INDIAN JOURNAL OF POPULATION AND DEVELOPMENT
ISSN: 2583-4827; Volume 5(2), July 2025: 255-269

Spatio-Temporal Analysis of Rural-Urban Disparity in Literacy Rate in West Bengal, India

Sunita Singh
Rana Roy
Bijay Chettri

Abstract

Regional disparity in the literacy remains a significant concern in India and West Bengal is no exception. Despite the overall increase in literacy across decades, differences persist along various dimensions, including gender, rural-urban divide, and socio-religious factors. Rural populations consistently lag behind their urban counterparts in literacy rates across all the districts of West Bengal. This disparity in literacy rates hampers the overall development of society, as literacy is a fundamental tool for better perception of any incident and knowledge gain. Therefore, this paper tries to analyse the dynamics of the rural-urban literacy rates and disparity in literacy in West Bengal and India, based on the Census data 1991 to 2011 and PLFS data 2023-2024. Throughout this period, the urban population has maintained a higher literacy rate than the rural populations in all the districts of West Bengal. The study employs the Effective Literacy Rate, Kundu and Rao Disparity Index to measure the literacy rate and quantify the disparity in literacy rates between rural and urban populations, respectively.

Introduction

Literacy is one of the key dimensions of human development. Through literacy, people can easily access information and develop socio-economic and cultural development in society (Roy and Mondal, 2015). It plays a significant role in economic growth, promotes democracy and reduces crime and poverty (Begum, 2020). Literacy is traditionally defined as the ability to read and write. The Economic Social and Cultural Organization of the United Nations defines literacy as the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society. Literacy also encompasses numeracy, the ability to make simple arithmetic calculations. The concept of literacy can be distinguished from measures to quantify it, such as the literacy rate and functional literacy. According to the 2011 decennial population census of India, an individual aged at least 7 years, is classified as literate if she or he can read and right with understanding in any language irrespective of whether the

individual has attended or not attended a school (Government of India, 2011). Literacy is measured and monitored in terms of the literacy rate which is defined as the proportion of the population aged at least 7 years who is literate of who can read or write with understanding. At the 2011 population census, the literacy rate in India was 74 per cent whereas the literacy rate in West Bengal was around 76 per cent. According to the Periodic Labour Force Survey (PLFS) conducted by the Government of India in 2023-2024, the literacy rate in India was 80.9 per cent while that in West Bengal was 82.6 per cent (Government of India, 2024). Among different states and Union Territories of the country, West Bengal ranks 25 according to PLFS.

Literacy is a dynamic and broad concept. It encompasses more than just the ability to read and write. Regional, gender, residence and social and economic difference in literacy in India and West Bengal are well-known. Dutta and others have argued that in terms of gender disparity in literacy, females are the deprived group in all states of north India, but some of the states like Chandigarh, Punjab, and Delhi have low gender disparity (Dutta et al, 2025). In case of educational attainment, the proportion of females having at least secondary level education is lower than that in males in all states and Union Territories. Singh (2019) has examined the trend and rural-urban disparity in the literacy rate in India. After the independence, the literacy rate has increased in both rural and urban areas of the country. However, increase in rural literacy rate has been slower than the urban literacy rate. In large part of Jammu and Kashmir, Haryana, northern Uttar Pradesh, Bihar, Jharkhand, Arunachal Pradesh, Rajasthan, northern Gujarat, western and northern district of Madhya Pradesh, southern districts of Chhattisgarh, Andhra Pradesh, north-eastern part of Karnataka and in border areas of Karnataka and Tamil Nadu contain, literacy rate remains low in both urban and rural areas. The author has concluded that low status of female, teaching in language other than the mother tongue, child labour, unequal distribution of resources, poor health conditions, low level of infrastructure facilities are some of the major causes of low level and higher disparity in literacy in India.

Ghosh (2024) has observed that literacy rate has consistently increase in the rural and urban areas of West Bengal, but the pattern of rural and urban literacy rate is heterogeneous across the districts of the state. Southern districts of the state – around the Kolkata metropolis – have comparatively higher literacy rates than the western (Purulia, Bankura, Birbhum) and northern district (Malda, Uttar Dinajpur, Dakshin Dinajpur, Jalpaiguri, Koch Bihar) of the state. The author observes that educational attainment is the most important step for enhancing quality of life, raising awareness, and developing skills within society. Higher literacy and education levels positively influence different sectors of development.

Som and Misra (2014) have also observed that the literacy rate is consistently increasing in West Bengal but there is a wide gap between male and female, rural and urban literacy in the state. There are studies that have analysed rural-urban differentials in literacy rate across the districts of West Bengal (Sarkar and Bar, 2019; Ghosh, 2024). These studies are based on an urban-rural differential index (Kishna and Shyam, 1978). This index is based on simple difference between urban and rural literacy rate which is sensitive to the level of the literacy rate. Since literacy rate in any population cannot be more than 100 per cent, the increase in the literacy rate leads to a decrease in urban-rural difference in literacy rate.

