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DEVELOPMENT OF WOMEN EDUCATION IN INDIA

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Women constitute almost half of the population of the world. Education for women is the best way to improve the health, nutrition and economic status of a household that constitute a micro unit of a nation economy. In this context, it can be argued that lack of woman education can be an impediment to the country's economic development.

In India, women achieve far less education than that of men. As per the Census report 2001, the literacy rate of women is 54.16 per cent and that of men is 65.38 per cent. There has been a sincere effort to improve the education attainment of women by both government and voluntary organizations. The changes in the policies and infrastructural supports on primary, secondary and higher education reflect the initiatives of the Government of India towards women education.

In this backdrop, the paper examined the trends in women education and the investment on education and infrastructural supports in India. The paper is divided into three sections. Section 1 discusses the trends in female literacy levels in India. The section 2 presents the investments on education and the infrastructural supports in India. The last section provides the summary of the findings and conclusions.

SECTION 1
TRENDS IN FEMALE LITERACY RATES IN INDIA

Literacy represents a measure of educational status of any community. Literacy rate is estimated as the percentage of people educated to the respective total population. Though literacy is very important for both males and females, there exists a wide gap between both the sexes in India.

The trends in total literacy rates by sex in India between the years 1981 and 2001 are given in table 1 and diagram 1.

Table 1
Trends in Literacy Rates by Sex in India: 1981-2001

Particulars	1981	1991	2001
Male	56.37	64.13	75.85
Female	29.75	39.29	54.16
Total	43.56	52.20	65.38
Divergence (Male-Female)	26.62	24.84	21.69

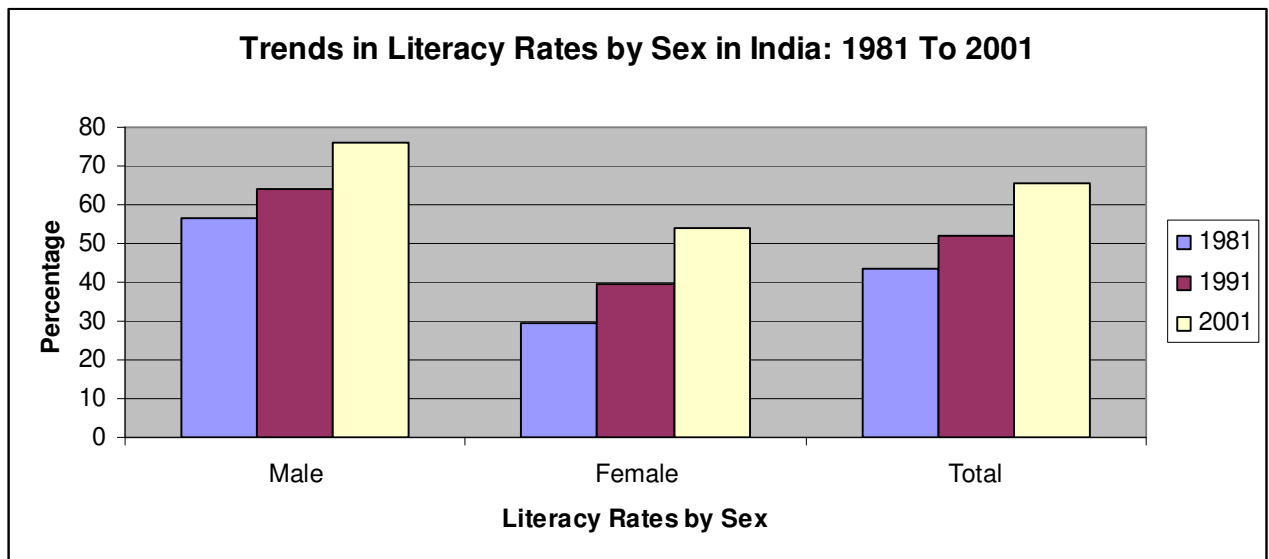
Source: Registrar General of India, Census of India, for relevant years.

