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Literacy in India: Progress and Inequality

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Abstract: *In the present study, an attempt is made to examine the progress of literacy, literacy inequality and education inequality in India. Literacy inequality among male and females is examined over the period 1951 to 2011 by using census wise data. In this study, literacy inequality is investigated at national level. Literacy inequality is also compared between different states of India and also an attempt is made to compare inequality area wise (rural and urban). In this study education inequality is also measured at different levels of education i.e. primary, upper primary, higher secondary and higher education for the period 2005 to 2014. The results of the study indicate that literacy inequality has declined at state level, national level and also at urban and rural areas but in rural areas literacy inequality among females is still higher. The results also indicates that education inequality is high at higher education level as compared to primary, upper primary and higher secondary levels.*

Keywords: literacy, inequality education, higher education

Introduction

Inequality exists in variety of forms of social differences like gender, age, education, religion and racial inequalities. Inequalities simply mean that certain parts of the population are discriminated against in terms of accessing resources. Education inequality is found in varying extent in all developing economies in general and particular in India. In India still many women are seen illiterate as compared to male, due to this other several problems arises because each problem is either directly or indirectly linked to another problem. Low rate of literacy is the main root of all other problems like unemployment, poverty, high population growth, child labour and female feticide. Increasing rate of literacy is a good indicator of development in every economy. In India, there is wide gap between the urban and rural areas, means in rural areas the rate of illiteracy is high and majority of population is dependent on agriculture sector, while in urban areas most of the people are working in secondary sector and are also more educated than rural area. There are wide literacy inequalities among the male and female population. According to the census 2011, the male literacy rate is 82.14 percent and female literacy rate is 65.46 percent and average literacy rate in India is 74.04 percent. It is quite impressive but the fact remains that after more than seventy years of the planned development of the economy, still 26 percent of the population remained illiterate and there is literacy inequality between female and male. One of the problems with inequality in literacy is it cuts off female from all those benefits that an educated female can have. Education inequality reduces the quality of human capital and is harmful for economic performance of the economy. Reduction in education inequality provides externalities like reduce child mortality level reduce fertility level and encourage the education for the next generation.

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In this light, we can say that investment in the education of female is a better investment in human capital than the investment in the education of men.

This paper highlights the overall inequality in male and female at different educational levels from 1951 to 2011.This paper focuses on the enrollment gap between male and female students in education institutions at primary, middle, senior secondary and higher education level. For this purpose we used data of total enrolment, women enrolment, and men enrolment at primary, middle, senior secondary and higher education level in India for the period 1951 to 2011. A lot of studies have been done on the different aspects of inequality at national and international level. A few studies have been taken for review: Castello and Domenech (2002) measured education inequality for 108 countries during the period 1960 to 2000. By Using cross-country data on human capital inequality this study concluded that most countries in the world have tended to reduce the education inequality. Siddhanta and Nandy (2004) analyzed the education inequality between male and female in India by using census data. The results of the decomposition analysis clearly indicated that both in the urban and rural sector, gender gap in equitable educational development are largely due to gender gap in average years of schooling. Sankar (2007) conducted a study on girls participation in elementary education by using data of National Sample Survey Organization's education and employment rounds since 1986.(1986/87 ,1995/96, 1999/2000and 2004/05). The analysis shows that the number of children participating in elementary education has improved, and the improvements are more visible among children from rural areas, educationally lagging states, girls and those from the socially and economically disadvantaged groups. Azam and Blom (2008) examined the attainment and access of tertiary (higher) education in India for the period 1983 to 2004. The results of this paper found that the gaps in enrollment remain sizable, but they have diminished over time, with the notable exception of the gap between rich and poor. Tomul (2009) studied the education inequality in Turkey during the period 1975 to 2000. The study found that during the study period, the average years of schooling in Turkey were below the world average and the level of education of men was higher than the women. Thomas (2011) Conducted a study to find educational inequality of 146 countries during 1950 to2010. This study used gini index of education by 5year age intervals. The results of this study show that even educational inequality has been decline for the most countries but not in a uniform manner because it depends on age group, gender and development level for each country. Mahanta and Nayak (2013) examined the literacy gap and enrolment gap among male and female in North East India Meghalaya, Manipur, Mizoram, Tripura, Assam, Sikkim, Nagaland and Arunachal Pradesh . This study found that in northern eastern states inequality in literacy exists, means males were observed to be more literate than females. This study found that the literacy inequality was narrow in the states like Meghalaya, Mizoram and Nagaland but in Arunachal Pradesh and Assam the gender gap was wide in enrolment rate at different levels of education.

