Spatio-temporal Dynamics of Gender Disparity in the Literacy Rates of West Bengal, 1961-2011

Rana Roy[1], Bijay Chettri[2*], Prof. Sohel Firdos[3], Prof. Kiran Kumari[4]

[1]Ph.D. Research Scholar, Department of Geography, Central University of South Bihar, Gaya, India.

[2,3]Department of Geography, Sikkim University, Gangtok, Sikkim, India

[4]Professor, Department of Geography, Central University of South Bihar, Gaya, India.

DOI: https://doi.org/10.47772/IJRISS.2026.100900460

Received: 21 September 2026; Accepted: 26 September 2026; Published: 14 October 2026

ABSTRACT

Literacy is widely regarded as a basic instrument of individual advancement and of the progress of society. It helps in shaping an individual's knowledge acquisition and social perception. Scheduled Castes (SCs) and Scheduled Tribes (STs) remain historically deprived sections of Indian society. Their educational attainment and literacy continue to trail behind those of other groups. Taking the total population as the reference group, this paper analyses how the male-female literacy gap among the SC and ST populations of West Bengal changed across space and time from 1961 to 2011. Its objectives are to trace the trends in male and female literacy of the three groups, to measure gender disparity at the state and district levels, and to compare the trajectories of selected districts. Drawing on district-level data from six rounds of the Census of India, the paper applies the Effective Literacy Rate and Sopher's Disparity Index (DI) to measure literacy and gender disparity for the state as a whole and for each of its districts, and compares six districts whose boundaries remained unchanged over the period. Across the five decades, literacy among the SC and ST populations stayed below the level of the total population, and females were the more disadvantaged group within every social category. Gender disparity declined for all three groups over the study period. However, it was higher among the SC population than among the total population in 81 of 106 district-census observations, and higher among the ST population in 88 of 106. Purulia recorded the highest disparity for the total population and SC populations in every census, whereas Kolkata recorded the lowest disparity for the total population in every census up to 2001. The findings indicate that literacy programmes need to be directed particularly at SC and ST women in the western plateau districts.

Keywords: Literacy Rate, Gender Disparity, Scheduled Caste, Scheduled Tribe, West Bengal

INTRODUCTION

Gender, as Oakley (2015) explains, is a social construction: it denotes the behaviours, attitudes, activities and roles that a particular society regards as suitable for each sex. Gender disparity expresses the unequal treatment of the two sexes and, across societies, proves persistent and slow to change. It shows itself in the different ways in which sons and daughters are treated: households often celebrate the birth of a son but receive the birth of a daughter with something close to mourning (Islam & Khan, 2019). Evidence from India indicates that a preference for sons leads households to spend less on educating daughters than on educating sons (Kaul, 2018; Fors & Lindskog, 2023). Such disparity is long-standing, although its extent differs between countries and changes over time. It exists in every field, including health, education, job opportunities and wages (Klasen & Lamanna, 2009).

For the Census of India, a literate person is anyone aged seven years or more who is able to read as well as write, with understanding, in at least one language; a person who can read but cannot write is not counted as literate (Census of India, 2011). Literacy, in this sense, is a wide and evolving idea that goes further than the purely mechanical skills of reading and writing. The persistence of gender inequality in India also shows up

in international comparisons. In the Global Gender Gap Index 2020, the country stood 112th among 153 nations, and on the four sub-indices of economic participation and opportunity, educational attainment, health and survival, and political empowerment its positions were 149th, 112th, 150th and 18th respectively (World Economic Forum, 2020).

The contextual literature shows that gender disparity in literacy in India is not uniform and varies from one state to another (Katiyar, 2016). West Bengal displays the same unevenness: although literacy has risen considerably in every one of its districts, the levels of literacy and of gender disparity vary from one district to another. Premi (1974) argued that the Constitution of India assures social justice and equality of opportunity to all. The Scheduled Castes are a special category that gets reservations under these principles. However, various problems are obstructing its achievement.

Many members of these communities are unaware of the opportunities that the government already provides. Most Scheduled Caste children are historically protein-deprived and first-generation learners; they do not have a tradition of learning in the family and are at a disadvantage compared with other people, who have received education for generations.

Likewise, Sujatha (2002) argued that tribal communities face many barriers to education. These barriers can be divided into external, internal, socio-economic and psychological issues. External problems include policy, planning, implementation and administration, whereas internal problems relate to the school system, contents, medium of instruction, monitoring and teaching. As the majority of people in tribal societies are first-generation learners, they feel psychologically apprehensive about their existence in the society. Among the Scheduled Tribes of Jharkhand and West Bengal, tribes with low female literacy, such as the Lodha of West Bengal, also show high gender disparity, and the disparity among most tribes widens at higher levels of schooling (Ghosh, 2007).

An ethnographic study of Oraon girls found that household economic hardship, early marriage and the absence of role models led girls to drop out, while competent teachers, the use of the local language and parental support helped them to complete their education (Nayak & Kumar, 2022). According to Basak and Mukherji (2011), the positive impact in education is noticeable only at the upper primary level, where it has raised the female literacy rate relative to the male literacy rate. However, variation at the village level is not enough to account for literacy and gender disparity in West Bengal, since the underlying socio-economic conditions differ across the state.

However, most of the studies of gender disparity in literacy in West Bengal have focused on disparities at rural, urban and district levels. Far less attention has been given to the Scheduled Castes (SCs) and Scheduled Tribes (STs), either for the state as a whole or as distinct social categories, although these two groups made up 29.3 per cent of West Bengal's population in 2011 (SCs 23.5 per cent and STs 5.8 per cent; Census of India, 2011). Both groups record lower literacy than other castes in the state, and prejudice against them remains noticeable in many spheres of social life, including education. Reducing the gender gap in literacy in West Bengal therefore calls for detailed study across its regions and social groups.

Against this background, the present study examines the current state of literacy in West Bengal and traces how gender disparity in SC and ST literacy, measured against that of the total population, has varied across the state's districts and over time. The objectives, research questions and methods are stated in the next two sections. In the results, Section I describes how literacy among the total population, SC and ST populations changed between 1961 and 2011. Section II quantifies the male-female literacy gap at state and district scale and compares how it moved in six selected districts. Section III concludes the paper.

OBJECTIVES AND RESEARCH QUESTIONS

The study pursues the following aims:

- To trace how male and female literacy changed among the total population, SC and ST populations of West Bengal between 1961 and 2011;

- To quantify, with Sopher's Disparity Index, the gender gap in literacy of each of the three groups for the state and for its districts; and
- To compare the trends of gender disparity across the three groups in selected districts and to interpret the spatial and social differences observed.

The study addresses the following research questions:

RQ1. How did the literacy rates of males and females in the total population, SC and ST populations of West Bengal change between 1961 and 2011?

RQ2. Did the SC and ST populations show greater gender disparity in literacy than the total population, both for the state and within its districts?

RQ3. Which districts recorded persistently high or low gender disparity, and how did the trends in the selected districts differ across the three population groups?

DATABASE AND METHODS

This study relies wholly on secondary sources, namely the reports of the Census of India for the six censuses from 1961 to 2011. The census figures are analysed with the help of tables and diagrams.

Data sources and variables

Literacy rates for all persons and separately for each sex were assembled for every census year and for three groups, namely the total population, SC and ST populations. District figures for 1961 to 2001 come from the West Bengal volumes of each census, specifically the "General Population Tables", the "Primary Census Abstract" and the "Special Tables for Scheduled Castes and Scheduled Tribes". The 2011 rates for the total population are taken from the Provisional Population Totals (Paper 1 of 2011: West Bengal), while the SC and ST rates for that year are from the Primary Census Abstract (Census of India, 2011). Four variables are used: the total literacy rate (TL), the literacy rate of males (X2), the literacy rate of females (X1), and the Disparity Index (DI) derived from X2 and X1. State-level values are shown in Figures 1.1 to 1.3 and 2.1, and district-level values in Tables 1 to 6.

Study area and units of analysis

The study covers the districts of West Bengal as enumerated in each census. The state had 16 districts in 1961, 1971 and 1981. In 1986, 24 Parganas was split into North 24 Parganas and South 24 Parganas, and in 1992 West Dinajpur was split into Uttar Dinajpur and Dakshin Dinajpur, giving 17 districts in 1991 and 18 in 2001. Medinipur was divided into Paschim and Purba Medinipur in 2002, and Census 2011 enumerated 19 districts. For 2011, Tables 2, 4 and 6 report values for the 23 present-day districts, including Alipurduar (created in 2014) and Jhargram, Kalimpong, Paschim Bardhaman and Purba Bardhaman (created in 2017). As the Census of India published no district tables for these five units, their 2011 values, together with those of their parent districts, have been derived from Census 2011 sub-district data and refer to present-day boundaries. Since these boundaries do not match those of earlier censuses, the districts concerned appear for 2011 only and are excluded from the comparison of trends.

Two measures are applied in this study:

Effective Literacy Rate

In the Census of India (2011), the Effective Literacy Rate is the share of literate persons, expressed as a percentage, among all persons aged seven years or more.

Effective Literacy Rate = (Number of literate persons aged 7 and above / Population aged 7 and above) × 100

The rate is calculated separately for persons (TL), males (X2) and females (X1) in each population group.

Sopher's Disparity Index (1974)

The Disparity Index was proposed by David E. Sopher (1974). It is a well-accepted technique to measure disparity between two groups and has been widely used to measure gender disparity in literacy in India (Katiyar, 2016; Singh, 2025).

DI = log (X2/X1) + log [(100 − X1) / (100 − X2)]

Where,

DI= Disparity Index.

X2= Percentage of Male Literacy.

X1= Percentage of Female Literacy.

log = common logarithm (base 10).