The total literacy rate in India during the year 1981 was 43.56 per cent which increased steadily and reached to 65.38 per cent by 2001. Though there is an increase in the literacy rate, it provides us a clue that there is still scope for further developing the literacy levels as the maximum achievable limit is 100. When we looked at the literacy rate by male and female separately, interesting observations could be made. In all the years, male literacy rates were higher than that of female literacy rates. In the year 1981, the male literacy rate was 56 per cent while the same for female was only 29.75 per cent. In the year 2001, the male literacy rate has reached to 76 per cent and female literacy rate to 54 per cent.

The divergences in the literacy rates between sexes indicate the difference in the growth rate of literacy levels between males and females over a period of time. In our analysis,

the divergence in the literacy rates between the sexes showed a declining trend from 26.62 to 21.69 between 1981 and 2001, indicating the reduction in the gap between literacy rates between male and females over time. This can be attributed to the faster growth of female literacy rate compared to that of males during the period of reference.

Diagram 1



Another area of concern is to reduce the gap between the rural and urban female literacy rate. Table 2 provides the trends in female literacy rates in India by rural and urban regions since independence.

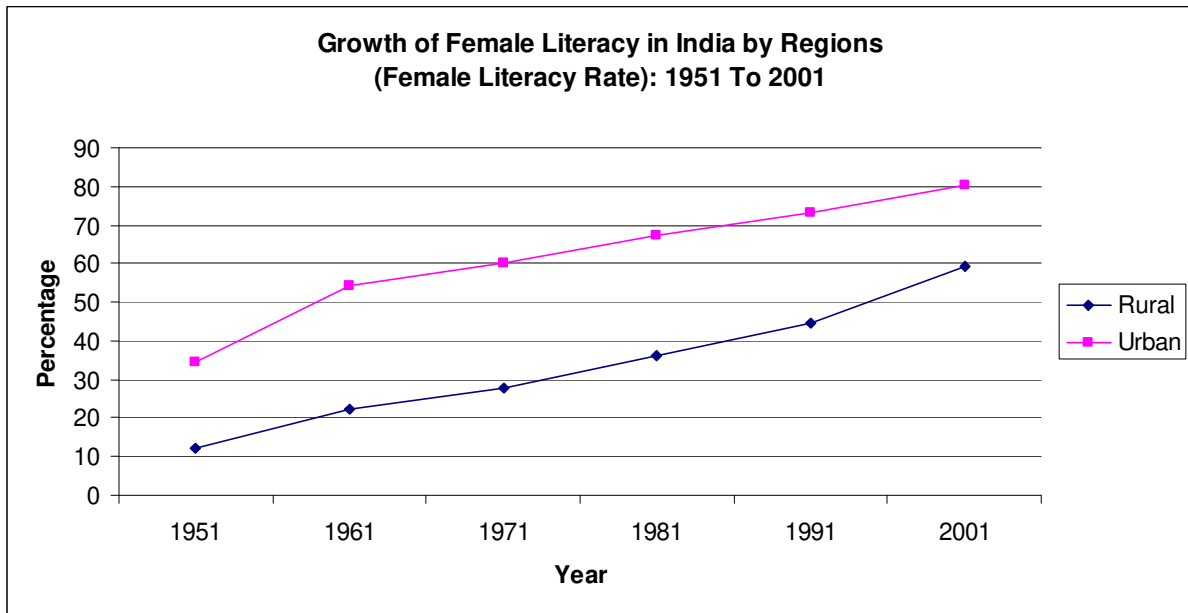
Table 2
Trends in Female Literacy Rates in India by Regions: 1951-2001

Year	Female Literacy Rate		Index Number	
	Rural	Urban	Rural	Urban
1951	12.00	34.59	100	100
1961	22.46	54.43	187.16	157.35
1971	27.89	60.22	124.17	110.63
1981	36.09	67.34	129.40	111.82
1991	44.69	73.09	123.82	108.53
2001	59.40	80.30	132.91	109.86

Source: Computed from various issues of Census of India.

