

# Education And Fertility: Evidence From A Minority Community In Assam

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**Abstract:** Continuous and rapid growth of population in Assam has been an obstacle to its socioeconomic development over the years. In addition to migration and falling mortality, the higher level of fertility is reason for rapid growth of population in Assam. Studies have shown that the Muslims in India exhibit higher levels of fertility than any other community. A similar pattern is exhibited in Assam too. Figures on Literacy rate, level of education and other socio-economic indicators are also very poor among this particular community. Estimation of the fertility level through the application of demographic techniques is required to understand the fertility preferences. This paper makes an attempt to study the effect of education on the fertility of the Muslim community in Nagaon district of Assam as this district constitutes the highest percentage of Muslim population in the state. The study employs chi-square test to find out the association between education and fertility. Further, the multiple regression technique has been used to analyze the impact of education as a determinant of fertility. The study finds education as a significant determinant of fertility of the Muslim community. An attempt is also made to study the educational attainment of the males and females and their attitude towards the female education of the sample population.

**Key Words:** Muslim community, Assam, Nagaon, live birth, females, Education, Fertility.

## 1. INTRODUCTION:

Literacy rate plays a key role in the social development approach. Literacy and educational attainment of a female or a person is one of the most important factors which affect demographic structure. There is a relation between education of women and level of fertility. If the level of education is high the fertility rate will be less and vice-versa. For the underdeveloped countries, the level of education is considered to be a depressing factor of fertility. Education enhances the quality of human capital and is vital for modernization. Female education could be an important influencing variable in fertility transition among the Muslims (Borah and Borah, 2016). In Assam the educational status of the Muslims is very poor. Moreover, the study finds mother's education as a significant factor of fertility of the Muslims. Fertility is influenced by number of factors which affect fertility either directly or indirectly. The factors that affect fertility directly are age at marriage, use of contraceptives, breast feeding and amenorrhea and induced abortion which Bongaarts (1978) described as the proximate determinants of fertility. In addition to these a set of socio-economic factors like income, education, religion, occupation etc. can also affect fertility indirectly. Under social determinants of fertility, religion is one of the important factors that affect fertility of different socio-economic groups. Among the six religious minority communities identified in India, Muslim community is the largest minority community in India and Assam. Muslims plays important role in electoral of Assam state forming significant 34.22% of total population. The growth rate of Muslim population in 2001 was 30.9 percent and it has increased to 34.26 percent in 2011. The growth rate of population of some of the minority dominated districts of Assam like Dhubri, Goalpara, Barpeta, Nagaon, Morigaon, Hailakandi etc. are comparatively much higher than the average growth rate of population in the state. According to SRS (Sample Registration System) data 2013, Total Fertility Rate (children per female) of Assam is 2.42, among Muslim community it is 2.9 exhibits highest among all religious groups in the state. It is evident that Muslims have more children than other religious communities and thus exhibits higher fertility (NFHS I, II, III). In Assam, Muslims are a minority group and are lagging behind in terms of

education, income and health care. The present study is an attempt to analyse the relationship between level of

education and fertility behaviour of Muslim community and also the study tries to address the issues relating to educational backwardness of this community.

**1.1.: Fertility differentials by Religion in Assam:** The total population of Assam according to 2011 census is 3.12 crore, wherein, 1.91 crore are Hindus, 1.07 crore are Muslims and about 12 lakh Christians. Besides them, there are less than 21 thousand Sikhs, about 55 thousand Buddhists, 26 thousand Jains, and nearly 51 thousand have been found in the category of religion not stated. The relative growth of Muslims in Assam during 2001-11 has been relatively high. The share of Muslims in the population of the State has increased by 3.3 percentage points in this decade. The values of the indicators of fertility such as TFR, CBR and CEB are also higher among Muslim community than any other communities in Assam.

**Table 1**  
**TFR of different Religions in Assam**

Communities	NFHS 2	NFHS 3
Hindu	2.0	1.95
Muslim	3.05	3.64
Christian	1.69	Not available

Source: NFHS Reports

**Table 2**  
**CEB of different Religions of Assam**

Communities	NFHS 2	NFHS 3
Hindu	4.02	3.5
Muslim	5.33	5.4
Christian	Not available	4.6

Source: NFHS Reports

Table 1 and table 2 depict the clear scenario of religious differentials of fertility. Muslim people exhibit higher TFR and CEB than any other community in Assam. So this is a serious matter of concern in order to check the population growth of Muslim population.

