process. The soap industry is facing a depression owing to the shortage of raw material and importation. The following soap factories are running in the district :—(1) Dharmanath Soap and Oil Mill, Shahebganj, Chapra, (2) Jagannath Soap Factory, Chapra, (3) Bishwanath Soap Factory, Chapra, (4) Lachmi Soap Factory, Chapra, (5) Janata Soap Factory, Chapra, (6) Dudhnath Soap Factory, Siwan, and (7) Omprakash Soap Factory, Maharajganj. These are small concerns with a small capital only and about 75 maunds of soap are manufactured daily.

Cold Storage and Ice-cream.

There are three cold storages in the district. Saran Cold Storage and the North India Cold Storage are located at Chapra. Another Cold Storage is located at Mirganj. Their capital outlay is about two lakhs of rupees each and they store potatoes and fruits. The capacity of each storage is about 2,500 maunds only. Mostly they keep products of the agriculturists and charge Rs. 7½ per maund per season. The potatoes are mainly stored for the purpose of seed.

There are ten small ice-cream concerns in the district. Every concern maintains a few skilled labourers and the produce is sold on commission basis to the sellers.

Small-scale Industries.

Food-processing Industry.

Rice, Oil, Dal and Flour Mills.—There are 10 oil mills in the district (1956-57). The number of castor oil pressing mill is 19, out of which 15 are at Chapra, 2 at Maharajganj, and the other 2 at Jamsbazar. There are 148 flour mills, 67 in the Sadar subdivision, 69 in Siwan subdivision and 12 in Gopalganj subdivision. Saran is a deficit area, so far as rice is concerned, and as such the smooth working of the rice mills frequently suffer a great deal for want of raw materials (paddy). So the number of rice mills is very small. Administrative controls on the supply and consumption of foodgrains were enforced after the Second World War. There was a Monopoly Procurement Scheme of Government, under which Government used to procure paddy and make over the paddy to the mills for husking in lieu of which these mills got milling charges only. Later on some mills were permitted to purchase paddy on behalf of the Government and were asked to supply the polished rice to Government at the controlled rate. But due to scarcity it was difficult to

procure paddy at the rate fixed by Government and the result was that almost all the mills were closed for some time. After the lifting of control they began to work satisfactorily, but owing to scarcity caused by drought for the last two consecutive years the mills have suffered a lot.

As regards oil mills, it should be mentioned here that in the latter part of the nineteenth century Saran held an important position in Eastern India so far as oil-seeds were concerned. Even now the oil industry holds an important position in the district. The extraction of oil is carried on by mills and by indigenous *kolhus*, oil-pressing contraptions worked by bullock power or hand-process.

To meet the supply of the oil-seeds to the mills, import has to be made from Uttar Pradesh. The names and locations of the different larger oil mills are as follows :— (1) Bihar Ginning Factory and Oil Mills, Siwan, (2) Harishankar Mills, Chapra, (3) Talkher Sah Bijadhar Ram, Ekma, (4) Dharamnath Soap and Oil Mills, Chapra, (5) National Engineering & Company, Siwan, (6) Sahi Technologists and Oil Mills, Maharajganj, (7) Raghubir Ram and Kedar Ram, Maharajganj, (8) Gupta Oil Mills, Chapra, and (9) R. N. Gupta Flour and Oil Mills, Chapra. The Harishankar Mill is a castor mill producer and exports oil to Calcutta. The total number of employees in all these factories in 1951 was 291.

Biscuit factory.—There are nine small biscuit factories in the district. The capital investment of each factory is not more than 1,500 rupees. Mostly they are run and managed by the proprietors themselves with the assistance of two or three labourers. The produce is sold locally. The output is of poor standard.

Biri-making industry.—There were only eight establishments and the total number of persons employed in them were 32 in the census of 1951. Both tobacco and leaves have to be imported and hence this is not a lucrative industry.

Cottage Industries.

Basket-making industry.—Basket-making is common to the entire district. But it is the Mirganj and Maharajganj areas where it is mostly done. About a population of 6,000, mostly of *Kandu* and *Nuniya* castes, earn their livelihood for about seven months in a year by making baskets. But they are thrown out of employment for the rest of the five months. The demand is seasonal. There is a good market for baskets at Patna City, Hajipur and Muzaffarpur for the packing of mango, *lichi* and cauliflower. The baskets are sent out by the river. After the season for the cauliflower, the river traffic becomes suspended. The transport freight of the railway and automobiles is much higher than the river traffic and practically no purchase is made for about five months when river traffic closes. This industry has great potentiality to flourish, provided the transport

difficulty is removed. New ideas could be given for making artistic baskets or other cane articles for other purposes.

