



**Original Article**

**A STUDY OF MALE-FEMALE DISPARITY IN LITERACY IN WESTERN SATPURA REGION**

**Dr. Manisha S. Patil**

Assistant Professor, HoD Department of Geography,  
SPDM ACS College, Shirpur.

**Manuscript ID:**

IJAAR-130216

**ISSN: 2347-7075**

**Impact Factor – 8.141**

**Volume - 13**

**Issue - 2**

**November - December 2025**

**Pp. 90 - 96**

**Submitted:** 13 Dec 2025

**Revised:** 21 Dec 2025

**Accepted:** 30 Dec 2025

**Published:** 1 Jan 2026

**Corresponding Author:**  
**Dr. Manisha S. Patil**

Quick Response Code:



Website: <https://ijaar.co.in/>



**DOI:**

10.5281/zenodo.18211461

**DOI Link:**

<https://doi.org/10.5281/zenodo.18211461>



Creative Commons



**Abstract:**

*Literacy is an important demographic characteristic of human process. It is essential for human character, social and economic development. Education includes new ideas for a better building of the society and their personal life style. The present work is an attempt to study of male-female disparity in literacy in Western Satpura Region. The period selected for the present study is from 1991 to 2011. Sopher's modified formula is used to measure male-female disparity in literacy. Present study reveals that overall and gender wise disparity in literacy has decreased during the last decade.*

**Introduction:**

Literacy is an indispensable mean for acquiring skills and improves economic condition. From demographic point of view, literacy is the variable affecting fertility, mortality and migration. Literacy supports for development and population control too (Singh, J. 2006). According to Census, 2001, children age 7 years or below is treated illiterate even though they may be going to school and can read and write to some extent. A person of 7 years and above who can both read and write with understanding in any language is considered as literate. A person who can only read but cannot write is not literate. It is not necessary that to be considered as literate, a person should have received any formal education or passed any minimum educational standard. Literacy rate of population is defined as the percent of literate in the age group seven years and above. Literacy rate directly affects services, health, economy, standard of living and overall development of the study region.

**Creative Commons (CC BY-NC-SA 4.0)**

*This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License (CC BY-NC-SA 4.0), which permits others to remix, adapt, and build upon the work non-commercially, provided that appropriate credit is given and that any new creations are licensed under identical terms.*

**How to cite this article:**

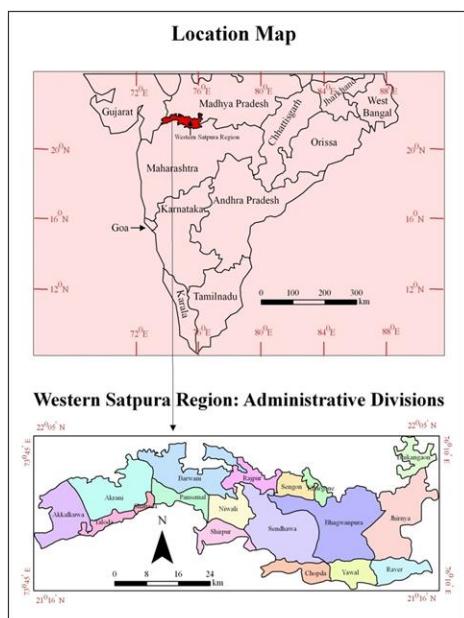
*Dr. Manisha S. Patil. (2025). A Study of Male-Female Disparity in Literacy in Western Satpura Region. International Journal of Advance and Applied Research, 13(2), 90–96. <https://doi.org/10.5281/zenodo.18211461>*



Education is one of the three aspects of human development, the other being health and economic condition. One who can read and write his name is considered a literate person. But this competence is inadequate from the point of view of the requirements of the present day society. According to United Nations Organization, 'the literate is one who has ability to read and write. One who can read but cannot write is considered semi-literate. According to Census of India, "a person who can both read and write with understanding in any language is to be taken as literate." Different criteria are used in various countries in the world.

#### **Location and Extent:**

Western Satpura region extends between  $21^{\circ}16'$  North and  $22^{\circ}5'$  North latitudes and  $73^{\circ}45'$  East and  $76^{\circ}10'$  East longitudes. The study region is having an area about 5092.09 sq. km. and includes five districts.



**Fig. No.1**

Western Satpura Region is a mountainous and mostly inhabited by tribal. This mountainous region is spread along the border of Maharashtra and Madhya Pradesh. It stretches from the Ashirgarh hills (from Burhanpur-Khandwa gap) in the east to the boundary of Gujarat in the west up to Rajpipla hills and between Narmada valley in the north and Tapi valley in the south.

