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Impact of education on rural family expenditure: A case study of Dhubri district in Assam

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Abstract
As a merit good, provision of education results in substantial benefit spillover on the society. Education positively affects the attitude of the human resources, their consumption pattern and preferences, innovativeness, attitude towards family size and an assortment of collective attitudes which have importance from economic point of view. Most social scientists would probably agree with the view that it is the manpower resources of a country, not its material resources that ultimately determine the nature and rapidity of economic and social development of a country.
Income and consumption pattern of the rural households depend on many factors like assets, level of education, occupation and demographic characteristics. The size of the household is a crucial factor in determining the division of income between consumption and saving. As the size of the family increases, the consumption expenditures will rise. Similarly, the findings from several studies of cross-sectional data reveal that the education level does affect expenditure patterns. The paper concludes that there is significant positive relationship between education and rural family expenditure.

Keywords: Education, rural family expenditure, family expenditure index, education index, adjusted means years of schooling

1. Introduction
As a merit good, provision of education results in substantial benefit spillover on the society. Education positively affects the attitude of the human resources, their consumption pattern and preferences, innovativeness, attitude towards family size and an assortment of collective attitudes which have importance from economic point of view. Most social scientists would probably agree with the view that it is the manpower resources of a country, not its material resources that ultimately determine the nature and rapidity of economic and social development of a country.
Income and consumption pattern of the rural households depend on many factors like assets, level of education occupation and demographic characteristics. The size of the household is a crucial factor in determining the division of income between consumption and saving. As the size of the family increases, the consumption expenditures will rise. Similarly, the findings from several studies of cross-sectional data reveal that the education level does affect expenditure patterns. The elasticity of consumption expenditure with respect to education is estimated to be around +0.10 by one estimating technique and as high as +0.75 by another (Ghez, 1970) [2]. Household expenditure on food has been studied extensively in different developing countries. By extending the Engel function, Rimmer and Powel (1996) developed a model called Directly Addictive Demand System (AIDADS). Canfield, *et al*. (1998) used the AIDADS model and estimated income elasticity for demand of food in Ethiopia, Pakistan, Senegal, Korea, France and U.S.A. was 0.97, 0.77, 0.76, 0.55, 0.26 and 0.15 respectively. It shows that poorer countries are more likely to spend more of their income on food, which is effectively the overcoming under nutrition associated with poverty. Yuen (1994) [4] estimated food income elasticity for 24 countries from 1961 to 1994. The results comply with "Engel's Law", with decreasing food income elasticity from year to year as the countries developed.

2. Objectives

The main objectives of the paper are as follows:

- To study the educational status of the sample villages.
- To study the nature of household expenditure in sample villages.
- To study the impact of education on rural household expenditure.

3. Hypothesis

The paper wants to test the following null hypothesis:

"Rural household expenditure is unaffected by the educational attainment of the rural people"

4. Methodology

The present study covers the Dhubri district of Assam. The study covers all types of household, ethnic groups and communities on the random sampling basis. The data required for the study have been collected from ten sample villages viz. Atgharitari, Bhangaduli, Borobalarchar, Boromera, Choto Pokalagi, Digholtari, Kaimarichar, Khalisamari, Lohajani and Mora Gadadhar through field investigation. In each village 15 households were selected randomly for collecting necessary primary statistics. The data collection was done in 2014. SPSS software package is used to run a regression line. On the basis of the estimated regression line, the hypothesis is tested. To explore the relationship between education and rural family expenditure, the following model is constructed

FEI= a + ß. EI+U

Where,

FEI= Family Expenditure Index

EI= Education Index

The general formula to transform a raw variable, say X, into a unit-free index between 0 and 1, which permits different indices to be added together have been used in the study.

$$x \text{ index}=\frac{x-\min(x)}{\max(x)-\min(x)}$$

Where, min(x) and max(x) are the lowest and highest values the variable can attain respectively.

5. Educational Attainment of Household Heads in Sample Villages

Research studies suggest that educational attainment and skill knowledge of the household heads eventually to a large extent determines the achievements of their other family members. The following Table-1 shows the educational attainment of the head of the households surveyed in the sample villages of Dhubri district.

Table 1: Educational Attainment of Household Heads in the Sample Villages

S. No.	Villages	Level of Education Completed			Exact Years of Schooling	Mean Years of Schooling
01	Atgharitari	5	3	0	67	4.4667
02	Bhangaduli	6	1	0	56	3.7333
03	Borobalarchar	5	3	0	62	4.1333
04	Boromera	4	2	2	76	5.0667
05	Choto Pokalagi	6	2	1	73	4.8667
06	Digholtari	5	0	2	57	3.8000
07	Kaimarichar	8	0	0	46	3.0667
08	Khalisamari	3	1	2	57	3.8000
09	Lohajani	7	1	2	78	5.2000
10	Mora Gadadhar	2	0	2	46	3.0667
Total		51	13	11	618	4.1200

Source: Field Survey

It is revealed from the table that no household head completing higher education is found in Atgharitrari, Bhangaduli, Borobalarchar and Kaimarichar villages. Most of the respondents of these four villages were reported to have completed basically primary level of education. The concept of Mean Years of Schooling (MYS) is relevant in this paper which was used by the Human Development Report Office of the United Nations Development Programme (UNDP) as one of the education indicators in the computation of the Human Development Index (UNDP, 2010). The MYS indicates the average number of years of schooling completed of a country's population; exclusive of years spent repeating individual grades. In addition to the completed years of education, incomplete education may also be considered for exact assessment which is calculated on the basis of actual years of completed education without having any relation to level of education completed. In the present study, the researcher has used 'Adjusted Mean Years of Schooling' in order to be more specific and to get appropriate idea about the educational attainment of the household heads and to construct a more reliable education index (EI). The total years of schooling completed is found to be highest in the Lohajani village and lowest in the Kaimarichar and Mora Gadadhar village. However, the adjusted mean years of schooling is found highest in the Lohajani village and lowest in the Mora Gadadhar village. Thus, in the present study Lohajani village is found to be most forward village and Mora Gadadhar village is found to be the most backward village in respect of educational attainment of the rural people.