The urban-rural differential index, therefore, does not give the true perspective of the disparity in the literacy rate between urban and rural areas. This paper analyses rural-urban disparity in literacy rate in the districts of West Bengal using the Rao and Kundu version of the Sopher's index of inequality or disparity (Sopher, 1980; Kundu and Rao, 1986). The limitation of the original Sopher's Index is that it fails to satisfy principle of additive monotonicity. The additive monotonicity axiom specifies that if a constant is added to all observations in a non-negative series, ceteris paribus, the inequality or the disparity index must report a decline. Moreover, the original Sopher's index cannot be calculated if one of the variables is 100 per cent.

Data and Methods

District level estimates of literacy rate by rural and urban areas in India are available through the decennial population census only which was last conducted in the year 2011. At the state/Union Territory level, however, estimates of rural and urban literacy rate are available through the Periodic Labour Force Survey (PLFS) 2023-2024. The district level analysis presented in this paper, therefore, refers to the year 2011 whereas the state level data presented in the paper refers to the period 2023-2024. The data from the 2011 population census is dated in the present context but there is no other source that provides data about the number of literates and the number of illiterates in the districts of the country. It may be argued that there would have been marked changes in the rural-urban disparity or inequality in literacy rate in the districts of the state after 2011. The extent and the nature of these changes will be known only after the 2027 population census which is currently in progress.

The level of literacy in the population has been captured through the effective literacy rate which is defined in the 2011 population census as the proportion of the population aged 7 years and above who can read and write with understanding. The same definition has been adopted in the periodic labour force survey so that estimates of the literacy rate available from the two sources are compatible so that it is possible to analyse the trend in rural-urban disparity in the literacy rate in the state during more than 40 years between 1991 and 2022-2024. The analysis of rural-urban disparity in the district of the state, however, is confined to the period 1991-2011.

Let L_R denote the literacy rate in the rural areas and L_U denotes the literacy rate in the urban areas and assume that $L_U > L_R$. Then the Rao-Kundu version of the Sopher's inequality or disparity index (DI) is defined as

$$DI = log\left(\frac{L_U}{L_R}\right) + log\left(\frac{200 - L_R}{200 - L_U}\right)$$

When $L_U < L_R$, DI is be calculated as

$$DI = log\left(\frac{L_R}{L_U}\right) + log\left(\frac{200 - L_U}{200 - L_R}\right)$$

When $L_U = L_R$, DI=0 and there is no disparity between urban and rural literacy. On the other hand, the higher the DI the higher disparity or inequality (Chakraborty, 2013). The original Sopher's disparity index may also be conceived as the logarithm of the ratio of the odds of being literate in the urban (rural) areas to the odds of being literate in the rural(urban) areas. However, no such interpretation of the Rao Kundu version of the index is possible. The logarithm is used to reduce the levelling of the effect (Sopher, 1980).

Results and Discussion

Rural-Urban Disparity in Literacy in India and States/Union Territories, 2023-2024

Table 1 presents estimates of DI for India and states/Union Territories based on the estimates of the literacy rate derived from the data available from the Periodic Labour Force Survey (2023-2024). The rural-urban disparity in literacy rate varies widely across states and Union Territories being the highest in Telangana but the lowest in Mizoram where there is virtually no difference in the literacy rate in the rural and urban areas of the state. In most of the states and Union Territories, rural-urban disparity in the literacy rate is lower than the national average. There are only nine states and Union Territories in which the disparity is higher than the national average. The rural-urban disparity in the literacy rate in West Bengal is substantially lower than the national average. The state ranks 19 among the 35 states and Union Territories in terms of rural-urban disparity in the literacy rate. There is no rural area in the Union Territory of Chandigarh so that rural-urban disparity in the literacy rate could not be calculated.

The states and Union Territories rank differently in rural-urban disparity in male literacy rate and rural-urban disparity in female literacy rate. Mizoram and Telangana are the only two states/Union Territories which have the same rank in rural-urban disparity in male literacy rate and rural-urban disparity in female literacy rate. The rural-urban disparity in the male literacy rate is the highest in Andhra Pradesh but the lowest in Mizoram. On the other hand, rural-urban disparity in the female literacy rate is the highest in Dadra & Nagar Haveli and Daman & Diu but the lowest again in Mizoram. West Bengal ranks 14 among 35 states and Union Territories in terms of rural-urban disparity in male literacy rate but 21 in terms of rural-urban disparity in female literacy rate.

Table 1 also indicates that rural-urban disparity in female literacy rate is higher than the rural-urban disparity in the male literacy rate in the country and in all but one state/Union Territory. Delhi is the only state/Union Territory in which rural-urban disparity in the male literacy rate is found to be higher than the rural-urban disparity in the female literacy rate according to the PLFS, 2023-2024. The difference between the rural-urban disparity index in the female population and the rural-urban disparity index in the female population is the highest in Dadra & Nagar Haveli and Daman & Diu but the lowest in Mizoram and Meghalaya. This difference is also very high in Gujarat, Telangana, Rajasthan, Maharashtra and Uttar Pradesh. On the other hand, this difference is very low in all the north-eastern states of the country. In West Bengal also, the difference between the rural-urban disparity index in female and male literacy rate is very low, seventh lowest among the 35 states and Union Territories of the country.

