



## The Effects of female literacy on crude birth rate in Gujarat (District wise comparison)

### KEYWORDS

Female literacy rate, crude birth rate, over population, education, Gujarat and women empowerment.

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### ABSTRACT

*This paper is an attempt to analyze the effect of female literacy rate on crude birth rate for all districts of Gujarat state of India. In this study we will compare all 26 districts of Gujarat to one indicator each of education and health i.e. female literacy rate and crude birth rate respectively. From the results found, we prove that with the increase in female literacy there is a decrease in the crude birth rate. As increase in female literacy, the more women are empowered socially, and with their control on their decision, and the knowledge and awareness regarding health and contraceptive, the crude birth rate eventually decreases leading to sustainable development of a nation.*

### INTRODUCTION

Today for any developing country to progress, the education of each and every citizen is very important, especially girl education and therefore the contribution of both men and women is equally important. In India, since decades, women have been considered to be less than their male counterparts, leading to a huge gender gap. Women were treated as a burden and so, on the birth of a female child, they were killed. Now as the importance of education has been realized the gender gap has been narrowed to a certain extent, though not to a satisfactory extent. So by educating women, we empower them socially, financially and politically. India is a developing country with many problems such as poverty, unemployment, gender discrimination, over population etc. Today India is the one of the most over populated countries of the world and in order to reduce the birth rate or stabilize the over growing population, one of the solutions to this problem is promoting female literacy. As by educating women, it not only broadens their mind set but also empowers them making them economically and socially independent. And this will be lead to an upward growth in the economy with educated and skilled women labour contributing towards the country's GDP.

Gujarat is one of the prosperous states of India which for empowering women is trying to reach maximum female education. As per the census of 2011, the population of Gujarat was 6.04 crores and is still rising. The female literacy in Gujarat was 70.73% in 2011 according to the census and it has been increasing and with women being literate, they are skilled and aware of the issues around them, actively taking part in social role outside their family and therefore marry late, and so have fewer and healthy children. Also with the awareness of better health and contraceptive knowledge, the crude birth rate can decrease, solving many problems of this state.

### Review of Literature:

In this study we will review some of the contributions done in relation to our research.

Ross, Shah Wang (2011), through their comparative findings from girl's education projects in Gujarat, India, and Shaanxi, China, have seen that women through education become able and are entitled to make decisions for

themselves and others. And so they have come to believe that schools are one of the most important foundations in which girls have a chance to empower themselves though the process of empowerment in schools which happens daily, drop by drop.

According to Gallaway and Bernasek (2004) education and literacy are positively correlated. The way women can be helped is if literacy provides them a means to a better occupation. And in order for more women to be literate, they suggested that policies, focusing on primary education for girls and the programs which provide them skill training in order to improve their outcomes in the labor market in the short run can contribute to women empowerment.

Rao (2014) strongly believes that value education is an important tool which helps empower women as it replaces the gender discrimination to gender equality. She suggests that there should be a greater involvement of women in education, and for that the government of India should make women education a priority and try to reduce the men-women literacy gap.

### Objective of the study:

1. To study the relationship of female literacy rates with the crude birth rates (CBRs) of all the districts of Gujarat state.
2. To study the importance of female education for empowering women.

### Research Methodology:

The data is a secondary data collected from the census of 2011, Gujarat and the annual statistical report of 2011. The data is analyzed using the linear regression method (OLS). The female literacy rate is the independent variable, while the Crude Birth Rate is the dependent variable.

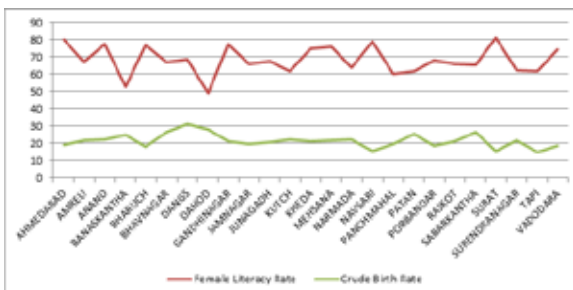
**Table 1 - Showing female literacy and Crude Birth Rate of all the 26 districts of Gujarat in 2011 in Percentage.**

