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Kalpana Satija



AN ECONOMETRICS ANALYSIS OF FEMALE LITERACY RATE AND FEMALE WORK FORCE PARTICIPATION RATE OF GUJARAT (ALL DISTRICTS)



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ABSTRACT

Women empowerment has gained a lot of importance in the recent years. One of the most important contributions to empowering women is education. In this article we discuss the impact of female literacy on female work force participation rate for all the 26 districts of Gujarat. Though education is assumed to be an important contributing factor for increase in the work force participation rate, from our econometric analysis we found out an inverse relation between the two indicators i.e. the higher the female literacy rate, the lower was the female WFPR in Gujarat. This can be due various reasons such as gender discrimination, poverty, household responsibility, and social and religious norms restricting women to work away from home.

KEY WORDS: Female literacy rate, female WFPR, Gujarat, 26 districts, gender gap, education, poverty and women empowerment.

INTRODUCTION

Sustainable development for any country can only be achieved when the contribution of men and women is equal. And for a developing country like India, empowering women has now become a necessity rather than an important goal. Education is considered to be the first and foremost pillar or indicator which empowers women. With the help of education, the mindset of women broadens and further helps them to reach their maximum capacity as an individual. In order to narrow down gender inequality, women need to be economically, politically and socially empowered. The more educated a

women is, the more skilled their labor will be and therefore by being financially independent, women can gain control over their lives and help contribute to the economy of a country and help develop a better nation.

By work force participation rate, we mean the percentage of total workers which includes main workers and marginal worker to the total population. The female WFPR has always been lower than the men's WFPR. According to the Census of India, a 'worker' is defined as one whose main activity is participating in any physical or mental activity which is economically productive. Also, those men and women who are engaged in primary activities of their household are not regarded as a worker for the main activity. So even though women are working in their household but are not contributing economically towards the society like the men, leads to a low female WFPR.

When we talk about Gujarat, a prosperous state of India with total 26 districts in 2011 had 79.31 percent of literacy with 70.73 percent female literacy and 87.23 percent male literacy, according to the 2011 census of India. Education is an important factor contributing to the work force participation rate (WFPR) and therefore by increase in the female WFPR, many problems such as poverty, over population, child and women health and gender discrimination can reduce to an extent. But in the case of Gujarat, there is no significant impact of female literacy on the female WFPR. The WFPR of Gujarat in the year 2011 was 41 percent. The male WFPR was 57.2 percent and the female WFPR was 23.4 percent in Gujarat. The female WFPR is comparatively lower than the year 2001 which was 27.9 percent. The decrease can be due to many reasons such as household responsibility, not good enough job opportunities, gender discrimination in terms of hierarchy and salary and also various social norms creating a barrier for women to be employed.

Female literacy plays a small part in making an impact on female WFPR in case of Gujarat state. One of the contributing factors to WFPR could be gender discrimination and poverty. The more the poverty in any district, the more females will be forced to leave their education and work in the labor market even with low minimum wages. And this can be seen in more of the rural districts than the urban districts of Gujarat. Also gender disparity can lead to more male participation in productive work rather than female participation. This is because even in this day and age, the society believes that the only work women are capable of this taking care of the family. And even when women enter the labor market and are contributing equally to the job, they are paid less than the males which leads to a low female WFPR.

Literature Review:

There is a growing literature for the impact of female literacy on female WFPR. Sangeeta Nagaichi and Preeti Sharma (2014) have found out from their study that with the increase in female literacy there is not an equal increase in the female WFPR in Punjab (India). This is because of many reasons such as social and religious restrictions for women. Also women's household work is not taken into consideration as it is not reproductive towards the economy in a materialistic way. The IAMR report for the planning commission of India (2013) - Other indicator important for contribution to the low female WFPR in Uttar Pradesh and Gujarat is the wide gender gap. The work opportunities are limited for women and the hard condition they work on with minimum wage has led to the problem of low female employment. They have suggested that women should be trained for skilled work, and better work opportunities and better work conditions should be provided to them to encourage them for more productive work. For married women with children, there should be child care facilities provided to these women. The government should create more self-help groups for the women to be

