

Spatial and Temporal Pattern of Rural-Urban Differential of Literacy in Haryana: 1971-2011

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Abstract

This paper examines the spatial and temporal pattern of rural-urban 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 rural-urban differential in literacy means the variances between rural and urban areas in terms of literacy. Literacy among urban is universally recorded higher as compared to rural literacy. As a result, the rural-urban 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, which is characterized not only by low literacy rate but also a great differential between rural and urban literacy. These differences are essentially a function of socio-cultural and economic diversity between the two areas. The urban area is comparatively more heterogeneous and more hierarchically structured than rural area. The district-wise spatial and temporal patterns of rural-urban differentials of literacy in Haryana have been explained by decade-wise changes during the period from 1971-2011.

Keywords: *literacy, rural-urban differentials, human development, heterogeneous.*

Introduction

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). 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 rural-urban differential in literacy means the variances between rural and urban areas in terms of literacy. Literacy among urban is universally recorded higher as compared to rural literacy. The rural-urban differentials index in literacy is prevalent in most of the less developed and developing countries of the world and India is not an exception in this regard, which is characterized not only by low literacy rate but also a great differential between rural and urban literacy. The literacy rate is considered as the main indicator and measurement for the development in rural and urban areas. It is generally considered high literacy rate in urban places as compared to the low literacy rate in rural areas. These differences are essentially a function of socio-cultural and economic diversity between the two areas. The urban area is comparatively more heterogeneous and more hierarchically structured than rural area (Krishan and Shyam, 1978). The rural-urban differentials index increase as the literacy rate decrease and the literacy rate increase as the rural-urban differentials index decrease. The rural-urban differentials index is inversely related with the rural and urban literacy. Hence, the rural-urban literacy were low in less developed areas where differentials index value was high and the rural-urban literacy were high in developed areas where differentials index value was low. Literacy is a powerful instrument of socio-economic advancement of an area.

In India, the British administration of pre-Independence period, the urban-rural differential index cannot be analyzed due to non-availability of census data. Even after Independence, due to definitional changes of urban places, the comparison of rural and urban literacy is difficult. Undoubtedly, after Independence, the rural literacy improved a lot, yet it was far behind the urban literacy. However, even after 74 years of Independence, the rural-urban

differential in literacy was still large. According to 2011 census, the almost three-fourths (74.04) of total population were registered as literate and 68.91 percent of rural population as compared to 84.98 percent of urban population was registered as literate. The rural-urban differential in literacy is approximately 16 percent. A considerable growth has taken place in literacy, but it has not been satisfactory. The rural literacy rate was very low as compare to urban literacy rate in 2011. The problem of illiteracy in rural area, not only in India but also across the world and it's directly impacts on development efforts. There are huge disparities in the economic, social, cultural and schooling opportunities available to rural and urban area in India. The rural-urban differential in the country also vary from one state to another. There is a close relationship between rural-urban literacy and rural-urban differentials in literacy in all the states and union territories. In India, most of the states are found in rural-urban differential in literacy.

In Haryana, being the moderate literate states in the country. The literacy rate is not uniform in the entire state. There are wide differences in literacy rate between rural and urban areas. The rural-urban differential in literacy is also inversely related with both rural literacy and urban literacy. The rural-urban literacy gap has gradually narrowed down with the passing of time. The rural-urban 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.

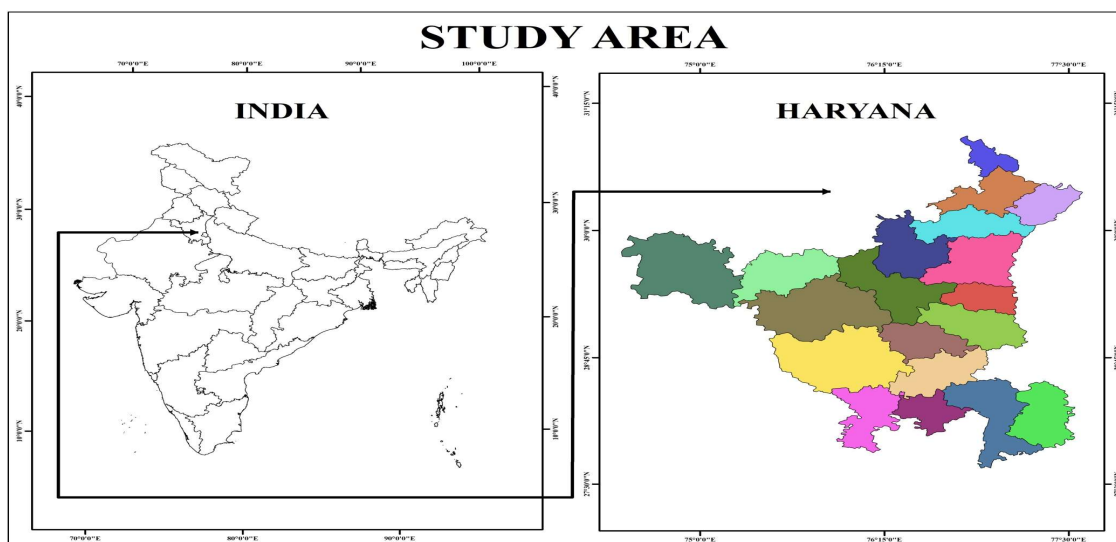


Fig: 1. Location of Study Area Map.

