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## Spatial pattern of scheduled caste literacy in Haryana (2001 - 2011): A regional perspective

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### Abstract

Literacy is an indispensable tool for communication, learning and understanding the world around us. It is first step in educating the people. Human development is just not possible without people being at least literate. Literacy is the key input for social transformation and human development. Education is an important social resource and a means of reducing inequality in society. It is the most important agent of social change, particularly among the females and socially backward sections. This paper is an attempt to understand the spatial pattern of literacy among the scheduled caste population in Haryana.

**Keywords:** Caste, literacy, educational, disparities and social

### Introduction

The starting point of higher levels of education is literacy. Literacy is an indispensable tool for communication, learning and understanding the world around us. It is first step in educating the people. Human development is just not possible without people being at least literate. Literacy is the key input for social transformation and human development. Literacy has emerged as the key to both development and population control (Singh and Diwedi, 2011) [9]. Illiteracy, social and gender gaps in literacy create many hurdles in the path of social uplift. Like many other indicators of social development, regional variations in literacy in India have been observed. In north Indian states these contrasts are quite sharp as compared to those in the southern states (Dreze, 2003) [8]. These regional differences do not exist only at state level but have been noted up to the smallest administrative unit i.e. the village. Similarly India has a long history of educational disparities being exploited to consolidate social inequalities based on caste, class and gender. To some extent, this pattern continues to obtain even today. The link between educational disparities and social inequalities is gaining strength day by day, as literacy and education become more important tools of self defence. The various dimensions of socio-cultural changes in a society can be understood in the light of the levels of literacy and education. Education is an important social resource and a means of reducing inequality in society. It is the most important agent of social change, particularly among the females and socially backward sections.

Based on definition of literacy by the Census of India in 2011 literacy rates of Scheduled Caste have become 66 percent for persons, 75 percent for males and 56 percent for females. Corresponding figures for the same in Haryana are 67 percent, 76 percent and 57 percent respectively. It is one percent more than the national average. Among all the states and UTs of India, Haryana is ranked 22<sup>nd</sup>. According to the census of India 2011, there has been an increase in Scheduled caste literacy of Haryana from 55.44 percent in 2001 to 66.85 percent in 2011, i.e. an average growth rate of 1.1 percent per annum. The State was divided into nineteen districts in 2001 for administrative purposes. Two districts were bifurcated after 2001. The bifurcated districts are Mewat from Gurgaon and Palwal from Faridabad. These bifurcated districts have been used again for comparison with 2001 Census.

This paper is an attempt to understand the spatial pattern of literacy among the scheduled caste population in Haryana.

### Objectives and Methodology

The objectives of this paper are i) to examine the patterns in literacy ii) to study the differentials in literacy by sex and residence in a spatial perspective in the state. The analysis is based on secondary data. The data relating to the literacy rates and socio-economic variables have been collected from the respective census hand books for 2001 and 2011 census.

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Differentials in literacy are calculated by using the following formula-

$$DI = \frac{X_2 - X_1}{T}$$

DI = Differential Index,  $X_2$  = % age of literates in male and urban,  $X_1$  = %age of female and rural, T = % age of literates in total population

### Literacy Pattern in Haryana

A comparison in the literacy rates between non-scheduled caste and scheduled caste population indicates that 67.91 percent of non-scheduled caste population was literate against the scheduled caste population of 55.44 percent in 2001. Scheduled caste literacy rates is lower in 2011 as compared to non-scheduled caste. It is 66.85 percent as against 75.55 percent (Table 1). Scheduled caste male and

female literacy in 2011 census is 75.93 percent and 56.65 percent. For non-scheduled caste it is 84.06 percent and 65.94 percent respectively. The increase from 2001 to 2011 for scheduled caste and non-scheduled caste male is 9.01 and 5.57 percent point and for scheduled caste and non-scheduled caste female is 14.39 and 10.21 percent points respectively. It shows that increase is faster in the case of scheduled caste male and female than in the case of non-scheduled caste.