	DISTRICT	Female Literacy Rate	Crude Birth Rate
1	AHMEDABAD	80.29	19.0
2	AMRELI	66.97	21.8
3	ANAND	77.76	22.1
4	BANASKANTHA	52.58	25.1

5	BHARUCH	76.79	18.0
6	BHAVNAGAR	66.92	26.5
7	DANGS	68.75	31.4
8	DAHOD	49.02	28.2
9	GANDHINAGAR	77.37	21.2
10	JAMNAGAR	65.97	19.5
11	JUNAGADH	67.59	20.9
12	KUTCH	61.62	22.1
13	KHEDA	74.67	21.2
14	MEHSANA	76.12	21.9
15	NARMADA	63.62	22.1
16	NAVSARI	79.3	15.4
17	PANCHMAHAL	59.95	19.5
18	PATAN	62.01	25.3
19	PORBANDAR	68.32	18.6
20	RAJKOT	65.97	21.3
21	SABARKANTHA	65.29	26.6
22	SURAT	81.02	15.6
23	SURENDRANAGAR	62.2	22.0
24	TAPI	61.69	15.0
25	VADODARA	74.4	18.5
26	VALSAD	74.96	20.2

Source: The Salient features of census 2011, India and Gujarat Source: Annual Statistical Report 2011 – Government of Gujarat.

**Interpretation:** We can see from table 1 that all the districts of Gujarat have more 50% of female literacy rate except Dahod which is at the least at 49.02%. Surat has the highest female literacy rate of 81.02 %. We can see a clear downfall in the crude birth rate in Gujarat. With Dang the highest Crude Birth Rate at 31.4% and lowest is Navsari at 15.4%.



**Figure 1- Showing the Female Literacy and Crude Birth Rate of All 26 districts of Gujarat in 2011 in percentage.**

Source: The Salient features of census 2011, India and Gujarat and Annual Statistical Report 2011 – Government of Gujarat.

**Interpretation:** In both the table and the figure, we can see an inverse relationship between the female literacy rate and the crude birth rate. With the increase in the female literacy in any district, there is a decrease in the crude birth rate of that district.

**Regression analysis: Female of Literacy Rate and Crude Birth Rate**

$Y = a + b(X)$

Where Y (Dependent Variable) = Crude Birth Rate

X (Independent Variable) = Female Literacy Rate

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.747(a)	.558	.539	3.21320

a) Predictors: (Constant), Literacy Rate – Female

**ANOVA (b)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	299.656	1	299.656	29.023	.000(a)
	Residual	237.467	23	10.325		
	Total	537.122	24			

a) Predictors: (Constant), Literacy Rate – Female

b) Dependent Variable: Crude Birth Rate

**Coefficients (a)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	52.689	5.392		9.772	.000
	Literacy Rate - Female	-.419	.078	-.747	-5.387	.000

a) Dependent Variable: Crude Birth Rate

**Result:** The results of regression analysis with crude birth rate as dependent variable and female literacy rate as independent variable is presented above. It can be seen from the results that female literacy rate explained 53.9 percent variation in crude birth rate. On percentage change in female literacy rate changes the crude death rate by 0.095 percent.

Regression Equation: Crude Birth Rate = 52.69 \* (0.095) Female Literacy Rate.

The correlation between female literacy rate and health status in terms of crude birth rate, is presented in table above. It can be seen from the data that there has been high degree of negative correlation (significant at 0.01 percent) between female literacy rate and crude birth rate, indicating negative relationship. With increased female literacy rate crude birth rate declines because female understand the importance of small families, use of contraceptives etc.

**Conclusion:** We can say that the female literacy is a key factor which not only helps in curbing the problem of over-population but can lead to an overall increase in the social growth of any nation and thereby reducing the gender gap. The Government of Gujarat has introduced many schemes and programs to promote female education. It should be seen that these programs should be put into action. With the female skilled labour contributing to the economy of India, and by being empowered socially and financially, we can sure see a Gujarat coming out of problems such as poverty, over population to name a few.

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