financially independent. Hima Hari (2014)- Kerala being successful in terms of Human development and a narrow gender gap, lacks in terms of low female WFPR even when there is a high level of female literacy in the State. One of the main reasons for this is that after marriage women are not allowed to earn as their husbands are earning and taking care of them. Once they have children, they become busy taking care of them. To improve the female WFPR, the government has to improve the gender policies and the belief that women should not work after marriage has to be changed. Kristin Mammen and Christina Paxson (2000)- In any developing country, the female participation in labor, decreases in the initial years and increases with the increase in the development of that country. There are many social norms restricting women to actively participate in the labor market. But with increase in female WFPR, the fertility rate declines, literacy rate increases, and the gender gap is narrowed. Satija K and Dangi Y (2014) believe that education is the key to increase in women's economic participation. The government of Gujarat in order to empower women has encouraged them to participate in NGO's and other self-help groups and have introduced schemes and laws for women to have equal access to job opportunities. And for this women need to take part in economic activities by working outside their households. But according to Dr. Jameela Vadakarasseril Anandan and Anjali Anchayil (2007), it is the faulty education system, expensive college fees, lack of skilled labor, gender discrimination etc. are some of the reasons for low female participation in the labor market even though the literacy rate is very high in Kerala state of India. Some authors believe that the measurement of labor participation is sort of faulty as it does not take into account the domestic work of women in their homes and with fewer job opportunities for women in the labor market, there has been a sharp decline in the female labor participation rate in India. - Steven Kapsos Evangelia Bourmpoula Andrea Silberman (2014). In case of rural India, with the husbands getting good salary, the need to work outside the household work is not there. And the women willing to work in rural areas, there is lack of connectivity between villages and so this impacts the lack of willingness of female labor force.

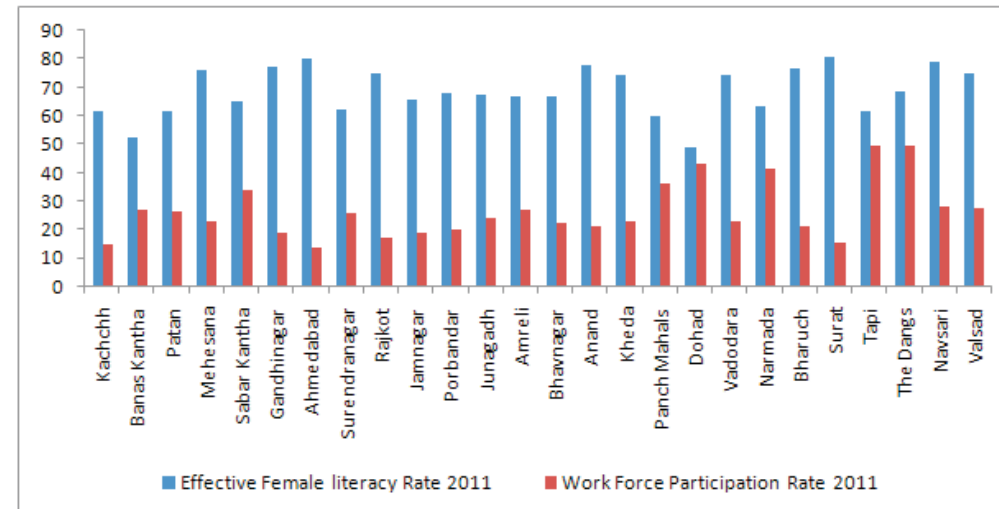
Objective:

1. To show the relation between female literacy and female work force participation rate for all 26 district of Gujarat.
2. To analyze both the indicators through correlation and linear regression method.
3. To analyze the reason behind the inverse relation between female literacy and female WFPR in Gujarat.

Methodology:

The data collected for this research is from the 2011 Census data of Gujarat and the State, district and taluka wise occupational classification (2001 and 2011), Gujarat state- Directorate of economics. This study is based on the secondary data and method used to analyze and show a relation between the two indicators i.e. the female literacy rate and the female WFPR is Karl Pearson's correlation method. In the case where significant relationship is observed the causality is checked using the linear regression (OLS) model.

Figure 1: The effective female literacy rate and the female WFPR of all districts of Gujarat.



