

Changing dimensions of literacy scenario and their determinants in India: a geographical perspective

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Abstract

The present study is attempted under four points. The first point discusses the regional trends and patterns of literacy rate by decades since 1951. The second examines the trends of literacy rate by inter-states and union territories in the study area during 1951-2011. The third observes the distribution pattern and male-female literacy differentials during 2011, while the fourth explains the factors which influence the literacy level in the study area. The study reveals that the total literacy of India increased from 18.33 per cent to 73.00 from 1951 to 2011. All the states showed positive growth in literacy rate, especially Kerala (93.91 per cent) and Mizoram (91.58 per cent) having the highest growth. The male (96.1 per cent) and female (92.1 per cent) literacy was found to be the highest in Kerala (96.1 per cent). The present study concludes that lower gross enrolment ratio and high dropout rates are chief determinants of literacy in the study area. The study is based upon suitable statistical techniques to analyze the data. Finally, some suggestions have been given to enhance the level of literacy rate that may result into positive socio-cultural transformation.

Keywords: *demographic behaviour, disparity in literacy, literacy differentials, spatial perspective*

Rezumat. Evoluția ratei alfabetizării în India și factorii determinanți: o perspectivă geografică

Studiul de față se bazează pe patru puncte. Primul punct prezintă tendințele regionale și modelele ratei de alfabetizare pe decenii din 1951. Cel de-al doilea punct analizează tendințele ratei de alfabetizare pe state și teritorii din zona de studiu în perioada 1951-2011. Cel de-al treilea prezintă modelul de distribuție și diferențele de alfabetizare pe genuri masculin-feminin în 2011, în timp ce al patrulea punct explică factorii care influențează nivelul de alfabetizare în zona de studiu. Studiul arată că alfabetizarea totală în India a crescut de la 18.33% la 73.00 % din 1951 până în 2011. Toate statele au avut o creștere pozitivă a ratei de alfabetizare, în special Kerala (93.91%) și Mizoram (91.58%) având de altfel și cea mai mare creștere. Alfabetizarea masculină (96,1%) și cea feminină (92,1%) a avut cele mai mari valori în Kerala (96.1%). Studiul de față concluzionează că ratele brute de școlarizare cele mai mici și ratele abandonului școlar cele mai mari sunt determinanți principali ai alfabetizării în zona de studiu. Studiul se bazează pe tehnici statistice adecvate de analiză a datelor. În cele din urmă, s-au făcut unele sugestii pentru a spori nivelul ratei de alfabetizare, care pot determina o transformare socio-culturală pozitivă.

Cuvinte-cheie: *comportament demografic, disparitate în procesul de alfabetizare, diferențe de alfabetizare, perspectivă spațială*

Introduction

Census of India 2011 is the fifteenth unbroken series since 1872 and the seventh census after independence. It is believed that any development plan prepared for the wellbeing of the society in any specific region is more or less ineffective after a gap of ten years due to changes occurred in demographic structure and its associated set up. Therefore, Census in regular interval of ten years is mandatory and new planning will take place according to the needs of the society and demographic behaviour (Pant, 2013). Literacy is one of the basic determinants of socio-economic development attained by a human group. Literacy and education are like oxygen for human beings in contemporary technology driven world and knowledge economy (Siddiqui, Hussain & Hannan, 2011). It is pre-eminently the possession of the dominant classes which they use to legitimize and maintain their position. It is a cultural capital which they invest to 'reproduce' themselves. In fact, literacy is a powerful help for developing thinking ability and to reduce or limit literacy is to impair the ability to think. In particular, literacy supports three things:

abstract thinking, logical thinking and memory. Literacy is an effective instrument for social and economic development and national integration. It is considered as an important social indicator, because people with higher levels of literacy rate tend to have healthier life styles, less disease and generally a better quality of life (Siddiqui & Hannan, 2011). Literacy rate forms an important demographic element and is a good measure of human progress towards modernization. As per definition of the Census of India 2001 and 2011, a person who can both read and write with understanding in any language is taken as literate. All children below the age of 7 years have been treated as illiterate. In the 1961 and 1971 Censuses, children below the age of 5 years were treated as illiterate (Hannan, 2013).

The most basic measurement of educational status of a people is literacy. High level of physical and mental status of population of a country is a pre-requisite for its economic, social and political advancement. That is why literacy rate is considered to be a good indicator of development in any given society. Directive Principles of Constitution of India ask the state to provide free and compulsory

education for all the children until they complete fourteen years of age. The National Policy on Education (1968) had also stressed the need for strenuous efforts for early fulfilment of the goal laid down in the Constitution in this respect. The Constitutional Amendment Act of 1976 put education in the concurrent list i.e. the official list of subjects for which the Centre and the State government assume joint responsibility. The national policy on education, 1986 focused on: universal enrolment in Elementary Schools; universal retention of children up to fourteen years of age; and a substantial improvement in the quality of education to enable all children to achieve a high level of 3-Rs: reading, writing and arithmetic (Ghosh, 1985).

