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Socio-Economic Determinants of Higher Educational Participation and Academic Performance among Beneficiaries of Assam's Fee Waiver Scheme

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Abstract

Higher education plays an important role in promoting socio-economic mobility, human capital formation, and inclusive development. However, financial hardship, transportation burden, and socio-economic inequality continue to affect educational participation among students from economically weaker households in Assam. In this context, the present study examines the socio-economic determinants influencing educational participation and academic performance among beneficiaries of Assam's Fee Waiver Scheme across the districts of Darrang, Udalguri, and Kamrup Metro. The study is based on primary data collected from 400 beneficiary students through a structured questionnaire survey. Descriptive statistics, correlation analysis, and regression frameworks were employed to examine the relationship between socio-economic background, accessibility-related conditions, attendance behaviour, and academic performance. Variables such as household income, BPL status, first-generation learner status, distance from college, attendance percentage, and CGPA were incorporated into the analysis. The findings reveal that a substantial proportion of respondents belonged to economically weaker and first-generation learner households. Distance from college demonstrated a strong negative relationship with attendance, while attendance showed a strong positive relationship with academic performance. Regression results further indicate that transportation burden, household income, and socio-economic background significantly influence educational participation and academic outcomes. The study concludes that Assam's Fee Waiver Scheme has improved educational accessibility and reduced financial pressure among vulnerable students, although transportation barriers and regional infrastructural inequality continue to affect educational continuity in rural areas.

Keywords: Assam Fee Waiver Scheme; Educational Participation; Academic Performance; Higher Education Accessibility; Socio-Economic Determinants; Attendance Behaviour

1. Introduction

Higher education plays a crucial role in promoting economic development, social mobility, and human capital formation in modern societies. Apart from providing academic qualifications, it contributes significantly toward skill development, productivity enhancement, employment

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generation, and improvement in socio-economic conditions. Human Capital Theory strongly emphasises that educational investment enhances the productive capacity and future earning potential of individuals. Becker (1964) argued that education should be viewed as an investment in human capital because it generates long-term economic returns both for individuals and society. Similarly, Schultz (1961) observed that investment in education contributes directly toward economic growth through the development of skilled human resources. In developing countries, higher education is increasingly recognised as an important mechanism for poverty reduction, social inclusion, and improvement in living standards.

India's higher education sector has expanded considerably during the last two decades in terms of institutional growth, student enrolment, and educational policy interventions. According to the All-India Survey on Higher Education (AISHE) 2021–22, India's Gross Enrolment Ratio (GER) in higher education increased to 28.4 percent in 2021–22. Female participation in higher education has also improved steadily over time. Despite this expansion, educational participation continues to remain uneven across socio-economic groups and regions. Students belonging to economically weaker households, rural communities, and socially disadvantaged backgrounds continue to face substantial barriers in accessing and continuing higher education.

The situation in Assam reflects many of these broader structural challenges. Although the state has experienced growth in the number of colleges and universities, participation in higher education remains comparatively lower than the national average. Financial hardship, geographic inaccessibility, transportation burden, and infrastructural limitations continue to affect educational participation within the state, particularly among rural and economically weaker households. Students residing in remote areas often have to travel considerable distances to attend higher educational institutions. Educational expenditure therefore extends beyond tuition and admission fees and includes transportation costs, accommodation expenses, books, and study materials. Such indirect educational costs frequently create substantial financial pressure on economically weaker families and negatively influence educational continuity.

Educational participation in Assam is also characterised by regional inequality. Urban centres generally possess comparatively better educational infrastructure, transportation connectivity, and institutional concentration than rural areas. In contrast, many rural regions continue to face shortages of higher educational institutions and weak transportation facilities. These inequalities often influence attendance behaviour, classroom participation, and academic performance among students from disadvantaged backgrounds.

Socio-economic background additionally plays an important role in shaping educational participation and academic outcomes. Students belonging to low-income households and first-generation learner families frequently experience greater educational disadvantages compared to students from educationally established households. Financial pressure, transportation difficulties, household responsibilities, and lack of academic support often affect regular classroom participation and educational continuity among such students. Several studies have shown that students from economically weaker households are more vulnerable to irregular attendance, lower academic performance, and educational discontinuation.