Source: Salient features of census 2011 (All India and Gujarat) and State, district and taluka wise occupational classification (2001 and 2011), Gujarat state- Directorate of economics

Economic participation of female in labour market and its relation with female literacy rate is much debated topic in economic literature. Female work force participation rate is expected to increase with increased literacy rate among female. But there are studies which do not support this proposition. In the above figure 1, we can see that the higher the female literacy rate, the lower the female WFPR in all districts of Gujarat.

Table 1: The Table showing effective female literacy rate and the female WFPR for all districts of Gujarat.

District Names	Effective Female literacy Rate	Female Work Force Participation Rate
Kachchh	61.62	15.2
Banas Kantha	52.58	27.3
Patan	62.01	26.5
Mehesana	76.12	22.8
Sabar Kantha	65.29	34.1
Gandhinagar	77.37	19
Ahmedabad	80.29	13.6
Surendranagar	62.2	25.9
Rajkot	75.26	17.5
Jamnagar	65.97	19.2
Porbandar	68.32	20
Junagadh	67.59	24
Amreli	66.97	27.4
Bhavnagar	66.92	22.4
Anand	77.76	21.6
Kheda	74.67	23.3
Panch Mahals	59.95	36.4
Dohad	49.02	43.3
Vadodara	74.4	22.9
Narmada	63.62	41.7
Bharuch	76.79	21.2
Surat	81.02	15.3
Tapi	61.69	49.4
The Dangs	68.75	49.7
Navsari	79.3	28.2
Valsad	74.96	27.7

Source: Salient features of census 2011 (All India and Gujarat) and State, district and taluka wise occupational classification (2001 and 2011), Gujarat state- Directorate of economics.

It is always assumed that when there is increase in literacy there is an increase in the WFPR. From the above figure we can say that it is not exactly true for Gujarat. The districts with higher female literacy are all urban districts whereas the rural districts of Gujarat have higher WFPR. The female literacy rate of Ahmedabad district is 80.29 percent and its female WFPR is only 13.6 percent least of all the 26 districts. Same is the situation with Surat which has the highest female literacy rate of 81 percent with mere 15.3 percent of female WFPR. The Dangs is one of the most rural district of Gujarat has the highest female WFPR of 49.7 percent and a low female literacy rate 68.75 percent. This can be due to poverty as a factor contributing to the increase in WFPR. The people in the rural areas, due to immense poverty are forced to start working as labourers in agriculture or other house hold sectors. Rural districts like Tapi have 49.4 percent WFPR. The correlation between female literacy rate and economic participation is presented in table below.

Results and Discussions:

Karl Pearson's Correlation

		Effective Female Literacy Rate	Female Work Force Participation Rate
Effective Female Literacy Rate	Pearson Correlation	1	-.529**
	Sig. (2-tailed)		.005
	N	26	26
Female Work Force Participation Rate	Pearson Correlation	-.529**	1
	Sig. (2-tailed)	.005	
	N	26	26

**. Correlation is significant at the 0.01 level (2-tailed).

Economic participation of female is expected to be positively correlation with female literacy rate, with increase in female literacy rate, the female WFPR is expected to increase. But the results of the analysis at district level do not support this proposition. The data shows a moderate negative relation between effective female literacy rate and female WFPR participation.

I. e. $r = 0.529$

With the significance 2 tale test showing .005 which is less than .05, we can say that there is a significant relation between both the indicators. As there has been a negative correlation between female literacy rate and percentage of female's WFPR. Therefore regression analysis is performed to check the causality between two variables.

Female Literacy Rate and Economic Participation as Marginal Workers:

$$Y = a + b(X)$$

Where Y (Dependent Variable) = Female WFPR

X (Independent Variable) = Female Literacy Rate

Linear Regression Model**Variables Entered/Removed^a**

Model	Variables Entered	Variables Removed	Method
1	Effective Female Literacy Rate ^b	.	Enter

a. Dependent Variable: Female Work Force Participation Rate

b. All requested variables entered

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.529 ^a	.280	.250	8.6603

a. Predictors: (Constant), Effective Female Literacy Rate

It can be seen from the results that R Square which is the co-efficient of the determination shows that the female literacy rate has 28 percent variation in female work force participation. There is a requirement of adding some more variables affecting the female WFPR for all districts of Gujarat. Poverty can also be an important contributor to the low female WFPR. The higher the poverty, the higher will be the female WFPR.