According to 2011 census 65.12 percent non-scheduled caste population and 72.74 percent scheduled caste population lives in rural areas. In 2001 only 54 and 63 percent scheduled caste and non-scheduled caste population respectively were literate in the rural areas and this increased to 66 and 71.42 percent respectively in 2011. Scheduled caste male and female literacy is also low in urban and rural areas than non-scheduled caste.

**Table 1:** Literacy Rate of Total Population in Haryana by Residence and Sex

		Non-Scheduled Caste							
		Total		Urban				Rural	
Years	Persons	Male	Female	Persons	Male	Female	Persons	Male	Female
2001	67.91	78.49	55.73	79.89	86.58	72.05	63.82	76.13	49.77
2011	75.55	84.06	65.94	83.14	88.63	76.90	71.42	81.55	60.02
Scheduled Caste									
2001	55.44	66.92	42.26	60.19	70.67	48.10	54.13	65.88	40.64
2011	66.85	75.93	56.65	69.78	78.14	60.46	65.75	75.10	55.20

**Source:** Primary Census Abstract, Census of India, Haryana, Series-6, 2011 & 2001.

**Note:** The percentages have been calculated on the population aged 7+ years and above in 2001 & 2011.

### Spatial Pattern of Scheduled Caste Literacy

An attempt has been made to identify spatial pattern of scheduled caste literacy covering various components such as urban/rural and male/female. On the basis of district level analysis of data the following three types of areas can be identified:

- a) Areas of high literacy (more than 70 percent);
- b) Areas of moderate literacy (more than 60 percent);
- c) Areas of low literacy (more than 50 percent)

### Areas of High Literacy

There are two concentrations of areas where literacy rate is more than 70 percent. Such areas cover 8 districts out of the 21 districts in the state. One concentration comprises National Capital Region and the other concentration is located around the state capital Chandigarh. The first area includes Gurgaon, Rewari, Sonipat, Jhajjar and

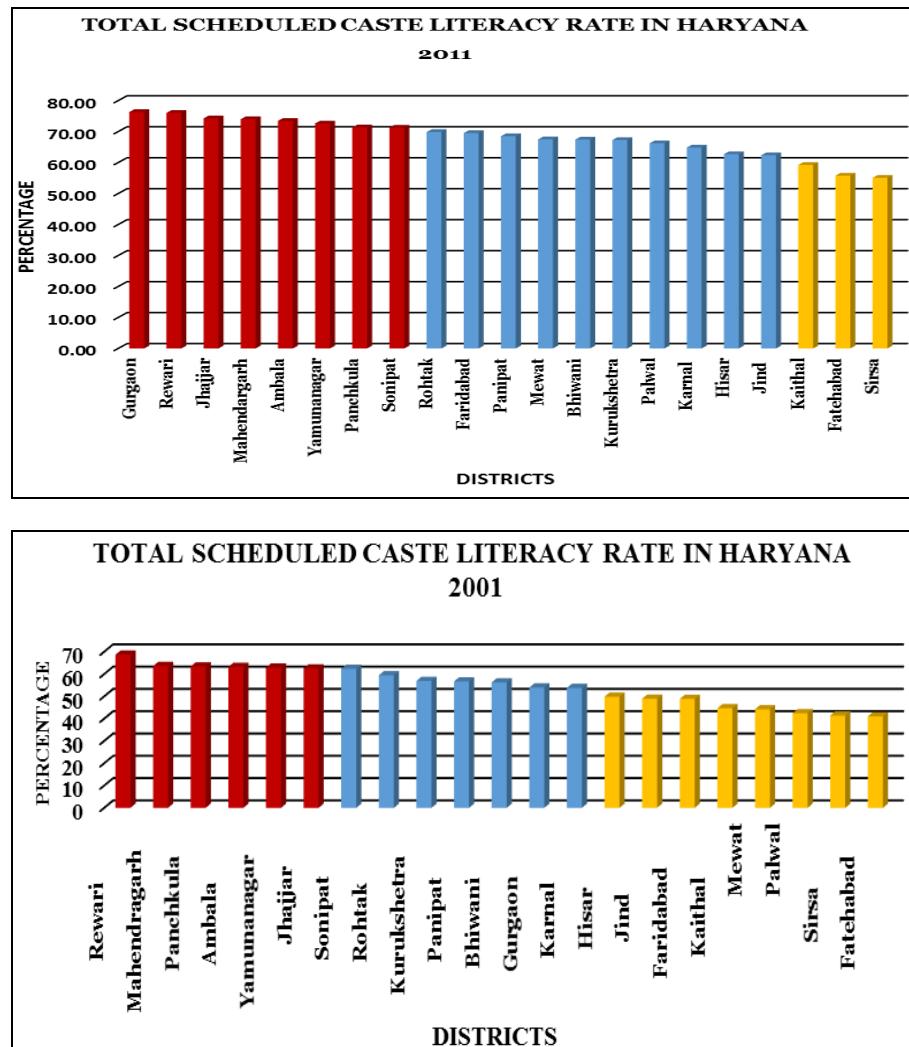
Mahendargarh districts. The second concentration includes Ambala, Panchkula and Yamunanagar districts.