Objectives of the study

The general objective of this paper is to investigate the progress of literacy, literacy inequality and education inequality in India.

Specific objectives are;

1. To examine the literacy inequality between male and female at national level.

2. To investigate the state wise and area wise (Rural and Urban) literacy inequality in India.
3. To examine the education inequality at different levels of education i.e. Primary (I-V), Upper Primary (VI-VIII), Higher Secondary (IX-XII) and higher Education for the period 2005-2014.

Data sources and Technique

In this study we use literacy rate of male, literacy rate of female, total literacy rate, Gross Enrollment Ratio of Female, Gross Enrollment Ratio of male and total gross enrollment ratio. The present study is solely based on secondary data. The data of selected variables has been collected from different issues census of India and Educational Statistics at a Glance 2016.

To find the coefficient of inequality between male and female enrolment ratio, we adopt formula as follows:

CIL = (LM-LF)/L

CIL refers to coefficient of literacy inequality,

LM refers to Literacy rate among male,

LF denotes to Literacy rate among female and L refers to total literacy rate.

CIE = (EM- EF)/ E

CIE refers to coefficient of inequality in Educational opportunities,

EM refers to enrolment ratio of male,

EF denotes to enrolment ratio of female and E refers to total enrolment ratio.

A positive coefficient denotes inequality against female, negative coefficient means inequality against male. High value Coefficient shows higher inequality, and lower value shows lower inequality.

Results

As per the census and available data literacy rate among males is very high in some states like Lakshadweep, Kerala, Mizoram, Goa and Tripura. The lowest literacy rate among males is 73.39 percent in Bihar. The literacy rate among females is very low in Rajasthan (52.66 %), Bihar (53.33), Jharkhand (56.21 %), J&K (58.01), Uttar Pradesh (59.26) and Arunachal Pradesh (59.57). In states like Rajasthan, Jharkhand, Bihar, J&K, UP, Chhattisgarh and Madhya Pradesh which are at the bottom of the list, total male as well as female literacy rate is low as compared to other states.

Table 1: Literacy in India, 1901-2011

Period	Males	Females	Total	Coefficient of Inequality
1901	9.83	0.69	5.35	1.708
1911	10.56	1.05	5.92	1.606
1931	15.59	2.93	9.50	1.332
1951	27.2	8.9	18.3	1.000
1961	40.4	15.3	28.3	0.887
1971	46.0	22.0	34.5	0.696
1981	53.4	28.5	41.4	0.601
1991	64.1	39.3	52.2	0.475
2001	75.8	52.1	65.4	0.362
2011	80.88	64.63	72.98	0.222

Source: Census of India

Table 2: Literacy in India (Rural and Urban), 1951-2011

Rural					Urban			
Period	Female	Male	Total	Coefficient of Inequality	Female	Male	Total	Coefficient of Inequality
1951	4.87	19.02	12.1	1.169	22.33	45.6	34.59	0.673
1961	10.1	34.3	22.5	1.076	40.5	66	54.4	0.469
1971	15.5	48.6	27.9	1.186	48.8	69.8	60.2	0.349
1981	21.7	49.6	36	0.775	56.3	76.7	67.2	0.304
1991	30.17	56.96	36	0.744	64.05	81.09	67.2	0.254
2001	46.7	71.4	59.4	0.416	73.2	86.7	80.3	0.168
2011	57.93	77.15	66.77	0.288	79.11	88.76	84.11	0.115