Table 1: Variation in rural-urban disparity in the literacy rate (index DI) in India and states/Union Territories, 2023-2024.

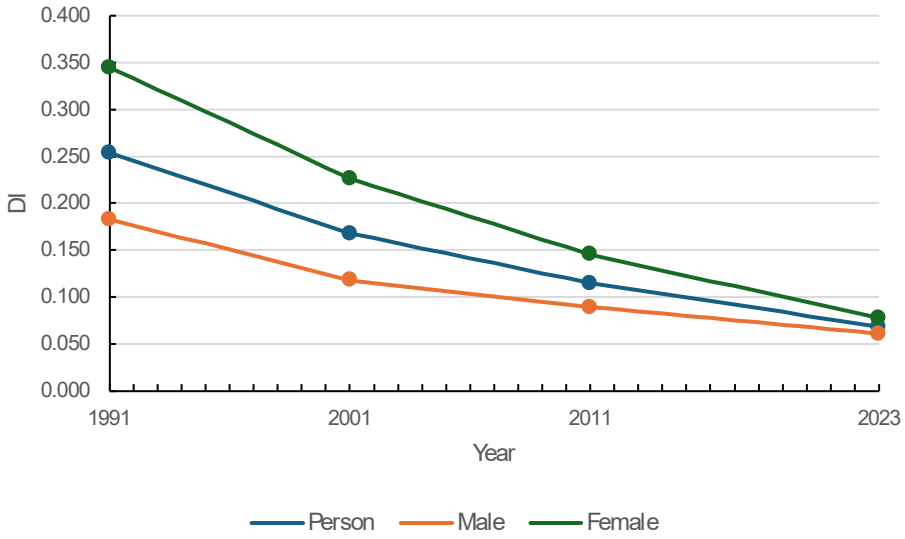
Country/State/Union Territory	Index DI			Rank in DI person
	Male	Female	Person	
India	0.072	0.133	0.102	
Andhra Pradesh	0.132	0.185	0.157	2
Arunachal Pradesh	0.069	0.080	0.072	18
Assam	0.052	0.072	0.061	20
Bihar	0.074	0.119	0.097	10
Chhattisgarh	0.050	0.120	0.086	12
Delhi	0.034	0.012	0.019	31
Goa	0.003	0.027	0.012	33
Gujarat	0.061	0.153	0.105	9
Haryana	0.050	0.118	0.082	15
Himachal Pradesh	0.020	0.080	0.053	23
Jharkhand	0.094	0.127	0.111	6
Karnataka	0.090	0.133	0.111	8
Kerala	0.011	0.026	0.019	32
Madhya Pradesh	0.106	0.159	0.129	4
Maharashtra	0.050	0.121	0.085	13
Manipur	0.030	0.042	0.036	27
Meghalaya	0.034	0.039	0.037	25
Mizoram	0.002	0.006	0.002	35
Nagaland	0.012	0.030	0.021	30
Odisha	0.093	0.146	0.121	5
Punjab	0.041	0.065	0.054	22
Rajasthan	0.071	0.147	0.111	7
Sikkim	0.065	0.122	0.093	11
Tamil Nadu	0.063	0.106	0.083	14
Telangana	0.120	0.204	0.163	1
Tripura	0.028	0.060	0.044	24
Uttarakhand	0.026	0.094	0.058	21
Uttar Pradesh	0.038	0.109	0.074	17
West Bengal	0.061	0.078	0.069	19
Andaman & N. Island	0.003	0.027	0.010	34
Dadra & Nagar Haveli & Daman & Diu	0.095	0.208	0.151	3
Jammu & Kashmir	0.003	0.052	0.026	29
Ladakh	0.051	0.104	0.076	16
Lakshadweep	0.007	0.049	0.027	28
Puducherry	0.018	0.063	0.036	26

Remarks: Rural-Urban disparity index could not be calculated for Chandigarh as there is no rural area in the state.

Source: Authors, based on the estimates of female and male literacy rates in rural and urban areas available from Government of India (2024).

Trend in Rural-Urban Disparity in Literacy Rate in West Bengal

Figure 1 shows the temporal trend of rural-urban disparity in literacy rate in West Bengal during the period 1991 through 2023-2024. The decrease in the rural-urban disparity in the literacy rate was the most rapid during the decade 1991-2001 and has slowed down considerably after 2011-2023 because the rural-urban disparity in the literacy rate was quite low in 2023-2024 compared to the rural-urban disparity in the literacy rate in 1991. The decrease in disparity is directly related to the level of disparity – the higher the level of disparity the higher the decrease in disparity. Figure 1 also shows that the decrease in rural-urban disparity has been sharper in case of female literacy as compared to male literacy in the state.



