

# TEMPORAL DYNAMICS IN LITERACY OF HIMACHAL PRADESH 1971-2011

<sup>1</sup>Minakshi Patial <sup>2</sup>Abhinav Pandey <sup>3</sup>Prof. M.S.S.Rawat

<sup>1</sup>Research Scholar <sup>2</sup>Research Scholar <sup>3</sup> Professor

<sup>1</sup>H.N.B.Garhwal University, Srinagar, India

## Abstract

Literacy is essential for eradicating poverty and mental isolation for cultivating peaceful and friendly international relations and for permitting the free play of demographic process (Chandna 1980, p.98). Due to illiteracy the degree of participation in economically gainful activities among the females is low the female are often required to participate in domestic chores (Krishana and Shyam, 1973, p.204). An education country is a developed country. Literacy Levels Plays a major role in the economic development of a nation. If people are literate, there will be less violence in the country Literacy leads to good employment opportunities. Illiteracy is high in nation, then there will be more entrepreneurs and flow of money will be huge. A nation with a low unemployment rate will develop very rapidly. The present study is about the literacy levels of Himachal Pradesh in different decades. The present study has been taken for the year 1971 1981 1991 2001 and 2011 at tehsil level of Himachal Pradesh for total population, male population and female population. Some main points has been taken for the study that is temporal dynamics in literacy of Himachal Pradesh and literacy differences between genders. For this purpose I have been used Lorenz curve and gini index to show the variation. Observation reveals that there has been increased in literacy levels and disparity among gender has been reduced.

**Key words:** Temporal dynamics in Literacy level, differences in literacy level between gender, interpretation of Lorenz curve and Gini index and literacy rate.

## I: Introduction

Literacy and education are reasonably good indicators of development in a society. Spread and diffusion of literacy is generally associated with essential traits of today's civilization such as modernization, urbanization, industrialization, communication and commerce. It forms an important input in the overall development of individuals enabling them to comprehend their social, political and cultural environment better and respond to it appropriately. High level of education and literacy lead to a greater awareness and also contributes in improvement of economic conditions. It acts as a catalyst for social upliftment enhancing the returns on investments made in almost every aspect of development efforts, be it population control, health, hygiene, environmental degradation control, or empowerment of women and weaker sections of the society.

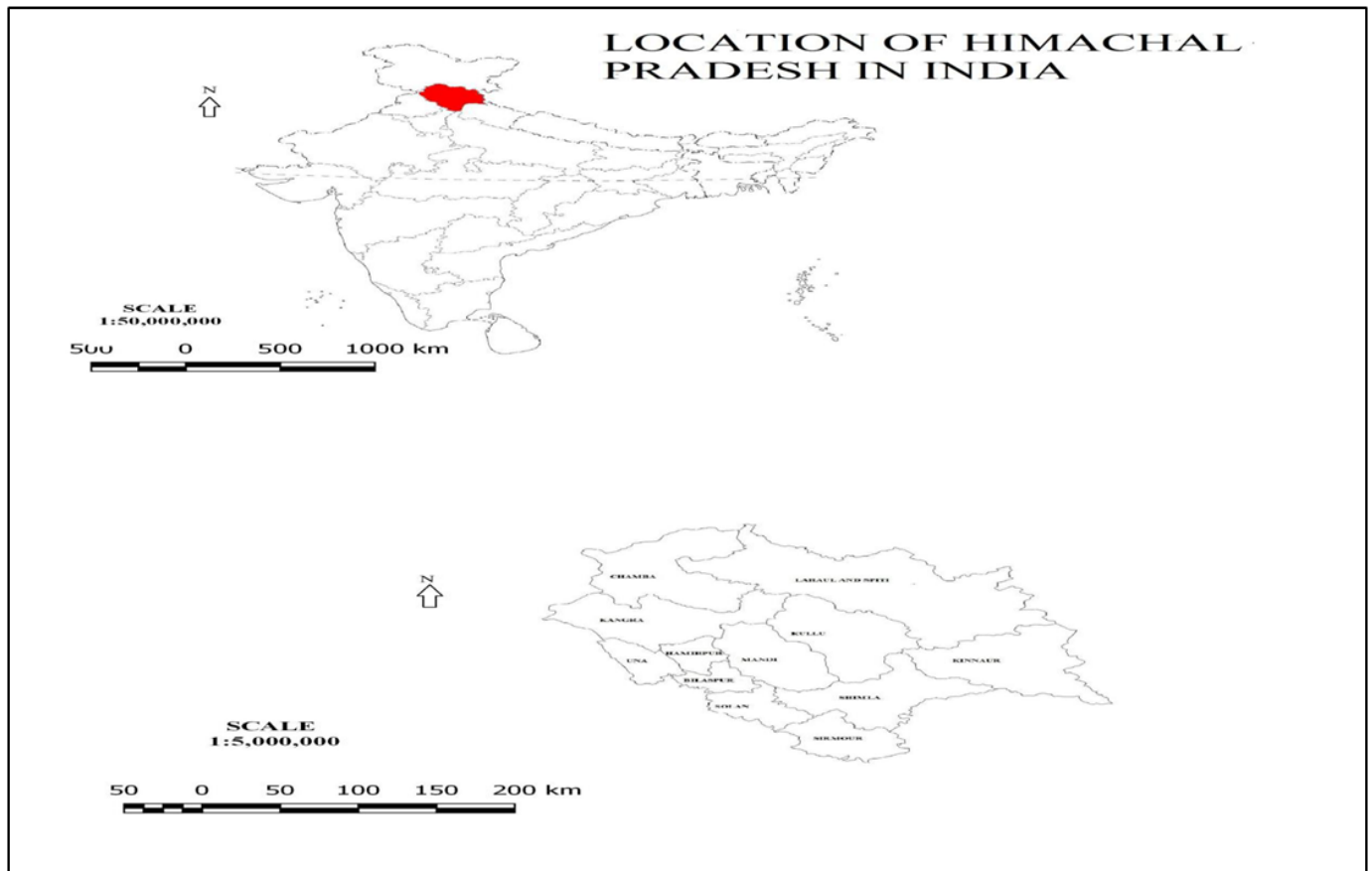
The Population Commission of United Nations considers the ability to both read and write a simple message with understanding in any language a sufficient basis for classifying a person as literate. The Indian Census has adopted this definition.