In Sopher's method, X2 is taken for the attribute having the higher value, and X1 for the attribute having the lower value; since male literacy exceeded female literacy in every observation in this study, X2 always denotes the male rate. If the DI value is 0, there is no disparity (perfect equality). A higher DI value reveals higher disparity and a lower DI value reveals lower disparity (Katiyar, 2016). The Disparity Index between two groups in their possession of a particular attribute is the logarithm of the odds ratio. The logarithm is used to reduce the levelling effect at high levels of an attribute such as literacy, where the same absolute gap represents less inequality than at low levels (Sopher, 1980). For example, a DI of 0.301 (Kolkata, total population, 1961) means that the odds of a male being literate were twice the odds of a female being literate (antilog of 0.301 = 2.0). Because the index is based on odds, it rises steeply when female literacy is very low. In 1961, when female ST literacy was below 1 per cent in eight districts, the DI approached or exceeded 1.0 (Table No. 5). Such values indicate extreme disparity but should not be compared too precisely with later values.

Selection of districts for comparison

Figures 2.2 to 2.4 compare the trends of six districts: Purulia, Bankura, Birbhum, Coochbihar, Howrah and Kolkata. Two criteria were used to select them. First, a district had to keep the same boundary from 1961 to 2011, so that its six DI values refer to the same area. Ten districts meet this condition (Bankura, Birbhum, Coochbihar, Hooghly, Howrah, Kolkata, Malda, Murshidabad, Nadia and Purulia); 24 Parganas, West Dinajpur, Medinipur, Bardhaman, Jalpaiguri and Darjeeling were divided during or after the study period. Second, the six were drawn from these ten so as to span the full range of DI values and the principal regions of West Bengal. Purulia and Kolkata recorded the highest and the lowest DI for the total population in most census years; Bankura and Birbhum represent the western plateau and Rarh region; Coochbihar represents North Bengal; and Howrah represents the industrial districts adjoining Kolkata. The discussion of trends in Section II refers to these six districts, and statements about other districts are based on Tables 1 to 6.

Limitations of the data

Three features of the census data affect comparability over time. First, in the 1961 and 1971 censuses literacy was measured for persons aged five years or more, whereas from 1981 onwards it has been measured for persons aged seven years or more (Census of India, 2011). Second, the SC and ST lists were revised under the Scheduled Castes and Scheduled Tribes Orders (Amendment) Act, 1976, so the SC and ST populations counted in 1961 and 1971 differ in composition from those of later censuses. Third, district boundaries changed during the period, as noted above. Comparisons between the early and later census years should therefore be read with caution.

RESULTS AND DISCUSSION

Section: I

Literacy in West Bengal: Temporal and Social Dynamics, 1961-2011

Literacy among the Total population, SC and ST Populations, 1961-2011

Literacy rose in all three groups between 1961 and 2011, yet at every census the SC and ST rates remained below the rate for the state's total population. In 1961, 34.46 per cent of the total population was literate, against 10.65 per cent of SCs and 7.00 per cent of STs. STs were thus well behind both the total population and the SC populations in 1961. This ordering persisted in each later census, from 1971 to 2011.

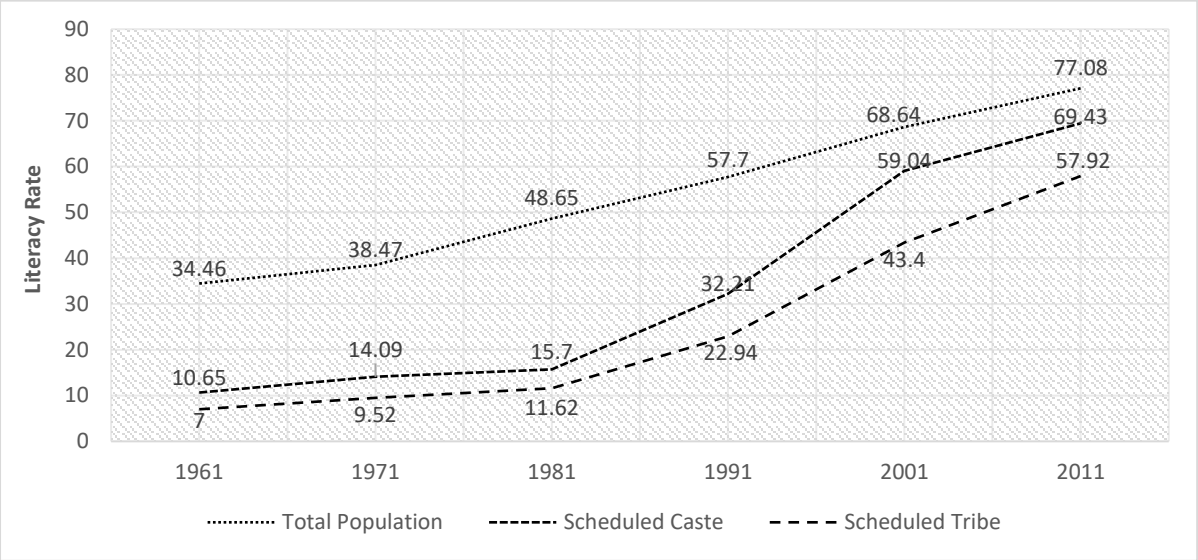


Figure 1.1: Literacy rates of the total population, SC and ST populations, West Bengal, 1961-2011 (Source: Census of India, 1961-2011)

Figure 1.1 traces literacy in the three groups across the six censuses. Between 1961 and 1981, SC and ST literacy stood far below that of the total population, and the shortfall grew from 23.81 to 32.95 percentage points for SCs and from 27.46 to 37.03 points for STs. Between 1991 and 2011, literacy climbed quickly in all three groups, and by 2011 the shortfall had shrunk to 7.65 points for SCs and 19.16 points for STs. SCs and STs differed only slightly from each other until 1981 (by 3.65 to 4.57 points), but the difference widened after 1991, standing at 15.64 points in 2001 and 11.51 points in 2011. SC literacy therefore converged with that of the total population much faster than ST literacy did.

The rapid rise after 1991 coincides with several programmes for elementary education. In 1997, the Government of West Bengal set up an alternative school programme, whose aim was to provide primary education to children between the ages of 5 and 9. More than 11,000 Sishu Siksha Kendras (SSKs) were opened in marginal localities of various districts, providing education to 7.5 lakh children (GoWB, 2004).

Rana et al. (2003) noted that the Government of West Bengal introduced the mid-day meal programme in primary education to increase enrolment and attendance and to reduce dropout rates. The programme was initially launched in 1,100 schools in six districts of the state and was later extended across the state. The students were served protein-rich meals through the mid-day meal scheme. Besides, free textbooks and uniforms were distributed to bring marginalised children under primary education. National evidence shows that the mid-day meal scheme increased primary school enrolment, with an effect on girls almost twice that on boys and a larger effect for socially disadvantaged groups (Kaur, 2021). Since these programmes were aimed at school-age children, their influence on population literacy shows up chiefly in the 2001 and 2011 census rates; the census data used here, however, cannot isolate their contribution from that of other changes.

Trends in Male Literacy, 1961-2011

Literacy among males rose in all three groups, but throughout 1961-2011 SC and ST males remained less literate than males in the total population. The 1961 figures were 36.57 per cent for all males, 15.66 per cent for SC males and 10.38 per cent for ST males. SC and ST males stayed behind in every later census as well.

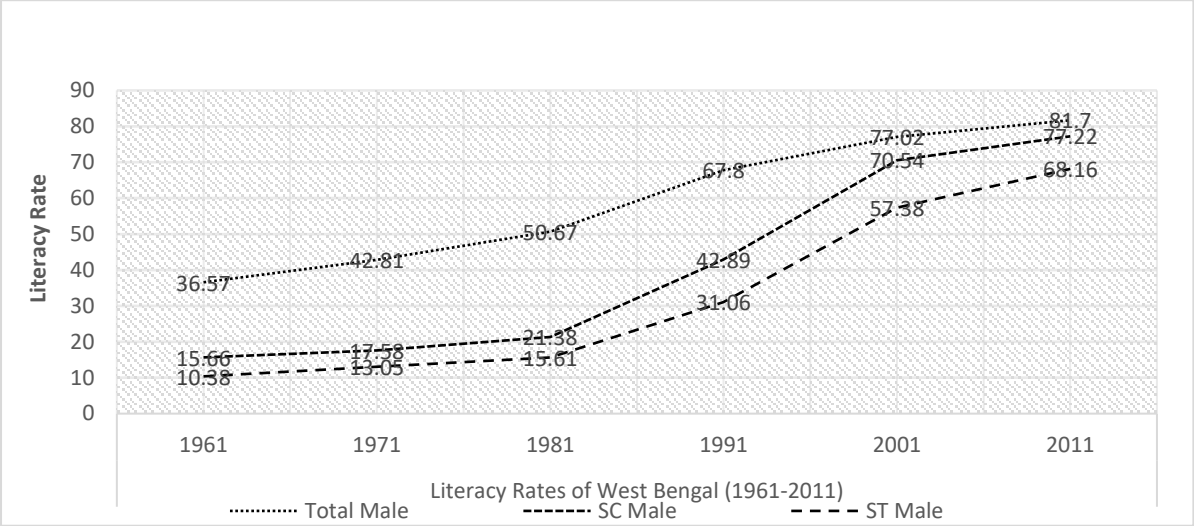


Figure 1.2: Male literacy rates of the total population, SC and ST populations, West Bengal, 1961-2011 (Source: Census of India, 1961-2011)

Figure 1.2 plots male literacy for the three groups over the same period. SC males fell further behind males in the total population until 1981, when the difference reached 29.29 percentage points, while the corresponding difference for ST males kept growing until 1991 (36.74 points). Over 1991-2011, male literacy rose steeply in every group, and by 2011 these two differences had fallen to 4.48 and 13.54 points respectively. Between SC and ST males, the difference stayed near 5 points during 1961-1981, increased to 11.83 points in 1991 and 13.16 points in 2001, and then eased to 9.06 points in 2011.

