

Relationship between Literacy and Sex Ratio in Murshidabad District of West Bengal: A Geographical Analysis

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Abstract: The present paper is an attempt to analyze the correlation between literacy and sex ratio in the Murshidabad District of West Bengal. The study is based on secondary data which is collected from the Census of India. The main objective of the study is to examine the spatial pattern of literacy rate and sex ratio and to find out the correlation between the block level literacy rate and sex ratio in Murshidabad District from 1991 to 2011. Pearson's correlation method is used to detect the correlation between literacy and sex ratio. The study reveals that there is a wide disparity in the spatial distribution of literacy rate and sex ratio in the Murshidabad District from 1991 to 2011. The result of the study highlights that there is a negative correlation between the block level literacy rate and sex ratio in the Murshidabad District from 1991 to 2011. While the degree of the negative relationship between the block level literacy rate and sex ratio is changed over time in Murshidabad District from 1991 to 2011.

Keywords: Literacy rate, Sex ratio, Spatial pattern, Block level, Correlation.

1. INTRODUCTION

Literacy is an important aspect of social development. The census of India defined literacy as a person aged seven years or above who can both read and write with understanding in any language. Literacy is affected by educational facilities, transport and communication, the standard of living and economic conditions. According to the 2011 Census report, India's literacy rate was 74 percent, which is 10 percent higher than in 2001. There is a wide disparity in literacy from state to state in India. The literacy rate is higher in Kerala (94%), Mizoram (91%), Goa (89%) and Tripura (87%), while very poor in Bihar (61%), Arunachal Pradesh (65%), Rajasthan (66%), Andhra Pradesh (67%) and Uttar Pradesh (67%). In West Bengal, the literacy rate is recorded as 77 percent in the Census year 2011 but there is a wide disparity in literacy from district to district. The highest literacy rate is found in Kolkata District (87%) and the lowest in Uttar Dinajpur District (60%).

The sex ratio is also a vital demographic component in social development. The Census of India defined sex ratio as the number of females population per thousand males population. The sex ratio of the population is affected by birth, death and migration. According to the Census 2011, sex ratio of India is 940. Sex ratio is highest in Kerala (1084) followed by Tamil Nadu (996) and lowest in Haryana (879). In West Bengal, sex ratio is 950 as per the Census 2011. The higher sex ratio is found in Paschim Medinipur (966), Hooghly (961), Murshidabad (958) Bankura (957) and Birbhum District (956) and poor in Kolkata (907), Howrah (937) and Purba Medinipur District (938).

Higher literacy leads to greater awareness and also contribute to improving social conditions. There is a close relationship between literacy and sex ratio. Literacy plays a very important role in the sex ratio. Consequently, the study of the relationship between literacy and sex ratio has become an important topic.

2. LITERATURE REVIEW

The important research work on the relationship between literacy and sex ratio has been carried out by various scholars such as Nasim Aktar (Aktar, 2013) attempted to analyze the correlation between literacy and sex ratio in West Bengal based on the Census data. Monu Kumar (Kumar, 2013) analyzed

the correlation between female literacy and child sex ratio in Haryana by using Spearman's rank difference method. T. P. Shinde (Shinde, 2015) discussed the correlation between female literacy and child sex ratio in the Satara District of Maharashtra based on primary and secondary data. Bharat L. Gadakh and Ravindra G. Jaybhaye (Gadakh&Jaybhaye, 2017) attempted a study on the correlation between sex ratio and literacy from 1981 to 2011 in Nashik city in Maharashtra by using Spearman's rank correlation method. H.R. Jasim (Jasim, 2017) discussed the correlation between the literacy and sex ratio in the Thiruvananthapuram District of Kerala based on secondary data collected from the Census of India 2011. Parveen Kumari (Kumari, 2017) analyzed the pattern of female literacy and examined the relationship between female literacy and child sex ratio in Haryana by using secondary data. Kumar Vipin and Yadav Anamika (Vipin & Anamika, 2018) conducted an important study on the correlation between literacy rate and sex ratio of the Scheduled Castes population in Haryana by using the Karl Pearson's coefficient of correlation method based on the Census data of 2001 and 2011. Lalit Singh Jhala (Jhala, 2019) attempted to study the impact of female literacy on the child sex ratio in Rajasthan by using Spearman's rank difference method. P. A. Khadke and P. B. Waghmare (Khadke& Waghmare, 2019) attempted to analyze the correlation between urban literacy and urban sex ratio in Maharashtra state by using Spearman's rank correlation method based on census data from 1991 to 2011. Surender Kumar and Amir Singh (Kumar & Singh, 2019) also conducted a study on the correlation between female literacy rate and sex ratio through a case study of all districts of the state of Haryana by using Spearman's rank correlation method. Dipankar Mondal and Mrinmay Mandal (Mondal & Mondal, 2019) investigated the relationship between literacy rate and sex ratio in the Medinipur Mouza of Onda Block in Bankura District by using GIS. T.V. Krishna (Krishna et al. 2020) attempted to analyze the correlation between literacy rate and sex ratio of a backward region in Northern Vizianagaram District of Andhra Pradesh by using Spearman's rank correlation method based on the Census data of 2001 and 2011.

Based on the literature review it can be said that only a few research works have been conducted on the relationship between literacy and sex ratio in West Bengal but not in the Murshidabad district. Therefore, the present study tries to analyze the relationship between literacy rate and sex ratio in the Murshidabad district of West Bengal from 1991 to 2011.