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 proportion of urban population is 34.79 percent and 65.21 percent rural population. The rural literacy rate is 71.4 percent and the urban literacy rate is 83.1 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. Gurgaon has the highest rural literacy rate in Haryana and Ambala has the highest urban literacy rate in Haryana. Mewat has the lowest rural-urban and total literacy in Haryana.

Objective

The main objective of the study is:

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

Database and Methodology

The study refers to presenting the spatial and temporal pattern of rural-urban 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 rural-urban 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:-

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

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

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

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 rural-urban 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 rural-urban differential in literacy has been calculated by using the following formula:

$$DI = U - R$$

Where:

DI= Differentials index

U = Urban literacy rate

R = Rural literacy rate

The rural-urban differentials index in literacy has been calculated by using the following formula given by Krishna & Shyam, 1978:

$$DI = U - R / T$$

Where:

DI= Differentials index

U = Urban literacy rate

R = Rural literacy rate

T = Total literacy rate

After using these methods, the spatial and temporal pattern of the rural-urban 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

The state of Haryana was carved out of the former state of Punjab on 1 November, 1966. 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, Sonapat, 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. As the new districts were introduced, they were added separately in every new census year.

Rural-Urban Differential Index of Literacy in Haryana: 1971-2011

In Haryana, being the moderate literate states in the country. The literacy rate is not uniform in the entire state. There are wide differences in literacy rate between rural and urban areas. The high rural-urban differential is the main concern. There is a significant increase of literacy rate, which has increased from 26.69 percent to 75.55 percent during the period from 1971-2011. The rural-urban literacy rate in Haryana, which has increased from 21.70 and 51.10 percent to 71.40 and 83.10 percent during the period from 1971-2011. The rural literacy rate has been lower than urban literacy rates. As per 1971 census, the rural-urban literacy gap was approximately 30 percent. Haryana has remarkable progress in rural-urban literacy during the period from 1971-2011. As per 2011 census, the rural-urban literacy gap was approximately 11 percent. The rural-urban literacy gap between narrowed down with passes of time gradually. The rural-urban differentials index also decreased significantly from 1.10 to 0.15 during the period from 1971-2011 (Table: 1).

In 1971, the rural-urban differentials index in literacy was 1.10. The rural-urban differentials index in literacy was very high due to very low rural literacy. The rural literacy made a considerable progress with the passes of time due to the changing socio-economic conditions in the state. The rural-urban differentials index in literacy was highest (1.47) in the district of Jind and lowest (0.72) in the district of Mahendragarh.

Table: 1**Haryana: Rural-Urban Differential Index in Literacy, 1971-2011**

Census Year	Rural Literacy	Urban Literacy	Total Literacy	Rural-Urban Differential Index
1971	21.7	51.1	26.69	1.10
1981	30.3	56.8	36.14	0.73
1991	49.8	73.6	55.33	0.43

2001	63.2	79.2	67.91	0.24
2011	71.4	83.1	75.55	0.15

Source: Differential index are calculated as= (Urban literacy- Rural 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.

In 2011, since a long time, the rural-urban differentials index in literacy was 0.15. The rural-urban differentials index in literacy was narrowed down with passes of time gradually. The rural-urban differentials index in literacy was highest (0.32) in the district of Mewat and lowest (0.06) in the district of Jhajjar and Rewari. The rural-urban differential index also continuously decreased during the period from 1971-2011. The last five decade has witnessed a considerable decline the rural-urban differentials index in literacy (Table: 1).

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

The spatial and temporal patterns of rural-urban differentials index in literacy. The district-wise rural-urban differentials index of literacy in Haryana has remarkable progress during the period from 1971-2011. The rural-urban differentials index 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 rural-urban differentials index in literacy is not uniform. The uneven patterns of rural-urban differentials index in literacy are found in Haryana. There are notable variations of rural-urban differentials index in literacy at district level in Haryana in 1971-2011. The spatial and temporal pattern of district-wise rural-urban differentials index in literacy in the state during the period from 1971-2011 is presented in table: 4 and fig: 2.

