Female Literacy: A Success Story of Maharashtra

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Abstract:

This paper makes in-depth study of the level of literacy among females and the extent of gender disparity in literacy in different districts of rural and urban Maharashtra. This paper also shows impact of various selected socio-economic-demographic variables on female literacy rate (FLR) in rural and urban Maharashtra. A crude projection has been made to predict the time required for 100 percent literacy in India, Maharashtra and in its different districts. Multiple Regression Models are run on FLR of rural-urban population. The study reveals that male literacy rate, female work participation as marginal and main worker, decreasing Mean number of births, Percentage of Muslim Population and child mortality rate are having significant effect on FLR in urban Maharashtra whereas factors responsible for increase in female literacy rate are increasing male literacy rate, slowly decreasing female work participation as marginal and main worker, decreasing Percentage of Muslim Population in rural Maharashtra.

Keywords: Female Literacy Rate, Male Literacy Rate, Census, Maharashtra, Urban, Rural

Introduction:

First step towards education is literacy. Literacy is a reasonably good indicator of development in a society. Spread and diffusion of literacy is generally associated with essential trait of today's civilization such as modernization, urbanization, industrialization, communication and commerce. A child's education starts from his or her home. Parents are the first teacher of a child. But, the role of a mother is more important in the growth of the child. So a mother should be educated in this regard. As rightly said by Mahatma Gandhi "If you educate a man you educate an individual, but if you educate a woman you educate an entire family". So, we can say that Mahatma Gandhi was aware of the importance of educating women. But, in our country people are still not aware of women's rights and importance of their education. In our country the birth of girl child is considered as a stigma on family. Women in India have always been regarded as the weaker sex as Indian society is basically patriarchal in nature. She has often been treated as a source of pleasure and at times been bought and sold as a market commodity. She has generally never been given any freedom but has been kept within the four walls of the house, deprived of all her rights. Even though women have been granted equal rights with men in principle by our Constitution, in practice, we find a large number of women being illiterate, ignorant and they continue to be dominated and exploited by their male counterparts.

There is rapid development in the field of IT, Media, Technology in our country. Yet it lags behind in issues of development of women. In many Indian villages, literacy rate of women is very poor. The development of a nation directly depends upon the development of women in that country. Education plays a major role in the development of a nation. If India wants to be in the list of developed countries and emerge as a super power then great attention needs to be paid to the education of women. The root cause of all the problems which women face today is illiteracy. If a woman is educated then, she will be aware of her rights which in turn help in uprooting problems such as dowry system, female foeticide, child marriage etc. If a

wife is educated then she does not need to depend on her husband for her financial needs. If a woman is working then she will get the respect of her in-laws as she would be economically independent and contribute to the household expenses.

Mahatma Gandhi mentioned women as baronial. As he rightly said, "If she is weak in striking, she is strong in suffering." Women are stronger than men in expressing their emotions, love and compassion. The development of a child is greatly influenced by the mother as compared to the father as he or she remains most of the time with his or her mother.

We are very proud of India as our motherland. All our rivers have feminine names. But we ill-treat women and do many injustices with them. Our society is male dominant; emphasis is given on the education of men rather than women. Many still believe that a woman's life begins and ends in a household and within realm of reproduction. So they opine not to educate them. Due to illiteracy many women still think that they are here to serve their husbands and in-laws. Due to unawareness girls are married when they are under-age and give birth to children much before they reach maturity. This in turn cause many health related problems in them. They are also unaware of family planning due to which the size of their family increases and they can't educate and feed their children properly. In contrast, if a girl is educated then she will be aware of the legal age for marriage and appropriate time for giving birth to children. An educated woman will be aware of various family planning schemes and she will have right number of children whom she is able to feed and educate. An educated mother understands the importance of educating a girl child. The education of women will help in reducing the population of our country which is the main hindrance in our development.

It has been noted that women are more dedicated than their male counterparts in various fields. They perform their allocated task/ job with more sincerity. If given a chance then women can rise to the top in their fields. If Kiran Bedi's parents had not educated her, then she might not be the first IPS officer of India. Same is the case of Kalpana Chawla, first female astronaut, who brought laurels to our country. Today Sonia Gandhi (UPA Chairperson) is among the list of 50 most powerful women of the world. Indira Nooyi (Pepsico India CEO) and Chandra Kocher are both world's most powerful women heading multinational companies in India.

