



## Measuring the Level of Human Resource Development in Bara Tehsil of Prayagraj District: A Geographical study

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### ORIGINAL ARTICLE



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### ABSTRACT

There are 2 development blocks and 19 Nyaya Panchayats in Bara Tehsil of Prayagraj district. In the study area Bara Tehsil, due to various social, economic and physical factors, spatial inequality is seen in the level of human resource development. For this reason, spatial inequality is also seen in the level of human resource development at the Nyaya Panchayat level in the tehsil. The main objective of this research paper is to analyze the spatial pattern of human resource development level at the Nyaya Panchayat level in the tehsil, and for this 7 factors have been taken as the base. General ranking method has been used to determine the human resource development level for each Nyaya Panchayat. The presented research paper is based on secondary data, which have been obtained from the Census Handbook 2011 and Statistical Magazine of the year 2021 of Prayagraj district. According to this study, the highest human resource development level in the study area Bara Tehsil is in Nyaya Panchayat Ghurpur while the lowest is in Asarwai Nyaya Panchayat.

### KEY WORDS

Natural Resources, Demographic Structure, Human Resource, Occupational Structure.

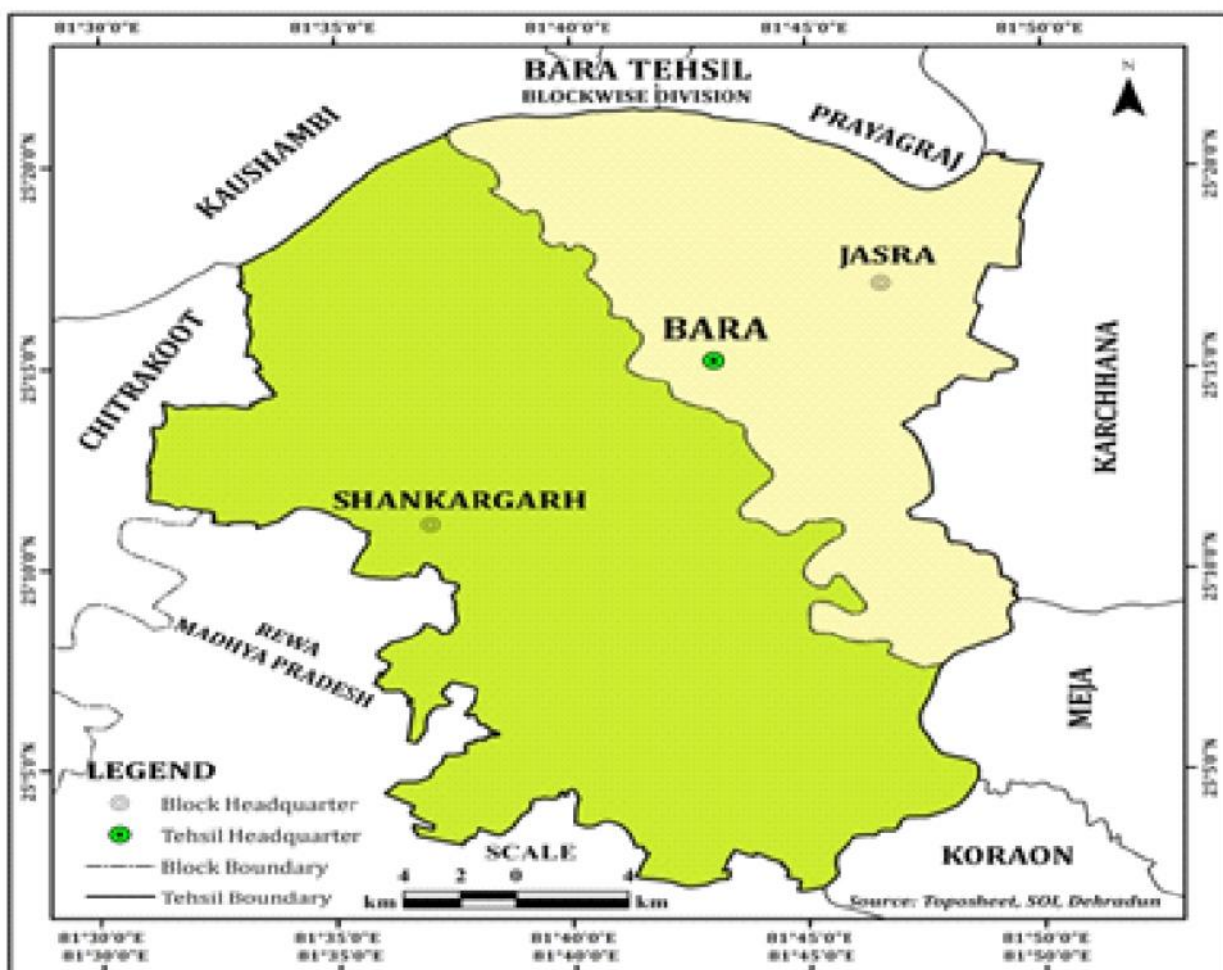
### INTRODUCTION

The level of human resource development in a region is affected by various socio-economic and physical factors. Human resource development in a region depends on the literacy rate, sex ratio, population density, occupational structure, economic status, educational and health facilities etc. (Gulave, S.D. 2020). The proper use and development of

natural resources available in a region depends on there the level of human resource development. Thus, human resource development is a concomitant process of socio-economic development (Gosal and Krishnan, 1984). Low level of human resource development in any region expresses its local backwardness. The natural resources of a region are affected by the development of the region as well as human resource development (Gadekar, Deepak 2017). The development of a region depends on the natural resources available there and the level of human resource development (Mali, 1999). Women play an important role in the development of any region, because the development of women increases the development level of the entire family (Gadekar, Deepak 2020).