3. OBJECTIVES

1. To study the changing pattern of literacy rate and sex ratio in West Bengal and Murshidabad District from 1901 to 2011.
2. To examine the spatial pattern of literacy rate and child sex ratio in Murshidabad District from 1991 to 2011.
3. To find out the correlation between literacy rate and sex ratio in Murshidabad District from 1991 to 2011.

4. STUDY AREA

Murshidabad District is selected as a study area which is located between 23°43' to 24°52' north latitudes and 87°49' to 88°44' east longitudes with a geographical area of 5341 square kilometers. The district is bounded by the District of Maldah in the north, Bangladesh in the east and northeast, Birbhum District in the west, Burdwan District in the southwest, and Nadia District in the south. The administrative headquarter of the district is Berhampore. There is a total of 5 subdivisions, 26 blocks and 7 municipalities, 254 gram-panchayats, and 1937 villages in the district. According to the 2011 Census, the total population of the district is 71,03,807 and the population density is 1,334 persons per sq. km. Murshidabad District contributed 7.8 percent of the total population of West Bengal and recorded a sex ratio of 958 females per thousand males whereas the literacy rate is 67.5 percent. Figure 1 shows the location and administrative division of the Murshidabad District in West Bengal.

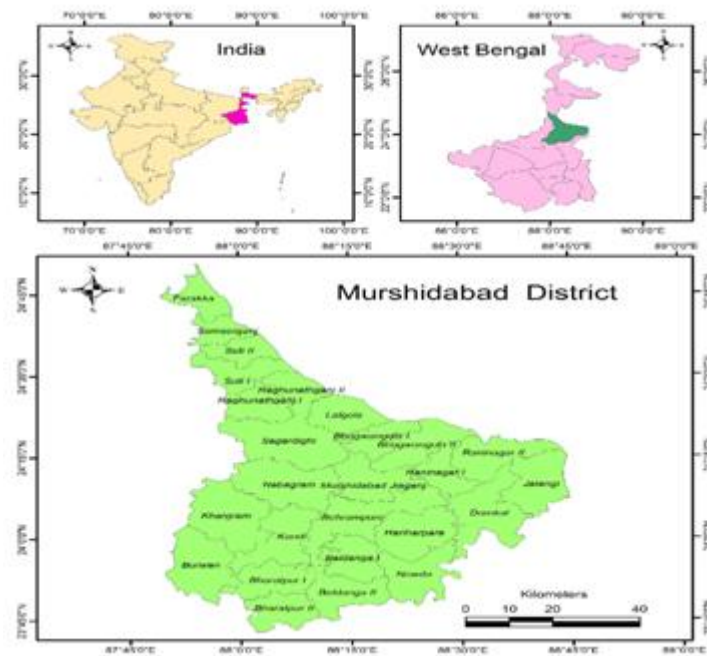


Figure1. Location map of the study area

5. DATABASE AND METHODOLOGY

The present study is based on secondary data. The secondary data regarding literacy and sex ratio of West Bengal and Murshidabad District are collected from the Census of India. Simple statistical techniques by Microsoft Excel 2016 are used for data calculation. Data calculation techniques are as follows-

$$\text{Literacy rate} = \left\{ \left(\frac{\text{Total no. of literate population}}{\text{Total population above six years of age}} \right) \times 100 \right\}$$

$$\text{Sex ratio} = \left\{ \left(\frac{\text{Total no. females population}}{\text{Total no. of males population}} \right) \times 100 \right\}$$

The Person correlation method by IBM SPSS Statistics 23 software is used for analyzing the correlation between literacy rate and sex ratio. Moreover, ArcGIS 10.3 is used for preparing maps and diagrams.

6. RESULT AND DISCUSSION

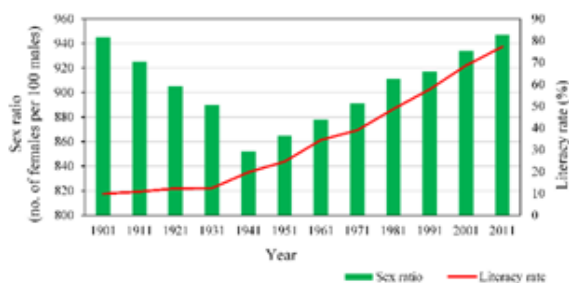


Figure2. Literacy rate and sex ratio in West Bengal (1901-2011)

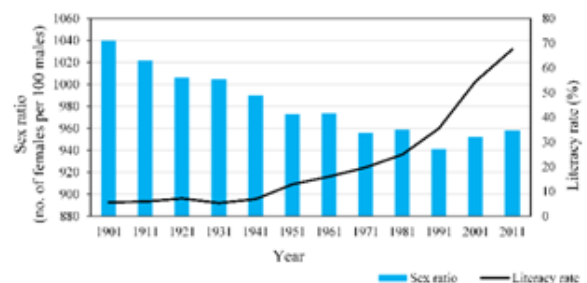


Figure3. Literacy rate and sex ratio in Murshidabad District (1901-2011)

6.1. Changing Pattern of the Literacy Rate and Sex Ratio in West Bengal and Murshidabad District from 1901 to 2011

Figure-2 represents changing pattern of literacy rate and sex ratio in West Bengal from 1901 to 2011. In the previous 110 years, the highest literacy (77.1) rate is found in the Census year 2011 and the lowest (9.8%) in the Census year 1901. The figure-2 demonstrates that the literacy rate is increased over time. Although, the sex ratio is unevenly distributed in West Bengal from 1901 to 2011. The

highest sex ratio (947) of West Bengal is found in the Census year 2011 followed by the Census year 1901 (sex ratio of 945). From the Census year 1901 to 1941 sex ratio decreased but from 1941 to 2011 sex ratio continuously increased. Overall, it can be said that the correlation between the literacy rate and sex ratio is positively moderate correlated in West Bengal from 1901 to 2011 ($r = 0.391$, table. 2).

