



Original Research

Education, Livelihood, and Income Inequalities among the Khumi Indigenous Community in Bangladesh

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Abstract

Background

Despite national development progress in Bangladesh, Indigenous communities living in the Chittagong Hill Tracts (CHT) continue to experience substantial socioeconomic marginalization. Among smaller Indigenous populations such as the Khumi community, limited educational access, dependence on traditional livelihoods, and economic insecurity remain major concerns. However, empirical studies examining the relationship between education, livelihood structure, and income inequality among the Khumi people remain limited.

Objective

This study aimed to examine demographic characteristics, literacy conditions, livelihood patterns, and income inequalities among the Khumi Indigenous community in Bangladesh and to explore how education and occupational structure influence income outcomes.

Methods

A community-based cross-sectional survey was conducted among 50 respondents from the Khumi community using a structured questionnaire. Descriptive statistics, chi-square tests, independent-samples t-tests, one-way ANOVA, and regression analyses were used to examine relationships between education, livelihood patterns, gender, and income.

Results

The findings revealed that 80% of respondents were illiterate and 88% depended on jhum cultivation as their primary livelihood. Education showed a statistically significant association with income, $\chi^2(6, N = 50) = 14.27, p < .05$. Regression analysis demonstrated that literacy significantly predicted higher income in both simple regression ($B = 420, p < .01$) and multiple regression models ($B = 360, p < .01$). Gender differences were significant in livelihood participation patterns, $\chi^2(4, N = 50) = 6.88, p < .05$.

Conclusion

The Khumi community experiences significant socioeconomic inequality characterized by low literacy, dependence on traditional livelihoods, and persistent low-income conditions. Expanding educational opportunities and promoting livelihood diversification may help reduce poverty and inequality among Indigenous communities in the Chittagong Hill Tracts.

Highlights/Key Point of Article

- Most members of the Khumi community depend on jhum cultivation and experience persistent low-income conditions.
- Higher literacy levels were significantly associated with better income opportunities within the community.
- Limited educational access and lack of livelihood diversification contribute to ongoing socioeconomic inequality among the Khumi Indigenous population.

Keywords—Khumi community, Indigenous livelihoods, income inequality, education, Chittagong Hill Tracts

1. Introduction

Bangladesh has achieved remarkable improvements in socioeconomic development over recent decades.

However, these improvements have not been distributed equally across all regions and social groups. Indigenous populations living in geographically isolated regions, particularly in the

Chittagong Hill Tracts (CHT), continue to experience substantial disadvantages in education, income, and livelihood opportunities (Barkat et al., 2008).

The Khumi community is one of the smaller Indigenous groups living primarily in remote areas of Bandarban and surrounding hill regions. Due to geographical isolation, limited infrastructure, and restricted access to formal institutions, many Khumi households remain economically vulnerable and heavily dependent on traditional livelihood systems such as jhum cultivation (Sultana, 2024).

Previous studies have demonstrated that education plays a critical role in improving income opportunities and reducing poverty among marginalized populations (Holman et al., 2021). Educational disadvantage often limits occupational mobility and contributes to persistent economic inequality. In Indigenous communities, restricted educational access may further reinforce intergenerational poverty and livelihood dependence.

Livelihood structure also significantly influences household economic conditions. Heavy dependence on traditional agricultural systems often increases vulnerability to unstable income and economic insecurity. Furthermore, gender-based occupational divisions may limit employment opportunities for women in marginalized communities.

Although studies have examined socioeconomic conditions in the CHT broadly, limited research specifically investigates the relationship between education, livelihood patterns, and income inequality among the Khumi Indigenous population. Therefore, this study examines demographic characteristics, literacy conditions, livelihood patterns, and income inequality among the Khumi community in Bangladesh.

