

CHAPTER V

INDUSTRIES

OLD TIME INDUSTRIES

In old days, village and cottage industries in Jhajjar area included pottery, black utensil making, leather tanning, glass bangles, stone dressing, salt-making, etc. Brief description of some old industries is given below:-

Pottery.— The village pottery is as old as the country itself and Jhajjar enjoyed a special reputation in this field. Its products were new and the pottery of the district was described as the best among the unglazed collections. In 1864 A.D., an exhibition displaying artefacts from India was held at London. In it, objects created by *kumhars* of the district were also exhibited. The article that attracted the attention of visitors was a *surahi*. *Surahi* is slim-necked water-container which is half turned and half moulded and has a variety of patterns of rosettes and flowing designs, with artistic gargoyle head for spout. *Kumhars* employed special techniques to create *surahis*. The clay, obtained from the dry bed of local ponds or community lands known as *pajawagars*, was dark grey and very tenacious, and chief colouring matters used were *bani*, a red clay largely obtained from Guriani village and applied before baking, and a mixture of *kikar*, gum and mica, the latter of which was fetched from the hill near Mehrouli in Delhi. They made excellent *surahis* (flagons), and sometimes mixed saltpeter in the clay with a view to keep the water cooler¹. They also made earthen vessels, tea-pots, flower-pots, small toys and fancy vases. It also figured prominently in the exhibition for their finish, originality of colour and decorative character. In the exhibition of 1909, Latifi² described it in the following words:-

“*Kagazi* (paper-like) pottery is remarkable for its thinness, and is made by *Kuzgars* (makers of this ware as distinguished from ordinary *Kumhars*) at *Basti Sheikh* in Jullundur and also at Jhajjar, Panipat and a few other places. Clay of good texture is

¹ Rohtak District Gazetteer, 1910, pp. 128-129

² *Ibid.*, 1970, p. 104

used, and is prepared with very great care. The articles generally made are *surahis* (water-jugs), and *katoras* (drinking-cups).”

In addition to *kagazi* ware and black utensils, the *kumhars* of the district were also reputed for making *lakhauri* bricks, which were small in size and their price was 1,000 per rupee. The bricks were called *lakhauri* because their number was always in lakh; and were exported from Bahadurgarh to Delhi in camel carts. In the early 20th century, brick making was a large scale activity at villages Dujana, Dighal, Chhara, Jhajjar, etc.

Leather Tanning.— Ample availability of raw material facilitated the development of leather tanning on cottage and small scale basis in many villages of the district. The method used here was crude and unscientific as in rural areas elsewhere. The *Khatiks* and *Rehgars* who used to undertake this work, did rough tanning with lime and soda. It was much in demand until the products of Kanpur and Meerut came into the field. This indigenous industry died with passage of time.

Stone-dressing.— Stone dressing and carving was another village industry, famous for the workmanship of the artisans. The masonry *chaupals* of the village and many of the *shivalas* were distinctive and handsome, and Beri was famous for its masons.¹ Two idols in the famous Durga Temple of Beri testify to the artistic skill of workers of this area.² Another artistic skill can still be seen in *Dhauri* (*Safed*, white) Masjid of Dujana village. On its premises stands a magnificent building which ran a *madrassa*. The wall of this building is decorated in a unique style with terracotta filigree; its blocks are made of clay.³ This industry is, however, decaying on the account of extensive use of stone chips, reinforced concrete cement and lintel works.

Glass Bangles.— The glass bangles industry in the area of the district was concentrated in Dawala village in Jhajjar tehsil where some 30 families of *kacheras* were engaged in this profession⁴. The *kach* or rough slag glass, from which these people derived their name and their trade, was produced by smelting an alkaline earth found in Gurgaon, Mathura and elsewhere, and

¹ Rohtak District Gazetteer, 1910, p. 131

² *Ibid.*, 1970, p. 105

³ The Tribune article ‘*Kumharr* art down the ages’ by Rajbala Phaugat, dated 2nd May, 2002

⁴ *Op.cit.*, 1970, p. 107

stocked in most bazaars. The following passage from the Rohtak District Gazetteer, 1910 explains the position of glass bangles industry in Jhajjar in the beginning of the 20th century:-

“It comes in three colours, the raw muddy green politely called white, dark brown black, and yellow, and the *kachera* makes a fourth, red, by mixing 3 *chitkas* of copper to the maund of raw *kach*. His material cost him about an *anna* a *ser*, a *ser* produces about 80 bangles which are reeled off on a spindle after melting the slag in a furnace. As he sells them to the retailing *maniar* at 1,000 the rupee, his profits are of the scantiest and indeed seldom exceed two or three *annas* a day.”

There was another class the *lakhera*, who often sold bangles as the *maniar* did, but sometimes decorated them with *lac*, whence the name of the class of artisans. Due to the tough competition of glass bangles from Firozabad in Uttar Pradesh, this industry disappeared completely with the passage of time from the district.

Cotton Manufactures.— Cotton ginning, carding, spinning and weaving is another old industry of the district. Cotton ginning was done manually in every rural household on a small roller mill called *charkhi* or *belna* usually by women, and in case of mercantile classes by the men as well. There was one factory at Bahadurgarh which did cotton ginning in 1900 A.D. and number of persons employed in it were 33 (15 males and 18 females)¹. After cleaning and separating the strands by the *penja* or *dhunnia* with his *pinjan* (bowstring), spinning was entirely done by women and girls at any spare time, and especially in evenings on the *charkha* (spinning wheel) for preparing it for weaving. In addition to *khaddar*, *khes* and *dotahi* were also made. The Jhajjar town was noted for its dyeing industry. It had a considerable manufacture of muslins and woollen goods, and embroidery was also largely carried on. The goods dyed here showed a remarkable range of colours.

Salt.— Salt was manufactured in the Zahidpur or Asadpur villages in Jhajjar tehsil. During the period of Faiz Muhammed Khan in 1813, the work of salt-making was started. The works formed a part of cluster of manufactories known as Sultanpur Mahal, which were spread over an area of 20 square

¹ Rohtak and Dujana State Gazetteer, Statistical Tables, 1912, Table-28

miles. In the beginning of 19th century, famous salt of this village passed through Panipat-Karnal to Punjab in great quantities. Sultanpur salt was of fair quality and an analysis of Zahidpur product made in 1905 showed it to contain 93.6 of sodium chloride as compared with 96 or 97 percent in Liverpool salt, but it could not compete with the better Sambhar salt.¹ This industry continued to decline due to tough competition from the Sambhar-salt and the imposition of duty. Consequently, it became a defunct industry.

INDUSTRIAL PROGRESS AFTER THE PARTITION

Independence in 1947 was coupled with the partition of the country that shattered the economic structure of the district. The emigration of Muslim craftsmen, who formed the backbone of village industries, gave a serious blow to the rural industries and brought about virtual extinction. On the other hand, inflow of displaced persons in large numbers posed the problem of their rehabilitation. There was meagre possibility of starting any basic industry owing to lack of mineral resources in the district. Only *Kankar*, which formed the raw material for manufacture of cement was excavated at Kaliawas and Birohar villages, was supplied to cement factory at Dadri.

