
An Analysis of Inter-village Gender Disparity in Literacy: A Case of District Kinnaur, Himachal Pradesh

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Abstract

Literacy is often considered as a key to socio-economic development. It is one of the best measures of social progress, because literacy and education determine whether society will advance or regress. It is crucial that all social groups in society acquire literacy on a comparable basis. The present study highlights the disparity in male-female literacy with a special focus on spatial and temporal variation in gender disparity at the village level in Kinnaur district of Himachal Pradesh. The paper also tries to map out the best possible explanations for gender disparities in literacy and comparative analyses of those differences. The investigation is based on secondary sources of data and the GDI (Gender discrepancy Index) was developed by using Sopher's method to determine the disparity between males and females. The coefficient of variation for the study period from 1991 to 2011 has also been determined in order to assess the temporal trend. According to this study, there is a moderate to very low gender disparity at the village level in the Kinnaur District. However, during the study period, the study observed a growing tendency in the gender gap in literacy in the study area.

Keywords:

Literacy,
Disparity,
Spatial, Gender,
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Inter Village

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1. Introduction

As one of the primary indicators of socioeconomic change and cultural growth in a region, literacy is a crucial qualitative component of human resource. Literacy serves as the basis for the development of economic skill and plays a major role in easing change-averseness. As a result, the literacy rate reflects the caliber of the current and future labor

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force, to a large extent. Development is both a cause and an effect of literacy [1]. It is essential for social the rebuilding process, enhancing quality of life, and getting people ready for rapid advancement. The literacy rate of the rural population is lower than that of the urban population. The rural population does not have enough possibilities to receive a formal education. The level of economic development and literacy levels are positively correlated. In all developed and developing countries, male literacy rates are consistently greater than female literacy rates, and India is not an exception [2]. Women make up a significant portion of society, and their increased literacy will result in a better society overall [3]. The modern era observed acceleration in gender inequality that was reflected in a number of sociocultural and behavioral empowerment measures, including sex ratio, literacy and education levels, employment and wage rates, and others [4]. Although the gender gap in literacy continues to narrow as society advances, but there are still areas where more attention is needed to narrow the gap. Therefore, it is crucial to give a thorough analysis of gender difference in literacy in order to illustrate the spatial pattern of variation and enable the implementation of appropriate interventions. According to Census (2011), a person aged seven years or more than seven who can read and write with understanding in any language is called a literate person. Traditionally overall literacy and female literacy has been found comparatively low in rural area due to traditional occupation and farming which do not require any skill. Moreover tribal people have their own perception and attitude toward education of male and female. However with the passage of time there is seen significant improvement in literacy but gender disparity in literacy is still an issue in many of the areas. District Kinnaur, being a rural, tribal, and mountainous district of Himachal Pradesh, faces a significant challenge in terms of providing educational facilities and services. District Kinnaur has a total literacy rate of 80%, an average of 87.27% for men and 70.96% for women (Census; 2011) which ensures the existence of disparity between these two genders. Thus, with this background, an effort has been made to analyze the spatial and temporal trend of gender gap in literacy among the villages in the Kinnaur district of Himachal Pradesh [5], [6] & [7].

India although been a fast growing economy is crippled by literacy disparity between the two genders. Several programs and policies have been implemented to improve the situation. Amongst the states, Kerala has the lowest disparity rate while Bihar has the highest disparity rate [8]. Dutta and Sivaramakrishnan (2013), argued that social and economic backwardness have a direct relation to the educational backwardness [9]. Kumar et al (2016)