Figure 3 depicts the changing pattern of literacy rate and sex ratio in Murshidabad District from 1901 to 2011. In the previous 110 years, the highest literacy rate is found in the Census year 2011 and the lowest in the Census year 1901. The figure is showing the increasing trend in literacy in the Murshidabad district from 1901 to 2011. On the other hand, the sex ratio of Murshidabad District decreased steadily from 1991 to 2011. The highest sex ratio of the district is found in the Census year 1901 (sex ratio 1040) and the lowest in the Census year 1991 (sex ratio 941). Generally, it can be said that the correlation between the literacy rate and sex ratio is negatively high correlated in Murshidabad District from 1901 to 2001 ($r = -0.701$, table 2).

Table1. Literacy rate and sex ratio of West Bengal and Murshidabad District

Year	West Bengal		Murshidabad District	
	Literacy rate (%)	Sex ratio	Literacy rate (%)	Sex ratio
1901	9.8	945	5.6	1040
1911	10.8	925	5.9	1022
1921	12.3	905	7.2	1006
1931	12.4	890	5.3	1005
1941	19.7	852	6.9	990
1951	24.6	865	12.9	973
1961	34.5	878	16	974
1971	38.9	891	19.7	956
1981	48.7	911	24.9	959
1991	57.7	917	35.5	941
2001	68.6	934	54.5	952
2011	77.1	947	67.5	958

Source: Census of India

Table2. Correlation matrix between literacy rate and sex ratio in West Bengal and Murshidabad District from 1901 to 2011

West Bengal				Murshidabad District			
Variable		Sex ratio	Literacy rate	Variable		Sex ratio	Literacy rate
Sex ratio	Pearson Correlation	1	.391	Sexratio	Pearson Correlation	1	-.701*
	Sig. (2-tailed)		.209		Sig. (2-tailed)		.011
	N	12	12		N	12	12
Literacy rate	Pearson Correlation	.391	1	Literacyrate	Pearson Correlation	-.701*	1
	Sig. (2-tailed)	.209			Sig. (2-tailed)	.011	
	N	12	12		N	12	12

* Correlation is significant at the 0.05 level (2-tailed).

Source: Computed by the authors using SPSS software

6.2. Spatial Pattern of the Literacy Rate and Child Sex Ratio in Murshidabad District in 1991

The literacy rate of Murshidabad District is 35.5 percent and the sex ratio is 941 in the Census year 1991. But the block level literacy or sex ratio differs from block to block. Table 3 and figure 4 represent the block level distribution of literacy rate and sex ratio in Murshidabad District in the Census year 1991.

The highest literacy rate is found in Bharatpur-II block (45%) and the lowest in Suti-II block (25.8%). In figure 4(a), Murshidabad District has been divided into five categories namely very low (0-30%),

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low (30.1%-40%), moderate (40.1%-60%), high (60.1%-70%), and very high (above 70). There is no block fall in the very high and high literacy rate category. Only four blocks belong to the moderate literacy rate category like Behrampore, Bharatpur-II, Burwan, and Nabagram. The majority of blocks fall in the low literacy rate category. A total of fifteen blocks belong to this category, these blocks are Beldanga-I, Beldanga-II, Bharatpur, Domkal, Hariharpara, Jalangi, Kandi, Khargram, Lalgola, Murshidabad-Jiaganj, Nowda, Raghunathganj-I, Raninagar-I, Raninagar-II and Sagardighi. Seven blocs namely Bhagwangola-I, Bhagwangola, Farakka, Raghunathganj, Samsorganj, Suti-I and Suti-II are under the very low literacy rate category.

Figure 4(b) shows the spatial pattern of sex ratio in Murshidabad District in 1991. The highest sex ratio is found in Samsorganjblock (989) and the lowest in Beldanga-I block (905). In figure 4(b),the sex ratioof Murshidabad District has been divided into five categories namely very low (900-925), low (926-940), moderate (941-955), high (956-970) and very high sex ratio (above 970).The very high sex ratio is found in only three blocks such asRaghunathganj-I,Samsorganj and Suti-I. The high sex ratio region includes Bharatpur-II, Farakka, Raghunathganj-II and Suti-II blocks. The moderate sex ratio is recorded in the blocks of Bhagwangola-I, Bharatpur-I, Burwan, Kandi, Khargram, Murshidabad-Jiaganj,Nabagram and Sagardighi. Eight blocks such as Behrampore, Bhagwangola-II, Domkal, Hariharpara, Jalangi, Lalgola, Nowda and Raninagar-I fall under the low sex ratio category. Out of 26 blocks, only three blocks belong to the very low sex ratio category. These blocks are Beldanga I, Beldanga-II and Raninagar-II.

