

Inception Report
on
**Socio-economic Impact Assessment of LGED's
Interventions in Coastal Areas of Bangladesh**

Submitted to

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Section: 1 Introduction

Of the 30 Agro-Ecological Zones (AEZs) in Bangladesh, the coastal region extends across four AEZs—the Ganges Tidal Floodplain (AEZ 13), Young Meghna Estuarine Floodplain (AEZ 18), Chittagong Coastal Plain (AEZ 23), and St. Martin's Coral Island (AEZ 24). In broader climate and agricultural analyses, the Lower Meghna River Floodplain (AEZ 17) and Old Meghna Estuarine Floodplain (AEZ 19) are also included because of their strong tidal and estuarine characteristics.¹ The coastal region is home to nearly one-third of the country's population and plays a vital role in national economic development. The region contributes significantly to agricultural production, fisheries, aquaculture, trade, and tourism, while simultaneously facing persistent development challenges arising from geographical isolation, inadequate infrastructure, climate-induced hazards, and socioeconomic vulnerabilities. Frequent cyclones, storm surges, salinity intrusion, riverbank erosion, and waterlogging continue to undermine livelihoods, limit access to essential services, and constrain opportunities for sustainable development.

Recognizing these challenges, the Local Government Engineering Department (LGED) has implemented a wide range of infrastructure and connectivity interventions across coastal districts, including rural roads, bridges, culverts, markets, growth centers, cyclone-resilient infrastructures, drainage systems, and other community facilities aimed at improving living conditions and enhancing economic opportunities.

Over the past decades, substantial public investments have been directed towards improving rural connectivity and local infrastructure in coastal Bangladesh. These interventions are expected to generate multidimensional impacts that extend beyond physical infrastructure development. Improved transportation networks and market access can stimulate income-generating activities, facilitate business expansion, increase employment opportunities, and reduce transaction costs for households and enterprises. Enhanced connectivity may also improve access to educational institutions, health facilities, markets, and administrative services, thereby contributing to broader human development outcomes. Further, by strengthening physical infrastructure and reducing geographical isolation, LGED interventions may help communities better withstand and recover from climate-related shocks and stresses.

Despite considerable investments, empirical evidence on the long-term socioeconomic and resilience impacts of LGED interventions in coastal areas remains limited. Existing assessments

¹ <https://www.bamis.gov.bd/en/page/aezs-maps/>

have often focused on project outputs and immediate outcomes, while paying less attention to how infrastructure investments influence household welfare, social inclusion, gender relations, and community resilience over time. Given the increasing importance of climate adaptation and inclusive development in Bangladesh's coastal regions, a comprehensive evaluation of LGED interventions is both timely and necessary.

This study, to be conducted by the Bangladesh Institute of Development Studies (BIDS), seeks to assess the impacts of LGED interventions on key dimensions of household and community well-being. The evaluation will examine the extent to which infrastructure investments have contributed to improvements in income and employment opportunities by facilitating market participation, reducing travel costs, and promoting economic diversification. It will also assess whether improved connectivity and accessibility have enhanced school enrolment and educational participation, particularly among children from disadvantaged households.

In addition, the study will investigate changes in access to essential facilities and services, including markets, educational institutions, health centers, financial institutions, and administrative offices. Particular attention will be paid to understanding how infrastructure improvements have influenced climate resilience by strengthening communities' capacity to prepare for, cope with, and recover from climatic and environmental shocks. Given the heightened exposure of coastal populations to climate risks, understanding these resilience outcomes is of critical policy relevance.

The evaluation will further explore the gender dimensions of infrastructure development. Improved roads and transportation services may enhance women's mobility, enabling greater participation in economic, social, and civic activities. Increased mobility can, in turn, contribute to women's empowerment through expanded access to education, employment, markets, financial services, and decision-making spaces. The study will therefore assess changes in women's agency, participation in household decision-making, control over resources, and engagement in income-generating activities attributable to LGED interventions.

The assessment will also examine impacts on household food security and nutritional well-being. Improved connectivity can facilitate access to food markets, increase agricultural profitability, stabilize food availability, and enhance household purchasing power. Similarly, better infrastructure may improve access to healthcare services by reducing travel time and transportation barriers, thereby influencing healthcare-seeking behavior, utilization of maternal and child health services, preventive care practices, and health outcomes.

