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Socioeconomic, Cultural, and Infrastructural Barriers to Educational Access in Marginalized Coastal Fisher Communities: Evidence from Bangladesh

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Research Article

Keywords: educational access, fisher communities, coastal Bangladesh, socioeconomic barriers, gender inequality, infrastructural marginalization, institutional neglect, qualitative study

Posted Date: May 12th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-9482536/v1

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Additional Declarations: No competing interests reported.

Abstract

Background

Educational inequality remains a persistent challenge in marginalized rural and coastal communities in Bangladesh. Among the most disadvantaged groups are fisher communities, where poverty, geographic isolation, gendered norms, and weak institutional support intersect to restrict children's access to education. This study explored the socioeconomic, cultural, and infrastructural barriers to educational access in the Musapur fisher community of Noakhali, Bangladesh.

Methods

A qualitative cross-case study design was employed using in-depth interviews with five participants from fishing households in Musapur who had direct responsibility for school-age children. Participants were selected purposively to capture variation in age, gender, educational background, and household conditions. Data were collected through semi-structured interviews conducted in Bengali and analyzed using Braun and Clarke's six-phase reflexive thematic analysis.

Results

The findings revealed five major interrelated barriers to educational access. First, socioeconomic vulnerability, including chronic poverty, educational cost burden, debt dependency on Mahajan lenders, and a strong aspiration–capacity gap, limited families' ability to support children's schooling. Second, infrastructural and geographic marginalization, particularly the absence of local schools and transport difficulties, reduced physical access to educational institutions. Third, cultural norms and gender inequality shaped educational trajectories through boys' early involvement in fishing, girls' early marriage, conservative views on co-education, and preference for madrasa education. Fourth, institutional neglect was reflected in the absence of meaningful government and NGO educational support, low community awareness, and weak parental supervision due to occupational demands. Finally, the COVID-19 pandemic intensified pre-existing vulnerabilities through school closures, digital exclusion, and lack of emergency educational response.

Conclusions

Educational exclusion in Musapur is a structurally embedded and multidimensional problem produced by the interaction of poverty, remoteness, social norms, and institutional absence. Although parents expressed strong aspirations for their children's education, these aspirations remain largely unrealized due to persistent structural constraints. Targeted interventions addressing financial hardship, local educational infrastructure, gender-sensitive schooling, and institutional support are essential to improve educational access in marginalized fisher communities in Bangladesh.

1 Introduction

Education is universally recognized as a fundamental human right and one of the most powerful determinants of long-term socioeconomic development, health, and civic participation [1]. Access to quality education enables individuals to transcend cycles of poverty, improves their capacity to participate in democratic processes, and generates significant positive externalities for communities and societies at large [2]. Despite decades of global policy commitment to universal primary and secondary education reinforced through the Sustainable Development Goals and the Education for All framework, significant and persistent disparities in educational access and attainment remain, concentrated disproportionately among marginalized, rural, and geographically isolated communities in low- and middle-income countries [3, 4].

Bangladesh has achieved notable progress in expanding primary school enrollment and reducing gender gaps in secondary education over the past two decades. The Right to Education Act and associated government programs have established a formal legal framework for universal educational access. However, aggregate indicators of educational progress in Bangladesh mask severe internal disparities, particularly between urban populations and marginalized rural and coastal communities [5, 6]. Among the most educationally disadvantaged populations in Bangladesh are Fisher Communities households whose primary livelihoods depend on artisanal fishing and who are frequently located in geographically isolated coastal and riverine settings. Ahmed et al. (2018) documented significantly lower educational attainment among children from Fisher Communities relative to the general Bangladeshi population, with higher rates of school non-enrollment, irregular attendance, and early dropout [7]. The Fisher Community in Musapur, a coastal village in Companiganj Upazila, Noakhali District, epitomizes these disparities: available data from the Bangladesh National Portal (2022) indicate an illiteracy rate of approximately 80% in Musapur, against a national average substantially below this figure, underscoring the depth and persistence of educational exclusion in this setting.

Educational marginalization in Musapur cannot be adequately explained by reference to any single factor. Existing quantitative evidence has demonstrated associations between poverty, infrastructure deficits, and low educational attainment in rural Bangladeshi communities [8, 9], but such evidence rarely illuminates how these factors interact in the specific socio-occupational context of a Fisher Community [10]. Fisher Communities occupy a distinctive structural position; their livelihoods are organized around fishing as a way of life rather than merely as an economic activity, embedding social relationships, cultural identities, gender roles, and intergenerational practices that differ meaningfully from those of other rural populations [11–13]. Educational barriers in such communities may therefore take contextually specific forms that generalist rural education research does not adequately

capture. In Musapur, informal community knowledge, fieldwork observations, and the limited documentary evidence available consistently indicate that children, particularly girls, face severe barriers to educational participation that persist across generations despite national policy frameworks intended to guarantee universal access. The mechanisms by which these barriers operate and the ways they are experienced and understood by community members have not been systematically investigated through qualitative inquiry.

The existing literature on educational barriers in Bangladesh has made important contributions at the level of documenting socioeconomic predictors of educational attainment, identifying infrastructure deficits as barriers to schooling, and examining gender-differentiated enrollment and dropout patterns [8, 14]. However, three significant gaps limit the explanatory reach of this literature. First, the literature has been predominantly quantitative in orientation, generating evidence about the prevalence and correlates of educational disadvantage but offering limited insight into the lived experiences, cultural logics, and institutional conditions through which disadvantage is produced and reproduced in specific communities [15, 16]. Second, Fisher Communities, as a distinct socio-occupational group, have received insufficient attention in the education literature. While Jentoft (2000, 2004) and Cinner et al. (2012) have documented the social, economic, and institutional distinctiveness of Fisher Communities in broader resource management and development literature, the implications of this distinctiveness for educational access, particularly the role of occupational socialization, fishing livelihood rhythms, and the Mahajan credit system, have not been systematically examined [11–13]. Third, the existing Bangladeshi education research rarely incorporates the perspectives of community members themselves as the primary data source, relying instead on school administrative records, household surveys, or expert informants. The voices, interpretations, and experiential accounts of fishing households regarding their own educational challenges remain largely absent from the scholarly record. This study addresses these gaps by employing a qualitative, community-embedded approach to examine the multi-dimensional barriers to educational access as experienced and understood by Fisher Community members in Musapur, thereby generating contextually specific evidence that neither quantitative surveys nor studies of non-fishing rural populations can produce.

The rationale for this study rests on three intersecting imperatives. Empirically, the absence of qualitative, community-level evidence from Musapur constitutes a substantive knowledge gap that limits the ability of researchers and practitioners to understand educational exclusion in this population. Theoretically, Fisher Communities provide a distinctive natural setting in which to examine how structural economic constraints, cultural identity, occupational socialization, and institutional absence interact to produce educational marginalization, enriching broader theoretical frameworks of educational inequality Bourdieu & Passeron, 1990; Lareau, 2003 with contextually specific evidence [17, 18]. Practically, the persistence of approximately 80% illiteracy in Musapur despite national policy commitments to universal education represents an urgent human development challenge that demands evidence-based, locally grounded intervention design. Understanding the barriers from the perspective of community members themselves, including their aspirations, their experiences of institutional absence, and the cultural norms that shape their educational decisions, is a prerequisite for the design of interventions likely to generate genuine behavioral and structural change [19, 20].

This study aims to explore and understand the multi-dimensional barriers to educational access faced by Fisher Communities in Musapur, Noakhali, Bangladesh, through the qualitative analysis of in-depth interview data. The specific objectives are (1) to identify and examine the socioeconomic factors that constrain educational access for children in Fisher households in Musapur. (2) Explore the infrastructural and geographic challenges that impede physical access to educational institutions. (3) Investigate the cultural norms, gender roles, and community practices that shape differential educational trajectories for boys and girls. (4) Examine the role of government and NGO programs and the consequences of their absence in shaping educational opportunities in the community. (5) To document the impact of the COVID-19 pandemic as an acute disruptive event on educational continuity in an already marginalized community.