### 1.2.: Literacy Rates of different Religious Communities in Assam:

According to the definition given in census, a person aged seven and above is considered literate if he or she can read and write, with understanding in any language. From a collective perspective, a literate community is a dynamic community which can exchange ideas in a more innovative and productive way. There are several religious communities in Assam having different rates of literacy rates. Like India, here also we have seen that Muslim community exhibits lowest literacy rate than all other religious communities and the figure is far below the state average. The table 1.9 shows the literacy scenario of the different religious communities in Assam.

**Table 3: Literacy Rates by different Religious Communities of Assam**

Communities	Literacy Rate (%)
Hindu	77.67
Muslim	61.92
Christian	67
Sikh	92.34
Buddhist	77.32
Jain	96.13
Others	79.27
Assam	72.19

Source: Census of India, 2011

The table 3 depicts the literacy scenario of different religions in Assam. The highest literacy rate is found among the Jains i.e., 96.13 percent. All the religious communities have the literacy rates higher than the state average except Muslim (61.92 percent) and Christian (67 percent). It should be noted that Muslim community has the lowest literacy rate than any other communities in Assam and also the figure is far below the state average.

**Table 4**

Educational status of different Religious communities of Assam

Communities	Level of Education (%)					
	Illiterate	Primary	M.E	High School	Higher Secondary/ Intermediate	Graduate & Above
Muslim	38.08	16.76	11.42	2.8	5.27	1.67
Hindu	23.33	16.26	18.6	6.76	11.77	4.98
Christian	33	18.34	14.72	5.19	5.23	1.64
Jain	3.87	10.73	12.35	10.35	23.06	28.03
Sikh	7.66	12.63	17.26	17.8	19.1	12.94
Assam	27.88	16.49	16.12	5.44	9.43	3.8

Data Source: Census of India, 2011

The table 4 highlights the Educational status of different religious communities of Assam. All the religious communities have the higher percentage than the state average of 3.8 percent in Graduation & above except Muslims i.e., 1.67 and Christian i.e. 1.64. Which are the lowest percentage. As compared with the Matric/Secondary education percentage Jains are having the highest percentage i.e. 10.35 where as Muslims is having only 2.8 percentage the lowest percentage of the overall communities. The table shows that the education level is low in the Muslim Community as compared with other communities in state level.

## 2. METHODOLOGY:

The study is based on primary data collected through sample survey. The samples for the study have been drawn by following a multi-stage sampling technique, both random and purposive. Apart from primary data information from several secondary sources like population census reports, official records, journals, books etc. are also used. The first stage of sampling design in this study is the sample district. Nagaon District is selected purposively as the sample district as it has the highest Muslim population among all the districts of Assam. The share of the Muslim population of Nagaon district in the total Muslim population of Assam is 14.63. In the study multiple regression analysis has been used to figure out the effect of education on fertility level of Muslim community. Education level of both mother's and father's have been taken as independent variable and number of live birth is taken as dependent variable.

## 3. LITERATURE REVIEW

Menon (1979) in his study 'Education of Muslim Women: Tradition Versus Modernity' tried to identify the factors which are responsible for preventing the educational progress of Muslim women. By using random sampling method 450 women were selected for direct interview. The study found that educational level of the respondents and the duration of their religious education were related significantly to each other. The study also found that religious education was inevitable for a Muslim woman which led to late entry to school. After entering the school at a comparatively later age they were forced to discontinue their studies when they attained puberty and were not allowed to go out freely after that. Another finding of the study was that a majority of the respondents and their daughters were married below 15 years. It was also found by the study that prevalence of early marriage prevents women from continuing her education after marriage. Martin (1995) studied the relationship between women's education and fertility by using data from demographic and health surveys for 26 developing countries. The study is cross sectional in nature revealed that the strength of the association of education and fertility differ with the level of education in different states. The author found that the fertility levels were substantially lower among the educated mother and women with no schooling had higher fertility levels. Further it was found that the magnitude of fertility differential varies from country to country. By addressing the issues related to the role of religion in fertility and family planning among Muslims in India Mistry (1999) found that the proportion of Muslims in India's population has been increasing. The growth rate of population was also higher for Muslim than Hindus. The study examined the reports for the period of 1951-99. The researcher studied fertility and family and family planning behavior among Muslims. The study involved the Muslim leadership's views and attitude regarding small family norm and use of contraception. For the study a sample of 800 Muslim households in Malegaon city was taken. For the selection of sample unit two stage sampling design was adopted. The findings of the study reveal that most of the Malegaon Muslims in the study area were of low income group but the literacy level was relatively high. Another finding of the study was that majority of the community leaders are in favour of small family norm and practice of family planning for Muslim