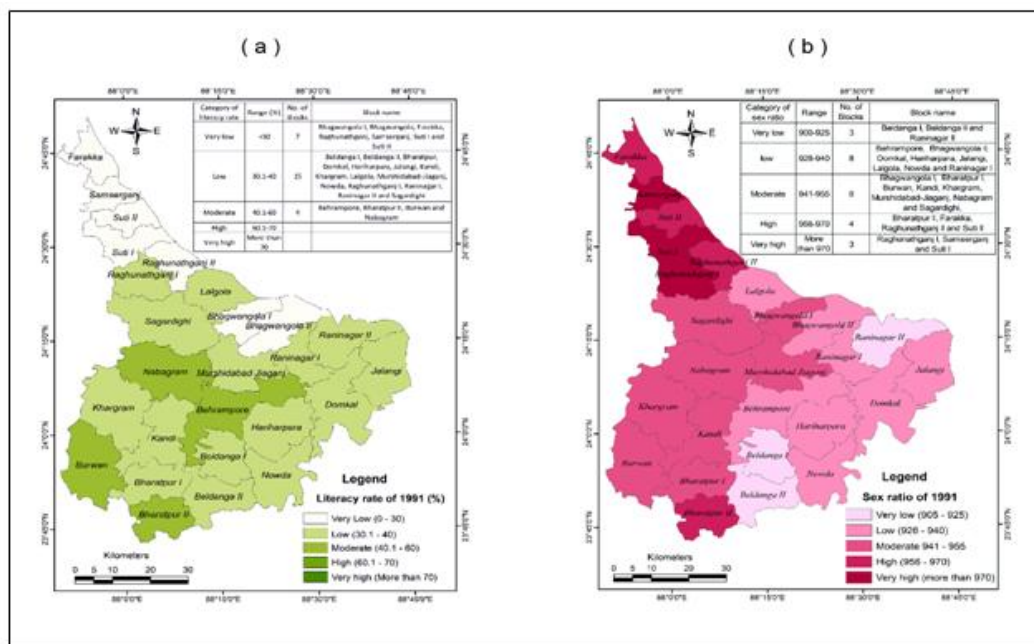


Figure 4. (a) showing the spatial pattern of literacy rate and (b) sex ratio of Murshidabad District in 1991

Table 3. Block level literacy rate and sex ratio in Murshidabad District

Sl. no.	Block Name	Year-wise literacy rate (%)			Year-wise sex ratio		
		1991	2001	2011	1991	2001	2011
1	Behrampore	41.4	63.7	73.5	940	946	954
2	Beldanga I	38.6	55.8	70.1	905	926	945
3	Beldanga II	35.4	51.8	67.9	923	927	939
4	Bhagwangola I	29.4	50.1	66.8	941	946	954
5	Bhagwangola II	26.7	47.2	62.8	935	943	958
6	Bharatpur I	38.5	51.1	62.9	941	926	939
7	Bharatpur II	45.0	54.1	66.1	957	957	959
8	Burwan	44.8	59.1	69.0	941	944	944
9	Domkal	34.1	51.5	63.9	933	942	955
10	Farakka	28.9	47.5	59.8	957	956	969
11	Hariharpara	36.6	55.8	69.2	932	935	957
12	Jalangi	36.3	55.8	67.4	927	938	951

13	Kandi	36.1	52.5	65.1	942	938	952
14	Khargram	37.0	53.2	63.6	945	951	959
15	Lalgola	33.5	50.6	64.3	931	956	964
16	Murshidabad-Jiaganj	36.3	53.5	69.1	944	935	936
17	Nabagram	41.2	57.9	70.8	948	955	960
18	Nowda	38.7	53.3	66.1	932	943	950
19	Raghunathganj I	34.0	50.1	64.5	971	985	951
20	Raghunathganj II	28.1	48.0	61.2	965	1042	955
21	Raninagar I	34.4	53.2	67.3	939	942	965
22	Raninagar II	31.1	50.1	63.6	915	931	961
23	Sagardighi	36.0	52.6	65.3	942	962	957
24	Samsorganj	27.7	40.1	55.0	989	988	1000
25	Suti I	29.1	44.4	58.1	974	975	958
26	Suti II	25.8	42.8	55.2	959	980	992

Source: Authors' own calculation using the Census of India data of 1991, 2001 and 2011

6.3. Correlation between the Block Level Literacy Rate and Sex Ratio of Murshidabad District in 1991

Table-4 and figure-5 represent the correlation between literacy rate and sex ratio of Murshidabad district in 1991. The Pearson correlation method is used to find the relationship between two variables. It is identified that the correlation (r) between literacy rate and sex ratio is -0.331 and the correlation is not significant at 95% level of confidence. It is a low negative correlation, which means that there is a slightly inverse relationship between literacy rate and sex ratio of Murshidabad District in the Census year 1991. The low negative relationship indicates that an increase in literacy rate leads to a decrease in sex ratio.

While comparing the literacy rate and sex ratio of Murshidabad District in 1991 (figure-4 and 5), it is observed that blocks with high literacy rates have lower sex ratios, and blocks with low literacy rates have higher sex ratios. For example, in the Behrampore block literacy rate is the third highest (45%) but the sex ratio is low (940). On the other hand, in the Samsorganj block literacy rate is second lowest (27.7) and the sex ratio is highest (989).