The literacy rates in a country or region are affected largely by the historical, economic, social and cultural determinants. It is observed that if the rate of literacy transition was low, the economic development slowed down while the economic development was rapid if the literacy transition was fast. The literacy rate or the educational status in any area may be determined largely, by a variety of historical, social and economic factors. Closely associated with this is the factor of cost of education. In the less developed countries where education is not free and the cost of education is high, the cost of imparting education to the children becomes an important determinant of literacy. India is a poor country. Most of its social groups live a life of extreme misery without even the essentials of life available to them. A vast majority of people live in slums and in extremely filthy surroundings. They remain below the poverty line and lead a life of starvation. Under these conditions, they are too poor to think and avail any education at all. It is difficult to expect children belonging to the families that lie below the poverty line to go to schools, especially when they can start helping the family in its pursuits of making a living. The experience of India in this regard reveals that even if education is made compulsory and free, the extremely poor families prefer their children to help in making an earning, how so ever meagre it may be rather than sparing them for schools. In case of female children, who cannot be sent outside to work, they stay at home to look after younger children in the family when the parents go outside the work (Hannan, 2015). One notable feature of India's population is that the females lag far behind the males in term of literacy. Such male-female differentials in literacy were the product of the country's history and its socio-economic-political milieu. Largely farm-based economic setup, general poverty, caste-based social structure, prejudices against female's mobility, education, and employment, limited facilities for schooling, poor infrastructure in schools, proxy teacher, high incidence of dropouts and child marriages are some of the factors that may have contributed to the slow pace of literacy transition in the

country. Added to the list was one most prominent factor of high rate of natural increase of population that keeps on adding large number of illiterates every year (Chandna, 2009).

Although the growth in educational facilities has been somewhat satisfactory, yet the rate of improvement in literacy has not been sufficient to reduce the disparity in male-female literacy. It is often argued that, despite planned and concentrated efforts, both gender and regional disparities could be seen as a part of wider regional imbalances that existed as a result of India's varied socio-cultural and historical past. In India, the education of girls has historically lagged behind that of boys (Agrawal & Aggarwal, 1994; Sengupta & Guha, 2002; Bandopadhyay & Subrahmaniam, 2010; Das & Mukherjee, 2008; Hannan & Siddiqui, 2015).

Objectives

The present study is attempted under four points. First point discusses the regional trends and patterns of literacy rate by decades since 1951. Second examines the trends of literacy rate by inter-states and Union Territories in the study area during 1951-2011. Third observes distributional pattern and male-female literacy differentials during 2011, and fourth explains the factors which influence on literacy level in the study area.

Study Area

India as a whole has been chosen as study area for the present research work and the boundary of a states / UT has been considered as the unit of study.

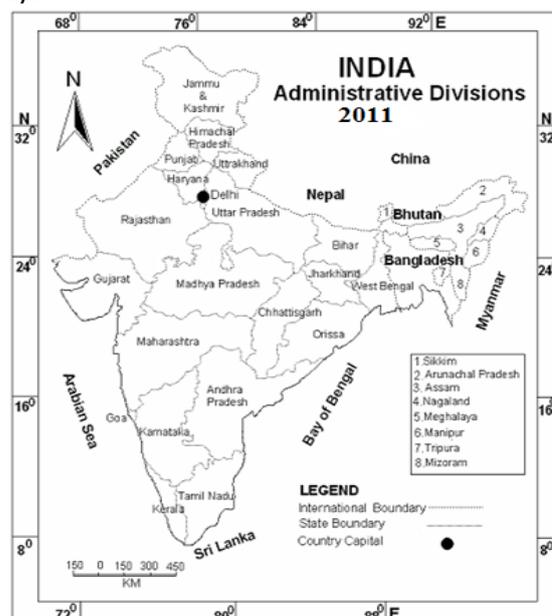


Fig. 1: Administrative divisions of India in 2011 (source: Census of India, 2011)

The country comprises twenty-eight states and seven union territories (Census, 2011). It lies entirely in the Northern Hemisphere. India is the second most populous country in the world (Khan et. al, 2009). According to the 2011 Indian Census, the total population of India was 1,21 billion (17.5 per cent of world's populations, out of which 68.84 per cent was rural and the remaining 31.16 per cent was classified as urban).

The general density of population was 382 persons per square kilometer. The general sex ratio, that is the number of females per thousand males, was 940, while in rural areas it was 947 and in urban areas 926. The literacy rate was 74.04 per cent. The percentage of literacy in rural and urban population was 68.91 per cent and 84.98 per cent, respectively.

Data and Methods

The present paper is entirely based on secondary sources of data on states obtained from Census of India publications, reports, memoirs, gazetteers, and records of various offices collected from different published and unpublished sources. Apart from the demographic data for the years 1951-2011, obtained from the Census of India the relevant non-demographic data have also been obtained from publications of the Ministry of Home Affairs, Government of India, New Delhi. For understanding and explaining the regional pattern of occurrence of a geographic fact and its trends of regional readjustments a reference to the past therefore becomes not only relevant, but quite essential. In fact, the entire study has taken the form of an interpretation of what have emerged on the maps and arranged in tables. On the basis of tables and processed data, different maps have been prepared with application of GIS-Arc view programme (version 3.2) to show the patterns of inter-state variations in the literacy rate of population in India. The literacy rate of population in the union territories of India has not been shown in the maps, but the degree of determinants of literacy rate of population in all the union territories has been studied and their per cent values have been given in table 2 & 3. For showing the literacy rate simple percentage has been calculated. Subsequently, choropleth maps have been prepared to bring out the real contrast picture more effectively. A careful selection of the class intervals to decide the categories drawn on the maps are based on the mean and standard deviations technique. Correlation techniques were applied to test the linear relationship between literacy rate and selected explanatory variables.

Differentials in literacy are calculated by using the following formula-

$$MFD = MLR - FLR$$

Where,

MFDL= Male-female differential of Literacy Rate.

MLR=Male literacy rate.

FLR= Female literacy rate.

