



Gender disparity in Literacy in Bareilly district

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Abstract

Literacy has been considered as one of the prime determinants of the socio-economic development. In this context, education has become an important gateway for upgrading the socio-economic status of the people of a region. From a geographical point of view, literacy rate varies from region to region and with the passage of time, it assumes spatio-temporal characteristic. According to the census of India 2011, the overall rate of literacy of the country is 74% with the male literacy rate being 81% against 64.40% of female literacy. So, a large gap can be seen between male-female literacy rate. Despite number of efforts done at both state and national level, there remains a large number of illiterate people, existing in the society and presents major hurdle in the socio-economic development of the region. This scenario is a matter of great concern. An attempt has been made in this paper to map and analyze the gender gap in literacy rate of Bareilly district. This study is based upon secondary sources of data. This paper provides an insight into the existing spatio-temporal patterns of male-female literacy rate and its level of disparity. The findings suggest that a significant difference undoubtedly, exist between male and female literacy rate at block level in Bareilly district.

Keywords : literacy, development, gender, disparity index, bareilly .

Introduction

Educational disparity is a major characteristic of multi-religious society. Although India has faced numerous social, political and economic issues within the last three centuries, inequality remains one of the most important historical omnipresent aspect of our society, especially the gender differences in schooling experience of adolescents (Wu, Goldschmidh, Azam and Boscardin, 2006) and also in inequality of gender-based children enrollment in rural areas (Kington, 2007). Women are the integral part of the society and improvement in their literacy

means improvement in society. So, it is necessary to educate each and every woman. In India, women constitute approximately half the total population, which is 48.45% (Census of India, 2011). The existing studies reveal that the educational disparity between male and female in terms of access to school (Lori, 2000 and Lavy, 2004), socio-economic structure and the religious nature of society (Despanday, 2007) all across the world has its direct impact on socio-economic and regional development (Siddiqui and Yadav, 2004). According to Census of India 2011,

the literacy rate of UP has increased from 21.7% in 1971 to 67.3% in 2011 which is still lower than the national average. However, the existing data indicates a large gap between male and female literacy rate. The level of literacy varies from district to district and also from block wise within districts in Uttar Pradesh. Present research paper highlights the spatio-temporal disparity in literacy rate of male and female population in Bareilly district of U.P from 2001 to 2011. An attempt has been made in this study to identify the literacy deficient areas and analyze gender gap in literacy rate in study area, which can help policy makers to improve their education related developmental strategies on district level. The objective of this study is to analysis the micro-regional (Block level) variations in male and female literacy rate in Bareilly district using Sopher's disparity index method.

Database and methodology

The present study is based on secondary data obtained mainly from the publications of Census of India. The census publications from where data has been collected for the period 2001-2011 includes General Population Tables, District Census Handbooks of Bareilly District, Primary Census Abstract, Final Population Tables. Block has been considered the most appropriate unit of study for which data is available. To achieve the above-mentioned objective, Sopher's disparity index has been used to examine the regional disparity patterns in male-female literacy of Bareilly district for the period 2001 to 2011. According to sopher's disparity index method, if X1 and X2 represent the respective percentage value of variable of corresponding to A and B then the disparity index (DI) calculated by following:

$$DI = \text{Log} (X_2 / X_1) + \text{Log} (100 - X_1) / (100 - X_2)$$

Where, DI = Disparity Index

X2 = Percentage of male Literates.

X1 = Percentage of female Literates.

$$\text{i.e. } X_2 = X_1$$

According to Sopher, in the case of perfect equality i.e. no disparity, the value of DI will be zero and a high value of DI means higher is the level of disparity similarly a low value of DI means low disparity between the variables. Generally, Sopher's disparity index is useful in measuring the relative disparity.

Literacy projection

In order to calculate the time period to achieve 100 percent literacy, we have applied the time series analysis.

$$P_n = P_0 (1 + R/100)^n$$

Where P_n = 100 (literacy to be achieved), P₀ = present literacy, n= number of years, r = rate (difference in literacy rates between periods).