Table: 2**Haryana: Rural-Urban Differentials in Literacy: 1971-2011**

Rural-Urban Differentials in Literacy						
Sr.No.	Districts	1971	1981	1991	2001	2011
1	Ambala	29.9	26.8	23.2	15.9	10.4
2	Karnal	33.1	26.9	25.5	17.0	10.9
3	Rohtak	25.8	21.4	16.8	11.8	8.0
4	Jind	27.6	27.2	26.8	17.3	11.3
5	Hisar	27.9	29.3	29.0	17.0	13.0
6	Mahendragarh	18.5	19.7	16.4	9.6	5.8
7	Gurgaon	29.2	30.4	30.6	24.6	6.6
8	Kurukshetra		27.9	23.1	15.0	11.0
9	Sonapat		22.7	14.1	10.5	7.0
10	Sirsa		27.2	27.0	17.4	13.8
11	Bhiwani		22.0	16.5	11.3	7.9
12	Faridabad		28.2	23.8	20.4	10.7
13	Yamunanagar			22.8	15.9	10.6
14	Kaithal			26.1	16.5	11.2
15	Panipat			22.6	12.0	7.4
16	Rewari			13.8	9.0	5.1
17	Panchkula				16.3	11.1
18	Jhajjar				9.0	4.9
19	Fatehabad				19.0	12.4
20	Palwal					11.1
21	Mewat					17.5
	Haryana	29.4	26.5	23.8	16.0	11.7

Source: Differentials are calculated as= (Urban literacy- Rural 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: Rural-Urban Differential index in Literacy: 1971-2011

Rural-Urban Differentials Index in Literacy						
Sr.No.	Districts	1971	1981	1991	2001	2011
1	Ambala	0.85	0.60	0.35	0.21	0.13
2	Karnal	1.33	0.73	0.45	0.25	0.15
3	Rohtak	0.85	0.50	0.27	0.16	0.10
4	Jind	1.47	1.01	0.57	0.28	0.16
5	Hisar	1.17	0.98	0.61	0.26	0.18
6	Mahendragarh	0.72	0.51	0.29	0.14	0.07
7	Gurgaon	1.05	0.85	0.58	0.39	0.08
8	Kurukshetra		0.85	0.40	0.21	0.14
9	Sonipat		0.56	0.22	0.14	0.09
10	Sirsa		0.91	0.58	0.28	0.20
11	Bhiwani		0.65	0.30	0.17	0.11
12	Faridabad		0.71	0.40	0.29	0.13
13	Yamunanagar			0.39	0.22	0.13
14	Kaithal			0.61	0.28	0.16
15	Panipat			0.41	0.17	0.10

16	Rewari			0.21	0.12	0.06
17	Panchkula				0.21	0.14
18	Jhajjar				0.12	0.06
19	Fatehabad				0.33	0.18
20	Palwal					0.16
21	Mewat					0.32
	Haryana	1.10	0.73	0.43	0.24	0.15

Source: Differential index are calculated as= (Urban literacy- Rural 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.

The spatial and temporal pattern of the rural-urban differentials index in literacy of the state can be classified on the bases of rural and urban differentials index in literacy into five categories very low, low, moderate, high and very high. The interval between the categories can be classified on the range formula (Range = Maximum value - Minimum value):

1. Area of very high rural-urban differentials index in literacy (above 1.21)
2. Area of high rural-urban differentials index in literacy (0.91-1.20)
3. Area of moderate rural-urban gender differentials index in literacy (0.61-0.90)
4. Area of low rural-urban differentials index in literacy (0.31-0.60)
5. Area of very low rural-urban differentials index in literacy (below 0.30)

1. Area of Very High Rural-Urban Differentials Index in Literacy (above 1.21)

All those districts which registered a rural-urban differentials index in literacy was above 1.21 have been classified as the areas of very high rural-urban differentials index in literacy:

In 1971 census, the average rural-urban differentials index in literacy was 1.10. Jind (1.47) district recorded the highest rural-urban differentials index in literacy while; Mahendragarh (0.72) district recorded the lowest rural-urban differentials index 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, Jind (1.47) and Karnal (1.33) have recorded the very high rural-urban differentials index in literacy. The rural-urban differentials index value was extremely high in both two districts in which the differentials index value was recorded above 1.21. (Table: 4 and Figure: 2) shows that the eastern parts of Haryana have recorded the very high rural-urban differentials index in literacy. According to 1981, 1991, 2001 and 2011 census, none of the districts have exists in this category.