In the Indian Census a person is recorded as literate if he or she is able to read and write a simple message with understanding in any language. From 1961 to 1981 in all censuses all children below the age of 5 years were regarded as illiterate. In the 1991 census, however, all children below the age of 7 years were considered as illiterate. The study of literacy is not only significant to understand the socio cultural and economic personality of a region, but is also necessary for manpower (Dubey, 1992 p-198).

## II: Study area and its location in india

Himachal Pradesh is the study area. It is located in the Western Himalayas. The state came into existence as a part-C state on April 15, 1948, as a result of the merger of 30 Panjab and Pahari princely hill states. At that time the state comprised of only four districts, namely, Mahasu, Mandi, Sirmaur and Chamba, with a total area of 27,168 sq. km. In due course, in the wake of re-organization of states in November 1966, the geographical area of the state virtually doubled when four districts of Panjab namely, Kangra, Kullu, Lahul and Spiti and Simla were also integrated with the Himachal Pradesh. But it remained a centrally administered territory until 25<sup>th</sup> January 1971 when it was conferred with full fledged statehood and made 18<sup>th</sup> state of the Indian union. For administrative purposes the state has been divided into 10 districts in 1971. On 1st September 1972 two more districts were carved out from Kangra district into Hamirpur and Una. Una and Hamirpur were created mainly as a result of trifurcation of the erstwhile Kangra district, as a consequence where of two more new districts namely also from the then existing districts of Mahasu and Shimla, new districts of Shimla and Solan were formed by re-organising the boundaries of old districts. Presently, the state comprises 12 districts, namely, Chamba, Kangra, Una, Hamirpur, Bilaspur, Mandi, Kullu, Lahuland Spiti, Kinnaur, Shimla, Solan and Sirmaur, 109 tehsils/sub-tehsils and 75 development blocks. Himachal Pradesh is one of the nine hill states of India located in the Western Himalayas. It extends between latitude 30° 22' 40" and 33° 12' 40" North of the equator and between longitude 75° 45' 55" and 79° 04' 20" East of Greenwich. It extends roughly between the Yamuna River in the east and Ravi River in the west. The area of Himachal Pradesh is 55,673 sq.km and population according to 2011 Census is 6864602 male population is 3481873 and female population is 3382729. Sex ratio is 972. Density is 123. Literacy rate of Himachal Pradesh is 85.79 percent has rank 5th in India. Himachal Pradesh lies in the temperate to sub-tropic zone with a sub-tropical continental monsoonal type of climate. Climate has played a very important role in the growth of the population in the state of Himachal Pradesh. Himachal Pradesh is a mountainous state with elevation ranging from about 350 meters to 7,000 metres above the sea level. It is bordered by the Indian states of Jammu and Kashmir on the north, Punjab on the west and south-west, Haryana and Uttar Pradesh on the south, Uttarakhand on the south-east and by the Tibet

Autonomous Region on the east. The drainage system of Himachal is composed of both rivers and glaciers. Himalayan rivers flow across the entire mountain chain. In fact the rivers are older than the mountain system. Himachal Pradesh provides water to both the Indus and Ganges basins. The drainage systems of the region are the Chandra Bhaga, the Chenab, the Ravi, the Beas, the Satluj and the Yamuna. Study area is shown in Map no. 1.



