

## A Study on Educational Attainment and Its Distribution

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### Abstract

**Background:** Education is the process of the acquisition of knowledge, or facilitating learning and skills values belief include narrative discussion training, teaching and directed research. It is imported for living a better life. Education is the strength to an education and person need to. This study was conducted to study the status of education level under Lakhimpur district, special references of Batamari village. **Objectives:** the objectives of the study were to see the education level of Batamari village and the economic condition of the family of Batamari village of Lakhimpur district. **Methods:** The present study on status of education level of Lakhimpur district, we have decided to use systematic sampling, more clearly we use circular systematic sampling to collection of data. Chi-square tests were used to test the education level and economic condition of the households. Education is a crucial determinant of socio-economic development. This study examines the distribution of educational qualifications among respondents using descriptive statistics and the Chi-square goodness-of-fit test. Data collected from 100 respondents reveal that educational attainment is unevenly distributed, with a concentration at the secondary level and a sharp decline in higher education. The Chi-square test confirms that the observed distribution significantly differs from a uniform distribution ( $\chi^2 = 30.75$ ,  $df = 6$ ,  $p < .05$ ). The findings highlight the need for policies to improve higher education accessibility and reduce illiteracy.

**Keywords:** Education, Chi-square test, Educational Distribution, Socio-economic Development

## **1. Introduction**

Education is the process of acquiring knowledge, skills, values, beliefs, and habits through various methods such as teaching, training, storytelling, discussion, and directed research (Baraza & Silvance, 2019; UNESCO, 2015). It typically occurs under the guidance of educators; however, individuals may also engage in self-learning. Education can take place in both formal and informal settings, and any experience that influences the way a person thinks, feels, or acts may be considered educational (McKinney, 2018). Formally, education is structured into stages such as preschool or kindergarten, primary education, secondary education, and higher education, including college, university, or apprenticeship (Srikanth, 2015).

### **1.1 Importance of Education**

Education is one of the most essential aspects of human life and plays a vital role in personal and social development. It enables individuals to lead a better quality of life and contributes to social welfare (Bhoje, 2015; Todaro & Smith, 2020). Education enhances knowledge, critical thinking, and decision-making abilities, thereby helping individuals distinguish between right and wrong (Jakobson, 1986).

Furthermore, education is crucial for personal growth and professional development. It prepares individuals to participate effectively in organizations, institutions, and society at large. An educated person is more likely to become a responsible citizen and contribute positively to the economy and society (Sen, 1999).

In the modern world, education is considered a basic necessity after food, clothing, and shelter. It promotes awareness, values, and responsible behavior, helping to address issues such as corruption and social inequality (Tilak, 2002). Additionally, technological advancements have strengthened the role of education by facilitating communication and access to knowledge (Ministry of Education, 2020).

### **1.2 Education in Assam**

Assam is one of the states in North-East India with a distinctive educational landscape. According to the Census of India (2011), the literacy rate of Assam was 73.18%, which is slightly below the national average. The state has established numerous educational institutions catering to the North-Eastern region (Government of Assam, 2018).

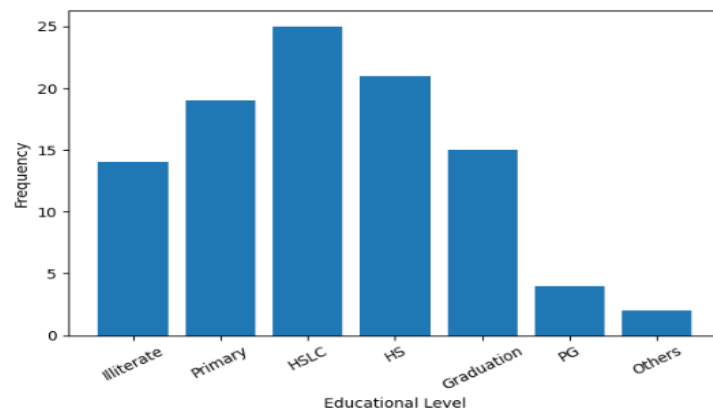
The formal education system includes elementary, secondary, and higher secondary levels, followed by higher education in colleges and universities. Several initiatives have been undertaken to promote universal elementary education (Ministry of Education, 2020).

Elementary education generally covers children aged 6–14 years, and the government provides free and compulsory education up to this age (Census of India, 2011). Assam has also developed several higher educational institutions that contribute to academic and professional development in the region.