Sabai grass rope-making.—*Sabai* grass rope-making industry is one of the most important cottage industries of the district. Some villages of the Chapra Muffasil thana of the Sadar subdivision have this industry. This industry is mainly run by the men and women of *Dhanuk* caste. It affords employment to a population of about 4,000. The finished products are exported to Patna, Arrah and Muzaffarpur. The main exporting centre is Maharajganj. Another kind of rope is made of a blend of *munj* grass and *kas* and this is done by men of *Mallah* caste. The chief centres of this industry are Jantola, Lohalota and Gandpur in Revelganj thana. The main markets for this rope are Ballia, Gorakhpur and Burhaj in Uttar Pradesh. This is a seasonal industry which lasts from December to March only. The *sabai* grass rope is superior to this sort of rope and while the former is sold for about Rs. 50 per maund the latter is sold only for Rs. 16.

Brass utensils manufacturing industry.—This cottage industry is localised at village Parsagarh of Ekma thana and in Siwan. Brass utensils are mainly manufactured by the *Kasera* and *Lohar* castes. Various cooking utensils are made. *Kaseras* and *Lohars* manufacture these articles from the second hand, broken or discarded materials. The quality of the finished goods is decidedly better and so they are readily sold. The main markets for these articles are Arrah, Chapra, Siwan, Raxaul, Hajipur, Muzaffarpur, Darbhanga and Ballia. The manufacturers of these articles are economically so poor that they are unable to carry on their avocation unless they get supply of raw materials from the *mahajans* who pay them only wages, and have the larger share in the proceeds. In the process of casting the wastage is nearly three to four seers per maund. In one week two labourers can cast and finish articles weighing one maund provided their work is not hampered for want of raw materials. Another type of this industry is prevalent in Siwan where *Kaseras* and *Lohars* are engaged in manufacturing utensils of copper. This industry is also carried on through the supply of second hand raw materials. Copper is dearer. The copper utensils in a way encourage the widespread thefts of copper wires of telegraphs and telephones.

In respect of bell metal industry, the names of Brass and Bell Metal Co-operative Society, Parsagarh, and Brass and Bell Metal Co-operative Society, Guthani, are worth mentioning.

The brass work of Siwan has more than a local reputation, which it well deserves, as the materials and the workmanship are good. Clay moulds only are used and the methods of the braziers are primitively simple. They first prepare a clay mould, and after mixing the different metals until the required alloy has been obtained, pour the mixture in the mould. The brass, when cool, is beaten and polished. The materials are brass or *phul*, i.e., a

compound of copper and spelter and it is for its *phul* manufacture that Siwan is best known. Sometimes, to increase the brilliancy, silver is mixed with the copper and spelter, the mixture being called *sausatais*, i.e., 100 : 27; this is only made to order as its manufacture is difficult and it is expensive. A bell metal ware, called *bedha*, is also produced at Siwan from copper and zinc and is worked up into supports for *hookahs* and other ornamental articles. It takes a brilliant polish and is much in demand.

Pottery.—The best pottery in Saran is also made at Siwan from a peculiar kind of tenacious clay, called *kohrauti*, found close to the town. Much of the pottery turned out is of indigenous shape and decoration, although it has a much higher finish than is generally found in the ordinary pottery. The vessels are baked in earthen jars, so as not to come in contact with the flames and when so baked are black. They are then glazed with a mixture of Fuller's earth (*sajji mati*) and clay found at Khodaibagh in the Siwan subdivision and at Gawandari in the Gopalganj subdivision. The mixture is blended with ground mango bark, and applied as a glaze. To complete the ornamentation, quicksilver in a powdered state is applied delicately with a needle to give a silvery colour and brass dust to give a golden colour, the surface being rubbed with a flat stone.

This fine pottery industry is now in a decadent stage due to lack of co-operation among the artisans themselves. The goods produced being bulky in nature, are faced with transport difficulty. The absence of any publicity and marketing organisation for these articles is a handicap. The village potters as such are now mainly engaged to work on the earthen jars and other earthen wares which have ready markets in the locality. If the potters are given new ideas for shape and execution and they are put on to better marketing facilities, there is a great scope for this industry.