This study makes several contributions to the literature on educational barriers and Fisher Community development in Bangladesh. Empirically, it provides original qualitative evidence from a setting that has been systemically under-represented in education research, generating contextually specific insight into how multiple barriers intersect to produce educational exclusion in a coastal Fisher Community. Theoretically, it extends established frameworks of educational inequality, including Bourdieu and Passeron's 1990 theory of capital reproduction and Lareau's 2011 framework of cultural socialization to a new and contextually distinct setting, enriching their explanatory reach [17, 18]. Practically, the study provides an evidence base for the design of targeted, community-grounded educational interventions that address the specific needs of Fisher Communities in Musapur and comparable settings.

2 Literature Review

The educational barriers facing Fisher Communities in Bangladesh are embedded within a broader landscape of educational inequality that has been extensively theorized and empirically documented across South Asian and low- and middle-income country contexts. This section reviews the relevant literature thematically, examining: socioeconomic determinants of educational access; cultural and gender-based barriers; infrastructure and geographic challenges; the role of institutions and community resources; and the literature's treatment of Fisher Communities specifically. Each thematic subsection synthesizes existing evidence, identifies debates and limitations, and establishes its relevance to the present study.

2.1 Socioeconomic Determinants of Educational Access

The relationship between socioeconomic status and educational outcomes is among the most robustly established findings in the social science literature. Sirin's (2005) meta-analysis of 74 studies demonstrated that family socioeconomic status, measured across income, parental education, and occupational prestige, is one of the strongest and most consistent predictors of children's academic achievement across international contexts [2]. Psacharopoulos and Patrinos (2018) demonstrated in a global review that the private returns to education are highest precisely in contexts where

educational attainment is lowest, A finding that underscores both the individual-level value of schooling and the systemic inequity of access barriers that prevent the poorest households from realizing those returns [1].

Within Bangladesh specifically, Hossain (2015) established that poverty is among the strongest predictors of school non-enrollment and dropout among children, with economically disadvantaged households consistently less able to bear the direct costs of fees, uniforms, textbooks, and indirect costs, such as transportation, opportunity costs of child labor of formal schooling [7]. Duncan and Magnuson (2011) extended this understanding by demonstrating that children from low-income households not only face greater financial barriers but also enter school with fewer developmental resources and receive less parental educational support, compounding financial disadvantage with developmental disadvantage [4]. Ahmed et al. (2018) documented specifically that children in Bangladeshi Fisher Communities face these compounded disadvantages in amplified form: lower household incomes, greater income instability due to the seasonal nature of fishing, and heavier reliance on credit relationships with equipment lenders create conditions of structural economic vulnerability that are more extreme than those faced by many other rural populations [8].

Crucially, Bourdieu and Passeron (1990) offered a theoretical framework for understanding how socioeconomic disadvantage translates into educational marginalization across generations [17]. Their theory of cultural capital reproduction argues that educational systems reproduce existing social hierarchies by privileging the cultural knowledge and dispositions of more advantaged groups, thereby systematically disadvantaging children from economically and culturally marginalized backgrounds. Applied to the Fisher Community context, this framework suggests that the educational marginalization observed in Musapur is not simply the product of individual household poverty but of a structurally reproduced condition in which economic deprivation, cultural distance from mainstream educational norms, and institutional exclusion mutually reinforce each other across generations. Lareau (2003) extended Bourdieu's framework by demonstrating how family-level cultural practices, including parental engagement with schooling and the transmission of educational values, mediate the relationship between socioeconomic position and educational outcome, with working-class families possessing fewer resources to engage productively with educational institutions than their middle-class counterparts [18].

2.2 Cultural Norms, Gender, and Educational Inequality

Cultural factors constitute a second major thematic domain in the literature on educational barriers in South Asian and low-income country contexts. Rahman (2013) documented that traditional gender roles and social expectations, including the anticipation of early marriage for girls and the socialization of boys into occupational roles, significantly constrain female educational participation and attainment in Bangladesh [14, 21]. Riegle-Crumb et al. (2006) demonstrated that culturally embedded beliefs about gender roles shape students' academic interests, subject choices, and educational aspirations across diverse settings [22], while Nisbett and Cohen (1996) and Okagaki and Sternberg (1993) showed more broadly that cultural values, including beliefs about intelligence, gender, and the purposes of schooling, shape both parental expectations and children's self-conceptions as learners [23, 24]. Within Fisher Communities, the intersection of occupational culture and gender norms generates educational barriers that are qualitatively distinct from those found in non-fishing rural households. Jentoft (2004) argued that Fisher Communities possess distinctive cultural identities organized around the sea, fishing as a way of life, and intergenerational transmission of fishing knowledge and practice a cultural framework that may position formal schooling as peripheral or irrelevant to the community's core social reproduction [13]. Boys who are socialized into fishing practice through co-participation with their fathers during childhood are simultaneously socialized away from the temporal rhythms, behavioral norms, and knowledge frameworks of formal schooling. Girls, meanwhile, face gendered pressures toward early marriage and domestic responsibility that limit both the duration and depth of their educational participation. A Study found that cultural beliefs about the appropriate role of women in Bangladeshi society represent a significant driver of female educational underparticipation, particularly in conservative rural and coastal communities [21].

The literature also identifies a complex relationship between religious identity and educational preference that is particularly salient in Muslim-majority communities in rural Bangladesh. Nisbett and Cohen (1996) and Okagaki and Sternberg (1993) demonstrated how culturally and religiously conditioned beliefs shape educational aspirations and institutional preferences [22, 23]. Where Islamic education is perceived as aligned with community identity and values, and secular co-educational schooling is perceived as incompatible with conservative gender norms, families may channel children particularly girls toward Madrasa education as a culturally acceptable alternative to mainstream schooling. This dynamic, documented in the present study's context, suggests that the boundary between cultural barriers and institutional choices is porous: cultural norms not only constrain educational behavior but actively shape the institutional landscape of education within the community.

2.3 Infrastructure Deficits and Geographic Marginalization

Infrastructure deficits including inadequate school facilities, poor transportation networks, and geographic isolation have been identified across multiple studies as significant structural barriers to educational access in rural and coastal communities in Bangladesh and comparable settings. A Study found that poor school infrastructure, including lack of classrooms, sanitation facilities, and teaching resources, was a significant predictor of low enrollment and high dropout in rural Bangladeshi communities [8]. This finding documents that many rural schools in Bangladesh lack basic amenities, such as electricity, clean water, and functioning latrines, which are prerequisites to an adequate learning environment, particularly for female students [25].

Duflo et al. (2006) provided experimental evidence from rural Bangladesh that targeted infrastructure investment, such as school construction, classroom provision, and textbook supply, generated significant improvements in student enrollment and outcomes, indicating that institutional provision has direct causal effects on educational participation in infrastructure-deprived settings [26]. Similarly, negative associations were found between infrastructure deficits, including transportation inadequacy, and student attendance and academic performance in comparable settings [27]. The transportation dimension of infrastructure marginalization is particularly significant for geographically isolated communities, where schools are located at prohibitive distances

from fishing settlements, and the cost of daily travel may itself constitute an insurmountable economic barrier for households already operating at subsistence income levels [20].

2.4 The Role of Institutions, Government Programs, and Civil Society

The institutional dimensions of educational access, including the role of government policy, NGO programs, and community-based organizations, have received considerable attention in the educational development literature. A Study demonstrated that community-based educational interventions involving parents, community leaders, and local organizations can significantly improve educational outcomes in rural Bangladesh, particularly in contexts where state provision is inadequate [20]. Chetty et al. (2011) provided evidence from a broader context that access to higher-quality schools and teachers generates long-term improvements in life outcomes, including income and social mobility, underscoring the stakes of institutional educational quality for marginalized communities [28].

At the same time, the literature documents substantial implementation gaps between formal educational policy commitments and their material realization in marginalized communities. Despite Bangladesh's Right to Education Act and the broad framework of the SDG education agenda, A Study found persistent educational disparities in Fisher Communities that national programs have not adequately addressed [7]. A Study noted the particular vulnerability of coastal communities to institutional exclusion, a tendency for mainstream institutional support to bypass geographically isolated populations precisely where need is greatest [11]. Bourdieu and Passeron (1990) theorized this dynamic as a structural feature of state institutions: educational systems that are organized around the cultural norms and knowledge of dominant social groups reproduce inequality not only through active exclusion but through institutional forms that systematically underserve marginal communities [17].