analyze the gender disparity in literacy at district level, among states of India namely Haryana, Punjab and Rajasthan and finds leading and laggard districts in terms of gender disparity in education, also suggests policy implications for Centre and state governments [10]. Manjunatha and Hurakadli (2017) attempts to analyze taluka wise gender disparities in literacy and sex ratio of Belagavi district and finds that there are wide disparities from Rural to Urban sex ratio as well as Rural to Urban literacy rate [11]. Afsha and Mahjabeen (2019) raises a serious concern of persisting disparity in male-female literacy beside increase of overall literacy in Bulandshahr district of UP, India [12]. Rahaman and Rahaman (2018) highlighted the disparity in male-female literacy at the block level in Malda district of West Bengal and finds that the proportion of literates among both male-female has been showing an increasing trend over the past three decades [13]. Devi and Tiwari (2019) provides an insight into the existing spatio-temporal patterns of male-female literacy rate in Bareilly district and indicated that there is a wide range of variation in male-female literacy among the blocks [3]. Lalitlansangi et al (2021) analyze the space time investigation of gender disparities in literacy in Mizoram and find that gender disparity in literacy is more evident in rural areas than in urban area and the western and southern part of the State, lying along the international border displays higher disparity index than the north and eastern part of state [14]. These are some of studies reviewed for present study. It reveals that however with the passage of time there is seen significant improvement in literacy but gender disparity in literacy is still an issue in many of the areas. However, there are various studies in India and abroad on gender disparities, which measure the level of gender disparity at the state level, district level, block level and tehsil level. But there is a dearth of in-depth analysis of gender disparity in literacy in rural and tribal areas. Only a few studies are conducted at village level with coverage of different dimension of gender disparity in literacy and district Kinnaur remained poorly understood in this regard. Hence, in the present study, an attempt has been made to examine the gender disparity in literacy in Kinnaur district, a rural and tribal district of Himachal Pradesh at village level from 1991-2011.

2. Research Method

The present paper makes a modest attempt in mapping out the inter village variation in gender disparity in literacy and aims at analyze the spatio-temporal trends of gender disparities in literacy for three census years from 1991 to 2011. Study is entirely based on secondary data collected from Directorate of Census of India (1991, 2001, and 2011) including district census handbooks and primary census abstracts of Kinnaur district of Himachal Pradesh. The gender disparities in the literacy have been examined at village level in the study area, thus constituting micro level study. Gender disparity in literacy have been calculated by using Gender Disparity Index as given by Sopher and modified by Kundu and Rao (1985). The disparity index (DI) is calculated by the following formula:

$$DI = \text{Log} (X2/X1) + \text{Log} (200-X1/200-X2)$$

Where;

DI= Gender disparity index

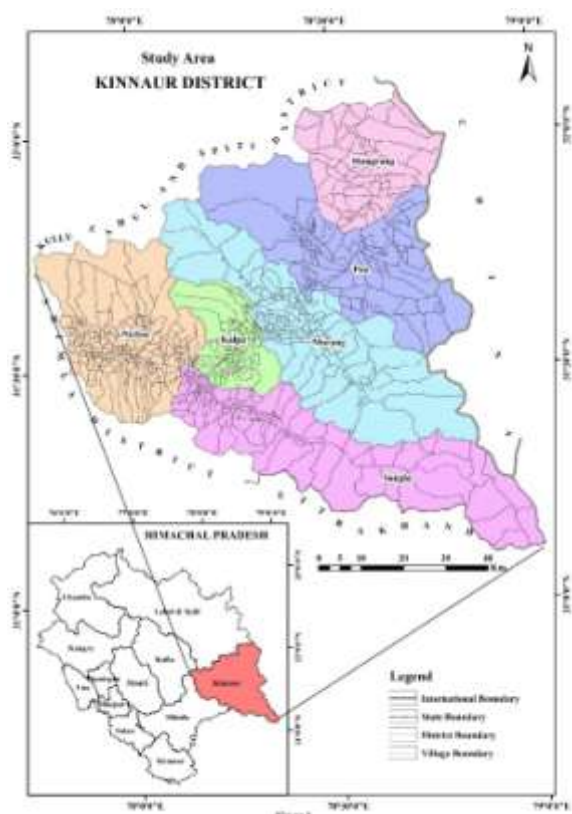
X1=Percentage of Female to total Female population

X2= Percentage of male to total Male population

200 is constant (Kundu and Rao)

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

In order to maintain homogeneity in the administrative units and bring out the comparative picture of disparities in literacy the census 1991 have been taken as base year. For the purpose of analysis only 209 villages have been considered out of 241 inhabited villages in census 2011 (234villages in 2001 and 228 village in 1991) due to irregular inhabitation of some villages in three census 1991, 2001, 2011. The villages with irregular inhabitation (uninhabited



either in one or two decade of study) were skipped and only the villages with regular habitation were taken into consideration. Thus for a meaningful analysis of study remaining 209 inhabited villages existing in all three census years were considered for analysis. To show the spatio-temporal variations in the level of gender disparity during the study period, villages were categorized into 6 category on the basis of gender disparity index. Maps and tables have also been prepared to show the behavior of gender disparity in the study area.