Handloom weaving industry.—Handloom industry is one of the old industries of the district and is carried on by the weavers who are in majority among the Muslim community in the district. This industry is mainly localised in Siwan and Gopalganj. Mostly one weaver family has one loom and one or two reeds. Some of the weavers are also cultivators and work on looms when they are free from agricultural work. But there are families whose livelihood is solely dependent on their looms. They weave cloth and also stamp it. The yarn used by the weavers is purchased from the markets. Mostly *gamchas, chadar* and long cloth are manufactured which have ready markets in the district. This cottage industry affords sustenance to about 60,000 people, but is liable to vicissitudes as it has to compete with mill cloth.

There is one ginning factory at Siwan which was established during the latter part of the eighteenth century. In this factory raw cotton is converted into cotton for spinning. A large number

of widows and other female labourers earn their livelihood by ginning raw cotton on small sized tools, called *otas*. Recently the Bihar Branch of the *Khadi Bhandar* has made good progress in ginning, spinning and weaving. A large number of people are engaged in weaving *khadi* cloth at Mairwa, Mirganj, Kail, Siwan and Maharajganj *Khadi Bhandars*. There were about 3,000 handlooms in 1957 working in the district. A newer type of *charkha*, known as *Ambar Charkha*, has been introduced.

In Siwan a few families are engaged in printing cloth. The cloth which is often coarse is first dipped in a mixture of powdered myrabolan and water, and after being dried in the sun it attains a light *khaki* colour. It is then stamped by hand with various figures, emblems of flowers, etc., in black or red with wooden seals or stamps imported from Mirjapore. After being washed, the stamped cloth is dipped in large iron or copper pans, containing some reddish colour mixed with water, which is heated over a fire for about two hours. This process serves to enhance the brilliancy and stability of the printed colours. The cloth, after being taken out of the pan, is again washed and is then ready for sale. It is used for making the quilts, called *razais*, and for *farash* or thin druggets and also for *saris*.

Another common form of printing of cloth consists of stamping coloured *saris* with silver or gold leaf ornamentation. The printer presses a gummed stamp on to the *sari* and then impresses on the gummed impressions a pad, to which gold or silver leaf, imported from Ballia or Patna, is attached. The leaf adheres to the gummed impression and a flower-like pattern is produced. This type of cloth is in great demand at weddings but the impression is effaced when the cloth is washed.

Cheap carpets, called *daris*, are manufactured near Siwan. The apparatus used are of the usual rough kind but the use of the fly shuttle has become more popular. Blankets are manufactured at Sasamusa. A good number of herdsmen, called *Gareris* or shepherds, are engaged in this avocation in the winter season.

Saltpetre industry.—Saltpetre, as mentioned before, was an old major industry of the district. Though the industry has lost all its previous grandeur still it gives sustenance to some of the people of the lower income group, known as *Nuniyas*. The village called Sarain in Baniapur thana is centre for the manufacture of saltpetre. There were 54 saltpetre refiners in the district in 1957-58. The average annual production of saltpetre is about 100 maunds. The refiners procure the crude saltpetre from the *Nuniyas* who are either engaged in it as an independent worker or on a contract basis. The refiners, after refining the crude saltpetre, dispose of their products to the Agents of some Calcutta Firms for further refining. In India it is consumed in the coalfields for the manufacture of gunpowder and in the tea gardens where it is used as fertilizers. In the glass factory it is applied for melting the glass. But the industry is getting

a set back due to a substitute which is used in the coalfields. As a fertiliser also it is losing market in the tea gardens.

Tikuli Industry.

This industry is carried on by members of a Backward Muslim Community, called *Bisati*. The majority of this community live at a village, called Harihansa, about six miles south of Siwan. *Tikuli* is manufactured from the broken glass which they either purchase or collect. The broken glass is melted in an oven called *bhatha*. In this industry both males and females have equal share. The manual work in melting the glass is done by the male members of the family but it is the women who give the final finish and design. The chief markets of *Tikuli* are Banaras, Patna and Calcutta. About 200 people are engaged in the industry. The finished product, *Tikuli*, is used by the ladies on the forehead as an ornament.

Ghee Industry.