It indicates that there is a steady growth of female literacy rates in both rural and urban regions in India. In the year 1951, the rural female literacy was 12 per cent and urban female literacy was 34.59 per cent. This situation had remarkably improved within fifty years and reached to higher levels of 59 and 80 per cent in rural and urban regions respectively (see diagram 2).

Diagram 2



Though there has been a steady upward trend in both the rural and urban female literacy rates, it is observed that the rural female literacy is increasing much faster than that of urban. This fact is clearly evident from the index numbers, revealing that the disparity between rural and urban literacy rates is narrowing down in recent years.

There have been a number of social and economic factors determining the women's education. Most of the factors are highly interdependent in nature and hence it is difficult to single out the effects of individual factors on women's education. Yet, the present study made a modest effort to explore the influence of certain variables of interest on the educational attainment of women. Three variables such as rural poverty, urbanization and

drop-out rate are chosen as explanatory variables and female literacy rates as dependent variable.

In a Multiple Linear Regression (MLR) framework, the above mentioned variables can be specified as determinants

$$FL = \beta_0 + \beta_1 RPOV + \beta_2 URB + \beta_3 DOR + u$$

Where, FL – Female Literacy Rate(Women Education)

RPOV – Rural Poverty

URB – Urbanization and

DOR – Drop-out ratio of girls as on 2001.

The model is estimated with OLS method based on the state level cross-section data for the year 2001. The estimated MLR model is given below.

$$FL = 3.466 + 0.180 RPOV + 0.0375 URB - 0.361 DOR + u$$
$$[7.406]^* [2.666]^* [4.686]^* [5.320]^*$$

$$\bar{R}^2 = 0.80 \quad F = 19.45^*$$

It is seen that the model has fitted very well as can be seen from the value of F statistic. The adjusted R^2 that is 0.80 indicates the explanatory power of the model. Both F statistic and adjusted R^2 suggest that the estimated MLR model is good enough to draw inferences about the possible determinants of women's education. The model shows that rural poverty has exerted a positive influence on women's education and the coefficient is statistically significant. It is observed that rural poverty acts as a push factors for women's education rather than as an obstacle to women's education. The significant influence of urbanization on women's education implies that urbanization has been playing a beneficial role in the attainment of women's education in India. At the same time, the drop-out rate has a negative effect on women's education. It points out that reduction of girl's drop-out rates is necessary for achieving women's education.

In this context, it is worth examining the investments on education and infrastructural supports available for the promotion of women education in India.

Section 2

INVESTMENT ON EDUCATION AND INFRASTRUCTURAL SUPPORTS

It is customary to express the total allocation to education as a percentage of GDP/GNP and take it as an indicator of the importance accorded by the government to the educational development of the country. There is also the view that 'normally, expenditure on education should grow at double the rate of economic growth in the early stages of educational development' (Tilak, 2006). In view of this, the First Education Commission recommended that in the current stages of educational expansion in India the government should endeavor to progressively increase its expenditure on education to reach the level of 6 per cent of national income over a twenty year time frame. This recommendation was based on consideration of the factors like: economic growth, population growth, growth in enrolment, expenditure per student, etc. The trends in this respect presented for India show that the expenditure on education increased two-fold over the period 1966-86 (from 1.8% of GNP in 1965-66 to 3.7% in 1985-86). The highest that it could reach in later years was 4.4 per cent in 2000-01 (see Table 3).

Table 3

Expenditure on Education as a Per Cent of GNP in India: 1951-2003

Year	Expenditure as a Percentage of GNP
1950-51	1.2
1960-61	2.5
1965-66	1.8
1970-71	3.1
1980-81	2.9
1985-86	3.7
1990-91	3.7
1999-2000	4.3
2000-01	4.4
2001-02	3.9
2002-03	3.8

Source: Varghese (2006) and Tilak (2006).