The major contributing factors responsible for relatively high literacy rates in these areas are early start in the field of education as well as easy access to educational facilities.

The high literacy rates in these districts are mainly associated with high proportion of non-agricultural workers and high degree of urbanization.

The non-agricultural workers in these districts are mainly engaged in household industries and other government services contributing to high literacy since the nature of jobs they perform require some level of educational attainment.

The non-agricultural activity in NCR areas is mainly associated with transport and marketing services. Similarly, the establishment of industrial hub provides employment in non-agricultural sector.



### Areas of Moderate Literacy

This category includes districts having literacy rates more than 60 percent. This category includes 10 out of 21 districts which extend from east to west in the central parts of the state. These districts are Rohtak, Faridabad, Panipat, Mahendargarh, Bhiwani, Kurukshetra, Palwal, Karnal, Hisar and Jind. These districts have a moderate level of urbanization due to their close proximity of one or the other large urban industrial center. These districts are located between areas having high and low literacy in the state. In the districts moderate literacy is generally associated with a low proportion of non-agricultural workers.

### Areas of Low Literacy

This category includes districts having literacy rates more than 50 percent. The areas of low levels of literacy are located along the inter-state border of Punjab and Rajasthan states. Interestingly the adjoining districts in these two states also have comparable low levels of literacy. All these districts have a literacy rate lower than the state average. Similarly these districts have lower levels of urbanization and non-agricultural workers as compared to the state average. In this region a large proportion of workers is engaged in primary occupational activities. The out-migration of educated youth in search of employment and low level of urban-industrial development are the main associations for low literacy rates.

### Male-Female Differential in Literacy

The state level value of the Index is 0.29. There is considerable variation in the spatial distribution of male-female differential in literacy among the districts of the state. It varies from 0.42 in Palwal district to 0.21 in Panchkula district. Palwal, Mewat and Mahendargarh districts forming the area of very high male female differential, comprise a contiguous patch in the extreme south of the state. Six districts having moderate male female literacy differential index values. Karnal, Rohtak, Jhajjar, Sirsa, Sonipat and Panipat form a contiguous belt running from north to south and east to west in the central part of the state. There are 5 districts with an index values of less than 0.25 termed as areas of low male female differential in literacy. Panchkula, Ambala, Yamunanagar and Kurukshetra districts form a large contiguous area in the extreme north of the state.

In areas of very high and high male-female differential index in literacy the main associations are with a low level of urbanization, primarily traditional agricultural economy, high concentration of socio-economically backward sections of the society, inadequate educational infrastructure. The low male-female differential in literacy in the northern part of the state and adjoining areas of Delhi is associated with faster increase in literacy. The inequality in literacy by sex is the outcome of traditional prejudices against female education because it is considered as having little economic value since there are strong prejudices against their employment. Female children suffer relative neglect and

same is the cash with their education. They are also not permitted much mobility and may not be sent to a school even in an adjoining village.