### III: Objectives of the study

- To study the temporal changes in literacy of Himachal Pradesh between 1971 and 2011
- To study the differences in literacy level between genders of Himachal Pradesh from 1971 to 2011

### IV: Data

The present work is based on secondary data which have been obtained from the Census of India-1971, 1981, 1991, 2001 and 2011. In this work the information is entirely based on secondary data and by using these data an attempt is made to analyze the spatial patterns of total, male and female literacy at tehsil level of all India during the period from 1971 to 2011.

### V: Methodology

The formula used to calculate literacy rate for given spatial unit (district) are as follows:-

**(1) Literacy Rate:** - Literacy rate is computed by dividing the number of people who are literate by the total population aged 7+ years. The result is then multiplied by 100 to give a percentage.

$$LR = \frac{TL}{TP_{7+}} \times 100 \text{ Where } LR = \text{Literacy Rate, } TL = \text{Total Literate population}$$

$TP_{7+}$  = Total population aged 7+ years.

This formula; thus gives the number of literate persons for every hundred persons aged 7+ years in the given spatial unit.

**(2) Female Literacy Rate:** - Female literacy rate is computed by dividing the number of females who are literate by total female population aged 7+ years. The result is then multiplied by 100 to obtain percentage.

$FLR = \frac{TFL}{TFP_{7+}} \times 100$  Where  $FLR$  = Female Literacy Rate,  $TFL$  = Total Female Literate Population,  $TFP_{7+}$  = Total Female Population aged 7+ years.

This formula; thus gives the number of female literates for every hundred females aged 7+ years in the given spatial unit.

**(3) Male Literacy Rate:** - Male literacy rate is computed by dividing the number of male who are literate by the total male population aged 7+ years. The result is then multiplied by 100 to get percentage.

$MLR = \frac{TML}{TMP_{7+}} \times 100$  Where  $MLR$  = Male Literacy Rate  $TML$  = Total Male literate population,  $TMP_{7+}$  = Total Male population aged 7+ years.

This formula; thus gives the number of male literates for every hundred males aged 7+ years in the given spatial unit.

The present study is concerned with the tehsil-wise literacy among the total, male, and female population of Himachal Pradesh. A statistical method has also been used in this study for analyzing the tehsil-wise literacy. This is:-

(1) Lorenz Curve and Gini-index

• **Lorenz curve and GINI-index:-**

Lorenz curve is a graphic method for comparing spatial distribution of two variables. The degree of concentration of different variables relative to each other is shown using Lorenz curve and gini-index. It is a cumulative percentage curve in which the cumulated percentage of a variable is compared with the cumulated percentages of other variable for the purpose of obtaining a graphic representation of inequality; calculate an index of inequality and to attempt a possible explanation. The most common use of this curve has been in the study of degree of association in the distribution of income and wealth among different spatial units and over different periods of time.

Geographers have used this method to compare the distribution of area or population with that of any other variable. Lorenz Curve is used quite frequently to measure the degree of concentration in geographical patterns, especially in economic geography on data relating to areal units.

The Gini index, thus, is defined as the ratio of area between Lorenz curve and diagonal and the area of the triangle under the diagonal. It can attain a value between 0 and 1, where a value closer to 0 means that the Lorenz curve is very close to the diagonal and we have equality, whereas a value close to 1 means inequality. The Index ranges from zero (perfect association, when Lorenz Curve coincides with the diagonal) to one (total concentration, when Lorenz curve follows the axis of the graph).

**VI: Representation of data**

In this study data has been represented with the help of tables and graphs.

**Use of computer software**

Basic data analysis in the present study has been done through MS Office Excel spread sheet. Data were entered into Excel and manipulated in different ways using statistical formulas. Diagrams were also created in this programme. Especially the data analysis for making Lorenz Curve, calculating percentages and calculating GINI-Index was done in Excel environment.