Study area

Bareilly district is located in the north west-ern part of U.P. and lies between latitude 28°01' to 28°54' north and longitude 78°58' to 79°47' east and comprises a total area of 4120sq.km. It is bounded by Uttrakhand state in the north, Rampur District in the west, Badaun District in and south, Pilibhit District in the east. There are six sub divisions in the district namely Aonla, Baheri, Bareilly, Faridpur, Nawabganj and Meerganj. Apart from this, the district has been divided into 15 blocks, namely Baheri, Bhadpura, Bhuta, Bithrichainpur, Faridpur, Fatehganj west, Jafrabad, Kyara, Majhgwan, Meerganj, Nawabganj, Ramnagar, Richha and Shergarh. The north-south extension of the district is about 96 km and corresponding east-west extension is about 75 km. According to 2011 Census of India, the population of Bareilly District is 44, 48,358. The general sex ratio is 887 females for every 1000 males. The average literacy rate is 58.49% with male and female literacy being

67.50% and 48.30% respectively. The district is part of the southern upper Ganga Plain and it also belongs to the tarai region in which agriculture is the main occupation. The district is re-

markably fertile and the irrigation infrastructure is well developed here. Sugarcane, rice, wheat, maize, pulses, etc. are the major crops in the district.

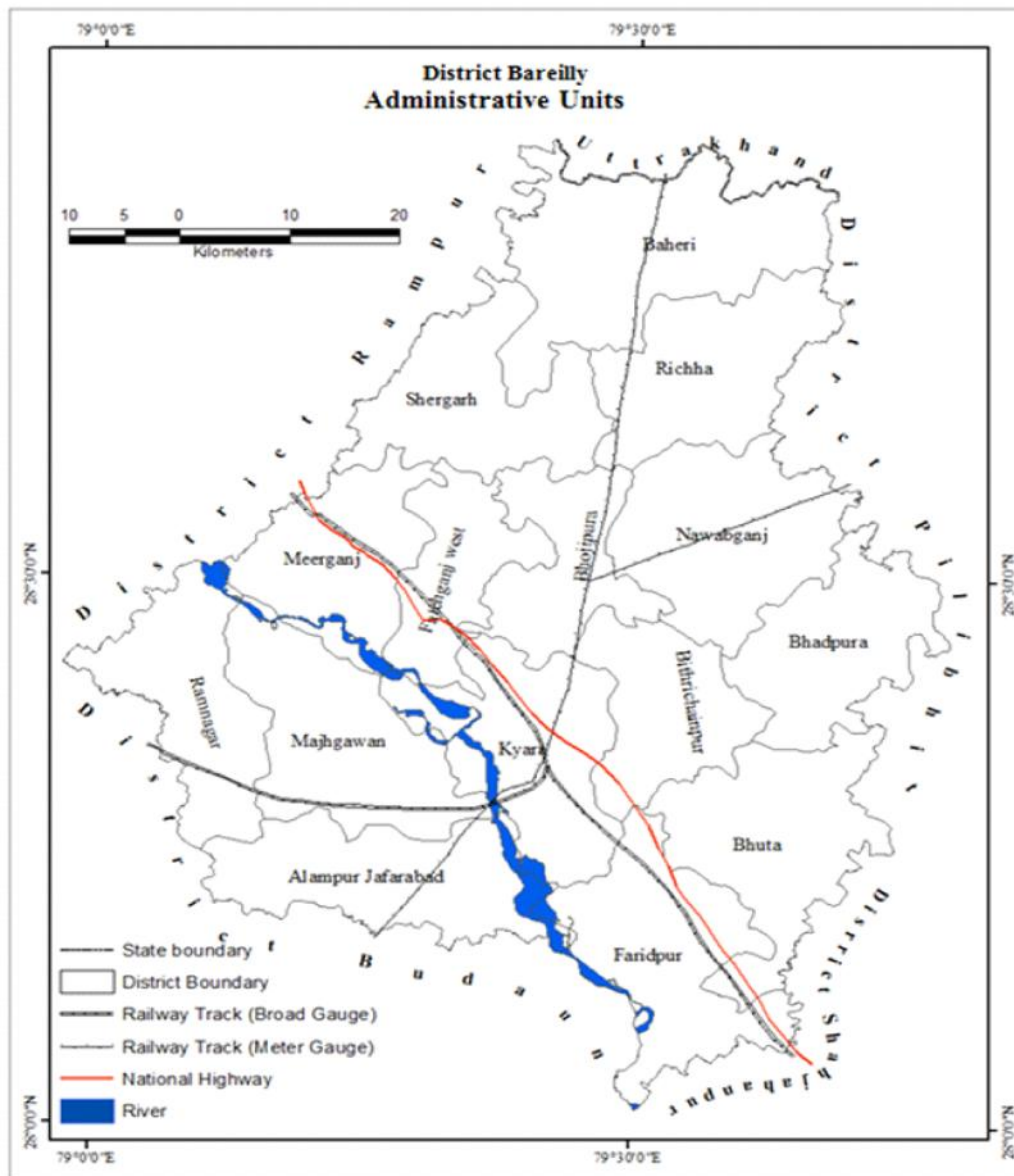


Figure 1: Location of study area

Result and discussion

Trends of literacy rate

The census data shows large variations in literacy rate between states and also within districts in our country. The total population of India has increased from 56.69 crore in 1971 to 121 crores in 2011. The literacy rate has also increased from 34.45 % in 1971 to 74.04 % in 2011 (Table 1). Table - 1 show that the differences in literacy rate from 1991 to 2001 was highest in comparison to previous five decades that is near about 13 percent.

Literacy in Uttar Pradesh was never above the national average in the period of 1971 to 2011, with the rate being 21.7 % in 1971 to 67.3 % in 2011. In Uttar Pradesh, there remains large variations in literacy rate. The literacy rate of Bareilly district has always been below the state and national average from the period of 1971 to 2011 (Table1). In 1971 there were only 17.82 % literate person. However, Table-1 reveals that census conducted in 1981, 1991, 2001 and 2011 the literacy rate in crease in literacy rate rapidly 22.00%, 32.78%, 47.84% and 69.72 % respectively. This increase of literacy rate has a male advantage with an improvement of about 43.23 percent (from 24.27% to 67.50%) against the