Ghee industry is an old indigenous industry of the district. This industry is carried on chiefly by the members of the *Goala* or *Ahir* caste. Probably every farmer of some means has a cow or buffalo for milk and *ghee*. Before the introduction of hydrogenated oil, *ghee* was the chief medium of cooking. Raw milk, especially of cow, is now in more demand than the *ghee*. The absence of pasturage has also affected the industry. The cost of rearing cattle has considerably gone up and people find it difficult to maintain cows and buffaloes. Although the price of *ghee* has considerably gone up in recent years, it has hardly provided any incentive to keep more milch cattle for milk and *ghee*. This industry is now on the wane. The use of vegetable oils as a cooking medium being much cheaper is rapidly spreading.

Khandsari or Gur Industry.

The *gur* industry is an old industry of Saran. Besides sugar industry, molasses are also prepared by the cultivators who grow the cane and press the juice, either with the old fashioned *kolher*, a kind of pestle and mortar arrangement also used for pressing oil, or more commonly with iron roller mills worked by a bullock. Generally, the sugarcane not consumed by the sugar mills is utilised for the purpose of making *gur*. The manufacture of *gur* is more extensive in the Siwan subdivision. *Gur* is mostly consumed locally.

Leather Industry.

Cattle hides are tanned by the local *Chamars* (tanner) by indigenous method. They dip the hide for a few hours in lime, take it out and after filling the same with small broken pieces of *banjhi* shrubs soaked in water, hang it like cloth. The leather is allowed to remain hanging till it assumes fawn colour when it is dried. The leather so tanned is not very soft and durable but is good enough for many purposes, particularly for rough shoe-making.

The number of tanners exclusively engaged in tanning is not large in Saran. According to the census of 1951, there were only 673 persons engaged in leather, leather products and foot-wear.

The name of Shoemakers' Society, Garkha, deserves a mention as a producer of shoes on a co-operative basis.

It may be mentioned here that a number of Training-*cum*-Production Centres have been started in different Blocks to impart improved technical training to traditional artisans. This is a new venture and has yet to become popular. It is hoped that such Centres will be able to bring about a considerable improvement in the skill of the artisans and help them to improve their economic condition.

Labour and Employers' Organisations.

In this district the unskilled labour is recruited from within the district. A good percentage of the skilled labour, however, comes from outside. Organised labour unions are seen only in the Sugar Mills. The names of the principal industrial establishments with the number of workers employed in 1958 are as follows :—

Name of the Industrial Establishment.	No. of workers employed.
(1) Cawnpore Sugar Works, Ltd., Marhowrah ..	1,403
(2) Saran Engineering Co., Ltd., Marhowrah ..	685
(3) M|s. C. & E. Morton (India), Ltd., Marhowrah	205
(4) Bharat Sugar Mills, Ltd., Sidhwalia ..	600 (approx.)
(5) Vishnu Sugar Mills, Ltd., Harkhua ..	1,142
(6) S. K. G. Sugar Mills, Ltd., Mirganj ..	906
(7) New Savan Sugar Factory, Siwan ..	745
(8) Bihar Sugar Works, Ltd., Pachrukhi ..	1,361
(9) Sasamusa Sugar Works, Ltd., Sasamusa ..	708
(10) S. K. G. Distillery, Mirganj	110

There are labour unions affiliated to the Indian National Trade Union Congress, All-India Trade Union Congress and Hind Mazdoor Sangh. The labour unions at Marhowrah, S. K. G. Sugar Mills, Mirganj, New Savan Sugar Factory, Vishnu Sugar Mills, Harkhua and Sasamusa Sugar Works are affiliated to the Indian National Trade Union Congress. The labour unions at Sidhwalia and Pachrukhi Sugar Mills are affiliated to the Hind Mazdoor Sangh. A second labour union at Sasamusa and Harkhua Sugar Mills are affiliated to the All-India Trade Union Congress. There is not much of affinity between the different labour unions and as a result the sugar industry labourers are somewhat divided among themselves.

Regarding the employers' organisation, some of the industrial concerns are affiliated to the Bihar Chamber of Commerce and the

Indian Sugar Mills' Association, Bihar Branch, with their headquarters at Patna. The Indian Sugar Mills' Association looks after the interest of the employers in the Sugar Mills. Usually when any matter of importance has to be decided at the State level the Indian Sugar Mills' Association is always consulted by the Labour Department.

Welfare of Industrial Labour.

