



ICSSR Sponsored
ISSN: 2319-9997

Journal of Nehru Gram Bharati University, 2025; Vol. 14 (II):264-278

Level of Rural industrialization in District Maharajganj (U.P.)

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Received: 29.07.2025

Revised: 18.09.2025

Accepted: 05.10.2025

Abstract

District Maharajganj is an agriculturally dominated and industrially backward area. Most of the industrial development here is small and cottage, agriculture based, forest and animal based industries which are in an unbalanced state. Some areas which are connected by road and railways and are close to the district headquarters are more developed than other sources and the number of industries is found more in them. Rural industrialization provides employment opportunities to the rural population and orients it from traditional agriculture to commercial agriculture, which gives dynamism to rural development. Agriculture and forest products are the main basis of rural industrialization. The development of rural industries has not only paved the way for using agriculture and forest products as raw material in the district but has also encouraged the development of infrastructure elements. For the last few decades, the attraction of human activities is moving away from agriculture towards industry, due to which the migration of rural population towards cities is increasing. Improvement in transport resources like good roads, diesel and electric trains, high capacity trucks and aircraft have helped in developing new industries and businesses, which has increased the mobility of capital and labour.

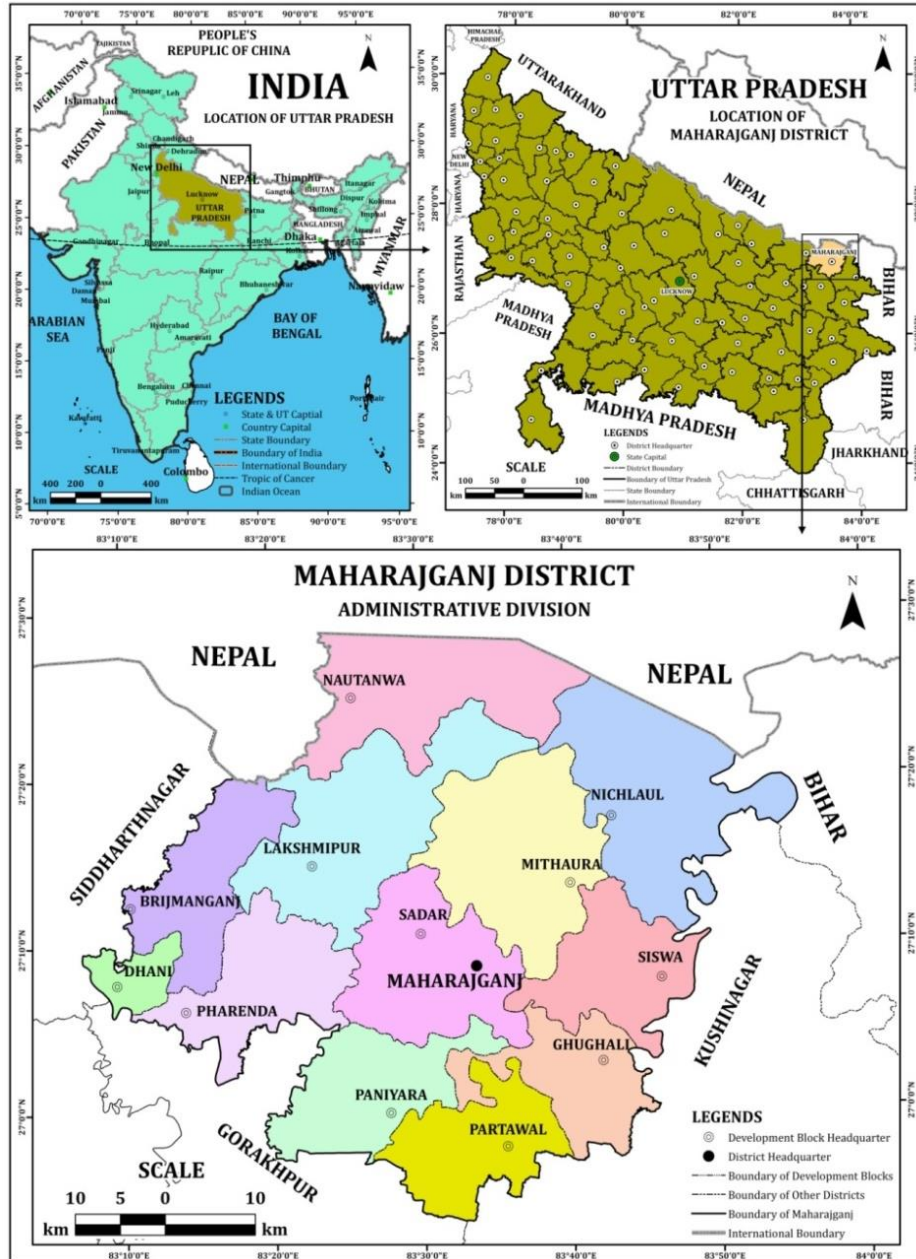
Maharajganj district is located in the north-east of Uttar Pradesh state. It was created on 2 October 1989. Earlier it was a part of Gorakhpur district. Its extension is between 25^o50' to 26^o20' north latitude and 83^o25' to 84^o20' east longitude. The district is an agricultural area in eastern Uttar Pradesh. A total of 10146 rural (small and cottage) industries are operational in the district (March 2017). In which capital investment of Rs 95775.73 lakh has been made and these