Source: census of India

As per the analysis, the coefficient of inequality is highest in Bihar (0.5659), Jharkhand (0.5298), Rajasthan (0.5264) and Haryana (0.4830) I.e. the female literacy rate is very low as compared to male literacy rate in year 2001. The coefficient of inequality is low in Mizoram (0.043), Kerala (0.069), Meghalaya (0.092) and Nagaland (0.145) i.e. both male and female literacy rate is high in year 2001. As per the analysis of coefficient in year 2011 the highest inequality (state wise) is in Rajasthan (0.409), Jharkhand (0.3222), Bihar (0.318) and J&K (0.303) and the lowest inequality is in Meghalaya (0.041), Kerala (0.042), Mizoram (0.043) and Nagaland (0.084).

As per the analysis the highest inequality in year 2001 was in state Bihar and lowest in equality was in state Mizoram. In year 2011 the highest inequality is in state Rajasthan while as lowest in equality is in state of Meghalaya.

From the above analysis it is evident that in socioeconomically backward states like Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Utrakhand and Uttar Pradesh the literacy inequality among male and female is high however it has declined in year 2011 as compared to year 2001.

The coefficient of inequality in India declined over the period 1901 to 2011. In the year 1901 literacy inequality was 1.708 that means male literacy rate was high as compared to female literacy rate. Over the period of time the literacy inequality among male and female in India declined and was noticed at 0.222 in year 2011. Major changes in literacy inequality were noticed after year 1951. The reason for declining literacy inequality over the period of time may be effective government policies, Women empowerment, and accessibility to education, awareness and competition. Literacy inequality has declined both in rural and urban areas during 1951 to 2011; however literacy inequality is still high in rural areas as compared to urban areas.

Table 3: Effective literacy Rates by states in India and Inequality, 2001-2011

	2001				2011			
State/union territory	female	Male	Total	CIE	Female	male	Total	CIE
Andaman & Nicobar Islands	75.2	86.3	81.3	0.137	82.4	90.3	86.6	0.091
Andhra Pradesh	50.4	70.3	60.5	0.329	59.1	74.9	67	0.236
Arunachal Pradesh	43.5	63.8	54.3	0.374	57.7	72.6	65.4	0.228
Assam	54.6	71.3	63.3	0.264	66.3	77.8	72.2	0.159
Bihar	33.1	59.7	47	0.566	51.5	71.2	61.8	0.319
Chandigarh	76.5	86.1	81.9	0.117	81.2	90	86	0.102
Chhattisgarh	51.9	77.4	64.7	0.394	60.2	80.3	70.3	0.286
Dadra & Nagar Haveli	43	73.3	60	0.505	64.3	85.2	76.2	0.274
Daman & Diu	70.4	88.4	81.1	0.222	79.5	91.5	87.1	0.138
Delhi	74.7	87.3	81.7	0.154	80.8	90.9	86.2	0.117
Goa	75.4	88.4	82	0.159	84.7	92.6	88.7	0.089
Gujarat	58.6	80.5	70	0.313	69.7	85.8	78	0.206
Haryana	45.7	78.5	67.9	0.483	65.9	84.1	75.6	0.241
Himachal Pradesh	67.4	85.4	76.5	0.235	75.9	89.5	82.8	0.164
Jammu & Kashmir	43	66.6	55.5	0.425	56.4	76.8	67.2	0.304
Jharkhand	38.9	67.3	53.6	0.530	55.4	76.8	66.4	0.322
Karnataka	56.9	76.1	66.6	0.288	68.1	82.5	75.4	0.191
Kerala	87.9	94.2	90.9	0.069	92.1	96.1	94	0.043
Lakshadweep	80.5	92.5	86.7	0.138	87.9	95.6	91.8	0.084
Madhya Pradesh	50.3	76.1	63.7	0.405	59.2	78.7	69.3	0.281
Maharashtra	67	86	76.9	0.247	75.9	88.4	82.3	0.152
Manipur	60.5	80.3	70.5	0.281	70.3	83.6	76.9	0.173
Meghalaya	59.6	65.4	62.6	0.093	72.9	76	74.4	0.042
Mizoram	86.8	90.7	88.8	0.044	89.3	93.3	91.3	0.044
Nagaland	61.5	71.2	66.6	0.146	76.1	82.8	79.6	0.084
Odisha	50.5	75.4	63.1	0.395	64	81.6	72.9	0.241
Puducherry	73.9	88.6	81.2	0.181	80.7	91.3	85.8	0.124