The Government of the State had realized that importance of the development of the industrial sector, so the provisions of the State Aid to Industrial Act, 1935, were liberalized. Loans were advanced to the industries and entrepreneurs for the construction of factory buildings, purchase of machinery and equipment, working capital, etc., who want to set up new industrial units or to expand or modernize through its various industrial policies. The industrial units so set up were also eligible for grants-in aid and subsidy on the loans and advances under the Punjab State Aid to Industries Act, 1935. An industrial area was established at Bahadurgarh for which 103.7 acres of land were acquired. Industrial plots of different sizes, ranging from one *kanal* to five acres, were laid out and sold on freehold basis and on easy terms. It generated interest among the local people for participation in industrial enterprises. Further, the rehabilitation of displaced persons also accelerated the pace of progress of industry in the area. Development of large

¹ Rohtak District Gazetteer, 1910, p. 126

and medium scale industries, however, remained concentrated mostly in and around the Bahadurgarh town owing to its tactical placement on historical Delhi-Hisar-Sulemanki trade route and vicinity to national capital Delhi. The development became conspicuous in third five year plan (1961-66) and several industrial units were also set up in the district in later five year plans.

GOVERNMENT ASSURANCE TO INDUSTRIES

After independence, the State Government liberalized the provisions of the Punjab State Aid to Industries Act, 1935. The industrial units set up in the district are given incentives/subsidy on land, building, plant and machinery by the government. The Haryana Promotion of Industries Act and the Haryana Special Economic Zones Act were enacted in 2005 and 2006 respectively. Incentives of Sales Tax exemption /concession /deferment (interest free loans) were provided from time to time under the Industrial and Investment Policies of 2005, 2011 and 2015.

On the recommendations of the State Government, supply of machinery to small scale units on hire-purchase basis on easy terms, is carried out by the National Small Industries Corporation, an agency controlled by Government of India. Also, after the initial payment of twenty to forty percent of the total cost of machinery and equipment purchased, the loanee is allowed the facility to pay in easy annual installments the remaining amount. Built up space on hire-purchase/leasehold basis is also provided to interested entrepreneurs by the Haryana State Industrial and Infrastructure Development Corporation.

Necessary recommendations, wherever necessary, are made to Government of India for import licenses. The quota holders and deserving industries regularly get the supply of their quota, fixed after proper assessment and assessed by the State Government, of raw materials like iron, steel, steam coke, hard coke, copper, zinc, etc.

To look after the Industrial development and monitor its pace in the district, a District Industrial Centre has also been established at Bahadurgarh which works under the control of a General Manager. A Quality Marking Centre and a Heat Treatment Centre have also been established in

Bahadurgarh town to provide the testing facility to the industrial units of the area for engineering and other finished products, and to provide the facilities for tempering work of iron and steel dyes and other machinery equipments to the industrial units of the area, respectively. To promote the industry and to achieve higher standards of workmanship, the Government also extends marketing aid to industries by establishing emporia and organising exhibitions from time to time in which products of various industries are displayed and sold.

The Haryana Enterprise Promotion Board (HEPB) under Enterprise Promotion Policy, 2015 (EPP) has been established in the State, and ‘single roof approval mechanism’ for time bound clearances of new projects, for accelerating the pace of investment, sanctioning special packages for mega projects, and approving any policy initiative has been started. Under this policy food processing industry was identified as a thrust sector and offered attractive fiscal incentives for sector promotion, so to give the required impetus to this sector, the government has also notified, the ‘Haryana Agri-Business and Food Processing Policy, 2018’.

Industrial Estates.— Haryana State Industrial and Infrastructure Development Corporation (HSIIDC), the pioneer institution of the Government in the public sector, having its role as an institutional entrepreneur as well as a development-cum-financial institution for accelerating the pace of industrial growth in the State primarily in the large and medium scale sectors, and to provide infrastructure facilities for the entrepreneurs by developing new industrial estates at strategic locations, has developed 5 industrial estates in the district as given in the table below:-

Name of Industrial Estate	Area (In acres)	Plots/Sheds
Old Industrial Area, Bahadurgarh	107.30	85
Modern Industrial Estates, Part-I and II, Jhajjar	497.00	2,322
HSIIDC (Footwear Park) Sector-17, Jhajjar	341.84	368
HSIIDC Industrial, Sector-16, Jhajjar	273.00	251
HSIIDC Industrial Sector 4 B, Jhajjar	177.00	26

Haryana Financial Corporation.— The Haryana Financial Corporation was engaged in extending financial assistance by the way of lending term loans to Micro, Small and Medium Enterprises for setting up new units as well as expansion and modernization of existing units. Due to high cost of borrowing, insufficient spread and competitive rate of interest offered by banks/financial institutions including Small Industries Development Bank of India, the Corporation was not able to compete in the market and stopped fresh sanctions of loans in May, 2010. Loans sanctioned and disbursed by the Haryana Financial Corporation in the district from 2000-01 to 2009-10 are as under:-

(₹in lakh)			
Financial Year	No. of Units	Sanctions	Disbursements
2000-2001	4	48.53	36.60
2001-2002	5	302.60	287.17
2002-2003	4	165.00	136.44
2003-2004	1	156.00	156.00
2004-2005	3	61.88	61.88
2005-2006	2	42.50	29.38
2006-2007	2	56.00	39.16
2007-2008	-	-	-
2008-2009	2	68.00	54.39
2009-2010	5	254.20	123.11

Thereafter, Haryana Financial Corporation only assists the desirous Micro, Small and Medium Enterprises in getting financial assistance through the nationalised banks, private banks and *Kshetriya Gramin Bank*, etc., as per their requirements after getting such units registered from District Industries Centre.

INDUSTRIAL GROWTH

In 1998, there were 1,447 registered units in Jhajjar district whose capital investment was ₹139 crore and these provided employment to 3,831 persons. After nearly a decade in 2009, there were total 1,668 registered units with a total capital investment of ₹1,642 crore, production capacity of ₹3,935 crore with 21,320 employees. Since then, the economy is on the uptick,

industrial growth is booming, exports are zooming, farms are overflowing with produce, living standards have improved, and life is fast becoming more liveable in the district. During 2009 and 2018, the Large and Medium industries and Small Scale industrial units increased by 71 percent and 94.5 percent, respectively. The table below reflects the industrial growth in the district with sector-wise number of units, capital investment, production capacity and employment therein:-

Year	Sector	Industrial Units	Capital Investment (₹in crore)	Production capacity (₹in crore)	Number of persons employed
2009	L& M	38	1,316	3,354	9,928
	SSI	1,630	326	581	11,392
Total		1,668	1,642	3,935	21,320
2018	L& M	65	17,500	32,000	20,000
	SSI	3,245	1,909	3,000	40,000
Total		3,310	19,409	35,000	60,000

LARGE AND MEDIUM INDUSTRIES

The district, in 2018, had 65 large and medium scale industrial units with capital investment of 17,500 crore having production capacity of 32,000 crore which provided employment for 20,000 persons. Brief of prominent large and medium industries of the district is given below:-

HSIL Limited.— The Bahadurgarh unit of HSIL limited was first incorporated as Hindustan Twyford's Limited in 1962 in collaboration with Twyford's Limited, United Kingdom for the manufacture of vitreous china sanitary-ware and accessories and the pilot production was started in the month of July. The products manufactured here are sanitary wares, sinks, seat-covers and fittings which also exported to various countries like Australia, Denmark, Guiana, Hong Kong, United Kingdom and Uganda. The Company changed its name to 'Hindustan Sanitary Ware & Industries Limited' in 1969, and again in 2009 to 'HSIL Limited'. The average employment of the factory in 1965-66 was 542 persons and its production ₹85 lakh. In March 2018, the unit with a capital investment of ₹1858.53 crore and 854

employees, had attained production worth ₹2284.51 crore and exported goods worth ₹1.05 crore.