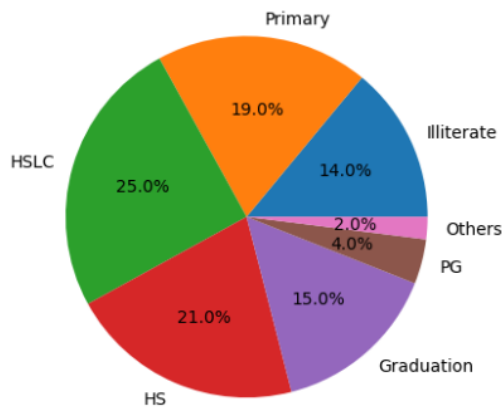
### 1.3 The Study Area

The study is carried out at Batamari (No. 1 Batamari & No. 2 Batamari), Dhakuakhana, under Lakhimpur District in Assam. According to 2011 census of India 114095 people live in District covering a geographical area of 313.00 Sq.km. out of this 57791 are male and 56304 are female (Saikia *et al.*, 2019).

Batamari is one of the Village of Dhakuakhana block, in Lakhimpur District of Assam. Male and Female literacy rate is average, but people are very active and always making efforts in knowing the works of government Officials (Saikia *et al.*, 2019). There are so many problems that Batamari Village is water supply shortage, rationing of food grains issues unemployment etc. Health problem is rampant in this Village. People have to travel several kilometers to reach hospital for treatment of patients.



**Fig1: Bar Diagram Showing Distribution of Educational Attainment among Respondents**



**Fig2: Distribution of Educational Attainment among Respondents**

### 1.4 Objective of the study

The objectives of the present study are:

- i) To examine the distribution of educational qualifications.
- ii) To test whether the distribution is statistically uniform.
- iii) To identify disparities in higher education attainment

### 2. Material for the study

As my objective are given above, so I had to collect information regarding

- Age of the household head.
- Education level of the household head.
- Other family member education level.
- Economic condition of the family.

### 2.1 Methods

A sample is a part of universe. More specifically is a group of item selected from the population for the purpose of getting information about the characteristic of the items of the population. It is known that if the sampling is not done using a standard statistical procedure, then the statistical technique cannot be used to infer about the population.

### 2.2 Chi-Square Test for Goodness of Fit

A very powerful test for testing the significance of the discrepancy between theory and experiment was given by Prof. Karl Pearson in 1900 and is known as “chi-square test of goodness of fit”.

If  $f_i$  ( $i= 1,2,3,,\dots,n$ ) is a set of observed (experimental) frequencies and  $e_i$  ( $i=1,2,3,\dots,n$ ) is the corresponding set of expected frequencies , then Karl Pearson’s chi-square given by,

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^s \left[ \frac{(f-e)^2}{N} \right], \sum_{i=1}^r f = \sum_{j=1}^s e$$

$\chi^2 =$  distribution with  $(n-1)$  d.f.

### 3. Analysis of Data

Analysis of data is the main part of any scientific investigation. After collecting the data, the data must be scrutinized, edited and tabulated and then a very careful statistical analysis is to be made and finally a report cooperating detailed statement of the different stages of the survey should be prepared. For computing purpose we have taken help of software like MS-Excel, SPSS describes scientific calculator (fx-82 MS).

For all inferences we fix  $\alpha =0.05$

**Table1: Primary Survey**

Characteristics		Frequency	Percentage (%)
Valid	illiterate	14	13.9
	Primary	19	18.8
	HSLC	25	24.8
	HS	21	20.8
	Graduation	15	14.9
	PG	4	4.0
	Others	2	2.0
	Total	100	100.0

From table 1 it is observed that 13.9% of the Household Head are Illiterate, 18.8% Are Primary, 24.8% are HSLC, 20.8% are HS, 14.9% are Graduation, 4.0% are PG and 2.0% are others degree passed. It is observed that the income of the family in the selected study subjects which range “Between” 10000 to 25000 is (67%) whereas 25000 and above is (33%).

**Table2: Analysis for Chi-Square tests**

Educational Level	Observed (O)	Expected (E)	O – E	(O – E) <sup>2</sup>	(O – E) <sup>2</sup> / E
Illiterate	14	14.29	-0.29	0.084	0.006
Primary	19	14.29	4.71	22.184	1.551
HSLC	25	14.29	10.71	114.704	8.027
HS	21	14.29	6.71	45.024	3.15
Graduation	15	14.29	0.71	0.504	0.035
PG	4	14.29	-10.29	105.884	7.411
Others	2	14.29	-12.29	151.044	10.574
Total	100	100			30.75

The calculated Chi-square value ( $\chi^2 = 30.75$ ) exceeds the critical value (12.59) at 6 degrees of freedom and 5% significance level. Therefore, the null hypothesis ( $H_0$ ) of equal distribution is rejected. This indicates that educational attainment is not uniformly distributed among the respondents.

#### 4. Conclusion:

The study concludes that educational attainment among respondents is significantly uneven. The Chi-square test confirms that the observed distribution differs from a uniform pattern. While secondary education is relatively widespread, higher education participation remains limited.

#### Declarations

**Conflict of interest:** The authors declare that they have no conflict of interest.

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