2.5 Fisher Communities in Educational Research: A Significant Gap

Despite their numerical significance and their distinctive socio-occupational profile, Fisher Communities remain substantially underrepresented in the educational barriers literature. The foundational work of Jentoft (2000, 2004) established that Fisher Communities constitute distinct social formations with their own institutional arrangements, cultural identities, and governance challenges that differentiate them from other rural populations [12, 13]. Cinner et al. (2012) documented the multiple vulnerabilities, economic, environmental, and institutional, to which coastal Fisher Communities are exposed, and the limited capacity of mainstream development programs to address their specific needs [11].

In the Bangladeshi context, A Study made an important contribution by documenting educational constraints among rural children in the coastal Noakhali District, identifying poverty, infrastructure deficits, and gender norms as significant barriers [16, 29]. However, this study, like most existing work, relied on quantitative survey methods and did not engage the perspectives of community members themselves through qualitative inquiry. Similarly documented disparities at the aggregate level, without providing qualitative insight into the mechanisms through which these disparities are produced and experienced in specific Fisher Communities [30]. The result is a literature that describes the educational situation of Fisher Communities with considerable statistical accuracy but limited interpretive depth—one that is inadequate as a foundation for the design of contextually responsive interventions.

2.6 Synthesis and Research Gap

The literature reviewed above establishes a robust empirical foundation for understanding the broad categories of educational barriers facing marginalized rural communities in Bangladesh: socioeconomic constraints, cultural norms, infrastructure deficits, and institutional neglect. Foundational theoretical frameworks, particularly Bourdieu and Passeron's (1990) capital reproduction theory and Lareau's (2003) framework of cultural socialization, provide conceptual tools for understanding how these barriers interact to reproduce educational marginalization across generations [17, 18]. However, three convergent gaps in the literature limit its sufficiency for the present study's purposes. First, quantitative dominance in the existing research limits the depth of insight into lived experiences, cultural logics, and the experiential interplay of multiple barriers. Second, the specific context of Fisher Communities with their distinctive occupational culture, Mahajan credit systems, and socio-cultural organization has not been adequately examined through qualitative inquiry. Third, community members' own voices and perspectives are largely absent from the scholarly record, creating a significant deficit in the indigenous, emic understanding of educational barriers in this population. This study addresses these gaps directly, employing qualitative IDI methodology to generate contextually grounded, participant-centered evidence that extends and enriches the existing literature on educational barriers in Fisher Communities in Bangladesh.

3 Conceptual Framework

The conceptual framework developed for this study integrates three complementary theoretical traditions to provide a multi-level explanatory architecture for understanding educational barriers among Fisher Communities in Musapur, Noakhali, Bangladesh. The framework draws on Bourdieu and Passeron's (1990) theory of cultural and economic capital reproduction, Lareau's (2003) analysis of socially differentiated cultural practices and their educational consequences, and the socio-ecological model of educational access as applied in community-level educational research [19]. These frameworks are synthesized into a hierarchical, multi-domain framework that reflects the complexity and contextual embeddedness of educational exclusion in a coastal artisanal fishing community.

Figure 1. At the first tier of the framework, four primary barrier domains, socioeconomic, infrastructural, cultural/gender, and institutional/community, constitute the core independent thematic constructs emerging from the qualitative data. Critically, these domains do not operate in isolation; they are mutually constitutive and mutually reinforcing in ways that cannot be adequately captured by examining any single domain in isolation. Bourdieu and Passeron (1990) provide the theoretical grounding for understanding how socioeconomic disadvantage, cultural capital deficits, and institutional

exclusion interact systemically to reproduce educational marginalization across generations. The socioeconomic domain captures the chronic poverty, seasonal income instability, and, distinctively, the debt bondage to local equipment lenders (Mahajan) that structurally limits Fisher households' capacity to bear the direct and indirect costs of formal schooling [1, 7].

The infrastructural domain captures the physical and geographic dimensions of educational access: the near-total absence of functioning schools within the Musapur community, the geographic remoteness of available educational institutions, and the inadequacy of transportation networks that would make daily school travel feasible for households at subsistence income levels [27, 30]. The cultural and gender domain encompasses the normative practices through which Fisher Community members collectively reproduce gender-differentiated educational trajectories: the early marriage of girls upon completion of secondary schooling; the occupational socialization of boys into fishing through co-participation with their fathers; conservative community norms restricting girls' participation in co-educational schooling; and the preference for Islamic/Madrasa education as an identity-aligned alternative to mainstream secular schooling [14]. The institutional and community domain captures the effective withdrawal of state and civil society from Musapur's educational sphere: the absence of government programs, the void left by the non-participation of NGOs in the community's educational development, the low community-level awareness of the value of formal education, and the parental supervision deficit created by the temporal demands of the fishing profession [4].

These four domains converge upon a mediating construct children's access to quality education which represents the experiential outcome of the combined effect of all four barrier domains. Consistent with Nasir and Hand's (2006) socio-culturally informed theory of educational engagement [19], access to quality education is conceptualized here not merely as physical school enrollment but as the composite quality of the learning experience available to children: its consistency, its cultural relevance, its instructional quality, and its responsiveness to the specific contexts and needs of Fisher Community learners. Disruption to this mediating construct produces a set of immediate educational outcomes: irregular school attendance, heightened dropout risk, unequal educational opportunities across gender and household economic lines, and, uniquely in this study's temporal context, the pandemic-induced disruption brought about by the COVID-19 crisis, which combined school closures with digital inaccessibility and the complete absence of emergency educational support [2].

These immediate outcomes, in turn, produce long-term social implications that constitute the terminal endpoint of the framework's causal logic: the continuation of the poverty cycle through limited human capital formation, the restriction of social mobility for Fisher Community members and their descendants, and the perpetuation of intergenerational educational disadvantage that Bourdieu and Passeron (1990) identified as the structural mechanism by which social hierarchies reproduce themselves through educational systems [17]. A cross-cutting aspiration capacity gap the finding that parental educational aspiration is robustly present in Musapur, even as structural barriers render it unfulfillable, functions as both a consequence of barrier convergence and a theoretically significant analytical construct in its own right, with direct implications for the design of evidence-based interventions [4, 18]. The framework is explicitly qualitative and interpretive in orientation. It does not propose a statistical causal model or formal path diagram, and its relationships should be understood as analytically informed propositions about how barriers, experiences, and outcomes are conceptually related within the Fisher Community context, grounded in the qualitative data and the theoretical literature, rather than as quantified causal estimates [31, 32].

4 Methodology

4.1 Research Design

This study adopts a qualitative research design employing In-Depth Interviews (IDIs) as the primary data collection method. A qualitative approach is epistemologically appropriate for this study's objectives because it prioritizes understanding over measurement, generating rich, contextually grounded insight into the meanings, experiences, and interpretive frameworks through which participants understand their educational circumstances, rather than establishing the statistical prevalence of specific barriers. The specific analytic approach is Braun and Clarke's (2006) six-phase reflexive thematic analysis, selected for its methodological flexibility, its compatibility with inductive inquiry, and its capacity to generate theoretically meaningful thematic accounts of complex, multi-layered experiential data without imposing pre-defined categorical structures on the data [31]. A cross-case study design was adopted to enable the systematic comparison of educational experiences, barriers, and contextual factors across five individual participant cases within the same community. This design supports the identification of both common patterns and meaningful variations across participants, consistent with the study's aim of generating a multi-dimensional account of educational barriers rather than a single-voice narrative [32].

4.2 Study Setting and Context

The study was conducted in Musapur, a coastal Fisher Community located in Companiganj Upazila, Noakhali District, in the Chittagong Division of Bangladesh. Musapur is situated at the confluence of the Feni River and the Bay of Bengal, in the southern coastal fringe of Noakhali. According to the 2011 Bangladesh Census, Musapur Union has a total population of 22,343, comprising 11,737 males and 10,606 females, organized across nine administrative wards Fig. 2. The community's primary economic activity is artisanal fishing, and its geographic position on the coast renders it relatively isolated from urban centers and mainstream institutional services.