Hindustan National Glass & Industries Limited.—This industrial unit of HNGIL was established in Bahadurgarh in 1964 for the production of glass bottles and pressed tumblers with a capital investment of 81 lakh. Production worth ₹67.51 lakh was reached with 501 employees in 1965-66, the Delhi Milk Supply Scheme and soft drink companies being major consumer in northern India. The company now manufactures wide range of light weight strong glass containers using narrow neck press and blow (NNPB) technology for variety of products including pharmaceuticals, vials, liquor, beer, beverages, cosmetics and processed food. This industrial unit is exporting its product “Glass Bottles” to Bangladesh, Brazil, Colombia, Saudi Arabia, Turkey, Italy, Nepal, USA, etc. The industrial unit had a capital investment of ₹39.72 crore and provides employment to 889 persons.

Swastik Pipes Limited.—This industrial unit of the company was established in Asaudha village in 1971-72 with capital investment of ₹260.91 lakh to produce high quality Black and Galvanised steel Pipes/Tubes. Stainless steel pipe production was also started in 2008. The company also exports these products to various countries like United Kingdom, France, Netherland, Ethiopia, U.A.E., and Germany, etc. The unit had 150 employees and produced goods worth ₹680 crore.

Somany Ceramics.—This industrial unit established in Kassar, Bahadurgarh started its commercial production in November, 1971 with an annual capacity of 0.52 million square metres. The CE certified unit has the facility of Digital Printing technology and manufactures export quality ceramic wall and floor, polished vitrified tiles, glazed vitrified tiles, full body glazed vitrified tiles, digital tiles, sanitary ware and bath fittings as well as tile laying solutions, etc. The company also has a patent for its VC Shield Hardcoat Technology. In 2017-18, the industrial unit with a capital investment of ₹51.25 crore and 1291 employees attained production worth ₹538.45 crore and exported goods worth ₹54.98 crore.

Surya Roshini Limited.— This manufacturing plant was established in Bahadurgarh in 1973-74. This unit manufactures export quality ERW Pipes and Tubes, and Cold Rolled Steel Strips in both galvanized and black varieties, in sizes ranging from 15mm NB to 400mm NB and in various specifications. The large diameter pipes of 100mm and above are very popular, and are specially made in grades like API 5L grades A & B, as well as 5L X42, X46, X52, X56, X60, X65 and X70 (American Petroleum Institute). In 2017-18, the industrial unit with a capital investment of ₹300.72 crore and 1071 employees had exported goods worth ₹34.98 crore.

Parle Biscuits Private Limited.— The unit was established in village Sankhol in 1974-75. This is a National fame industrial company of the district making biscuits, confectionery, rusks, snacks and chocolates. In 2017-18, the Bahadurgarh unit had a capital investment of ₹126.11 crore and 996 employees.

Hindustan Petroleum Corporation Limited (HPCL) Terminal.— HPCL is transporting petroleum products i.e. petroleum and diesel, and other specified products from their terminal near Mundra in Gujarat to Bahadurgarh through a dedicated onshore pipeline terminating at the existing HPCL Terminal Bahadurgarh that was established in 1993-94 in village Asaudha Sewan. The unit at terminal also provides storage and bottling of liquefied petroleum gas (LPG). In 2017-18, the capital investment of the unit was ₹18.33 crore with 180 employees.

Relaxo Footwears Limited.— The manufacturing unit of this national fame industry known for its products “Footwear” was established in Bahadurgarh in 1995-96 followed by four more industrial units in later years. These units make quality products for domestic use and for export to various countries like Saudi Arabia, Bahrain, Kuwait, Katar, Oman and UAE. In 2017-18, these units in Bahadurgarh with capacity of producing 13.28 crore pairs worth 1037.22 crore, had capital investment of ₹456.74 crore and 3,172 employees. The company exported goods worth ₹9.26 crore.

Sumanglam Footwear Private Limited.— This unit was established in 1996-97

in Bahadurgarh. It is a 100 percent export oriented unit which manufactures injected leather shoes and sandals. The products manufactured here are exported to various middle-east countries like Germany, Norway, Sudan, Belgium, Sweden, Spain, Finland, Malta, Greece, and Austria. In 2017-18, the unit had a total capital investment of ₹8.95 crore and provided employment to 197 persons. It recorded the production worth ₹26.22 crore with ₹20.27 worth exports.

Merino Panel Products Limited.— This industrial unit was established in Rohad village in 1995-96. The company is a manufacturer and exporter of decorative laminated and panel products like laminate chair and table, ply wood table, etc. In 2017-18, the capital investment of this industry was ₹173.91 crore and it provided employment to 1608 persons. The units produced goods worth ₹458 crore and made exports worth ₹148.34 crore.

Hindustan Colas Limited (HINCOL).— Incorporated in 1996, HINCOL is a joint venture between two global giants HPCL-India's premier oil refining and marketing company, and Colas SA, France, a global leader in road construction and infrastructure development business who envision immense potential in the field of bitumen, emulsion and modified products. HINCOL has 9 manufacturing plants in India. Bahadurgarh unit was established by the company in Asaudha village in 1997-98. In 2017-18, the capital investment of the unit was ₹4.75 crore. It provided employment to 15 persons and produced ₹93.97 crore.

Rishab Farms and Industries Limited.— This industry was established in Khalikpur village in 2009-10. The unit manufactures polypropylene and polyethylene fabric, leno/paper bags, polypropylene/high density polyethylene bags and woven sacks, which are widely used for packing cement, sand, sugar, food grain, vegetables, fertilizers, etc. In 2017-18, the capital investment of this unit was ₹10.78 crore and it produced goods worth ₹22.67 crore with 53 employees.

Zeco Aircon Industries Private Limited.— This unit was established in Bahadurgarh in 2005-06. The unit produces reliable and superior quality air

handling units, air washers and other products for air management systems like factory fabricated ductwork, pre-insulated pipes, coils, and components to control air flow and temperature, etc. In 2017-18, the unit with capital investment of ₹17.76 crore and 200 employees produced goods worth ₹91.19 crore and made exports worth ₹1.34 crore.

JSL Lifestyle Limited.— The industrial unit was established in Bahadurgarh in 2007-08. It is a manufacturer of export quality stainless steel modular kitchens, home ware, kitchen ware, decor accessories and other electro, mechanical domestic appliances. In 2017-18, its production was worth ₹97.31 crore and export was worth of ₹94.22 crore. The capital investment of the unit was ₹20.65 crore and it provided employment to 974 persons.

Rinder India Private Limited.— This industrial unit was established in 2009-10 in Bahadurgarh. It caters to the requirements of automotive lighting solutions for two wheelers and commercial vehicles. In 2017-18, its production was worth of ₹103 crore with 415 employees.

Panasonic India Private Limited.— This industrial unit of the company was set up in Dadri Toe in 2012-13. Domestic appliances like Air Conditioner, Washing Machines, and welding machine, plasma cutting machines, spot welding machine, arc welding robots, etc., are manufactured here. In 2017-18, the production of the unit was worth ₹878.5 crore with a capital investment of ₹450 crore. It made exports worth ₹52.58 crore and provided employment to 715 persons.

J. K. Lakshmi Cement Limited, Jhajjar.— This industry was set up in the district 2012-13, after and due to setting up of two Power Plants namely ‘Indira Gandhi Super Thermal Power Plant, Jharli’ and ‘Mahatma Gandhi Super Thermal Power Plant, Khanpur Khurd’ by the Government in public sector as large quantity of fly ash is generated by these power plants which constitutes a major raw material for the cement industry. The capital investment of the cement plant was ₹351.56 crore in 2017-18 and it provided employment to 330 persons. It produced goods worth ₹367.40 crore.