females where improvement was only 38.38 percent (from 9.92% to 48.30%) during these census period (Table2). As per 2011 Census, in Bareilly district the highest literacy rate was observed in Bhadpura block (63.09%) as a result of improved in education facilities and awareness whereas the lowest literacy rate was recorded in Ramnagar block (50.51%) due to poor educational facilities and low awareness. (Table 4).

Table 1 also reveals that the literacy gap between Bareilly district and Uttar Pradesh has continuously increased from 3.88 percent to 11.23 percent during the period of 1971 - 2011 as a result of differences between developmental growth of educational facilities and infrastructure, social awareness and socio-economic status of people. On the other hand, the literacy gap between India and Uttar Pradesh has increased from 12.75 percent to 16.37 percent during the census year 1971 to 1981. Afterwards it has continuously declined from 16.37 percent in 1981 to 4.32 percent in census year 2011 in response to the increasing similarities recorded in the level of developmental growth in educational facilities and infrastructure, social awareness and socio-economic status of people both country as well as state level.

Table 1: Trends of Literacy rate and gap in India, Uttar Pradesh and Bareilly district, 1971-2011

Sl No.	Census Year	India	Uttar Pradesh	Bareilly	Literacy gap between India and Uttar Pradesh	Literacy gap between U.P and Bareilly district
		Total Literates (%)				
1	1971	34.45	21.7	17.82	12.75	3.88
2	1981	43.57	27.2	22.00	16.37	5.20
3	1991	52.21	41.6	32.78	10.61	8.82
4	2001	64.83	56.3	47.84	8.53	8.46
5	2011	74.04	67.3	58.49	4.32	11.23

Source: Census of India, District census handbook of Bareilly, 2011.

Literacy rate and Gender disparity in Bareilly district

Table 2 reveals that the literacy rate of population, both male and female has been continuously increasing. The total literacy rate of Bareilly district increased from 17.82% to 58.49% during the reference period of 1971 to 2011. The literacy rate of male population increased from 24.27% to 67.50% on the female literacy rate increased from 9.92% to 48.30%

during the same time period.