directly provide employment to about one lakh people. The distribution of these rural industries in the study area is very uneven. Hence, the development level of industries in the district has been ascertained with respect to their number, capital and employment.

Keywords- *Rural industrialisation, small and cottage industries, level of development, weighted of indicators, capital investment.*

Introduction

The economic activities performed by humans are divided into primary, secondary and tertiary based on their behaviour. The primary category includes occupations which are more closely related to nature. These include hunting, fishing, forestry, animal husbandry, agriculture etc. Mining and manufacturing are included in the second category and services are included in the third category, and transport and business are also included in this. Among these, primary type of occupations are more influenced by natural conditions while the second and third types of occupations are more influenced by human conditions. Industry is more related to manufacturing activities. Hence, the study and analysis of the location of manufacturing industry and the factors determining its location are the basic points of industrial geography. Industrialization plays an important role in the economic system of any country or region. All economic activities related to industrial development which bring about a radical change in the traditional economy of a region and establish a new economic system with modern technology and rapid capital growth rate, and the result of modern activities is called industry. Industrialization plays an important role in the economic system of any country or region. All economic activities related to industrial development bring about a radical change in the traditional economy of a region and establish a new economic system with modern technology and rapid capital growth rate. The result of these modern activities is called industry. Rural industrialization provides dynamism to rural resources and people. The development of rural industries is not only for industrial development but also for social, economic and cultural development and to spread equality and innovation in villages, which will make equal distribution of capital possible. Rural industries play an important role in reducing rural-urban inequality, providing employment opportunities to the rural population and orienting them from traditional agriculture to commercial agriculture.



Source: NATMO, DST, Government of India, Kolkata, 2011 and DCHB- Maharanganj, Part-A, 2011

Location Map

Fig. 1

Methodology and Data Sources

Secondary data has been used in the presented research paper. Which have been obtained from Directorate of Industries Kanpur (data before 2005), Department of Economics and Statistics Lucknow, District Industries Center Maharajganj (data from 2005 to 2017), Vikas Bhawan Maharajganj, government and non-government institutions. Mainly the development level of rural industries has been assessed. Indicators of development level of rural industries, weighted of indicators of development level of rural industries including units/sq km, capital investment per capita and employment per 1000 population, using statistical methods for data analysis, adopting analytical method, development block has been selected as the unit of study and to make the study scientific, with the help of analyzed data, Arc GIS, Paint and Net Paint have been used to prepare tabulation, classification and maps of data by Microsoft Excel.

Objective

1. To study the indicators of the level of development of rural industries in the district block-wise.
2. To analyse the data on the basis of weighted of indicators of the level of development of rural industries which includes units/sq. km, capital investment per person and employment per 1000 population.

