

Spatial and Temporal Pattern of Gender Differential Of literacy in Haryana: 1971-2011

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Abstract

This paper examines the spatial and temporal pattern of gender differentials of literacy in Haryana during the period from 1971-2011. The study is based on secondary sources of data. Data is processed with many statistical techniques. The gender differential in literacy means the variances between males and females in terms of literacy. Literacy among males is universally recorded higher as compared to females. As a result, the gender differential in literacy is widespread in most of the less developed and developing countries of the world. India is not an exception in this regard. India is continuously improving the literacy rate which reflects the reduction of gender differentials in literacy. Literacy is a human right, a tool of personal empowerment and one of the important indicators of the socio-economic, culture and human development of a country. It is also one of the main components of Human Development Index (HDI) and Physical quality of life index (PQLI). The district-wise spatial and temporal patterns of gender differentials of literacy in Haryana have been explained by decade-wise changes during the period from 1971-2011.

Keywords: *literacy, gender differentials, human development, demographic.*

Introduction

The 21st century, women have known their right in every stage of life. But in terms of literacy women are very lag behind as compare to men. The gender differential in literacy means the variances between males and females in terms of literacy. Literacy among males is

universally recorded higher as compared to females. As a result, the gender differential in literacy is widespread in most of the less developed and developing countries of the world. The global literacy rate is 86.3 percent and the global literacy rate for all males is 90 percent and for all females is 82.7 percent. India is not an exception in this regard. India is a second largest populated country which is characterized by great disparity between male-female literacy (Krishan & Shyam, 1978). Literacy in India is predominantly male oriented. Before Independence, there were few educational institutions and socio-economic conditions were very conducive to the growth of education, especially for females. Undoubtedly, after Independence, the female literacy has increased significantly, yet it was far behind the male literacy. However, even after 74 years of Independence, the gender differential in literacy was still large. According to 2011 census, the almost three-fourth (74.04 percent) of total population recorded as literate and 82.14 percent of male population as compared to 65.46 percent of female population were recorded as literate. The gender differential in literacy is approximately 16 percent. Literacy is a basic parameter to analyse the female progress (Ramotra, 2003). It is the most significant instrument for improving the women's status from all over the world and changing women's subjugated position in the society (Kamat, 1976; Frey & Field, 2000; Magadi *et al*, 2007). Literacy is a human right, a tool of personal empowerment and one of the important indicators of the socio-economic, culture and human development of a country (Azim, 2005; Shakir, 2012). It is also one of the main components of Human Development Index (HDI) and Physical quality of life index (PQLI) (Khan, 2004; Jhariya, 2014). Literacy plays an active part in the socio-economic transformations of a society (Chandna, 2015). It is an important demographic element and also a good measurement of human progress. It is essential for social reconstruction, improvement in quality of life and preparation of manpower for rapid development (Jhariya *et al*. 2014). Literacy is the most powerful way to increase economic growth in a country (Ahmad and Narayan, 2015). It is observed that if the rate of literacy transition is low, the economic development slowed down, while the economic development is rapid then the literacy transition will be fast. Thus, there is a positive relationship between literacy and

Development. The problem of women's illiteracy is a huge area of concern not only in India but throughout the world and it's directly impacts development efforts (*Katiyar, 2016*). The gender literacy gap has gradually narrowed down with the passing of time. The female literacy made a considerable progress with the passing of time due to the changing socio-economic conditions in the state.

Study Area

The present study is related to the state of Haryana that was carved out of the former state of Punjab on 1 November, 1966 on a linguistic basis. Being a developed state of India, it has been selected as a study area to find out the spatial and temporal pattern of gender differentials of literacy in Haryana. It is situated in North-Western part of India and extends between 27°39' to 30° 35' North latitudes and 74° 28' E to 77° 36' East longitudes (Fig: 1). Haryana is 21st largest and land locked state of North India. Chandigarh, a union territory, is the capital of Haryana state. Haryana is a small state and it's covers an area of about 44212 sq.km which comprises of about 1.4 percent of the total area of the country. The altitude of Haryana varies between 700 feet to 3600 feet (200 metres to 1200 metres) above mean sea level (AMSL). It is surrounded by Himachal Pradesh in North, Uttar Pradesh and Delhi in East, Punjab and Chandigarh in North-West and Rajasthan in South and West. A large area of state is included in National Capital Region (N.C.R.). Geographically, Ghaggar River makes the North West boundary of Haryana which divides Punjab from Haryana. Shiwalik hills are situated in North Haryana. Karoh peak is the highest peak in Haryana. Yamuna River flows in the East of Haryana which separates from Uttar Pradesh. Arawali hills are situated in south and south west of Haryana which separates from Rajasthan.

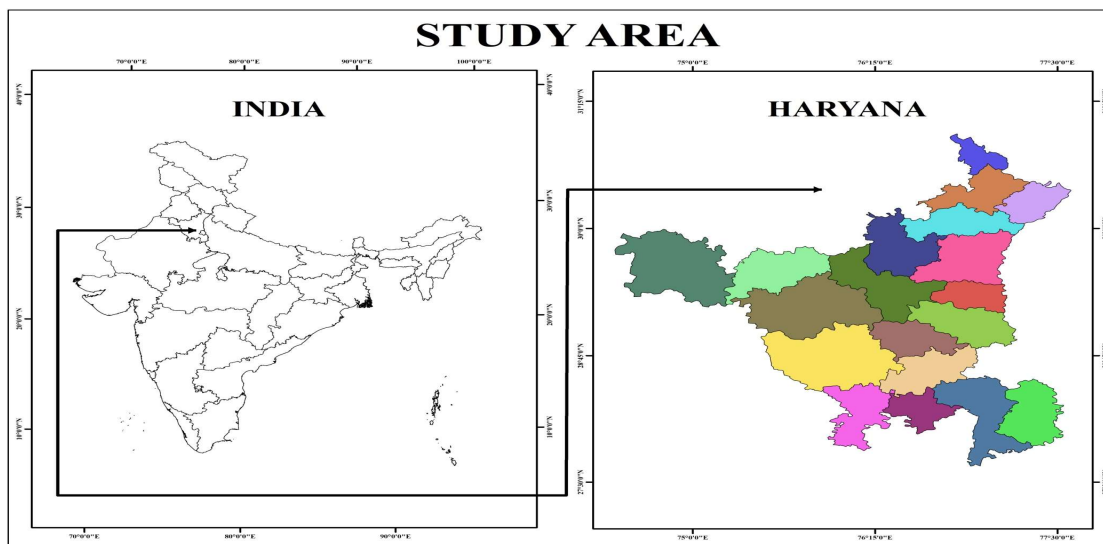


Fig: 1. Location of Study Area Map.