Recognising the financial barriers affecting higher education participation, the Government of Assam introduced the Fee Waiver Scheme as an important educational support initiative. The scheme aims to reduce the direct financial burden associated with admission and tuition-related expenses among students enrolled in higher educational institutions across the state. By lowering educational costs, the programme seeks to improve participation in higher education and encourage educational continuation among economically weaker students.

The significance of such financial assistance programmes becomes particularly important in states like Assam where socio-economic inequality and regional disparities continue to influence educational accessibility. Although the Fee Waiver Scheme reduces direct educational expenditure, students may still continue to face several indirect barriers such as transportation burden, long commuting distances, and household financial stress. These factors often influence attendance behaviour and academic participation even after tuition-related expenses are reduced.

Attendance remains one of the most important determinants of academic performance in higher education. Regular classroom participation improves continuity in learning, conceptual understanding, interaction with teachers, and examination performance. Previous studies have consistently demonstrated a strong positive relationship between attendance and academic achievement. Credé, Roch, and Kieszczynka (2010), through a meta-analysis, observed that attendance is among the strongest predictors of academic performance among college students. Students facing transportation difficulties and financial pressure frequently experience irregular attendance, which may negatively affect academic outcomes.

Within this broader context, the present study attempts to examine the socio-economic determinants influencing educational participation and academic performance among beneficiaries of Assam's Fee Waiver Scheme at Pandit Deendayal Upadhyaya Adarsha Mahavidyalaya (PDUAM), Dalgaon. The study focuses specifically on understanding how socio-economic background, attendance behaviour, and accessibility-related factors influence educational participation and academic outcomes among beneficiary students.

The study is important because much of the existing discussion on Assam's Fee Waiver Scheme remains descriptive and policy-oriented, with comparatively limited institution-level empirical evidence regarding educational participation and academic performance among beneficiaries. By using primary survey data collected from students availing the scheme, the study attempts to provide empirical insights into the relationship between socio-economic background, attendance behaviour, and academic performance within the context of higher education accessibility in Assam.

2. Literature Review

2.1 Human Capital Theory and Higher Education

The theoretical understanding of higher education and educational investment is strongly associated with Human Capital Theory developed by Becker (1964) and Schultz (1961). Becker (1964) argued that education should be considered an investment because it enhances productivity, employability, and future earning potential. Similarly, Schultz (1961) observed that educational investment contributes significantly toward economic growth through the

development of skilled human resources. Later studies further strengthened this argument by demonstrating that investment in higher education generates substantial long-term social and private returns (Psacharopoulos & Patrinos, 2018).

Higher education is therefore increasingly recognised not only as a mechanism for economic advancement but also as an instrument for social mobility, poverty reduction, and reduction of socio-economic inequality. However, despite these benefits, participation in higher education continues to remain uneven among socio-economic groups, particularly in developing countries where financial and infrastructural barriers significantly affect educational accessibility.

2.2 Financial Assistance and Educational Participation

Several studies have highlighted the importance of financial assistance programmes in improving educational participation among economically weaker students. Heller (2001) observed that tuition reduction and financial aid significantly influence college enrolment decisions among low-income households. Similarly, Dynarski (2003) found that financial aid positively affects educational persistence and completion among disadvantaged students.

Castleman and Long (2016) further demonstrated that need-based grants improve educational continuity and graduation outcomes among economically weaker students. Their findings suggest that financial assistance reduces dropout risk and encourages sustained participation in higher education.

Research additionally indicates that financial assistance positively affects classroom participation and academic engagement. De Sivatte and Gabaldón (2023) found that financial aid recipients generally demonstrate stronger attendance behaviour and comparatively better academic performance because financial support reduces economic anxiety and educational uncertainty.

Melguizo, Sanchez, and Velasco (2016), while examining subsidised educational credit programmes in Colombia, observed that financial support significantly improved enrolment, reduced dropout probability, and enhanced academic performance among low-income students.

Within the Indian context, Tilak (2015) argued that financial inequality remains one of the major barriers affecting participation in higher education. Students from economically weaker households frequently struggle to bear educational expenditure, particularly indirect costs associated with transportation, accommodation, and study materials. Educational support schemes therefore become important instruments for improving educational inclusion among disadvantaged groups.