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	700.544	1	700.544	9.341	.005 ^b
	Residual	1800.001	24	75.000		
	Total	2500.545	25			

a. Dependent Variable: Female Work Force Participation Rate

b. Predictors: (Constant), Effective Female Literacy Rate

From the ANOVA table we can see that the level of significance is .005 which is less than .05. This indicates that the regression model is a good fit and can significantly predict the outcome variable.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	69.854	14.204		4.918	.000
	Effective Female Literacy Rate	-.626	.205	-.529	-3.056	.005

a. Dependent Variable: Female Work Force Participation Rate

The results of regression analysis with female WFPR as dependent variable and female literacy rate as independent variable is presented above. On percentage increase in female literacy rate, the reduced female WFPR will be 0.626 percent. Therefore we can say that there is an inverse relation between the female literacy rate and female WFPR in Gujarat.

Regression Equation:

Female WFPR = 69.854 - 0.626 (Female Literacy Rate).

Conclusion:

From the above discussion and analysis, we can say that in the case of all districts of Gujarat, the impact of female literacy on the female WFPR is only 28 percent. So female literacy is not the most important factor contributing to the increase in the female WFPR but is the foremost base for women to empower economically, financially, politically and socially. Also the female WFPR is low compared to that of the male participation. This can be due to various factors such as poverty, household work, gender discrimination, marriage and children etc. The Government has to take initiative for encouraging women to be take part in contributing towards the economy, and for this the gender gap has to be narrowed; better jobs for women have to be provided with equal salary as their male counterparts. There should be more flexibility in the labor market to increase the female WFPR. Empowering women is a very important step for the state to ensure overall growth and development in all fields, only then a state or a nation can succeed.

REFERENCE:

1. Anandan V. J. and Anchayil A. (2007)- *"Increasing level of Education and Falling Labour force participation of Women in the context of Kerala, India"*.
2. Das S., Jain-Chandra S., Kochhar K., and Kumar N. (2015) - *"Women Workers in India: Why So Few Among So Many?"* - IMF Working Paper Asia and Pacific Department.
3. Gujarat Social Infrastructure Development Board Society (GSIDBS) (2012) – *"Socio- economic and demographic status of women in Gujarat"* - Directorate of Human Development, General Administration Department (Planning), Government of Gujarat, Gandhinagar.
4. HimaHari .U (2015) – *"Status of Women in Kerala- A macro level Analysis"*–Global Journal for Research Analysis, Volume-4, Issue-3.
5. Kapsos S., Bourmpoula E. and Silberman A. (2014) – *"Why is female labour force participation declining so sharply in India?"* – International Labor Office, ILO Research paper no. 10.
6. Mammen K. and Paxson C. (2000) – *"Women's Work and Economic Development"* - The Journal of Economic Perspectives, Vol. 14, No. 4. pp. 141-164.
7. Nagaichi S. and Sharma P. (2014) – *"Is literacy a cause of increase in women work participation in Punjab (India): A regional analysis?"* - International Journal of Research in Applied, Natural and Social Sciences, Vol. 2, Issue 2, pg. 49-56.
8. Saha P., Gandhi A., Devi K. and Sinha S. (2013) – *"Low Female Employment in a Period of High Growth: Insights from Primary Survey in Uttar Pradesh and Gujarat"*- Institute of Applied Manpower Research, Planning Commission, Government of India.\
9. Sanghi S., Srija, A. and Vijay S. S. (2015) – *"Decline in Rural Female Labour Force Participation in India: A Relook into the Causes"*- Vikalpa, Volume 40, Issue 3.

10. Sateja K. and DangiYogita (2014) –*“Empirical Analysis of Literacy Rate and Employment in Ahmedabad District”*-Golden Research Thoughts, Volume-3 | Issue-12.
11. State, district and taluka wise occupational classification (2001 and 2011), Gujarat state-Directorate of economics.
12. The Salient features of census 2011 (All India and Gujarat).

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