As per 2011 census, the total population of Haryana is 2.53crore (1.35 Crore males and 1.18 Crore female) which accounts 2.1 percent of the total population of India. Haryana is the 18th largest population state of India. It is densely populated state and its average population density is 573 persons per sq.km. The Sex ratio of the state is 879 females per 1000 males against less than the national average of 940 in 2011 and the child sex ratio (CSR) is 834 as per census 2011. The decadal growth rate (DGR) of population is 19.90 percent. Presently, literacy rate in Haryana is more than national average. The literacy rate of the state is 75.55 percent and ranks 22st position at all India ranking of literacy rate in the present census. The male literacy rate is 84.06 percent and the female literacy rate is 65.94 percent. As per 2011 census, Gurugram has the highest literacy rate in Haryana at 84.7 percent and Mewat has the lowest literacy rate in the state at 54.1 percent. Rewari has the highest male literacy rate in Haryana and Gurugram has the highest female literacy rate in Haryana. Mewat has the lowest male-female and total literacy in Haryana.

Objective

- To analyse the differential between male-female literacy rate in Haryana from 1971-2011, respectively.

Database and Methodology

The study refers to presenting the spatial and temporal pattern of gender differential in literacy at district level in Haryana from 1971-2011. The districts have been considered the most appropriate unit of study for which data are available. The study is based primarily on the secondary data obtained from a variety of authentic government sources. The secondary data of literacy has been used for the year of 1971-2011. The district level literacy data is collected from the different published sources like Census of India (censusindia.gov.in), Statistical abstract of Haryana, Census Handbook of Haryana, A portrait of population Haryana, Census abstract of Haryana, Census of Haryana (censusharyana.gov.in), District Census Handbook, Primary Census Abstract of Haryana published by Census of India. One of the most important stages of research work is the collection of data.

The methodology has been adopted in the present study is in correspondence with the basic objectives of the study. The present study is an attempt to focus on the spatial and temporal pattern of gender differential in literacy at district level in Haryana during the period from 1971-2011. The systematic presentation of data is the core of any research work; therefore, the data collected on literacy will be tabulated using the various statistical techniques. The census map of Haryana (1971-2011) showing the district boundaries has been adopted as the base map. The study area maps have been prepared with the help of ArcGIS 10.3 software. First of all, the literacy rate was calculated of all the districts during the period from 1971-2011.

The literacy rate is calculated by using the following formula which is used by census of India in 1971-1981:-

$$\text{Literacy rate} = \frac{\text{literate Population}}{\text{Total Population} - (0-4 \text{ Age group})} \times 100$$

The literacy rate is calculated by using the following formula which is used by census of India in 1991-2011:-

$$\text{Literacy rate} = \frac{\text{literate Population}}{\text{Total Population} - (0-6 \text{ Age group})} \times 100$$

The census data has been collected on the basis of formation of administrative districts and thus, seven to twenty-one districts have been taken in account for studying the spatial and

temporal pattern of gender differential of literacy in Haryana during the entire period 1971-2011. All relevant data were analyzed by using different methods and represented through 'tables and maps'. Further data were processed, analyzed and interpreted to arrive at some conclusion.

The spatial and temporal pattern of district-wise gender differentials in literacy during the period from 1971-2011 were used to show the various Choropleth maps. Choropleth maps were prepared with the help of ArcGIS 10.3 software. The following formulas have been used in the present analysis.

The gender differential in literacy has been calculated by using the following formula:

$$DI = M - F$$

Where:

DI= Differentials index

M= Male literacy rate

F = Female literacy rate

The gender differentials index in literacy is a more sophisticated measure. The gender differentials index in literacy has been calculated by using the following formula:

$$DI = M - F / T$$

Where:

DI= Differentials index

M= Male literacy rate

F = Female literacy rate

T = Total literacy rate

After using these methods, the spatial and temporal pattern of the gender differential index in literacy of the study area can be classified into five categories namely very low, low, moderate, high and very high. The interval between the categories can be classified by using the following range formula (Range = Maximum value - Minimum value).

Result and discussion

Starting originally with seven districts and one division, currently the state has divided into six administration divisions (Ambala, Karnal, Hisar, Rohtak and Gurgaon, Faridabad) and twenty two districts in Haryana. In 1971 census, the state had only seven districts namely, Ambala, Karnal, Rohtak, Jind, Hisar, Mahendragarh and Gurgaon. In 1981 census, the five more districts were added in Haryana, the state was reorganized into twelve districts and the newly introduced districts were Kurukshetra, Sonipat, Sirsa, Bhiwani and Faridabad. In 1991 census, the four more districts were added in Haryana, the state had sixteen districts; Yamunanagar, Kaithal, Panipat and Rewari were newly introduced. In 2001 census, the three more districts were added, there were nineteen districts in Haryana and the newly introduced districts were Panchkula, Jhajjar and Fatehabad. According to 2011 census, the two more districts were added in Haryana, the state had twenty-one districts; Palwal and Mewat were newly introduced districts (Table: 1 and figure: 2). As the new districts were introduced, they were added separately in every new census year.