Table 4. Correlation matrix of block level literacy rate and sex ratio in Murshidabad District in 1991

Variables		Sexratio of 1991	Literacy rate of 1991
Sexratio of 1991	Pearson Correlation	1	-.331
	Sig. (2-tailed)	.	.099
	N	26	26
Literacy rate of 1991	Pearson Correlation	-.331	1
	Sig. (2-tailed)	.099	.
	N	26	26

Source: Computed by the authors using SPSS software

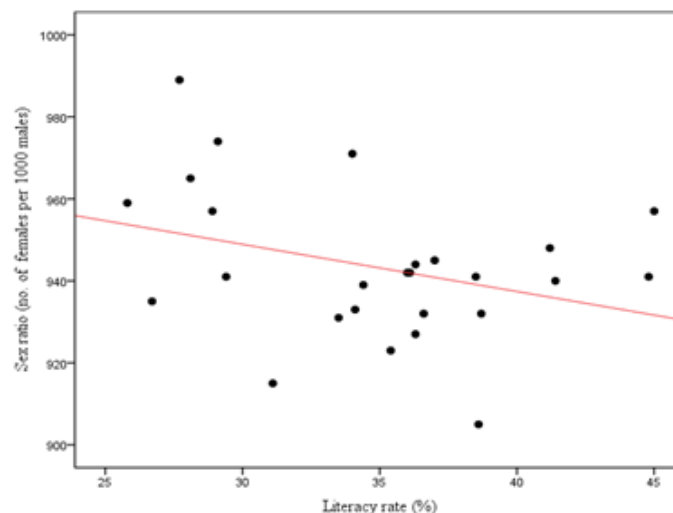


Figure 5. Correlation between the block level literacy rate and sex ration of Murshidabad District in 1991

6.4. Spatial Pattern of the Literacy Rate and Child Sex Ratio in Murshidabad District in 2001

The literacy rate of Murshidabad District is 35.5 percent and the sex ratio is 941 in the Census year 2001. But the block level literacy or sex ratio differs from block to block. Table-3 and figure-6 represent the block level distribution of literacy rate and sex ratio in Murshidabad District in the Census year 2001.

The highest literacy rate is found in Behrampore (63.7%) followed by Burwan block (59.1%) and the lowest literacy rate is in the Samsorganj block (40.1%). In figure 6(a), Murshidabad District has been divided into five categories namely very low (0-30%), low (30.1%-40%), moderate (40.1%-60%), high (60.1%-70%) and very high literacy rate (above 70%). Only one block such as Behrampore belongs to the high literacy rate category. The moderate rate of literacy in the rest of the twenty-five blocks of the district. These blocks are Beldanga-I, Beldanga-II, Bhagwangola-I, Bhagwangola-II, Bharatpur-I, Bharatpur-II, Burwan, Domkal, Farakka, Hariharpara, Jalangi, Kandi, Khargram, Lalgola, Murshidabad-Jiaganj, Nabagram, Nowda, Raghunathganj-I, Raghunathganj-II, Raninagar-I, Raninagar-II, Sagardighi, Samsorganj, Suti-I and Suti-II. Notably, no block is observed in low and very low literacy rate categories.

Figure 6(b) shows the spatial pattern of sex ratio in Murshidabad District in 2001. The highest sex ratio is found in the Raghunathganj-II block (1042) followed by the Samsorganj block (988) and the lowest in Beldanga-I (926) and Bharatpur-I block (926). In figure 6(b), the sex ratio of Murshidabad District has been divided into five categories namely very low (900-925), low (926-940), moderate (941-955), high (956-970) and very high sex ratio (above 970). A very high sex ratio is recorded in the blocks of Raghunathganj-I, Raghunathganj-II, Samsorganj, Suti-I and Suti-II. Only four blocks Bharatpur II, Farakka, Lalgola, and Sagardighi belong to the high sex ratio zone. Out of twenty-six blocks, the majority of blocks fall in the moderate sex ratio category, these blocks are Behrampore, Bhagwangola-I, Bhagwangola-II, Burwan, Domkal, Khargram, Nabagram, Nowda and Raninagar-I. On the other hand, eight blocks are under the low sex ratio category, these blocks are Beldanga I, Beldanga II, Bharatpur I, Hariharpara, Jalang, Kandi, Murshidabad-Jiaganj and Raninagar II. Noticeably, there is no block in the very low category.