Population	1991	2001	2011	2023-2024
Person	0.254	0.168	0.115	0.069
Male	0.183	0.118	0.089	0.061
Female	0.345	0.226	0.145	0.078

Figure 1: Trend in rural-urban disparity in literacy rate in West Bengal, 1991 to 2023-2024. Source: Authors

A notable feature of the transition in the rural-urban disparity in literacy rate in West Bengal is the convergence in the rural-urban disparity between female and male literacy rate. In 1991, rural-urban disparity in female literacy rate was almost two times the rural-urban disparity in male literacy rate in the state. The data available from PLFS 2023-2024 indicates that this difference in rural-urban disparity in male and female literacy rate has now almost been wiped out. The rural-urban disparity in female literacy rate in the state is now only a shade higher than the rural-urban disparity in the male literacy rate and the level of disparity has decreased to very low levels. This is a welcome feature of the literacy scenario in the state.

Rural-Urban Disparity in Literacy Rate in Districts

Recent estimates of literacy rate for the districts of the state are not available from any source. The latest estimates of literacy rate for the district of the state are available from the 2011 population census only. Based on these estimates, the rural-urban disparity index (DI) in the literacy rate in the districts of the state is presented in table 2 and depicted in figures 2 through 3 which reflect that within the state, rural-urban disparity in literacy rate varies widely across districts. The rural-urban disparity in the literacy rate has been found to be highest in district Uttar Dinajpur of the state while it has been found to be very low in Purba Medinipur, Haora, Murshidabad, South 24 Parganas, Hugli, Paschim Medinipur and Barddhaman districts. The rural urban disparity in the literacy rate has been found to be the lowest disparity in Purba Medinipur district according to the 2011 population census. Rural-urban disparity in the literacy rate could not be calculated for district Kolkata as there was no rural population in the district at the 2011 population census.

The districts of the state can be divided into three groups based on the level of the rural-urban disparity in the literacy rate measured in terms of the disparity index DI. The first group comprises those districts in which rural-urban disparity in the literacy rate may be termed as low to very low as the disparity index, DI, is less than 0.100 in districts of this group. There are six districts in this group. The second group comprises those districts in which the rural-urban disparity in the literacy rate may be termed as high as the disparity index, DI is greater than or equal to 0.100 but less than 0.150. There are nine districts in this group. Finally, the third group comprises those districts in which rural-urban disparity in the literacy rate may be termed as very high as the disparity index, DI is at least 0.150 in districts of this group. There are three districts in this group.

Table 2 also reveals that the rural-urban disparity in the female literacy rate was markedly higher than that in the male literacy rate in all, but one districts of the state according to the 2011 population census. District Murshidabad is the only district in the state in which rural-urban disparity in the male literacy rate was higher than the rural-urban disparity in the female literacy rate in 2011. The rural-urban disparity in both female and male literacy rate was the highest in the Uttar Dinajpur district of the state. On the other hand, rural-urban disparity in both female and male literacy rate was the lowest in district Purba Medinipur. In district Puruliya, rural-urban disparity in the female literacy rate was very high but the rural-urban disparity in the male literacy rate was very low according to the 2011 population census so that the female-male difference in the rural-urban disparity in the literacy rate was the highest in the district. In district Nadia, on the other hand, female-male difference in the rural-urban disparity in the literacy rate was the lowest according to the 2011 population census. The inter-district variability in the rural-urban disparity in the male literacy rate was, however, higher than that in the rural-urban disparity in the female literacy rate. The coefficient of variation in the rural-urban disparity in the male literacy rate across the districts of the state is estimated to be 0.512 in 2011 compared to 0.451 in the rural-urban disparity in the female literacy rate. The rural-urban disparity in male literacy rate across the districts of the state, on average, is lower than that in female literacy rate but the inter-district variation in the rural-urban disparity in male literacy rate appears to be higher than the inter-district variation in the rural-urban disparity in the female literacy rate in the state.

Table 2: Rural-urban disparity in the literacy rate in districts of West Bengal, 1991-2011.