Musapur was selected as the study site for several reasons. First, it represents a Fisher Community with severe and well-documented educational marginalization and an illiteracy rate of approximately 80% according to community-level data from the Bangladesh National Portal (2022), substantially higher than the national average. Second, its geographic and occupational distinctiveness make it a theoretically significant case for examining educational barriers in contexts where mainstream rural education research findings may not fully apply [13] .

4.3 Study Population and Participants

The target population for this study was adult members of fishing households in Musapur who were engaged in fishing as their primary livelihood and who had direct parental or guardianship responsibility for school-age children. This population was selected because its members possess first-hand experiential knowledge of the educational decisions, constraints, and opportunities facing children in the community, in the form of knowledge most relevant to addressing the study's research questions.

Table 1
Background of the Cases

Cases	Age	Sex	Educational Background	Family Income per month (Avg.)	Number of children
Cases 1	45	Male	Class 5	12000	3
Cases 2	26	Male	SSC	10000	2
Cases 3	37	Female	Class 8	15000	2
Cases 4	46	Male	Nothing	11000	2
Cases 5	28	Male	Class 5	10000	3

Five participants were recruited for this study: four male fishermen and one female community member, who also served as a key informant by virtue of her broader knowledge of community educational conditions. Participant ages ranged from 26 to 46 years. Educational backgrounds ranged from no formal schooling (one participant) to completion of the Secondary School Certificate (SSC) examination (one participant), with the remaining participants having attained primary or lower secondary education. Monthly household incomes ranged from approximately 10,000 to 15,000 BDT (approximately USD 90–135). All participants had dependent children of school age. Full participant profiles are presented in the Findings section (Table 1).

4.4 Sampling Strategy

Purposive sampling was employed to select participants who met the study's inclusion criteria: active engagement in artisanal fishing as a primary livelihood and direct responsibility for school-age children, and who were therefore best positioned to provide relevant, experience-near accounts of educational barriers in the community. Purposive sampling is the most widely used and methodologically appropriate sampling strategy for qualitative IDI research, because it prioritizes information richness over statistical representativeness [33]. A sample of five participants was deemed sufficient for this in-depth cross-case study. Qualitative inquiry does not require large samples for statistical power; rather, the adequacy of a qualitative sample is determined by the depth and diversity of information generated relative to the study's conceptual objectives. The five participants recruited for this study represent a range of ages, educational backgrounds, income levels, and family compositions within the Fisher Community, providing sufficient within-case diversity to identify both common patterns and meaningful variations. The inclusion of a female participant and key informant (P03) was particularly important given the study's objective of examining gender-differentiated educational barriers.

4.5 Data Collection

Data were collected through semi-structured in-depth interviews conducted on 14 December 2025 to January 2026 at the Musapur field site. Semi-structured IDIs were selected as the data collection method because they allow for systematic coverage of key topics through a pre-developed interview guide while preserving the flexibility to follow participants' own narratives, probe unexpected directions, and allow participants to introduce topics and framings relevant to their experience that the interview guide did not anticipate. This balance of structure and flexibility is appropriate for a study aiming to understand a complex, multi-dimensional phenomenon from participants' own perspectives [34]. The interview guide was organized around the four domains of the conceptual framework: socioeconomic factors, infrastructural and geographic factors, cultural and gender norms, and institutional support and included open-ended questions and probes designed to elicit detailed narratives rather than brief factual responses. Interviews were conducted in Bengali, the participants' native language, by the principal researcher, who is fluent in Bengali. Interviews were conducted face-to-face, at locations convenient to participants, and lasted between 20 and 33 minutes. The semi-structured interview guide was developed by the author for this study based on the study objectives and conceptual framework. An English-language version of the interview guide is provided as Supplementary File 1. Interviews were audio-recorded with participants' informed consent. Verbatim transcription was completed following the interview phase, and transcripts were translated from Bengali to English by the principal researcher before analysis.

4.6 Data Analysis

Thematic analysis was conducted following *Braun and Clarke's (2006)* six-phase reflexive thematic analysis framework, proceeding through the following sequential phases [31]. All five interview transcripts were read and re-read in full, with initial observations and reflections documented in analytic memos. Line-by-line and meaning-unit coding was applied to all transcript data, generating initial descriptive codes that remained close to participants' own language and framings. Open codes were reviewed for patterns, relationships, and redundancies, and a structured codebook was developed specifying code definitions, inclusion criteria, exclusion criteria, and anchor examples. The codebook was applied systematically across all five cases, with codes revised and refined to ensure consistency and conceptual precision. Related codes were clustered into sub-themes; sub-themes were aggregated into five overarching themes through an iterative process that maximized internal coherence within themes and conceptual distinctiveness across them. Themes were reported with supporting participant evidence, analytic interpretation, and cross-case comparison in the Findings section of the Study.

4.7 Trustworthiness and Rigor

The trustworthiness of the study's qualitative findings was supported through attention to four criteria adapted from Lincoln and Guba (1985) [35]. Credibility was supported through the researcher's extended engagement with the Musapur community before and during fieldwork, enabling familiarity with the community context that enhances the plausibility of interpretations; through the use of open, non-leading interview questions that minimized researcher imposition; and through the systematic development of a structured codebook that anchored analytic interpretations in the data. Dependability was supported through the systematic, sequential application of Braun and Clarke's (2006) six-phase analytic procedure, the maintenance of analytic memos throughout the analysis, and the documentation of coding decisions in a structured codebook that constitutes an analytic audit trail [31]. Confirmability was supported through the generation of a comprehensive coding matrix and theme development table that makes the analytic process transparent and available for scrutiny, and through the use of verbatim participant quotes as primary evidence for thematic claims in the Findings section. Transferability was supported through rich, thick descriptions of the study context, participant profiles, and data collection procedures, enabling readers and future researchers to assess the applicability of findings to comparable settings, other coastal Fisher Communities in Bangladesh, or comparable low-income country contexts.

4.8 Ethical Considerations

The study was conducted in accordance with the Declaration of Helsinki (1975, revised 2013) and the ethical guidelines of Noakhali Science and Technology University [36]. Ethical approval for the study was granted by the Ethical Committee of NSTU (Reference No.: NSTU/SCI/EC/2025/452). Informed consent was obtained from all participants before the interview, including an explanation of the study purpose, confirmation that participation was voluntary, and assurance that withdrawal would entail no consequences. Participants were informed that their identities would be kept anonymous and that their accounts would be reported using anonymized identifiers (P01–P05). Audio recordings and transcripts were stored securely and accessed only by the principal researcher. No identifying information has been reported in this manuscript.

5 Findings

Thematic analysis of the five In-Depth Interviews (IDIs) conducted with members of the Musapur Fisher Community in Noakhali, Bangladesh yielded five major themes and eleven sub-themes that collectively characterize the multi-dimensional nature of educational barriers in this context. The themes were developed inductively following Braun and Clarke's (2006) six-phase framework for thematic analysis [31], proceeding from open coding through focused coding to theme generation and refinement. The five themes identified are: (1) Socioeconomic Vulnerability as a Primary Barrier to Educational Access; (2) Infrastructural and Geographic Marginalization; (3) Cultural Norms and Gender Inequality in Educational Access; (4) Institutional Neglect and Policy Gap; and (5) Pandemic-Induced Educational Disruption. Together, these themes reveal that educational exclusion in Musapur is neither monocausal nor individualistic; rather, it emerges from the convergence of structural economic constraints, physical inaccessibility, culturally embedded gender norms, the near-complete withdrawal of institutional support, and the acute amplifying effect of the COVID-19 pandemic on pre-existing chronic vulnerabilities.
Table 02. Present the Theme development of the study.