Besides, to find out temporal variation at the level of individual variable, the co-efficient of variation (C.V.) has been calculated by applying following formula:

$$C.V = \frac{\sigma}{x} \times 100$$

Where, C.V. = Denotes Co-efficient of variation

σ = Represents the standard deviation from the mean value

x = Denotes the mean value of variables

Kinnaur district of Himachal Pradesh is taken as study area for present study. It is one of the twelve districts of Himachal Pradesh in Indian Western Himalaya, with an area of 6,401sq km covering about 11.5% area of the State. According to the 2011 Census, Kinnaur had a population of 84,121 of which there were 46,249 male and 37,872 female. Geographically, it lies between 30° 05' 55" and 32° 5' 20" north latitude and 77° 45' 0" and 79° 10' 50" east longitude (Fig 1).

In the north-eastern frontier district of Himachal Pradesh and a border district of India lies in Western Himalayas on both banks of the river Satluj. ReckongPeo, the present headquarters of the district, situated at an elevation of 2,290 metres, is located at 13 kms from Kalpa, the earlier headquarters. It has 5 tahsils and one sub-tahsil having 660 villages comprising of 241 inhabited and 419 un-inhabited villages. The density of population in the district is 13 persons per sq.km against the state figures of 123 persons. There are 819 females for every thousand males in Kinnaur district.

3. Results and Analysis (10pt)

Spatio- Temporal Pattern of Gender Disparities in literacy in district Kinnaur

The level of female literacy reflects the standing of women in society, and that status influences how far a society has developed. Equitable gender is essential from both social and an economic perspective since it is thought that the regions that have lagged in economic progress have also lagged in justice across gender. Although average literacy rates have

increased over time, there are still significant gaps between male and female literacy in the study area. The research area can be divided into the six regions below based on the gender disparity index in literacy.

Table 1
District Kinnaur; Village Level Gender Disparities in Literacy

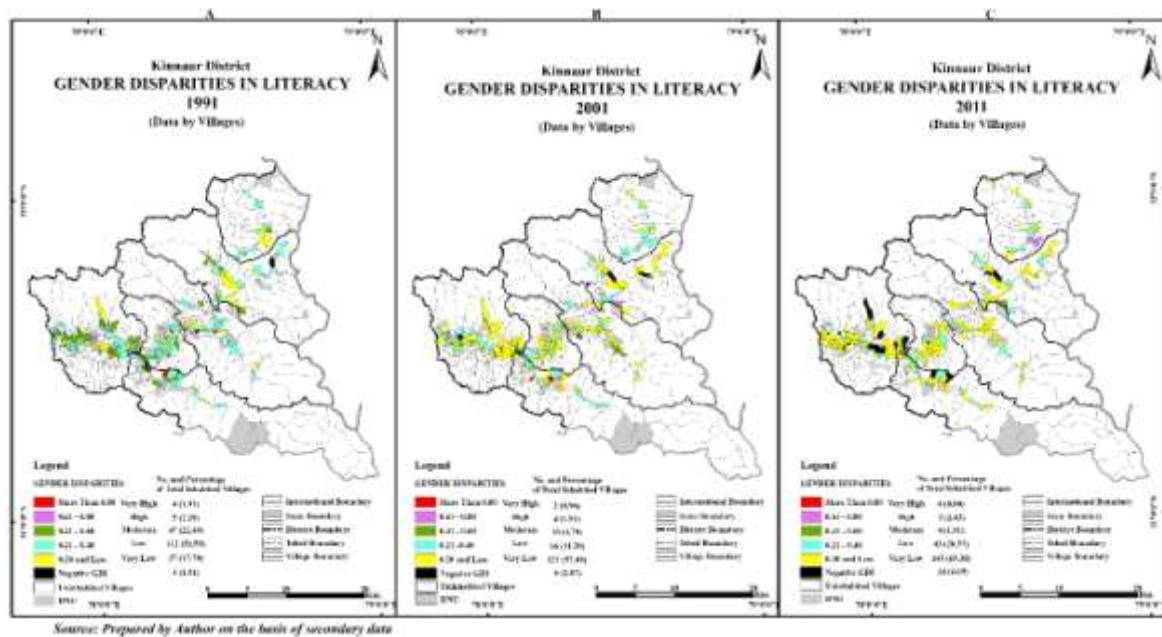
Year	Very high (Above 0.80)	High (0.61 to 0.80)	Moderate (0.41 to 0.60)	Low (0.21 to 0.40)	Very low (0 .00 to 0.20)	Negative (Below 0.00)	DNU	CV.
1991	4 (S)	5 (2.39)	47 (22.49)	112 (53.59)	37 (17.70)	4 (1.91)	19	56.24
2001	2 (0.96)	4 (1.91)	10 (4.78)	66 (31.58)	121 (57.89)	6 (2.87)	25	84.69
2011	0 (0.00)	3 (1.43)	4 (1.91)	43 (20.57)	145 (69.38)	14 (6.7)	32	86.09