Trends in Female Literacy, 1961-2011

Female literacy also improved in all three groups, but SC and ST females trailed well behind females in the total population across the whole period from 1961 to 2011. In 1961, 20.27 per cent of all females were literate, compared with 5.08 per cent of SC females and 2.32 per cent of ST females. This ranking was repeated at each later census.

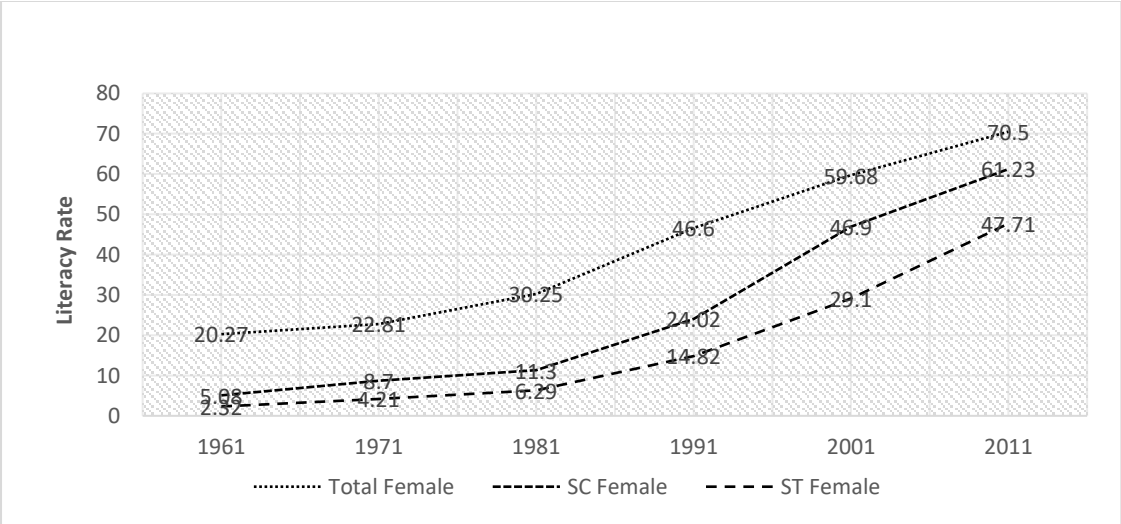


Figure 1.3: Female literacy rates of the total population, SC and ST populations, West Bengal, 1961-2011 (Source: Census of India, 1961-2011)

Figure 1.3 presents the corresponding series for females. The literacy rates of all three groups of females increased, but at different rates. The distance between SC females and females in the total population grew to 22.58 percentage points by 1991 and then contracted to 9.27 points by 2011; for ST females it reached 31.78 points in 1991 and was still 22.79 points in 2011. SC and ST females were close to each other until 1981 (2.76 to 5.01 points apart), but by 2001 the difference between them had risen to 17.80 points. ST women therefore remained the most disadvantaged group in 2011 despite large gains after 1991, which is consistent with the barriers to tribal girls' schooling discussed in the Introduction.

Within the SC population, the absolute difference between male and female literacy grew from 10.58 percentage points in 1961 to 15.99 points in 2011, and within the ST population from 8.06 to 20.45 points, although female literacy rose faster than male literacy in relative terms. Because absolute gaps can widen while relative inequality falls, Section II uses the Disparity Index, which measures relative disparity.

Section: II

Gender Disparity in Literacy among the Total Population, SC and ST Populations, 1961-2011

As literacy in West Bengal improved from one decade to the next, the male-female difference in literacy narrowed. In 1961, the ST population showed a larger gender disparity in literacy than either the total or the SC population.

The ST population kept the highest DI of the three groups in each later census from 1971 to 2011, although its lead was narrow in 1981 and 1991. Between 1991 and 2001, the ST value went up from 0.412 to 0.514, and the SC value also climbed, from 0.376 to 0.432.

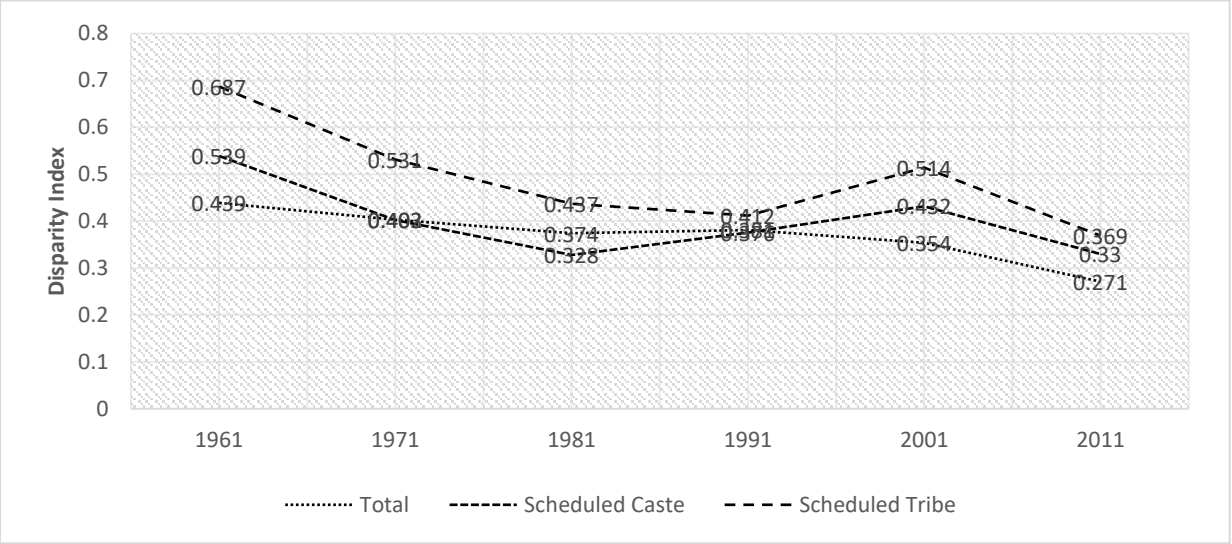


Figure 2.1: Gender disparity (DI) in literacy of the total population, SC and ST populations, West Bengal, 1961-2011 (Source: Authors' calculation from Census of India, 1961-2011)

Figure 2.1 follows the DI of the three groups through the six censuses. For the total population, the line falls steadily until 1981, turns up a little in 1991 and declines without interruption thereafter. Over the full period, then, disparity for the total population went down. The SC line also drops up to 1981, but it increases in both 1991 and 2001 before falling again in 2011. The ST line remains above the other two in every census year. The higher SC and ST values of 2001 arose even as female literacy was improving: from 1991 to 2001, ST female literacy went up from 14.82 to 29.10 per cent, while ST male literacy advanced more quickly, from 31.06 to 57.38 per cent. When male gains outpace female gains, the DI rises even though female literacy is improving. Between 2001 and 2011, females gained more than males in every group, and the index declined accordingly.

Gender Disparity in Literacy across the Districts, 1961-2011

Districts differed in the extent of gender disparity in literacy throughout 1961-2011 (Tables 1 to 6). Gender disparity among the Scheduled Tribe population was higher than that of the total population in 88 of the 106 district-census observations, and among the Scheduled Caste population in 81 of 106. As literacy spread, the DI fell in nearly every district. Among the ten districts whose boundaries did not change, the DI was lower in 2011 than in 1961 for all three population groups, the only exception being the Scheduled Caste population of Kolkata. The rankings of districts in each census are described below.

For the total population in 1961, Purulia had the widest gender gap in literacy (DI 0.890) and Kolkata the narrowest (0.301). Below Purulia came Darjeeling (0.734), Bankura (0.720), Medinipur (0.711), West Dinajpur (0.651), Coochbihar (0.649), Malda (0.636), Birbhum (0.568), Murshidabad (0.526), Jalpaiguri (0.523), Howrah (0.504), Hooghly (0.487), Bardhaman (0.409), Nadia (0.396) and 24 Parganas (0.391) (Table No. 1).

Among SCs in 1961, the DI was highest in Purulia (1.121) and lowest in Kolkata (0.198). West Dinajpur (1.058) ranked second, followed by Bankura (0.950), Malda (0.902), Birbhum (0.836), Hooghly (0.830), Medinipur (0.819), Murshidabad (0.762), Coochbihar (0.713), Bardhaman (0.668), Howrah (0.642), Nadia (0.631), Darjeeling (0.486), 24 Parganas (0.486) and Jalpaiguri (0.463) (Table No. 3).

The ST population in 1961 showed a different order, with Murshidabad recording the highest DI (1.297) and Kolkata the lowest (0.409). After Murshidabad, the values declined through Purulia (1.218), Bankura (1.166), Birbhum (1.134), Nadia (1.120), Howrah (1.120), Malda (1.054), West Dinajpur (1.032), 24 Parganas (0.987), Hooghly (0.969), Bardhaman (0.946), Medinipur (0.849), Jalpaiguri (0.534), Coochbihar (0.498) and Darjeeling (0.432) (Table No. 5).

By 1971, the DI of the total population ranged from 0.762 in Purulia to 0.175 in Kolkata. The districts in between, in descending order, were Bankura (0.552), Medinipur (0.540), Coochbihar (0.521), Malda (0.520), West Dinajpur (0.504), Jalpaiguri (0.423), Murshidabad (0.416), Birbhum (0.416), Howrah (0.403), Hooghly (0.377), Darjeeling (0.373), 24 Parganas (0.359), Bardhaman (0.357) and Nadia (0.307) (Table No. 1).