State/District	Disparity index DI								
	Person			Male			Female		
	1991	2001	2011	1991	2001	2011	1991	2001	2011
West Bengal	0.254	0.168	0.115	0.183	0.118	0.089	0.345	0.226	0.145
Darjiling	0.283	0.162	0.119	0.210	0.105	0.085	0.379	0.227	0.157
Jalpaiguri	0.351	0.204	0.117	0.271	0.144	0.085	0.477	0.279	0.153
Koch Bihar	0.365	0.195	0.137	0.270	0.144	0.108	0.508	0.259	0.172
Uttar Dinajpur	0.498	0.393	0.237	0.390	0.303	0.198	0.671	0.517	0.282
Dakshin Dinajpur		0.218	0.169		0.163	0.140		0.285	0.203
Maldah	0.474	0.321	0.167	0.389	0.268	0.140	0.612	0.392	0.198
Murshidabad	0.307	0.166	0.063	0.277	0.168	0.074	0.360	0.169	0.053
Birbhum	0.225	0.172	0.111	0.179	0.140	0.094	0.290	0.214	0.132
Barddhaman	0.142	0.109	0.082	0.107	0.087	0.073	0.179	0.134	0.090
Nadia	0.290	0.186	0.133	0.265	0.171	0.128	0.332	0.206	0.139
North Twenty Four Parganas	0.251	0.148	0.103	0.190	0.116	0.088	0.329	0.185	0.120
Hugli	0.134	0.110	0.075	0.081	0.072	0.051	0.195	0.147	0.101
Bankura	0.245	0.173	0.143	0.171	0.111	0.098	0.357	0.255	0.196
Puruliya	0.335	0.222	0.129	0.208	0.116	0.070	0.578	0.382	0.203
Haora	0.122	0.075	0.047	0.069	0.042	0.030	0.179	0.107	0.064
Kolkata	No rural population								
South Twenty Four Parganas	0.203	0.116	0.063	0.120	0.067	0.041	0.317	0.175	0.089
Paschim Medinipur	0.095	0.082	0.081	0.046	0.045	0.051	0.153	0.124	0.115
Purba Medinipur			0.016			0.006			0.026

Source: Authors, based on data from 1991, 2001 and 2011 population census.

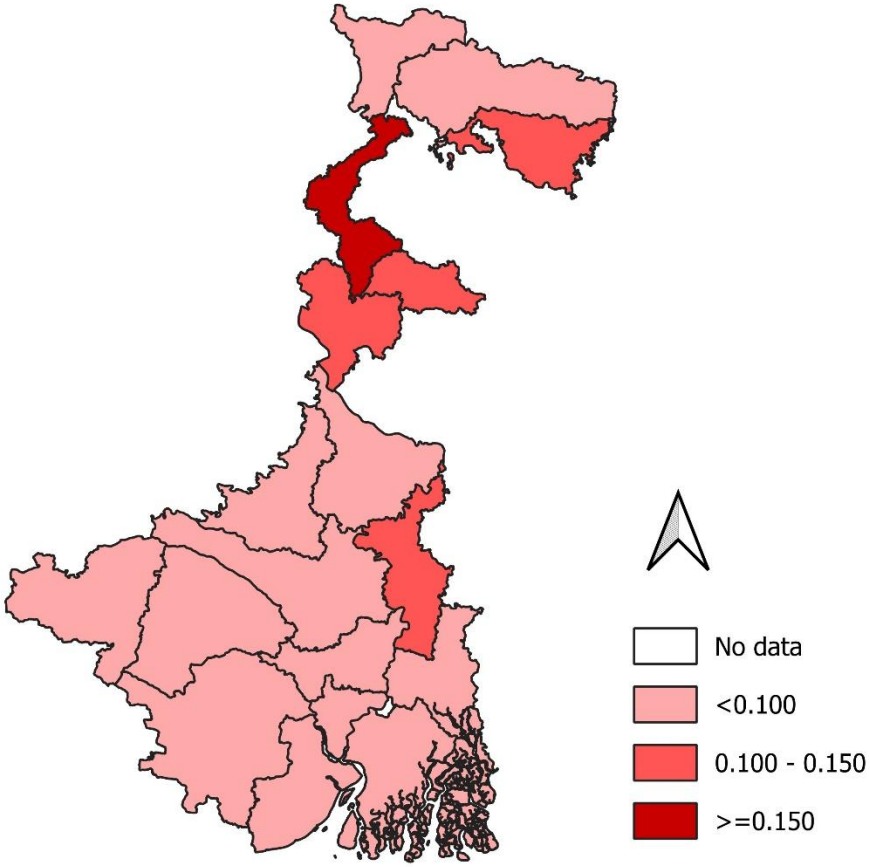


Figure 2: Inter-district variation in rural-urban disparity in the literacy rate, 2011.
Source: Authors, based on table 2.

Between 1991 and 2011, the rural-urban disparity in the literacy rate has decreased in all districts. However, the magnitude of the decrease has been different in different districts. The rural-urban disparity in female literacy decreased the most rapidly during 1991-2011 in district Maldah from 0.474 in 1991 to 0.140 in 2011. The decrease in the disparity has also been quite rapid in Jalpaiguri, Koch Bihar, Murshidabad and Puruliya districts. On the other hand, the decrease in disparity has been the slowest in district Hugli. In Barddhaman and Haora districts also, the decrease in the rural-urban disparity in the literacy rate has been very slow. The inter-district variation in rural-urban disparity in the literacy rate has however increased from 0.414 in 1991 to 0.456 in 2011 showing divergence over time in rural-urban disparity in literacy rate across districts.