It comprises area of Jalgaon, Dhule and Nandurbar districts of Maharashtra and Khargone and Barwani districts of Madhya Pradesh. According to 2011 census, the total population of the study region was 1608564. Out of the total population more than 80% are tribal.

#### **Aim and Objectives:**

The present study has aim to describe spatial distribution of differential in literacy.

1. To know the social structure and literacy status of the study region.
2. To analysis the gender disparity in tribal literacy.
3. To assess the gender wise disparity in literacy from 1991 to 2011.

#### **Methodology:**

Present study is based on fieldwork and secondary data. The study is carried out in two phases. The first phase comprised of an intensive field work and the second of laboratory and table work. Population data is collected from the census of last two decades and they have been analyzed in order to understand the levels of literacy, educational status. The disparity between male and female literacy may be considered as a



negative indicator measure for the level of demographic development. For calculating male – female disparity, David E.Sopher's (1974) disparity index has been used, which is as follows:

$$DS = \log(X_2/X_1) + \log\{(100-X_1)/(100-X_2)\}$$

This formula was modified by Kundu and Rao in 1983 and this formula has been used in this research for measuring sex wise disparity in literacy

Disparity Index is calculated with the help of following equation:

$$DS = \log\left(\frac{X_2}{X_1}\right) + \log\left\{\frac{(200-X_1)}{(200-X_2)}\right\}$$

Where,

DS = Male-female Differential Index

X<sub>2</sub> = Percentage of Male Literates

X<sub>1</sub> = Percentage of Female Literates

### **Male- Female Disparity Index:**

The gender gap in literacy highlights another important aspect of Indian society and tradition, generally low status of women and orthodox beliefs and backward social standard. Along with above mentioned reasons large size of families, population increase and poverty are also responsible for low female literacy.

The most pronounced differentiation in educational opportunity in Indian society is probably “sex” (Gore, 1994). There was a significant difference in literacy between males and females in the study region, from 1991 to 2011. It is noted that literacy among females are lagging behind males in all tehsils in study the region. However, it varies from tehsil to tehsil. Male dominant was the major barrier in female literacy.

Gender differential in literacy rates is so pervasive that it exists in total population both in rural and urban areas among different social segments, (Mohammad, H., 2005). Such differential of male and female literacy can be used to compute the differential index with reference to total literacy. This gives an idea about situation of difference between male-female literacy.

This has been computed by following formula:

$$DS = \log(X_2 / X_1) + \log\{(200-X_1) / (200-X_2)\}$$

Where,

DS= Male-female differential index

X<sub>2</sub> = Percentage of Male Literates

X<sub>1</sub> = Percentage of Female Literates

Value of DS is inversely related to level of development, i.e. the lowest value indicates high level of development and high value indicates low level of development.

The disparity in Male-female literacy rate has been grouped into three categories i.e. High, Moderate and Low disparity index.

### **High Disparity in Male-Female Literacy (>0.30):**

During 1991, the tehsil of Shahada (0.54) has shown highest gender disparity in literacy rate of population, followed by tehsils of Taloda (0.53), Pansemal (0.52), Chopda and Bhikangaon (0.51). Where the gender disparity index ranges from above 0.50. The gender disparity index ranges from 0.31 to 0.45 observed in Barwani tehsil (0.43), Rajpur and Bhagwanpura (0.45), Jhirnya (0.44), Segao, Sendhawa and



Khargone (0.39), Yawal (0.31), Raver, (0.37) tehsils.  
 Akkalkuwa and Akrani (0.43) and Shirpur