Purulia again stood first for SCs in 1971 (DI 1.103), and Kolkata had the smallest value (0.130). The other districts followed in this sequence: Hooghly (0.712), Malda (0.697), Medinipur (0.614), Birbhum (0.579), 24 Parganas (0.566), Jalpaiguri (0.540), Coochbihar (0.527), Darjeeling (0.518), Murshidabad (0.503), West Dinajpur (0.498), Bardhaman (0.479), Bankura (0.461), Nadia (0.449) and Howrah (0.248) (Table No. 3).

In 1971, Purulia (1.014) took the place of Murshidabad at the top of the ST ranking, while Darjeeling (0.290) was at the bottom. Between them, in that order, lay Bankura (0.981), Birbhum (0.970), Bardhaman (0.940), Medinipur (0.924), Murshidabad (0.891), Malda (0.806), Hooghly (0.742), West Dinajpur (0.654), 24 Parganas (0.569), Howrah (0.548), Jalpaiguri (0.537), Nadia (0.526), Kolkata (0.467) and Coochbihar (0.428) (Table No. 5).

Purulia and Kolkata remained the highest and lowest districts for the total population in 1981, at 0.736 and 0.210 respectively. The rest fell in this order: Bankura (0.527), Medinipur (0.480), Coochbihar (0.442), Malda (0.441), West Dinajpur (0.437), Jalpaiguri (0.368), 24 Parganas (0.368), Darjeeling (0.362), Birbhum (0.359), Howrah (0.353), Hooghly (0.340), Bardhaman (0.338), Murshidabad (0.333) and Nadia (0.273) (Table No. 1).

For SCs in 1981, the largest disparity was in Purulia (0.766) and the smallest in Kolkata (0.245). Bankura (0.631) came next to Purulia, followed by West Dinajpur (0.581), Malda (0.544), Medinipur (0.544), Coochbihar (0.496), Jalpaiguri (0.476), Birbhum (0.473), Nadia (0.459), Darjeeling (0.425), Howrah (0.409), Bardhaman (0.390), 24 Parganas (0.390), Murshidabad (0.325) and Hooghly (0.304) (Table No. 3).

ST disparity in 1981 was greatest in Purulia (0.942) and least in Kolkata (0.260). In descending order, the remaining districts were Birbhum (0.776), Malda (0.775), Bardhaman (0.752), Hooghly (0.748), Bankura

(0.737), Medinipur (0.718), 24 Parganas (0.697), Nadia (0.679), West Dinajpur (0.653), Jalpaiguri (0.549), Murshidabad (0.548), Coochbihar (0.439), Howrah (0.296) and Darjeeling (0.295) (Table No. 5).

In 1991, the DI of the total population was once more highest in Purulia (0.735) and lowest in Kolkata (0.242). Between these two stood Bankura (0.541), Medinipur (0.522), 24(S) Parganas (0.502), Coochbihar (0.431), Jalpaiguri (0.408), West Dinajpur (0.408), Malda (0.402), Birbhum (0.390), Hooghly (0.373), Howrah (0.365), Bardhaman (0.364), Darjeeling (0.347), 24(N) Parganas (0.330), Murshidabad (0.313) and Nadia (0.273), in decreasing order (Table No. 2).

Among SCs, the 1991 values ranged from 0.789 in Purulia to 0.288 in Kolkata. Bankura (0.650) held second place and was followed by 24(S) Parganas (0.567), West Dinajpur (0.552), Malda (0.537), Jalpaiguri (0.524), Medinipur (0.520), Birbhum (0.511), Coochbihar (0.509), Hooghly (0.462), Darjeeling (0.444), Bardhaman (0.440), 24(N) Parganas (0.417), Howrah (0.414), Nadia (0.360) and Murshidabad (0.324) (Table No. 4).

Purulia also led the ST ranking in 1991 (0.821), with Bankura (0.799) close behind, whereas Darjeeling (0.308) had the lowest value. Below Bankura, the order was Birbhum (0.713), Malda (0.687), Hooghly (0.649), 24(S) Parganas (0.617), West Dinajpur (0.597), 24(N) Parganas (0.585), Medinipur (0.583), Nadia (0.542), Coochbihar (0.531), Bardhaman (0.521), Jalpaiguri (0.510), Murshidabad (0.469), Kolkata (0.394) and Howrah (0.345) (Table No. 6).

The 2001 census placed Purulia (0.712) at the top and Kolkata (0.173) at the bottom of the ranking for the total population. From higher to lower DI, the other districts were Bardhaman (0.586), 24(S) Parganas (0.520), Medinipur (0.499), Bankura (0.462), Coochbihar (0.396), Jalpaiguri (0.394), Uttar Dinajpur (0.390), Darjeeling (0.389), Birbhum (0.363), Dakshin Dinajpur (0.348), 24(N) Parganas (0.320), Malda (0.307), Nadia (0.246), Murshidabad (0.230), Howrah (0.211) and Hooghly (0.208) (Table No. 2).

For SCs in 2001, Purulia (0.677) once more showed the greatest disparity, but the lowest value was found in 24(N) Parganas (0.181) and not in Kolkata. Next to Purulia came Bankura (0.572), 24(S) Parganas (0.519), Uttar Dinajpur (0.497), Coochbihar (0.456), Darjeeling (0.448), Jalpaiguri (0.445), Birbhum (0.439), Bardhaman (0.427), Dakshin Dinajpur (0.427), Malda (0.422), Hooghly (0.404), Medinipur (0.368), Howrah (0.353), Nadia (0.335), Murshidabad (0.319) and Kolkata (0.312) (Table No. 4).

ST disparity in 2001 peaked in Purulia (0.713) and was smallest in Howrah (0.333). The intervening districts, in descending order, were Bankura (0.668), Birbhum (0.551), Malda (0.519), Bardhaman (0.499), Medinipur (0.499), Hooghly (0.490), Uttar Dinajpur (0.485), 24(S) Parganas (0.480), Dakshin Dinajpur (0.452), 24(N) Parganas (0.449), Jalpaiguri (0.427), Nadia (0.414), Coochbihar (0.411), Murshidabad (0.409), Kolkata (0.399) and Darjeeling (0.381) (Table No. 6).

In 2011, Purulia still had the highest DI for the total population (0.548), while Murshidabad had the lowest (0.142). The remaining districts were ranked as follows: Darjeeling (0.501), Bankura (0.445), Jhargram (0.368), Hooghly (0.337), 24(S) Parganas (0.331), Paschim Medinipur (0.318), Purba Bardhaman (0.310), Coochbihar (0.294), Kalimpong (0.294), Paschim Bardhaman (0.286), Purba Medinipur (0.286), Birbhum (0.283), 24(N) Parganas (0.260), Jalpaiguri (0.259), Howrah (0.257), Uttar Dinajpur (0.245), Alipurduar (0.233), Nadia (0.194), Malda (0.174), Kolkata (0.158) and Dakshin Dinajpur (0.143) (Table No. 2).

Purulia (0.510) remained the most unequal district for SCs in 2011, and Alipurduar (0.190) the least unequal. Between them, in decreasing order, were Bankura (0.420), 24(N) Parganas (0.409), Paschim Bardhaman (0.346), Coochbihar (0.332), Purba Bardhaman (0.328), Uttar Dinajpur (0.327), Hooghly (0.326), Kolkata (0.325), Birbhum (0.320), 24(S) Parganas (0.317), Jhargram (0.311), Paschim Medinipur (0.308), Dakshin Dinajpur (0.304), Malda (0.287), Darjeeling (0.272), Purba Medinipur (0.268), Jalpaiguri (0.265), Nadia (0.261), Howrah (0.260), Kalimpong (0.254) and Murshidabad (0.236) (Table No. 4).

For the ST population in 2011, Jhargram recorded the highest DI (0.551) and Kalimpong the lowest (0.218). Jhargram was followed by Purulia (0.503), Bankura (0.499), Hooghly (0.391), Paschim Bardhaman (0.356), Birbhum (0.351), 24(S) Parganas (0.344), Coochbihar (0.325), 24(N) Parganas (0.317), Malda (0.316), Purba

Medinipur (0.316), Purba Bardhaman (0.307), Dakshin Dinajpur (0.304), Kolkata (0.303), Jalpaiguri (0.302), Uttar Dinajpur (0.293), Darjeeling (0.288), Murshidabad (0.277), Nadia (0.275), Howrah (0.272), Alipurduar (0.252) and Paschim Medinipur (0.247) (Table No. 6).

Two regularities emerge from these rankings. First, the western plateau districts of Purulia and Bankura recorded among the highest DI values for all three groups in almost every census: Purulia had the highest DI for the total population and SC populations in all six censuses and for the ST population from 1971 to 2001, and Bankura was among the three highest for the total population and SC populations in most censuses. These districts combine low female literacy with a relatively large Scheduled Tribe population, which are the conditions under which the barriers to girls' schooling reported for tribal communities are most likely to operate (Ghosh, 2007; Nayak & Kumar, 2022). Second, Kolkata recorded the lowest DI for the total population in every census up to 2001 and for the SC population until 1991, reflecting its high female literacy. The rankings for 1961 should be read with the caution noted in the methodology, since very low female literacy inflates the DI; for example, the highest ST value in 1961 (Murshidabad, 1.297) corresponds to a female ST literacy rate of 0.25 per cent.