Table 02
Theme development table

Theme	Sub-Theme	Description	Key Codes	Representative Quote
Socioeconomic Vulnerability as a Primary Barrier to Educational Access	Income Insufficiency and Educational Cost Burden	Participants across four cases described chronic low income making direct (fees, uniforms) and indirect (transport, food) schooling costs unaffordable.	*Financial unaffordability; dual cost burden; intergenerational deprivation*	*"Struggle to afford their family's maintenance and their children's education due to their limited income (P03 narrative)"*
	Debt Bondage and Structural Economic Entrapment	P04 and P05 described obligation to repay Mahajan fish-share deductions, combined with income decline from labor market saturation, trapping households in poverty.	*Debt bondage to Mahajan; equipment debt; income decline from market saturation*	*"I have to borrow boats and nets from Mahajan to catch fish. As a result, I am not able to change my Economic crisis situation. (P05)"*
	Educational Aspiration–Capacity Gap	Despite poverty, participants expressed strong desires for children's education revealing a persistent gap between aspiration and material capacity.	*Strong aspiration amid poverty; intergenerational aspiration for mobility*	*"Despite my poverty, I am very interested in the education of my children. I want my children to study and change our current situation. (P05)"*
Infrastructural and Geographic Marginalization	Absence of Local Educational Institutions	Multiple participants reported that Musapur has no functioning school; P02 noted only a former madrassa. Census data confirm extreme institutional scarcity.	*Absence of local school; scarcity of educational facilities*	*"There is no school here. A year ago, there was a madrassa. (P02)"*
	Geographic Distance and Transportation Deficit	Schools accessible to Musapur residents are geographically remote. All transport involves significant financial and time costs on households earning 10,000–15,000 BDT/month.	*Transportation infrastructure deficit; geographic distance; travel cost prohibitive*	*"Schools and colleges are far away, making travel expensive (P03 narrative)"*
Cultural Norms and Gender Inequality in Educational Access	Occupational Socialization of Boys into Fishing	P02 and P03 described how boys are socialized into the fishing profession through childhood co-participation with fathers, displacing school attendance.	*Male occupational socialization; livelihood prioritized over schooling*	*"The boys and their father manage a fishery. They can't study as a consequence of this. (P02)"*
	Early Marriage as Terminal Endpoint for Girls' Education	P02 described the normative pattern of girls marrying upon completing SSC or HSC rather than pursuing further education. P03 corroborated gender-based inequality.	*Early marriage terminal point; gender-differentiated educational trajectory*	*"After passing the HSC and SSC exams, most of the girls are got married. (P02)"*
	Conservative Co-Education Norms and Madrasa as Gendered Alternative	P05 expressed community-wide conservative norms against mixed-gender schooling, channeling girls toward Madrasa education rather than excluding them entirely.	*Conservative co-education norms; Madrasa preference; community-wide gender conservatism*	*"I don't want my girls to study together with boys. That's why I prefer Madrasa education for my girls. (P05)"*
	Religious Framing of Educational Choice	P04 expressed preference for Islamic/Madrasa education over secular schooling, reflecting an identity-based educational orientation.	*Islamic education preference; religious-conditioned educational choice*	*"I want to educate my children in Islamic education and make my son as an Islamic scholar. (P04)"*
Institutional Neglect and Policy Gap	Absence of Government and NGO Educational Support	All five participants either directly or indirectly reported the complete absence of government programs and NGO initiatives in Musapur's educational sphere.	*Absence of institutional support; government policy gap; NGO programmatic void*	*"We don't get any government organisation or non-government organisation for our children education. (P05)"*
	Low Community Awareness and Demand-Side Deficit	P01 identified low community-level awareness about the importance of formal education as a third barrier alongside financial constraints and infrastructure deficits.	*Low community awareness; demand-side educational deficit*	*"Lack of awareness about the importance of education within the community (P01 narrative)"*
	Parental Supervision Deficit Due to Occupational Demands	P03 described how parents' fishing schedules prevent monitoring of children's attendance, with peer group influence filling the resulting supervision vacuum.	*Parental absence; peer group influence; supervision deficit*	*"Their fishing schedule prevents them from monitoring their children's attendance (P03 narrative)"*
Pandemic-Induced Educational Disruption	COVID-19 School Closure, Digital Exclusion, and Absence of Emergency Response	P05 described the COVID-19 pandemic as producing compound educational disruption: school closures, inaccessibility of online alternatives, and complete absence of emergency government or NGO response.	*Pandemic school disruption; digital exclusion; absence of emergency support*	*"During the COVID-19 period our children's education have been disrupted a lot. They don't have access to online education. (P05)"*

5.1 Socioeconomic Vulnerability as a Primary Barrier to Educational Access

Socioeconomic hardship was the most pervasive and explicitly articulated barrier to formal education across four of five cases (P01, P03, P04, P05). Within this theme, three analytically distinct but mutually reinforcing dimensions were identified: income insufficiency that renders the direct and indirect costs of schooling unaffordable; structurally embedded debt bondage that reproduces poverty across time; and a persistent aspiration–capacity gap in which parental educational ambition far exceeds the material means to realize it. Taken together, these sub-themes demonstrate that the economic barrier to education in Musapur operates not simply as a condition of general poverty but as a structurally produced and reproduced constraint that resists individual-level solutions.

5.1.1 Income Insufficiency and Educational Cost Burden

Across four cases, participants described an inability to simultaneously meet household subsistence requirements and bear the direct and indirect costs associated with formal schooling. Monthly household incomes ranged from 10,000 to 15,000 BDT a level at which discretionary expenditure on school fees, uniforms, textbooks, and particularly transportation is effectively precluded. This dual cost burden was articulated with particular clarity by P03, the only female participant and a community key informant, who described a parent 'struggling to afford their family's maintenance and their children's education due to their limited income' and noted that 'schools and colleges are far away, making travel expensive.' This account illustrates how indirect costs especially transportation extend the financial burden of schooling well beyond formal fees and place it beyond reach for households with no financial surplus.

P01, with three children, reported similar constraints, noting that despite a clear desire for his children to be educated, financial constraints rendered that desire practically inoperative. Critically, P01 framed the economic barrier not as a singular obstacle but as one element of an interlocking set of impediments, also identifying low community awareness and transportation deficits as co-constitutive barriers. This convergence of accounts across participants of different ages, educational backgrounds, and family sizes points to income insufficiency as a structural feature of the Fisher Community's relationship with formal education rather than a contingent household-level failing.

5.1.2 Debt Bondage and Structural Economic Entrapment

A structurally significant dimension of socioeconomic vulnerability was revealed by P04 and P05, who described the practice of borrowing fishing equipment boats and nets from local moneylenders known as Mahajan, on terms requiring repayment in the form of a share of the catch. This arrangement systematically reduces fishermen's net earnings, creating a debt-dependency relationship that constrains financial accumulation and renders any investment in children's education practically impossible.

"I have to borrow boats and nets from Mahajan to catch fish. As a result, I am not able to change my Economic crisis situation." (P05). P04 added a further structural dimension: his income had 'decreased due to increase in the number of fishermen,' indicating that growing labor market saturation compounds the effects of debt, as each household's share of available fish diminishes even as repayment obligations to Mahajan remain fixed. P04 stated: *"Because of paying the moneylender the share of the fish, I feel that I cannot earn as expected and also my income has decreased due to increase in the number of fishermen."* (P04)

These accounts collectively reveal that poverty in Musapur is not simply the result of low wage levels but is structurally reproduced through credit relationships that preclude capital accumulation. The Mahajan system functions as a mechanism of economic entrapment, embedding households in cycles of dependency that resist disruption through individual effort alone, and ensuring that educational expenditure however desired remains a structural impossibility without external economic intervention.

5.1.3 Educational Aspiration–Capacity Gap

Despite the pervasive material constraints documented above, a striking feature of the data is the consistent presence of strong parental educational aspiration across cases. P05 provided the most explicit articulation of this aspiration–capacity gap: *"Despite my poverty, I am very interested in the education of my children. I want my children to study and change our current situation."* (P05)

P01 similarly expressed a clear desire for his children's education while acknowledging financial constraints as the operative barrier. P04, despite having received no formal education himself, expressed aspirations for his children's schooling, albeit channeled toward Islamic education. This pattern across cases suggests that the educational deficit in Musapur should not be attributed to a community-level devaluation of education but rather to a structural gap between what families aspire to and what they materially command. This distinction carries important policy implications: where aspiration is present, targeted economic support and cost-reduction measures may convert existing motivation into educational participation.