Development level of rural industries

The district Maharajganj is a backward area in terms of industrial development. It has all kinds of physical and cultural characteristics and favourable physical conditions for agriculture which produce all kinds of industrial crops. Many agriculture based industries have developed in the study area such as rice mill, flour mill, bakery, oil mill etc. Among these, sugarcane based industries have been playing a major role in rural development. At present, two sugar mills are operational in the district - the first one is JHB Sugar Mill in Gadaura Nichloul development block and the second one is a unit of Indian Potash Limited (Sugar and Chemicals) in Siswa market. While Shri Ganesh Sugar Mill is closed in Anand Nagar Pharenda development block and one unit of UP State Sugar Corporation Limited is closed in Ghughali. That is, apart from the above two working sugar mills, there is no heavy capital industry in the district. Only a few agriculture based (food processing) units are playing an important role in this area (Gautam, 2018). From the industrial point of view, Maharajganj district has immense possibilities.

Table: 1- Indicators of development level of rural industries

Development Block	Units/sq. km ²	Per Person Capital Investment (Rs.)	Employment at Per 1000 Population
	(a)	(b)	(c)
Nautanwa	4.143	6082.167	50.180
Lakshmipur	0.639	559.921	4.591
Nichlaul	2.054	2228.265	48.294
Mithaura	0.796	376.346	10.985
Siswa	2.314	1571.847	15.966
Brijmanganj	0.401	59.034	1.336
Maharajganj	23.871	26017.956	234.489
Ghughali	0.831	194.577	3.003
Paniyara	0.732	295.299	4.082
Partawal	3.085	4399.194	47.680
Dhani	0.776	76.960	3.638
Pharenda	2.131	220.405	7.377
District	3.493	3746.715	38.511

Source: Calculated by the researcher, based on the data of District Industry Center, Maharajganj 2016-17 and Indian Census and UP, 2011.

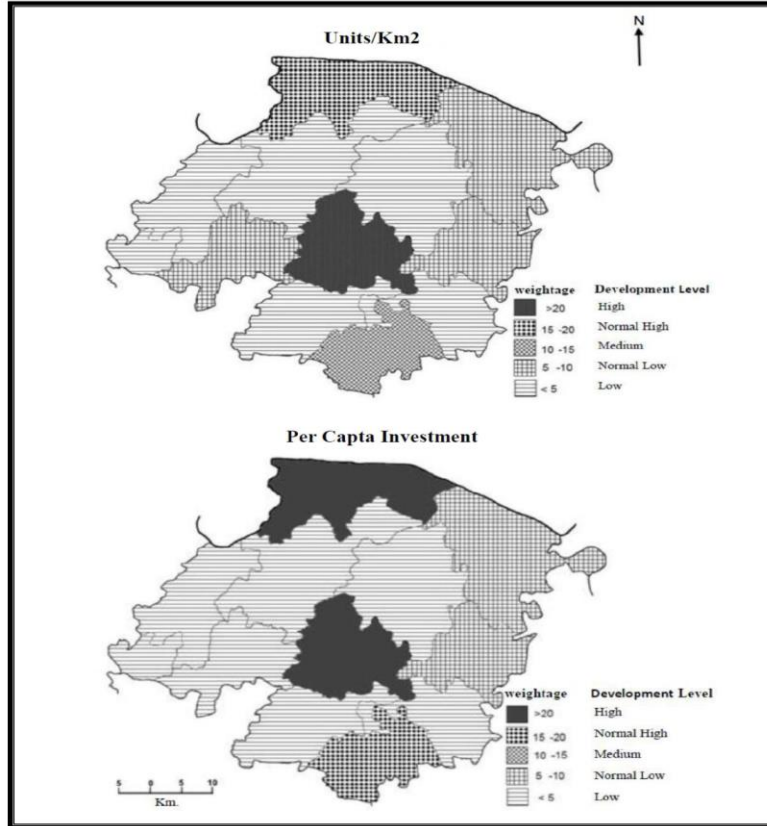
Many scholars have used different methods and variables to find out the level of industrial development. For example, Miller (1962) has used manufacturing employment to find out the level of development. Hartshon (1939) has used the percentage of people employed in manufacturing out of total employment for this purpose. Alexander (1967) has used the level of energy use by each manufacturing centre and E. O. John (1960) has used the manufacturing workers, energy use and value added by manufacturing indices to measure the level of industrial development. Wright (1938) has measured the level of development through manufacturing value addition and Johnson (1983) has used six variables to measure the level of industrial development- (1) Number of people engaged in manufacturing (2) Salary and wages (3) Value addition by manufacturing (4) Ratio of workers engaged in manufacturing to total industrial workers (5) Ratio of workers engaged in manufacturing to total population and (6) Ratio of manufacturing value addition to total