Table No. 1: District-Wise Literacy Rates and Gender Disparity in the Literacy Rates of Total Population in West Bengal, 1961-1981

Sl. No	Districts	Year											
		1961				1971				1981			
		Total Literacy Rate (%)				Total Literacy Rate (%)				Total Literacy Rate (%)			
		TL	X2	X1	DI	TL	X2	X1	DI	TL	X2	X1	DI
1	Coochbihar	21.00	31.4	9.30	0.649	21.92	31.08	11.93	0.521	30.10	40.09	19.43	0.442
2	Jalpaiguri	19.22	27.07	10.01	0.523	24.01	31.96	15.04	0.423	29.19	37.30	20.27	0.368
3	Darjeeling	28.70	49.86	15.46	0.734	33.07	41.75	23.23	0.373	42.47	51.89	31.85	0.362
4	West Dinajpur	17.06	25.96	7.24	0.651	22.12	31.09	12.37	0.504	27.00	36.22	17.17	0.437
5	Malda	13.79	21.47	5.94	0.636	17.61	25.45	9.33	0.520	23.06	31.44	14.22	0.441
6	Murshidabad	16.03	23.49	8.36	0.526	19.65	26.73	12.26	0.416	24.89	31.75	17.75	0.333
7	Nadia	27.25	35.78	18.24	0.396	31.31	38.61	23.61	0.307	36.71	43.75	29.28	0.273
8	Bardhaman	28.76	36.39	18.21	0.409	34.36	42.87	24.75	0.357	42.43	51.29	32.56	0.338
9	Birbhum	22.09	32.43	11.47	0.568	26.57	35.45	17.40	0.416	33.69	42.57	24.46	0.359
10	Bankura	23.08	36.17	9.73	0.720	26.30	37.63	14.47	0.552	38.33	51.92	24.24	0.527
11	Purulia	17.30	29.02	4.98	0.890	21.50	34.27	8.25	0.762	26.69	45.41	13.25	0.736
12	Howrah	36.91	48.41	22.67	0.504	40.59	50.51	28.68	0.403	51.36	60.78	40.64	0.353
13	Hooghly	34.65	46.11	21.81	0.487	38.82	48.33	28.21	0.377	48.79	57.99	38.65	0.340
14	Kolkata	51.85	59.02	41.80	0.301	60.32	64.08	54.40	0.175	69.12	73.47	63.01	0.210

15	24 Parganas	29.68	40.12	21.37	0.391	38.44	48.43	29.11	0.359	46.14	55.78	35.04	0.368
16	Medinipur	27.28	41.66	12.17	0.711	32.87	45.59	19.42	0.540	42.73	55.57	29.24	0.480

Source: Calculated from Census of India, 1961-1981.

N.B: TL= Total Literacy Rate, X2= Male Literacy Rate, X1=Female Literacy Rate, DI= Disparity Index.

Table No. 2: District-Wise Literacy Rates and Gender Disparity in the Literacy Rates of Total Population in West Bengal, 1991-2011

Sl No.	District	Year											
		1991				2001				2011			
		Total Literacy Rate (%)				Total Literacy Rate (%)				Total Literacy Rate (%)			
		TL	X2	X1	DI	TL	X2	X1	DI	TL	X2	X1	DI
1	Coochbihar	45.80	57.40	33.30	0.431	67.21	76.80	57.00	0.396	75.49	81.52	69.08	0.294
2	Jalpaiguri	45.10	56.00	33.20	0.408	63.62	73.60	52.89	0.394	71.35	71.90	58.40	0.259
3	Darjeeling	57.90	67.10	47.80	0.347	72.87	81.30	63.90	0.389	76.43	83.03	60.64	0.501
4	West Dinajpur	39.30	49.80	27.90	0.408	-	-	-	-	-	-	-	-
5	Malda	35.60	45.60	24.90	0.402	50.71	59.20	41.70	0.307	62.71	67.27	57.84	0.174
6	Murshidabad	38.30	46.40	29.60	0.313	55.05	61.40	48.30	0.230	67.53	71.02	63.88	0.142
7	Nadia	52.50	60.00	44.40	0.273	66.55	72.70	60.10	0.246	75.58	79.58	71.35	0.194
8	24(N) Parganas	66.80	74.70	58.00	0.330	78.49	84.40	72.10	0.320	84.95	88.66	81.05	0.260
9	24(S) Parganas	55.10	68.50	40.60	0.502	70.16	83.10	59.70	0.520	78.57	84.72	72.09	0.331
10	Kolkata	77.60	81.90	72.10	0.242	83.31	84.10	78.00	0.173	87.14	89.08	84.98	0.158
11	Howrah	67.60	76.10	57.80	0.365	77.64	79.90	70.90	0.211	83.85	87.69	79.73	0.257
12	Hooghly	66.80	75.80	56.90	0.373	75.59	77.20	67.70	0.208	82.55	87.93	76.95	0.337
13	Medinipur	69.30	81.30	56.60	0.522	75.17	85.25	64.63	0.499	-	-	-	-
14	Bankura	52.00	66.70	36.50	0.541	63.84	74.20	49.80	0.462	70.95	81.00	60.44	0.445
15	Purulia	43.30	62.20	23.20	0.735	56.14	75.30	37.20	0.712	65.38	78.85	51.29	0.548
16	Bardhaman	61.90	71.10	51.50	0.364	71.00	79.30	49.80	0.586	-	-	-	-
17	Birbhum	48.60	59.30	37.20	0.390	62.16	71.60	52.21	0.363	70.90	77.42	64.07	0.283

18	Uttar Dinajpur	-	-	-	-	48.63	59.30	37.20	0.390	60.12	66.65	53.12	0.245
19	Dakshin Dinajpur	-	-	-	-	64.64	73.30	55.10	0.348	73.86	79.63	73.74	0.143
20	Alipurduar	-	-	-	-	-	-	-	-	72.12	69.84	57.48	0.233
21	Kalimpong	-	-	-	-	-	-	-	-	79.33	82.37	70.30	0.294
22	Purba Bardhaman	-	-	-	-	-	-	-	-	76.21	82.42	69.63	0.310
23	Paschim Bardhaman	-	-	-	-	-	-	-	-	71.47	70.95	55.77	0.286
24	Paschim Medinipur	-	-	-	-	-	-	-	-	75.96	82.96	69.99	0.318
25	Jhargram	-	-	-	-	-	-	-	-	69.37	76.80	58.58	0.368
26	Purba Medinipur	-	-	-	-	-	-	-	-	71.47	70.95	55.77	0.286

Source: Calculated from Census of India, 1991-2011. N.B: For 2011, values for Alipurduar, Kalimpong, Jhargram, Purba Bardhaman and Paschim Bardhaman (created after 2011), and for their parent districts, refer to present-day boundaries (see Database and Methods).

Table No. 3: District-Wise Literacy Rates and Gender Disparity in the Literacy Rates of Scheduled Caste Population in West Bengal, 1961-1981

Sl. No	District	Year											
		1961				1971				1981			
		SC Literacy Rate (%)				SC Literacy Rate (%)				SC Literacy Rate (%)			
		TL	X2	X1	DI	TL	X2	X1	DI	TL	X2	X1	DI
1	Coochbihar	16.61	21.34	4.99	0.713	18.20	26.19	9.53	0.527	20.50	28.94	11.49	0.496
2	Jalpaiguri	9.77	9.21	3.37	0.463	16.69	12.68	4.04	0.540	19.22	26.89	10.91	0.476
3	Darjeeling	16.64	24.06	9.34	0.486	21.80	30.67	11.82	0.518	26.65	35.35	17.02	0.425
4	West Dinajpur	10.81	18.64	1.96	1.058	15.82	22.55	8.45	0.498	16.57	24.68	7.90	0.581
5	Malda	10.49	18.12	2.69	0.902	13.41	21.34	5.16	0.697	16.09	23.65	8.12	0.544
6	Murshidabad	8.73	14.39	2.82	0.762	11.51	16.82	5.96	0.503	12.99	16.95	8.80	0.325
7	Nadia	16.68	25.39	7.36	0.631	20.96	28.85	12.57	0.449	19.05	26.16	10.95	0.459

8	Bardhaman	9.72	15.28	3.72	0.668	14.04	20.00	7.65	0.479	26.23	34.19	17.45	0.390
9	Birbhum	7.63	12.63	2.06	0.836	9.99	15.26	4.52	0.579	12.19	17.50	6.64	0.473
10	Bankura	7.19	12.62	1.59	0.950	9.98	14.32	5.45	0.461	12.46	19.39	5.31	0.631
11	Purulia	7.02	12.33	1.05	1.121	10.20	18.35	1.74	1.103	15.14	24.46	5.25	0.766
12	Howrah	16.10	24.31	6.81	0.642	25.12	30.20	19.59	0.248	25.26	33.47	16.37	0.409
13	Hooghly	11.69	19.30	3.41	0.830	12.82	20.41	4.74	0.712	25.87	26.53	15.18	0.304
14	Kolkata	20.32	23.30	16.11	0.198	25.16	26.96	21.44	0.130	36.26	41.20	28.47	0.245
15	24 Parganas	16.64	24.06	9.34	0.486	25.65	36.75	13.61	0.566	26.23	34.19	17.45	0.390
16	Medinipur	14.87	24.66	4.73	0.819	19.35	29.13	9.07	0.614	22.69	32.74	12.18	0.544

Source: Calculated from Census of India, 1961-1981.