2. Area of High Rural-Urban Differentials Index in Literacy (0.91-1.20)

All those districts which registered a rural-urban differentials index in literacy between 0.91-1.20 have been classified as the areas of high rural-urban differentials index in literacy:

In 1971 census, the average rural-urban differentials index in literacy was 1.10. Jind (1.47) district recorded the highest rural-urban differentials index in literacy while; Mahendragarh (0.72) district recorded the lowest rural-urban differentials index in literacy of the state. Out of seven districts, only two districts namely, Hisar (1.17) and Gurgaon (1.05) have recorded the high rural-urban differentials index in literacy. The rural-urban differentials index value was high in two districts in which the differentials index value was recorded between 0.91-1.20. (Table: 4 and Figure: 2) shows that the western and the south-eastern parts of Haryana have recorded the high rural-urban differentials index in literacy.

Table: 4 Spatial and Temporal Pattern of Rural-Urban Differentials index in Literacy: 1971-2011

Census Year	District 1971	District 1981	District 1991	District 2001	District 2011
Category	Haryana (1.10)	Haryana (0.73)	Haryana (0.43)	Haryana (0.24)	Haryana (0.15)
Very High (above 1.21 percent)	Jind, Karnal				
High (0.91-1.20 percent)	Hisar, Gurgaon	Jind, Hisar, Sirsa			
Moderate (0.61-0.90 percent)	Ambala, Rohtak, Mahendragarh	Karnal, Kurukshetra, Gurgaon, Faridabad, Bhiwani	Hisar, Kaithal		
Low (0.31-0.60 percent)		Ambala, Rohtak, Sonipat, Mahendragarh	Jind, Sirsa, Ambala, Karnal, Kurukshetra, Yamunanagar, Panipat, Gurgaon, Faridabad	Gurgaon, Fatehabad	Mewat

Very Low (below 0.30)			Rewari, Rohtak, Sonipat, Bhiwani, Mahendragarh	Rewari, Jhajjar, Sonipat, Rohtak, Ambala, Karnal, Faridabad, Kurukshetra, Yamunanagar, Panchkula, Panipat, Kaithal, Jind, Hisar, Sirsa, Bhiwani, Mahendragarh	Rewari, Jhajjar, Sonipat, Rohtak, Ambala, Karnal, Jind, Hisar, Sirsa, Bhiwani, Panchkula, Panipat, Kaithal, Kurukshetra, Yamunanagar, Fatehabad, Mahendragarh, Palwal, Faridabad, Gurgaon
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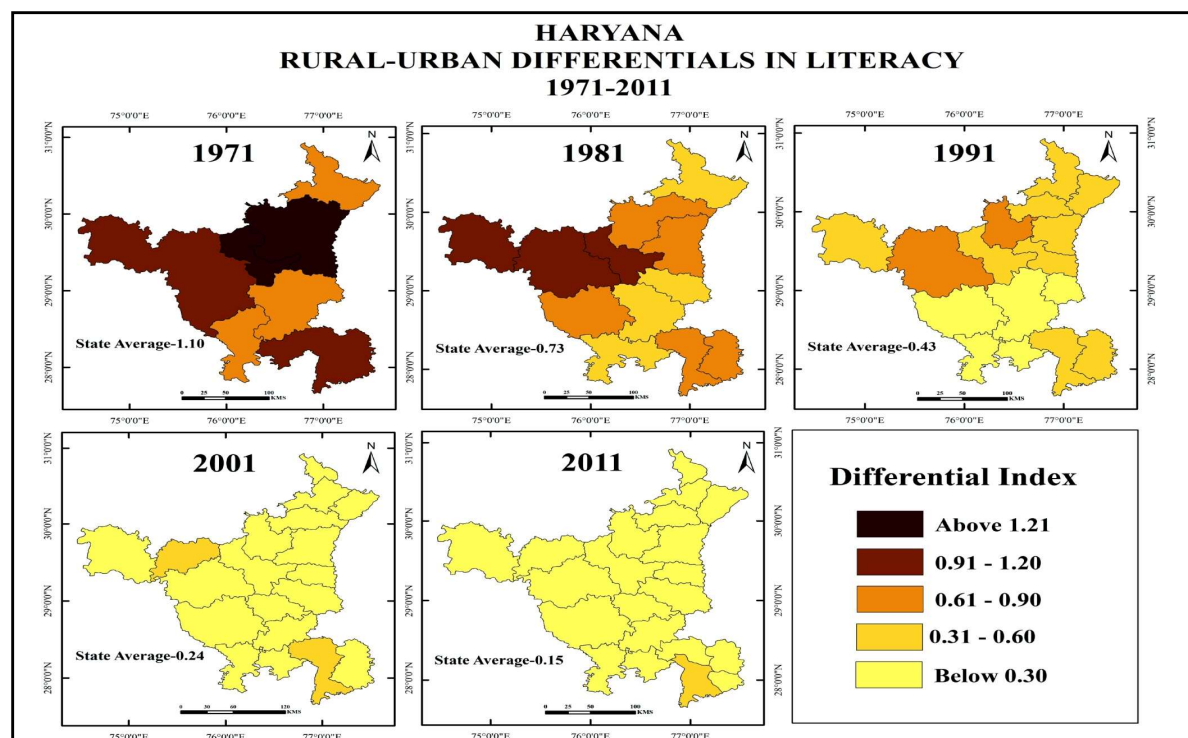


Fig: 2. Rural-Urban differential index of literacy in Haryana during the period from 1971-2011.