women. To address the issues of religious differentials in population growth in India Kulkarni and Alagarajan (2005) tried to examine the fertility differentials. Muslim population exhibits higher growth of population i.e., 36 percent followed by Hindus 20.3 percent. The study revealed that since 1971, the growth rate of the Muslim population had been higher than that of the other religions of India. The findings were such that in case of fertility differentials, it varies across population spatially. In India, the southern states have experienced substantial fertility declines. Fertility was moderately high in the north-central states. John P. Thuman et.al (2007) in their study made an attempt to test the hypothesis about the effect of education on fertility in Columbia and Peru. For the study they used demographic and health survey data from Latin America. In this study binomial regression model was employed using

the variables like education, family nutrition and health and some other socio-economic variables. To examine the impact of wealth on fertility the study employed an ordinal index of household wealth ranging from 1 to 5 where the higher levels indicate more family wealth. The index was created by the study using DHS data based upon the respondents answers to various queries regarding household asset ownership and income. The study found that education and fertility were inversely related in rural Columbia and Peru.

**4. RESULTS AND DISCUSSION:**

**4.1.: Distribution of population of the sample households by educational level.**

**Table 5**  
**Educational Attainment of the Sample population**

Level of Education	Persons	Male		Female		Literacy rate (%)		
		%	No. of persons	%	No. of persons	Male	Female	Total
Illiterate	105	9.75	55	9.48	50	90.25	90.52	90.38
Primary (I-V)	363	36.82	207	29.56	156			
M.E. (VI-VII)	243	21.67	122	22.86	121			
High School (IX-X)	218	19.31	108	20.63	110			
Beyond High School	163	12.45	70	17.47	93			
Total	1092	100	562	100	530			

Source: Primary Survey

The table 5 shows the education level and literacy rates of both the males and females of the sample Muslim population. It reveals that 9.75 percent of the total male population and 9.48 percent of the total female population is illiterate. These figures are 12.4 percent and 10.45 percent for Assam. The highest level of education that the males (21.67 percent) and females (22.86 percent) are having is M.E. level of education. Compared to males, the percentage of females is found to be increased as the level of education increases. Literacy rate for females is calculated as 90.52 percent whereas for males it is slightly lower i.e., 90.25 percent. Both the figures are far above the state average of 77.85 percent and 66.27 percent (Registrar General of India) respectively. In case of Assam the literacy rate of males is higher than females but the above table reveals the opposite scenario of literacy rate for the Muslim population. Education is necessary for both girls and boys. Therefore, educated parents have the tendency to educate their children, no matter whether the child is a boy or a girl.

**4.2.: Level of Education of the Respondents:** In the present study the fertility related questions were put to the females of the reproductive age group 15-49. This section analyses the educational status of those respondents.

**Table 6**  
**Level of Education Respondents**

Level of Education	No. of Respondents	Percentage (%)
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Illiterate	37	15
Primary (I-V)	52	21
M.E. (VI-VIII)	53	21
High School (IX-X)	71	29
Higher Secondary (XI-XII)	24	10
Graduation	8	3
Post Graduation	2	1
Total	247	100

Source: Primary Survey

The table 6 shows a lower educational attainment of the females of the reproductive age group. A large portion of the females are illiterate (15 percent) or have only primary education (21 percent), M.E. (21 percent) level of education and high school (29 percent) level of education. In Assam 12.8 percent female of the reproductive age group have primary education, 27.3 percent have M.E. level of level of education, 17.7 percent females are having high school level of education, 7.2 percent and 3.2 percent have higher secondary and graduate and above level of education (Census, 2011). Females of the sample population dropped out from their respective level of education because of poor economic conditions of their parents and also the parents prefer marriage for their daughters at an early age. It is found that only 10 percent females have obtained higher secondary level of education, 3 percent females are graduate and only 1 percent females have qualified post graduation.