General, Rural and Urban Trends of Literacy Rate in India (1951-2011)

General literacy rate from 1951 to 1961, increased by 9.97 per cent points, during the following periods (1961 to 1971, 1971 to 1981, 1981 to 1991, 1991 to 2001 and 2001 to 2011) it has increased by about 6.15, 9.12, 8.64, 12.59 and 8.2 per cent points respectively. The pace of educational growth geared up in successive years and by the end of 2011, the total literacy level was 73.00 per cent, whereas it was 80.90 per cent for males and 64.60 per cent for females. The general trends of rural literacy rates show that during 1951-1961 it increased from 10.4 per cent points in India. The rate rose to more than 5 per cent points in 1971, 1981, 1991, 2001 and 2011. An accelerating rate of rural literacy rate was recorded during the five decades (1961-2011), it was 68.91 per cent persons, 78.57 per cent for male and 58.75 per cent for females in 2011 in the country. In 1951, the urban literacy rate was 34.60 per cent, and it respectively rose to 54.40 per cent in 1961. This development continued to next decadal year (1971) with 60.20 per cent. The same pattern of increase with different magnitudes was observed in the succeeding decadal years (1981-2011). The trends in rural and urban male and female literacy rates have, by and large, been the same as those noted above in respect of the general literacy rates (Table 1).

Regional Distributional Pattern of Literacy Rate in India 2011

The distribution of literacy rates (persons, males and females) is marked by regional variations over space in 2011 in India. Generally, literacy rate in India is 73.00 per cent; it is 80.9 per cent for males and 64.6 per cent for females (Table 3). The literacy rate is marked by notable regional variation in its distributions in India. The method of classifying the literacy rate into three categories of medium, high and low invariably has been that of standard deviation and mean. In this method, levels of literacy rate by state have been arranged in ascending order and their mean and standard deviations have been worked out.

Table 1 Trends of Literacy Rate in India in per cent (1951-2011)

Census Years	Total			Rural			Urban		
	P	M	F	P	M	F	P	M	F
1951	18.33	27.20	8.86	12.10	19.00	4.90	34.60	45.60	22.30
1961	28.30	40.40	15.40	22.50	34.30	10.10	54.40	66.00	40.50
1971	34.45	46.00	22.00	27.90	48.60	15.50	60.20	69.80	48.80
1981	43.57	56.40	29.80	36.00	49.60	21.70	67.20	76.70	56.30
1991	52.21	64.10	39.30	44.70	57.90	30.60	73.10	81.10	64.00
2001	64.80	75.30	53.70	58.70	70.70	46.60	79.90	86.30	72.90
2011	73.00	80.90	64.60	68.91	78.57	58.75	84.98	89.70	79.92

Source: Census of India, 2011, Ministry of Home Affairs, Office of the General Registrar, Govt, of India, New Delhi.

P: Persons; M: Males; F: Females

Note:

(*) For 1951, the population male, female and persons refer to effective literacy rates and the breakup of Rural; urban and male-female components are crude literacy rates.

(1) Literacy rate for 1951, 1961 and 1971 Census relates to population aged five years and above. The rates for the 1981, 1991, 2001 and 2011 census relate to population aged seven years and above.

(2) The 1981 literacy rate exclude Assam, where Census could not be conducted and the 1991 literacy rate exclude Jammu & Kashmir, where census could not be conducted due to disturbed conditions.

(3) The 2001 census, literacy rate excludes entire Kachh district, Morvi, Maliya-Miyana and Wankaner talukas of Rajkot district, Jodiya talluka of Jamnagar district of Gujarat state and entire Kinnaur district of Himachal Pradesh where population enumerate of census of India, 2001, could not be conducted due to natural calamities.

Table 2 States/ Union Territories Wise Trends of Literacy Rate in India in per cent (1951-2011)

S. N	States/Union Territories	1951	1961	1971	1981	1991	2001	2011
1	Jammu & Kashmir	NA	12.95	21.71	30.64	NA	55.52	68.74
2	Himachal Pradesh	NA	NA	NA	NA	63.86	76.48	83.78
3	Punjab	NA	NA	34.12	43.37	58.51	69.65	76.68
4	Uttarakhand	18.93	18.05	33.26	46.06	57.75	71.62	79.63
5	Haryana	NA	NA	25.71	37.13	55.85	67.91	76.64
6	Rajasthan	8.5	18.12	22.57	30.11	38.55	60.41	67.06
7	Uttar Pradesh	12.02	20.87	23.99	32.65	40.71	56.27	69.72
8	Bihar	13.49	21.95	23.17	32.32	37.49	47.00	63.82
9	Sikkim	NA	NA	17.74	34.05	56.94	68.81	82.2
10	Arunachal Pradesh	NA	7.13	11.29	25.55	41.59	54.34	66.95
11	Nagaland	10.52	21.95	33.78	50.28	61.65	66.59	80.11
12	Manipur ^a	12.57	36.04	38.47	49.66	59.89	70.53	79.85
13	Mizoram	31.14	44.01	53.80	59.88	82.26	88.80	91.58
14	Tripura	NA	20.24	30.98	50.10	60.44	73.19	87.75
15	Meghalaya	NA	26.92	29.49	42.05	49.1	62.56	75.48
16	Assam	18.53	32.95	33.94	NA	52.89	63.25	73.18
17	West Bengal	24.61	34.46	38.86	48.65	57.70	68.64	77.08
18	Jharkhand	12.93	21.14	23.87	35.03	41.39	53.56	67.63
19	Odisha	15.80	21.66	26.18	33.62	49.09	63.08	73.45
20	Chhattisgarh	9.41	18.14	24.08	32.63	42.91	64.66	71.04
21	Madhya Pradesh	13.16	21.41	27.27	38.63	44.67	63.74	70.63
22	Gujarat	21.82	31.47	36.95	44.92	61.29	69.14	79.31
23	Maharashtra	27.91	35.08	45.77	57.24	64.87	76.88	82.91
24	Andhra Pradesh	NA	21.19	24.57	35.66	44.08	60.47	67.66
25	Karnataka	NA	29.80	36.83	46.21	56.04	66.64	75.6
26	Goa	23.48	35.41	51.96	65.71	75.71	82.01	87.4
27	Kerala	47.18	55.08	69.75	78.85	89.81	90.86	93.91
28	Tamil Nadu	NA	36.39	47.40	54.39	62.66	73.45	80.33
Union Territories								
29	Chandigarh	NA	NA	70.43	74.80	77.81	81.94	86.43
30	Delhi	NA	61.95	65.08	71.94	75.29	81.67	86.34
31	Daman & Diu	NA	NA	NA	NA	71.2	78.18	87.07
32	Dadra & Nagar Haveli	NA	NA	18.13	32.90	40.71	57.63	77.65
33	Lakshadweep	15.23	27.15	51.76	68.42	81.78	86.66	92.28
34	Pondicherry	NA	43.65	53.38	65.14	74.74	81.24	86.55
35	Andaman & Nicobar Island	30.30	40.07	51.15	63.19	73.02	81.30	86.27
All India		18.33	28.30	34.45	43.57	52.21	64.84	74.04