Table No. 4: District-Wise Literacy Rates and Gender Disparity in the Literacy Rates of Scheduled Caste Population in West Bengal, 1991-2011

Sl. No	District	Year											
		1991				2001				2011			
		SC Literacy Rate (%)				SC Literacy Rate (%)				SC Literacy Rate (%)			
		TL	X2	X1	DI	TL	X2	X1	DI	TL	X2	X1	DI
1	Coochbihar	41.07	54.31	26.87	0.509	64.35	75.82	52.29	0.456	73.57	80.67	66.01	0.332
2	Jalpaiguri	11.34	54.82	26.57	0.524	61.78	73.37	49.62	0.445	66.58	69.92	55.72	0.265
3	Darjeeling	46.30	58.14	33.25	0.444	62.43	73.91	50.31	0.448	63.96	71.21	56.90	0.272
4	West Dinajpur	33.05	45.72	19.06	0.552	-	-	-	-	-	-	-	-
5	Malda	33.89	46.63	20.18	0.537	51.17	62.75	38.87	0.422	61.04	68.58	52.91	0.287
6	Murshidabad	32.79	40.54	24.42	0.324	48.91	58.05	39.87	0.319	62.23	68.45	55.68	0.236
7	Nadia	45.32	55.03	34.78	0.360	63.09	71.76	53.94	0.335	73.34	79.01	67.29	0.261
8	24(N) Parganas	55.51	64.72	41.21	0.417	70.74	70.79	61.41	0.181	79.70	84.38	67.76	0.409
9	24(S) Parganas	49.79	64.99	33.44	0.567	67.36	79.63	54.21	0.519	76.31	85.37	73.69	0.317
10	Kolkata	56.53	63.51	47.25	0.288	70.54	77.25	62.26	0.312	79.31	85.02	72.85	0.325

11	Howrah	44.87	55.98	32.87	0.414	61.13	70.50	51.40	0.353	71.33	77.29	65.12	0.260
12	Hooghly	40.66	52.78	27.80	0.462	56.01	67.26	44.73	0.404	68.36	76.29	60.24	0.326
13	Medinipur	54.56	68.66	39.75	0.520	54.32	62.25	41.39	0.368	-	-	-	-
14	Bankura	26.96	40.27	13.08	0.650	42.92	58.22	27.11	0.572	54.03	65.74	42.10	0.420
15	Purulia	31.81	48.93	13.47	0.789	45.15	63.01	26.35	0.677	56.07	69.82	41.63	0.510
16	Bardhaman	36.57	47.49	24.69	0.440	51.99	63.74	39.59	0.427	-	-	-	-
17	Birbhum	27.66	38.47	16.13	0.511	45.74	57.57	33.05	0.439	59.42	67.98	50.42	0.320
18	Uttar Dinajpur	-	-	-	-	50.06	63.49	35.71	0.497	62.41	70.87	53.31	0.327
19	Dakshin Dinajpur	-	-	-	-	51.99	63.74	39.59	0.427	66.26	73.82	58.24	0.304
20	Alipurduar	-	-	-	-	-	-	-	-	58.60	71.42	61.66	0.190
21	Kalimpong	-	-	-	-	-	-	-	-	70.05	76.20	64.01	0.254
22	Purba Bardhaman	-	-	-	-	-	-	-	-	55.56	65.81	47.42	0.328
23	Paschim Bardhaman	-	-	-	-	-	-	-	-	53.21	59.80	40.10	0.346
24	Paschim Medinipur	-	-	-	-	-	-	-	-	61.06	72.04	55.87	0.308
25	Jhargram	-	-	-	-	-	-	-	-	56.31	54.61	36.94	0.311
26	Purba Medinipur					-	-	-	-	71.83	77.86	65.40	0.268

Source: Calculated from Census of India, 1991-2011. N.B: For 2011, values for Alipurduar, Kalimpong, Jhargram, Purba Bardhaman and Paschim Bardhaman (created after 2011), and for their parent districts, refer to present-day boundaries (see Database and Methods).

Table No. 5: District-Wise Literacy Rates and Gender Disparity in the Literacy Rates of Scheduled Tribe Population in West Bengal, 1961-1981

Sl. No	District	Year											
		1961				1971				1981			
		ST Literacy Rate (%)				ST Literacy Rate (%)				ST Literacy Rate (%)			
		TL	X2	X1	DI	TL	X2	X1	DI	TL	X2	X1	DI
1	Coochbihar	10.72	14.81	5.22	0.498	9.12	12.85	5.21	0.428	13.07	18.09	7.43	0.439

2	Jalpaiguri	7.46	11.08	3.51	0.534	10.26	15.16	4.92	0.537	10.15	15.20	4.81	0.549
3	Darjeeling	9.33	10.63	4.21	0.432	14.62	18.53	10.44	0.290	19.70	24.79	14.28	0.295
4	West Dinajpur	5.26	9.65	0.98	1.032	11.18	17.56	4.50	0.654	9.09	14.36	3.59	0.653
5	Malda	4.17	7.52	0.71	1.054	7.73	13.06	2.29	0.806	6.28	10.78	1.98	0.775
6	Murshidabad	2.51	4.74	0.25	1.297	5.17	8.98	1.25	0.891	6.30	9.61	2.92	0.548
7	Nadia	5.17	9.42	0.78	1.120	7.86	11.73	3.80	0.526	9.30	14.96	3.54	0.679
8	Bardhaman	3.38	5.80	0.69	0.946	4.46	3.96	0.47	0.940	6.16	10.65	2.06	0.752
9	Birbhum	3.39	6.29	0.49	1.134	4.45	7.91	0.91	0.970	6.48	10.88	2.00	0.776
10	Bankura	7.47	13.93	1.09	1.166	10.24	18.10	2.25	0.981	13.81	22.49	5.04	0.737
11	Purulia	8.04	14.96	1.05	1.218	9.40	16.77	1.91	1.014	12.65	21.93	3.10	0.942
12	Howrah	5.17	9.42	0.78	1.120	12.45	17.26	5.56	0.548	15.56	19.26	10.74	0.296
13	Hooghly	4.13	7.32	0.84	0.969	6.14	10.10	1.99	0.742	9.62	15.83	3.24	0.748
14	Kolkata	22.76	28.60	13.50	0.409	31.99	36.95	16.63	0.467	36.76	41.12	27.72	0.260
15	24 Parganas	7.17	12.45	1.44	0.987	7.44	11.31	3.32	0.569	11.33	18.26	4.29	0.697
16	Medinipur	6.03	10.62	1.65	0.849	9.00	15.75	2.17	0.924	12.66	20.46	4.68	0.718

Source: Calculated from Census of India, 1961-1981.

Table No. 6: District-Wise Literacy Rates and Gender Disparity in the Literacy Rates of Scheduled Tribe Population in West Bengal, 1991-2011

Sl. No	District	Year											
		1991				2001				2011			
		ST Literacy Rate (%)				ST Literacy Rate (%)				ST Literacy Rate (%)			
		TL	X2	X1	DI	TL	X2	X1	DI	TL	X2	X1	DI
1	Coochbihar	32.93	44.89	19.31	0.531	55.31	66.38	43.30	0.411	66.89	74.82	58.35	0.325
2	Jalpaiguri	22.38	31.69	12.52	0.510	42.59	54.24	30.67	0.427	49.33	57.89	40.62	0.302
3	Darjeeling	39.38	47.54	30.77	0.308	55.48	67.07	45.85	0.381	65.73	73.78	59.12	0.288
4	West Dinajpur	18.88	28.42	9.10	0.597	-	-	-	-	-	-	-	-

5	Malda	15.78	25.07	6.42	0.687	32.16	44.72	19.63	0.519	46.86	55.83	37.86	0.316
6	Murshidabad	18.39	25.95	10.60	0.469	35.79	46.17	25.01	0.409	51.34	59.15	43.32	0.277
7	Nadia	23.40	33.53	12.63	0.542	40.63	51.78	29.20	0.414	57.75	65.35	49.98	0.275
8	24(N) Parganas	25.32	36.73	13.08	0.585	46.09	58.38	33.27	0.449	64.78	72.90	56.40	0.317
9	24(S) Parganas	24.50	36.43	12.14	0.617	43.29	56.33	29.88	0.480	59.72	69.03	50.17	0.344
10	Kolkata	55.41	64.30	42.00	0.394	76.39	83.66	67.07	0.399	82.06	86.81	76.57	0.303
11	Howrah	42.36	51.01	31.95	0.345	52.06	61.16	42.19	0.333	70.86	77.08	64.23	0.272
12	Hooghly	28.14	42.01	13.95	0.649	45.45	59.23	31.94	0.490	60.67	71.39	50.29	0.391
13	Medinipur	40.31	55.57	24.56	0.583	47.97	61.24	33.29	0.499	-	-	-	-
14	Bankura	32.43	50.41	13.88	0.799	49.60	67.84	31.13	0.668	59.37	72.93	46.01	0.499
15	Purulia	27.61	43.91	10.55	0.821	42.64	61.26	23.40	0.713	53.86	67.84	39.77	0.503
16	Bardhaman	25.98	36.70	14.83	0.521	41.83	55.36	28.19	0.499	-	-	-	-
17	Birbhum	14.76	23.63	5.63	0.713	31.20	44.17	18.17	0.551	47.48	57.57	37.67	0.351
18	Uttar Dinajpur	-	-	-	-	28.68	39.51	17.63	0.485	43.76	51.96	35.48	0.293
19	Dakshin Dinajpur	-	-	-	-	42.82	55.14	30.22	0.452	57.02	65.54	48.50	0.304
20	Alipurduar	-	-	-	-	-	-	-	-	52.67	59.97	45.55	0.252
21	Kalimpong	-	-	-	-	-	-	-	-	70.79	75.91	65.52	0.218
22	Purba Bardhaman	-	-	-	-	-	-	-	-	46.96	55.41	37.91	0.307
23	Paschim Bardhaman	-	-	-	-	-	-	-	-	49.44	60.93	40.72	0.356
24	Paschim Medinipur	-	-	-	-	-	-	-	-	51.45	61.09	47.04	0.247
25	Jhargram	-	-	-	-	-	-	-	-	51.74	61.99	31.38	0.551
26	Purba Medinipur	-	-	-	-	-	-	-	-	55.88	64.53	46.72	0.316

Source: Calculated from Census of India, 1991-2011. N.B: For 2011, values for Alipurduar, Kalimpong, Jhargram, Purba Bardhaman and Paschim Bardhaman (created after 2011), and for their parent districts, refer to present-day boundaries (see Database and Methods).