**4.3.: Level of Education of the Respondent’s Husband:**

The education level of the husbands of the respondents is considered here. The table 4.3 depicts that highest percentage of the males (34 percent) is having primary level of education. The share of males in the higher education is negligible. The males dropped out from schooling because of several reasons. It was reported that they were facing financial problem and bound to take the responsibility of the family by helping their fathers to earn more income so that they could survive. But it was also observed that some of them (respondent’s husband) dropped out education as it was own choice to do job rather than schooling. So it is seen that only 10 percent husbands have obtained higher secondary level of education, 6 percent husbands are graduate and 1 percent husbands

have qualified post graduation. It is also found that graduate or post graduate females also have husbands with more or less having same level of education.

**Table 7  
Level of Education of the Respondent’s Husband**

Level of Education	No. of Persons	Percentage (%)
Illiterate	38	15
Primary (I-V)	83	34
M.E. (VI-VIII)	31	13
High School (IX-X)	51	21
Higher Secondary (XI-XII)	26	10
Graduation	15	6
Post Graduation	3	1
Total	247	100

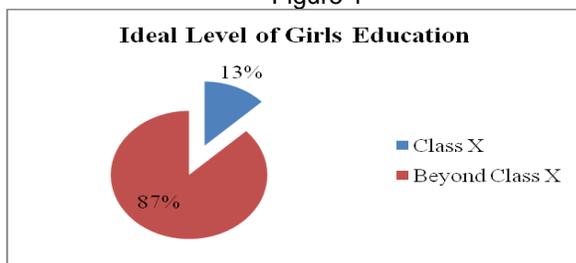
Source: Primary Survey

**4.4: Level of Girls’ Education as expected by the Sample Households:** As it has been found in the study that all the 247 Muslim households are in favour of girls’ education but they are unaware about to which level of education that their daughters should have to get a job or to be called as educated. As a large portion of the Muslim parents is uneducated, they are indifferent about the highest level of institutional education that a girl should achieve in order to lead an independent life.

Girl Child	Respondents	
For a Good Future	47	19
To raise the level of Knowledge	49	20
For a Good Status	10	4
To Educate Children	81	33
To Educate Society	3	1
To Get Job	37	15
To Get Better Husband	20	8
Total	247	100

Data Source: Primary Survey

Figure 1



The figure 1 shows the ideal level of girls’ education according to the sample parents of the Muslim girls. 87 percent of the sample households state that girls should have higher level of education which is beyond high school level. On the other hand 13 percent of the Muslim households report that girls should have high school level of education.

The table 7 highlights different statements in favour of educating females of the sample households. The highest 33 percent of the parents think that female education is necessary to educate the children that their daughters will have in future. 20 percent of the Muslim households report that in the modern society education is necessary for females to get well equipped with knowledge. 19 percent and 15 percent of the parents report that female education is important for their future and to get a job so that they will be independent in their rest of the life. On the other hand, some of the parents state that if females are educated they will get better husband in future. The rest of the households report that in order to maintain a good status in the society and also to educate the society female education is very much necessary.

**4.5.: Attitude of the sample households towards Female Education:**

The attitude of the Muslim households that constitute the sample for the present study towards female education is positive. However, sending of their daughters to school and colleges might be associated with their household wealth, their own educational status and their preferences between marriage and education. The table 4.4 shows the reasons for educating a girl child as stated by the parents.

**4.6.: Dropout:** A dropout is a pupil who leaves school before the completion of a schooling stage or leaving at some intermediate or non-terminal point of a given level of education. In the 247 Muslim Households, 62 persons are found to have dropped out of education. The table 8 shows the details of drop outs experienced in the sample population.

**Table 7  
Reasons for favoring Girls’ Education**

Reasons For Educating	No. of	Percentage (%)
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**Table 8**

**No. of School Drop outs of the last five years**

Level of Education	No. of Drop outs			Percentage of Total (%)
	Male	Female	Total	

Primary	8	4	12	19.4
Class VI-X	17	25	42	67.7
Class X-XII	2	5	7	11.3
Beyond H.S.	0	1	1	1.6
Total	26	36	62	100

Source: Primary Survey

The table 8 depicts that maximum number of drop outs belong to the class VI to X i.e., below high school level. Out of the total drop outs 19.4 percent are primary drop outs. It is clear from the above table that as the level of education increases percentage of drop out falls. It should be noted that in every level of education females outnumber the males except primary level of education.