**VII: Analysis and discussion**

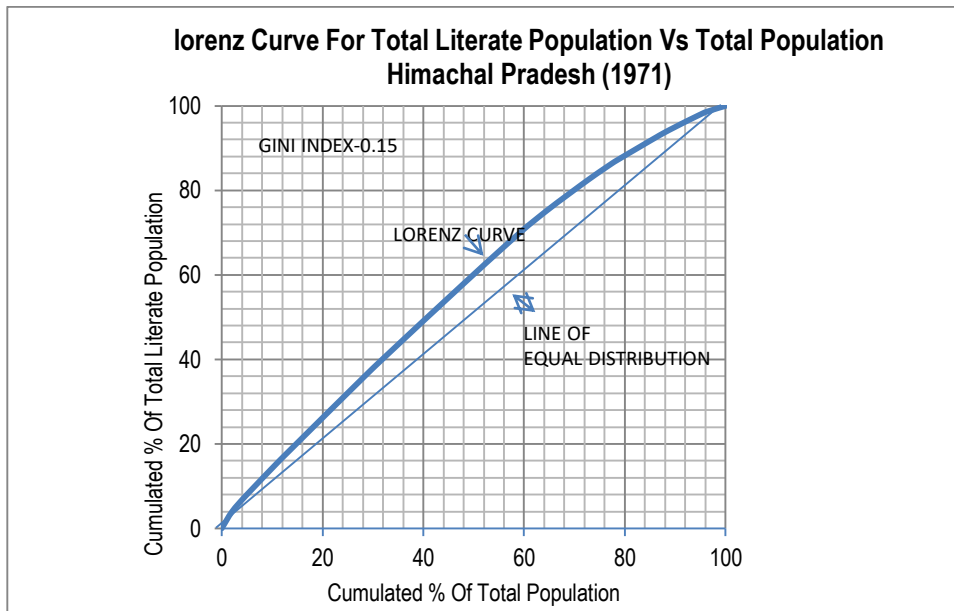
In this study efforts have been made to analyze the temporal changes as well as differences between genders of literacy levels in Himachal Pradesh at tehsil level for the year of 1971, 1981,1991,2001, and 2011. This has been achieved through the Lorenz curve and gini index.

**Interpretation of lorenz curve**

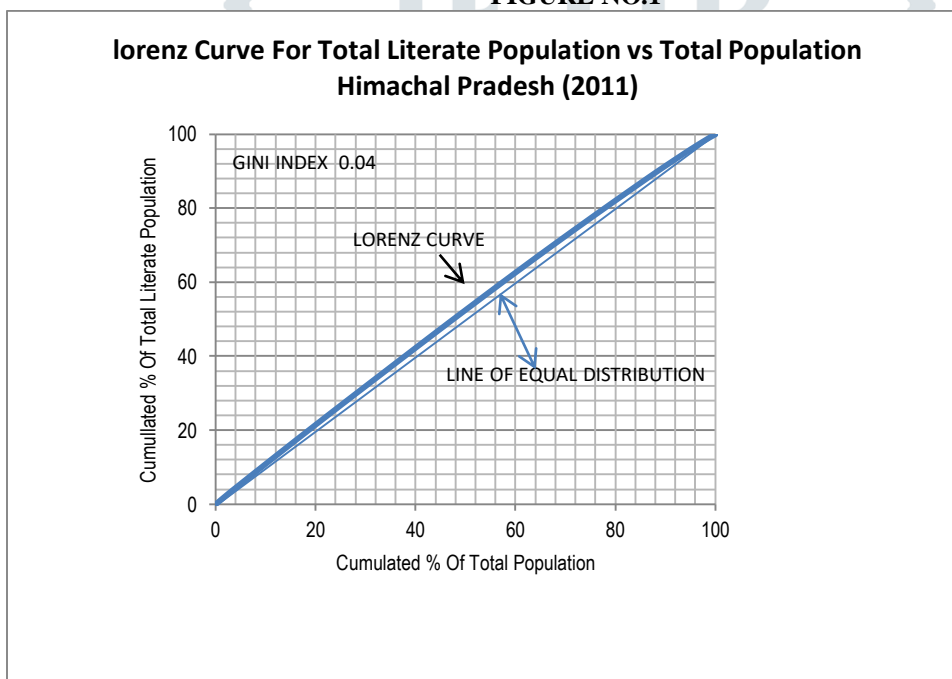
The correspondence between tehsil-wise spatial distribution of literacy has been analysed by using lorenz curve and gini-index analysis for the following:-

1. Total Literate Population and total population for the year 1971 and 2011
- 2.Total Male Literate Population and total Male population for the year 1971 and 2011
- 3.Total Female Literate Population and total Female Population for the year 1971 and 2011.