In 1981 census, the average rural-urban differentials index in literacy was 0.73. Jind (1.01) district recorded the highest rural-urban differentials index in literacy while; Rohtak (0.50) district recorded the lowest rural-urban differentials index in literacy of the state. The 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 three districts namely, Jind (1.01), Hisar (0.98) and Sirsa (0.91) recorded the high rural-urban differentials index in literacy. The gender differentials index value was high in three districts in which the differentials index value was recorded between 0.91- 1.20. Jind district has transferred their position for very high rural-urban differentials index to high rural-urban differentials index in literacy as the previous census of 1971. Hisar district held the same position as the previous census of 1971. (Table: 4 and Figure: 2) shows that the western parts of Haryana recorded the high rural-urban differentials index in literacy. According to 1991, 2001 and 2011 census, none of the districts have exists in this category.

3. Area of Moderate Rural-Urban Differentials Index in Literacy (0.61-0.90)

Area of moderate rural-urban differentials index in literacy is the transition zone between areas of high rural-urban differentials index and low rural-urban differentials index. All those districts which registered a rural-urban differentials index in literacy between 0.61-0.90 has been classified as the areas of moderate rural-urban differentials index in literacy.

In 1971 census, the average rural-urban differentials index in literacy was 1.10. Jind (1.47) district recorded the highest rural-urban differentials index in literacy while; Mahendragarh (0.72) district recorded the lowest rural-urban differentials index in literacy of the state. Out of seven districts, three districts namely, Ambala (0.85), Rohtak (0.85) and Mahendragarh (0.72) have recorded the moderate rural-urban differentials index in literacy. The rural-urban differentials index value was moderate in three districts in which the differentials index value was recorded between 0.61-0.90. (Table: 4 and Figure: 2) shows that the northern, the central and the south-western parts of Haryana have recorded the moderate rural-urban differentials index in literacy.

In 1981 census, the average rural-urban differentials index in literacy was 0.73. Jind (1.01) district recorded the highest rural-urban differentials index in literacy while; Rohtak (0.50) district recorded the lowest rural-urban differentials index in literacy of the state. Out of twelve districts, five districts namely, Kurukshetra (0.85), Gurgaon (0.85), Karnal (0.73), Faridabad (0.71) and Bhiwani (0.65) have recorded the moderate rural-urban differentials index in literacy. The rural-urban differentials index value was moderate in five districts in which the differentials index value was recorded between 0.61- 0.90. Karnal district has transferred their position for very high rural-urban differentials index to moderate rural-urban differentials index in literacy and Gurgaon district has transferred their position for high rural-urban differentials index to moderate rural-urban differentials index in literacy as the previous census of 1971. (Table: 4 and Figure: 2) shows that the eastern and the single district of western and south-eastern parts of Haryana have recorded the moderate rural-urban differentials index in literacy.

In 1991 census, the average rural-urban differentials index in literacy was 0.43. Hisar (0.61) and Kaithal (0.61) district recorded the highest rural-urban differentials index in literacy while; Rewari (0.21) district recorded the lowest rural-urban differentials index in literacy of the state. The 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, only two districts namely, Hisar (0.61) and Kaithal (0.61) have recorded the moderate rural-urban differentials index in literacy. The rural-urban differentials index value was moderate in two districts in which the differentials index value was recorded between 0.61- 0.90. Hisar district has transferred their position for high rural-urban differentials index to moderate rural-urban differentials index in literacy as the previous census of 1981. (Table: 4 and Figure: 2) shows that the western and the single district in central parts of Haryana have recorded the moderate rural-urban differentials index in literacy. According to 2001 and 2011 census, none of the districts have exists in this category.

4. Area of Low Rural-Urban Differentials Index in Literacy (0.31-0.60)

All those districts which registered a rural-urban differentials index in literacy between 0.31-0.60 have been classified as the areas of low rural-urban differentials index in literacy. According to 1971 census, none of the districts have exists in this category.

In 1981 census, the average rural-urban differentials index in literacy was 0.73. Jind (1.01) district recorded the highest rural-urban differentials index in literacy while; Rohtak (0.50) district recorded the lowest rural-urban differentials index in literacy of the state. Out of twelve districts, only four districts namely, Ambala (0.60), Sonipat (0.56), Mahendragarh (0.51) and Rohtak (0.50) have recorded the moderate rural-urban differentials index in literacy. The rural-urban differentials index value was low in four districts in which the differentials index value was recorded between 0.31- 0.60. Ambala, Mahendragarh and Rohtak districts have transferred their position for moderate rural-urban differentials index to low rural-urban differentials index in literacy as the previous census of 1971. (Table: 4 and Figure: 2) shows that the northern, the central and the single district of southern parts of Haryana have recorded the low rural-urban differentials index in literacy.