Table: 1 Number and Name of district in Haryana according to Census year (1971-2011)

Census Year	Number of Districts	Name of the Districts
1971	7	Ambala, Karnal, Rohtak, Jind, Hisar, Mahendragarh, Gurgaon
1981	12	Ambala, Karnal, Rohtak, Jind, Hisar, Mahendragarh, Gurgaon, Kurukshetra, Sonipat, Sirsa, Bhiwani, Faridabad

1991	16	Ambala, Karnal, Rohtak, Jind, Hisar, Mahendragarh, Gurgaon, Kurukshetra, Sonipat, Sirsa, Bhiwani, Faridabad, Yamunanagar, Kaithal, Panipat, Rewari
2001	19	Ambala, Karnal, Rohtak, Jind, Hisar, Mahendragarh, Gurgaon, Kurukshetra, Sonipat, Sirsa, Bhiwani, Faridabad, Yamunanagar, Kaithal, Panipat, Rewari, Panchkula, Jhajjar, Fatehabad
2011	21	Ambala, Karnal, Rohtak, Jind, Hisar, Mahendragarh, Gurgaon, Kurukshetra, Sonipat, Sirsa, Bhiwani, Faridabad, Yamunanagar, Kaithal, Panipat, Rewari, Panchkula, Jhajjar, Fatehabad, Palwal, Mewat

***Source:** Census of India (1971-2011)

- (1) **Census of India (1971)**, Provisional Population Totals: Paper 1 of 1971, Series-6, Haryana (1971), Supplement, Director of census operation, Haryana, India.
- (2) **Census of India (1981)**, a portrait of population Haryana (1981), Directorate of census operation Haryana, Chandigarh.
- (3) **Census of India (1991)**, Provisional Population Totals: Paper-1 of 1991, Series 8, Haryana (1991), Supplement, Director of census operation, Haryana, India.
- (4) **Census of India (2001)**, Provisional Population Totals: Paper-1 of 2001, Series 7, Haryana (2001), Director of census operation, Haryana, India.
- (5) **Census of India (2011)**, Provisional Population Totals: Paper-1 of 2011, Series 7, Haryana (2011), Directorate of census operation, Haryana, India.

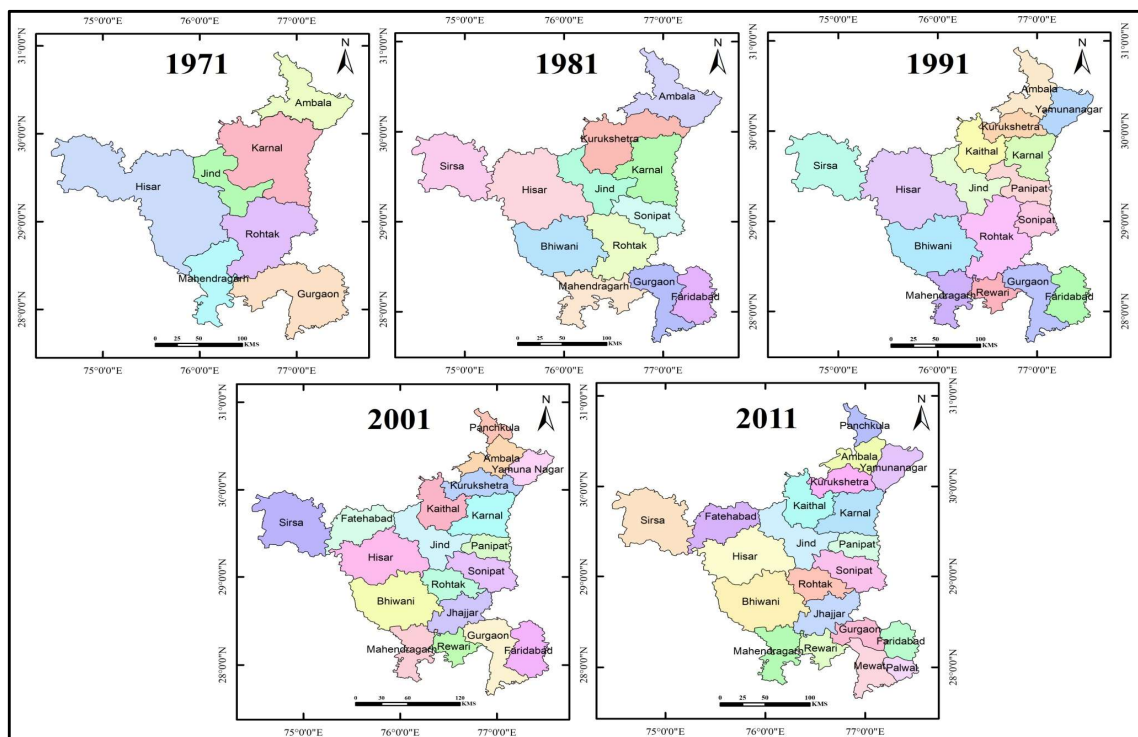
HARYANA: DISTRICT MAP (1971-2011)

Fig: 2. Districts map in Haryana during the period from 1971-2011.

Spatial and Temporal Pattern of Gender Differential Index in Literacy: 1971-2011

The spatial and temporal patterns of gender differential on the basis of gender differential index in literacy. The gender differential in literacy is prevalent in most of the developing countries of the world and India is not an exception. In India, female literacy rate in Rajasthan, Bihar, Jharkhand, Uttar Pradesh and Andhra Pradesh was very low as compared to male literacy rate in 2011. All states with low female literacy experienced high gender differential index in literacy which is more than the national average (16.68 percent). There is a close relationship between gender literacy and gender differential in literacy in all states and union territories in India. The gender differential in literacy is also inversely related with both the male literacy and female literacy.

In Haryana, the total literacy rate, which has increased from 26.69 percent to 75.55 percent during the period from 1971-2011. The male-female literacy rate in Haryana, has increased from 37.29 and 14.68 percent to 84.05 and 65.94 percent during the period of 1971-2011. The female literacy rate has been lower than male literacy rates. As per 1971 census, the gender literacy gap was approximately 22 percent. The gender differential index in literacy was highest (1.17) in the district of Mahendragarh and lowest (0.47) in the district of Ambala. The district-wise male-female literacy rate in Haryana has shown remarkable progress during the period of 1971 to 2011. As per 2011 census, the gender literacy gap was approximately 18 percent. The gender differential index value in literacy was highest (0.62) in the district of Mewat which also had a lowest literacy rate among both male and female population and lowest (0.14 percent) in the district of Panchkula which also displayed high literacy differential between males and females. The gender literacy gap has gradually narrowed down with passing of time. The gender differential index also decreased significantly from 0.85 to 0.24 percent during the period from 1971-2011. The last five decade has witnessed a considerable decline in the value of gender differential index in literacy (Table: 3). This decrease is related to the increase in female literacy in the state. The gender differential index value increase as the literacy rate decrease and the literacy rate increase as the gender differential index value decrease. The value of gender differential index is inversely related with the male and female literacy. Hence, the male-female literacy were low in less developed areas where differential index value was high and the male-female literacy were high in developed areas where differential index value was low.