The government alone does not have the sole responsibility for literacy of its population. Parents too play a major role. Media too can play an important role in the awareness of women's education. Awareness in the villages can be made through plays. If one female child is educated then it is sure their will be no illiterate in that family. Thus by educating the women the gap between men and women can be shortened. Only then we will become a developed nation in a true sense.

Maharashtra is the third largest state in India, in terms of area (308 sq. km.) and second in terms of population (9,67,52,247 as per the 2001 census) which was 9.4 per cent of the total population (102.70 crore) of India. District-wise area, population density, sex ratio, proportion of scheduled castes, scheduled tribes, female literacy rate; infant mortality rate (IMR), Total Fertility Rate, Mean Age of Marriage shows inter-district inequalities of the region.

The districts are uniform neither in area nor in the distribution of population. The coefficient of variation (CV), which measures the extent of variation, is very high for the population, population density, the percentage of SC population as well as the percentage of ST population whereas CV is very low in case

of female literacy, infant and child mortality, the mean age at marriage and TFR in the districts of Maharashtra(See Appendix-1).

In this paper an attempt has been made to evaluating the educational development among females; measuring inter-districts inequalities in female education and assessing the impact of various socio-economic - demographic variables on female literacy in rural- urban Maharashtra.

Levels of literacy among females:

In this unit, an attempt has been made to assess the trends in the female literacy levels and make a comparative analysis across different districts of the state. Female literacy rate of Maharashtra state is 67.03 percent in census 2001 which is above Economical national average of 65.4% and below 80 % (high literacy rate). According to Bowan and Anderson, a 40% literacy rate may be regarded as the general threshold for economic development. On this basis, the districts of Maharashtra state have been classified into four levels of literacy development. Districts with a literacy rate of up to 40 percent are said to be at a low level: those with 40-55 percent are considered to be at middle level; those having 55-70 percent literacy are regarded as having a high level of literacy development and those with 70 percent and above are considered to be at a very high level. This classification would help in analyzing the diversified patterns of literacy development among females in different districts of rural and urban Maharashtra which is presented in Table-I as per census 1991 and 2001.

Table I: **Frequency Distribution in different districts of rural and urban Maharashtra by levels of Female literacy over 1991 and 2001**

Literacy Range	Rural Female Literacy Rate		Urban Female Literacy Rate	
	Census 1991	Census 2001	Census 1991	Census 2001
Upto 40	Yavatmal, Chandrapur, Dhule, Prabhani, Bid Nashik,Thane,Osmanabad, Solapur,Latur, Aurangabad, Gadchiroli, Nanded, Jalna,			
40-55	Nagpur, Ahmadnagar, Sangli, Amravati,Ratnagiri, Satara, Raigarh, Kolhapur, Jalgaon, Buldana, Akola, Pune, Bhandra	Osmanabad, Jalna, Prabhani, Aurangabad Dhule, Bid, Gadchiroli, Nanded	Jalana, Prabhani	
55-70	Sindhudurg, Wardha	Solapur, Latur, Akola, Wardha, Satara, Sangli, Nagpur, Ratnagiri, Thane, Buldana, Nashik, Ahmadnagar,Pune, Chandrapur, Raigarh, Bhandara, Yavatmal, Jalgaon, Kolhapur	Nashik, Akola, Nanded, Buldana, Chandrapur, Sangali, Kolhapur,Jalgaon, Bid Solapur, Gadchiroli, Dhule, Ahmadnagar, Aurangabad, Latur, Osmanabad,Yavatmal,	Solapur, Nanded, Prabhani, Jalna
70 and		Sindhudurg, Amravati	Pune, Sindhudurg, Amravati, Satara, Raigarh, Wardha,	Yavatmal, Buldana, Sindhudurg, Latur, Wardha, Amravati

| above | | | Ratnagiri, Mumbai, Nagpur, Thane, Bhandara, | Ratnagiri, Mumbai, Ahmadnagar, Bid, Nagpur, Thane, Jalgaon, Sangli, Bhandara,Gadchiroli, Satara, Raigarh, Aurangabad,Nashik Chandrapur, Pune, Kolhapur, Akola, Osmanabad,Dhule, |

On the positive side, when compared over two decades the census literacy figures speaks volumes about growth in literacy rates in rural and urban areas of Maharashtra. The growth in rural female literacy is by 18.16 and urban female literacy is by 8.38. It is worth mentioning that for all the districts urban female literacy rate is higher than rural female literacy rate but growth in literacy rate has been more in rural areas than in urban areas of Maharashtra.