In 1991 census, the average rural-urban differentials index in literacy was 0.43. Hisar (0.61) and Kaithal (0.61) district recorded the highest rural-urban differentials index in literacy while; Rewari (0.21) district recorded the lowest rural-urban differentials index in literacy of the state. Out of sixteen districts, nine districts namely, Sirsa (0.58), Gurgaon (0.58), Jind (0.57), Karnal (0.45), Panipat (0.41), Kurukshetra (0.40), Faridabad (0.40), Yamunanagar (0.39) and Ambala (0.35) have recorded the low rural-urban differentials index in literacy. The rural-urban differentials index value was low in nine districts in which the differentials index value was recorded between 0.31- 0.60. Jind and Sirsa districts have transferred their position for high rural-urban differentials index to low rural-urban differentials index in literacy and Karnal, Kurukshetra, Gurgaon and Faridabad district has transferred their position for moderate rural-urban differentials index to low rural-urban differentials index in literacy as the previous census of 1981. Ambala district held the same position as the previous census of 1981. (Table: 4 and Figure: 2) shows that the northern, the eastern, the

western and the single district in south-eastern parts of Haryana have recorded the low rural-urban differentials index in literacy.

In 2001 census, the average rural-urban differentials index in literacy was 0.24. Gurgaon (0.39) district recorded the highest rural-urban differentials index in literacy while; Jhajjar (0.12) and Rewari (0.12) districts recorded the lowest rural-urban differentials index in literacy of the state. The three more districts were added, there were nineteen districts in Haryana and the newly introduced districts were Panchkula, Jhajjar and Fatehabad. Out of nineteen districts, only two districts namely, Gurgaon (0.39) and Fatehabad (0.33) have recorded the low rural-urban differentials index in literacy. The rural-urban differentials index value was low in two districts in which the differentials index value was recorded between 0.31- 0.60. Gurgaon district held the same position as the previous census of 1991. (Table: 4 and Figure: 2) shows that the single districts of western and the south-eastern parts of Haryana have recorded the low rural-urban differentials index in literacy.

In 2011 census, the average rural-urban differentials index in literacy was 0.15. Mewat (0.32) district recorded the highest rural-urban differentials index in literacy while; Jhajjar (0.06) and Rewari (0.06) districts have recorded the lowest rural-urban differentials index in literacy of the state. The 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 (0.32) recorded the low rural-urban differentials index in literacy because of pre-dominance of backward Muslims population in the district which give less attention towards the education. The rural-urban differentials index value was low in single districts in which the differentials index value was recorded between 0.31- 0.60. (Table: 4 and Figure: 2) shows that the only Mewat district in southern parts of Haryana recorded the low rural-urban differentials index in literacy. The last decade (2001-2011) registered great progress in rural-urban literacy rate in most of the districts in Haryana. Only single district recorded the low rural-urban differentials index in literacy.

5. Area of Very Low Rural-Urban Differentials Index in Literacy (Below 30)

All those districts which registered a rural-urban differentials index in literacy was below 0.30 have been classified as the areas of very low rural-urban differentials index in literacy. According to 1971 and 1981 census, none of the districts have exists in this category.

In 1991 census, the average rural-urban differentials index in literacy was 0.43. Hisar (0.61) and Kaithal (0.61) district recorded the highest rural-urban differentials index in literacy while; Rewari (0.21) district recorded the lowest rural-urban differentials index in literacy of the state. Out of sixteen districts, five districts namely, Bhiwani (0.30), Mahendragarh (0.29), Rohtak (0.27), Sonipat (0.22) and Rewari (0.21) have recorded the very low rural-urban differentials index in literacy. The rural-urban differentials index value was very low in five districts in which the differentials index value was recorded below 0.30. Bhiwani district has transferred their position for moderate rural-urban differentials index to very low rural-urban differentials index in literacy and Rohtak, Sonipat and Mahendragarh district has transferred their position for low rural-urban differentials index to very low rural-urban differentials index in literacy as the previous census of 1981. (Table: 4 and Figure: 2) shows that the central and the south-western parts of Haryana have recorded the very low rural-urban differentials index in literacy.