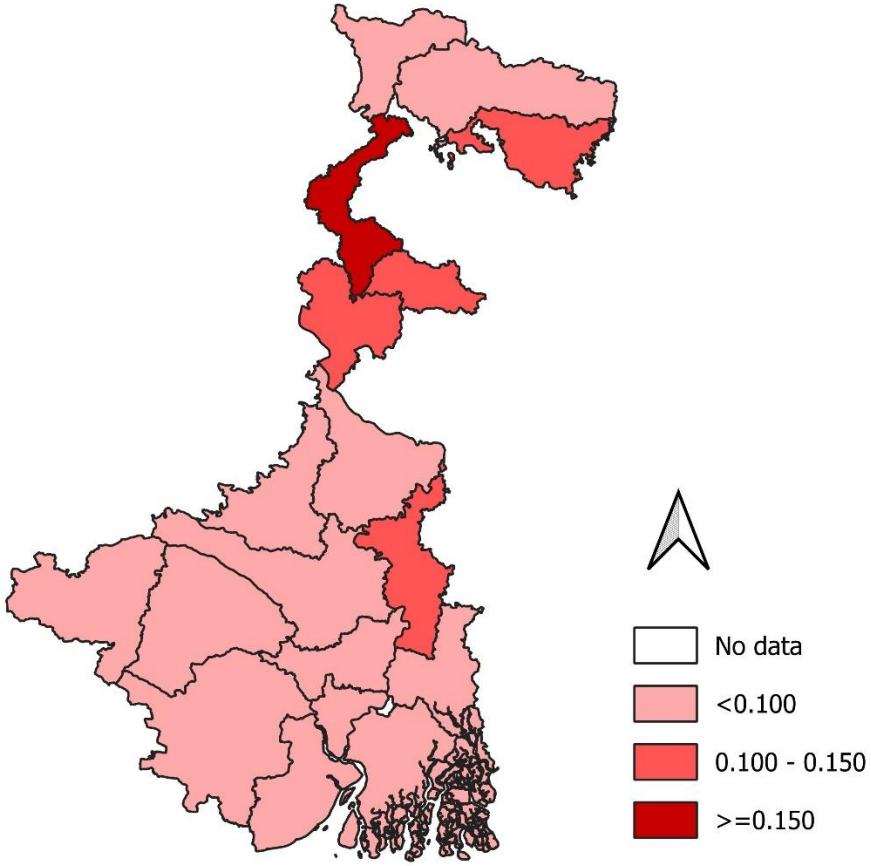


Figure 3: Inter-district variation in rural-urban disparity in male literacy rate, 2011.
Source: Authors

The rural-urban disparity in both male and female literacy rates has also decreased in all districts during 1991-2011. However, the pace of decrease has been different in different districts. The decrease in the disparity across districts has not resulted in convergence in rural-urban disparity in literacy across districts. Instead, there has been a divergence as the coefficient of variation across districts in rural-urban disparity in both male and female literacy rates increased between 1991 and 2011. This implies that the decrease in rural-urban disparity in both male and female literacy rate has been more rapid in some districts of the state but slower than average in other districts. The coefficient of variation in rural-urban disparity in male literacy rate across districts increased from 0.487 in 1991 to 0.512 in 2011 while the coefficient of variation in rural-urban disparity in female literacy rate increased from 0.410 to 0.451 during this period.

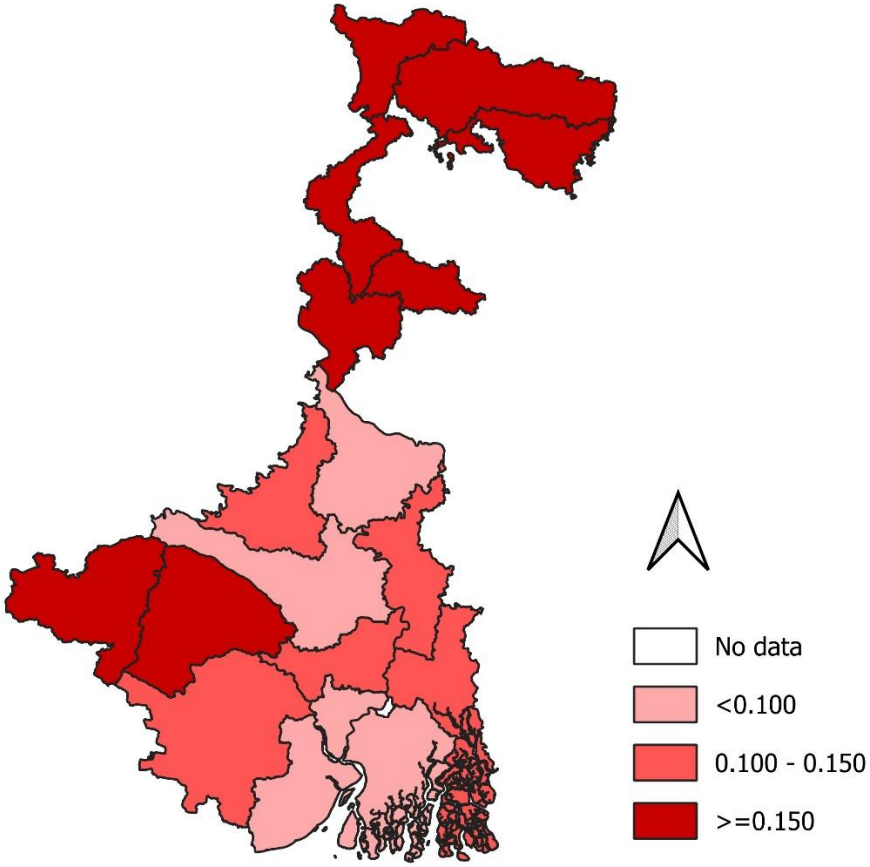


Figure 4: Inter-district variation in rural-urban disparity in female literacy rate, 2011.
Source: Authors