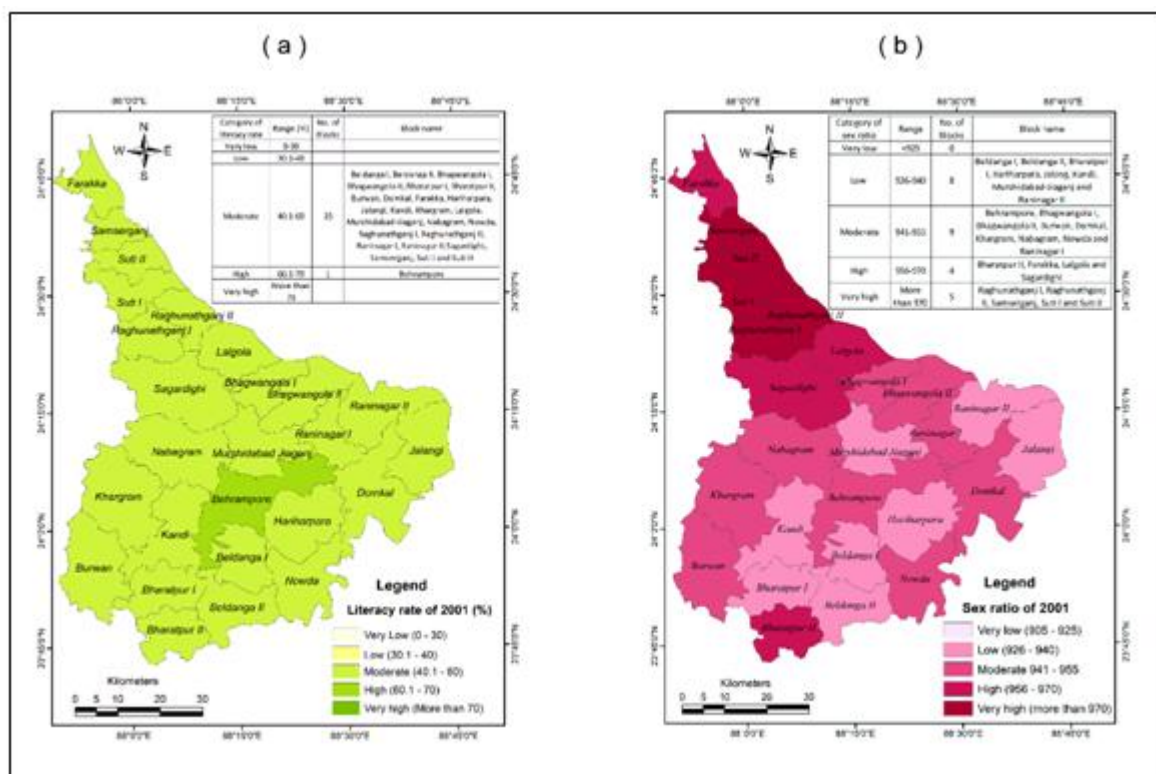


Figure 6. (a) showing the spatial pattern of literacy rate and (b) sex ratio of Murshidabad District in 2001

6.5. Correlation between the Block Level Literacy Rate and Sex Ratio in Murshidabad District in 2001

Table-5 and figure-7 represent the correlation between literacy rate and sex ratio of Murshidabad district in 2001. The Pearson correlation method is used to find out the relationship between two variables. It is identified that the correlation (r) between literacy rate and sex ratio is -0.487 and the correlation is significant at 95% level of confidence. It is a moderate negative correlation, which means that there is a moderate inverse relationship between literacy rate and sex ratio of Murshidabad District in the Census year 2001. The moderate negative relationship indicates that an increase in literacy rate leads to a decrease in sex ratio and a decrease in literacy leads to an increase in sex ratio.

While comparing the literacy rate and sex ratio of Murshidabad District in 2001 (figure-6 and 7), it is observed that blocks with high literacy rates have lower sex ratios and blocks with low literacy rates have higher sex ratios. For example, in the Beldanga-I block literacy rate is the fourth highest (55.8%) but the sex ratio is the lowest (926). On the other hand, in the Raghunathganj-II block literacy rate is the sixth lowest (48%) but the sex ratio is the highest (1042).

Table 5. Correlation matrix of block level literacy rate and sex ratio in Murshidabad District in 2001

Variables		Sexratio of 2001	Literacy rate of 2001
Sexratio of 2001	Pearson Correlation	1	-.487*
	Sig. (2-tailed)	.	.012
	N	26	26
Literacy rate of 2001	Pearson Correlation	-.487*	1
	Sig. (2-tailed)	.012	.
	No. of Blocks	26	26

*Correlation is significant at the 0.05 level (2-tailed).

Source: Computed by the authors using SPSS software

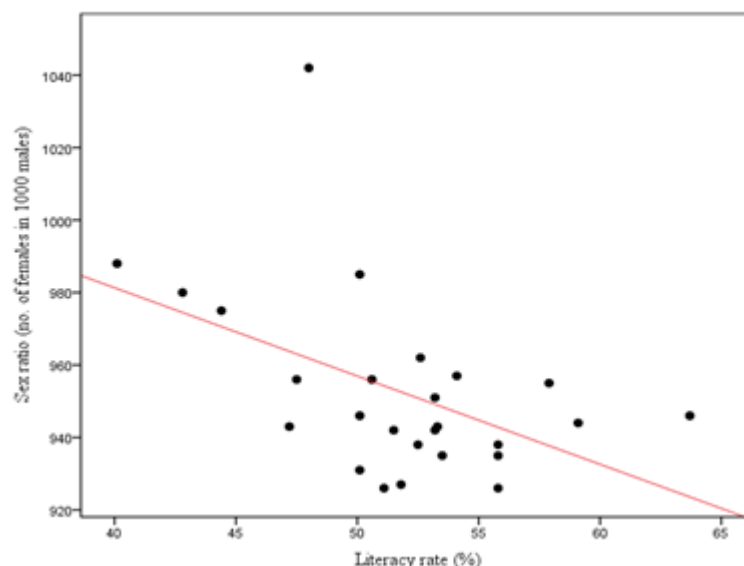


Figure 7. Correlation between the block level literacy rate and sex ratio of Murshidabad District in 2001

6.6. Spatial Pattern of the Literacy Rate and Child Sex Ratio in Murshidabad District in 2011

The literacy rate of Murshidabad District is 67.5 percent and the sex ratio is 958 in the Census year 2011. But the block level literacy or sex ratio differs from block to block. Table 3 and figure 8 represent the block level distribution of literacy rate and sex ratio in Murshidabad District in the Census year 2011.