### **Urban-Rural Differential in Literacy**

At the state level the urban-rural differential index value in literacy is 0.06. Like male-female differential, the urban-rural differential also varies from one part of the state to another from 0.10 in Sirsa district to -0.01 in Faridabad district. Broadly, the spatial distribution of urban-rural differential values in literacy show a general pattern in which there is a decline in differential values from extreme western part of the state to the east. Specifically, the areas of very high differential values comprise of two districts one is Sirsa and another is Hisar forming a contiguous patch in the extreme west of the state. The eight districts with moderate differential values occur as scattered patches generally forming a zone of transition between areas of high and low

differential values. Four districts with very low urban-rural differentials (less than 0.01) for a contiguous area located adjacent to the national capital, New Delhi and state capital, Chandigarh. The spatial variation in urban-rural differential index values in the state suggest that the cities and towns as an apex march towards modernization. Broadly, districts with high literacy rate in both urban as well as rural have low differential index.

The western region of the state has the highest urban –rural differential index. By comparison, the adjoining area of Delhi have the minus urban-rural differential index. The differential in the level of urbanization, socio-economic development, and primarily traditional agricultural economy, high concentration of socio-economically backward section of society, inadequate educational infrastructure and late start of education in rural areas are the chief determinates for the urban rural differential literacy.

**Table 1:** Haryana: District Wise Literacy differential Index

<b>Districts</b>	<b>2011</b>	<b>2001</b>	<b>2011</b>	<b>2001</b>
	<b>M-F</b>	<b>M-F</b>	<b>U-R</b>	<b>U-R</b>
Haryana	0.29	0.44	0.06	0.11
Panchkula	0.21	0.32	-0.01	0.09
Ambala	0.21	0.32	0.05	0.11
Yamunanagar	0.21	0.32	0.02	0.05
Kurukshetra	0.24	0.37	0.01	0.08
Kaithal	0.33	0.50	0.06	0.15
Karnal	0.26	0.41	0.06	0.14
Panipat	0.29	0.46	0.02	0.06
Sonipat	0.28	0.42	0.05	0.06
Jind	0.31	0.51	0.09	0.20
Fatehabad	0.31	0.54	0.06	0.20
Sirsa	0.28	0.60	0.10	0.21
Hisar	0.32	0.52	0.10	0.19
Bhiwani	0.32	0.48	0.04	0.06
Rohtak	0.26	0.41	0.03	0.05
Jhajjar	0.27	0.42	0.04	0.13
Mahendargarh	0.35	0.51	0.00	0.05
Rewari	0.31	0.47	0.01	0.05
Gurgaon	0.25	0.45	-0.01	0.05
Mewat	0.35	0.45	0.04	0.05
Faridabad	0.31	0.56	-0.02	0.05
Palwal	0.42	0.56	0.01	0.05

**Source:** Computed from Primary Census Abstract, Census of India, Haryana, Series-6, 2011 & 2001.

### **Correlation Analysis**

There are considerable variations in the level of literacy in Haryana. Therefore an attempt has been made to analyze quantitatively the levels of literacy and its determinants by employing the correlation coefficient technique. The association between overall literacy rate and each of the independent variables has been computed and tested to know the existing relationship between variables. Table shows the correlation coefficient between dependent and independent variables on the basis of districts level data from 2011 census. The list of dependent and independent variables is given below:

#### **Dependent Variable**

Y= percentage of literates to total population

#### **Independent Variable**

X1= percent of urban population

X2= percent of non-agriculture

N= 21

**Table 2:** Haryana: Coefficient of Correlation of Literacy Rate with Selected Variables, 2011

	<b>Y</b>	<b>X1</b>	<b>X2</b>
<b>Y</b>	<b>1.000</b>		
X1	.479*	1.000	
X2	.653*	.830*	1

**Source:** Computed from Primary Census Abstract of Haryana, 2011

\*Significant at 0.01% level

Urbanization process leads to the overall development of a region or a society. Urbanization itself attracts the people, literate and illiterate alike, from surrounding areas. So it is not difficult to establish the fact that urbanization led to the development of various attributes, including education. Literacy level (Y) is positively associated with urban population (X1) and non-agricultural workers (X2). The

proportion of non-agricultural workers has the highest positive correlation coefficient (0.653) with literacy level followed by urban population (0.479). The relationship between urbanization (X1) and non-agricultural activity

(X2), correlation exercise shows literacy increase with increase in urban population, persons in non-agricultural activities and gender differential in literacy also decreases with increase literacy.