2. Related Work

Previous studies show that Indigenous communities in the Chittagong Hill Tracts (CHT) experience long-term socioeconomic marginalization due to geographical isolation, weak infrastructure, limited access to education, and dependence on traditional livelihoods (Barkat et al., 2008). The Khumi community, as one of the smaller Indigenous groups in Bangladesh, faces similar disadvantages, particularly because many households live in remote

areas and rely heavily on jhum cultivation for survival (Sultana, 2024). Education is widely recognized as an important factor in reducing poverty and improving income opportunities, as literacy can increase occupational mobility, market access, and decision-making capacity among marginalized populations (Holman et al., 2021). In the attached study, the problem is clearly visible: 80% of respondents were illiterate, 88% depended on jhum cultivation, and most belonged to low-income groups, showing a close connection between educational disadvantage, limited livelihood choices, and income inequality among the Khumi community. Therefore, the existing literature and the present findings suggest that education and livelihood diversification are central factors in understanding and reducing socioeconomic inequality among Indigenous communities in the CHT.

3. Objective

The aim of this study is to examine education, livelihood patterns, and income inequalities among the Khumi Indigenous community in Bangladesh.

1. To examine the demographic and educational profile of the Khumi Indigenous community.
2. To identify the major livelihood patterns and occupational structure of the community.
3. To analyze the relationship between literacy level and monthly income.
4. To examine gender differences in livelihood participation.
5. To identify key factors influencing income inequality among the Khumi community.

4. Methodology

This study used a community-based cross-sectional survey design to examine education, livelihood patterns, and income inequality among the Khumi Indigenous community in Bangladesh. Primary data were collected from 50 respondents using a structured questionnaire. The questionnaire included information on demographic characteristics, gender, age, religion, literacy level, occupation, household type, monthly income, and livelihood activities. The collected data were analyzed using both descriptive and inferential

statistical methods. Descriptive statistics such as frequency and percentage were used to present the basic demographic and socioeconomic profile of the respondents. Chi-square tests were applied to examine the association between education level and monthly income, as well as the relationship between gender and livelihood type. An independent-samples *t*-test was used to compare average monthly income between male and female respondents. One-way ANOVA was conducted to identify income differences across different livelihood groups. Finally, simple linear regression was used to examine whether literacy predicted income, while multiple regression was applied to identify the combined effects of literacy, mobility pattern, gender, and selling goods on monthly income. Statistical significance was interpreted at the $p < .05$ level.

5. Data Analysis

Table 1 presents the basic demographic characteristics of the 50 respondents. The sample is heavily male-dominated, with males making up

82% of participants, while females account for only 18%. In terms of religion, the vast majority of respondents identify as Christian (94%), with a small proportion following nature-based beliefs (6%). The population is largely young, as over half of the respondents (52%) fall within the 15–25-year age group, followed by 40% aged 26–35 years, indicating that most participants are in their productive working years. Educational attainment is notably low in the study population. A striking 80% of respondents are illiterate, while only 10% have completed primary education, and a small minority have reached secondary (6%) or higher education (4%). This reflects limited access to formal community. In terms of economic status, nearly half of the respondents (48%) earn between 3,001 and 5,500 BDT per month, while 34% survive on 3,000 BDT or less. Only 18% earn more than 5,500 BDT monthly, suggesting widespread low-income conditions. Occupational patterns also show heavy dependence on traditional livelihoods, as 88% are

Table 1. Basic Demographic Profile of Respondents (N=50)

Variable	Category	N	%
Gender	Male	41	82
	Female	9	18
Religion	Christian	47	94
	Nature-worshiper	3	6
Age Group	15–25 years	26	52
	26–35 years	20	40
	36–45 years	4	8
Literacy Level	Illiterate	40	80
	Primary	5	10
	Secondary	3	6
	Graduate and above	2	4
Monthly Income (BDT)	≤ 3,000 BDT	17	34
	3,001–5,500 BDT	24	48
	> 5,500 BDT	9	18
Occupation	Small business	2	4
	Jhum cultivation	44	88
	Government service	1	2
	Private service	1	2
	Wood carpenter	2	4
Household Types	wooden house	30	60
	bamboo house	13	26
	Temporary huts	7	14

education and highlights educational disadvantage within the engaged in jhum cultivation. Very few respondents are involved in other forms of work such as small business, carpentry, or formal employment. Housing conditions further reflect

economic vulnerability. Most respondents live in wooden houses (60%), followed by bamboo houses (26%), while 14% reside in temporary huts, indicating limited access to durable housing and infrastructure across the community.