Punjab	63.4	75.2	69.7	0.169	70.7	80.4	75.8	0.128
Rajasthan	43.9	75.7	60.4	0.526	52.1	79.2	66.1	0.410
Sikkim	60.4	76	68.8	0.227	75.6	86.6	81.4	0.135
Tamil Nadu	64.4	82.4	73.5	0.245	73.4	86.8	80.1	0.167
Tripura	64.9	81	73.2	0.220	82.7	91.5	87.2	0.101
Uttar Pradesh	42.2	68.8	56.3	0.472	57.2	77.3	67.7	0.297
Uttarakhand	59.6	83.3	71.6	0.331	70	87.4	78.8	0.221
West Bengal	59.6	77	68.6	0.254	70.5	81.7	76.3	0.147
India	53.7	75.3	64.8	0.333	64.6	80.9	74.04	0.223

Source: census of India, *Effective literacy rate= (number of literate persons aged 7 and above /population aged 7 and above)*100

Table 4: Gross Enrollment Ratios and Inequality in primary Upper primary and High Secondary Education, 2005-2014

	Primary (I-V) 6-10Years				Upper Primary (VI-VIII) 11-13 Years				Higher secondary classes (IX-XII) 14-17Years			
year	Female	Male	total	CIE	Female	Male	total	CIE	Female	male	total	CIE
2005	105.8	112.8	109.4	0.064	66.4	75.2	71	0.124	35.8	44.6	40.4	0.218
2006	108	114.6	111.4	0.059	69.6	77.6	73.8	0.108	36.8	45	41.1	0.200
2007	112.6	115.3	114	0.024	74.4	81.5	78.1	0.091	41.9	49.4	45.8	0.164
2008	114	114.7	114.3	0.006	76.6	82.7	79.8	0.076	43.5	51	47.4	0.158
2009	113.8	113.8	113.8	0.000	79	84.3	81.7	0.065	46.1	52.5	49.4	0.130
2010	116.3	114.9	115.5	-0.012	82.9	87.5	85.2	0.054	48.5	55.7	52.2	0.138
2011	107.1	105.8	106.5	-0.012	81.4	82.5	82	0.013	54.5	58.8	56.8	0.076
2012	107.2	104.8	106	-0.023	84.6	80.6	82.5	-0.048	56.5	57.0	56.8	0.008
2013	102.6	100.2	101.4	-0.024	92.8	86.3	89.3	-0.073	62.6	62.5	62.5	-0.001
2014	101.4	98.9	100.1	-0.025	95.3	87.7	91.2	-0.083	65.8	64.9	65.3	-0.013

Source: Educational Statistics at a Glance 2016

Table 5: Gross Enrollment Ratios and Inequality in Higher Education, 2005-2014

Higher Education (18-23Years)				
Year	Female	Male	Total	CIE
2005	9.4	13.5	11.6	0.353

2006	10	14.5	12.4	0.363
2007	10.7	15.2	13.1	0.344
2008	11.4	15.8	13.7	0.321
2009	12.7	17.1	15	0.293
2010	17.9	20.8	19.4	0.149
2011	19.4	22.1	20.8	0.130
2012	20.1	22.7	21.5	0.121
2013	22	23.9	23	0.083
2014	23.2	25.3	24.3	0.086

Source: Educational Statistics at a Glance 2016

The coefficient of inequality in education at primary level in 2005 was 0.064 that means more male student enrollment as compared to female student enrollment, which declined to 0.006 in 2008. In 2009 there was no education inequality among male and female at primary level. After 2009 the coefficient of inequality became negative that means at primary level more female students were enrolled as compared to male students.