Source: Composed by authors using census of India data.

Areas with Very High Gender Disparity in Literacy (Above 0.80): The regions represented by this category are that where there is a significant gender gap in literacy and where there has been the least effort made towards raising the educational attainment of women. In 1991, there was a significant gender gap in literacy in 4 villages namely Lachon Den in Sangla tehsil, Choling and Urawning in Nichar, and Lijingin Morang Tehsil of study area. These can also be observed in the form of four patches on map. In 2001, there left only two villages in this category, Yashang (Nichar) and Shaung Khas (Sangla). Very high gender disparity in these villages may be attributed to prejudices against women's mobility, excessive involvement in the household chores, inadequate transport facilities etc. It has been quite pleasing to see that as of 2011, no villages remain in this category, which demonstrates that through time, the position of women has improved, finally resulting in an increase in the socioeconomic growth of the study region.

Areas with High Gender Disparity in Literacy (0.61-0.80): The shift in the spatial pattern in this category supports the rising levels of social development and changing status of women in the studied area. It is confirmed by the statistic that in 1991, there were only 5 villages with a significant gender gap in literacy which decreased to 4 in 2001 and to 3 in 2011 (Figure 1.2). Nainsaring, Agade, in the Nichar Tehsil and Ka Village in Hang Rang Sub Tehsil, were the only three villages with significant gender disparities in literacy in 2011. Ka, a small hamlet with a total population of 26 people, is located in the study area's extreme north-eastern corner. According to the 2011 Census, it has a very low total literacy rate of 19.23%, however only 4 males and 1 female are literate, leaving a significant gender disparity in literacy. High gender discrepancy in literacy may be caused by challenging geographic

conditions, an extreme climate, and isolation from the main society, lack of awareness, lack of basic infrastructure facilities etc. While the little hemlets **Agade** of Nichar Tehsil has 50% overall literacy rate, with 72% male literacy and 24% females are literacy, and **Nainsaring** with 100% male literacy, and 33% female literacy leaving behind high gender gap in gap in male female literacy. However these two are not far away from main society, still the factors like small size of villages, economic backwardness, lack of transportation, far-off schools, conservative attitudes, lack of awareness etc. may be attributed to higher gender disparity in literacy.



Source: Prepared by Author on the basis of secondary data

Areas with Moderate Gender Disparity in Literacy (0.41-0.60): This category is represented by the gender disparity index between 0.41 and 0.60. In this class, the spatial variation in gender disparity showed positive outcomes because there were 47 villages in this category in 1991, which left only 4 in 2011. Spatial distribution of these village in 1991 were mainly observed in eastern part of district encompasses mainly Nichar tehsil (Figure). The fewer villages falling into this group represent a decline in gender inequality and an increase in social development. HorangPawa, Rarang, Tikrang, and Karape were the four villages with moderate female literacy discrepancy in 2011. Three of these villages belong to the Nichar Tehsil, and one from the Poo Tehsil. These are all small helmets/villages with a low population with less female literacy than male literacy which widens the gender gap.

Areas with Low Gender Disparity in Literacy (0.21-0.40): The percentage of villages with low gender disparity showed a trend towards decline and progressive transition; it was close to 54% villages in 1991, 32% villages in 2001, and 20% villages in 2011. The

villages listed in this category in 1991 included Charang Khas, Change, Tangling, Chhitkul, Shalkar, Kanangrang, Kanahi Khas, Kashmir, Hangmat, and Lambar, among others. The villages are distributed spatially in such a way that there is a large cluster in the extreme western part of the research region and a striking belt extending from the south western part towards the west, then turning towards the north eastern regions till the study area's tip. 2011 saw the registration of the settlements Paranga, Limoden, ShobreYanang, Dung, RunangNichla, Kandar, Hango, Up MohalNamkalang, Up MuhalHoldo, Mastrang, etc. 2011 witnessed the inclusion of the villages of Paranga, Limoden, ShobreYanang, Dung, RunangNichla, Kandar, Hango, Up MohalNamkalang, Up MohalHoldo, Mastrang, etc. under this category. Geographically, these villages are dispersed throughout the area in the form of patches and clusters. Changes in how society views women's status, economic progress, improvement in infrastructural facilities in these villages etc. played a key role in raising the literacy rate overall and among women in particular.