**4.6.1.: Reasons for School Drop outs:**

There are many reasons of drop out of education as reported by the sample households. The common barrier to education for both boys and girls is poor economic conditions. This is the root cause for parting with education for a considerable portion (75.5 percent) of boys and girls. Moreover, there are separate reasons for boys and girls to stop education. For girls, along with poor economic conditions, they have to enter into marital life as their parents prefer marriage at an early age without completing education. So, early marriage is the main reason for female drop outs. On the other hand, for boys reasons are many. Some of the boys are not willing to continue education as they prefer to engage themselves in some income earning activities for the family so that they can help their parents financially. Moreover, in some families, fathers who used to earn their livelihood are unable to work due to severe disease so the entire family responsibilities fall on the boys only. Above all these reasons, some boys and girls (10.5 percent) willingly dropped out of education because they failed in the class they belonged to and parents did not motivate them to continue their studies.

**Specification of the Regression Model:** To analyze the effects of proximate and distant determinants on the fertility level of the sample population, binomial regression technique has been used in this study. For the regression analysis, dependent and independent variables are taken as under:

**Dependent Variables:**

- 1. Number of live births:** The number of live birth ever born has been taken as the dependent variable which depends on the following variables.

**Independent Variables:**

- 1. Mother’s Education:** This variable is used as a categorical coded 1 for mothers having education level High School and above and 0 if otherwise.
- 2. Education of the Father:** It is also taken as a dummy variable, scored 1 if the husband is having education of High School and above and 0 if otherwise.

Considering the above factors, the following regression equations is fitted-

$$Y_t = \alpha + \beta_1 X_{1t} + \beta_2 X_{2t} + U_t \dots\dots\dots (1)$$

$Y_t$  is the dependent variable depicting number of live births.

$\beta_1, \beta_2$  stand for coefficients of the predictor variable  $X_{1t}$  and  $X_{2t}$

$\alpha$  represents the constant term used in the model, it gives the average effect of live births when all the independent variables are set equal to zero.

The table 9 displays the results of the multivariate linear regression model expressing the relationship between fertility levels and its determinants.

**Table 9: Multivariate Linear Regression Model Description of Fertility Level**

DEPENDENT VARIABLE: Fertility Level (No. of Live Births)			
Variables	Unstandardized coefficients $\beta$	t ratio	VIF
Mother’s Education	-0.370*	-4.067	2.527
Father’s Education	-0.038*	-0.472	2.527
Constant	3.653		

**R = 0.526, R square = 0.412**

**\* F = 17.410**

**\*significant at 1 percent level**

The multiple regression model clearly shows that, these two independent variables largely determine fertility level of the sample population. The intercept value of 3.653 indicates that if the values of the two independent variables are fixed at zero, the number of live births will be quite high, i.e., 3.653. These two variables explain more than 50 percent variables in the live birth. The assumption of no multicollinearity among the regressors included in the regression model has been satisfied by the collinearity statistics. The Variance Inflation Factor (VIF) in respect of all the eleven independent variables is much below 10 (it is within 2 to 3 in case of both the independent variables).

**Analysis of the Estimated Regression Coefficients:**

- 1. Live Birth and Education of Mother:** In the regression analysis, education of mothers is found to be significant at 1% level of significance. The estimated regression coefficient of education of the mother is - 0.370, which indicates that compared to the females with no education or below high school level of education, the females with high school and above level of education can decrease the number of live birth by 0.37 units. Females with atleast high school level of education have experienced a less number of children.
- 2. Live Birth and Husband’s Education:** The estimated regression coefficient of the husband’s education is - 0.038, which indicates that having educational attainment of high school and above reduces live birth by 0.038 units. Husband’s education is found to be statistically significant at 1% level and so it can be concluded that husband’s education has also significant influence on the fertility behaviour of the Muslims.

**5. CONCLUSION:**

Muslim community is the largest minority community in both Assam and in India and the fertility levels of this community are the highest among all other communities. From the above discussion is it evident that in one hand, level of

education is of this particular community very poor and on the other hand, education affects fertility significantly. It should be noted that the effect of mother's education in declining fertility is more than the effect of father's education (as suggested by the coefficients). It can be said that if proper educational facilities are provided to the Muslim community then it will not only develop this community but also it will have direct impact on their fertility levels. Educated women can lead to educate a generation and finally a society will get educated. So more efforts should be put to educate the Muslim community in order to educate themselves and enhance their capabilities to help in nation building.

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