The Labour Officer under the Commissioner of Labour, Bihar, with headquarters at Patna looks after labour welfare work in the different industrial establishments. Particular attention has to be paid to housing condition, recreational, educational and sanitation facilities for the workmen. The employers have to provide canteens, hospitals and dispensaries and other requirements under the Factories Act. Voluntary Labour Welfare Centres, receiving subsidy from the Labour Department, are located at Marhowrah, Pachrukhi and Mirganj.

The Government of Bihar in the Labour Department had started a 'B' type Labour Welfare Centre at Marhowrah in March, 1957. This Centre works under a Labour Welfare Officer assisted by a Lady Assistant Welfare Officer and other staff. The activities of the Centre cover recreation and instruction. The Labour Welfare Centre has its own building. It is getting popular and about 100 persons attend the Labour Welfare Centre per day.

The Industrial Disputes Act with its objectives of maintaining industrial peace by providing a machinery for settlement of individual and collective disputes between the management and their accredited labour unions has been fully utilised. A large number of individual disputes have been settled by conciliation under this Act. Enforcement of minimum wages in respect of *biri*-making, road construction, building operation and transport is implemented. With the enforcement of Bihar Shops and Establishments Act, 1953, within the municipal area of Chapra town from the 1st April 1957 the shopkeepers have an obligation to give certain facilities to their workers. Weekly Holidays Act has also been enforced to provide for a compulsory weekly rest to workers. A very beneficial Act, known as the Employees' Provident Fund Act, 1952, gives certain extra benefits to the Sugar Mill workers. This Act covers 38 industries, out of which sugar is one. The Act authorises the employer to deduct 6½ per cent of the basic wages and dearness allowance of an individual worker and pay the same amount from his end and a deposit is made in the State Bank of India. The individual worker can withdraw the money only when he retires or he is permanently incapacitated or found to suffer from particular diseases like cancer, leprosy or tuberculosis. All the Sugar Mill workers in Saran district have been brought within the purview of this Act.

The Sugar Mills have made provisions for educational, medical, etc., facilities which have been covered elsewhere.

It is understood that every year an average of Rs. 40,000 is distributed to the workers in each sugar factory in the shape of bonus.

Factories provide free quarters, free light, free fuel and free medical aid to its workers who reside in the factory colony. Under the Industrial Housing Scheme it is expected that more quarters will be constructed by each factory for the workers.

A Review.

The discussions under the various sections in this Chapter will show that this district is essentially agricultural and there has been very little of industrialisation. It cannot be said that there is no industrial potentiality in the district. With the completion of the Gandak Project, a very large multi-purpose project, there will be some change in the present agricultural economy of the district. The Gandak Project is awaiting the final approval of the Nepal Government. Even without the implementation of a big scheme like the Gandak Project, there could still be a possible avenue of small industries in this district. There is no reason why there cannot be a number of assembling industries and the possibilities for manufacture of small mechanical parts of sugar mills, re-rolling mills, etc., cannot be ruled out. The chances of opening small industrial concerns for the manufacture of cycle parts, radio components and such other small industries which do not require a very large capital may have to be examined. As has been observed elsewhere, the agricultural economy of the district has almost reached a saturating point and it is necessary that there be an agro-industrial economy to utilise the untapped manpower.

According to the *District Census Hand-Book*, 1951, a population of 77,816 (60,290 males and 17,526 females) were engaged in various industries and services. The distribution is given in Economic Table no. B-III of the 1951 *District Census Hand-Book*. The statistics given below will show the number of economically active persons such as employers, employees and independent workers in various industries of the district :—

Classification of industries.	Total.		Employers.		Employees.		Independent workers.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9
I. Primary industries not elsewhere specified.	950	249	11	3	107	5	832	241
1. Stock raising ..	283	127	11	3	52	..	220	124