Magicrete Building Solutions Pvt. Ltd., Matanhail.— This industrial unit

started operations in 2015-16. It produces autoclaved aerated fly ash blocks. It has a production capacity of 30000 cubic metres per month. The capital investment in the unit in 2017-18 was ₹46.33 crore and it provided employment to 60 persons.

M/s ADS Spirits Pvt. Ltd., Bahadurgarh.— This industrial unit started operations in 2016-17. It produces extra neutral alcohol, rectified spirit, etc. The capital investment in the unit in 2017-18 was ₹72 crore and it provided employment to 180 persons.

A list of some prominent large and medium scale industrial units of the district, excluding those mentioned above, is given in Table-XIV of the Appendix.

SMALL SCALE INDUSTRIES

The small scale industries play a significant role in the economic activity and advancement of an area especially in terms of industrialization. The small industry sector is a useful vehicle for growth, and for the creation of new employment opportunities on a wide scale in the shortest possible time. Small and Medium enterprises account for major part of the private sector industrial workers and hence occupy an important position in the industrial structure of a given area. Industrialization of an area accelerates its economic development through structural transformation.

In the Jhajjar district, footwear and footwear accessories industry; machine and machinery, material handling equipment industry; paints, pencils, pesticides and pharma industry; and chemical industry are major contributors to the small scale industry segment. Oil and lubricate based industry; radiators and railways parts industries; leather based industries; surgical item industries; batteries and battery accessories industries; cable and wire industry; casting industry; chemical industry; electrical goods industry; fabric industry; fabrications industry; fibre sheets industry; fire fighting industry; floor polish and foam industry; readymade garments industry; gearbox generators and glass products industry; hardware industry; heat treatment industry; hoses and hydraulic items industry; iron and steel industry, etc., constitute relatively

smaller groups of SSI. In the district, there were 3,245 SSI units with capital investment of 1,909 crore having production capacity of 3,000 crore and employment for 40,000 persons as on 31st March, 2018. There are many sectors in the small scale industry of the district which are briefed below:-

Machine and Machinery, Material Handling Equipment Industries.—

These industries manufacture machine parts, machine handling equipments like cranes and pulley, etc. There are 13 main units of machine and machinery, material handling equipment units in the district. With a total capital investment of ₹27 crore, these units provided employment to 315 persons and produced goods worth ₹65 crore in 2017-18.

Oil and Lubricant based Industries.— There are 7 main units of oil and lubricant based units in the district with capital investment of ₹5.59 crore providing employment to 68 employees. In 2017-18, these produced goods worth ₹56 crore.

Paints, Pencil, Pesticides and Pharma Industries.— There are 20 units involved in the production of spray of paints, chemicals, insecticides, pesticides or manufacture medicines, plastic goods like helmets, plastic bags or ply woods, etc., in the district. In 2017-18, these units provided employment to 1,484 persons, had capital investment of ₹22.39 crore and produced goods worth ₹600 crore.

Radiators and Railways Parts Industries.— These industrial units manufacture radiators, grooved rubber sole plate, sheets and footwear, or spare parts of railways. There were 7 prominent units in the district with total investment of ₹8 crore which provided employment to 190 persons and had produced goods worth ₹35 crore during 2017-18.

Leather based Industries.—There are 3 famous industrial units of leather based units in the district, which are engaged in preparation of leather, leather tanning, production of leather cloth and readymade leather garments, etc. In 2017-18, the total capital investment in these units was ₹7.98 crore. These units produced goods worth ₹127 crore and providing employment to 250 persons.

Surgical Items Industries.— There were such 4 units in the district with total

investment of ₹21 crore in 2017-18 engaged in manufacturing of medical equipments like disposable syringes, adhesive tape or surgical parts. These units provided employment to 280 persons and their total production was ₹110 crore during the said year.

Auto Parts Manufacturing Industries.— The district has such 13 main SSI units engaged in the manufacture of electrical parts, tractor spare parts like head lights, clutch facing, gears, piston and piston rings, brake linings, etc., for auto industries. In 2017-18, these units had a total investment of ₹5.90 crore and produced goods worth ₹36.66 crore besides providing employment to 310 persons.

Bakery Industries and Flour Mills.— There are 3 notable flour mills and 3 major bakery units in the district engaged in grinding of cereals, and production of biscuits, snacks, cakes, bread, cookies, etc. These units had a total investment of ₹1.71 crore, produced goods worth about ₹25 crore and had an employment of 130 persons during 2017-18.

Batteries and Batteries Accessories Industries.—There are 3 main small scale industrial units engaged in the manufacture of batteries or other battery accessories. During 2017-18, their total production was worth ₹34.17 crore with a total investment of ₹7.01 crore, and these provided employment to 70 persons.

Blower Industries.— There are two major SSI units of the district engaged in the manufacturing of blowers, fan cyclone, etc. During 2017-18, these units employed 84 persons and had a total capital investment of 704 lakh. The total production of these units was worth ₹33.18 crore.

Cables and Wires Industries.— There are two main SSI units in the district engaged in the production of wires, cables or wire mesh. In 2017-18, these units had a total investment of ₹170 lakh, provided employment to 70 persons and produced goods worth ₹25 crore.

Chemical Industries.— These industrial units manufacture chemicals/agro chemicals like insecticides like Zinc oxide, Sodium bisulphate, etc. There are

12 such chemical industrial units in the district. During 2017-18, with capital investment of ₹13 crore, these SSI units provided employment to 600 persons and produced chemicals worth ₹120 crore.

Control Panel Industries.— There are 2 major SSI units in the district engaged in the manufacture electrical control panels. In 2017-18, these units had a total investment of ₹200 lakh and produced worth ₹1100 lakh of goods with 100 employees.

Electrical Goods Industries.— There are 7 main small scale industrial units in the district which are engaged in the manufacture of electrical goods like conduit pipes, junction boxes, PVC pipes, fancy lights, electrical wires, miniature circuit breaker boards, etc. In 2017-18, these units had a total investment of ₹2.10 crore and produced goods worth ₹18.27 crore. These units provided employment to 108 persons.

Fasteners, Fiber Sheet and Fire Fighting Industries.—There are 4 major small scale industrial units engaged in the manufacture of bolts, fibre glass, fire fighting equipments, aero fasteners, etc. In 2017-18, these units had total investment of ₹8 crore and generated goods worth ₹45 crore with 110 employees.

Footwear and Footwear Accessories Industries.— There are 19 prominent small scale industrial units in the district which are engaged in production of quality footwear and footwear accessories like soles, laces, etc. The total capital investment of these units during 2017-18 was ₹34 crore, production was worth ₹1330 crore and had employed 4000 persons.

Fabrication Industries.— These industrial units are engaged in fabrication works like engineering buildings, hoist and cranes, mild steel/stainless steel alloy, burner and blower, etc. In 2017-18, there were 4 such main small scale industrial units in the district which fabricated goods worth ₹200 crore. These units employed 240 persons and had total investment of ₹12 crore.

Readymade Garment Industries.— There are 2 major SSI units engaged in the production of reflective garments and readymade garments. In 2017-18,

these units provided employment to 27 persons, had capital investment of ₹2.02 crore, and produced goods worth ₹4.90 crore.

Gasket Industries.— There are 2 main SSI units in the district engaged in manufacture of automotive gaskets, rubber components, sealing items, etc. In 2017-18, these units had capital investment of ₹8.59 crore, provided employment to 200 persons and manufactured goods worth ₹13 crore.