Areas with very low gender disparity in literacy (0.00 to 0.20): The gap between men and women narrows as gender inequality decreases and the level of socioeconomic progress increases with decreasing gap. A relatively very low gender-based literacy inequality was observed in about 17% of all villages in 1991. Approximately 58% of the villages, which made up more than half of the study area, had very little gender inequality in 2001, showing the increasing trend in number of such villages. These areas, which serve as the majority of administrative centers and have good access to the highway system, also have high per capita incomes, which contribute to excellent standards of living and no gender disparity in literacy. With near about 70% of villages in this group, which make up more than two thirds of the research region, gender imbalance substantially improved in 2011. This increase in this category was primarily brought about by changes in women's position, socio-economic development of villages, different government initiatives for children's welfare, and the growth of educational resources, all of which have produced fruitful outcomes.

Areas with Negative Gender Disparity in Literacy (below 0.00) The gender gap turns negative in areas where there are more educated females than educated males. There were just 4 villages in 1991 where there had been negative gender disparities. The number of these villages increased from six in 2001 to fourteen in 2011, demonstrating a significant improvement in the socioeconomic position of women. Development is mostly responsible for this improvement. In 2011, the villages in this category included Ghumaruning,

Kangarang, RallSanthang Up MohalTaling, Lachonden, Ralpa, Dhupak, and Kagsthal. It's highly surprising that these villages are not among the study area's more developed villages; instead, they are small hamlets with an unbalanced sex ratio, low populations, and a high percentage of outside workers and employees

Trend of Gender Disparities in Literacy (1991-2011): Every person strives for development, and literacy is a key component of development. The level of socioeconomic development rises as the gender gap narrows. From the above analysis it is clear that gender disparity in literacy mainly follows the two trends either increase or decrease trend over period of time, in each category. In the category of very high, high, moderate and low gender disparity, it reveal the decreasing trend in the number of villages while very low gender disparity and negative gender disparity shows the increasing trend. But overall gender disparity present increasing trend over the past three decades. The study reveals that in 1991, the co-efficient of variation in gender disparity index of villages was 56.24 percent among the villages of Kinnaur district. It increased to 84.69 percent in 2001 and again increased slightly 86.09percent in 2011 (Table1. 1).The study reveals the high pace of growth in the decade, 1991 to 2001 while gradual growth between 2001 to 2011 in gender disparity in literacy during the study period. It is also observed negative gender gap was also found in study area where female have better rate of literacy than males. But the increased coefficient of variation show the increased gender disparity in literacy in 2011.

4. Conclusion

As a result, the article offers insight into the spatiotemporal pattern of gender gap in literacy across the villages of Himachal Pradesh's Kinnaur district. This study has discovered that there is a moderate to very low gender disparity in literacy at the village level in the study area. The data shows that during the past three decades, both the proportion of male and female literates has been increasing. In fact, even though there has been a decrease in the literacy gap between 1991 and 2011, the literacy rate for women has remained low in several villages. The situation was deteriorated in 1991 and then slightly improved till 2001, although with the passage of time, there was substantial improvement. Most villages had relatively little gender discrepancy in literacy as of the 2011 Census. This increase in the number of villages in this category was primarily caused by, socioeconomic development of rural communities, modern exposure and appropriate guidance, various government initiatives for children's welfare, shifts in women's roles, and the expansion of educational resources, all of

which have resulted in positive outcomes. Additionally, the growing tendency of the negative gender gap, where women outnumber males, shows a considerable increase in the socioeconomic standing of women in the research area. The study's general findings indicate that the literacy gap between men and women has narrowed over time, however some of small villages in every tehsil revealed a poor position of female literacy. The villages in the form of Patches and clusters with high levels of gender inequality were seen throughout the district.

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