Classification of industries.	Total.		Employers.		Employees.		Independent workers.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9
2. Rearing of small animals and insects.	29	..	..	..	3	..	26	..
3. Plantation industries.	70	5	..	..	45	..	25	5
4. Forestry and wood-cutting.	106	44	..	..	..	..	106	44
5. Hunting ..	19	..	..	..	..	..	19	..
6. Fishing ..	443	73	..	..	7	5	436	68
7. Mining and quarrying.	441	79	61	2	83	8	297	69
8. Coal-mining ..	2	..	..	..	2	..	..	..
9. Iron-ore mining	12	..	..	..	12	..	..	..
10. Stone-quarrying, clay and sand pits.	330	45	61	2	64	..	205	43
11. Salt, saltpetre and saline substances.	97	34	..	..	5	8	92	26
II. Processing and manufacture—food-stuffs, textiles, leather and products thereof.	7,101	1,965	247	43	2,823	137	4,031	1,785
1. Food industries otherwise unclassified.	318	36	..	..	14	..	304	36
2. Grains and pulses	236	210	7	..	71	5	158	205
3. Vegetable oil and dairy products.	643	427	..	2	7	7	636	418
4. Sugar Industries	1,567	184	..	..	1,348	26	219	158
5. Beverage ..	395	16	9	..	22	..	364	16
6. Tobacco ..	482	69	8	2	121	15	353	52
7. Cotton textile ..	508	299	14	..	173	4	321	295
8. Wearing apparel (except foot-wears) and made-up textile goods.	1,339	435	82	28	186	20	1,071	387

Classification of industries.	Total.		Employers.		Employees.		Independent workers.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9
9. Textile industries otherwise unclassified.	997	232	87	11	786	40	124	181
10. Leather, leather products and footwear.	616	57	40	..	95	20	481	37
III. Processing and manufacture—metals, chemicals and products thereof.	1,356	217	46	5	220	13	1,090	199
1. Manufacture of metal products otherwise unclassified.	1,119	148	22	1	74	3	1,023	144
2. Iron and Steel (basic manufacture).	55	5	10	3	32	2	13	..
3. Transport equipment.	125	46	14	..	79	6	32	40
4. Electrical machinery, apparels, appliances and supplies.	30	3	..	1	30	2	..	..
5. Manufacture of chemical products otherwise unclassified.	27	15	..	..	5	..	22	15
IV. Processing and manufacture not elsewhere specified.	3,369	1,425	35	11	455	52	2,879	1,362
1. Manufacturing industries otherwise unclassified.	1,085	213	15	4	222	10	848	199
2. Products of petroleum and coal.	2	..	..	..	2	..	..	..
3. Bricks, tiles and other structural clay products.	56	44	..	..	..	21	56	23
4. Cement, cement pipes and other cement products.	11	..	..	..	11	..	..	..

Classification of industries.	Total.		Employers.		Employees.		Independent workers.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9
5. Non-metallic mineral products.	1,076	510	5	4	106	6	965	500
6. Wood and wood-products, other than furniture and fixtures.	1,044	649	10	3	96	10	938	636
7. Furniture and fixtures.	80	7	5	..	17	3	58	4
8. Paper and paper products.	1	2	..	..	1	2	..	..
V. Construction and utilities	2,079	582	..	..	1,033	387	1,046	195
1. Construction and maintenance of works otherwise unclassified.	332	..	..	..	332	..	..	..
2. Construction and maintenance of buildings.	1,172	147	..	..	378	28	794	119
3. Construction and maintenance—roads, bridges and other transport works.	184	4	..	..	70	4	114	..
4. Construction and maintenance operations—Irrigation and other agricultural works.	7	..	..	..	7	..	..	..
5. Works and services—Electric power and gas supply.	36	..	..	..	36	..	..	..
6. Works and services—Domestic and industrial water-supply.	43	105	..	..	25	105	18	..
7. Sanitary works and services (including scavengers).	305	326	..	..	185	250	120	76

The district does not have any forest, mines, stone-quarries or a good pasturage. It is only natural to expect that the population dependent on mines and quarries or stock raising will be very small.

The statistics quoted above fully support this. But as this district has a number of rivers, the small population dependent on fishing requires some notice. It is apparent that a big percentage of the *Mallahs* who are by profession fishermen have taken to boating or other professions. It may be mentioned that there is not much of export in fish from this district and the little quantity of fish that is caught is hardly adequate for local demands.

The statistics will show that a small but sizeable population depends on processing and manufacture of food-stuff, textile, etc., and sugar industries. The statistics above make out a correct picture of the district which is extremely backward from the point of view of industrialisation and the ancillary trade and commerce. Without an expansion of Banking facilities, development of warehousing and marketing organisations, the primary and secondary markets cannot develop much and industries improved. Supply of rural credit is the basic condition for growth of industries, trade and commerce. The discussion in the next chapter will show how poor Banking facilities are at the moment in the district.