At upper primary level the education inequality declined from year 2005 to 2011, there after the coefficient of inequality became negative that is more female enrollment at upper primary level in comparison to male student enrollment. At higher secondary level the education inequality declined from 2005 to 2012, thereafter the coefficient of inequality became negative that is more female enrollment ratio at higher secondary level in comparison to male enrollment. The education inequality is high at higher education level as compared to primary, upper primary and higher secondary level. At higher education level the education inequality has declined from 2006 to 2014 that means female enrollment ratio has increased from 2006 to 2014.

We can briefly summarize the conclusion that emerges from above analysis and the implication that follows, as under:

1. Inequality in literacy rate has narrowed down by 0.140 percent points from 0.362 percent points in 2001 to 0.222 percent point in 2011. There has been continuously declined in literacy inequality among females and males since 1961(around 0.667 percent points)
2. Literacy inequality also declined in both urban and rural areas but in rural areas inequality among females is still higher. Coefficient of literacy inequality in rural areas stands at 0.288 whereas in urban areas it stands at 0.115 in the year 2011.
3. The results indicate that since1951 literacy rate of females has improved compared to literacy rate of males. It reveals that females are not far behind males.
4. The results also depict that at primary, upper primary and higher secondary level, the enrollment is favorable to females, and means female enrollment has increased at primary, upper primary and higher secondary level. Literacy inequality reduced due to rapid increase in the number of educational institutions and implementation of government schemes like Sarva

Shiska Abhiyan, Right to Education act, Sakshar bharat mission for female literacy and Mid day meal.

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Singulate Mean Age at Marriage in South Africa 1996-2016: Trends, Differentials and Implications*

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Abstract: *In South Africa, marriage incidence is undergoing changes. The Singulate mean age at marriage (SMAM) in the country is high and on the increase, as such a concern to the government and other stakeholders. The study used the census and survey data collected in South Africa between 1996 and 2016 to examine the trends and differentials in the SMAM age in the country. These are secondary cross-sectional data collected at four different points in time across the country by Statistics South Africa (de-facto), using the (PAPI) and (CAPI) modes. The Singulate Mean age at Marriage (SMAM) was used as a measure of timing at marriage in the study. This was achieved using the John Hajnal (1953) estimation method technique. Controls were made for province, population group, levels of education in South Africa.Results from the study indicates that SMAM age in South Africa is high, maintaining a slightly increasing pattern over the years. The average mean age was 31.6 years for male, 28.9 years for female and 31.2 years for South Africa. Thus, indicating that the male SMAM age is higher than that of the female and the female marry a little earlier than the male. Also, that marriage does not take place at very early ages (i.e below 25 years) for both sex in South Africa as both couples marry late compared to traditional African society. Compared to other population groups the black Africans has the highest SMAM age and at 34.7 years, Kwazulu-Natal recoded the highest mean age in 2016. Over all, age differentials between sex seems to be more pronounced by educational levels and population groups, while differentials between years tends to decrease negatively in few cases for all controlled characteristics in the study. The study recommending that findings in the study be considered in all programme and policy development around family formation incidences in South Africa.*

Keywords: Singulate mean age at marriage, population group, education, South Africa

Background

Also known as the timing at marriage (age at marriage), the Singulate mean age at marriage (SMAM) is an estimate of the average number of years lived in a single state by persons married before age 50. It is a robust measure of the years of being single before marriage and is calculated for both male and female and the country. As a universal phenomenon and an important marriage status incidence, the SMAM age is a good indicator of age of first birth, fertility levels and consequently, family size (Narumon, 2001; Palamuleni et al, 2007; Udjo, 2003; Wong, 2005). These are especially so, assuming marriage is the true context of having children (Udjo, 2001) According to Narumon, (2001), the SMAM age is also "important for social security researchers and actuaries involved in the design of second-to-die life insurance policies and last survivor annuities, or in the pricing of healthcare policies such as nursing home and long-term care" (Narumon, 2001).

* The views expressed in this essay are, unless otherwise stated, those of the author and not those of Statistics South Africa or its management.

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