In 2001 census, the average rural-urban differentials index in literacy was 0.24. Gurgaon (0.39) district recorded the highest rural-urban differentials index in literacy while; Jhajjar (0.12) and Rewari (0.12) districts recorded the lowest rural-urban differentials index in literacy of the state. Out of nineteen districts, seventeen districts namely, Faridabad (0.29), Jind (0.28), Kaithal (0.28), Sirsa (0.28), Hisar (0.26), Karnal (0.25), Yamunanagar (0.22), Panchkula (0.21), Ambala (0.21), Kurukshetra (0.21), Panipat (0.17), Bhiwani (0.17), Rohtak (0.16), Mahendragarh (0.14), Sonipat (0.14), Rewari (0.12) and Jhajjar (0.12) have recorded the very low rural-urban differentials index in literacy. The rural-urban differentials index value was very low in seventeen districts in which the differentials index value was recorded below 0.30. Hisar and Kaithal districts have transferred their position for moderate rural-urban differentials index to very low rural-urban differentials index in literacy and Jind, Sirsa,

Ambala, Karnal, Kurukshetra, Yamunanagar, Panipat and Faridabad districts have transferred their position for low rural-urban differentials index to very low rural-urban differentials index in literacy as the previous census of 1991. Rewari, Rohtak, Sonipat, Bhiwani and Mahendragarh district held the same position as the previous census of 1991. (Table: 4 and Figure: 2) shows that the eastern, the western, the northern, the southern and the central parts of Haryana recorded the very low rural-urban differentials index in literacy.

In 2011 census, the average rural-urban differentials index in literacy was 0.15. Mewat (0.32) district recorded the highest rural-urban differentials index in literacy while; Jhajjar (0.06) and Rewari (0.06) districts have recorded the lowest rural-urban differentials index in literacy of the state. Out of twenty-one districts, twenty districts namely, Sirsa (0.20), Fatehabad (0.18), Hisar (0.18), Palwal (0.16), Jind (0.16), Kaithal (0.16), Karnal (0.15), Kurukshetra (0.14), Panchkula (0.14), Ambala (0.13), Yamunanagar (0.13), Faridabad (0.13), Bhiwani (0.11), Panipat (0.10), Rohtak (0.10), Sonipat (0.09), Gurgaon (0.08), Mahendragarh (0.07), Rewari (0.06) and Jhajjar (0.06) have recorded the very low rural-urban differentials index in literacy. The rural-urban differentials index value was very low in twenty districts in which the differentials index value was recorded below 0.30. Gurgaon and Fatehabad districts have transferred their position for low rural-urban differentials index to very low rural-urban differentials index in literacy as the previous census of 2001. Rewari, Jhajjar, Sonipat, Rohtak, Ambala, Karnal, Faridabad, Kurukshetra, Yamunanagar, Panchkula, Panipat, Kaithal, Jind, Hisar, Sirsa, Bhiwani and Mahendragarh districts held the same position as the previous census of 2001. (Table: 4 and Figure: 2) clearly shows that the eastern, the western, the northern, the southern and the central parts of Haryana recorded the very low rural-urban differentials index in literacy. The last decade (2001-2011) registered great progress in rural-urban literacy rate in most of the districts in Haryana. The full-fledged state of Haryana recorded the very low rural-urban differentials index in literacy.

Conclusion

It may be concluded that the spatial and temporal pattern of rural-urban differentials index in literacy is changing with the passes of time. Improvement of rural-urban differentials index in literacy in Haryana is a long-term dream as there is still a large difference between rural and urban literacy rate. There is a close relationship between rural-urban literacy and rural-urban differentials index in literacy in all the districts of Haryana. As per 1971 census, 21.70 percent of the rural population was literate as against the 51.10 percent of urban population. The urban-rural differential index in literacy was 1.10. As per 2011 Census, 71.40 percent of the rural population was literate as against the 84.10 per cent of urban population. The urban-rural differential index in literacy was 0.15. The rural-urban differentials index in literacy is also inversely related with both the rural literacy and urban literacy. The rural-urban differentials index increase as the literacy rate decrease and the literacy rate increase as the rural-urban differentials index decrease. Hence, the rural-urban literacy was low in less developed areas where differentials index value was high and the rural-urban literacy was high in developed areas where differentials index value was low. All the districts with low rural literacy experienced high and very high rural-urban differentials index in literacy and high rural literacy experienced low and very low rural-urban differentials index in literacy. There are many reasons for the rural-urban differentials in literacy. The literacy rate is more in urban areas than in the rural areas.