Gear Box, Generators, and Glass Products Industries.— There was only one major SSI units in the district that was engaged in production of gear boxes, generators and toughened glass in 2017-18. The unit provided employment to 9 persons, had total capital investment of ₹40 lakh and its production was worth ₹96 lakh.

Hardware, Heat Treatment, Hoses and Hydraulic items Industries.— There are 11 major small scale industrial units in the district engaged in production of hardware, heat treatment and hydraulic items like door handle, bath fitting accessories, hoses, door closures, hydraulic items, etc. In 2017-18, the total capital investment in these SSI units was ₹12.86 crore. These units provided employment to 228 persons and generated goods worth ₹39.37 crore.

Iron and Steel Industries.— There were 7 prominent units in the district with total investment of ₹9.79 crore which were engaged in production of iron and steel products like metal strips, steel tubes and pipes, etc. These units produced goods worth ₹78.19 crore, and provided employment to 124 persons.

Besides above, there are many small scales industries engaged in the manufacture of items related to different facets of life. A list of some prominent Small Scale Industrial units is given in the Table - XV of the Appendix.

TOWN WISE DISTRIBUTION OF INDUSTRIES

The Government has notified the revised categorization of blocks under Enterprises Promotion Policy, 2015¹. Bahadurgarh has been placed in Block 'A' because of industrially developed area, Jhajjar and Matanhail in

¹ Department of Industries and Commerce, Haryana vide their notification no. 49/43/2015-4IB1, dated 2.6.2016

Block 'B' being the areas of intermediate industrial development. Beri and Salhawas are placed in Blocks 'C' and 'D' as industrially backward and most industrially backward areas, respectively. The distribution of industries in the five major towns of the district as in 2017-18 is given below:

Town	Industries
Bahadurgarh	Steel pipes, Sanitary ware, Paints & Chemicals, Lubricants, Foot wears, Rubber goods, Industrial machinery & equipments, Bakery, Ceramics tiles, Flour, Air conditioning units, Agriculture implements and harrow discs, Steel wire, Pharmaceuticals and Surgical disposable items, Hydraulics equipments, Brass ware, Bathroom fittings items, Plastic goods and Fabrication units, etc.
Jhajjar	Leather tanneries & finishing, Chemicals, Ice, Bakery, Steel rolling, Shutters and trunk manufacturing, Hosiery, Buttons, Electric goods, Desi jutties, etc.
Beri	Traditional industrial units such as Desi jutties, earthen pots, bricks, Agro based implements, Cement goods, etc.
Badli	Cement pipes, Bricks and Steel pipes, etc.
Matanhail	Power units, Cement, Bricks kiln, Fly ash brick units, etc.

VILLAGE AND COTTAGE INDUSTRIES

Village and cottage industries offer opportunities of employment to the rural masses and promote their entrepreneurial and technical skills. Village and cottage industry is defined to be an enterprise or series of operations carried on by a workman skilled in the craft in his own responsibility, works mainly in his own home using his own tools and materials and provides his own labour or at the most with the support of his family members. Need of promotion of these industries opens avenues for new vocations to enterprising persons and provides entrepreneurial and employment opportunities for ever increasing population. Khadi and Village Industries Board (KVIB) in the State work for the development of Village and Cottage industry in the districts, and provide financial assistance for establishing village industries. These village industries, broadly segregated in seven groups, make use of the locally available raw material and help to build up a strong rural economy in terms of money and wealth. Brief description of

some of these village and cotton industry is given below:-

Pottery industry.— Pottery has been the main mineral based village industry in the district since long. About 125 Prajapati families (potters) residing in 16 villages of the district that had come from Rewari some thousand years ago. Happy from potters' work, the then Nawab gifted some area where they could practice their craft and settle. Owing to its proximity with the cantonment area where the the Nawab's army used to stay, this area was also named *chhavani* and is still occupied by the potter families. The earthen lamps designed by them have lighted up, homes in metropolitan cities like Mumbai, Jaipur, Surat, Pune, Delhi, etc., and are even exported to Canada, Brazil, Germany, etc. There is a great demand of pottery articles from the district in general, and Jhajjar and Beri in specific, which have evolved with time and incorporated need based improvements while competing with porcelain and plastic wares. The new introduction of units in this industry, however, are less and occasional. In 2017-18, on an average 120 to 150 persons were involved in this cottage industry in every village.

Leather tanning industry.— Tanning is an process by which putrescible animal hides and skins are preserved from decay and converted into 'leather' which is far more sturdier and less perishable. In the past, this industry flourished in the rural areas of the district. Introduction of artificial leather and machines in this sector affected the tanning cottage industry of the district adversely. The manual tanning has become extinct and the cottage level tanneries have almost vanished. There was only 1 unit with 10 employees engaged in tanning.

Fruits and Vegetables Processing Industry.—This cottage industry involves processing of fruits and vegetables which includes drying, freezing, preparation of juices, jams and jellies to increases the shelf life of these goods. During 2017-18, there were 5 units engaged in the processing of fruits and vegetables in the district which employed 37 persons. The margin money of these units was ₹13.75 lakh.

Service Industry.—These units provides service and support to rural people and artisans and include services if shuttering, repairs of electrical and electronic items, tailoring, tent house, beauty parlours, tyre resole. In 2017-18,

Khadi and Village Industries Board provided assistance to 11 service village level industries in arranging margin money amounting to ₹8.67 lakh. These units provided employment to 25 persons.

Forest Based Industry (Bee-keeping).—This industry is promoted to uplift the financial status of people living in extremely interior rural areas. There were 3 units engaged in bee-keeping with a total of 9 employees in 2017-18 for which margin money amounting to a total ₹3.75 lakh was provided by various banks in the district.

Rural Engineering and Bio Technology Industries.—The manufacture and production of radios, voltage stabilizers, converters, carpentry, blacksmithy, aluminium and non-ferrous industries etc come under the purview of Rural Engineering and Bio Technology Industries. So far, assistance with margin money amounting to ₹19.21 lakh has been extended to ten units, at the project cost of ₹60.20 lakh, in the district.

The data of village industrial units registered from 2008-2009 to 2017-18, showing number, employment, cost and margin money involved is given in the table below:-

(₹in lakh)				
Year	Units	Persons employed	Project Cost	Margin Money
2008-09	3	23	36.80	10.85
2009-10	4	25	26.60	9.30
2010-11	7	55	45.25	13.65
2011-12	9	49	58.53	17.47
2012-13	9	31	39.45	9.35
2013-14	12	60	76.80	22.17
2014-15	9	50	50.00	16.27
2015-16	7	45	72.75	16.80
2016-17	10	62	111.24	27.82
2017-18	31	234	239.24	58.09

EXPORT

In past two decades, the district has witnessed phenomenal industrial growth. One of the major reasons for this growth is its geographical location in the vicinity to Delhi, and other is sharing of long border of its Bahadurgarh

tehsil with the National Capital. The district as such is a part of National Capital Region. The units at Bahadurgarh make a sizeable contribution to the export sector which has acted as an important motivational force for the expansion, diversification, technological up-gradation and overall quality parameters. Major export items are footwear, plastic products, pharmaceuticals and medical equipment, sanitary and ceramics, glass wares, auto components, tools, engineering goods, biscuits, etc. Finished goods from the district based units are also exported to nearly 70 countries including United States, Canada, Europe and West Asia. As a new district in 1998-99, its export was only worth ₹18.97 crore with 13 export units. The number of export units increased steadily to 65 units in 2007-08 and after remaining steady for four years it showed a downward trend till 2013-14 when the export was only ₹536.29 crore with 51 export units. The number of units was however low at 46 units in 2014-15, but the exports in terms of value had registered steep growth of 33.26 percent over value of previous year thereby adding ₹207.89 crore to its financial basket. Since then exports have shown encouraging growth both in number of units and export value. The 67 units comprising of large, medium and small scale industries exported goods and services worth ₹1100.90 crore during 2017-18. The table below shows year-wise number of industrial units engaged in exports and value of goods exported from 2008-09 to 2017-18:-

(₹in crore)		
Year	Number of units	Export Value
2008-09	65	731.13
2009-10	65	572.42
2010-11	65	536.29
2011-12	57	726.89
2012-13	51	867.62
2013-14	51	625.06
2014-15	46	832.95
2015-16	50	974.62
2016-17	51	1093.15
2017-18	67	1100.90

The industrial units of the district have won many State Export Awards. Lists of major export units and of State Export Award winning units

in the district are given in Table - XVI and Table - XVII respectively, of the Appendix.