According to Zimmerman, “All natural resources were available since ancient times, but we were unaware of their utility. With time, as the intellectual development of man increased, the use of various natural resources started, that is, ‘resources do not exist but are created’.” That is, any natural resource becomes useful only when man uses those resources, hence, development of human resources is very important for the use of available resources. Human resources are means to such people who are educated, technically skilled, trained, aware, can predict future needs and possibilities, and can do better management work. According to Prof. Schulz Kamat, human resources can be developed in five ways – by proper education system, arrangement of on-the-job training, employment based education and training for adults, development of health facilities and creation of better employment opportunities.

## Study Area





**Figure1:**Location Map of Bara Tehsil

Prayagraj is divided into 7 tehsils (Soraon, Phulpur, Handia, Meja, Karchana, Koraon, Bara) and one urban area Sadar. Study area Bara tehsil has two development blocks - Jasra and Shankargarh. Jasra block covers 36.4% of the tehsil area and Shankargarh block covers the remaining area. The total area of Bara .....<sup>2</sup>, out of which 735.85<sup>2</sup> km is rural area and the remaining 8.36 km<sup>2</sup> is urban area. There are about 325 villages in Bara tehsil, out of which 114 villages are located in Jasra block and 211 villages in Shankargarh block. There are a total of 19 Nyaya Panchayats, out of which 9 are in Jasra and 11 in Shankargarh block (Figure 1).

Bara tehsil is located in the transition zone between Yamuna and Tons rivers in the southwest of Prayagraj district. The latitudinal extension of Bara tehsil is between 25° 2' 30" to 25° 22' 30" north latitude and longitudinal extension is between 81° 31' to 81° 50' east longitude and its area is about 744 km<sup>2</sup>. The length of the study area is 33.82 km from east to west and width is 33.77 km from north to south. Bara tehsil is connected to Prayagraj city in the north, Karchana tehsil in the east, Meja and Koraon tehsils in the south-east. Rewa region of Madhya Pradesh state is situated to the south of Bara tehsil, Chitrakoot in the south-west and Kaushambi district in the west.

## Literature Review

Shivalingappa (2012) studied the level of human resource development in Mandya district of Karnataka state. He included health, nutrition level, literacy, education, employment and urbanization level in his study. Nanavare et al. (2012) used index value formula to measure human resource development level. Lahane (2009) used rank coefficient method to measure human resource development level in Buldhana district and for this, factors like educational facilities, population density, occupational structure, sex ratio, urban population etc. were taken as the basis. Vandeshkar et al. (2010) used remote sensing and GIS techniques to measure

human resource development level in Amravati district and assessed various factors like population pressure, land efficiency, nutrition density, resource density etc. Suryavanshi et al. (2012) used Z-score method to measure the level of human resource development based on factors like demographic structure, relief, soil, net evaporated land, distance to weekly market, banking facility, health, education, clean drinking water and good transportation facility.