Distribution of allocation by level of education showed that elementary education accounted for around 45 percent of total expenditure on education by the government. (See table 4).

Table 4
Budgetary Expenditure on Education (percent) in India: 1990 - 2001

Year	Elementary	Secondary	Technical	Higher	Total
1990-91	46.3	32.2	4.4	13.4	100.0
1991-92	46.3	33.0	4.3	13.0	100.0
1992-93	45.2	34.3	4.3	12.9	100.0
1993-94	46.2	33.2	4.3	13.3	100.0
1994-95	46.4	33.2	4.4	12.9	100.0
1995-96	48.3	32.8	4.1	12.3	100.0
1996-97	49.1	32.3	4.0	11.8	100.0
1997-98	49.6	32.3	3.9	11.8	100.0
1998-99	49.0	32.6	4.1	11.9	100.0
1999-00	48.1	30.9	3.9	12.7	100.0
2000-01	48.9	30.1	3.9	14.8	100.0

Note: Relates to expenditure incurred by the Department of Education only.

Source: Tilak (2004).

The investments on education must have been the major factor that promotes the infrastructural supports needed for improving the educational status of the nation.

India made enormous progress in terms of increase in number of schools, teachers and students in elementary education. The number of schools in the country increased by four-fold from 223,000 in 1950-51 to 897,000 in 2002-03, while enrolment in the primary cycle during the same period jumped about 6 times – from 19.2 million to 122 million. At the upper primary stage of education, the increase of enrolment during the period was 15 times, while enrollment of girls recorded 40 fold increases. Over the years, the participation of girls at all levels of school education has increased sustainability. The

share of girl's enrolment in total enrolment at primary stage increased from 28.1 per cent in 1950-51 to 46.8 per cent in 2002-03 (Selected Education Statistics 2002-03).

One of the essential requirements that every school should have is the school building. For this purpose schools without building by category was analyzed separately in rural and urban areas. This data had been presented in respect of schools managed by all government and private managements (see Table 5).

Table 5
Number of Schools without Building in India (2005)

School Category	All Areas	Rural Areas	Urban Areas	All Government Managements	All Private Managements
Primary Only	30048	27512	2448	29395	653
Primary with Upper Primary	1533	1292	237	1423	110
Primary with Upper Primary & Secondary / Hr. Secondary	186	172	14	170	16
Upper Primary Only	8614	8209	398	8430	184
Upper Primary with Secondary / Hr. Secondary	577	502	74	534	43
No Responses	121	108	8	110	11
All Schools (2005)	41079	37795	3179	40062	1017

Source: Arun C.Mehta (2006)

The number of schools without building in the previous year (2004) was 35,449 (3.81%) compared to 62,996 schools in 2003(7.38%). This should be viewed in the light of number of schools covered under District Information System for Education (DISE) during the period 2003 to 2005. The majority of building less schools are located in rural areas (37,795 schools / 92.01%) as only 7.99 per cent of such schools are located in urban areas. Further, it has been observed that of the total building-less schools, as many as 40,062 schools are being run by government managements (97.52%), the corresponding percentage during the previous year was 97.80 per cent (34,668 schools). Only 1,017

private schools (all categories) are yet to be provided with building. Further, it has also been observed that the number of schools without building is as high as 12.53 per cent (8,614) in case of independent upper primary schools.

Availability of drinking water in school is the most essential facility that every school should have. Through DISE data revealed that more schools in 2005 had drinking water facility than in 2004, the distribution of schools on this parameter, however, further showed that this basic facility is not yet available in all the schools (see Table 6). Only 80.60 per cent schools (all categories) have the drinking water facility available in 2005 compared to 77.89 per cent in the previous year. A significant difference is noticed in schools located in rural (80.56 per cent in 2005 and 77.91 per cent in 2004) and urban areas (87.05 per cent in 2004).