The district-wise gender differential index value of literacy in Haryana has shown remarkable progress during the period from 1971-2011. The gender differential index value in literacy displayed large spatial and temporal inequalities of literacy patterns from one part to another parts of the state. The spatial and temporal pattern of district-wise gender differential index in literacy is not uniform and even. There are notable variations. The spatial

and temporal pattern of district-wise gender differential index in literacy in the state during the period from 1971-2011 is presented in table: 4 and figure: 3.

The spatial and temporal pattern of the gender differential index in literacy of the state can be classified on the basis of gender differential index in literacy into five categories namely very low, low, moderate, high and very high. The interval between the categories can be classified by using the following range formula (Range = Maximum value - Minimum value)

1. Area of very high gender differential index in literacy (above 0.96)
2. Area of high gender differential index in literacy (0.76-0.95)
3. Area of moderate gender differential index in literacy (0.56-0.75)
4. Area of low gender differential index in literacy (0.36-0.55)
5. Area of very low gender differential index in literacy (below 0.35)

Table: 2

Haryana: Gender Differential in Literacy: 1971-2011

Gender Differential in Literacy						
Sr.No.	Districts	1971	1981	1991	2001	2011
1	Ambala	16.8	19.0	18.5	14.6	11.9
2	Karnal	19.0	22.9	24.5	17.9	15.0
3	Rohtak	25.7	29.6	30.5	21.1	15.9
4	Jind	21.1	26.0	31.7	25.6	20.0
5	Hisar	21.7	24.7	29.3	23.3	19.9
6	Mahendragarh	30.1	35.0	40.7	32.1	25.3
7	Gurgaon	24.7	27.9	33.5	28.8	12.6
8	Kurukshetra		20.2	23.0	24.7	14.2
9	Sonapat		28.5	28.9	23.1	17.4
10	Sirsa		20.7	17.1	19.8	15.8

11	Bhiwani		31.9	35.8	28.8	22.1
12	Faridabad		29.6	32.4	27.3	14.8
13	Yamunanagar			19.7	13.2	12.5
14	Kaithal			26.3	21.5	18.6
15	Panipat			26.3	22.0	16.2
16	Rewari			36.4	27.8	21.9
17	Panchkula				13.8	11.6
18	Jhajjar				25.2	18.6
19	Fatehabad				22.2	17.5
20	Palwal					28.4
21	Mewat					33.3
	Haryana	22.6	25.9	28.6	22.8	18.1

Source: Differentials are calculated as= (Male literacy- Female literacy)

- (1) **Census of India (1971)**, Provisional Population Totals: Paper 1 of 1971, Series-6, Haryana (1971), Supplement, Director of census operation, Haryana, India.
- (2) **Census of India (1981)**, a portrait of population Haryana (1981), Directorate of census operation Haryana, Chandigarh.
- (3) **Census of India (1991)**, Provisional Population Totals: Paper-1 of 1991, Series 8, Haryana (1991), Supplement, Director of census operation, Haryana, India.
- (4) **Census of India (2001)**, Provisional Population Totals: Paper-1 of 2001, Series 7, Haryana (2001), Director of census operation, Haryana, India.
- (5) **Census of India (2011)**, Provisional Population Totals: Paper-1 of 2011, Series 7, Haryana (2011), Directorate of census operation, Haryana, India.

Table: 3

Haryana: Gender Differential index in Literacy: 1971-2011

Gender Differential Index in Literacy						
Sr.No.	Districts	1971	1981	1991	2001	2011
1	Ambala	0.47	0.42	0.28	0.19	0.15
2	Karnal	0.76	0.62	0.44	0.26	0.20
3	Rohtak	0.85	0.69	0.49	0.28	0.20
4	Jind	1.12	0.97	0.67	0.41	0.28

5	Hisar	0.91	0.83	0.62	0.36	0.27
6	Mahendragarh	1.17	0.90	0.71	0.46	0.33
7	Gurgaon	0.89	0.78	0.64	0.45	0.15
8	Kurukshetra		0.62	0.39	0.35	0.19
9	Sonapat		0.70	0.45	0.31	0.22
10	Sirsa		0.69	0.37	0.32	0.23
11	Bhiwani		0.94	0.66	0.42	0.29
12	Faridabad		0.74	0.54	0.39	0.18
13	Yamunanagar			0.33	0.18	0.16
14	Kaithal			0.62	0.36	0.26
15	Panipat			0.48	0.32	0.21
16	Rewari			0.56	0.37	0.27
17	Panchkula				0.18	0.14
18	Jhajjar				0.35	0.23
19	Fatehabad				0.38	0.26
20	Palwal					0.41
21	Mewat					0.62
	Haryana	0.85	0.72	0.52	0.34	0.24

Source: Differential index are calculated as= (Male literacy- Female literacy/ Total literacy)

- (1) **Census of India (1971)**, Provisional Population Totals: Paper 1 of 1971, Series-6, Haryana (1971), Supplement, Director of census operation, Haryana, India.
- (2) **Census of India (1981)**, a portrait of population Haryana (1981), Directorate of census operation Haryana, Chandigarh.
- (3) **Census of India (1991)**, Provisional Population Totals: Paper-1 of 1991, Series 8, Haryana (1991), Supplement, Director of census operation, Haryana, India.
- (4) **Census of India (2001)**, Provisional Population Totals: Paper-1 of 2001, Series 7, Haryana (2001), Director of census operation, Haryana, India.
- (5) **Census of India (2011)**, Provisional Population Totals: Paper-1 of 2011, Series 7, Haryana (2011), Directorate of census operation, Haryana, India.