5.2 Infrastructural and Geographic Marginalization

Four of five participants (P01, P02, P03, P04) identified the physical absence of local educational institutions and the inadequacy of transportation infrastructure as fundamental barriers to educational access. This theme captures the spatial dimension of educational exclusion in Musapur: the community's coastal and geographically isolated position translates into an absence of the physical infrastructure schools, roads, and transport networks through which children might access formal education. Infrastructural marginalization interacts with economic vulnerability in a compounding manner, as geographic remoteness converts the already financially costly act of schooling into an even greater logistical burden.

5.2.1 Absence of Local Educational Institutions

The most structurally significant manifestation of infrastructural marginalization is the documented absence of functioning schools within the Musapur community itself. P02 the most educationally qualified participant with an SSC qualification provided the starkest account: *"Most of the people living in Musapur are defenceless. There is no school here. A year ago, there was a madrassa."* (P02)

This account is consistent with documentary evidence from the Bangladesh National Portal (2022), which records an 80% illiteracy rate in Musapur and an extremely thin institutional provision: seven government primary schools and three secondary schools serving a population of 22,343 across nine wards. The institutional arithmetic is stark: even the existing provision is insufficient to serve the community's population, and its geographic distribution within the union means that many settlements have no local access at all. P03 and P01 corroborated this institutional scarcity by identifying the need for more educational institutions as an explicit recommendation implying that the current supply is recognized as structurally inadequate.

5.2.2 Geographic Distance and Transportation Deficit

For those children whose families do manage to access schools outside the immediate community, the distance involved and the absence of affordable transportation present a secondary but formidable barrier. P01 identified the lack of a well-developed transportation system as one of his three principal barriers, alongside financial crisis and community awareness deficits. P03's account linked geographic distance directly to financial cost, noting that 'schools and colleges are far away, making travel expensive,' while simultaneously noting that the fishing schedule prevented parents from escorting or monitoring children's travel to school.

P04 reinforced this pattern, stating that 'most of the educational institutions are located far away from my home,' and directly connecting geographic inaccessibility to a felt need for government support. P02 identified 'vehicle problem' as one of three distinct barriers, suggesting that transportation inadequacy is perceived not merely as an inconvenience but as a structural access barrier in its own right. The compound effect of distance and transport cost is particularly acute in Musapur's context: the community is located on the coast near the confluence of the Feni River and the Bay of Bengal, with connectivity dependent on limited road and waterway infrastructure.

5.3 Cultural Norms and Gender Inequality in Educational Access

Cultural norms and gender inequality constituted the third major thematic domain, raised by three participants (P02, P04, P05) and corroborated by P03 as a community key informant. Within this theme, four sub-themes were identified: the occupational socialization of boys into fishing; the normative channeling of girls toward early marriage as a terminal educational endpoint; conservative attitudes toward co-education directing girls toward gender-segregated institutions; and a religious framing of educational preference. Taken together, these sub-themes reveal that gender-based educational inequality in Musapur operates not through overt prohibition but through the cumulative effect of normative social scripts, occupational structures, and identity-based educational preferences that produce differentiated educational trajectories for boys and girls.

5.3.1 Occupational Socialization of Boys into Fishing

A distinctive and structurally embedded mechanism of male educational exclusion was the practice of boys entering the fishing profession through early childhood co-participation with their fathers. P02 described this process in terms that reveal its normative rather than coercive character: *"The boys and their father manage a fishery. They can't study as a consequence of this."* (P02)

This account reveals how occupational socialization and formal schooling exist in structural competition in Musapur: the fishing profession offers an immediate identity, livelihood, and social role that school cannot match in terms of tangibility or cultural familiarity. The process is not experienced as a deprivation but as a form of participation in community life—which may explain why it operates with normative rather than coercive force. P03 corroborated this pattern, noting that fishing schedules affect not only parental availability for supervision but the broader temporal organization of the household, which is structured around fishing rhythms rather than school timetables.

5.3.2 Early Marriage as Terminal Endpoint for Girls' Education

The educational trajectories of girls in Musapur were described as structured toward an early marriage endpoint that effectively caps female educational attainment at the secondary level. P02 provided the most direct account: *"After passing the HSC and SSC exams, most of the girls are got married. In this region, the boys and their father manage a fishery. They can't study as a consequence of this."* (P02)

Notably, P02 framed this as a structural social norm rather than an individual family decision, using the plural 'most of the girls' to convey a community-wide pattern. Crucially, the same participant articulated an aspiration for gender equality in education 'if the girls will be educated as like as boys then the disparities between boys and girls will be abolished' revealing a consciousness of the inequity even among those who report it as normative. P03, as the only female participant, implicitly corroborated the gender disparity pattern by identifying 'gender inequality' as a named barrier in her account. The coexistence of awareness and persistence of the norm in these accounts underscores the structural rather than merely attitudinal character of this barrier.

5.3.3 Conservative Co-Education Norms and Madrasa as Gendered Alternative

A particularly analytically significant finding emerged from P05's account: that the community-wide opposition to co-education does not represent a blanket opposition to girls' education but rather conditions access to schooling on compliance with conservative gender-segregation norms. P05 stated: *"I and almost everyone in my area believes in conservative thinking about girls. I don't want my girls to study together with boys. That's why I prefer Madrasa education for my girls."* (P05)

This account has important nuances. First, P05 explicitly frames his view as community-wide ('almost everyone in my area'), indicating a collective norm rather than a personal idiosyncrasy. Second, the preference for Madrasa education represents a conditional rather than absolute exclusion of girls from schooling: girls may be educated, but only within gender-segregated religious institutions. Third, this finding reveals that the infrastructure gap between available Madrasas and available secular schools carries a gendered dimension: in the absence of girls-only or gender-segregated secular schools, the Madrasa becomes the default and often only institutionally acceptable option for girls' education. This conditional acceptance of female education is therefore itself a product of infrastructural and institutional absence, not solely of cultural conservatism.

5.3.4 Religious Framing of Educational Choice

P04 introduced a further dimension of culturally conditioned educational preference: the desire for Islamic education as an identity-based choice rather than a pragmatic response to school availability: *"I want to educate my children in Islamic education and make my son as an Islamic scholar. Most of the educational institutions are located far away from my home."* (P04)

Unlike P05, whose preference for Madrasa was explicitly framed around gender segregation, P04's preference is framed around religious identity and aspiration. This distinction is analytically significant: it indicates that religious educational preference in the Fisher Community is not monolithic but operates through at least two distinct logics one gender-conservative and one identity-aspirational. Together, these accounts suggest that Madrasa education in Musapur serves multiple social functions simultaneously: as a gender-segregated alternative for girls, as a carrier of Islamic identity and aspiration for boys, and as a locally available institution filling the vacuum created by the absence of secular schools.

5.4 Institutional Neglect and Policy Gap

All five participants, either explicitly or through their accounts of unmet needs, identified the absence of institutional support from government agencies and non-governmental organizations (NGOs) as a compounding factor in educational exclusion. This theme captures the systemic-level failure to address educational barriers in Musapur and encompasses three sub-themes: the absence of government and NGO programmatic support; low community-level awareness of educational value as a demand-side deficit; and the parental supervision deficit created by occupational demands. Together, these sub-themes reveal that institutional neglect amplifies the impact of all other barriers by removing the external resources through which structural disadvantages might otherwise be buffered.

5.4.1 Absence of Government and NGO Educational Support

The most consistent and emphatic finding across all five participants was the effective withdrawal of both state and civil society from Musapur's educational sphere. Three participants named this absence directly and forcefully. P05 provided the most comprehensive account: *"We don't get any government organisation or non-government organisation for our children education."* (P05)

P02 independently corroborated this account, identifying 'lack of government and NGO support' as a distinct named barrier alongside school absence and transportation deficits. P04 framed the same absence in terms of an unmet need: 'I feel the need for proper government support,' situating the institutional vacuum not as a complaint but as a structural prerequisite for any improvement. The consistency of this finding across participants who differ in age, education, income level, and family composition and who raised it independently and unprompted strongly suggests that institutional absence in Musapur represents a structural policy failure rather than an isolated program gap. Bangladesh's Right to Education Act mandates free and compulsory education for children up to 14 years of age, yet participants' accounts reveal that this legal provision has not been translated into material reality in Musapur, indicating a profound implementation deficit at the level of the state.