Lorenz curve for the total literate population vs total population in Himachal Pradesh at tehsil level for year 1971 is Shown in figure no.1. It shows that two distributions are somewhat dissimilar and it indicates the distribution of total literate population is to some extent relating concentrated. The gini index has the value of 0.15.The lorenz curve for the year 2011 is as seen in figure no. 2.and this shows a level of reduced inequality and the gini-index has a value of 0.04. This graph shows decreasing inequality 0.11 points.



**FIGURE NO.1**



**FIGURE NO. 2**

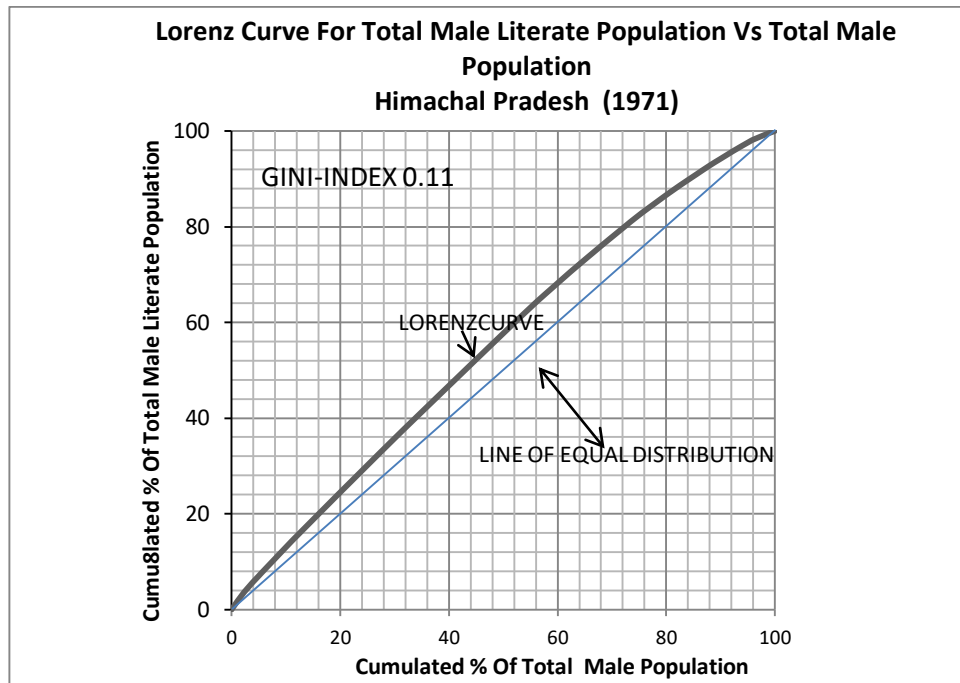


FIGURE NO.3

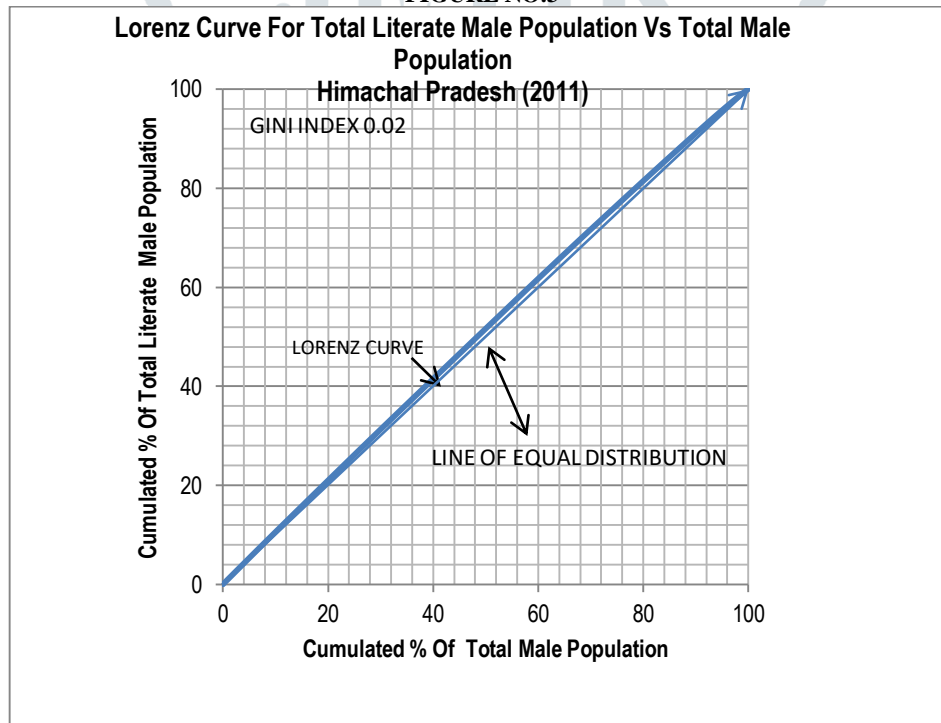


Figure No:4

Lorenz curve for the total male literate population vs total male population in Himachal Pradesh at tehsil level for the year 1971 is shown in figure no. 3. It also shows that two distribution are rather dissimilar and it indicates that inequality has been reduced from 0.11 to 0.02 in figure no. 3 and figure no.4.