**Table No. 1: Western Satpura Region: Male -Female Disparity Index (1991-2011)**

Sr. No.	Name of Tehsil	1991			2001			2011		
		Male	Female	DI	Male	Female	DI	Male	Female	DI
1	Barwani	7.39	2.82	0.43	16.22	8.26	0.31	25.18	20.31	0.11
2	Rajpur	15.19	5.69	0.45	24.23	13.45	0.28	35.53	27.59	0.13
3	Jhirnya	18.94	7.40	0.44	33.42	16.92	0.34	37.70	27.14	0.17
4	Segaon	27.57	12.24	0.39	54.25	37.50	0.21	52.73	38.89	0.17
5	Bhikangaon	35.46	12.44	0.51	54.32	33.53	0.27	58.06	40.12	0.21
6	Khargone	55.39	26.97	0.39	66.83	44.54	0.24	66.22	49.50	0.18
7	Niwali	18.18	9.50	0.30	39.80	23.82	0.26	41.28	31.63	0.14
8	Pansemal	19.74	6.46	0.52	40.23	21.03	0.33	48.27	35.57	0.17
9	Sendhawa	12.47	5.32	0.39	23.16	11.35	0.34	30.12	22.22	0.15
10	Bhagwanpura	16.06	5.97	0.45	33.73	19.73	0.27	34.42	26.49	0.13
11	Chopda	34.65	12.14	0.51	46.64	24.81	0.33	54.44	35.58	0.24
12	Yawal	43.27	23.96	0.31	52.34	31.35	0.28	54.16	37.94	0.20
13	Raver	45.06	19.58	0.43	59.78	34.94	0.30	61.90	45.75	0.18
14	Taloda	22.88	7.27	0.53	42.06	25.38	0.26	53.83	40.84	0.16
15	Akkalkuwa	12.95	5.06	0.43	27.35	16.65	0.24	48.21	38.20	0.13
16	Akrani	17.33	6.87	0.43	36.50	26.96	0.16	48.48	37.76	0.14
17	Shahada	20.11	6.27	0.54	32.59	17.34	0.31	46.13	33.04	0.18
18	Shirpur	27.45	12.65	0.37	47.75	34.93	0.17	41.67	31.88	0.14
Western Satpura Region		19.02	7.77	0.42	34.21	20.44	0.26	40.49	30.53	0.15

**Source:** Census Handbooks and Tabulated by Researcher

In 2001, the situation has improved and the gender disparity of population has declined. As per 2001 census, only the tehsils Barwani, Jhirnya, Pansemal, Sendhawa, Chopda and Shahada have shown high level of disparity index of population ranging from 0.31 to 0.34. In 2011, not a single tehsil is felt in this category, it's because of increase in overall as well as male-female literacy in 2011, also due to

increase in female literacy by higher rate than male from 2001 in the study area.

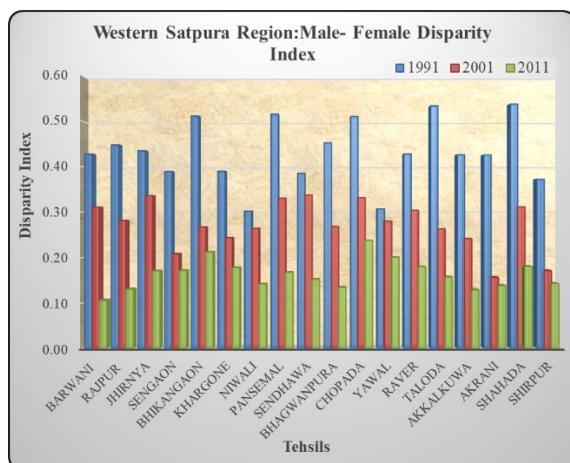
#### **Moderate Disparity in Male-Female Literacy (0.20 to 0.30):**

In 1991, medium disparity was observed in only one Niwali tehsil. Its disparity index was 0.30. During 2001, the values of gender disparity varied from 0.25 to 0.30 for the tehsils of Rajpur and Yawal (0.28), Segaoon (0.21), Bhikangaon (0.27),



Khargone and Akkalkuwa (0.24), Niwali and Taloda (0.26), Bhagwanpura (0.27).

However, in 2011, the moderate level of sex disparity was found in tehsils of Yawal (0.20), Chopda (0.24) and Bhikangaon (0.21). Besides the tehsils of Segaon, Khargone, Niwali, Bhagwanpura, Raver, Taloda and Akkalkuwa have shown improvement by reducing gender disparity in literacy rate and have slipped into this category.



**Fig. No. 2**

#### **Low Disparity in Male-Female Literacy (<0.20):**

During 1991, not a single tehsil is included in this category. In 2001, low male-female disparity is observed in Akrani (0.16) and Shirpur (0.17) tehsils. In 2011, gender wise low level of disparity was found in Barwani (0.11), Rajpur (0.13), Jhirnya, Segaon, Pansemal (0.17), Khargone, Shahada and Raver (0.18), Niwali, Akrani and Shirpur (0.14), Sendhawa (0.15), Taloda (0.16) tehsils. This is because of increase in overall as well as male-female literacy from 1991 to 2011 in the study region. In other words, females are much lagging behind as

compared to males in all the tehsils and gender-wise disparity is narrowing down in 2011 as compared to 1991.