5.4.2 Low Community Awareness as a Demand-Side Deficit

P01 introduced a demand-side dimension of institutional neglect that complements the supply-side failures documented above: the low level of community awareness about the importance and value of formal education. P01 identified this as one of three co-equal barriers alongside financial constraints and transportation deficits, framing community awareness not as a personal failing but as a structural feature of an under-resourced and educationally marginalized community. This finding carries an important analytical implication: in contexts where institutional outreach, awareness campaigns, and educational advocacy are absent, demand for formal education may itself be suppressed below its potential level. Institutional neglect therefore produces not only supply-side deficits fewer schools, no NGO programs but also demand-side consequences by allowing community-level unawareness to persist without challenge.

5.4.3 Parental Supervision Deficit and Peer-Mediated Dropout Risk

P03 contributed a distinctive sub-theme that connects occupational demands to educational outcomes through a parental supervision pathway. As a female key informant, P03 observed that fishing schedules create a systematic temporal conflict: parents are at sea or otherwise engaged in fishing activities during school hours, preventing them from monitoring whether children attend school or remain at home. P03's account indicated that 'their fishing schedule prevents them from monitoring their children's attendance,' and that peer group influence fills the supervision vacuum thus created with peers who themselves are not enrolled becoming a proximate cause of irregular attendance and dropout.

This mechanism is analytically important because it reveals a pathway from occupational structure to educational outcome that does not pass through financial cost or infrastructure availability. A child may, in principle, have the resources to attend school and a school to attend, yet still fail to do so because of the absence of parental oversight and the presence of peer-mediated pressure against attendance. Addressing this pathway requires interventions such as school-based attendance monitoring, community mentoring, or structured after-school programs that operate at the level of the child's social environment rather than solely the family's financial situation.

5.5 Pandemic-Induced Educational Disruption

The fifth theme, raised exclusively by P05, captures the acute and compounding impact of the COVID-19 pandemic on educational continuity in Musapur. While this theme rests on a single participant account and therefore cannot be attributed to the full sample, its inclusion is analytically warranted: it represents a qualitatively distinct form of educational disruption temporally bounded and externally imposed that interacted with all four pre-existing structural barriers to produce a near-complete suspension of educational access.

5.5.1 School Closure, Digital Exclusion, and Absence of Emergency Educational Response

P05 described the COVID-19 pandemic's educational impact in terms that reveal a triple failure of response: *"During the COVID-19 period our children's education have been disrupted a lot. They don't have access to online education. We don't get any government organisation or non-government organisation for our children education."* (P05)

The first failure was the school closure itself, which removed an already scarce and distant educational provision. The second failure was the state-mandated shift to online learning, which presupposed household access to devices and internet connectivity that households earning 10,000 BDT per month in a coastal village without reliable electricity infrastructure manifestly did not possess. The third failure was the complete absence of any emergency educational support from government or NGO actors during the pandemic period a period during which many urban and more privileged communities benefited from emergency remote learning support, alternative textbook distribution, and teacher outreach. The pandemic thus operated as a force multiplier for pre-existing marginalization: it exposed and exploited every structural vulnerability identified in Themes 1 through 4, removing school access, rendering digital alternatives inaccessible, and demonstrating the complete absence of any safety net for educationally marginalized communities.

The exclusive attribution of this theme to P05 may reflect differential COVID-19 awareness or willingness to discuss it, or the possibility that the other four participants experienced the disruption as continuous with pre-existing barriers rather than as a distinct crisis. The absence of corroboration does not diminish the analytical significance of P05's account; it does, however, counsel caution against generalizing the pandemic sub-theme across the full sample.

5.6 Cross-Thematic Synthesis

Taken together, the five themes reveal that educational exclusion in the Musapur Fisher Community is a multi-layered, structurally produced phenomenon in which no single barrier operates independently. Socioeconomic vulnerability, established through poverty, debt bondage, and the aspiration–capacity gap, creates the foundational economic conditions under which all other barriers are experienced. Infrastructural and geographic marginalization compounds economic exclusion by making physical access to schooling logistically and financially burdensome even for families with the motivation to attempt it. Cultural norms operating through the gendered mechanisms of occupational socialization, early marriage, co-education conservatism, and religious educational preference produce differentiated trajectories that limit educational attainment particularly for girls and for boys entering the fishing profession early. Institutional neglect removes the external resources schools, programs, financial support, awareness campaigns through which structural disadvantages might be buffered, while simultaneously suppressing the demand for education by allowing community-level unawareness to persist unchallenged. The COVID-19 pandemic represents an acute amplifier of all these vulnerabilities, demonstrating their convergent effect in the absence of any compensatory institutional response.

Notably, a consistent finding across cases is the presence of strong parental educational aspiration that coexists with, rather than contradicting, structural and cultural barriers. This aspiration–capacity gap is analytically significant: it indicates that the community possesses the motivational foundations for educational engagement, and that the deficit is structural rather than attitudinal. This finding also identifies a critical leverage point for intervention: where families want education but cannot access it, targeted removal of structural barriers rather than attitudinal change campaigns constitutes the more empirically grounded policy response.

6 Discussion

This study investigated the educational barriers faced by Fisher Communities in Musapur, Noakhali, Bangladesh, through in-depth qualitative interviews with five community members. The thematic analysis yielded five interlocking themes socioeconomic vulnerability, infrastructural and geographic marginalization, cultural norms and gender inequality, institutional neglect and policy gap, and pandemic-induced educational disruption that together reveal educational exclusion in this coastal Fisher Community as a structurally embedded and multi-dimensionally reinforced phenomenon. The Discussion that follows situates each theme within the existing empirical and theoretical literature, identifies points of convergence with and divergence from prior scholarship, and articulates the contextual, theoretical, and policy implications of these findings. Broadly, this study contributes original qualitative evidence that extends and deepens the established literature on educational barriers in marginalized coastal and rural communities in South Asia, while adding a contextually specific account of how structural, cultural, and institutional forces intersect in a predominantly artisanal Fisher Community a population whose distinct socio-occupational profile has remained under-represented in the education research literature [11–13].

The findings generate a range of practical and policy implications that are directly actionable for government agencies, NGOs, and community stakeholders working on educational equity in Fisher Communities in Bangladesh. The Mahajan debt bondage system requires targeted policy attention as a mechanism of educational exclusion. Microcredit programs, equipment-leasing cooperatives, or government-subsidized fishing equipment provision

could reduce fishermen's dependence on Mahajan lenders, freeing household resources for educational investment. Conditional cash transfer programs linked to school enrollment and attendance similar to those implemented in other Bangladeshi contexts may help offset the direct and indirect costs of schooling [30]. The complete absence of functioning schools within Musapur underscores the urgent need for community-level educational infrastructure investment. As Duflo et al. (2006) demonstrated, school construction and infrastructure improvement generate significant improvements in student outcomes in rural Bangladesh; the present findings suggest that Musapur represents a priority case for such investment, given its extreme institutional scarcity[26]. The conservative co-education norms and early marriage patterns documented in this study suggest that generic co-educational school provision may be insufficient to substantially increase girls' enrollment in Musapur Investment in girls-only secular schools or gender-responsive co-educational programming with explicit attention to community norms—may be required to convert infrastructural provision into actual female enrollment gains. Engagement of religious leaders and community elders in promoting girls' education, particularly through frames that do not require ideological confrontation with conservative norms, may be a productive approach [16]. The unanimous identification of institutional absence as a critical barrier represents an urgent call for government and NGO re-engagement with Musapur's educational sphere. This should include not only school construction but educational awareness programs, teacher deployment, attendance monitoring mechanisms, and emergency support protocols particularly to prevent the type of compound educational crisis documented for the COVID-19 period. Given the parental supervision deficit created by fishing schedules, school timetabling that accommodates fishing household rhythms including adjusted school hours, community-based attendance monitors, or mentoring programs may help reduce peer-mediated dropout risk. Such adaptations are consistent with the call for culturally responsive and contextually adapted educational programming [19]. The COVID-19 findings signal the urgent need for digital infrastructure investment in coastal communities before future crises require a shift to remote learning. Providing electricity access, affordable devices, and community internet hubs would be prerequisite to any future digital educational continuity plan.