Total Population: Gender Disparity in Six Selected Districts, 1961-2011

The rankings above show that, for the total population, SC and ST populations alike, gender disparity in literacy between 1961 and 2011 was generally higher in Purulia, Bankura, Birbhum, West Dinajpur and Malda and lower in Kolkata, Howrah and Nadia. In this section, six districts are compared (Purulia, Bankura, Birbhum, Coochbihar, Howrah and Kolkata), selected on the criteria stated in the section on Database and Methods.

Of the six districts, Purulia showed the greatest disparity in 1961, with a DI of 0.890, followed by Bankura (0.720), Coochbihar (0.649), Birbhum (0.568), Howrah (0.504) and Kolkata (0.301).

Purulia kept the top position at each later census from 1971 to 2011, although its disparity became smaller over time. It is noteworthy that the lowest gender disparity in literacy among the six districts is observed in Kolkata from 1961 to 2011, although it increased and decreased in some decades.

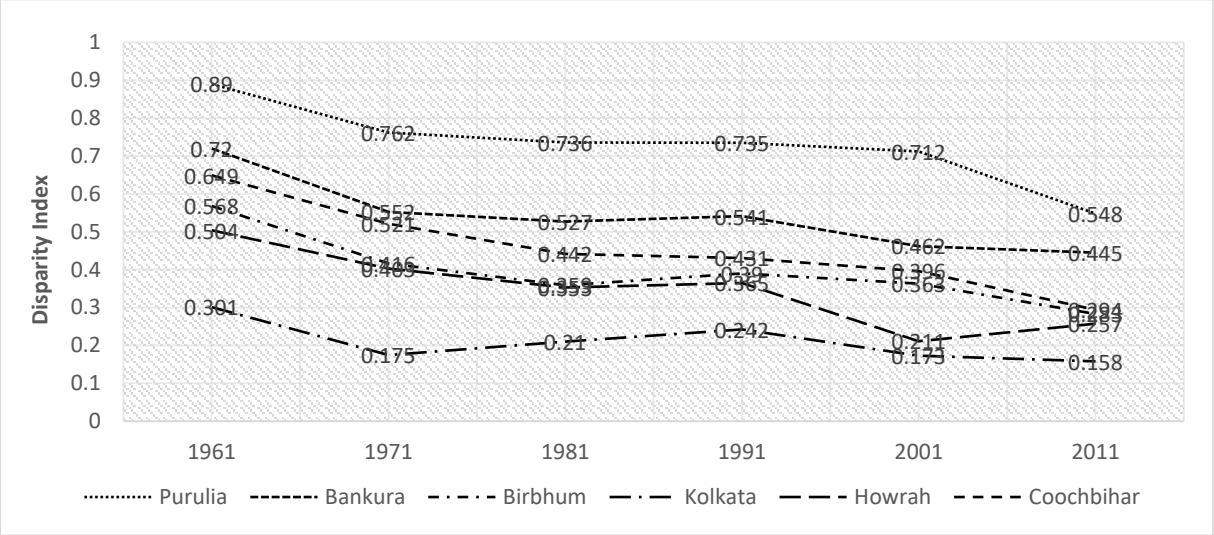


Figure 2.2: Gender disparity (DI) in literacy of the total population in six selected districts of West Bengal, 1961-2011 (Source: Authors' calculation from Census of India, 1961-2011)

Figure 2.2 plots the DI of the total population for the six districts across the six censuses. Purulia stays at the top of the graph throughout, even as its DI falls from 0.890 to 0.548. Kolkata's line runs along the bottom: it drops between 1961 and 1971, climbs until 1991, and falls again in 2001 and 2011. The spread between the most and least unequal of the six districts shrank from 0.589 in 1961 to 0.390 in 2011, pointing to convergence among them.

In Bankura, Birbhum and Howrah, gender disparity decreased overall from 1961 to 2011 but rose temporarily in 1991 (and in Howrah again in 2011), whereas in Coochbihar it declined in every census. The rise in 1991 in three of the six districts corresponds to the slight rise in the state-level DI in that year (Figure 2.1).

SC Population: Gender Disparity in Six Selected Districts, 1961-2011

For SC literacy, Purulia recorded the largest disparity of the six districts in every census, while its DI declined gradually from 1.121 in 1961 to 0.510 in 2011. Kolkata had the smallest disparity from 1961 to 2001, but in 2011 both Howrah and Birbhum fell below it.

In the other districts, Bankura, Birbhum, Howrah and Coochbihar, overall gender disparity in literacy decreased from 1961 to 2011, but it increased and decreased in some decades.

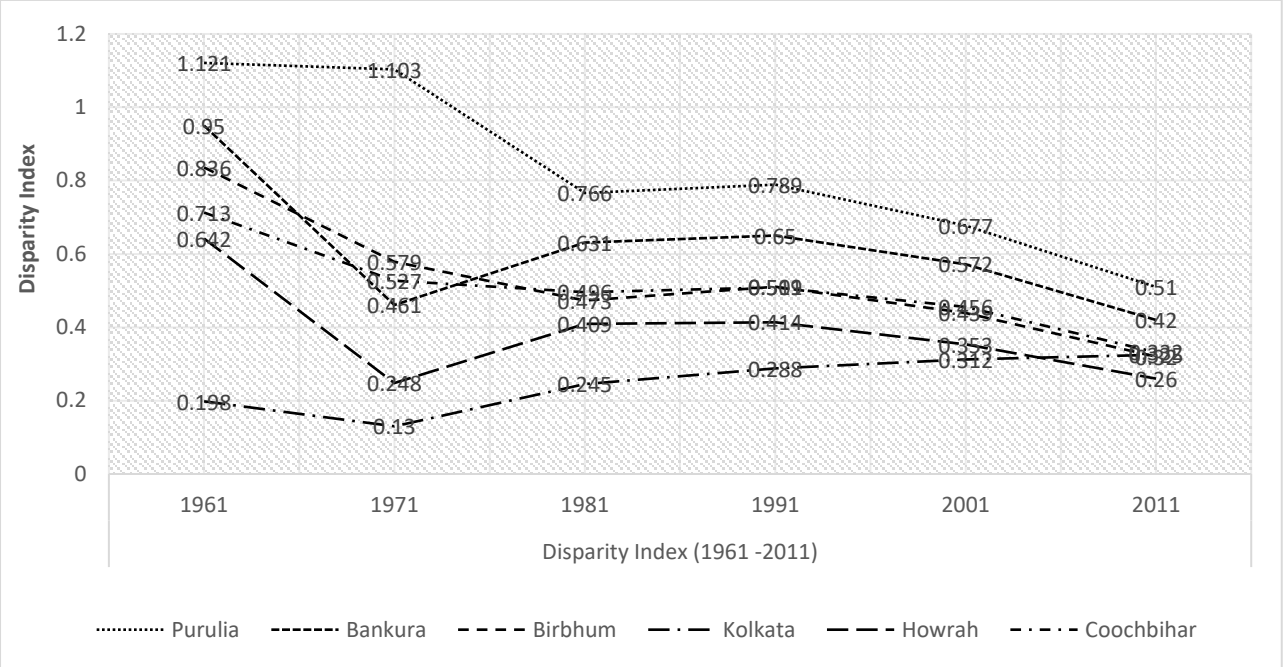


Figure 2.3: Gender disparity (DI) in SC literacy in six selected districts of West Bengal, 1961-2011 (Source: Authors' calculation from Census of India, 1961-2011)

Figure 2.3 presents the SC series for the same six districts. In these districts, the DI rose in some decades and fell in others.

The Purulia line shows that this district had the highest gender disparity in SC literacy in every decade from 1961 to 2011, although the value declined over time. In the case of Bankura district, gender disparity in literacy decreased considerably from 1961 to 1971, increased in 1981 and 1991, and decreased again in 2001 and 2011. The trend line of Birbhum district shows that gender disparity in literacy was gradually reduced from 1961 to 2011, apart from a small rise in 1991. The same pattern can be observed in Coochbihar district. In the case of Howrah district, gender disparity in literacy decreased from 1961 to 1971, increased again in 1981, remained almost unchanged in 1991, and declined in the two censuses that followed.

In Kolkata, SC disparity fell between 1961 and 1971 but then increased at each census from 1981 to 2011. Kolkata had the lowest SC disparity among the six districts until 2001, but by 2011 its value (0.325) exceeded those of Howrah (0.260) and Birbhum (0.320). Kolkata is the only one of the ten districts with unchanged boundaries in which the DI of any population group was higher in 2011 than in 1961; the reasons for this rise require further study.

ST Population: Gender Disparity in Six Selected Districts, 1961-2011

At the state level, the ST population had a wider gender gap in literacy than the total population and SC populations throughout 1961-2011 (Figure 2.1).

Within the six districts, Purulia recorded the highest ST disparity in every census, though its value came down gradually. Bankura, Birbhum, Howrah and Coochbihar also ended the period with lower disparity than at its start, despite rises in some decades.