Disparities in Education:
In this unit, an attempt has been made to study the extent of male female educational disparity in the rural and urban Maharashtra state. To measure this, tool suggested by Mahalanobis and Rao to Kothari Commission is used.

Disparity Index= FLR / MLR; where FLR= female literacy rate, MLR= male literacy rate

In case there is no disparity, the value is unity. Any deviation from the value of one is a measure of disparity. If the value is less than one, the disparity is in favour of males, which is generally observed. A value larger than one shows disparity in favour of females. Hence, it may be said that a higher degree of inequality corresponds to a lower level of social welfare.
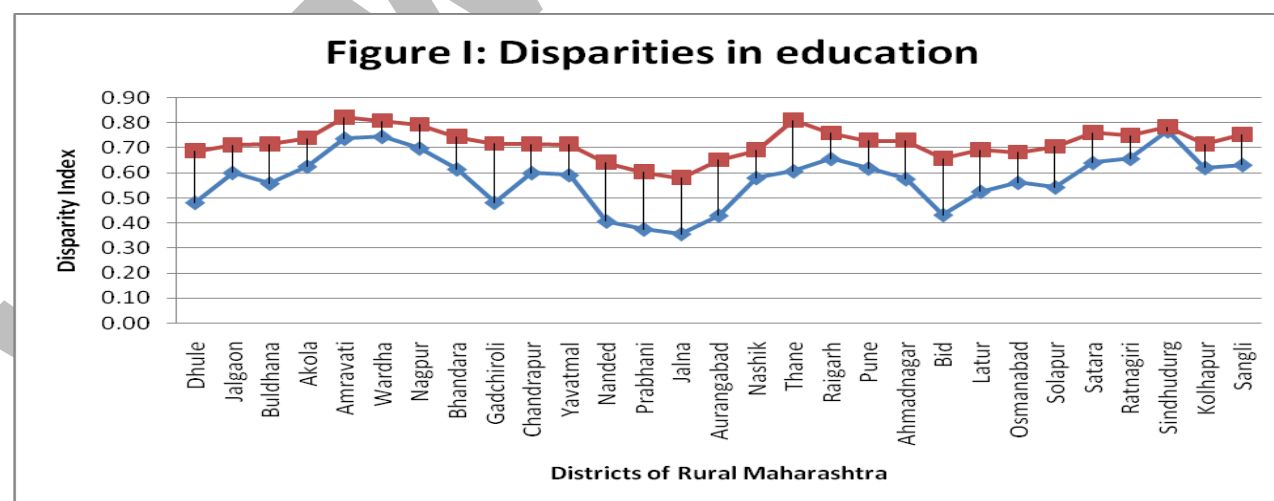
Figure I: Disparities in education

Figure II:Disparities in Education
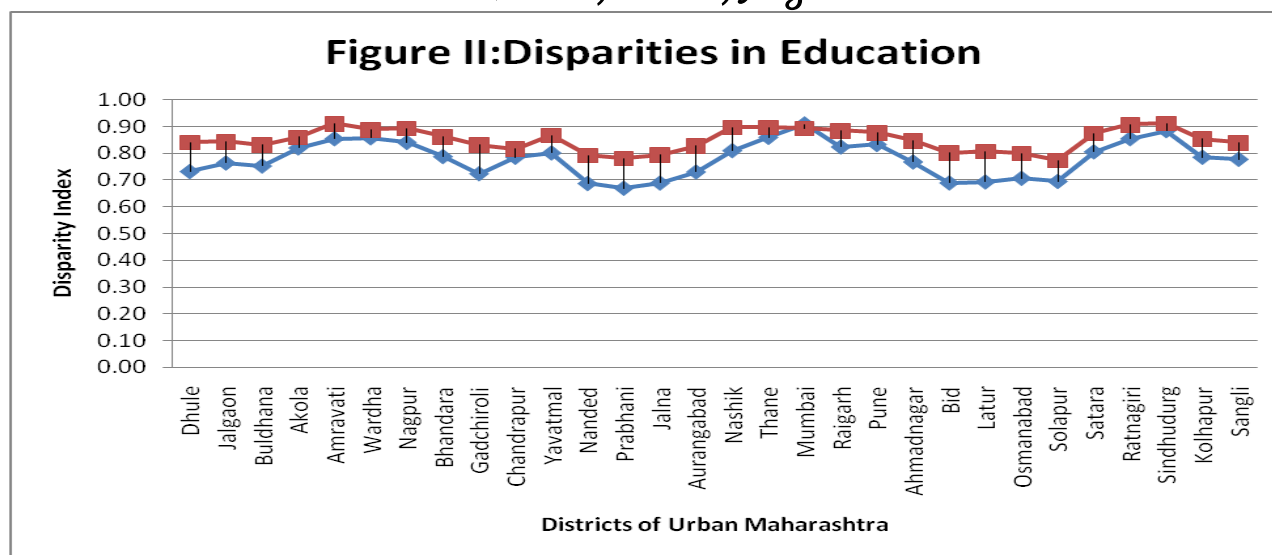
The female literacy rate has increased from 52.32% in 1991 to 67.51% in 2001, an increase of 15.19% whereas the male literacy rate has been increased from 76.56% in 1991 to 86.27% in 2001, an increase of 9.71%. This means that in last 10 years, the female literacy rate has grown at much faster clip than the male literacy rate. This has resulted in the narrowing down the gender gap in literacy from 24.24% in 1991 to 18.76% in 2001.However the improvement in literacy rates is not uniform across all the districts.