INDUSTRIAL LABOUR

Industrial labour for expanded industrial activities in Bahadurgarh and Jhajjar generally comprises of inter-state migratory labour, and the majority of these come from adjoining states of Uttar Pradesh, Bihar, West Bengal, Rajasthan, Assam, Chhattisgarh, Madhya Pradesh, Assam, Delhi, etc. Legislations like Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979, The Employees State Insurance Act, Haryana Major Accident Hazard Control Rules, 2009, etc., have been enacted and Schemes like Employees State Insurance Scheme, Employees Provident Fund Scheme, etc., have been enforced for the welfare of industrial labour. Many large scale units are providing residential, educational, recreational, medical and other facilities to labourers. A Survey, "Bonded Labour- A Study of District Jhajjar" was conducted by Labour Department, Haryana in 2012 which reported that there is no existence of bonded labour in the district. About current wages and working conditions of labourers, it was revealed that generally informal agreements reached between the labourers and their employers were normally honoured, and hence it had never been a bone of contention.

Minimum wages of the industrial workers employed in the factories are fixed/revised by the State Government under the Minimum Wages Act, 1948 as amended from time to time. The State Government has classified the workers as Unskilled labourers, Semi-skilled-A, Semi-skilled-B, Skilled-A, Skilled-B and highly skilled, and their minimum wages w.e.f 1.7.2018 have been fixed @ ₹8,541.64/-, ₹8,968.71/-, ₹9,417.13/-, ₹9,887.99/-, ₹10,382.40/- and ₹10,901.52/-per month, respectively and are updated half yearly besides two scheduled employments (domestic workers and sweepers). There is no hard and fast rule governing the higher rates of wages and the principle of demand and supply operates at the time of employment.

In the district in 2018, there were 32 trade unions having 4,432 members,

registered under Trade Union Act, 1926, which were working for the welfare of the labourers, for getting their demands met by the employers and for resolving their complaints. Most of these are affiliated to their central federations like Indian National Trade Union Congress (I.N.T.U.C.), All India Trade Union Congress (A.I.T.U.C), Centre of Indian Trade Union (C.I.T.U.), All India United Trade Union Centre (A.I.U.T.U.C.), etc. Besides above, certain employer's associations like Bahadurgarh Chamber of Commerce and Industries, Bahadurgarh Industries Association, Footwear Park Association, Sampla Industrial Association, etc., are also working in the district for the welfare of the labourers.

In 1998, the office of Labour Officer-cum-Conciliation Officer, Jhajjar was carved out from the office of Labour Officer-cum-Conciliation Officer, Rohtak. The office was shifted from Jhajjar to Bahadurgarh in 2004, and later the post was re-designated as Assistant Labour Commissioner, Jhajjar. He works under the control of Deputy Labour Commissioner, Rohtak, and is assisted by three inspectors in his work. The department seeks to promote a healthy and positive partnership between the labourers, the management, and the government. Besides taking care of the interests of the workers, the department is also sensitive to the needs of the industry. The inspectorate staff conducts inspections from time to time under various labour laws. Prosecutions are launched wherever violations are noticed. The jurisdiction of the inspectorate staff of Labour Department, Haryana posted and stationed in Jhajjar is shown in Table - XVIII of the Appendix.

Labour Legislation.— Labour legislation is necessary to tackle economic and social problems of the labour as civil laws in general do not particularly deal with these problems. These laws are motivated by a humanitarian approach as propounded by the International Labour Organisation, and are based on the principles of social justice. The subject of labour is included in the Concurrent List of the Constitution of India, and both the Central and State Governments are competent to enact legislation on the subject. Accordingly, the State Government has also enacted certain labour legislations to suit the local needs. The Factories Act, 1948; Industrial Disputes Act, 1947; Industrial

Employment Act, 1946; Inter-State Migrant Workmen Act, 1979; Child Labour Act, 1986, etc., are some labour legislations enacted for improving generally the work conditions of the labourers. The details of the provisions made for assuring good working conditions under labour legislations enforced in the district may be seen in Chapter-XVII on 'Other Social Services'.

Industrial Relations.— The Labour Department not only ensures the implementation of labour laws but also creates an enabling environment for enhancing productivity, competitiveness, labour welfare which results in boosting economic development, leading to greater opportunities for job creation. Towards this end, prevention of industrial strife is one of the basic mandates of the Labour Department. The department seeks to promote a healthy and positive partnership between the labour, the management, and the Government. While the department takes care of the interests of the workers, it is also sensitive to the needs of various industries. The Department endeavours to ensure expeditious settlement of the disputes by way of encouraging bi-partite negotiations (Management and Workers) and, if so required, through tri-partite negotiations (Management, Workers and Labour Department).

The relations between the employees and the employers are governed by the Industrial Disputes Act, 1947. The Deputy Labour Commissioner, Rohtak and Assistant Labour Commissioner, Jhajjar at Bahadurgarh are responsible for enforcing it. They are both designated as Conciliation Officer under the Act. As Conciliation Officer, they have been successful in bringing about a large number of agreements between the parties. Emphasis is laid on settlement of disputes through direct negotiations across the table, rather than through compulsory adjudication. The Assistant Labour Commissioner, Bahadurgarh has handled 169 industrial disputes during 2017-18.

Work Committees.— To promote measures for securing and preserving amity and good relations between the employers and the workmen, there is provision in Section 3 of the Industrial Disputes Act, 1947, to set up Work Committee in the industrial establishment having employment of 100 or more

workmen. Such committees consisting of representative of the employers and workmen exist in many industrial establishments in the district like M/s Relaxo Footwear Limited, M/s Somany Ceramics Limited, M/s Surya Roshini Limited, M/s HSIL Limited, etc.

INDUSTRIAL CO-OPERATIVES

The development of industrial cooperatives is essential for healthy environment of industries especially in the cottage and small scale sectors. Therefore, emphasis is laid on the development of industries through co-operatives. The Industrial Co-operative ensures that decentralization of industry is accompanied by proper investment of techniques of production, procurement of raw material and marketing of finished goods. Considerable progress has been made by co-operatives in the field of industry in the district. The Assistant Registrar, Co-operative Societies, also looks after the development of industrial co-operatives in the district. He is assisted by 5 Inspectors and 13 Sub-Inspectors. As on 31st March, 2018, the number of industrial co-operatives societies was 15 with a membership of 224, working capital of ₹4.11crore, share capital of ₹5.43 lakh and deposits worth ₹6.94 lakh.