This study offers several methodological and substantive strengths that support the credibility and value of its findings. By focusing on a single, geographically distinct Fisher Community, the study generates contextually rich qualitative evidence that general survey-based studies cannot provide. The depth of participant accounts—covering economic, cultural, infrastructural, institutional, and pandemic-related dimensions—reflects the value of an in-depth qualitative design for understanding complex, multi-determined phenomena. Fisher Communities represent a significantly under-researched population in the educational barriers literature. The inclusion of a female participant and key informant (P03) provides gender-specific insight that many studies of this population have lacked. The application of Braun and Clarke's (2006) reflexive thematic analysis framework, combined with a structured codebook and multi-stage coding process, ensures methodological transparency and analytic rigor. The coding matrix, theme development table, and codebook together constitute an audit trail that supports the trustworthiness of the analytic process. The identification of a robust aspiration–capacity gap where parental educational aspiration coexists with structural incapacity represents a conceptually significant finding that challenges deficit-oriented framings of educational marginalization in fisher communities.

7 Limitations of the Study

These findings should be interpreted in light of several methodological limitations. The sample of five participants is appropriate for an in-depth qualitative inquiry but limits the scope of pattern-identification and precludes transferability to all Fisher Communities in Bangladesh or comparable settings. Each community may possess unique socioeconomic, cultural, and infrastructural configurations that alter the relative weight and character of educational barriers. Participants may have shaped their accounts in response to perceived researcher expectations, particularly regarding cultural and gender-related topics. While the use of semi-structured interviews and probing questions mitigates this risk, it cannot be eliminated entirely in face-to-face qualitative research. The single-time-point data collection does not allow for examination of change over time in educational barriers or participant experiences. Longitudinal qualitative designs would offer stronger evidence about the durability and evolution of identified barriers. The pandemic-induced disruption theme rests on the account of a single participant (P05). While analytically included on the basis of its qualitative significance, this theme carries greater uncertainty than themes supported by multiple independent accounts. Interviews were conducted in Bengali and analyzed following translation to English. While the researcher has expertise in both languages, translation inevitably involves interpretive decisions that may not fully preserve nuances of expression present in the original accounts.

8 Conclusion

This qualitative study provides a theoretically grounded and empirically detailed account of the multi-dimensional barriers to educational access in the Musapur Fisher Community in Noakhali, Bangladesh. The five themes identified socioeconomic vulnerability, infrastructural and geographic marginalization, cultural norms and gender inequality, institutional neglect, and pandemic-induced disruption are neither separate nor sequential; they are structurally interlocking forces that collectively produce educational exclusion as a durable condition of Fisher Community life. The study's central contribution lies in its demonstration that this exclusion is not the product of a deficit in community aspirations which are robustly present but of structural, institutional, and cultural forces that convert aspirations into impossibilities without external intervention. In doing so, it extends established frameworks of educational inequality to a contextually distinct and under-studied population, and provides the evidentiary basis for targeted, multi-pronged policy interventions that address the educational barriers of Fisher Communities at their structural roots rather than at the level of individual attitudes or behaviors. Future research should expand the sample across multiple Fisher Communities, incorporate longitudinal designs, and engage gender-specific qualitative methods to deepen understanding of the differential educational experiences of girls and boys in this community and the normative transitions, such as early marriage and occupational socialization, through which those differentials are produced and perpetuated.

Declarations

Data availability statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Funding

This study did not receive any funding support.

Acknowledgment

The authors thank all the study participants.

Author Contributions

M.A.M.R. conceptualized the study, designed the methodology, conducted data curation, performed formal analysis, and contributed to writing, reviewing, and editing the manuscript. M.A.M.R. contributed to the formal study, wrote the original draft, and participated in reviewing and editing the manuscript. Authors M.A.M.R. reviewed and approved the final manuscript for submission.

Conflict of interest

The authors do not have any conflicts of interest.

Clinical Trial Number

Not applicable.

Ethics statement

The authors affirm their unwavering commitment to ethical standards, ensuring that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2013. The study protocol was approved by the Ethical Committee of Noakhali Science and Technology University (Reference no: NSTU/SCI/EC/ 2025/452).

Consent to Participate

Informed consent was obtained from all individual participants included in the study, reaffirming the Authors' commitment to transparency and ethical conduct.

Consent to publish

Not applicable.

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Figures

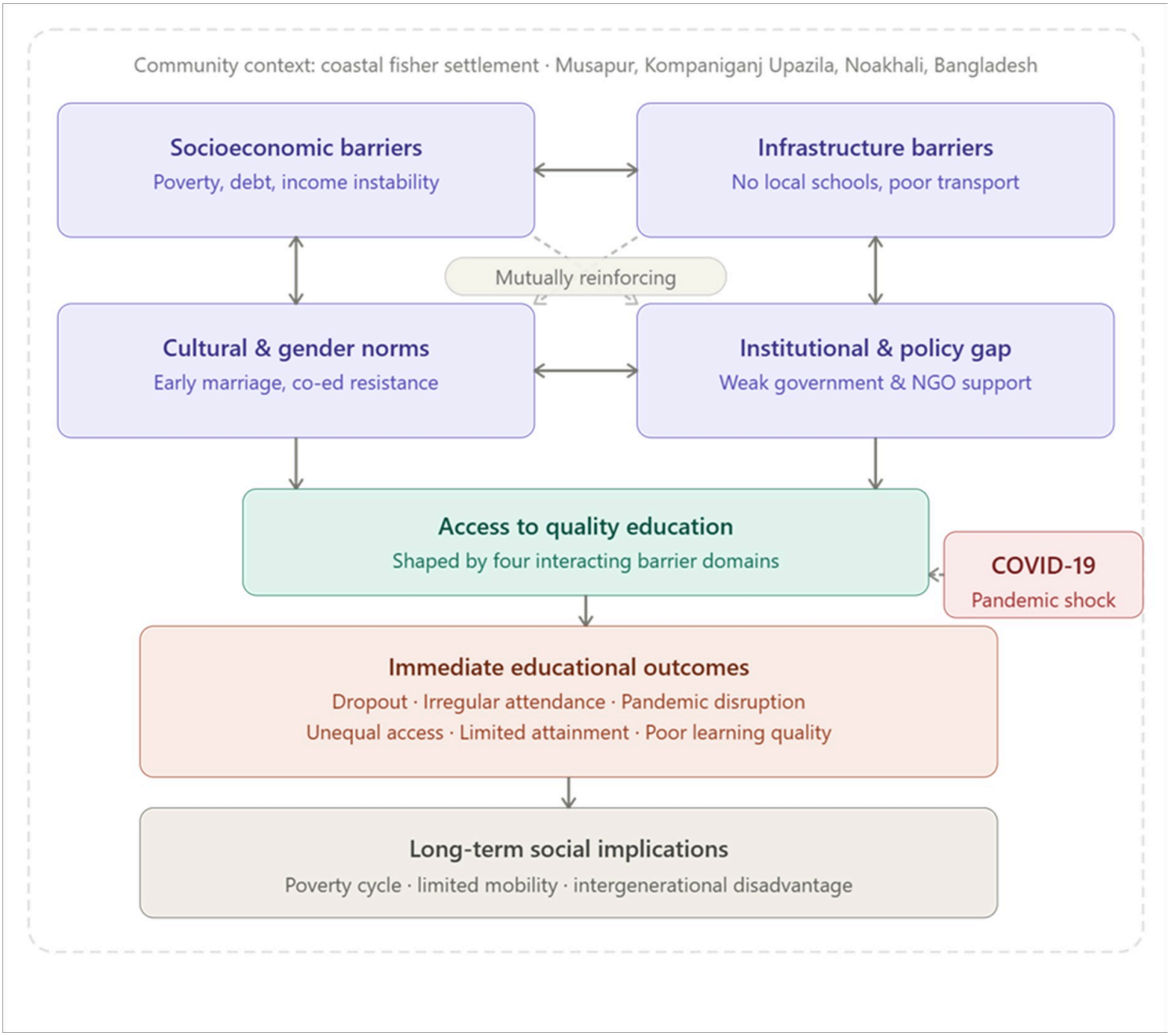


Figure 1

Framework Diagram



Figure 2

Study areas.(Musapur, 2024)

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