In Rural Maharashtra in 1991, only seven districts of Maharashtra showed a high level of disparity, with female literacy being less than or equal to half the male literacy rate. Eighteen districts out of 29 districts in the region have shown a medium level of disparity, where the female literacy rate is more than half the male literacy rate, but below70% and four districts have recorded a low level of disparity. In 2001, there was no district in Maharashtra state with high level of disparity. All the 20 districts were in low band whereas nine districts were in medium band (Fig. I).

In Urban Maharashtra in 1991, no districts of Maharashtra showed a high level of disparity. Five districts out of 30 districts in the region have shown a medium level of disparity, where the female literacy rate is more than half the male literacy rate, but below70% and twenty five districts have recorded a low level of disparity. In 2001, there was no district in Maharashtra state with high level of disparity. All the 30 districts were in low band (Fig. II).

Impact on Female Literacy:

Determinants of female literacy will vary from country to country, continent to continent, developed countries to developing countries and even within a country or state; it varies depending on the socio-economic, demographic factors. In this unit, an attempt is made to find out the factors associated with the rise in literacy level among females. For this stepwise multiple regression analysis has been used for all the districts of rural and urban Maharashtra. Here the dependent variable is Female Literacy Rate and the set of nine independent variables includes male literacy rate(MLR), work participation rate of main and marginal female workers(FWR), Infant Mortality rate(IMR), Child Mortality rate(CMR), Mean Number of Births (MNB), Percentage of Hindus (HIN), Percentage of Muslims(MUS), Percentage of Christians(CHR), Percentage of other(OTR).

The following models were found to be good fit:
For Urban Maharashtra: Model I

FLR= -85.830+2.019(MLR) -0.297(FWPR) +0.180(Muslim) -7.279(MNB) +0.125(CMR)

For Rural Maharashtra: Model II
FLR= -1.602 +1.174(MLR) -0.733(FWPR) -0.799(Muslim)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
I	.955[a]	.912	.897	1.79248

a. Predictors: (Constant), CMR, MLR, FWPR, MNB, Muslim

b. Dependent Variable: FLR

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
II	.942[a]	.887	.876	2.77235

a. Predictors: (Constant), MLR, Muslim, FWPR

Since the R Square value is larger than the critical value (0.336) in the R Square table for model I.
Since the R Square value is larger than the critical value (0.301) in the R Square table for model II.
Besides this, R square value and adjusted R square value are almost same for both the models as well as standard error of estimate are small for both the models.
Hence model found to be significant in both the groups.

The research hypothesis for the F test claims that there is some predictive relationship between the X variables (independent) and Y variable (dependent) in the population.