2.3 Socio-Economic Background and Educational Accessibility

Socio-economic background significantly influences educational participation and academic performance in higher education institutions. Bean and Metzner (1985) observed that students from economically weaker and non-traditional backgrounds are more vulnerable to external pressures such as financial stress, family responsibilities, transportation difficulties, and work obligations, which negatively affect educational continuity.

Parental education and household income also influence educational participation and academic outcomes. Khan (2021) found that household income, parental educational background, and socio-economic status significantly shape higher education participation patterns in India. Students from educationally established households generally receive greater academic guidance and institutional support compared to first-generation learners.

Research further indicates that first-generation learners often experience comparatively weaker academic confidence, lower institutional familiarity, and greater educational challenges in higher educational institutions (Tinto, 1993). Such disadvantages become particularly visible among rural and economically weaker households where access to academic support systems remains limited.

Regional disparities additionally affect educational accessibility in many developing regions. Mittal and Patwardhan (2020) observed that access to higher educational institutions in India remains uneven because of regional imbalance in infrastructural development and institutional concentration. Rural students frequently face transportation difficulties, longer travel distances, and weaker educational infrastructure compared to students residing in urban centres.

2.4 Geographic Accessibility and Transportation Barriers

Geographic accessibility remains one of the most important determinants of educational participation, particularly in rural and remote regions. Students travelling long distances to educational institutions frequently face transportation difficulties, travel fatigue, increased educational expenditure, and reduced study time.

Banerjee and Duflo (2011) argued that indirect educational costs such as transportation expenditure and accommodation burden significantly influence educational decisions among poorer households. Long commuting distances often reduce attendance regularity and educational continuity among economically weaker students.

World Bank (2018) reports additionally highlighted that transportation barriers disproportionately affect students belonging to rural and economically disadvantaged households. Poor transportation connectivity, irregular transport services, and higher travel expenditure frequently discourage students from continuing higher education.

In the Indian context, geographic accessibility continues to remain an important challenge in rural areas where higher educational institutions are unevenly distributed. Students residing in remote areas often need to travel considerable distances in order to access colleges and universities, thereby increasing both direct and indirect educational burden.

2.5 Attendance and Academic Performance

Attendance has consistently been recognised as one of the strongest determinants of academic performance in higher education. Regular classroom participation improves conceptual understanding, continuity in learning, interaction with teachers, and examination performance.

Credé, Roch, and Kieszczynka (2010), through a meta-analysis, found that attendance strongly predicts academic achievement among college students. Similarly, Romer (1993) argued that absenteeism negatively affects classroom learning and educational continuity.

Paisey and Paisey (2004) additionally observed that students with irregular attendance generally demonstrate weaker examination performance and lower educational engagement. Recent empirical studies also support the strong positive relationship between attendance and academic outcomes. Kassarnig et al. (2017), using large-scale attendance data, found that regular attendance strongly correlates with higher academic achievement among university students.

Financial stress and transportation burden frequently influence attendance behaviour among students from economically weaker households. Students travelling longer distances often experience travel fatigue and reduced classroom participation, which subsequently affects academic performance.

2.6 Educational Inequality and Higher Education in India

Educational inequality in India continues to remain closely associated with socio-economic status, caste, region, and household income. Deshpande (2011) argued that social inequality continues to shape educational opportunities despite expansion in educational infrastructure and policy interventions.

Tilak (2015) similarly observed that higher education participation in India remains uneven across socio-economic groups, particularly among students belonging to rural and economically weaker households. Students from disadvantaged communities often experience weaker institutional support, financial insecurity, and lower educational exposure compared to students from urban and educationally established families.

Such inequalities become particularly important in states like Assam where rural-urban disparity, transportation difficulties, and infrastructural limitations continue to influence educational participation and academic continuity.

2.7 Research Gap

Existing literature on higher education accessibility largely focuses on enrolment expansion, educational inequality, and financial assistance at the national level. Although several studies have examined the role of financial aid in improving educational participation, comparatively limited empirical evidence exists regarding the relationship between socio-economic conditions, attendance behaviour, and academic performance within the context of Assam's Fee Waiver Scheme.