1. Area of Very High Gender Differential Index in Literacy (above 0.96)

All those districts which recorded the value of gender differential index in literacy above 0.96 have been classified as the areas of very high gender differential index in literacy:

In 1971 census, the average gender differential index value in literacy was 0.85. Mahendragarh (1.17) district recorded the highest gender differential index value in literacy while; Ambala (0.47) district recorded the lowest gender differential index value in literacy of the state. The state had only seven districts namely Ambala, Karnal, Rohtak, Jind, Hisar, Mahendragarh and Gurgaon. Out of seven districts, only two districts namely, Mahendragarh (1.17) and Jind (1.12) recorded a very high gender differential index value in literacy. The gender differential index value was extremely high in both two districts in which the differential index value was recorded above 0.96. (Table: 4 and Figure: 3) shows that the central and the south-western parts of Haryana recorded a very high gender differential index in literacy.

In 1981 census, the average gender differential index value in literacy was 0.72. Jind (0.97) district recorded the highest gender differential index value in literacy while; Ambala (0.42) district recorded a lowest gender differential index value in literacy of the state. Five more districts were added in Haryana, the state was reorganized into twelve districts and the newly introduced districts were Kurukshetra, Sonapat, Sirsa, Bhiwani and Faridabad. Out of twelve districts, only one districts namely, Jind (0.97) recorded a very high gender differential index value in literacy. The gender differential index value was extremely high in one district in which the differential index value was recorded above 0.96. Jind district held the same position as the previous census of 1971. (Table: 4 and Figure: 3) shows that the only single Jind district of Haryana recorded a very high gender differential according to the value of gender differential index in literacy. According to 1991, 2001 and 2011 census, none of the district exists in this category.

2. Area of High Gender Differential Index in Literacy (0.76-0.95)

All those districts which recorded the value of gender differential index in literacy between 0.76-0.95 have been classified as the areas of high gender differential index in literacy:

In 1971 census, the average gender differential index value in literacy was 0.85. Mahendragarh (1.17) district recorded the highest gender differential index value in literacy while; Ambala (0.47) district recorded a lowest gender differential index value in literacy of the state. Out of seven districts, four districts namely, Karnal (0.76), Rohtak (0.85), Gurgaon (0.89) and Hisar (0.91) recorded a high gender differential index value in literacy. The gender differential index value was high in four districts in which the differential index value was recorded between 0.76-0.95. (Table: 4 and Figure: 3) shows that the eastern, western, central and south-eastern parts of Haryana recorded high gender differential according to the value of gender differential index in literacy.

In 1981 census, the average gender differential index value in literacy was 0.72. Jind (0.97) district recorded the highest gender differential index value in literacy while; Ambala (0.42) district recorded a lowest gender differential index value in literacy of the state. Out of twelve districts, four districts namely, Gurgaon (0.78), Hisar (0.83), Mahendragarh (0.90) and Bhiwani (0.94) recorded a high gender differential index value in literacy. The gender differential index value was high in four districts in which the differential index value was recorded between 0.76- 0.95. Mahendragarh district has transferred their position from very high to high according to the value of gender differential index in literacy as the previous census of 1971. Hisar and Gurgaon districts held the same position as the previous census of 1971. (Table: 4 and Figure: 3) shows that the western and the southern parts of Haryana recorded a high gender differential index value in literacy. According to 1991, 2001 and 2011 census, none of the district exists in this category.

3. Area of Moderate Gender Differential Index in Literacy (0.56-0.75)

Area of moderate gender differential index in literacy is the transition zone between areas of high gender differential index value and low gender differential index value. All those districts which recorded a gender differential index value in literacy between 0.56-0.75 have been classified as the areas of moderate gender differential index in literacy. According to 1971 and 2001 census, none of the district exists in this category.

In 1981 census, the average gender differential index value in literacy was 0.72. Jind (0.97) district recorded the highest gender differential index value in literacy while; Ambala (0.42) district recorded a lowest gender differential index value in literacy of the state. Out of twelve districts, six districts namely, Karnal (0.62), Kurukshetra (0.62), Sirsa (0.69), Rohtak (0.69), Sonapat (0.70) and Faridabad (0.74) recorded the moderate gender differential index value in literacy. The gender differential index value was moderate in six districts in which the differential index value was recorded between 0.56- 0.75. Karnal and Rohtak district have transferred their position from high to moderate according to the value of gender differential index in literacy as the previous census of 1971. (Table: 4 and Figure: 3) shows that the eastern, central and the single district of western and south-eastern parts of Haryana recorded a moderate value according to the gender differential index value in literacy.

Table: 4 Spatial and Temporal Pattern of Gender Differential index in Literacy: 1971-2011

Census Year	District 1971	District 1981	District 1991	District 2001	District 2011
Category	Haryana (0.85)	Haryana (0.72)	Haryana (0.52)	Haryana (0.34)	Haryana (0.24)
Very High (above 0.96 percent)	Mahendragarh, Jind	Jind			
High (0.76-0.95 percent)	Hisar, Karnal, Rohtak, Gurgaon	Hisar, Bhiwani, Gurgaon, Mahendragarh			
Moderate (0.56-0.75 percent)		Sirsa, Karnal, Kurukshetra, Rohtak, Sonipat, Faridabad	Jind, Hisar, Kaithal, Bhiwani, Gurgaon, Rewari, Mahendragarh		Mewat
Low (0.36-0.55 percent)	Ambala	Ambala	Sirsa, Karnal, Panipat, Kurukshetra, Rohtak, Sonipat, Faridabad,	Jind, Hisar, Fatehabad, Kaithal Bhiwani, Rewari, Gurgaon, Faridabad, Mahendragarh	Palwal