population. Apart from these, many scholars have also tried from time to time to estimate the total weightage of different types of variables for different regions. Most have determined different types of regions by using various types of complex statistical techniques for multivariate analysis, yet identifying industrial concentration is a difficult task (Sharma 2004). There are many difficulties in collecting correct and reliable data of value addition by manufacturing, energy consumption, value of production and investments etc. (Mishra 2010). The standard of living of workers employed in small and cottage industries is given below (Fatima 2000). Verma (2013) presented a study of the level of rural industrial development in Gorakhpur division. These figures alone do not give a true picture of any state of industrial development. In the present study, the development level of rural industries in Maharajganj district has been calculated block-wise. Basis of measuring the development level - number of rural industrial units per square km, capital investment in rural industries per person and number of workers employed in rural industries per 1000 population (Table 1 and Map No. 2).

Table: 2- Weighted of indicators of development level of rural industries

Development Block	Units/sq . km ²	Per Person Capital Investment (Rs.)	Employment at Per 1000 Population	Composite Weighting Values	Composite index
	(a)	(b)	(c)	(a)+(b)+(c)	
Nautanwa	17.355	23.377	21.400	62.132	20.711
Lakshmipur	2.675	2.152	1.958	6.785	2.262
Nichlaul	8.606	8.564	20.595	37.766	12.589
Mithaura	3.335	1.446	4.685	9.466	3.155
Siswa	9.695	6.041	6.809	22.545	7.515
Brijmanganj	1.682	0.227	0.570	2.479	0.826
Maharajganj	100	100	100	300	100
Ghughali	3.481	0.748	1.281	5.509	1.836
Paniyara	3.068	1.135	1.741	5.944	1.981
Partawal	12.923	16.908	20.334	50.165	16.722
Dhani	3.249	0.296	1.551	5.096	1.699
Pharenda	8.926	0.847	3.146	12.919	4.306
District	14.632	14.400	16.423	45.456	15.152

Source: Calculated by the researcher, based on the data of District Industry Center, Maharajganj 2016-17 and Indian Census and UP, 2011.



Source: Calculated by the researcher, based on the data of District Industry Center, Maharajganj 2016-17 and Indian Census and UP, 2011.

Fig. 2

The combined index has been calculated on the basis of weightage values through the following formula (Sharma 2004, 2006, Tiwari and Sharma 2011, 2014)-

$$WV = \frac{N}{M} \times 100$$

Where-

WV= weightage value in the series of variables

M = largest number in the series

N = number given in the series whose weightage is to be found

While calculating the weightage value, the largest number in the series is given a weighted of 100, and then each variable is given a weighted in relation to it. However, the combined weighted value is made by adding the weighted values of each series and each of these numbers is

again given a weighted value. In which the largest number is given a weighted of 100, and then each variable is given a weighage in relation to it (Table 2).