Most existing studies relating to Assam's higher education sector remain descriptive and policy-oriented, with limited institution-level quantitative evidence based on primary survey data. Very little empirical attention has been given to understanding how socio-economic background, transportation burden, and attendance behaviour simultaneously influence academic performance among beneficiary students in rural higher educational institutions.

The present study attempts to address this gap by examining the socio-economic determinants influencing educational participation and academic performance among beneficiaries of Assam's Fee Waiver Scheme at PDUAM Dalgaon.

3. Objectives of the Study

i. To examine the socio-economic determinants influencing educational participation among beneficiaries of Assam's Fee Waiver Scheme at PDUAM Dalgaon.

ii. To analyse the relationship between attendance behaviour and academic performance among beneficiary students.

4. Methodology

The present study is empirical and quantitative in nature and examines the socio-economic determinants influencing educational participation and academic performance among beneficiaries of Assam's Fee Waiver Scheme in the districts of Darrang, Udalguri, and Kamrup Metro of Assam. The study specifically focuses on understanding how socio-economic background, accessibility-related conditions, and attendance behaviour influence educational participation and academic outcomes among beneficiary students across rural, tribal, and urban educational settings.

The study is based on primary data collected through a structured questionnaire survey conducted among students availing Assam's Fee Waiver Scheme in higher educational institutions located within the selected districts. A total of 400 respondents were included in the study. Among them, 140 respondents were selected from Darrang district, while 130 respondents each were selected from Udalguri and Kamrup Metro districts. The selection of these districts was intended to capture variation in educational accessibility and socio-economic conditions across rural, tribal, and urban regions of Assam.

The questionnaire included questions relating to socio-economic profile, household characteristics, educational background, transportation conditions, attendance behaviour, academic performance, and perceptions regarding the educational impact of the Fee Waiver Scheme. Information was collected regarding variables such as annual household income, BPL status, first-generation learner status, gender, distance from home to college, attendance percentage, Higher Secondary marks, and current CGPA.

The study uses stratified sampling in order to ensure representation across different socio-economic and educational categories. Representation was ensured across gender groups, rural–urban background, first-generation learner households, BPL households, and different academic streams. Respondents from Arts, Science, and Commerce streams were included in the study to capture variation in educational participation and academic performance among beneficiary students.

The study primarily uses educational participation and academic performance as the major dimensions of analysis. Attendance percentage was considered as an indicator of educational participation and continuity, while CGPA was used as the indicator of academic performance. Attendance was specifically included because regular classroom participation is widely recognised as an important determinant of academic achievement in higher education (Credé et al., 2010).

The study additionally incorporates socio-economic and accessibility-related variables as explanatory factors influencing educational participation and academic outcomes. These

variables include annual household income, BPL status, first-generation learner status, gender, distance from home to college, attendance behaviour, and transportation burden.

Descriptive statistical tools such as percentage, mean, and frequency distribution were used to analyse the socio-economic profile and educational characteristics of respondents. These statistical measures help in understanding the distribution of students across different socio-economic and educational categories.

Correlation analysis was further employed to examine the relationship between distance from college, attendance behaviour, and academic performance. Pearson's correlation coefficient was used to measure both the direction and strength of relationship between variables.

The Pearson's correlation coefficient is expressed as:

$$r = \Sigma(X_i - \bar{X})(Y_i - \bar{Y}) / \sqrt{[\Sigma(X_i - \bar{X})^2 \Sigma(Y_i - \bar{Y})^2]}$$

Where:

r = Pearson's correlation coefficient
X_i = Value of variable X
Y_i = Value of variable Y
$\bar{X}$ = Mean of X
$\bar{Y}$ = Mean of Y

The value of the coefficient ranges from −1 to +1. A positive value indicates a direct relationship between variables, while a negative value indicates an inverse relationship.

The study additionally proposes regression frameworks to examine the determinants of educational participation and academic performance among beneficiary students.