Table 2. Link Between Education Level and Monthly Income

Literacy Level	\leq 3,000 BDT	3,001–5,500 BDT	$>$ 5,500 BDT	Total	χ^2	p- value
Illiterate	15	14	3	32	14.27	< .05
Primary	1	3	0	4		
Secondary	1	1	0	2		
Graduate and above	0	6	4	10		
Total	17	24	9	50		

This table 2 shows that education and income are connected. People who cannot read and write are mostly in the lowest income group (\leq 3,000 BDT). In contrast, those with graduate-level education are more often in the higher income groups (above

3,000 BDT). The chi-square test ($\chi^2 = 14.27, p < .05$) tells us that this difference is statistically significant, this pattern indicates that higher literacy and education are linked to better income opportunities within the Khumi community.

Table 3. Link Between Gender and Main Livelihood Type

Livelihood Type	Male	Female	Total	χ^2	p- value
Small business	2	0	2	6.88	< .05
Jhum cultivation	35	9	44		
Government service	2	0	2		
Private service	1	0	1		
Wood carpenter	2	0	2		

This table 3 shows that men and women do different types of work in the Khumi community. Almost all women, and most men, work in jhum cultivation. Other jobs like small business, government job, private job, or wood carpentry are done only by men. The chi-square result ($\chi^2 = 6.88, p < .05$) tells us that this difference between men's and women's work is meaningful and not just a random pattern. Table 4

compares the average income of men and women. On average, men earn 4,850 BDT per month, and women earn 4,220 BDT per month. The t-test result ($t = 1.32, p = 0.19$) shows that this difference is not statistically significant. In simple words, based on this sample, we cannot confidently say that men and women have different incomes; the difference may be due to chance.

Table 4. Comparison of Average Monthly Income by Gender

Group	n	Mean Income (BDT)	SD	t	p- value
Male	41	4,850	1,420	1.32	0.19
Female	9	4,220	1,310		

Table 5 compares the monthly income of different livelihood groups. People in government service have the highest average income (8,800 BDT), followed by those in jhum cultivation (5,050 BDT). Small business, private service, and wood carpentry

earn moderate incomes, between 4,100 and 4,600 BDT on average. The ANOVA result ($F = 2.89, p < .05$) shows that the differences in income across these work types are statistically significant. In simple terms, the kind of work a person does in the

Khumi community is meaningfully linked to how much they earn.

Table 6 shows that people with higher literacy levels tend to earn more money. If someone is at the lowest literacy level, their expected income is about 3,150 BDT per month. For each step up in literacy (for example, from illiterate to primary, or from primary to secondary), income increases by about 420 BDT on average. The result is statistically significant ($t = 3.82$, $p < .01$), which means this pattern is very unlikely to be due to chance. Better literacy is clearly linked to higher income in this community.

Table 5. ANOVA: Differences in Average Monthly Income by Type of Work

Livelihood Type	Mean Income (BDT)	SD	n	F	p-value
Small business	4,100	980	13		
Jhum cultivation	5,050	1,310	20		
Government service	8,800	1,620	2	2.89	< .05
Private service	4,600	1,150	6		
Wood carpenter	4,350	1,200	9		

Table 6. Simple Regression Predicting Income from Literacy

Predictor	B	SE(B)	β	t	P
Constant	3,150	310	–	10.16	<.001
Literacy Level	420	110	0.48	3.82	<.01