Industrial Training.— Industrial training plays a vital role in ensuring a speedy flow of technicians for the ever growing industrial activities. To cater to the requirement of skilled manpower for industries, to impart training in improved methods of production, and for the development of industrial training and vocational education, the State Government has developed an extensive network of Industrial Training Institutes (ITIs) in the district. These ITIs function under the control of the Department of Industrial Training and provide training in various engineering and non-engineering trades to meet the requirement of the skilled manpower for the industries. The Department of Industrial Training is given the responsibility to inculcate technological skills amongst youth to empower them for gainful employment through technical and vocational education, and to enhance productivity of formal and non-formal sector of economy by having close interaction with industry.

All the Government Institutions are under the financial control of the Director General, Industrial Training, Haryana. The State Director of Training controls adherence to the syllabi, academic and examination system of the Directorate General of Employment and Training, Ministry of Labour and Employment, Government of India, and awards of final certificates issued by the National Council for vocational Training or Central Apprenticeship Council. Some of trades units are running under State Council of Vocational Training (SCVT), and SCVT certificates are awarded to the graduates of these classes. In 2003-04, Jhajjar had ITI for women only, whereas in Bahadurgarh, ITI (Men) as well as ITI (Women) both were functional. The number of ITIs has increased manifold since then and in 2017-18, these were functioning at Bahadurgarh, Asodha, Bhaproda, Chara, Jhajjar, Gudha, Matanhail, Pahripur, Salhawas, Jahangirpur, Dubaldhan and Khuddan. Details of Industrial Training Institutions working in the district can be seen in Table - XIX of the Appendix.

SOURCES OF POWER

In the past, the diesel generated power was distributed for domestic, commercial, and industrial use like oil seeds crushing, grinding of flour, *dal*, grains, etc., and for saw milling industries. Formerly, when Jhajjar was a part of district Rohtak, a thermal station was established in Bahadurgarh in 1951 which was closed merely two years after its establishment in 1953 when hydroelectric power from Bhakra Nangal Project was made available to the district through the South Punjab Electricity Company. In 1967, when new State of Haryana was carved out from Punjab, there was one 33 KVA (Kilo Volts Ampere) substation at Bahadurgarh, and the hydroelectric power supply to the Jhajjar region came under the control of Rohtak and Delhi divisions of the Haryana State Electricity Board.

Power availability in the district has improved significantly over the last decade. During 2007-08, Low tension lines were 3,623 circuit kilometres, 11 K.V. lines were 2,032 kilometres, and numbers of transformers were 3,716. In 2017-18, low tension line capacity increased to 4,101 circuit kilometres, 11 K.V. lines to 3,342 kilometres and number of transformers to 9,432. Similarly,

number of industrial connections in 2007-08 was 2,592 which increased to 3,818 in 2017-18. Year-wise infrastructural growth with respect to low tension lines, 11 K.V. lines, and number of transformers from 2011-12 to 2017-18 is shown in the table below:-

Year	L.T. Lines	11 K.V. Lines	No. of Transformers
2011-12	3,857	2,812	6,001
2012-13	3,876	2,893	6,413
2013-14	3,957	3,037	7,324
2014-15	4,020	3,144	8,476
2015-16	4,041	3,239	8,740
2016-17	4,069	3,279	9,011
2017-18	4,101	3,342	9,432

Uttar Haryana Bijli Vitran Nigam has formed new Operation circle in the district on 17th October, 2007 in order to provide better facilities of electricity to consumers at the nearest place which are further divided by three operation divisions namely Bahadurgarh Operation Division, Jhajjar Operation Division and Beri Operation Division. Earlier, this area was a part of Rohtak operation circle. Circle is headed by Superintending Engineer, Division by Executive Engineer and Sub-Division by Sub-Divisional Officer. The department is erecting new lines and installing new distribution transformers to augment the existing distribution system. In order to supply adequate and quality power, a network of power substations has been created all over the district.

Jhajjar Division.— This division is feeding electricity to Jhajjar city and 110 villages of the district. Electricity is supplied through one 220KV substation situated at Badhana, one 132 KV substation situated in Jhajjar, and seven other 33KVA substations. In March, 2018, the total installed capacity of all the substations at 11 KV level available with the Division Jhajjar was 173 MVA (Mega Volt Ampere), at 33KV level was 125 MVA and at 132 KV level was 200 MVA. The distribution network comprised of 1191.832 kilometres of high tension (HT) and 1473.88 kilometres of low tension (LT) lines. There

were 3,303 distribution transformers that fed 74,252 consumers of various categories. The total sanctioned load of the consumer had been 15.20 lakh KW against the installed capacity of 173 MVA. The average monthly electricity consumption of the Jhajjar Division remained around 291.1 lakh units per month. The details of existing substations, their respective capacities and feeding sources are as below:-

Name of substations	Total capacity (in MVA)	Feeder source substations
33 KV Jhajjar	25.0	132 KV Jhajjar
Sampla Road	12.5	132 KV Jhajjar
Kunjia	18.0	132 KV Jhajjar
Babepur	10.0	132 KV Kosli
Kaloi	20.0	132 KV Jhajjar
Badli	25.0	132 KV Badli
Machhrauli	30.5	132 KV Machhrauli
132 KV Jhajjar	50 (132/ 33KV) 16 (132/ 11KV)	220 KV S/Stn. Badhana
220 KV Bhadana	200 (220/132KV) 16 (132/ 11KV)	400 KV Kabulpur
132 KV Machhrauli	25 (132/ 33KV)	220 KV S/Stn. Badhana
132 KV Badli	2 x 25 (132/ 33KV)	220 KV S/Stn. Badhana

Bahadurgarh Division.— This division is feeding electric supply to Bahadurgarh city and 43 villages of the district. Bahadurgarh city is mainly fed through one 220 KV Substation situated at Nuna Majra, four 132KV Substations situated at HSIDC, Jhajjar road, MIE and Asauda, and ten other 33 KVA substations. As in March, 2018, the total installed capacity of all the below mentioned substations at 11 KV level available with this division was 290.1/178.6 MVA, at 33 KV level available with this division was 145 MVA, and at 132 KV level available with this division was 300 MVA. The distribution network comprised of 632 kilometres of high tension (HT) and 953 kilometres of low tension (LT) lines. There were 3,045 distribution transformers which fed 87,332 consumers of various categories. The total sanctioned load of the consumer was 4.87 lakh KW against the installed

capacity of 290.1 MVA. The average monthly electricity consumption of this division remained around 835.5 lakh units per month. The details of existing substations, their respective capacities and feeding source are given in as below:-

Name of substations	Total capacity (in MVA)	Feeder source substations
33 KV Old B/garh	20.0	132 KV Jhajjar Road
33 KV Surya Roshani	20.0	132 KV Jhajjar Road
33 KV HNG	18.0	132 KV Jhajjar Road
33 KV MIE Part A	20.0	132 KV MIE
33 KV MIE Part B	22.3	132 KV MIE
33 KV Parnala	10.0	132 KV MIE
33 KV Sector 2	18.0	132 KV Jhajjar Road
33 KV Bupania	16.3	132 KV Badli
33 KV Jasaur Kheri	12.6	132 KV Asauda
33 KV Bamnoli	16.0	132 KV Asauda
132 KV Jhajjar Road	20 (132/ 11 KV) 70 (132/ 33 KV)	220 KV Nuna Majra 220 KV BBMB Narela
132 KV MIE	20 (132/ 11 KV) 50 (132/ 33 KV)	220 KV Sub-station Nuna Majra 220 KV BBMB Narela
132 KV Asauda	25 (132/ 33 KV)	220 KV Sub-station Nuna Majra
132 KV HSIIDC	20 (132/ 11KV)	220 KV Sub-station Nuna Majra
220 KV Nuna Majra	300 (220/132KV) 16 (132/ 11KV)	400 KV Power Grid Daboda