Area of high and very high rural-urban differentials index in literacy is the urban literacy was very high but rural literacy was very low experienced the high and very high rural-urban differentials index in literacy. According to 1971, the eastern, the western and the southern parts of Haryana have recorded a high and very high rural-urban differentials index in literacy. In 1981, the western part of Haryana recorded a high rural-urban differentials index in literacy. According to 1991-2011 censuses, none of the district exists in high and very high rural-urban differentials index in literacy. The main reasons of high and very high rural-urban differentials index in literacy. Firstly, the literacy rate is more in urban areas than in the rural areas, the low literacy rate in rural area are attributed to high percentage of workers in

agricultural activities, widespread poverty, lack of educational Facilities, pre-dominance of backward Muslim population which give less attention towards the education, economic backwardness, continued tradition of early engagement/marriage of the female's, subsistence agriculture economy, lack of industrial development, opening a less number of schools, colleges and universities, superstitions, lack of awareness for female's 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; large percentage of scheduled caste population and Muslim population, shortage of female teachers, the absence of single sex schools, household responsibilities of the females, prejudices against the female's education, low social status of women with restrictions on their mobility and ignorance of female education in rural area etc were the other factors responsible for wide rural-urban differentials index in literacy.

Area of moderate rural-urban differentials index in literacy is the transition zone between areas of high rural-urban differentials index in literacy and low rural-urban differentials index in literacy. In these districts, the urban literacy was moderate but rural literacy was low experienced the moderate rural-urban differentials index in literacy. According to 1971 census, the northern, the central and south-western parts of Haryana have recorded the moderate rural-urban differentials index in literacy. According to 1981 census, the eastern, the south-eastern and the single district of western parts of Haryana have recorded the moderate rural-urban differentials index in literacy. According to 1991 census, the single district of the eastern and the western parts of Haryana recorded the moderate rural-urban differentials index in literacy. According to 2001 and 2011 census, none of the district exists in moderate rural-urban differentials index in literacy. The main reasons of moderate rural-urban differentials index of literacy in Haryana is the increasing the literacy rate is more in rural area as comparison to urban area, high degree of rural-urban interaction, opening of a number of schools, colleges and universities in rural area, less prejudice against the females education, improving the status of females, more awareness for female education, improving

standard of living, increasing the per capita income, predominantly agricultural and agriculture are Commercialized, increasing the accessibility and connectivity of transportation and communication network, improving the educational facilities and state and central government made efforts to increase the literacy in rural area were the other factors responsible for moderate rural-urban differentials index in literacy.

Area of low and very low rural-urban differentials index in literacy is the urban literacy was high and the rural literacy was also high experienced the low and very low rural-urban differentials index in literacy. According to 1971 census, none of the district exist category. According to 1981 census, the northern, the central and the south-western part of Haryana have recorded the low rural-urban differentials index in literacy. According to 1991 census, the eastern, the western, the northern, the southern and the central parts of Haryana had recorded the low and very low rural-urban differentials index in literacy. According to 2001 and 2011 census, the full-fledged state of Haryana recorded the low and very low rural-urban differentials index in literacy. Haryana also situated in this category in national level. After five decadal, the full-fledged state of Haryana has converted their very high and high rural-urban differentials index in literacy to low and very low rural-urban differentials index in literacy. Jhajjar and Rewari districts recorded the lowest rural-urban differentials index in literacy of the state in 2011. According to 1971 censuses, Mahendragarh district held the top position in lowest rural-urban differentials index in literacy. According to 1981 censuses, Rohtak district held the top position in lowest rural-urban differentials index in literacy. According to 1991 censuses, Rewari district held the top position in lowest rural-urban differentials index in literacy and According to 2001-2011 censuses, Jhajjar and Rewari districts continuously held the top position in lowest rural-urban differentials index in literacy. The main reasons of low and very low rural-urban differentials index in literacy is the improvement of literacy rate in both rural and urban areas, availability of educational institutions equally for rural and urban areas, high developed infrastructural facilities, opening a number of school, colleges and university in rural and urban areas, less prejudices

against female's education in both rural and urban areas, high standard of living, increase in urbanization and industrialization, availability of better educational facilities in rural and urban area, increasing the participation of female's for economically gainful activities, increasing the value of education for matrimonial and employment purposes, high proportion of workers in non-agricultural activities, greater degree of urban-rural interaction, increasing the per capita income, low incidence of dropouts from schools due to early marriage, increasing the attention towards the education, easy accessibility and connectivity of transportation and communication, increasing the social and economic functional value of education in rural areas and special policies for the improvement of downtrodden, the accessibility of schools in rural areas has also increased tremendously, the state and central government made efforts to increase the literacy rate in rural area etc were the other responsible factors for low and very low rural-urban differentials index in literacy. The state and central government efforts is also played an important role in displaying low and very low rural-urban differentials index in literacy. In rising, the level of rural-urban literacy, it may be concluded that low and very low rural-urban differentials 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 rural-urban literacy gap between narrowed down with passes of time gradually. The rural-urban differentials index also decreased significantly from 1.10 to 0.15 during the period from 1971-2011. The last five decade has witnessed a considerable decline the rural-urban differentials index in literacy.

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