Therefore, Figure clearly depicts that, the gender disparity in literacy rate has narrowed down over the time period of 1991-2011. The study shows that in 1991, majority of tehsils have shown high gender disparity of population, while in 2011. This is probably because the female members require any sort of formal education. The exceptional cases are seen in the tehsils of Akkalkuwa, Akrani which are mostly inhabited by the Christian tribal population. The influence of Christianity in this Western part of region might have probably played a significant role in encouraging high literacy rates.

As per 1991 census, the average sex disparity in the Western Satpura region was 0.42 and 0.26. Figure explicitly shows that north-western part of the study region including 14 circles in tehsils of Maharashtra and Achhalwadi, Kolkhed, Salikalan, Niwali, Vaslypani, Bamnali and Keli circles of Madhya Pradesh have very low disparity in male-female literacy. In 2011 census, the average sex disparity in the Western Satpura region was 0.15. High sexwise disparity (<0.20) was observed in Lasur, Kingaon, Khanapur, DhupaBujurg, Bhikangaon, Solwan, Khatti, Wajhar, Golwadi in Chopda, Yawal and Bhikangaon tehsils. Inadequate opportunities for education, poverty and backward social standard may be the reasons for the bad position of female literacy rate in these circles while in east and north-eastern parts have medium (DS value 15-20) male female



disparity in literacy. Low disparity was observed in Barwani tehsil followed by Rajpur, Niwali, Sendhawa, Bhagwanpura tehsils of Madhya Pradesh and Akkalkuwa and Akrani tehsils of the district. Availability of educational facilities and spread of education not only reached upto male but also female are the reasons for low disparity in literacy of these tehsils. Toranmal is important tourist centre might be the cause of low disparity in male female literacy.

### **Conclusion:**

As per 2011 census, the average female literacy of Western Satpura Region is only 30.53 percent. Khargone tehsil has the higher female literacy as compared to national average but all the tehsils of this region have least female literacy. The central belt running from west to east and the western part of the region are having less than 30 percent of female literates. Though the sex ratio of the study region is in favour of females, but a like sex ratio, literacy rate is in favour of males. The Government of Maharashtra and Madhya Pradesh States have taken some concrete steps to enhance the literacy level of female population in the study region.

The gender disparity in literacy rate has narrowed down over the time period of 1991-2011. The study shows that in 1991, majority of tehsils have shown high gender disparity of population, while in 2011. This is probably because the female members of these socially backward classes are mostly engaged in the traditional works like daily household activities looking after their

children and other family members etc. from very early ages which do not require any sort of formal education. The exceptional cases are seen in the tehsils of Akkalkuwa, Akrani which are mostly inhabited by the Christian tribal population. The influence of Christianity in this Western part of region might have probably played a significant role in encouraging high literacy rates.

### **References:**

1. Ahire, R.C. and Badgujar, A. A. (2012): "Socio-economic Factors Influencing literacy in the Western Satpura Region: A Geographical Study", Older Research Thoughts, Vol-II, Issue- V, Nov. 2012.
2. Babu, K. Madhu and Prasad, K. Shiva (2004): "Literacy and Life Expectancy in India : An Empirical Analysis", In Ramchandrudu, G. et al (Ed.) : Census 2001 and Human Development in India, Serials Publications, New Delhi, Pp.169-176.
3. Census of India, Maharashtra, 1971, 1981, 1991, 2001
4. Census of India, Maharashtra, Census Atlas, 1991
5. Chandna, R. C. (1986): "Geography of Population – Concept, Determinants and Patterns", Kalyani Publishers, New Delhi, p.100
6. Ghosh, B. N. (1985): "Fundamentals of Population Geography", Sterling Publishers Pvt. Ltd., New Delhi, p.97.
7. Gill, Mehar Sing (1992): "Literacy in Punjab", The Geographer, Vol. XXXIX, No. 1, Pp.41-53.



---

8. **Golden Hilda, H. (1968):** "Literacy International Encyclopaedia of the Social Sciences", Vol. 9, MacMillan Co. And Press, p. 415
9. **Gopal, G. S. (1961):** "Regional Aspects of Rural Literacy in India Presidential Address", Transaction of the Indian council of Geographers, 4, P. 115.
10. **Gosal, G. S. (1964):** "Literacy in India : An Interpretative Study", Rural Sociology, Vol. 29, Pp. 261-77
11. **Gosal, G. S. and Chandna, R. C. (1979):** "Population Geography: Survey of Research in Geography – 1969-72", New Delhi.
12. **Hassan, M. I. (2005):** "Population Geography", Rawat Publications, Mumbai
13. **Government of Maharashtra (1991)** : "Primary Census Abstract Series–12", Maharashtra Part II-B