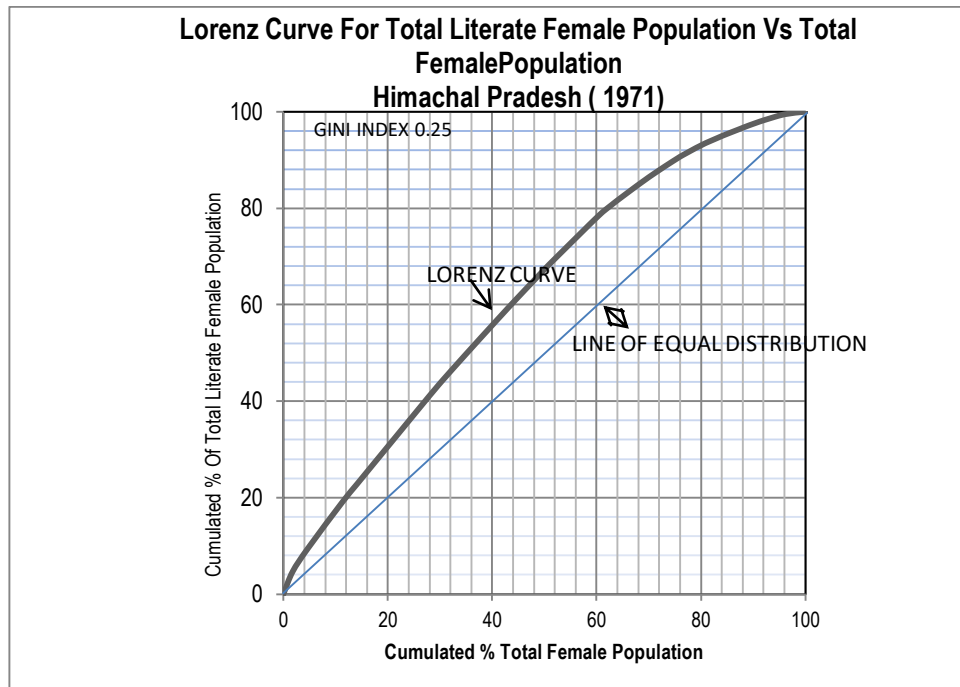


Figure no. 5

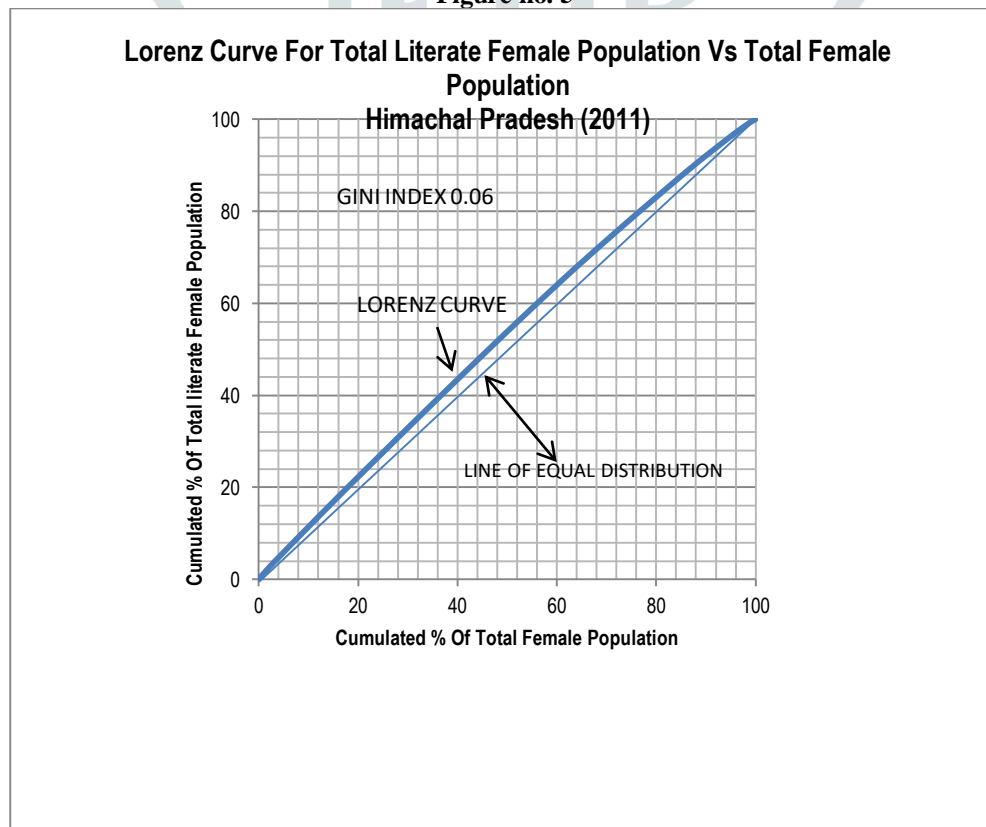


Figure no. 6

Further figure no.5 and figure no.6 depicts the lorenz curve for the literate female population vs total female population in Himachal Pradesh at tehsil level for the year 1971 and 2011 respectively. It demonstrate the wide gap between literate female population and total female population. The Gini-index has a higher value of 0.25 in 1971. This shows the lower status of women in our society, although this value has reduced to 0.06 in 2011.and still it is lower than the value of gini-index for thge male population in 1971 and 2011.but with the passage of time the gap of literacy between gender will be reduced.

An analysis of all these six figures (from figure 1 to figure 6 and gini-index values shows that two distributions have remained rather unequal throughout the period of analysis. but the magnitude the magnitude of dissimilarity was greater at the beginning of the period ,(1971) of analysis and has reduced by the end of period (2011). It has shown in table no. 1 . This can be partly attributed to the vigorous efforts on the part of government by way of opening up schools for girls in most of the area of Himachal Pradesh. The socio-economic value system also partly helped in accelerating the female literacy transition in Himachal Pradesh e.g literacy has almost become a matrimonial necessity in case of females.



**GINI-INDEX**

LITERACY VARIABLES	1971	1981	1991	2001	2011	REMARK
TOTAL POPULATION	0.15	0.13	0.10	0.05	0.04	INEQUALITY REDUCED
MALE POPULATION	0.11	0.10	0.06	0.03	0.02	INEQUALITY REDUCED
FEMALE POPULATION	0.25	0.22	0.15	0.09	0.06	INEQUALITY REDUCED

TABLE NO. 1