**Table 3:** Literacy Rate among the Scheduled Caste Population, 2001

Districts	Persons	Total Male	Female	Persons	Urban Male	Female	Persons	Rural Male	Female
Haryana	55.44	66.92	42.26	60.19	70.67	48.10	54.13	65.88	40.64
Panchkula	63.42	72.75	52.72	67.41	76.96	56.36	61.58	70.78	51.04
Ambala	63.16	72.58	52.53	68.91	76.64	60.30	61.71	71.57	50.57
Yamunanagar	62.88	72.18	52.20	65.62	74.34	55.57	62.18	71.63	51.34
Kurukshetra	56.94	66.91	45.65	60.96	70.50	50.11	56.17	66.23	44.80
Kaithal	44.67	54.90	32.62	50.37	60.07	39.06	43.66	53.99	31.47
Karnal	53.77	63.92	42.04	59.96	68.86	49.70	52.24	62.69	40.14
Panipat	56.69	68.69	42.63	58.98	69.45	46.44	55.79	68.39	41.16
Sonipat	62.33	74.43	48.22	65.32	76.32	52.77	61.49	73.91	46.77
Jind	48.94	60.30	35.58	57.30	68.10	44.95	47.37	58.86	33.78
Fatehabad	41.01	51.46	29.36	48.17	57.03	38.25	39.95	50.63	28.05
Hisar	49.82	61.80	35.99	57.33	68.84	44.19	47.83	59.94	33.80
Sirsa	41.39	56.19	31.21	48.12	57.56	37.71	39.48	48.57	29.36
Rohtak	59.46	70.72	46.25	61.32	71.39	49.79	58.61	70.41	44.61
Jhajjar	62.51	74.59	48.23	69.07	79.66	56.63	60.87	73.34	46.14
Bhiwani	56.26	68.70	41.79	59.05	70.07	46.31	55.58	68.37	40.70
Mahendargarh	63.64	79.18	46.85	66.48	81.25	49.95	63.27	78.91	46.45
Rewari	68.68	83.90	51.84	71.82	83.75	58.17	68.09	83.93	50.66
Gurgaon	63.98	77.48	48.69	66.36	78.21	53.13	63.18	77.24	47.19
Faridabad	55.84	70.24	38.78	57.58	69.78	42.67	54.59	70.58	36.05