On the basis of the calculated composite index, Maharajganj district has been divided into five levels of industrial development: (1) High industrially developed area (2) Normal highly industrially developed area (3) Medium industrially developed area and (4) Normal low industrially developed area and (5) Low industrially developed area (Table 2). The composite index of the district (15.152) serves as a point for division. Those development blocks which have less weightage than the Level of rural industrialization (composite index) of the district have been placed in medium, normal low and low industrially developed areas. Whose industrial structure is as follows-

(1) Highly developed area: At this level, out of the 12 development blocks of the district, only two development blocks Maharajganj (combined index 100) and Nautanwa (combined index 20.71) come. This area has 67.28 percent of the total industrial units of the district and 75.69 percent of the investment in these industries and this area provides 65.19 percent of the total employment (Table 3 and Map No. 3). There are 6826 small and big rural industry units working in this area. An investment of Rs. 72496.08 lakh has been made in them and they provide employment to 64170 people in their nearest rural population.

Table: 3- Structure of highly developed area

Development Block	Composite index	Percentage of total units	Percentage of total investment	Percentage of total employment
Maharajganj	100	56.69	59.70	52.35
Nautanwa	20.711	10.59	15.99	12.84
Total		67.28	75.69	65.19

Source: District Industry Centre, Maharajganj 2016-17.

Among the major units of block Maharajganj, M.H.K. Salvex Private Limited Rudrapur (capital 1.4 crore and 51 direct jobs), Furvalli Rice Mill Vidyapith Nagar, Yadav Rice Mill Samardhirpura have a capital investment of one crore each respectively. Indresh Jaggery and Khadsari Udyog Domakhas (capital 85 lakhs), Vikrant Agro Food Industries Hanumangarhi (capital 82.5 lakhs), Pandey Rice and Flour Mill Industrial State Maharajganj (capital 82.5 lakhs), Ganesh Modern Rice Mill Sonra (capital 5 lakhs) and Navdurga Rice Mill Badhara Khurd (capital 3.7

lakhs) are the major industrial units of this region. A high concentration of rural industries is found in this region. The main reason for this is the presence of the district headquarters in it. Almost all government activities are conducted from here. Investors easily get all kinds of infrastructural facilities like energy, loan, trained labour, technology, market, good transport facilities in this area. Hence, they give priority to setting up their industries in this region. Major industrial units of Nautanwa development block include Abdul Khan Brick Industry New Kot Nautanwa (53 lakh capital, employment 37), Shohrab Brick Industry Mollah (35 lakh capital, employment 44), Pathak Crusher Nautanwa (6.75 lakh capital), Ramnarayan Rice and Oil Mill Kohargaddi (1.52 lakh capital) etc.

(2) Generally High Developed Area: The only development block in this level is Paratawal (combined index 16.72). In which 6.84 percent of total industrial units and 10.93 percent of investment in these industries have been found and this area provides 11.52 percent of total employment. A total of 694 small and cottage rural industries units are found in this area (Table 4 and Map No. 3). In which an investment of Rs 10466.43 lakh has been made and this area provides employment to a total of 11344 people.

Table: 4- Structure of generally high developed area

Development Block	Composite index	Percentage of total units	Percentage of total investment	Percentage of total employment
Partawal	16.722	6.84	10.93	11.52
Total		6.84	10.93	11.52

Source: District Industry Centre, Maharajganj 2016-17.

The major rural industries of Paratawal development block include food processing industry (capital of 151.50 lakh, employment of 150 persons), Durga flour mill (capital of 98 lakh, employment of 30 persons), Sanket Modern Rice Mill Dharampur Bhitauli (capital of 5.6 lakh), Rampri Rice Mill Paratawal Bazaar (capital of 15 lakh), Dwarika Rice Mill (capital of 10 lakh), Godwal Rice Mill Godwal, Singh Rice Mill Natwa, Mishra Mini Rice Mill Baswar, Shivpujan Mini Rice Mill Rampur and M/s Khan Aara Machine Chapiya Semra Chandauli Paratawal. This is an intensive paddy dominated agricultural area which gets the benefit of good drainage pattern, irrigation system and cheap labour. Thus, in this paddy dominated area, there is abundance of rice mill units.