The two prominent conclusions that this analysis arrives at are:

- 1 The literate population in Himachal Pradesh is not distributed in the same proportion as the total population of tehsils.
- 2 There is wide gap in the literacy level between genders.

Table 2: Change In Literacy Rate (Percent) Between Genders In India (1971-2011)

LITERACY VARIABLES	1971	2011	CHANGE
TOTAL POPULATION	34.45	74.04	+39.59
MALE POPULATION	45.96	82.14	+36.18
FEMALE POPULATION	21.97	65.46	+43.49

Table 3: Change In Literacy Rate (Percent) Between Genders In Himachal Pradesh (1971-2011)

LITERACY VARIABLES	1971	2011	CHANGE
TOTAL POPULATION	31.96	82.79	+50.83
MALE POPULATION	43.19	89.53	+46.34
FEMALE POPULATION	20.23	75.92	+55.69

Indian Literacy is characterized by sharp contrasts not only between one part of the country to another but also between males and females. Such contrasts are the manifestation of differences in the socio-economic background of the concerned population. Table 2 clearly differentiates in the literacy rates between genders. One notable features of Indian literacy is that the females lag far behind the males in terms of literacy. While 21.97 per cent of males were recorded as literate in 1971, the corresponding figure for females was only 34.45 per cent. In 2011 literacy rate for male population is 82.14. and for the females it is only 65.46 percent. Its a gap of 18 per cent. On another hand in Himachal Pradesh shows better condition than the national average. In 1971 Himachal shows below the national average in all the variables for total population, male population and female population but with the passage of time State has improved its literacy rate in every variable as this shown in figure number 3.