The highest literacy rate in 2011 is found in Behrampore (73.5%) followed by Nabagram block (70.8%) and the lowest literacy rate is in Samsorganj block (55%). In figure 8(a), Murshidabad District has been divided into five categories namely very low (0-30%), low (30.1%-40%), moderate (40.1%-60%), high (60.1%-70%), and very high literacy rate (above 70%). Only three blocks fall into

the very high literacy rate category, which is Behrampore, Beldanga-I and Nabagram. Out of twenty-six blocks, the majority of the blocks are under the high literacy rate category. These blocks are Beldanga-II, Bhagwangola-I, Bhagwangola-II, Bharatpur-I, Bharatpur-II, Burwan, Domkal, Hariharpara, Jalangi, Kandi, Khargram, Lalgola, Murshidabad-Jiaganj, Nowda, Raghunathganj-I, Raghunathganj-II, Raninagar-I, Raninagar-II and Sagardighi. Only four blocks namely Farakka, Samsarganj, Suti I and Suti II are belong to moderate literacy category. On the other hand, no block is observed in low and very low categories.

Figure-8(b) shows the spatial pattern of sex ratio in Murshidabad District in 2011. The highest sex ratio is found in the Samsarganj block (1000) followed by the Suti-II block (992) and the lowest in Murshidabad-Jiaganj block (936). In figure 8(b), the sex ratio of Murshidabad District has been divided into five categories namely very low (900-925), low (926-940), moderate (941-955), high (956-970) and very high sex ratio (above 970). Only two blocks are under the very high sex ratio category, which is Samsarganj and Suti II. Out of twenty-six blocks, ten blocks fall into the high sex ratio category. These blocks are Bhagwangola II, Bharatpur II, Farakka,

Hariharpara, Khargram, Nabagram, Raninagar I, Raninagar II, Sagardighi and Suti I. The majority of blocks are under the moderate sex ratio category, which are Behrampore, Beldanga I, Bhagwangola I, Burwan, Domkal, Jalangi, Kandi, Lalgola, Nowda, Raghunathganj I and Sagardighi. On the other hand, a low sex ratio is found in only three blocks such as Beldanga II, Bharatpur I and Murshidabad-Jiaganj.

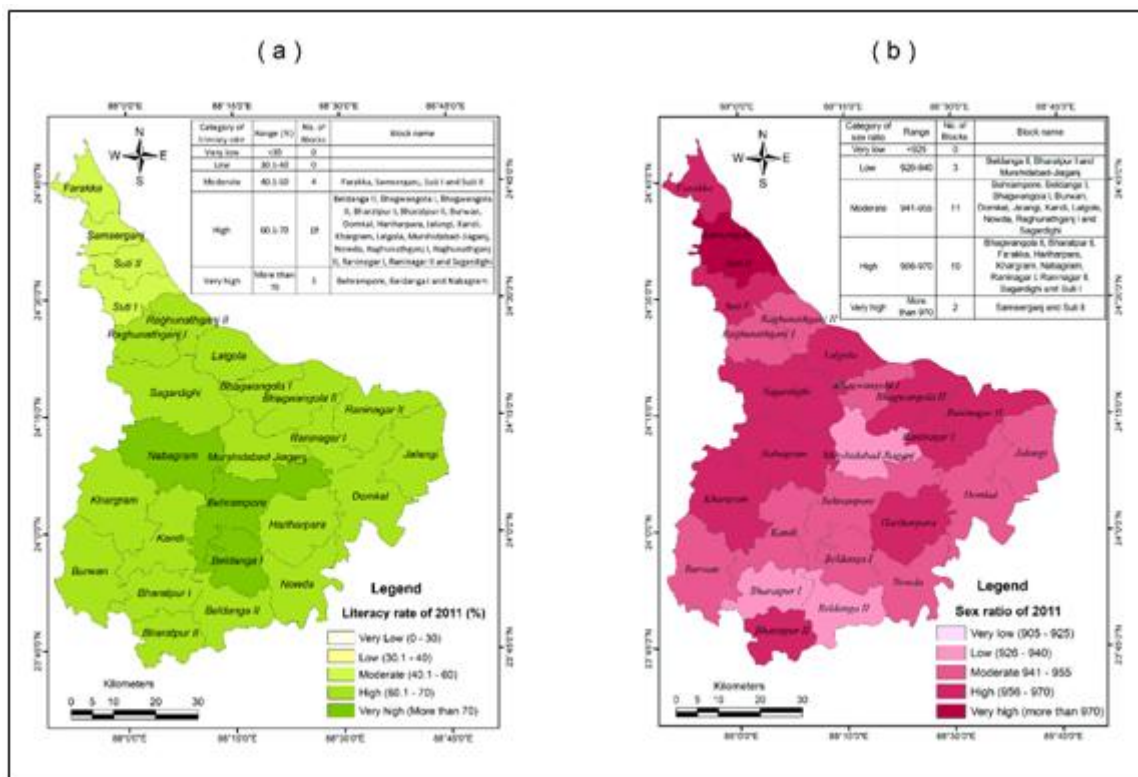


Figure 8. (a) showing the spatial pattern of literacy rate and (b) sex ratio of Murshidabad District in 2011

6.7. Correlation between Block Level Literacy Rate and Sex Ratio in Murshidabad District in 2011

Table-6 and figure-9 represent the correlation between literacy rate and sex ratio of the Murshidabad district in 2011. The Pearson correlation method is used to detect the relationship between two variables. It is identified that the correlation (r) between literacy rate and sex ratio is -0.678 and the correlation is significant at 99% level of confidence. It is a high negative correlation, which means that there is a high inverse relationship between literacy rate and sex ratio of Murshidabad District in the Census year 2011. The high negative relationship indicates that an increase in literacy rate leads to a decrease in sex ratio and a decrease in literacy leads to an increase in sex ratio.