According to Mahesh et al. (2012), due to uneven distribution of human and natural resources, there is a lot of regional disparity in the level of human resource development. The level of human resource development is also affected by the physical conditions of the area such as location, topography, soil, water resources, climate etc. Per capita income, life expectancy, education, per capita consumption, electricity and health facilities also indicate the level of human resource development. Saptarshi et al. (2010) measured the level of human resource development on the basis of 10 variables in Junnar tehsil. They used the Knox index method in which 6 variables were of positive nature (population density, male literacy, female literacy, main workers, female workers and other workers) and 4 variables were of negative nature (sex ratio, dependency ratio, family size, child ratio). Musmade (2012) measured the level of human resource development at the village level in Rahuri tehsil.

## Objectives

The following are the main objectives of the presented research paper:

1. To measure the level of human resource development in the tehsil at the Nyaya Panchayat level.
2. To analyse the reasons for the disparities in the level of human resource development in the tehsil at Nyaya Panchayat level.
3. To study the disparities in the level of human resource development in the block on the basis of different variables.

## Data Sources & Methodology

The presented research paper is based on secondary data. The secondary data used in this research paper has been obtained from Statistical Report year 2021 district Prayagraj and Census Handbook district Prayagraj year 2011. Tables, maps, graphs and pie diagrams have been prepared with the help of computer. Arc GIS software has been used to create the map. This research paper is based on explanatory and analytical research method. General ranking method has been used to determine the level of human resource development for each Nyaya Panchayat.

## Results and Discussion

Human resource is related to such people who are educated, technically skilled, trained, aware, can predict future needs and possibilities, and can do better management work. According to Mahesh and others (2012), due to uneven distribution of human and natural resources, there is a lot of regional disparity in the level of human resource development. Due to this reason, spatial disparity is also seen in the level of human resource development at the Nyaya Panchayat level in Bara Tehsil. To find out the spatial disparity in the level of human resource development in Nyaya Panchayat wise, 7 factors have been selected, which are shown in Table 1.

**Table 1 :** Factors selected for measuring the level of human resource development

Variables	Selected Factors
X <sub>1</sub>	Female literacy rate
X <sub>2</sub>	Sex ratio
X <sub>3</sub>	Percentage of SC Population in total Population
X <sub>4</sub>	Percentage of working population
X <sub>5</sub>	Percentage of cottage industry workers in total workers
X <sub>6</sub>	Percentage of non-agricultural workers in total workers
X <sub>7</sub>	Percentage of Below Poverty Line (BPL) families in total families

**Table 2 :** Values of factors selected for measuring the level of human resource development for each Nyaya Panchayat

Block	Nyay Panchayat	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>
Jasra	Manpur	47.37	894	34.64	29.66	3.86	27.62	30.53
	Tikri Kalan	43.20	875	24.95	35.19	6.30	29.64	27.23
	Parsara	48.26	901	21.05	33.17	6.59	27.00	22.70
	Jasra	47.70	897	19.11	38.08	8.18	32.21	36.48
	Ghurpur	47.49	900	18.29	33.58	13.54	45.91	10.53
	Kanti	41.97	887	20.18	34.00	5.77	35.55	32.96
	Asarwai	41.92	890	21.18	38.73	3.39	22.51	48.20
	Lotarh	45.48	938	20.60	36.84	7.63	23.87	23.45
	Gauhani	50.82	922	27.79	38.27	5.18	30.46	36.82
Shankargarh	Bhatpura	43.50	872	32.95	36.47	6.70	30.68	25.68
	Golhaiya	43.75	914	37.28	35.62	7.18	34.91	29.79
	Nivi	41.34	909	38.52	40.59	7.58	41.38	49.27
	Amgodar	44.54	885	50.47	41.33	2.85	44.03	29.36
	Jorwat	44.60	929	36.21	41.60	8.49	42.93	42.94
	Sidhtikar	47.85	881	31.88	41.94	5.85	17.11	28.23
	Surwal Sahini	45.55	901	24.44	39.22	4.99	12.02	29.11
	Bashra Uperhar	51.58	911	33.03	44.37	9.56	15.86	30.15
	Nauriha Uperhar	51.61	891	32.72	46.38	3.88	20.10	38.66
	Lohra	51.42	897	26.22	38.45	6.36	14.37	49.47

The level of human resource development in Bara tehsil has been determined on the basis of rank-coefficient method (Singh, 1977). For this, 7 factors were considered - female literacy rate, sex ratio, percentage of scheduled caste population in total population, percentage of working population, cottage workers in total workers.