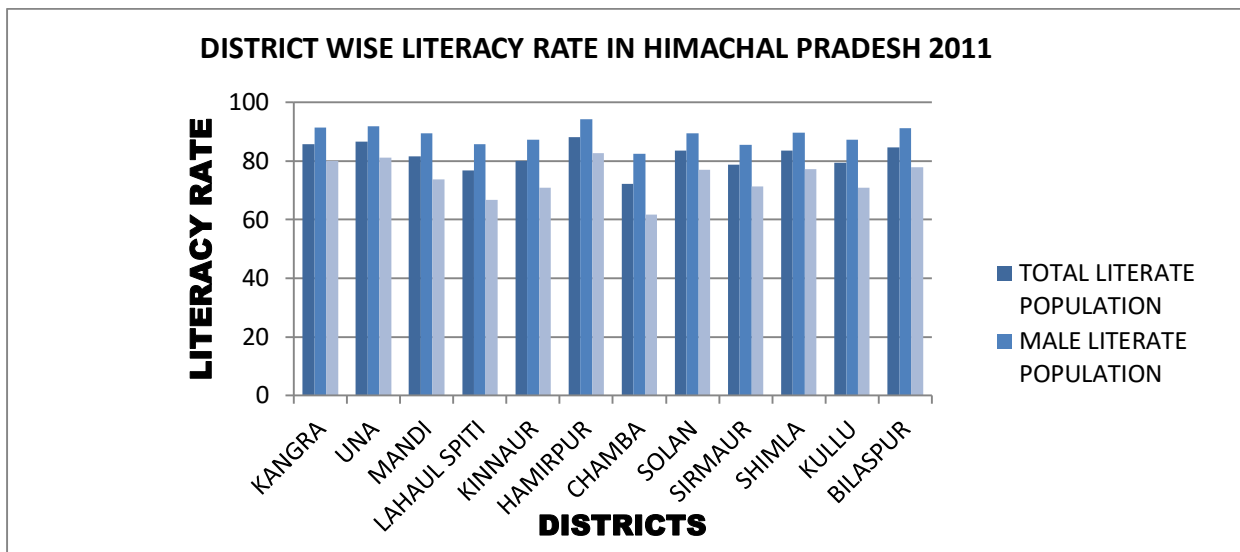


FIGURE NO. 7

Figure no. 7 representing the literacy rate of Himachal Pradesh at district level. This bar graph is showing the highest literacy rate in district Hamirpur with percentage of 88.55 and district Chamba performing the least literacy rate having 72 per cent. District Hamirpur again performing maximum male literacy rate having the value of 94.45 percent. again district chamba is performing least, its has 82 percent literacy rate. District Hamirpur has the highest literacy rate among females. Again chamba is performing poor in female literacy rate it has a value of 61.22percent.

### VII: Conclusion

In spite of slow economic progress the state of Himachal Pradesh has recorded an impressive development as a whole. Literacy constitutes one of the major social aspects in which considerable progress has been made. The present study of literacy pattern in Himachal Pradesh comprises the study of both the decade 1971 and 2011 census of state. Levels of literacy prevailing in this hill state indicate a high level of socio economic development in Himachal Pradesh. According to 1971 census of India 34.45 percent population of India could read and write the corresponding figure of for Himachal Pradesh was 32.0 percent. In 2011 census of India 74.4 percent population in India is literate, while 82.79 percent of total population of Himachal Pradesh is returned as literate. However, within a short span of 40 years the state has managed to push its literacy level to a point where a considerable gap between the national and the state values has come into exist. If we see the variations between genders the Female literacy rate of Himachal Pradesh was only 20.93 percent with the passage of time it has been raise to 75.92 percent and male population has a percentage of 43.13 in 1971 but in 2011 it has been increased to 89 percent. If we see the gini index that gender gap has been reduced. It was 0.11 for the male in 1971 and 0.25 for the female .on another hand it was 0.02 for male and 0.06 for female. During 1971 -2011, there were a lot of change in literacy. The highest changes in literacy rates occurred in those areas where well developed road network and transportation, educational facilities, literacy mission programs etc, were vigorously pursued by the government and non government organization.

The lowest changes occurred in those areas, where difficult terrain conditions, low availability of education facilities, under developed road network and transportation and poverty prevail. Various government and non-government programmes have been responsible for changing the literacy scenario. These are the national literacy mission, the SARVA SHIKSHA ABHIYAN (SSA) and adult education programme in the rural areas to name a few. Both the state and central governments have provided various educational facilities for the upliftment of the people in every district of the country.



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