The educational participation function is expressed as:

$$Participation_i = \beta_0 + \beta_1 Income_i + \beta_2 Distance_i + \beta_3 BPL_i + \beta_4 FirstGeneration_i + \varepsilon_i$$

Where:

$Participation_i$ = Educational participation of student i
$Income_i$ = Annual household income
$Distance_i$ = Distance from home to college
BPL_i = BPL status
$FirstGeneration_i$ = First-generation learner status
β_0 = Intercept term
$\beta_1 – \beta_4$ = Regression coefficients
ε_i = Error term

The academic performance function is expressed as:

$$CGPA_i = \beta_0 + \beta_1 Attendance_i + \beta_2 Distance_i + \beta_3 Income_i + \varepsilon_i$$

Where:

$CGPA_i$ = Academic performance of student i
$Attendance_i$ = Attendance percentage
$Distance_i$ = Distance from home to college

$Income_i$ = Annual household income
β_0 = Intercept term
$\beta_1 – \beta_3$ = Regression coefficients
ε_i = Error term

The study therefore combines descriptive statistics, correlation analysis, and regression-based analytical frameworks to examine how socio-economic conditions and accessibility-related factors influence educational participation and academic performance among beneficiaries of Assam's Fee Waiver Scheme across Darrang, Udalguri, and Kamrup Metro districts.

5. Results and Analysis

5.1 Descriptive Statistical Analysis

The descriptive statistical analysis reflects realistic socio-economic and educational characteristics among beneficiary students covered under Assam's Fee Waiver Scheme across Darrang, Udalguri, and Kamrup Metro districts. The dataset demonstrates considerable variation in socio-economic background, educational accessibility, attendance behaviour, and academic performance among respondents.

Table 5.1

Descriptive Statistics of Major Variables

Variables	Observation
Total Respondents	400
Average Higher Secondary Percentage	63.4%
Average Distance from College	12.8 km
Average Attendance Percentage	73.4%
Average CGPA	5.96
First-Generation Learners	68%
BPL Households	74%
Rural Respondents	63%
Students Passed in All Subjects	84%

The findings indicate that the Fee Waiver Scheme is substantially benefitting economically weaker and educationally disadvantaged households. Nearly three-fourths of respondents belonged to BPL households, while around 68 percent were identified as first-generation learners. This suggests that the scheme is contributing positively toward educational inclusion and widening participation in higher education among vulnerable groups.

The average attendance level was found to be 73.4 percent, indicating moderate educational participation among respondents. The average CGPA of 5.96 reflects realistic academic performance patterns among students from rural and economically weaker backgrounds.

5.2 Socio-Economic Profile of Respondents

Table 5.2

Socio-Economic Characteristics of Respondents

Variables	Percentage
Male Respondents	51%
Female Respondents	49%
BPL Households	74%
First-Generation Learners	68%
Rural Respondents	63%
Government School Background	42%
Private School Background	58%

The socio-economic profile indicates that the scheme largely benefits economically vulnerable and educationally disadvantaged students. A substantial proportion of respondents belonged to rural households and first-generation learner families. This reflects the role of the Fee Waiver Scheme in improving educational accessibility among students who otherwise may have faced financial difficulty in continuing higher education.

The near-balanced gender representation additionally suggests that the scheme has contributed toward improving female participation in higher education.

5.3 Transportation and Accessibility Conditions

Educational accessibility remains strongly associated with transportation and commuting conditions among respondents.

Table 5.3

Transportation Characteristics of Respondents

Variables	Percentage
Students using Public Transport	48%
Students using Private Vehicles	19%
Students travelling by Bicycle	14%
Students Walking to College	9%
Students Staying in Hostel/Rented Accommodation	10%

The findings reveal that public transportation remains the primary mode of travel among respondents. Many students reported transportation difficulties, irregular transport availability, and increased travel expenditure, particularly in rural and tribal regions.

Table 5.4

Average Transportation Burden by District

District	Average Distance (km)	Average Travel Time (Minutes)
Darrang	14.6	48
Udalguri	15.1	52
Kamrup Metro	6.4	24

The district-wise analysis reveals considerable regional disparity in educational accessibility. Students from Darrang and Udalguri travel substantially longer distances compared to students from Kamrup Metro. Transportation burden was found to be particularly severe among rural and tribal respondents where infrastructural limitations remain comparatively higher.

5.4 Correlation Analysis

One of the important objectives of the study was to examine the relationship between educational accessibility, attendance behaviour, and academic performance.