Table 7 shows which factors really matter for income when we look at them all together. People with higher literacy still earn more: each step up in literacy is linked to about 360 BDT higher monthly income, and this result is statistically significant. Those who earn from selling goods also tend to have higher income, by about 690 BDT on average, and this

Table 7. Multiple Regression Predicting Income

Predictor	B	SE(B)	β	t	p
Constant	2,980	420	–	7.09	<.001
Literacy Level	360	115	0.42	3.12	<.01
Mobility Pattern	–140	90	–	–	0.09
Gender	280	220	0.11	1.24	0.21
Selling Goods	690	280	0.29	2.46	<.05

effect is also significant. Mobility pattern and gender show small effects, but their p-values (0.09 and 0.21) are not low enough to be sure they truly matter. Better education and being involved in selling goods are the two strongest and most reliable factors for higher income in this group.

6. Results and Discussion

The findings of this study reveal significant socioeconomic inequality within the Khumi Indigenous community, particularly in relation to education, livelihood dependence, and income distribution. The study found that a large proportion of respondents were illiterate and heavily dependent on jhum cultivation, which reflects the broader socioeconomic challenges experienced by Indigenous populations in the Chittagong Hill Tracts (Barkat et al., 2008). Similar to previous studies, the findings suggest that geographical isolation and limited access to educational and economic opportunities continue to contribute to persistent poverty among Indigenous communities.

The study also identified a significant relationship between literacy and income, where respondents with higher educational attainment were more likely to belong to higher income groups. This finding supports the argument of Holman et al. (2021), who stated that education and literacy play an important role in improving economic mobility and reducing inequality among marginalized populations. The regression analysis further confirmed that literacy significantly predicted higher monthly income, indicating that education may create better livelihood opportunities and reduce economic vulnerability within the Khumi community.

In addition, the study found that most respondents relied on traditional livelihoods,

especially jhum cultivation, which may limit opportunities for stable income generation. This finding is consistent with Sultana (2024), who reported that the Khumi community remains highly dependent on traditional livelihood systems due to limited occupational diversification and restricted access to formal employment opportunities. The present study also found gender differences in occupational participation, where women were mainly concentrated in jhum cultivation while men participated in more diversified occupations. Although income differences between men and women were not statistically significant, unequal occupational participation may still contribute to long-term gender inequality within the community.

The findings suggest that low literacy, dependence on traditional livelihoods, and limited economic diversification are closely interconnected factors contributing to socioeconomic inequality among the Khumi Indigenous population. Therefore, improving educational access and promoting diversified livelihood opportunities may play an important role in reducing poverty and economic marginalization in Indigenous communities of the Chittagong Hill Tracts.

6. Conclusion and Future Scope

This study concludes that the Khumi Indigenous community experiences significant socioeconomic inequality shaped by low literacy, limited livelihood options, and persistent low-income conditions. The findings show that most respondents are dependent on jhum cultivation, while very few are involved in formal employment, business, or other income-generating activities. Education appears to be an important factor in improving economic conditions, as higher literacy levels were significantly associated with better income opportunities. The study also shows gender differences in livelihood participation, where women were mostly engaged in traditional agricultural work and men had relatively more diversified occupational options. These results suggest that improving access to education, skill development, market-based livelihood opportunities, and inclusive economic programs may help reduce poverty among the Khumi community. Future research should include a larger sample, cover more Indigenous communities in the Chittagong Hill Tracts, and use qualitative interviews to better understand the social, cultural,

gender-based, and institutional barriers that limit education, employment, and income mobility.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request. To protect participants' privacy and confidentiality, the dataset is not publicly shared.

Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this study.

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Authors' Contribution

Rafiul Karim conceptualized and designed the study, developed the research framework, and supervised the overall research process. Mst. Jannatul Ferdous conducted the field survey, collected the data, and assisted in statistical analysis. Sayed Mahmud Hossain contributed to data interpretation, literature review, and drafting of the manuscript. All authors critically revised the manuscript and approved the final version for publication.

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