Table 6
Schools Having Drinking Water Facility in School: 2005

School Category	Percentage						
	All Schools/Areas			Rural Areas	Urban Areas	All Government Schools	All Private Managements
	2003	2004	2005				
Primary only	71.91	76.24	78.80	78.60	81.36	77.62	90.73
Primary with Upper Primary	79.46	83.89	86.68	85.53	92.13	84.04	95.50
Primary with Upper Primary & Secondary / Hr. Secondary	88.11	90.44	92.75	90.39	96.14	88.07	95.46
Upper Primary only	75.29	78.77	79.87	79.25	86.35	78.94	83.90
Upper Primary with Secondary / Hr. Secondary	89.41	91.33	91.82	91.18	94.50	89.04	95.80
All Schools (All Areas)	73.28	77.89	80.60	80.56	87.05	78.45	92.65

Source: The same as table 5

Another major infrastructural support that is needed in schools is toilet facility. Percentage of both the schools with common toilet and separate toilets for girls increased from 2004 to 2005, irrespective of school types (see Table 7). Put together only about 47 per cent schools (all categories) across 58 all districts had common toilets in school, while 32.70 per cent schools had separate toilet for girls in 2005.

There are more schools with common toilets in the urban areas (64.44 per cent) than in the rural areas (44.86 per cent); this is true for all types of school. Urban areas also have girls' toilets in case of 58.85 per cent schools whereas only 29.41 per cent. Such schools are located in rural areas. A significant percentage difference in availability of toilets was also noticed in schools under government and private managements. As against 69.23 per cent private schools under government managements was as low as 42.82 per cent. This is also true for schools with girl's toilet. As against 68.29 per cent such schools under private managements, the percentage in case of government schools was low at 26.34.

Table 7
Percentage of Schools having Girls Toilets: 2005

School Category	Percentage						
	All Schools/Areas			Rural Areas	Urban Areas	All Govern-ment chools	All Private Managements
	2003	2004	2005				
Primary only	15.64	20.16	24.27	22.38	43.74	21.18	55.54
Primary with Upper Primary	33.89	41.86	46.76	41.78	69.25	38.43	74.56
Primary with Upper Primary & Secondary / Hr. Secondary	69.71	72.48	76.55	66.72	90.35	56.07	88.42
Upper Primary only	28.14	32.91	36.91	35.19	54.79	33.24	52.90
Upper Primary with Secondary / Hr. Secondary	64.64	69.31	70.47	67.54	79.95	59.77	85.78
All Schools (All Areas)	22.22	28.24	32.70	29.41	58.85	26.34	68.29

Source: The same as table 5

SECTION 3

SUMMARY AND CONCLUSION

This paper examined the trends in women education, the investments on education and infrastructural supports in India. The study revealed that there had been significant progress in the performance of women education revealed from female literacy levels and its change over time. It was also observed that the gaps between rural and urban female literacy rates are narrowing down.

To explore the influence of certain variables of interest such as rural poverty, urbanization and drop-out rate on the educational attainment of women, a multiple regression equation was estimated. It was observed that rural poverty acts as a push factors for women's education rather than as an obstacle to women's education. The significant influence of urbanization on women's education implied that urbanization had been playing a beneficial role in the attainment of women's education in India. At the same time, the drop-out rate had a negative effect on women's education. It revealed that that reduction of girl's drop-out rates is necessary for achieving women's education.

The initiatives of the government through investment and infrastructure in developing education in India were examined. With regard to facilities in schools, it had improved significantly, but a lot more need to be done.

In sum, the study revealed that there have been concerted efforts to encourage girls to attend schools, which would lead to higher literacy in future. The study also revealed that there are several infrastructural barriers to women education in India. The study calls for focused approach towards increasing women centred educational infrastructure so as to reduce the women drop-out rates and to improve female literacy levels in India.

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