Beri Division.— This division is feeding electric supply to Beri city and 85 villages of the district. The electric supply is fed through three 132 KV sub-station situated in Beri, Matanhail and Bahu, and seven other 33KV sub stations. In March, 2018, the total installed capacity of the sub-stations at 11 KV level available with this division was 154.3 MVA. The distribution network comprised of 1518 kilometres of high tension (HT) and 1674 kilometres of low tension (LT) lines. There were 3,084 distribution transformers which fed 62,860 consumers of various categories in the division. The total sanctioned load of the consumer is 1.29 lakh KW against the installed capacity of 296.8 MVA. The monthly electricity consumption of this

division averaged at 365 lakh units per month. The names of the substations with their respective capacity and feeding source are given below:-

Name of substations	Capacity in MVA	Feeder source substation
33 KV Jahazgarh	16.3	132 KV Jhajjar
33 KV Dubaldhan Majra	12.0	132 KV Beri
33 KV Dhandlan	12.0	132 KV Beri
33 KV Ladain	18.0	132 KV Kosli
33 KV Sasroli	20.0	132 KV Matanhail
33 KV Sehlanga	10.0	132 KV Matanhail
33 KV Malikpur	10.0	132 KV Matanhail
33 KV Chhuchhakwas	8.0	132 KV Matanhail
33 KV Salhawas	15.0	132 KV Kosli
33 KV Akehri Madanpur	15.0	132 KV Kosli
132 KV Beri	41.0	400 KV Kabulpur
132 KV Matanhail	53.5	220 KV Dadri
132 KV Bahu	66.0	400 KV Danoda

Indira Gandhi Super Thermal Power Plant.— This is the largest coal based thermal power plant in Haryana with total proposed area of 2,191 acres of land and installed capacity of 1500 MW, is located between Khanpur Khurd and Jharli village in the district. The daily requirement of coal for the project is about 24,353 tonnes based on average gross calorific value of 3,700 - 4,000 kcal/kg., and 90 percent plant load factor. The coal requirement is about 8 MTPA (Metric Tonnes Per Annum) based on gross calorific value and PLF (Plant Load Factor) with ash content less than 34 percent. The nearest railway station Jharli is 1 kilometre from the site on Rewari - Hisar broad gauge section, and the coal is transported to the power plant from Mahanadi Coalfields Limited by Indian Railways. The power plant comprises of 3 units which are commissioned as per following details:-

Unit	Capacity	Date of first Synchronization	Date of achieving full load	Date of Commercial Declaration
#1	500MW	10/10/2010	31/10/2010	05/03/2011
#2	500MW	21/10/2011	05/11/2011	21/04/2012
#3	500MW	07/11/2011	07/11/2012	26/04/2013

All units are equipped with tangential fired pendant type boilers with a provision of pulverized coal as primary fuel, and light diesel oil and heavy fuel oil as secondary fuels. These units are equipped with individual Natural Draft Cooling Towers. The station has the unique facility of 100 percent fly ash collection in ESP hoppers and off-take of dry ash in bulkers as well as disposal through High Concentration Slurry Discharge system with ash-water ratio of 1:0.66.

The evacuation of power from Indira Gandhi Super Thermal Power Station, Jhajjar is through Double Circuit Transmission Line, Jhajjar-Mundka Line, an ISTS line owned by Aravali Power Company Private Limited (APCPL) and another Double Circuit Transmission Line Jhajjar-Daulatabad line owned by Haryana Vidhyut Power Nigam Limited (HVPNL). Power evacuated from Indira Gandhi Super Thermal Power Station is mostly fed to Northern Electricity Grid, a part of National Grid, which supplies power to Haryana, Delhi, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan, Uttar Pradesh, Uttarakhand, Andhra Pradesh, Kerala and Telangana. The share of Haryana in the evacuated power as per allocation has been 46.20 percent since inception. Performance data of Indira Gandhi Super Thermal Power Project, Jhajjar from 2010-11 to 2017-18 is given in the table below:-

Year	Generation (MU)	PLF (%)	Auxiliary Power Consumption (%)	Oil Consumption (ml/kwh)	Coal Consumption (Kg/kwh)
2010-11	121.140	37.39	11.23	35.22	0.071
2011-12	2427.945	55.28	6.85	3.73	0.802
2012-13	4953.761	58.14	6.00	0.44	0.721
2013-14	5302.872	41.30	7.08	0.74	0.732
2014-15	7025.100	53.46	6.23	0.45	0.778
2015-16	4504.474	45.50	6.60	0.54	0.689
2016-17	5473.746	41.66	6.69	1.09	0.746
2017-18	7734.421	58.06	5.74	0.38	0.656

The project has bagged Swarn Shakti Award from National Thermal Power Corporation Limited (NTPC) for best performance in the area of project

management in 2010-11, and has bagged Greentech Environment Award, 2012 and 2017 for outstanding achievement in environment management.

Mahatma Gandhi Thermal Power Plant.— This coal based supercritical power plant, which is commonly known as the Jhajjar Power Plant, is located near village Khanpur Kalan, and in close proximity to the Indira Gandhi Super Thermal Power Plant. The power plant has an installed capacity of 1,320 MW and covers an area of 494.1 hectares. It is the first coal-based power generation project set up by an independent power producer in the state and one of India's first plants that uses supercritical technology. The use of the supercritical technology in the plant helps to increase the energy efficiency, therefore, reducing carbon emissions. In addition to supercritical technology, the plant has installed Flue Gas Desulphurization (FGD), which has further helped to minimize the environmental impact of the operations. This plant has been developed by the CLP India Power Limited, a subsidiary of CLP Group of People's Republic of China, and is operated by Jhajjar Power Limited (JPL).

The Plant has two units of capacity 660 MW each. Both the units of the plant after successfully synchronization started commercial production in July, 2012. Performance data of Jhajjar Power Plant, from 2012-13 to 2017-18 is given in the table below:-

Year	Generation (MU)	PLF (%)	Auxiliary Power Consumption (%)	Specific Oil Consumption (ml/kwh)	Specific Coal Consumption (ml/kwh)	Coal Consumption (MT)
2012-13	3,075	26.6	7.65	3.141	0.66	20,37,372
2013-14	6,207	53.7	6.17	0.078	0.62	38,36,175
2014-15	6,537	56.5	5.96	0.143	0.60	39,23,869
2015-16	4,952	42.7	6.33	0.455	0.65	32,05,788
2016-17	2,896	25.0	6.43	1.027	0.63	18,37,838
2017-18	7,325	63.3	5.95	0.330	0.59	43,25,691

Power transmission of both units is by 400 KV switchyard. Complete off-take of 1320 MW is evacuated from JPL plant boundary through 4

outgoing lines. Two (double circuit) lines are connected to Danoda substation which is 20 kilometres away, and 2 (double circuit) lines are connected to Kabulpur substation which is 110 kilometres away from the site.

JPL sells electricity to Haryana and North Delhi Power Distribution through power purchase agreement (PPA). Ninety percent of electricity generation is sold to Haryana State through its two DISCOM companies (UHBN and DHBVN), and the remaining 10 percent is sold to North Delhi Power Distribution (Tata Power). The Jhajjar Power Plant was awarded the infrastructure Excellence Award, 2012 in Energy and Power category.

* * * * *