**Table 3:** Rank values of each Nyaya Panchayat of factors selected for measuring level of human resource development

Block	Nyay Panchayat	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	Average Rank Coefficient
Jasra	Manpur	11	8	5	1	3	9	9	6.57
	Tikri Kalan	4	2	12	5	9	10	15	8.14
	Parsara	15	12	15	2	11	8	18	11.57
	Jasra	13	9	18	9	16	13	7	12.14
	Ghurpur	12	11	19	3	19	19	19	14.57
	Kanti	3	5	17	4	7	15	8	8.42
	Asarwai	2	6	14	12	2	6	3	6.42
	Lotarh	9	19	16	8	15	7	17	13
	Gauhani	16	17	10	10	6	11	6	10.85
Shankargarh	Bhatpura	5	1	7	7	12	12	16	8.57
	Golhaiya	6	16	3	6	13	14	11	9.85
	Nivi	1	14	2	14	14	16	2	9
	Amgodar	7	4	1	15	1	18	12	8.28
	Jorwat	8	18	4	16	17	17	4	12
	Sidhtikar	14	3	9	17	8	4	14	9.85
	Surwal Sahini	10	13	13	13	5	1	13	9.71
	Bashra Uperhar	18	15	6	18	18	3	10	12.57
	Nauriha Uperhar	19	7	8	19	4	5	5	9.57
	Lohra	17	10	11	11	10	2	1	8.85

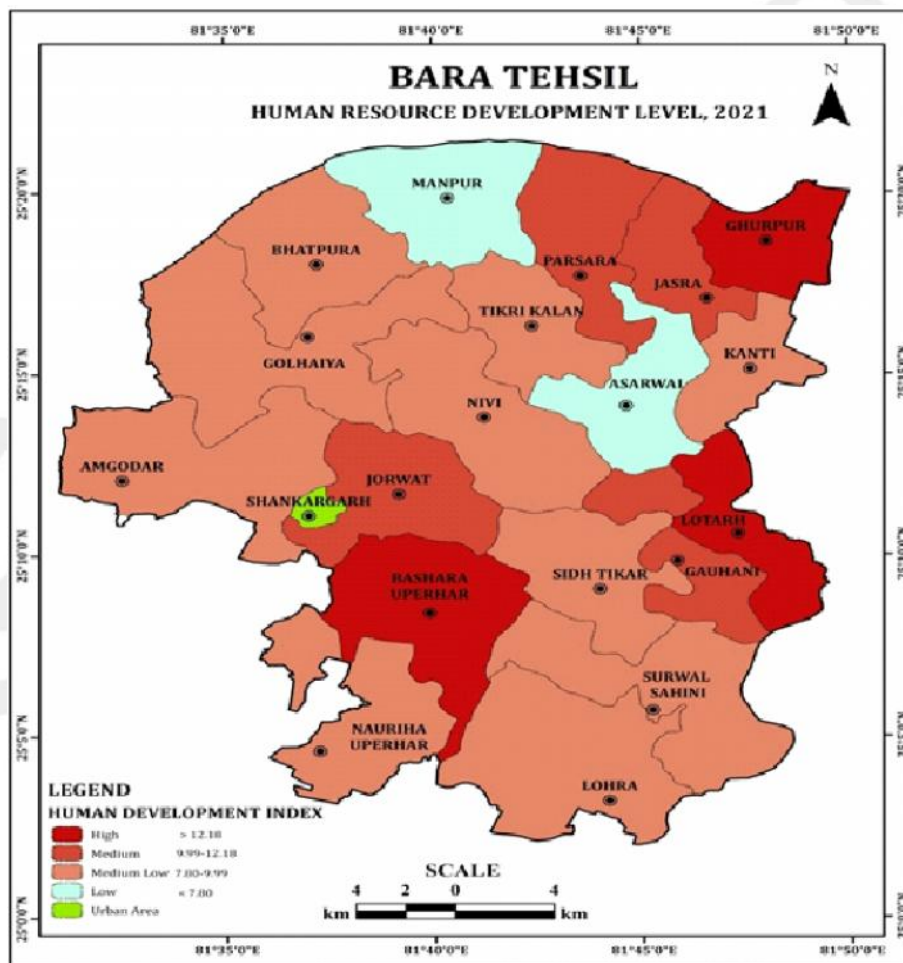
Ranks have been determined by placing the values of percentage of industrial workers, percentage of non-agricultural workers among total workers, percentage of Below Poverty Line (BPL) families among total families in ascending or descending order (Table 2). Out of these, two indicators, percentage of Scheduled Caste population in total population, percentage of Below Poverty Line (BPL) families among total families, indicate unfavourable conditions for the level of human resource development. The highest percentage value of these indicators has been given 1 mark and the lowest percentage value has been given 19 marks (because the number of Nyaya Panchayats is 19). The highest percentage value of the other five indicators has been given 19 marks and the lowest percentage value has been given 1 mark, because these five indicators indicate favourable conditions for the level of human resource development. After this, the average rank coefficient of each Nyaya Panchayat has been obtained by dividing it by 7 (Table 3). After analysing the average rank