Very Low (below 0.35)			Ambala, Yamunanagar	Ambala, Panchkula, Karnal, Panipat, Rohtak, Jhajjar, Sonipat, Kurukshetra, Yamunanagar, Sirsa	Rewari, Gurgaon, Ambala, Panchkula, Rohtak, Jhajjar, Sonipat, Mahendragarh, Faridabad, Bhiwani, Jind, Hisar, Fatehabad, Sirsa, Kaithal, Karnal, Panipat, Kurukshetra, Yamunanagar
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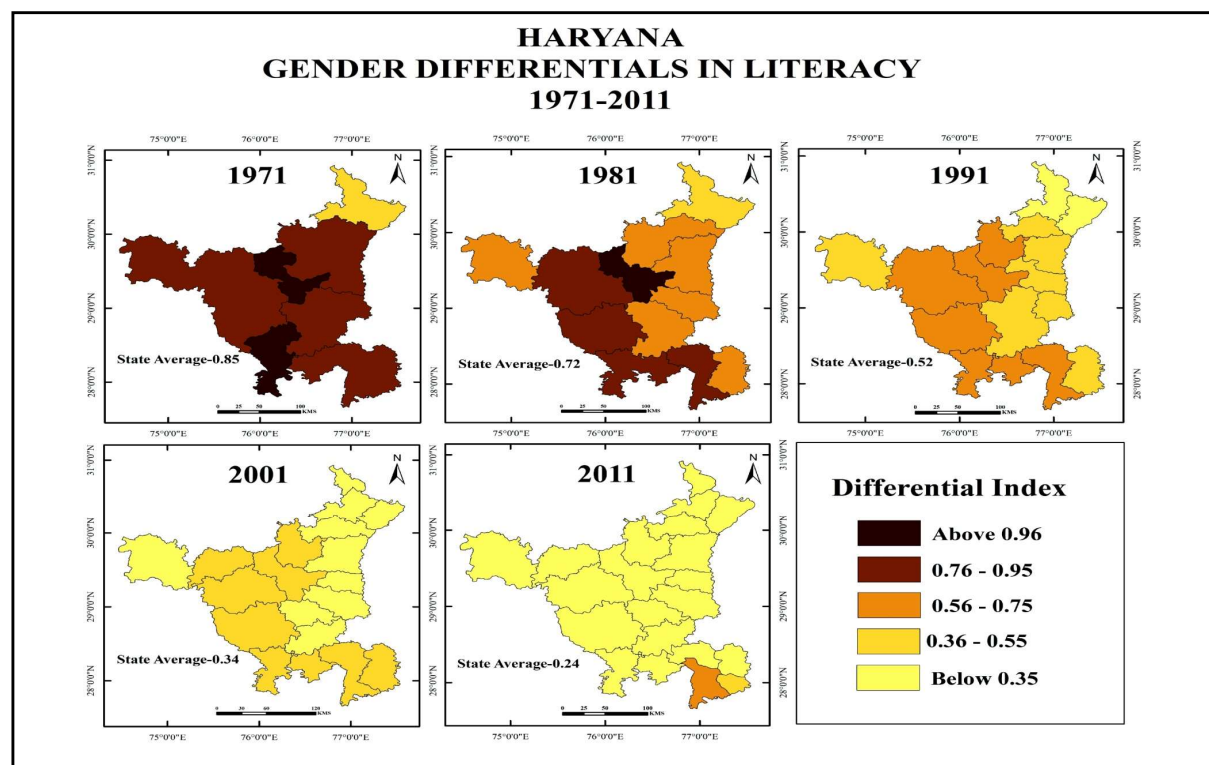


Fig: 3. Gender differential index of literacy in Haryana during the period from 1971-2011.

In 1991 census, the average gender differential index value in literacy was 0.52. Mahendragarh (0.71) district recorded the highest gender differential index value in literacy while; Ambala (0.28) district recorded a lowest gender differential index value in literacy of the state. Four more districts were added in Haryana, the state had sixteen districts; Yamunanagar, Kaithal, Panipat and Rewari were newly introduced districts. Out of sixteen districts, seven districts namely, Rewari (0.56), Hisar (0.62), Kaithal (0.62), Gurgaon (0.64), Bhiwani (0.66), Jind (0.67) and Mahendragarh (0.71) recorded a moderate gender differential index value in literacy. The gender differential index value was moderate in seven districts in which the differential index value was recorded between 0.56- 0.75. Jind district has transferred their position from very high to moderate according to the value of gender differential index in literacy as the previous census of 1981. Hisar, Gurgaon, Bhiwani and Mahendragarh district have transferred their position from high to moderate according to the value of gender differential index in literacy as the previous census of 1981. (Table: 4 and Figure: 3) shows that the western and southern parts of Haryana recorded a moderate gender differential index value in literacy.

In 2011 census, the average gender differential index value in literacy was 0.24. Mewat (0.62) district recorded the highest gender differential index value in literacy while; Panchkula (0.14) district recorded the lowest gender differential index value in literacy of the state. Two more districts were added in Haryana, the state had twenty-one districts; Palwal and Mewat were newly introduced districts. Out of twenty-one districts, only single districts namely, Mewat (0.62) recorded a moderate gender differential index value in literacy because of pre-dominance of backward Muslims population in the district which gave less attention towards education. The gender differential index value was moderate in single districts in which the differential index value was recorded between 0.56- 0.75. (Table: 4 and Figure: 3) shows that the only Mewat district in southern part of Haryana recorded a moderate gender differential index value in literacy. The last decade (2001-2011) recorded great progress in male-female literacy rate in most of the districts in Haryana. Only a single district recorded a moderate gender differential index value in literacy.

4. Area of Low Gender Differential Index in Literacy (0.36-0.55)

All those districts which recorded the value of gender differential index in literacy between 0.36-0.55 have been classified as the areas of low gender differential index in literacy:

In 1971 census, the average gender differential index in literacy was 0.85. Mahendragarh (1.17) district recorded the highest gender differential index value in literacy while; Ambala (0.47) district recorded the lowest gender differential index value in literacy of the state. Out of seven districts, only single districts namely, Ambala (0.47 percent) recorded a low gender differential index value in literacy. The gender differential index value was low in single district in which the differential index value was recorded between 0.36-0.55. (Table: 4 and Figure: 3) shows that the northern parts of Haryana recorded a low gender differential index value in literacy.