**Source:** Social - Cultural Tables, Census of India, Haryana, C - Series, 2001 from the CD.

**Table 4:** Literacy Rate among the Scheduled Caste Population, 2011

2011	Districts	Total			Rural			Urban		
		P	M	F	P	M	F	P	M	F
	Haryana	66.85	75.93	56.65	65.75	75.10	55.20	69.78	78.14	60.46
	Panchkula	71.35	78.24	63.60	71.59	78.30	64.00	71.10	78.18	63.19
	Ambala	73.44	80.74	65.28	72.27	79.91	63.66	76.18	82.73	69.01
	Yamunanagar	72.61	79.70	64.58	72.31	79.35	64.31	73.57	80.80	65.40
	Kurukshetra	67.29	75.07	58.64	67.11	75.10	58.27	68.01	74.91	60.17
	Kaithal	59.24	68.37	48.94	58.62	67.77	48.28	62.03	71.06	51.91
	Karnal	64.84	72.92	55.78	63.95	72.36	54.47	67.67	74.70	59.90
	Panipat	68.50	77.81	57.91	68.00	77.76	56.86	69.35	77.89	59.68
	Sonipat	71.26	80.65	60.45	70.25	79.91	59.03	73.75	82.50	63.89
	Jind	62.36	71.47	51.89	61.34	70.58	50.67	66.67	75.34	56.97
	Fatehabad	55.78	64.15	46.62	55.29	63.88	45.86	58.41	65.55	50.59
	Sirsa	55.08	62.45	47.02	53.97	61.23	45.98	59.67	67.50	51.24
	Hisar	62.70	72.16	51.98	61.14	70.76	50.13	67.10	76.19	57.07
	Bhiwani	67.43	77.49	56.00	66.92	77.27	55.10	69.51	78.38	59.65
	Rohtak	69.87	78.51	60.00	69.18	78.29	58.68	70.99	78.88	62.11
	Jhajjar	74.26	83.77	63.47	73.51	83.57	62.05	76.71	84.41	68.09
	Mahendargarh	74.00	86.26	60.43	74.03	86.55	60.08	73.85	84.21	62.75
	Rewari	76.03	87.46	63.53	75.77	87.69	62.70	76.88	86.68	66.26
	Gurgaon	76.31	85.51	66.09	76.82	87.09	65.57	75.89	84.21	66.53
	Mewat	67.49	78.77	54.87	66.82	78.38	53.81	69.57	79.98	58.12
	Faridabad	69.52	79.64	57.92	70.51	82.21	57.31	69.07	78.46	58.21
	Palwal	66.22	79.37	51.36	66.10	80.12	50.15	66.54	77.33	54.60

**Table 5:** District Wise Differential in Literacy Rate

Districts	2011	2001	2011	2001
	M-F	M-F	U-R	U-R
Haryana	0.29	0.44	0.06	0.11
Panchkula	0.21	0.32	-0.01	0.09
Ambala	0.21	0.32	0.05	0.11
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Sirsra	0.28	0.60	0.10	0.21
Hisar	0.32	0.52	0.10	0.19
Bhiwani	0.32	0.48	0.04	0.06
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Faridabad	0.31	0.56	-0.02	0.05
Palwal	0.42	0.56	0.01	0.05

### Conclusion

This paper has made an effort to analyze the spatial variations in the distribution and differentials in the levels of literacy in Haryana in terms of male-female and rural-urban. Haryana is a densely populated (573 persons per sq. km) state of India where majority of the people are engaged in agricultural activities (51.8 percent). Generally high level of urbanization and high degree of industrialization are associated with a high level of literacy in an area. There are two concentrations of areas where scheduled caste literacy rate is more than 70 percent. One concentration comprises districts located adjacent to the National Capital Region, New Delhi and the other concentration is found around the state capital, Chandigarh. The causes of high percentage of literacy in these areas need an explanation. The first area comprising the NCR has a number of large towns. These towns abound in government offices and educational institutions. Similarly, the area around the state capital also has a large urban agglomeration with industrial, commercial and a number of educational institutions. These are marked regional variations in literacy depending upon the level of urbanization and the development of industrial, commercial, agricultural, irrigation and transport facilities. Usually, literacy is high in the south-eastern region of the state. It is low in hilly areas of Aravalli of Mewat district. Western Haryana shows comparatively low literacy than the northern region.

In Haryana, high scheduled caste male-female differential in literacy in urban areas is a result of large male selective immigration from the rural areas to the cities and towns in search of employment. Urban centers also attract a large number of male students from the countryside. This unusual disparity among male and female is also related to a long and continued prejudice against women's employment outside the home. A high differential index has been observed between rural and urban population in the western and central part of the state caused by low literacy in rural areas related to several factors such as higher socio-economic status of urban centers requires more educated

persons than villages, educational facilities in towns and cities are much more and better than villages, female do avail superior status in urban societies than in rural and educated persons usually migrate to urban centers in search of jobs. However, during recent years, with the opening of a large number of schools in rural areas and increasing socio-economic and political awakening there has been a remarkable progress in literacy in the rural areas of the state.

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