Source: Census of India (1951- 2011), Ministry of Home Affairs, Office of the General Registrar, Govt of India, New Delhi.

NA: Not Available

a- India and Manipur figures exclude those of the three sub-division viz. Mao Maram, Poamata and purul of Senapati district of Manipur as census result of 2001 in these three sub-division were cancelled due to technical and administrative reasons.

Note: Literacy rates for 1951, 1961, and 1971 Census relate to population aged five years and above. The rates for the 1981, 1991, 2001 and 2011 Censuses relate to the population aged seven years and above. The literacy rate for 1951 in case of West Bengal relates to total population including 0-4 age group. Literacy rates for 1951 in respect of Chhattisgarh, Madhya Pradesh and Manipur are based on sample population.

In India, it is recorded to be 73.00 per cent, 80.00 per cent and 64.6 per cent respectively for persons, male and females. It is observed that there are seven identifiable states with high level of literacy rate (Fig. 2A). They are Kerala (94.00 per cent), Mizoram (91.3 per cent), Goa (88.7 per cent), Tripura (87.2 per cent), Himachal Pradesh (82.8 per cent), Maharashtra (82.3 per cent), and Sikkim (81.4 per cent). These states are scattered all over the study area. The states of medium category of literacy rates are Tamil Nadu (80.00 per cent), Nagaland (79.6 per cent), Manipur (79.2 per cent), Uttarakhand (78.8 per cent) and Gujarat (78.00 per cent) - they are located in the eastern and scattered parts of the study area. A region of low level of literacy rate (below 75.86 per cent) is concentrated in north eastern and north western part of India. These states are West Bengal (76.30 per cent), Punjab (75.8 per cent), Haryana (75.6 per cent), Karnataka (75.4 per cent), Meghalaya (74.4 per cent), Odisha (72.9 per cent), Assam (72.2 per cent), Chhattisgarh (70.3 per cent), Madhya Pradesh (69.3 per cent), Uttar Pradesh (67.7 per cent), Jammu & Kashmir (67.2 per cent), Andhra Pradesh (67.00 per cent), Jharkhand (66.4 per cent), Rajasthan (66.1 per cent), Arunachal Pradesh (65.4 per cent) and Bihar (61.8 per cent).

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Table 3 Literacy Rate in per cent by Sex in India, 2011

Sl. No	States/Union Territories	Persons	Males	Females	Gender Gap
1	Jammu & Kashmir	67.2	76.8	56.4	20.4
2	Himachal Pradesh	82.8	89.5	75.9	13.6
3	Punjab	75.8	80.4	70.7	9.7
4	Uttarakhand	78.8	87.4	70	17.4
5	Haryana	75.6	84.1	65.9	18.2
6	Rajasthan	66.1	79.2	52.1	27.1
7	Uttar Pradesh	67.7	77.3	57.2	20.1
8	Bihar	61.8	71.20	51.5	19.7
9	Sikkim	81.4	86.6	75.6	11.0
10	Arunachal Pradesh	65.4	72.6	57.7	14.9
11	Nagaland	79.6	82.8	76.1	6.7
12	Manipur	79.2	86.1	72.4	13.7
13	Mizoram	91.3	93.30	89.3	4.0
14	Tripura	87.2	91.5	82.7	8.8
15	Meghalaya	74.4	76.0	72.9	3.1
16	Assam	72.2	77.8	66.3	11.5
17	West Bengal	76.30	81.7	70.5	11.2
18	Jharkhand	66.4	76.8	55.4	21.4
19	Odisha	72.9	81.6	64.0	17.6
20	Chhattisgarh	70.3	80.3	60.2	20.1
21	Madhya Pradesh	69.3	78.7	59.2	19.5
22	Gujarat	78.0	85.8	69.7	16.1
23	Maharashtra	82.3	88.4	75.9	12.5
24	Andhra Pradesh	67.00	74.9	59.1	15.8
25	Karnataka	75.4	82.5	68.1	14.4
26	Goa	88.7	92.6	84.7	7.9
27	Kerala	94	96.1	92.1	4.0
28	Tamil Nadu	80.00	86.8	73.4	13.4
Union Territories					
29	Chandigarh	86.00	90.00	81.2	8.8
30	Delhi	86.2	90.9	80.8	10.1
31	Daman & Diu	87.1	91.5	79.5	12.0
32	Dadra & Nagar Haveli	76.2	85.2	64.3	20.9
33	Lakshadweep	91.8	95.6	87.9	7.7
34	Pondicherry	85.8	91.3	80.7	10.6
35	Andaman & Nicobar Island	86.6	90.30	82.4	7.9
All India		73.00	80.9	64.6	16.3