In 1981 census, the average gender differential index value in literacy was 0.72. Jind (0.97 percent) district recorded the highest gender differential index value in literacy while; Ambala (0.42) district recorded the lowest gender differential index value in literacy of the state. Out of twelve districts, only a single district namely, Ambala (0.42) recorded a low gender differential index value in literacy. The gender differential index value was low in single district in which the differential index value was recorded between 0.36-0.55. Ambala district held the same position as the previous census of 1971. (Table: 4 and Figure: 3) again shows that the northern part of Haryana recorded a low value according to the gender differential index in literacy.

In 2001 census, the average gender differential index value in literacy was 0.34. Mahendragarh (0.46) district recorded the highest gender differential index value in literacy while; Panchkula (0.18) and Yamunanagar (0.18) districts recorded the lowest gender differential index value in literacy of the state. Three more districts were added, and there were nineteen districts in Haryana and the newly introduced districts were Panchkula, Jhajjar and Fatehabad. Out of nineteen districts, nine districts namely, Hisar (0.36), Kaithal (0.36), Rewari (0.37), Fatehabad (0.38), Faridabad (0.39), Jind (0.41), Bhiwani (0.42), Gurgaon (0.45) and Mahendragarh (0.46) recorded a low gender differential index value in literacy.

The gender differential index value was low in nine districts in which the differential index value was recorded between 0.36- 0.55. Jind, Hisar, Kaithal, Bhiwani, Gurgaon, Rewari and Mahendragarh districts have transferred their position from moderate to low according to the value of gender differential index in literacy as the previous census of 1991. Faridabad district held the same position as the previous census of 1991. (Table: 4 and Figure: 3) shows that the western and the southern parts of Haryana recorded a low gender differential index value in literacy.

In 2011 census, the average gender differential index value in literacy was 0.24. Mewat (0.62) district recorded the highest gender differential index value in literacy while; Panchkula (0.14) district recorded the lowest gender differential index value in literacy of the state. Out of twenty-one districts, only single districts namely, Palwal (0.41) recorded a low gender differential index value in literacy because of pre-dominance of backward Muslims population in the district which gave less attention towards education. The gender differential index value was low in single districts in which the differential index value was recorded between 0.36- 0.55. In these districts, (Table: 4 and Figure: 3) shows that the only Palwal district in southern parts of Haryana recorded a low gender differential index value in literacy. The last decade (2001-2011) recorded great progress in male-female literacy rate in most of the districts in Haryana. Only single district has recorded a low gender differential index value in literacy.

5. Area of Very Low Gender Differential Index in Literacy (Below 0.35)

All those districts which recorded a gender differential index value in literacy was below 0.35 have been classified as the areas of very low gender differential index in literacy. According to 1971 and 1981 census, none of the district exists in this category.

In 1991 census, the average gender differential index value in literacy was 0.52. Mahendragarh (0.71) district recorded the highest gender differential index value in literacy while; Ambala (0.28) district recorded the lowest gender differential index value in literacy of the state. Out of sixteen districts, only two districts namely, Ambala (0.28) and Yamunanagar (0.33) recorded a very low gender differential index value in literacy. The gender differential

index value was very low in two districts in which the differential index value was recorded below 0.36. Ambala district has transferred their position from low to very low according to the gender differential index value in literacy as the previous census of 1981. (Table: 4 and Figure: 3) shows that the northern part of Haryana recorded a very low gender differential index value in literacy.

In 2001 census, the average gender differential index value in literacy was 0.34. Mahendragarh (0.46) district the highest gender differential index value in literacy while; Panchkula (0.18) and Yamunanagar (0.18) districts recorded the lowest gender differential index value in literacy of the state. Out of nineteen districts, ten districts namely, Panchkula (0.18), Yamunanagar (0.18), Ambala (0.19), Karnal (0.26), Rohtak (0.28), Sonipat (0.31), Panipat (0.32), Sirsa (0.32), Jhajjar (0.35) and Kurukshetra (0.35) recorded a very low gender differential index value in literacy. The gender differential index value was very low in ten districts in which the differential index value was recorded below 0.36. Sirsa, Karnal, Panipat, Kurukshetra, Rohtak and Sonipat districts have transferred their position from low to very low according to the gender differential index value in literacy as the previous census of 1991. Ambala and Yamunanagar districts held the same position as the previous census of 1991. (Table: 4 and Figure: 3) shows that the northern, eastern, central and the single district of western parts of Haryana recorded a very low gender differential index value in literacy.

In 2011 census, the average gender differential index value in literacy was 0.24. Mewat (0.62) district recorded the highest gender differential index value in literacy while; Panchkula (0.14) district recorded the lowest gender differential index value in literacy of the state. Out of twenty-one districts, nineteen districts namely, Panchkula (0.14), Ambala (0.15), Gurgaon (0.15), Yamunanagar (0.16), Faridabad (0.18), Kurukshetra (0.19), Rohtak (0.20), Karnal (0.20), Panipat (0.21), Sonipat (0.22), Jhajjar (0.23), Sirsa (0.23), Fatehabad (0.26), Kaithal (0.26), Hisar (0.27), Rewari (0.27), Jind (0.28), Bhiwani (0.29) and Mahendragarh (0.33) recorded a very low gender differential index value in literacy. The gender differential index value was very low in nineteen districts in which the differential index value was recorded below 0.36. Jind, Hisar, Fatehabad, Kaithal Bhiwani, Rewari, Gurgaon, and

Mahendragarh districts have transferred their position from low to very low according to the value of gender differential index in literacy as the previous census of 2001. Ambala, Panchkula, Sirsa Karnal, Panipat, Rohtak, Jhajjar, Sonipat, Kurukshetra and Yamunanagar districts held the same position as the previous census of 2001. (Table: 4 and Figure: 3) clearly shows that the eastern, the western, northern, southern and central parts of Haryana recorded the very low gender differential index value in literacy. The last decade (2001-2011) recorded great progress in male-female literacy rate in most of the districts in Haryana. The full-fledge state of Haryana recorded a very low gender differential index value in literacy.