coefficient calculated on the basis of the seven indicators taken for the study, the spatial pattern of the level of human resource development has been divided into four categories high, medium, medium low and low with the help of standard deviation method (Table 4) –

**Table 4:** Nyaya Panchayat wise Human Resource Development Level Rank in Bara Tehsil

Range	Rank	Number of Nyay Panchayat	Nyay Panchayat
$> X_+$ ( $>12.18$ )	High	3	Ghurpur, Bashra uparhar, Lotadh
$X_+$ to $X_+$ (9.99 to 12.18)	Medium	4	Jorvat, Jasra, Parsara ,Gauhani
$X_-$ to $X_-$ (7.80 to 9.99)	Medium Low	10	Sidhtikar, Tikri kalan, Bhatpura, Golhaiya,Lohra, Surval Sahini,Kanti ,Nauriha Uparhar, Nivi, Amgodar
$< X_-$ (Below 7.80 )	Low	2	Asarvai, Maanpur

**Figure 2:** Map of Human Resource Development Level Pattern in Bara Tehsil



**High Category:** 3 Nyay Panchayats namely Ghurpur (14.57), Bashra Uparhar (12.57) and Lotadh (13) are included in the high category. Due to high literacy rate, high percentage of working population and

high population engaged in non-agricultural activities in these Nyay Panchayats, these have been included in the high category.

**Medium Category:** 4 Nyay Panchayats namely Jorwat (12), Jasra (12.14), Parsara (11.57) and Gauhani (10.85) are included in the medium category.

**Medium Low Category:** 10 Nyaya Panchayats are included in medium low category namely Siddhtikar (9.85), Tikrikalan (8.14), Bhatpura (8.57), Golhaiya (9.85), Lohara (8.85), Surwal Sahni (9.71), Kanti (8.42), Nauriha Uparhar (9.57), Neevi (9) and Amgodar (8.28). Due to literacy rate, percentage of working population, population engaged in non-agricultural activities being medium low category and Scheduled Caste population, number of BPL families being high, these have been included in medium low category.

**Low Category:** 2 Nyaya Panchayats namely Asarwai (6.42), Manpur (6.57) are included in low category. In these Nyay Panchayats, due to low literacy rate, percentage of working population, population engaged in non-agricultural work, percentage of cottage industry workers and high Scheduled Caste population, number of BPL families, these have been included in the lower category.

## CONCLUSION

The level of human resource development in any area is affected by various social, economic and physical factors. In the study area of Bara tehsil, there is a lot of disparity in the spatial distribution of human resource development level. At the Nyaya Panchayat level, the highest level of human resource development is in Ghurpur Nyaya Panchayat, while the lowest is in Asarwai Nyaya Panchayat. Due to proximity to the urban area of Prayagraj district, the level of human resource development in the Nyaya Panchayats of Jasra block is much better than the Nyaya Panchayats of Shankargarh block. In those Nyaya Panchayats where the level of human resource development is low, emphasis should be laid on the development of various social facilities such as education, health facilities, employment oriented training, providing employment, banking etc. Emphasis should be laid on increasing income by making appropriate efforts to increase the number of micro and small industries. High per capita income, high life expectancy, good education, high per capita consumption, clean drinking water facility, good electricity and health facilities also show high level of human resource development.

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