Data Source: Census of India, 2011, Ministry of Home Affairs, Office of the General Registrar, Govt, of India, New Delhi

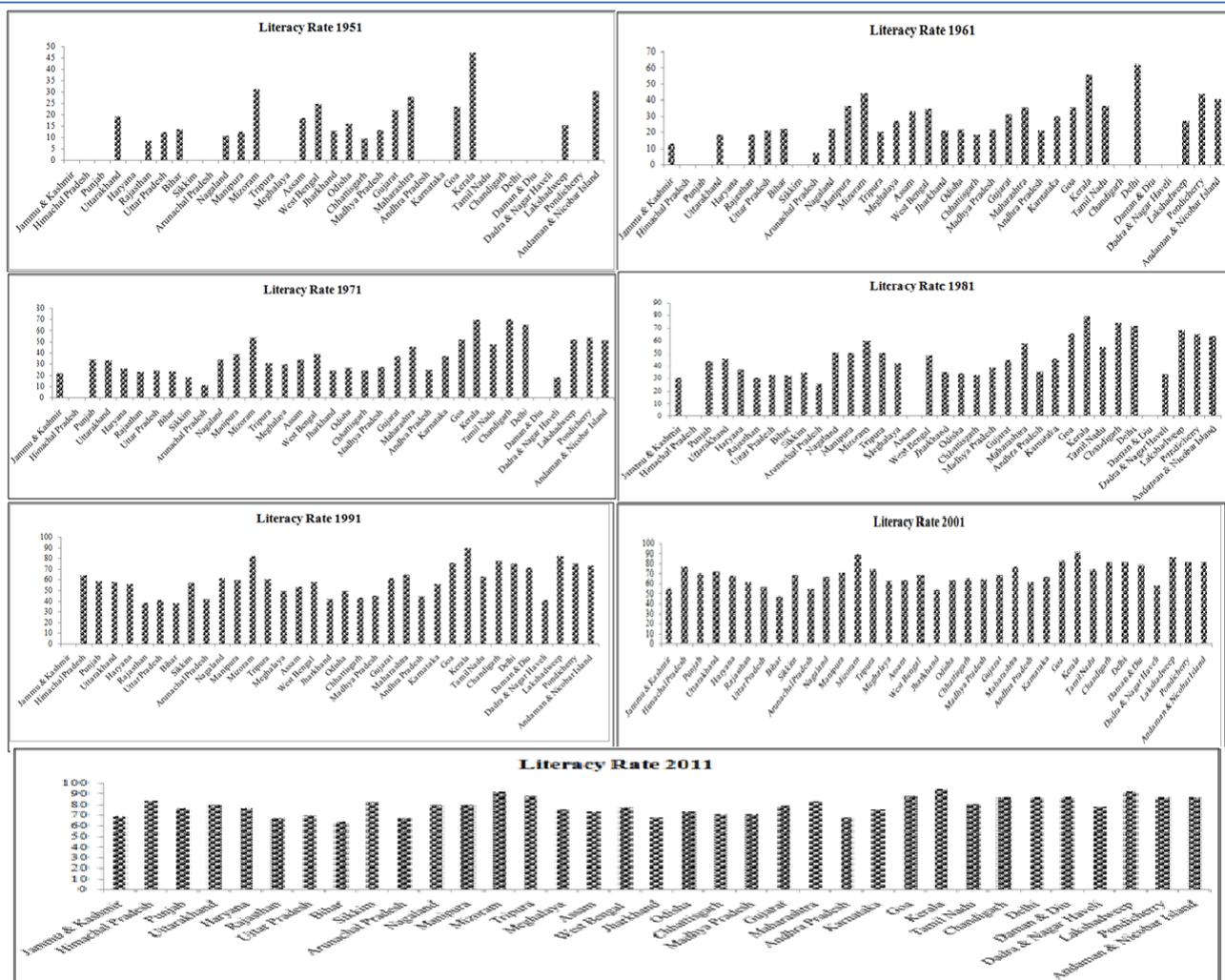


Fig.2: Decade and States/ Union Territories (UT) Wise Bar Graph of Literacy Rate in India (1951-2011)

There is a wide regional difference in male literacy rate among all the states of the study area. Male literacy rate is arranged into three degrees of high, medium and low rate. High male literacy rate is observed in ten states in the study area. These states are Kerala (96.1 per cent), Mizoram (93.3 per cent), Goa (92.6 per cent), Tripura (91.5 per cent), Himachal Pradesh (89.5 per cent), Maharashtra (88.4 per cent), Uttarakhand (87.4 per cent), Tamil Nadu (86.8 per cent), Sikkim (86.6 per cent) and Manipur (86.1 per cent). Most of these states having a small population although having high literacy do not contribute much to the overall literacy of the nation. The states of high literacy rates are located in north-eastern, north and south-western part. There are two states with medium level of literacy rate located in north western part (Fig 2B). These states are Gujarat (85.8 per cent) and Haryana (84.1 per cent). The states of low literacy rates are located all over the study area. They are Nagaland (82.8 per cent), Karnataka (82.5 per cent), West Bengal (81.7 per cent), Odisha (81.6 per cent), Punjab (80.4 per cent), Chhattisgarh (80.3 per cent), Rajasthan (79.2

per cent), Madhya Pradesh (78.7 per cent), Assam (77.8 per cent), Uttar Pradesh (77.3 per cent), Jammu & Kashmir (76.8 per cent), Jharkhand (76.8 per cent), Meghalaya (76.0 per cent), Andhra Pradesh (74.9 per cent), Arunachal Pradesh (72.6 per cent), Bihar (71.20 per cent). They account for major share of literates in the country.