These figures also indicate that gender disparity in literacy rate has increased from 14.35 percent to 23.51 percent during the census year 1971 to 2001. Thereafter, it has been decreasing since 2001. Comparing gender disparity across different years, we find that gender disparity was the lowest (14.35%) in 1971 while it was the highest (23.51%) in the census year 2001. According to the data of table 2, the net

Table 2: Literacy rate and Gender Disparity in Bareilly, 1971-2011

Year	Total Literacy Rate (%)	Male Literacy Rate (%)	Female Literacy Rate (%)	Gender Disparity (male/female difference in literacy rate in percent)	Net change in gender disparity
1971	17.82	24.27	9.92	14.35	-
1981	22.00	31.10	12.30	18.80	+4.45
1991	32.74	43.33	19.85	23.48	+4.68
2001	47.84	58.73	35.22	23.51	+0.03
2011	58.49	67.50	48.30	19.20	-4.31

Source: Author's calculation based on data from District statistical handbook of Bareilly, 1971-2011.

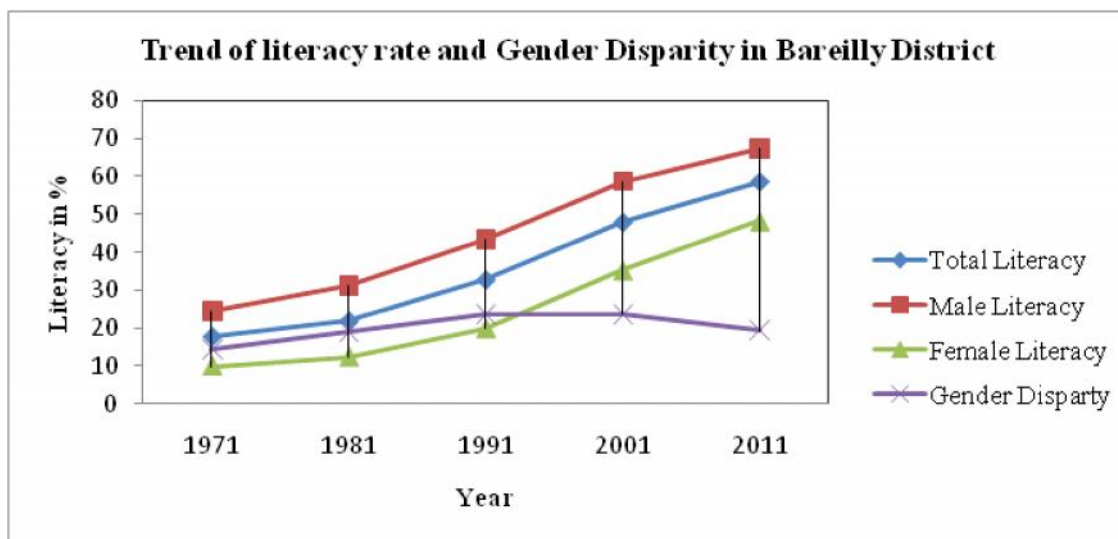


Figure 2: Trend, literacy rate and gender disparity in study area.

charge in gender disparity was the highest during 1981-1991, i.e. 4.68% and the lowest during the period of 1991-2001, i.e. 0.03%. So, the figure reveals that on one hand literacy rate of the district is increasing and the gap between male and female literacy is declining during the reference period.

According to Table 3, more than 40% of the total population of Bareilly district is illiterate in 2011. The total gender disparity in literacy is 19.20%, with 23.03% in rural areas and 12.49% in urban areas. Looking closely, the literacy rate (55.89%) of rural areas is lower than

total average literacy of district (58.49%) as well as urban literacy rate (63.05%). From Table 3, some major facts are evident-

(a) Literacy rate of rural female (43.59%) is lowest compared to urban female literacy rate (56.46%) and the total average female literacy rate (48.30%).

(b) The gender gap in literacy rate is highest in rural area i.e. 23.09%.

(c) Finally, the most important fact that the literacy among female population is unfavourable in all cases.