(3) Medium Developed Area: In the low industrial developed area, there is one development block of the district Nichloul (weightage value 12.589)

(Table 2 and Figure 3). This region comprises 6.84 percent of the total industrial units of the district, 10.93 percent of the total capital investment and 11.52 percent of the total employment. A total of 737 small and cottage rural industries units are found in this region which have a capital investment of Rs 5701.95 lakh and provide employment to 12358 persons (Table 5 and Map No. 3).

Table: 5- Structure of medium developed region

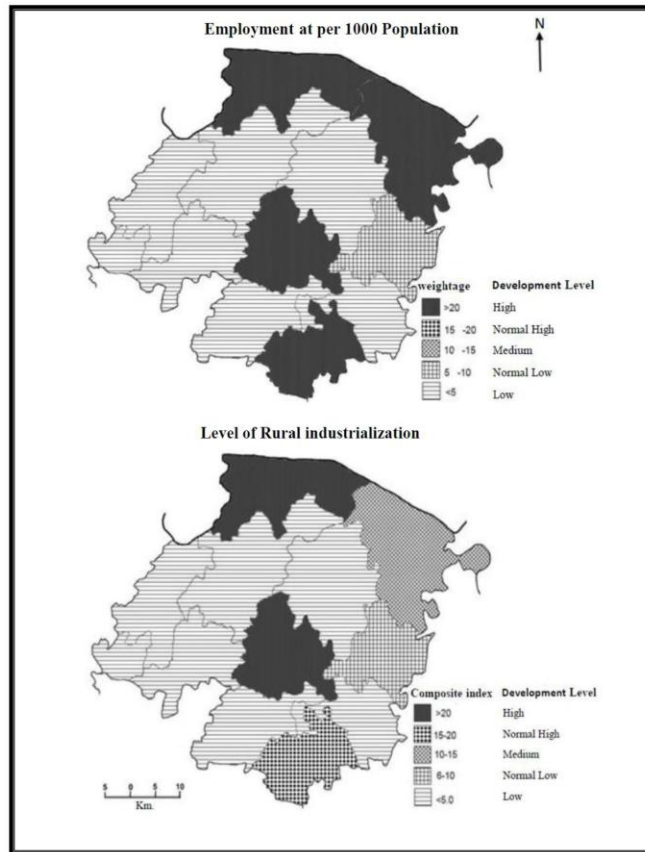
Development Block	Composite index	Percentage of total units	Percentage of total investment	Percentage of total employment
Nichlaul	12.589	7.26	5.95	12.55
Total		7.26	5.95	12.55

Source: District Industry Centre, Maharajganj 2016-17.

Major industrial units of Nichlaul development block include Patel Rice Mill Nichlaul (capital of 15 lakhs, employment of 15 persons), Pandey Rice and Flour Mill Nichlaul (capital of 16 lakhs and employment of 25 persons), Gupta Mini Rice Mill Pathkhauri (capital of 10 lakhs, employment of 12 persons), Chanku Rice Mill Nichlaul, Patel Mini Rice Mill Raipur, Sharma Mini Rice Mill Godhawa, Mishra Mini Rice Mill Paragpur, Ojha Mini Rice Mill Plot No. 8 Nichlaul, Khan Brick Kiln Industry, Chandravarma Rice Mill Kumaristi, Vivekanand Workshop Chutihari, Prakash Oil Mill Nichlaul, Suraj Bakery Nichlaul, Madan Ice Candy Nichlaul, Ramadhar Bhujia Industry Nichlaul, Raman Jaggery and Khadsari Babhnauli, Sharma Furnitures Nichlaul, M/s Shiv Crusher Belwa Gadaura, Gopal Oil Sleeper Gadaura, Nand Chura Industry Nichlaul, Ramphal Crusher Jaggery Industry Gadaura, Shakti Agro The main centres are Chamniyaon, Shiv Food Processing Industry Bharwari, Jagdish Agarbatti Udyog Nichlaul, Janta Bakery Centre Masjid Compound Nichlaul. Apart from these, JHV Sugar Mill Limited is working in Gadaura with a crushing capacity of 45000 tonnes per day. This mill was established by Jaiswal brothers of Varanasi in 1999 with a capital of Rs 210 crore which provides employment to about 500 people.