The states of high female literacy rates are Kerala (92.1 per cent), Mizoram (89.3 per cent), Goa (84.7 per cent), Tripura (82.7 per cent), Nagaland (76.1 per cent), Himachal Pradesh (75.9 per cent), Maharashtra (75.0 per cent) and Sikkim (75.6 per cent). They are located in north-eastern, south-western and northern part of India. The medium level of female literacy rate is observed in seven states, which are scattered over southern, northern and eastern part of the study area (Fig. 3C).

The states against the female literacy rates are Tamil Nadu (73.4 per cent), Meghalaya (72.9 per cent), Manipur (72.4 per cent), Punjab (70.7 per cent), West Bengal (70.5 per cent), Uttarakhand (70.00 per cent) and Gujarat (69.7 per cent). Low level of female literacy rate is recorded in the states

of Karnataka (68.1 per cent), Assam (66.1 per cent), Haryana (65.9 per cent), Odisha (64.0 per cent), Chhattisgarh (60.2 per cent), Madhya Pradesh (59.2 per cent), Andhra Pradesh (59.1 per cent), Arunachal Pradesh (57.7 per cent), Uttar Pradesh (57.2 per cent), Jammu & Kashmir (56.1 per cent), Jharkhand (55.4 per cent), Rajasthan (52.1 per cent) and Bihar (51.5 per cent), it is scattered all over the study area. These states account for major share of female literates in the study area.

Gender Gap in Literacy Rate in India, 2011

It needs no reiteration that female literacy is the key to all aspects of development. The narrowing of the gender gap in the literacy rate is the key to a vibrant India (Bhargava, 2001). At the National level, the literacy rate for persons was 73.00 per

cent, for males 80.9 per cent and for females 64.6 per cent in 2011.

An examination of the gender gap in literacy rates for 2011 reveals that at the study area it was recorded to be 16.3 per cent. As seen from Table 3, the gender gap was in the range of 3.1 to 27.1 per cent points in Meghalaya and Rajasthan, respectively. There were ten states which recorded gender gap below 11.09 per cent for the study area.

Figure 4 shows the graded distribution of state by gender gap into high, medium and low.

The western margin is occupied by the states of high rate of gender gap in literacy (above 14.06 per cent). Jammu-Kashmir (20.4 per cent), Uttarakhand (17.4 per cent), Uttar Pradesh (20.1 per cent), Bihar (19.7 per cent) and Jharkhand (21.4 per cent) in eastern part of the study area also belong to the same group.

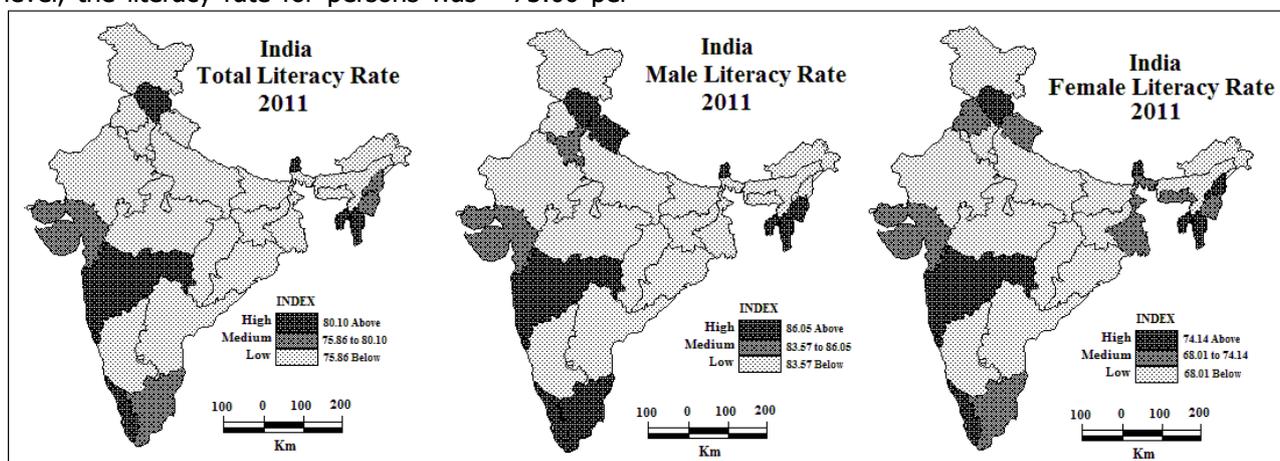


Fig. 3: Literacy Status in India, 2011

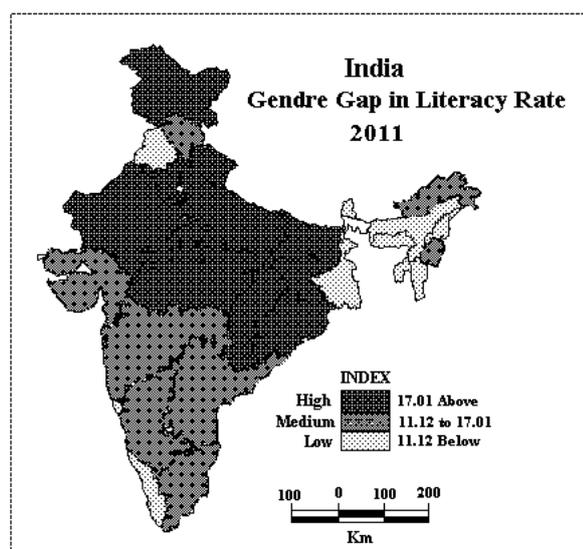


Fig. 4: Gender gap in literacy rate, 2011

The state with low gender gap of below 11.09 per cent makes noticeable region in the eastern part of the study area and including Punjab (9.7 per