Conclusion

The present paper highlights the marked decrease in rural-urban disparity in the literacy rate in West Bengal since 1991. The decrease in rural-urban disparity in the literacy rate has also been associated with the narrowing of the rural-urban disparity in male literacy rate and in female literacy rate. The latest evidence suggests nearly wiping out the difference in the rural-urban disparity in the literacy rate between female and male population in the state. This is a remarkable achievement towards the realisation of universal literacy in the state.

Although, based on the data from the 2011 population census, the present analysis also suggests that rural-urban disparity in the literacy rate varies widely across the districts of the state and this variation in the rural-urban disparity in the literacy rate appears to have increased over time in terms of both female and male literacy rate. The rural-urban disparity in the literacy rate has decreased in all districts but the pace of decrease has been different in different districts so that districts have diverged, instead converged, in terms of rural-urban disparity in the literacy rate. It appears that there are district-specific factors that may be responsible for the rural-urban disparity in the literacy rate. An understanding of these factors may contribute towards reducing rural-urban disparity in the literacy rate in those districts in which progress appears to have been slow. The analysis also suggests targeted policy interventions to bridge the rural-urban divide in the literacy rate.

The rural-urban disparity in the literacy rate appears to be exceptionally high in district Uttar Dinajpur of the state. This may be due to the low level of social and economic development in the district. Majority of the people in the district are socio-economically backward, and the percentage of rural people is much higher than urban people in the district. It has also been observed that the educational infrastructure in the rural areas of the district is insufficient (Roy, 2013). Because of these reasons, the district has the lowest literacy rate compared to other districts of the state and a high rural-urban disparity in literacy rate.

The present analysis highlights the need of investment in the educational infrastructure in the rural areas of the state. This investment can bridge the significant literacy gap between urban and rural population, fostering great equality in educational opportunities and outcomes.

References

Begum A (2020) Role of literacy in people's lives and its importance. *International Journal of Science and Research* 9(9): 1223-1224.

Chakraborty A (2013) A review of gender disparity in education sector in India. *International Journal of Social Science* 2(1): 43-52.

Dutta A, Chauhan SJ, Roy R, Prasad S (2025) Gender disparity in literacy in north Indian States. *Indian Journal of Population and Development* 5(1): 99-114.

Ghosh S (2024) Study of disparity in urban-rural literacy in West Bengal, India: a district-level analysis. *Revista electrónica de Veterinaria* 25(1): 1804-1814.

Government of India (2024) *Annual Report. Periodic Labour Force Survey (PLFS) (July 2023-June 2024)*. New Delhi, Ministry of Statistics and Programme Implementation. National Statistics Office.

Krishna G, Shyam M. (1978) Regional aspects of urban-rural differential in literacy in India: 1971. *The Journal of Developing Areas*13(1): 11-21.

Kundu A, Rao JM (1986). Inequity in educational development: issues in measurement, changing structure and its socio-economic correlated with special reference to

India. In M Raza (Ed) *Educational Planning: A Long Term Perspective*. New Delhi, National Institute of Educational Planning and Administration and Concept Publishing Company.

Roy C (2011) Economic backwardness of Uttar Dinajpur: a block level analysis. *Munich Personal RePEc Archive* 6(7): 23-31.

Roy D, Mondal A (2015) Rural-urban disparity of literacy in Murshidabad district, West Bengal, India. *International Research Journal of Social Sciences* 4(7): 19-23.

Sarkar CS, BAR AR (2019) Regional analysis of urban-rural differential in literacy of West Bengal. *International Journal of Research and Analytical Reviews* 6(2): 466-474.

Singh V (2019) Urban and rural literacy in India: a geographical analysis. *International Journal of Research and Analytical Reviews* 6(1): 437-443.

Som KS, Mishra RP (2014) Literacy and their differential in West Bengal. *International Journal of Science and Research 3*(6): 1537-1545.

Sopher DE (1980) Sex disparity in Indian literacy. In DE Sopher (Ed) *An Exploration of India: Geographical Perspectives on Society and Culture*. Ithaca, New York, Cornell University Press.

Appendix Table: Estimates of rural and urban literacy rate in West Bengal and its districts, 1991, 2001, 2011 and 2023-2024.