(4) Generally underdeveloped area: In the general developed area, the only development block in the district is Siswa (combined index 7.515) in which 5.30 percent of the total industrial units and 3.38 percent of the investment in these industries is done and this area provides 3.34 percent of the total employment (Table 6 and Map No. 3). The major industrial units of Siswa development block include Manoj Rice Mill Pakda Siswa (capital Rs. 15 lakh), Bajrang Dal Mill Near Police Station Siswa (capital

Rs. 12 lakh), Vindhychal Rice Mill Siswa Bazaar (capital Rs. 10 lakh), Durgesh Industry Kothibahar, Kishore Processing Industry Madhuwalia, Sharma Small Industry Siswa Bazaar, Madveshia Mini Rice Mill Pakdi, Durga Masala Industry Siswa Bazaar, Matru Chura Industry Amwa, Sharma Wood Industry Near Bus Station Siswa etc.



Source: Calculated by the researcher, based on the data of District Industry Center, Maharajganj 2016-17 and Indian Census and UP, 2011.

Fig. 3

Table: 6- Structure of general low developed area

Development Block	Composite index	Percentage of total units	Percentage of total investment	Percentage of total employment
Nichlaul	7.515	5.30	3.38	3.34
Total		5.30	3.38	3.34

Source: District Industry Centre, Maharajganj 2016-17.

Apart from these, Indian Potash Limited (Sugar and Chemical) unit is working in Siswa market in Siswa development block, which was established in 1933 by British India Corporation and from 1984 to 2008 this unit was running under the UP government. After 2008, it is being run by Indian Potash Limited. Its total crushing capacity is 25 thousand TCD (Ton Crusing Daily). The capital of this unit is Rs 250 crore and it provides employment to about 400 people.

Table: 7- Structure of low developed area

Development Block	Composite index	Percentage of total units	Percentage of total investment	Percentage of total employment
Pharenda	4.306	3.85	0.46	1.49
Lakshmipur	3.155	2.00	132	1.05
Mithaura	2.262	2.26	0.97	2.75
Brijmanganj	1.981	0.98	0.13	0.28
Ghughali	1.836	1.69	0.43	0.65
Paniyara	1.699	1.85	0.69	0.92
Dhani	0.826	0.69	0.06	0.25
Total		9.46	3.59	5.91

Source: District Industry Centre, Maharajganj 2016-17.

(5) Low developed area: The region includes seven development blocks of the district namely Pharenda (weight value 4.306), Lakshmipur (weight value 3.155), Mithaura (weight value 2.262), Brijmanganj (weight value 1.981), Ghughali (weight value 1.836), Paniyara (weight value 1.699) and Dhani (weight value 0.826) (Table 7 and Map No. 3).

This region comprises 13.32 percent of total industrial units of the district, 4.06 percent of total capital investment and 7.39 percent of total employment. The major industrial units of Pharenda development block are Ram Dutt wooden and Furnitures Anand Nagar, Puja Achar Murabba Mathura Nagar, Man Oil and Flour Mill Anand Nagar, Shivanand Kalpnath Rice Industry Jungle Pharenda, Chhagur Oil Mill Mathura Nagar, Indrajit Rice Mill Bahia and Moinuddin Bhujia Industry Darhata. This area is a victim of industrial sickness, the main reason for which is lack of skilled workers, obstacles in power supply, lack of good transport and communication, cheap transport facility, modern technology and capital etc. The proof of which is Shri Ganesh Sugar Mill in Anand Nagar, which was set up by British India Corporation in 1932 and was providing