cent), Goa (7.9 per cent) and Kerala (4.0 per cent). In southern margin, beginning from from Tamil Nadu (13.4 per cent), Karnataka (14.4 per cent), Andhra Pradesh (15.8 per cent) and Maharashtra (12.5 per cent) and including Himachal Pradesh (13.6 per cent), Arunachal Pradesh (14.9 per cent) and Manipur (13.7 per cent) show medium level of gender gap (17.01 to 11.09 per cent) in literacy rate in India. However, a common feature remained in almost all the states of the country- the gender gap in literacy rate has slightly reduced with increase in literacy rates of females.

Relationship Between Literacy Rate and Other Selected Independent Variables

In the present investigation for causal analysis of the literacy status a list has been prepared for thirty-one different independent variables (Table 4) that influence on may not influence the literacy status of population in the twenty-eight state and seven Union Territories of the study area (India). In this regard a

correlation matrix is computed as shown in Table 4, among total literacy rate, male literacy rate, female literacy rate and gender gap in literacy rate and the independent variables tested, with the assumption that linear relationships existed in all the cases. The testing of simple associations between literacy level and each of the individual variables is shown in Table 4. Among the variables, the coefficients of correlation of four variables have recorded positive significant relationship with literacy rate (Y1).

They are X5 (gross enrolment ratio for girls in the 6th to 8th grade) having direct relationship at 5 per cent significance level, X7 (gross enrolment ratio for boys in the 9th to 10th grade) has positive relation at 5 per cent significant level, X8 (gross enrolment ratio for girls in the 9th to 10th grade) having positive significant at 1 per cent level with literacy rate, X9 (gross enrolment ratio for total in the 9th to 10th grade) is positively correlated with literacy rate at 1 per cent significant level.

Table 4 Result of Correlation (r) among Selected Variables Influencing on Literacy Status in India, 2011

Variables		Literacy Rate Y ₁	Male Literacy Rate Y ₂	Female Literacy Rate y ₃	Gender Gap Y ₄
X ₁	Gross Enrolment Ratio for Boys in Class I-V	-0.111	-0.209	-0.035	-0.166
X ₂	Gross Enrolment Ratio for Girls in Class I-V	-0.149	-0.245	-0.074	-0.134
X ₃	Gross Enrolment Ratio for Total in Class I-V	-0.128	-0.225	-0.052	-0.153
X ₄	Gross Enrolment Ratio for Boys in Class VI-VIII	0.292	0.356	0.025	-0.067
X ₅	Gross Enrolment Ratio for Girls in Class VI-VIII	.378*	.391*	0.363	-0.237
X ₆	Gross Enrolment Ratio for Total in Class VI-VIII	0.342	.380*	0.313	-0.156
X ₇	Gross Enrolment Ratio for Boys in Class IX-X	.394*	.513**	0.314	-0.012
X ₈	Gross Enrolment Ratio for Girls in Class IX-X	.592**	.636**	.547**	-0.303
X ₉	Gross Enrolment Ratio for Total in Class IX-X	.506**	.590**	.442*	-0.162
X ₁₀	Gross Enrolment Ratio for Boys in Class XI-XII	0.103	0.223	0.022	0.206
X ₁₁	Gross Enrolment Ratio for Girls in Class XI-XII	0.258	0.337	0.197	0.01
X ₁₂	Gross Enrolment Ratio for Total in Class XI-XII	0.18	0.283	0.107	0.115
X ₁₃	Dropout Rate for Boys in class I-X	-.472*	-.538**	-.409*	0.159
X ₁₄	Dropout rate for Girls in class I-X	-.466*	-.525**	-.408*	0.017
X ₁₅	Dropout rate for Total in class I-X	-.474*	-.537**	-.413*	0.167
X ₁₆	Pre-Primary/Pre Basic Schools	-0.28	-0.343	-0.219	0.028
X ₁₇	Primary Schools / Junior Basic Schools	-.638*	-0.615	-0.626	0.454
X ₁₈	Middle Schools /Senior Basic Schools	-0.37	-0.278	-0.425	0.514
X ₁₉	High Schools /Post Basic schools	-0.405	-0.354	-0.414	0.344
X ₂₀	Pre-Degree / Junior Colleges/ Higher Sec. Schools	-0.429	-0.287	-.505*	.617*
X ₂₁	Arts, Fine Arts, Social Work, Science & Commerce	-.424*	-0.38	-.425*	0.358
X ₂₂	Engineering/ Technology/ Architecture	-0.167	-0.132	-0.171	0.17
X ₂₃	Medical/ Nursing	-0.017	0.009	-0.026	0.057
X ₂₄	Education/Teacher Training	0.095	0.167	0.054	0.082
X ₂₅	Technical Education	-0.144	-0.051	-0.191	0.292
X ₂₆	Total Colleges	-0.258	-0.233	-0.257	0.211
X ₂₇	College for General Education	-.482*	-.411*	-.494*	.449*
X ₂₈	College for Professionals Education	-0.115	-0.066	-0.136	0.176
X ₂₉	Other (Including Research Institutions)	-0.202	-0.136	-0.229	0.027
X ₃₀	Universities/ Universities Level Institutes Provisional	-0.279	-0.162	-0.335	.435*
X ₃₁	Polytechnics	-0.003	0.013	-0.047	0.001

Source: Calculation is based on State Level Published Data, Census of India, 2011 and Data, Ministry of Home Affairs, Office of the General Registrar, Government of India, New Delhi

Note: **Significance at 1 per cent level and *Significance at 5 per cent level.