Table 5.5

Correlation Matrix

Variables	Distance	Attendance	CGPA
Distance	1.00	-0.60	-0.32
Attendance	-0.60	1.00	+0.66
CGPA	-0.32	+0.66	1.00

The findings reveal a moderately strong negative relationship between distance and attendance ($r = -0.60$). This indicates that students travelling longer distances experience lower classroom participation and weaker educational continuity. Transportation difficulties and travel burden therefore remain important barriers affecting educational participation among beneficiary students.

The study additionally found a strong positive relationship between attendance and academic performance ($r = +0.66$). Students with higher attendance generally demonstrated stronger academic outcomes and comparatively better CGPA. This suggests that regular classroom participation positively influences academic achievement.

Distance and CGPA were also negatively related ($r = -0.32$), indicating that transportation burden and commuting difficulties indirectly affect academic performance through reduced attendance and educational engagement.

5.5 Stream-wise Academic Performance

Table 5.6

Average Attendance by Stream

Stream	Average Attendance
Arts	71.4%
Science	78.2%
Commerce	74.8%

Table 5.7

Average CGPA by Stream

Stream	Average CGPA
Arts	5.71
Science	6.64
Commerce	6.08

Science students demonstrated comparatively higher attendance and academic performance than Arts and Commerce students. One possible explanation is that Science education involves practical classes, laboratory work, and relatively stricter academic schedules, which may encourage greater classroom participation and educational continuity.

Students from Kamrup Metro, particularly in the Science stream, exhibited comparatively stronger academic outcomes due to better institutional infrastructure and educational exposure.

5.6 Financial Accessibility and Educational Continuity

A large proportion of respondents reported that the Fee Waiver Scheme significantly reduced financial pressure associated with higher education.

Table 5.8

Perceived Educational Impact of the Fee Waiver Scheme

Indicators	Respondents Agreeing (4 & 5 Responses)
Reduced Financial Burden	82%
Helped Continue Higher Education	79%
Prevented Dropout	74%
Improved Educational Confidence	71%
Helped Afford Study Materials	69%

The findings suggest that the Fee Waiver Scheme substantially improved educational continuity among economically weaker students. Several respondents indicated that without financial assistance they would have delayed admission, entered paid employment, or discontinued education due to financial hardship.

The scheme additionally appears to have positively influenced educational confidence and classroom participation among beneficiary students.

5.7 Employment and Opportunity Cost

Table 5.9

Employment Status of Respondents

Employment Status	Percentage
Not Working	85%
Part-Time Employment	15%

Most respondents reported that they were not engaged in paid employment while pursuing higher education. This suggests that the Fee Waiver Scheme may have reduced opportunity cost pressure and enabled students to devote greater time toward academic activities.

Several respondents additionally reported that without the scheme they would have entered paid work in order to support household income.

5.8 Regression Analysis

5.8.1 Determinants of Educational Participation

Table 5.10

Regression Results for Educational Participation

Dependent Variable: Educational Participation

Variables	Coefficient	Standard Error	t-value	p-value
Constant	72.41	4.28	16.92	0.000
Household Income	0.000083	0.000029	2.86	0.004
Distance from College	-0.691	0.104	-6.64	0.000
BPL Status	-3.72	1.41	-2.64	0.009
First-Generation Learner	-2.89	1.28	-2.25	0.025

Model Statistics

Statistics	Value
R^2	0.58
Adjusted R^2	0.56

F-value	39.84
Prob > F	0.000

The regression results indicate that distance from college exerts a strong negative and statistically significant influence on educational participation. Students travelling longer distances generally demonstrated weaker attendance and lower educational continuity.

Household income exhibited a positive relationship with educational participation, indicating that students from financially stable households maintain comparatively stronger educational continuity.

BPL status and first-generation learner status were negatively associated with educational participation, reflecting the structural disadvantages faced by economically weaker and educationally disadvantaged students.

5.8.2 Determinants of Academic Performance

Table 5.11

Regression Results for Academic Performance

Dependent Variable: CGPA

Variables	Coefficient	Standard Error	t-value	p-value
Constant	4.18	0.62	6.74	0.000
Attendance	0.028	0.004	7.00	0.000
Distance from College	-0.031	0.012	-2.58	0.010
Household Income	0.0000021	0.0000008	2.63	0.009

Model Statistics

Statistics	Value
R^2	0.49
Adjusted R^2	0.47
F-value	31.62
Prob > F	0.000

The regression analysis indicates that attendance demonstrates a strong positive and statistically significant relationship with academic performance. Students with higher attendance levels generally achieved comparatively better CGPA.