Table 3: Literacy Rate and Gender Gap in Bareilly District, 2011

Sl No.	Geographical Location	Total Literacy (%)	Male Literacy (%)	Female Literacy (%)	Gender Gap (Male Literacy-Female literacy)
1	Total	58.49	67.50	48.30	19.20
2	Rural	55.89	66.68	43.59	23.09
3	Urban	63.05	68.95	56.46	12.49

Source: District Census Handbook of Bareilly 2011.

Table 3, shows that the total literacy rate of Bareilly district in 2011 is 58.49 percent, while male literacy is at 67.50 percent, female literacy is only 48.30 percent. Thus, there is a 19.20 percent gender gap in male and female literacy rate.

Micro-regional (block-level) analysis of literacy rate and gender disparity

In this section the major attempt is to identify the spatial patterns of male-female literacy in Bareilly district during 2001 - 2011 with the help of Sopher's Disparity Index method. Development Block has been considered as the most appropriate unit for analysis. In Bareilly district, there are 15 blocks (Table 4). Three types of region have been identified based on the male-female literacy patterns as given below:

(a) Region of low disparity index

(b) Region of moderate disparity Index

(c) Region of high disparity index

Male-female disparity has been divided into three categories in the study area high, medium and low i.e. (0.57-0.62), (0.52-0.57) and (0.47-0.52) respectively in the year 2001. Whereas in the year 2011, the disparity has been decreased in all the blocks in which high ranges between (0.45-0.49), medium (0.41-0.45) and low (0.37-0.41). Higher disparity index in 2001 was found in Bhuta (0.62), and Bhadpura (0.62) and Ramnagar (0.58) blocks whereas medium disparity index was in Nawabganj (0.55), Faridpur (0.55), Meerganj (0.53), and Fatehganj (0.53) blocks (Figure 4). In 2001 there was eight blocks under low disparity index category Shergarh (0.52), Bhojipura (0.51), Alampur Jafrabad (0.51), Majhgawan (0.51), Richha

Table 4: Block-wise Male-Female Disparity Index of Literacy in Bareilly District, 2001-11.

Sl No.	Block name	2001				2011			
		Male Literacy (%)	Female Literacy (%)	Total Literacy	Disparity index	Male Literacy (%)	Female Literacy (%)	Total Literacy	Disparity index
1.	Baheri	56.61	29.9	44.11	0.48	67.79	47.2	58.02	0.37
2.	Shergarh	49.05	22.54	36.82	0.52	62.06	39.31	51.4	0.40
3.	Richha	57.8	29.56	44.54	0.51	69.05	46.57	58.42	0.40
4.	Meerganj	54.24	25.65	41.33	0.53	63.89	41.84	53.56	0.39
5.	Fatehganj West	54.03	25.63	41.04	0.53	65.77	42.73	55.02	0.41
6.	Bhojipura	59.44	30.94	46.19	0.51	64.56	42.14	53.93	0.39
7.	Kyara	51.1	25.27	39.54	0.49	66.05	44.36	56.08	0.38
8.	Ramnagar	49.37	20.34	36.12	0.58	61.76	37.5	50.51	0.43
9.	Majhgawan	49.36	22.86	37.28	0.51	61.4	38.18	50.65	0.41
10.	Aalampur Jafarabad	54.89	27.25	42.32	0.51	67.06	43.94	56.39	0.41
11.	Bithiri Chainpur	57.43	29.605	44.23	0.50	68.53	45.48	57.66	0.41
12.	Nawabganj	60.18	29.66	45.88	0.55	72.09	47.28	60.37	0.45
13.	Bhadpura	62.7	28.37	46.9	0.62	75.21	49.27	63.09	0.49
14.	Bhuta	54.68	24.7	41.04	0.62	68.13	43.95	56.92	0.43
15.	Faridpur	54.83	25.4	41.7	0.55	66.02	42.93	55.44	0.41
16.	Total District	58.73	35.22	47.84	0.41	67.50	48.30	58.49	0.34

Source: Calculated by author using Sopher's disparity index technique from district statistical handbook, 2001-11.