Besides, six variables have negative significant relationship with literacy rate at 5 per cent level. They are X13 (dropout rate for boys in the 1st to 10th grade), X14 (dropout rate for girls in the 1st to 10th grade), X15 (dropout rate for total in the 1st to 10th grade), X17 (primary schools/ junior basic schools), X21 (Arts, Fine Arts, Social Work, Science & Commerce) and X27 (college for general education).

Five variables showed a significant positive correlation with male literacy rate Y2. They are X5 (gross enrolment ratio for girls in the 6th to 8th grade) at 5 per cent significant level, X6 (gross enrolment ratio for total in the 6th to 8th grade) at 5 per cent significance level, X7 (gross enrolment ratio for boys in the 6th to 8th grade) at 1 per cent degree impact level, X8 (gross enrolment ratio for girls in the 6th to 8th grade) at 1 per cent significant level, X9 (gross enrolment ratio for total in the 9th-10th grade) is positively correlated with male literacy rate Y2, at 1 per cent significant level. Male literacy rate Y2 negative association with four variables, they are X13 (dropout rate for boys in the 1st to 10th grade) significant at 1 per cent level, X14 (dropout rate for girls the 1st to 10th grade) significant at 1 per cent level, X15 (dropout rate for total in the 1st to 10th grade) at 1 per cent significance level, X27 (college for general education) at 5 per cent level of significance level.

Two variables showed a significant positive correlation with female literacy Y3 at 1 and 5 per cent significance level. They are: X8 (gross enrolment ratio for girls in the 9th and 10th grade), X9 (gross enrolment ratio for total in the 9th and 10th grade) and six variables are negatively associated with female literacy Y3, they are X13 (dropout rate for boys in the 1st to the 10th grade), X14 (dropout rate for girls in the 1st to the 10th grade), X15 (dropout rate for total in the 1st to the 10th grade), X20 (pre-degree/junior colleges/ higher sec. schools), X21 (Arts, Fine Arts, Social Worker, Science & Commerce), X27 (college for general education) at 5 per cent level of significant. Three variables of X20 (pre-degree/junior colleges/ higher sec. schools), X27 (college for general education), X30 (universities/ universities level Institutes) are positively correlated with gender gap at 5 per cent level of significance.

Conclusion and Suggestions

It is a matter of great concern that even with a very liberal definition of literacy; India has 80.9 per cent male literate population and only 64.6 per cent female literate population. Historically, a variety of factors have been found to be responsible for poor female literacy rate, i.e. gender based inequality, social discrimination and economic exploitation,

occupation of girl child in domestic chores, low enrollment of girls in schools, low retention rate and high dropout rate, etc. Programmes like National Literacy Mission, initiated in 1988, for imparting functional literacy has been instrumental for increasing female literacy in the country.

It is clear that there has been a significant improvement in the literacy levels of both males and females with the latter having an edge, which helped in reducing the gap and disparity in male-female literacy. The fruits of this major achievement are bound to have positive bearing on our society. In this respect, performance of Chhattisgarh, Rajasthan and Madhya Pradesh during 1991-2001, and Dadra & Nagar Haveli, Bihar and Tripura during 2001-11, stand out for their remarkable progress in literacy rates.

It is a matter of concern that, despite noticeable improvement in female literacy, the States/UTs of Arunachal Pradesh, Bihar, Chhattisgarh, Haryana, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, Uttarakhand and Dadra & Nagar Haveli did not make any progress towards the reduction of gender disparity these have continued to show more disparity than the national average. Bihar, Rajasthan and Jharkhand remain the three states with the highest disparity. On the other hand, the States/UTs of Chandigarh, Tripura, Andaman & Nicobar Island, Goa, Nagaland, Lakshadweep, Kerala, Meghalaya and Mizoram have achieved more than 90 per cent equality in terms of male-female literacy. Most of these states are smaller in population and therefore do not contribute largely in the female literacy of the country.

It seems that disparity in literacy is linked to the socio-cultural and economic background of the region. Most of the States/UTs with higher disparity are from the north India and are part of other (Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh) States. Gross enrollment ratio and dropout rates are the chief determinants of literacy level in the study area. It tends to derive fact that improvement in literacy contributed significantly in narrowing down the disparity. Also, the disparity is greater in the States/UTs where literacy level is low i.e., gender disparity is inversely correlated to the literacy level. Hence, any programme aimed at removing disparity should focus its attention on literacy development missions.

It is observed that States/UTs with low literacy rates have, in general, achieved more decadal increase in literacy rates as compared to the States/UTs with higher literacy rates. This may be attributed to two factors: (i) government intervention in comparatively backward States/UTs, and (ii) States/UTs with higher literacy rates might be working on educational development and quality

of education. The analysis of data suggests that in the Indian society, the increase in male literacy is followed by increase in female literacy which results in decrease in gender disparity in literacy. Hence, to reduce gender disparity, a holistic approach needs to be adopted; focus on female alone may not result in desired results. Large variety of vocational courses particularly for girls, who do not intend to continue their general education beyond elementary or secondary stage, should be introduced. Government should set up new schools and colleges at district and state levels. The establishment of several committees is highly needed to ensure proper utilization of funds allotted to improve literacy rate.

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