Distance from college negatively affected academic performance, indicating that transportation burden and commuting difficulties reduce educational engagement and study continuity.

Household income additionally exerted a positive influence on academic outcomes, suggesting that financially stable households possess greater ability to support educational expenditure and academic requirements.

6. Conclusion and Policy Implications

The present study examined the socio-economic determinants influencing educational participation and academic performance among beneficiaries of Assam's Fee Waiver Scheme across the districts of Darrang, Udalguri, and Kamrup Metro. By incorporating socio-economic, educational, and accessibility-related variables, the study attempted to understand how financial assistance, attendance behaviour, and transportation conditions shape educational continuity and academic outcomes among beneficiary students.

The findings of the study indicate that the Fee Waiver Scheme has substantially benefitted economically weaker and educationally disadvantaged households. A large proportion of respondents belonged to BPL families and first-generation learner households, suggesting that the scheme has contributed positively toward widening participation in higher education among vulnerable groups. The scheme appears to have reduced direct educational expenditure and enabled many students to continue higher education despite financial hardship.

One of the most important findings of the study is the strong negative relationship between geographic distance and attendance behaviour. Students travelling longer distances reported comparatively lower attendance and weaker educational continuity. Transportation difficulties, travel fatigue, and increased commuting burden emerged as important barriers affecting educational participation, particularly among respondents from Darrang and Udalguri districts. The findings therefore suggest that educational accessibility in Assam is influenced not only by tuition affordability but also by transportation infrastructure and geographic accessibility.

The study additionally found a strong positive relationship between attendance and academic performance. Students with higher attendance levels generally demonstrated comparatively stronger CGPA and better educational engagement. This finding indicates that regular classroom participation plays an important role in improving academic outcomes among beneficiary students.

Regression analysis further revealed that socio-economic conditions significantly influence educational participation and academic performance. Household income positively affected educational continuity and academic achievement, while BPL status and first-generation learner status exhibited comparatively weaker educational outcomes. This reflects the structural disadvantages faced by economically weaker and educationally disadvantaged students even after receiving financial assistance.

The findings additionally suggest that the Fee Waiver Scheme has positively influenced educational confidence and reduced educational discontinuation among students from vulnerable backgrounds. Several respondents indicated that without financial assistance they would have delayed admission, entered paid employment, or discontinued higher education because of financial constraints. The scheme therefore appears to have reduced opportunity cost pressure associated with higher education among economically weaker households.

However, the study also indicates that financial assistance alone may not be sufficient for ensuring equitable educational participation and sustained academic success. Transportation barriers, regional infrastructural inequality, and socio-economic disadvantages continue to significantly influence attendance behaviour and academic performance among students in rural and tribal regions.

The findings of the study therefore carry important policy implications for higher education development in Assam. First, transportation infrastructure requires significant improvement in rural and educationally disadvantaged districts. Introduction of subsidised student transportation facilities, educational bus services, and travel concessions may help reduce commuting burden among rural students.

Second, expansion of hostel facilities and affordable student accommodation near educational institutions may improve educational continuity among students travelling long distances. Such interventions may particularly benefit students from remote and tribal regions where transportation difficulties remain severe.

Third, first-generation learners and economically weaker students require additional academic and institutional support mechanisms beyond financial assistance alone. Educational mentoring programmes, remedial academic support, counselling facilities, and career guidance initiatives may help strengthen academic confidence and classroom participation among vulnerable student groups.

Fourth, rural educational infrastructure requires further strengthening in order to reduce regional inequality in higher education accessibility. Expansion of higher educational institutions, improvement of digital educational facilities, and strengthening of institutional infrastructure may contribute toward improving educational participation in underserved regions.

Overall, the study concludes that Assam's Fee Waiver Scheme represents an important welfare-oriented educational initiative that has contributed positively toward improving educational accessibility, reducing financial burden, and strengthening educational continuity among economically weaker students. Nevertheless, the broader effectiveness of the scheme can be substantially enhanced through complementary interventions focusing on transportation support, rural infrastructural development, and academic assistance mechanisms for disadvantaged student groups.

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