State/District	Proportion (per cent) of population aged 7 years and above who can read and write with understanding					
	Rural			Urban		
	Person	Male	Female	Person	Male	Female
			1991			
West Bengal	50.3	61.9	37.9	75.1	81.1	68.1
Bankura	49.8	65.0	33.9	73.7	83.3	63.3
Barddhaman	56.5	66.7	45.6	70.7	78.1	61.7
Birbhum	46.3	57.3	34.7	67.2	75.6	58.1
Calcutta	No rural population			77.6	81.9	72.0
Darjeeling	49.0	59.8	37.3	76.7	81.7	70.9
Haora	61.1	72.1	49.4	73.6	79.5	66.2
Hugli	62.1	72.7	50.8	76.0	81.5	69.6
Jalpaiguri	39.3	51.0	26.6	70.9	78.0	63.0
Koch Bihar	42.6	54.8	29.4	77.1	82.5	71.4
Maldah	32.2	42.5	21.2	72.8	79.6	65.4
Medinipur	68.1	80.6	54.9	78.3	85.8	70.0
Murshidabad	35.3	43.5	26.5	60.6	68.9	51.9
Nadia	45.8	53.6	37.3	73.4	80.5	65.9
North 24 Parganas	53.1	63.6	41.8	78.3	83.8	72.0
Puruliya	40.3	59.9	19.5	70.5	81.7	58.0
South 24	52.0	66.4	36.6	71.9	79.2	63.4
West Dinajpur	32.8	44.1	20.7	76.4	81.9	70.2
			2001			
West Bengal	63.4	73.2	53.2	81.3	86.2	75.8
Bankura	62.1	75.8	47.6	80.2	88.1	71.9
Barddhaman	65.9	75.0	56.1	77.4	84.5	69.3
Birbhum	59.9	69.5	49.7	77.7	84.8	70.2
Dakshin Dinajpur	60.4	70.0	50.3	83.3	87.9	78.6
Darjiling	66.0	76.2	55.4	83.5	87.9	78.6
Haora	72.8	80.7	64.6	81.0	85.5	75.8
Hugli	71.0	79.8	62.1	83.0	87.9	77.5
Jalpaiguri	58.9	69.9	47.3	80.1	85.6	74.1
Koch Bihar	64.3	74.4	53.6	85.2	90.4	79.8
Kolkata	No rural population			80.9	83.8	77.3
Maldah	47.8	56.6	38.4	79.3	84.5	73.9
Medinipur	74.0	84.4	63.1	82.9	89.4	76.0
Murshidabad	52.3	58.5	45.7	68.4	75.7	60.8
Nadia	61.8	68.3	55.0	81.4	86.9	75.7
North Twenty Four Parganas	69.1	76.7	61.0	85.2	89.6	80.4
Puruliya	53.3	72.4	33.3	75.4	85.1	64.9
South Twenty Four Parganas	67.4	78.0	56.2	79.9	85.4	73.7
Uttar Dinajpur	42.9	54.2	30.8	80.5	85.5	74.9

State/District	Proportion (per cent) of population aged 7 years and above who can read and write with understanding					
	Rural			Urban		
	Person	Male	Female	Person	Male	Female
	2011					
West Bengal	72.1	78.4	65.5	84.8	88.4	81.0
Bankura	68.9	79.1	58.3	84.4	90.2	78.5
Barddhaman	72.7	79.1	65.9	81.5	87.3	75.3
Birbhum	69.1	75.6	62.3	81.1	86.0	76.0
Dakshin Dinajpur	70.1	76.1	63.8	88.7	91.8	85.5
Darjiling	74.3	81.8	66.6	87.5	91.4	83.5
Haora	80.0	84.8	75.0	85.2	88.2	82.0
Hugli	78.5	84.8	72.1	86.9	90.5	83.1
Jalpaiguri	69.7	77.3	61.8	82.4	86.8	77.8
Koch Bihar	73.2	79.4	66.5	88.4	91.6	85.0
Kolkata	No rural population			86.3	88.4	84.1
Maldah	59.4	64.2	54.3	76.6	78.9	74.0
Murshidabad	65.3	68.4	62.0	71.9	76.2	67.3
Nadia	70.9	74.8	66.7	85.4	88.9	81.6
North Twenty Four Parganas	77.4	81.9	72.6	88.9	91.8	85.9
Paschim Medinipur	76.9	84.5	69.0	85.9	90.3	81.3
Purba Medinipur	86.8	92.3	81.0	88.6	92.9	84.0
Puruliya	62.7	76.8	48.1	76.2	84.6	67.1
South Twenty Four Parganas	75.7	82.2	68.9	82.7	86.8	78.4
Uttar Dinajpur	56.0	62.8	48.7	80.3	83.9	76.3
	2023-2024					
West Bengal	80.3	83.8	76.8	88.0	90.7	85.4

Source: Estimated by the authors from the data from 1991, 2001 and 2011 population census. Estimates for the period 2023-2024 are from Government of India (2024). Estimates of literacy rate for the districts are not available for 2023-2024.