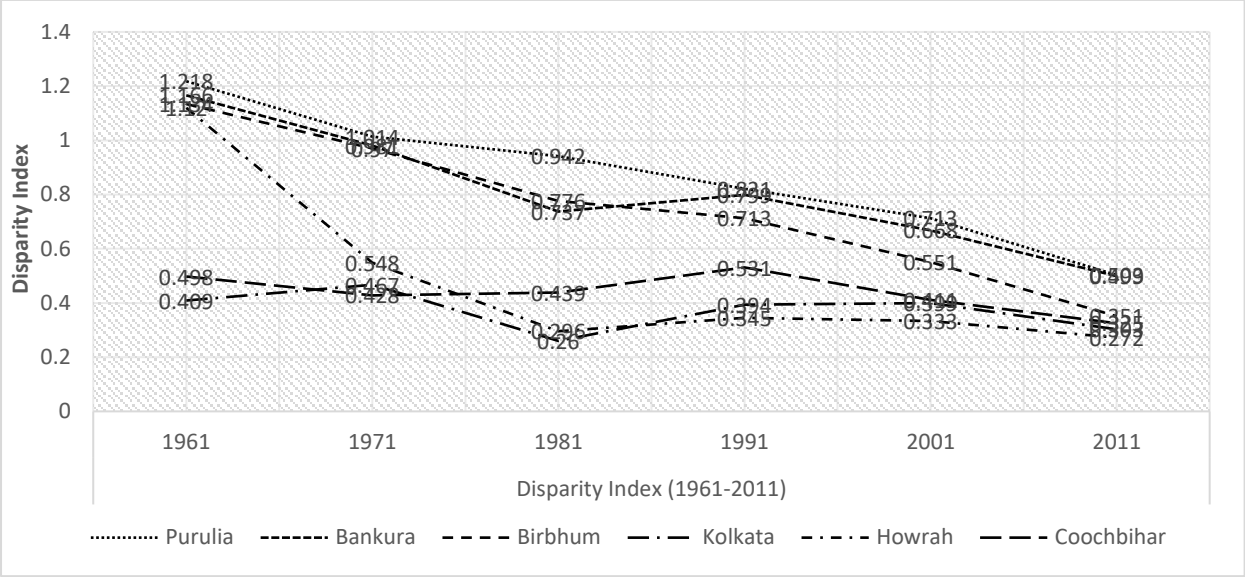


Figure 2.4: Gender disparity (DI) in ST literacy in six selected districts of West Bengal, 1961-2011 (Source: Authors' calculation from Census of India, 1961-2011)

Figure 2.4 gives the ST series for the six districts. The trend lines show differences in gender disparity among the districts. However, from 1961 to 2011, gender disparity in literacy decreased in all six districts. Purulia district had the highest gender disparity from 1961 to 2011, although it declined significantly over the decades. In the case of Birbhum district, gender disparity in literacy decreased in every census from 1961 to 2011.

The trend line of Bankura district shows that gender disparity in literacy decreased from 1961 to 1981, increased slightly in 1991 and went down again in 2001 and 2011. The trend line of Howrah district shows that overall gender disparity in literacy decreased from 1961 to 2011; however, after 1981 it increased slightly in 1991 before declining again. In Coochbihar district, gender disparity in literacy decreased from 1961 to 1971, rose slightly in both 1981 and 1991, and decreased to 0.325 in 2011. Kolkata showed relatively low disparity throughout 1961-2011, with small rises and falls between decades.

A comparison of Figures 2.2 to 2.4 shows that the decline in gender disparity between 1961 and 2011 was largest for the ST population. In Purulia, Bankura and Birbhum, the ST DI fell by 0.715, 0.667 and 0.783 respectively, against falls of 0.342, 0.275 and 0.285 in the DI of the total population. Even so, Purulia and Bankura still had the highest DI values of the six districts for all three population groups in 2011.

CONCLUSION

Between 1961 and 2011, literacy improved in every district of West Bengal for the total population, SC and ST populations alike. Yet ST literacy remained below that of the total population in every district at every census, and SC literacy did so in all except four of the 106 district-census observations. The literacy rate increased significantly in Kolkata and its adjoining districts, such as Howrah, Hooghly and 24(N) Parganas. Bankura, Purulia, Birbhum, Malda, Dinajpur, Coochbihar, Jalpaiguri and Murshidabad districts also recorded large increases in literacy, but their literacy rates remained relatively low. From 1991 to 2011, the districts of West Bengal witnessed a large increase in literacy, particularly among the SC and ST populations. Kolkata recorded the highest ST literacy in every census, with Darjeeling second in 1971, 1981 and 2001. Purulia recorded the largest gender gap in literacy for the total population and SC populations at every census from 1961 to 2011, and for the ST population from 1971 to 2001.

Throughout these five decades, the ST population showed the greatest gender disparity in literacy at the state level, ahead of both the SC and the total populations. Within districts, ST disparity exceeded that of the total population in 88 of 106 district-census observations, and SC disparity did so in 81 of 106. Purulia, Bankura, Birbhum, West Dinajpur and Malda generally recorded higher disparity for all three groups, whereas Kolkata recorded the lowest value for the total population at every census until 2001. Among the six districts compared

in Figures 2.2 to 2.4, gender disparity declined for all three population groups, except for the SC population of Kolkata, and the gap between the most and least unequal districts narrowed.

For ST literacy, Darjeeling was among the districts with the lowest gender disparity at each census from 1961 to 1991 (Table No. 5 and Table No. 6). Taken as a whole, the gender gap in literacy across West Bengal's districts narrowed gradually between 1961 and 2011. The persistence of high disparity among SC and ST women in the western plateau districts indicates that programmes for girls' schooling and adult female literacy need to be directed to these groups and districts. Future research could extend the analysis to the block level and examine the social and economic correlates of the district patterns described here.

Ethical Statement

This study is based entirely on published secondary data from the Census of India and did not involve human participants or animals; ethical approval was therefore not required.

Conflict of Interest

The authors declare that they have no conflict of interest.

Data Availability

The study uses publicly available data from the Census of India (1961-2011), published by the Office of the Registrar General and Census Commissioner, India (https://censusindia.gov.in). The district-level values derived from these data are reported in Tables 1 to 6.

REFERENCES

1. Basak, P., & Mukherji, S. R. (2011). Elementary Education in Rural West Bengal. Journal of Educational Planning and Administration, 25(4), 351-374.
2. Census of India (1961). Office of the Registrar General & Census Commissioner, Ministry of Home Affairs, Government of India.
3. Census of India (1971). Office of the Registrar General & Census Commissioner, Ministry of Home Affairs, Government of India.
4. Census of India (1981). Office of the Registrar General & Census Commissioner, Ministry of Home Affairs, Government of India.
5. Census of India (1991). Office of the Registrar General & Census Commissioner, Ministry of Home Affairs, Government of India.
6. Census of India (2001). Office of the Registrar General & Census Commissioner, Ministry of Home Affairs, Government of India.
7. Census of India (2011). Provisional Population Totals, Paper 1 of 2011: West Bengal; and Primary Census Abstract. Office of the Registrar General & Census Commissioner, Ministry of Home Affairs, Government of India.
8. Fors, H. C., & Lindskog, A. (2023). Son preference and education inequalities in India: The role of gender-biased fertility strategies and preferential treatment of boys. Journal of Population Economics, 36(3), 1431-1460. https://doi.org/10.1007/s00148-023-00941-5
9. Ghosh, A. K. (2007). The gender gap in literacy and education among the Scheduled Tribes in Jharkhand and West Bengal. Sociological Bulletin, 56(1), 109-125.
10. GoWB (2004). West Bengal Human Development Report 2004. Development and Planning Department, Government of West Bengal. https://hdr.undp.org/sites/default/files/india_west_bengal_2004_en.pdf
11. Islam, M. M., & Khan, M. H. R. (2019). Literate Life Expectancy and Its Gender Differentials in Oman. Journal of Reliability and Statistical Studies, 21-31.
12. Katiyar, S. P. (2016). Gender Disparity in Literacy in India. Social Change, 46(1), 46–69. https://doi.org/10.1177/0049085715618558.

13. Kaul, T. (2018). Intra-household allocation of educational expenses: Gender discrimination and investing in the future. World Development, 104, 336-343. https://doi.org/10.1016/j.worlddev.2017.12.017
14. Kaur, R. (2021). Estimating the impact of school feeding programs: Evidence from mid day meal scheme of India. Economics of Education Review, 84, 102171. https://doi.org/10.1016/j.econedurev.2021.102171
15. Klasen, S., & Lamanna, F. (2009). The impact of gender inequality in education and employment on economic growth: New evidence for a panel of countries. Feminist Economics, 15(3), 91-132.
16. Nayak, K. V., & Kumar, R. (2022). In pursuit of education: Why some tribal girls continue and others drop out of schools in rural India? Journal of Human Values, 28(2), 129-142. https://doi.org/10.1177/09716858211064251
17. Oakley, A. (2015). Sex, Gender and Society. Ashgate Publishing Limited.
18. Premi, K. K. (1974). Educational Opportunities for the Scheduled Castes: Role of Protective Discrimination in Equalisation. Economic and Political Weekly, 9(45/46), 1902-1910.
19. Rana, K., Das, S., Sengupta, A., & Rafique, A. (2003). State of primary education in West Bengal. Economic and Political Weekly, 38(22), 2159-2164.
20. Singh, J. (2025). Gender disparity and rural-urban divide in literacy in Punjab. Social Change, 55(1), 23-43. https://doi.org/10.1177/00490857241304456
21. Sopher, D. E. (1974). A measure of disparity. The Professional Geographer, 26(4), 389-392.
22. Sopher, D. E. (Ed.). (1980). An exploration of India: Geographical perspectives on society and culture (pp. 130-188). Cornell University Press, Ithaca, New York.
23. Sujatha, K. (2002). Education among Scheduled Tribes. In R. Govinda (Ed.), India Education Report: A Profile of Basic Education. Oxford University Press, New Delhi.
24. World Economic Forum (2020). Global Gender Gap Report 2020. World Economic Forum, Geneva. ISBN 978-2-940631-03-2.