6. Family Expenditure in Sample Villages

Pattern of consumer expenditure and estimates related to this can give an indication of the potential for demand-led growth in a particular economy. With the development of an economy and socio-economic transformation, the consumer expenditure patterns keep on changing. Generally it is widely believed that with economic development, the consumption expenditure gradually increases on non-food items.

The Table-2 shows the pattern of family expenditure of sample households in the Dhubri district.

Table 2: Pattern of Family Expenditure in Sample Villages

Sl. No.	Village	Food Items	Non Food Items
01	Atgharitari	39.42	60.58
02	Bhangaduli	72.96	27.04
03	Borobalarchar	56.18	43.82
04	Boromera	42.46	57.54
05	Choto Pokalagi	47.91	52.09
06	Digholtari	67.83	32.17
07	Kaimarichar	62.36	37.64
08	Khalisamari	59.85	40.15
09	Lohajani	48.97	51.03
10	Mora Gadadhar	71.4	28.6

Source: Field Survey

The table gives an idea about the rural family expenditure of the sample villages in the Dhubri district. High degree of variation among the sample villages may be noticed in this respect. In some villages like Atgharitari, Lohajani, Choto Pokalagi and Boromera more than half of the total family expenditure is incurred on non-food items by the rural households.

Table 3: Calculated Education and Family Expenditure Index of the Sample Villages

S. No.	Villages	EI	FEI
01	Atgharitari	0.4533	0.6058
02	Bhangaduli	0.3067	0.2704
03	Borobalarchar	0.3867	0.4382
04	Boromera	0.5733	0.5754
05	Choto Pokalagi	0.5333	0.5209
06	Digholtari	0.3200	0.3217
07	Kaimarichar	0.1733	0.3764
08	Khalisamari	0.3200	0.4015
09	Lohajani	0.6000	0.5103
10	Mora Gadadhar	0.1733	0.2860

Source: Field Survey

The Table-3 shows education and family expenditure indices of the sample villages which have been constructed on the data contained in Table-1 and Table-2. It is revealed that the education index is highest in the Lohajani village and lowest in the Kaimarichar and Mora Gadadhar villages. The family expenditure index is found to be highest in the Atgharitari village and lowest in the Bhangaduli village.

BOX-1

Dependent Variable	Independent Variable	R	R^2	F	α	B	t
FEI	EI	0.807	0.652	14.961*	0.627	0.807	3.868*

* at 1% level of significance

The Box-I reveals the following results.

- The Pearson's Coefficients of Correlation between FEI and EI is found 0.807. Therefore, it can be asserted with elevated level of confidence that there is a genuine positive relationship between education and the nature of household expenditure in the sample villages. This is evident from the following scatter diagram which shows strong positive correlation between education and family expenditure.

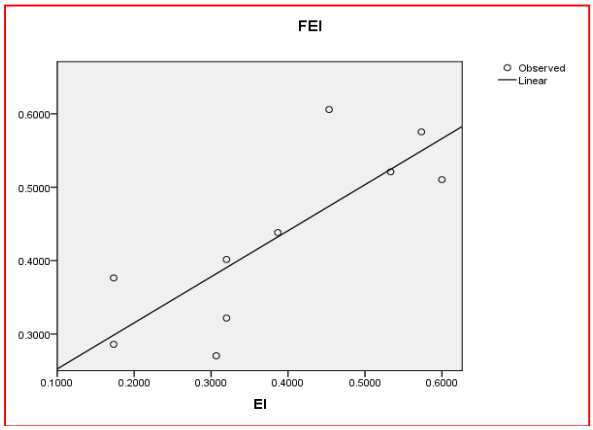

Fig 1: Scatter Plots Showing Correlation between Education Index and Family Expenditure Index

- The coefficients of determination is estimated at 0.652 which imply that more than 65 percent of the variation in family expenditure can be accounted for by variation in educational attainment.
- The *t* value is estimated at 3.868 which is significant at 1 percent implying that the predictor makes a significant impact on the nature of family expenditure in the district.
- The *F* values is estimated at 14.961 which is significant at $p<0.005$ which implies that there is less than 0.5 percent probability that such a large F ratio will emerge by chance alone thus indicates that the regression model overall predicts the change in the family expenditure efficiently.

  Hence, we reject the null hypothesis that rural family expenditure is unaffected by the level of educational attainment of rural people in rural areas.

7. Conclusion

Thus it can be concluded that education is one of the chief factors affecting commuting and rural urban-linkage. Provision of better education to the rural people can be an effective instrument to bridge up the rural-urban disparity in family consumption which will eventually also act as strong positive force for rural transformation.

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