Conclusion

The gender differential in literacy is not a new phenomenon. It is in existence from the medieval period. At that time, females were denied the right to education. Literacy was mainly synonymous with male literacy. The country had to pass through different phases of colonial rule till Independence, but no focus was paid to the propagation of female literacy, which was practically non-existent. After Independence, many steps have been taken to improve female literacy. Haryana was carved out from the former state of Punjab to become the 17th state of the Indian union in November 1, 1966. After separated from Punjab, it gave prime priorities to socio-economic development and focused on progress in the field of education.

Queen Rania of Jordan saying that, *“If you educate a woman, you educate a family but if you educate a girl, you educate the future”*

Dr. James Emman Kwegyir Aggrey saying that, *“If you educate a man, you educate an individual but if you educate a woman, you educate a whole nation”* has universal validity.

It may be concluded that the spatial and temporal pattern of gender differential index in literacy is changing with the passing of time (Table: 4 and Figure: 3). Improvement of gender differential index in literacy in Haryana is a long-term dream as there is still a large difference between male and female literacy rate. There is a close relationship between male-female literacy and gender differential index in literacy in all the districts of Haryana. The

gender differential index in literacy is also inversely related with both the male literacy and female literacy. The gender differential index value increase as the literacy rate decrease and the literacy rate increase as the gender differential index value decrease. Hence, the male-female literacy was low in less developed areas where differential index value was high and the male-female literacy was high in developed areas where differential index value was low. All the districts with low female literacy experienced high and very high gender differential index value in literacy and high female literacy experienced low and very low gender differential index value in literacy.

Area of high and very high gender differential index value in literacy is the male literacy was very high but female literacy was very low experienced the high and very high gender differential index value in literacy. According to 1971, the full-fledged state of Haryana recorded a high and very high gender differential index value in literacy. In 1981, the western part of Haryana and southern part of Haryana recorded a high and very high gender differential index value in literacy. According to 1991-2011 censuses, none of the district exists in high and very high gender differential index value in literacy. The main reasons behind high and very high gender differential index value in literacy due to prejudices against the female's education, poverty, economic backwardness, continued tradition of early engagement/marriage of the females, subsistence agricultural economy, lack of industrial development, less number of schools, superstitions, lack of awareness for female education, low degree of urbanization, low per capita income, high incidence of dropouts from schools due to early marriage, less attention towards education, high cost of education; lack of educational facilities, less number of schools for females, shortage of female teachers, household responsibilities of the females, ignorance of female education, low social status of women with restrictions on their mobility, large percentage of scheduled caste population and Muslim population were the other factors responsible for wide gender differential index in literacy.

Area of moderate gender differential index value in literacy is the transition zone between areas of high and low gender differential index value in literacy. In these districts,

the male literacy was moderate but female literacy experienced a low gender differential index value in literacy. According to 1981 census, the eastern, central and the single district of western and south-eastern parts of Haryana recorded a moderate gender differential index value in literacy. According to 1991 census, the western and the southern parts of Haryana recorded a moderate gender differential index value in literacy. According to 2011 census, the only Mewat district in southern parts of Haryana recorded a moderate gender differential index value in literacy. According to 1971 and 2001 census, none of the district exists in moderate range of gender differential index in literacy. The main reasons behind moderate gender differential index value of literacy in Haryana is less the prejudice against female's education, increasing educational facilities, improving the status of females, more awareness for female education, improving standard of living, increasing the per capita income, increasing the growth of urban population, predominantly agricultural and agriculture are Commercialized, high degree of rural-urban interaction, opening a number of schools, construction of road network, state government made efforts to increase the literacy and provide better educational facilities were the other factors responsible for moderate gender differential index value in literacy.

Areas of low and very low gender differential are the areas where index value in literacy between male and female literacy was high. According to 1971 and 1981 census, none of the district exists in this category. According to 1991 census, the northern part of Haryana recorded a low and very low gender differential index value in literacy. According to 2001 census, the northern, eastern, central and the Sirsa district in the western part of Haryana recorded a low and very low gender differential index value in literacy. According to 2011 census, the full-fledged state of Haryana recorded a low and very low gender differential index value in literacy. Haryana is also situated in this category at national level. After five decades, the full-fledged state of Haryana attained very high and high gender differential index value in literacy to low and very low gender differential index value in literacy. Highly urbanized districts of the state also came in this category. Panchkula district recorded a lowest gender differential index value in literacy of the state in 2011. According to

1971-1991 censuses, Ambala district continuously held the top position with a lowest gender differential index value in literacy and according to 2001-2011 censuses, Panchkula district continuously held the top position with a lowest gender differential index value in literacy. The main reasons behind low and very low gender differential index value of literacy in Haryana is more availability of educational institutions equally for males and females, increasing value of female education for matrimonial and employment purposes, increasing participation of females in economically gainful activities, high developed infrastructural facilities, availability of better educational facilities in towns and cities, high level of female education, most favorable number of female students per female teacher, high degree of participation of the females in non-agricultural services, increasing the availability of female teachers in rural areas, increase in urbanization and industrialization, high per capita income, early start in modern education, better status of the women, increasing the standard of living, highly commercialized agriculture, low growth rate of population, more awareness, effective administration and better accessibility and connectivity of transportation and communication network were the other factors responsible for low and very low gender differential index in literacy. Urbanization also played an important role in displaying low and very low gender differential index in literacy. In rising, the level of male-female literacy, it may be concluded that low and very low gender differential index in literacy are associated with a variety of factors including recent efforts by the state and central governments to stimulate social and economic development. The gender literacy gap narrowed down with the passing of time gradually. The gender differential index also decreased significantly from 0.85 to 0.24 during the period from 1971-2011. The last five decades has witnessed a considerable decline according to the value of gender differential index in literacy (Table: 3).

Above study also illustrate that literacy may seen as dispensable for daughters but essential for sons in the state and parents investments in their sons take priority over investments in their daughters also in many areas or districts. Over the years investment in human capital particularly in education is most important factor of economic growth. If we can achieve high living standard and speedy sustainable economic growth then it is essential

to reduce gender differentials especially in literacy or education. Planned programs should be drawn up and training schemes for women should be introduced to train the women. To increase enrollment ratio of girls in schools women teachers should be appointed in schools and also there is need to encourage women to come out their houses so that they can understand the importance of literacy.

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