direct employment to 600 people, is closed since 1994. Lakshmipur has 2.00 percent of the total industrial units of the district and 1.32 percent of the total capital investment and 1.05 percent of the total employment. 2.26 percent of total industrial units, 0.97 percent of total capital investment and 2.75 percent of total employment are found in Mithaura. 0.98 percent of total industrial units, 0.13 percent of total capital investment and 0.28 percent of total employment are found in development block Brijmanganj. 1.69 percent of total industrial units, 0.43 percent of total capital investment and 0.65 percent of total employment are found in development block Ghughali. 1.85 percent of total industrial units, 0.69 percent of total capital investment and 0.92 percent of total employment are found in development block Paniyara. And 0.69 percent of total industrial units, 0.06 percent of total capital investment and 0.25 percent of total employment are found in development block Dhani. There are a total of 1351 small and cottage rural industry units in this area which have a capital of Rs 3877.16 lakh and provide employment to 7287 persons. The major industrial units of Lakshmipur development block are Gupta Rice Mill Pasia Lallan Lakshmipur (capital Rs 25 lakh), Poojan Rice Mill Sonvarsa (capital Rs 20 lakh), Ambika Bakery Industry Lakshmipur (capital Rs 9 lakh), Nekchand Flour Mill Industry Ekghaniya, Basoli Gramin Krishi Udyog Kendra Basoli and New Super Quality Ice Candy. The major industrial units of development block Mithaura are Maa Vaishno Brick Kiln Industry (capital Rs 25 lakh, employment 52 persons), Parasnath Mini Rice Mill Mithaura Bazaar (capital Rs 14 lakh), M/s Shambhu Chura Industry Hartorwa Mithaura and Brahmanand Iron Industry Nath Nagar. The major industrial units of Brijmanganj development block are Aliraja Flour and Rice Mill Dharachi (capital Rs. 1.90 lakh), Fabuddin Flour and Oil Industry Kharia Brijmanganj (capital Rs. 1.10 lakh) and Vishwakarma Agricultural Machinery Industry Brijmanganj. The major industrial units of Ghughali development block are brick kilns and agriculture based industries, out of which some of the major industries are Bhuvan Brick Kiln Industry (capital Rs. 30 lakh, employs 48 people), Gaur Brick Industry (capital Rs. 120 lakh, employs 100 people), Hindustan Brand Brick (capital Rs. 30 lakh, employs 34 people), Harishankar Brick Industry Jogatiya Ghughali, Rajkumar Dairy Industry Nebuiya Ghughali, Triloki Mini Rice Mill Panchrukhiya Tiwari, Rambachan Bhujia Industry Ghughali, Om Prakash Gupta Oil Mill Puraina and Narsingh Jaggery Industry Madnipur. In Paniyara development block, Nayak Cold Storage Babhnauli, Jaiswal Rice Mill Paniyara Bazaar, Harish Krishi Kendra Dhiguri Khurd and in Dhani development block, Mishra Steel Industry Khajpur Village, Khedu Yadav

Rice Mill Dhani, Kalavati Crane Crusher and Jaiswal Wood Center Dhani are the prominent ones. This area comes under the Terai region of the district where modern industrial facilities have not been developed properly due to the long distance from the centre. Hence, apart from a closed old sugar mill of Uttar Pradesh State Government Sugar Corporation Limited in Ghughali market, no other big industrial unit has been set up. As a result, this area is very backward from industrial point of view.

Conclusion

District Maharajganj is an industrially backward area whereas there are sufficient resources available here for the development of agriculture based industries and the industrial development that has taken place in the area is also not decentralized. Some development blocks Maharajganj, Nautanwa, Parataval and Nichloul are relatively more developed. Similarly, the level of rural development has also been seen. Hence, it is clear that industrial development plays a major role in rural development i.e. rural development can be done through the process of industrialization. The level of rural development has been calculated on the basis of the combined weighted of the indicators of rural development. Thereafter, correlation analysis has been done between the level of rural development and the level of industry development, the value of which is (+0.586). This shows that there is a 'medium level positive correlation' between the two. The medium level positive correlation shows that the role of industries in rural development is increasing, although even now agricultural activities dominate in rural areas, but in future rural industrialization will play an important role in rural development.

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