(0.51), Bithiri chainpur (0.50), Kyara (0.49) and Baheri (0.48). But in 2011, higher disparity index was in Bhadpura (0.49) and Nawabganj (0.46) blocks whereas Bhuta (0.49) and Ramnagar (0.43) blocks were in medium disparity index category. There was eleven blocks Fatehganj (0.41), Majhgawan (0.41), Alampur Jafarabad (0.41), Bithiri chainpur (0.41), Faridpur (0.41), Shergarh (0.40), Richha (0.40), Meerganj (0.39), Bhojipura (0.39) Kyara (0.38), and

Baheri (0.37) comes in low disparity index category.

Literacy projection and consequences

According to the District census handbook of Bareilly district of 2011, the male literacy, female literacy and total literacy rate of Bareilly district is 67.50%, 48.30% and 58.49% respectively. In order to calculate the time period within which 100 percent literacy could be achieved

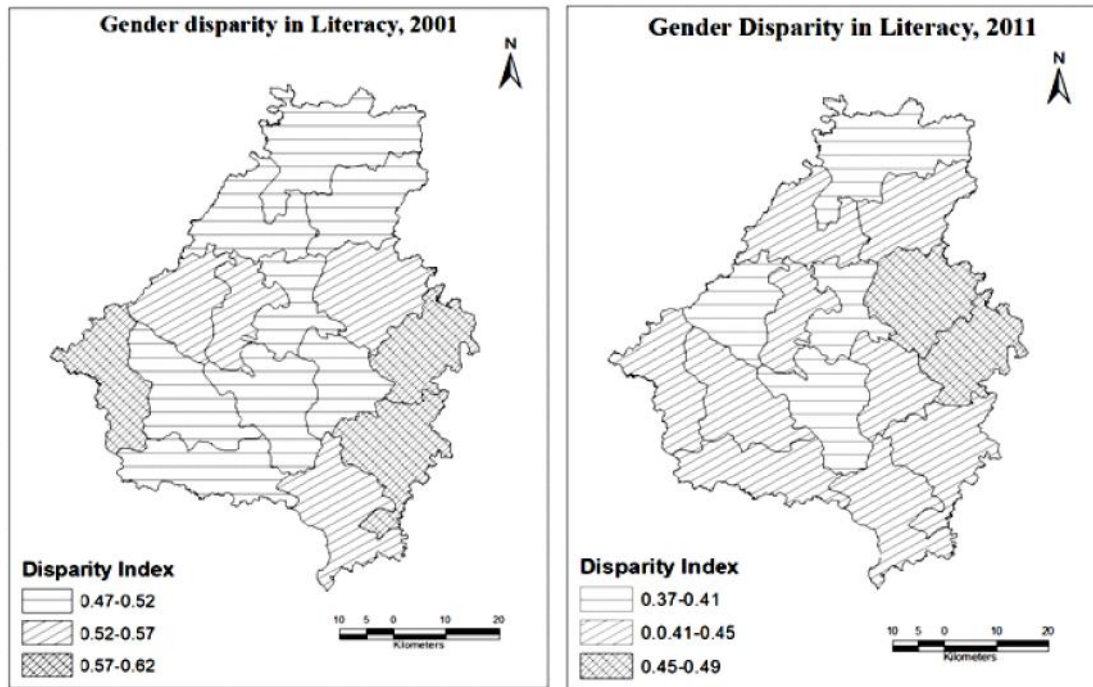


Figure3: Gender disparity in literacy in study area, 2001-2011.

we have applied a time series analysis:

$$P_n = P_o (1 + R/100)^n,$$

After putting the values in the above equation, we got expected time in which the literacy rate will be 100%. It comes out approximately 46 years for male, 55 years for female and 51 years for total population.

Conclusion

This paper provides an insight into the existing pattern of literacy rate and the level of disparity between male-female literacy in Bareilly district. The study clearly indicates that there is a wide range of variation in male-female literacy among the blocks of Bareilly district has been found. It is worth noting that gender disparity in literacy rate has declined from 23.51% to 19.20% during the period of 2001-2011. Hence, the cumulative result shows that during 2001-2011 there was significant increase in female literacy rate in the blocks of Bareilly

district. This trend confirms the notion that governmental encouragement along with growth in educational facilities and increasing awareness in rural areas are showing positive results but they need to be enforced affectively so that the progress can be continue in future also. Moreover, the quantitative analysis highlights the urgency required to take more positive for reducing gender disparity in district.

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