ANOVA TABLES:

For Urban Maharashtra: Model I

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
I	Regression	964.867	5	192.973	60.060	.000[a]
	Residual	93.177	29	3.213		
	Total	1058.044	34			

a. Predictors: (Constant), CMR, MLR, FWPR, MNB, Muslim

b. Dependent Variable: FLR

For Rural Maharashtra: Model II

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
II	Regression	1814.907	3	604.969	78.711	.000[a]
	Residual	230.578	30	7.686		
	Total	2045.485	33			

a. Predictors: (Constant), MLR, Muslim, FWPR

b. Dependent Variable: FLR

Since the p-value found to be less than 0.05, hence the result found to be significant for both the models.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
I	(Constant)	-85.830	19.421		-4.419	.000
	MLR	2.019	.191	.924	10.583	.000
	FWPR	-.297	.141	-.150	-2.097	.045
	Muslim	.180	.072	.281	2.512	.018
	MNB	-7.279	1.364	-.476	-5.338	.000
	CMR	.125	.050	.170	2.515	.018

a. Dependent Variable: FLR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
II	(Constant)	-1.602	12.425		-.129	.898
	FWPR	-.733	.174	-.293	-4.207	.000
	Muslim	-.799	.159	-.335	-5.039	.000
	MLR	1.174	.092	.822	12.728	.000

a. Dependent Variable: FLR

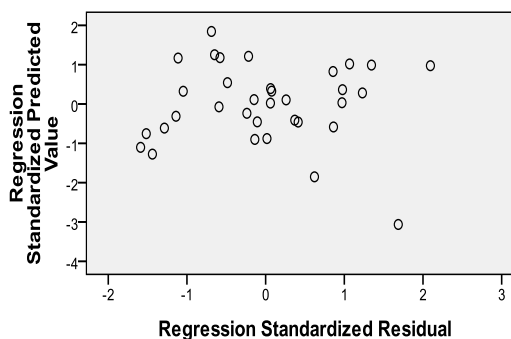**The t test for each coefficient found to be significant in both the models.**

Scatterplot Model-I

Dependent Variable: FLR
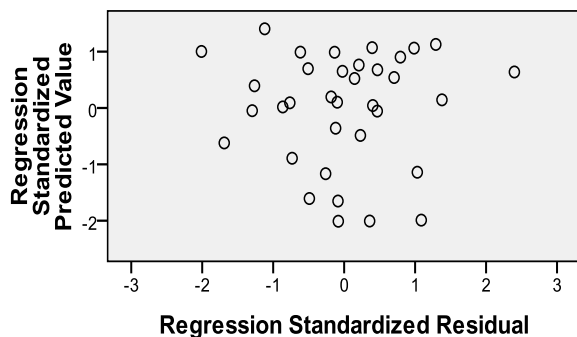
Scatterplot Model-II

Dependent Variable: FLR

The diagnostic plot shows no relationship for both the models. No problems are indicated. Some improvements may still be possible but the diagnostic plot cannot detect them.

Results: Factors responsible for increase in female literacy rate are increasing male literacy rate, slowly decreasing female work participation as marginal and main worker, decreasing Mean number of births, increasing Percentage of Muslim Population and negligible increasing child mortality rate in urban Maharashtra whereas factors responsible for increase in female literacy rate are increasing male literacy rate, slowly decreasing female work participation as marginal and main worker, decreasing Percentage of Muslim Population in rural Maharashtra.

Projections

Complete literacy among the population aged seven and above is one of the major goals of the new education policy. It is interesting to estimate how long it would take to achieve the goal, known the past trends. In this unit, a crude projection has been made for all India, Maharashtra and districts of this state to achieve 100% female literacy rate.

Tool suggested by Sharma and Retherford in 1987 has been used to know the number of decade require achieving complete literacy, which is $(100-X2)/(X2-X1)$ where X1 and X2 denote the literacy rates in 1991 and 2001 respectively. The projections are based on the trends observed in literacy among the population aged 7 years and above observed between 1991 and 2001 assuming that during each decade, it will increase in constant proportion.

The rough calculation shows that India will take 30 years to achieve full literacy whereas Maharashtra requires around 21 years. In Rural Maharashtra, Sindhudurg will require six decades followed by Ratnagiri, Pune, Chandrapur, Jalgaon, Dhule will take three decades to achieve full literacy.

In Urban Maharashtra, Sindhudurg will require five decades followed by Akola, Pune, Chandrapur, Jalna, Solapur,Mumbai will take three decades to achieve full literacy.

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Appendix-1

	Total Population	Dec.growth rate	Sex Ratio	Density	%SC Population
Coefficient of variation	68.82966349	44.13566311	6.151421	328.184	40.98336365
	%ST Population	**FLR**	**TFR**	**IMR**	**MAM**
	100.6255368	13.07351419	16.8934	23.812	6.995685445