While comparing the literacy rate and sex ratio of Murshidabad District in 2011 (figures-8 and 9), it is noticed that the blocks with high literacy rates have lower sex ratios and blocks with low literacy rates have higher sex ratios. For example, the Murshidabad-Jiaganjblock has the fifth highest (69.1%) literacy rate but the lowest (936) sex ratio. On the other hand, the literacy rate of the Samserganj block is the lowest (48%) but the sex ratio of the block is the highest (1000).

Table6. Correlation matrix of block level literacy rate and sex ratio in Murshidabad District in 2011

Variables		Sexratio of 2011	Literacy rate of 2011
Sexratio of 2011	Pearson Correlation	1	-.678**
	Sig. (2-tailed)	.	.000
	N	26	26
Literacy rate of 2011	Pearson Correlation	-.678**	1
	Sig. (2-tailed)	.000	.
	No. of Blocks	26	26

**Correlation is significant at the 0.01 level (2-tailed).

Source:Computed by the authors using SPSS software

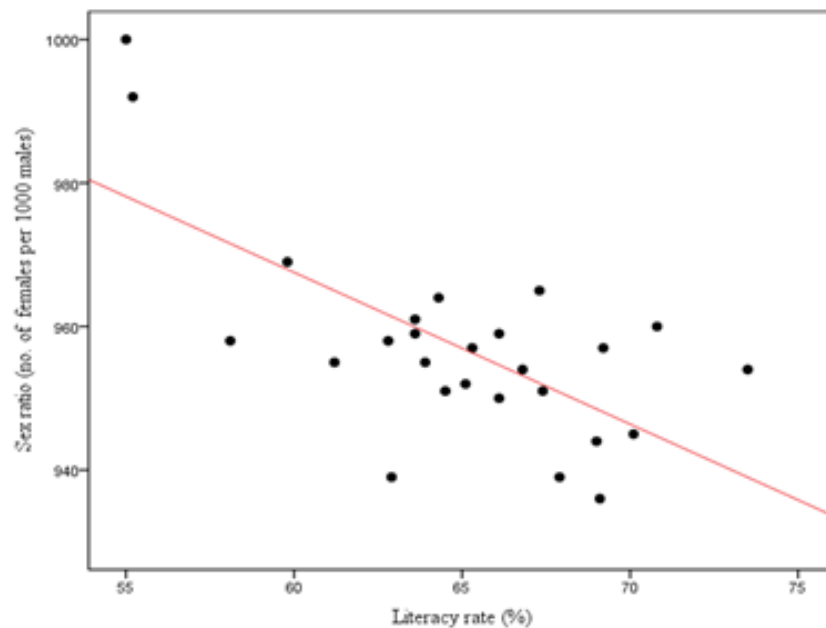


Figure9.Correlation between the block level literacy rate and sex ration of Murshidabad District in 2011

7. MAJOR FINDINGS

- Literacy rate and sex ratio changed in West Bengal from 1901 to 2011 and both are moderately positive correlated over time.
- Literacy rate and sex ratio changed in Murshidabad District from 1901 to 2011 and both are significantly high negative correlated over time.
- Block level literacy rate and sex ratio of Murshidabad District from 1991 to 2011 are unevenly distributed.
- Literacy rate is consistently high in the Behrampore block and low in the Samserganj block from 1991 to 2011.
- Sex ratio is consistently high in the Samserganj block and low in the Beldanga-II Block from 1991 to 2011.
- Block level literacy rate and sex ratio of Murshidabad District in 1991 is low negatively correlated.

- There is a significant negative correlation between block-level literacy rate and sex ratio of Murshidabad District in 2001.
- There is a significant high negative correlation between block-level literacy rate and sex ratio of Murshidabad District in 2011.

8. CONCLUSION

Literacy rate and sex ratio are two important aspects of the demographic study, both are played an important role in social development. The present study is mainly focused on examining the spatial distribution of literacy rate and sex ratio and identifying the relationship between the block-level literacy rate and sex ratio in the Murshidabad district of West Bengal from 1991 to 2011 by using the Census data. The study reveals that there is a wide disparity in the spatial distribution of literacy rate and sex ratio in Murshidabad District in the last three Census years. The study identifies that there is a negative correlation between block-level literacy rate and sex ratio in Murshidabad District, although the degree of negative correlation changed over time. The correlation between block level literacy rate and the sex ratio was low negative in 1991, moderate negative in 2001 and high negative in 2011. The literacy rate is increased over time but the sex ratio is decreased due to desire for the male child, negligence of the female child, feticide, medical improvement, religious prejudice, lack of women empowerment, patriarchal social system, lack of awareness, social inequality and lack of proper implementation of government programmes. To establish the social justice, it is necessary to decrease gender discrimination along with the improvement of education. Social awareness, women empowerment and effective government planning are very essential to decrease gender discrimination.

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