By generating robust evidence on these interconnected outcomes, the study will contribute to a deeper understanding of how infrastructure investments can promote inclusive growth, social development, gender equality, and climate resilience in vulnerable coastal regions. The findings will provide valuable insights for LGED, policymakers, development partners, and other stakeholders in designing and implementing future infrastructure programs that maximize development impacts and strengthen the resilience of coastal communities in Bangladesh.

Section: 2 About the Assignment

The objective of this assignment is to undertake a rigorous, policy-relevant socio-economic impact assessment of LGED's infrastructure interventions in the coastal regions of Bangladesh. These areas are characterized by high exposure to climate and disaster risks, a long history of public infrastructure investment, and substantial spatial and socio-economic heterogeneity across districts, upazilas, and communities.

LGED's interventions encompass a diverse portfolio of infrastructure, including transport connectivity (rural roads and bridges), cyclone shelters, growth centers and markets, educational facilities, and water management structures. These investments have been implemented over extended periods and across nearly all coastal districts, often in overlapping phases and varying intensities.

Given this complexity, the assessment aims to go beyond simple outcome measurement to identify the causal pathways through which infrastructure influences livelihoods, resilience, market access, and human development outcomes. It will examine how different types of infrastructure interact with local conditions—such as geography, exposure to shocks, and pre-existing economic structures—to generate heterogeneous impacts across populations and locations.

The study will also place particular emphasis on climate resilience and adaptive capacity, assessing whether and how infrastructure investments have contributed to reducing vulnerability to shocks, improving mobility during extreme events, and strengthening long-term socio-economic outcomes. By integrating spatial, temporal, and socio-economic dimensions, the analysis will generate robust evidence to inform future infrastructure planning, prioritization, and scaling strategies in coastal Bangladesh.

Section: 3 Review of Literature and Contribution

There is mixed global evidence on whether infrastructure has a positive impact on economic growth. Based on an extensive body of literature, Timilsina, Hochman, and Song (2020) find no clear consensus on the impact of infrastructure investment on economic growth. While some studies report a strong positive association between infrastructure development and economic growth, others find only modest effects or no statistically significant relationship. The heterogeneity in findings can be attributed to several factors, including methodological differences, alternative measures of infrastructure, variation in countries' stages of development,

differences in time horizons, and geographical characteristics such as population density (Elburz, Nijkamp, & Pels, 2017; Timilsina, Hochman, & Song, 2020).

At the micro levels, the evidence is more consistently supportive of the welfare-enhancing effects of infrastructure. Improved connectivity—particularly through rural roads—reduces transaction costs, enhances market integration, and facilitates labor reallocation. For example, rural road expansion in India has been shown to increase agricultural producer prices, lower consumer prices, and shift labor away from subsistence agriculture toward higher-return activities (Gautam, Shandal, & Zucker, 2025). Similarly, evidence from Ethiopia shows that improved road access raises real consumption levels and enhances welfare (Anega & Alemu, 2023). In Bangladesh, rural road investments are found to reduce poverty significantly through higher agricultural production, lower input and transportation costs, and higher agricultural output prices at local village markets (Khandker, Bakht, & Koolwal, 2009) but also lead to significant reductions in transport costs and increases in household consumption, with disproportionately larger benefits for poorer households (Khandker & Koolwal, 2010). Large-scale infrastructure investments, such as the Jamuna Multipurpose Bridge, further demonstrate how improved connectivity can increase wages, promote labor mobility, and stimulate regional economic integration (Motaleb & Rahut, 2019).

Infrastructure also contributes to livelihood resilience and structural transformation. Studies using composite indices find a strong positive association between infrastructure provision and households' ability to withstand shocks, although outcomes vary across regions depending on underlying social and economic conditions (Biswas & Sharma, 2025). In Bangladesh, infrastructure influences occupational choices, affecting transitions between farm and non-farm enterprises and shaping income-generating opportunities (Rahman, 2014). Beyond economic outcomes, infrastructure has important social implications. Improved connectivity has been linked to higher school enrollment, reduced child mortality, and shifts in social institutions, including delayed marriage and changing gender dynamics (Gautam, Shandal, & Zucker, 2025).

Since the mid-1980s, LGED has adopted the *Growth Centre Strategy* as part of the national Rural Development Strategy. Rather than improving every rural market, LGED selected strategically located markets (Hat/Bazar) based on population served, transport connectivity, agricultural potential, and service functions. The objective was to create economic nodes that stimulate local economic development while linking villages with district and national markets. However, Arif, Islam, and Islam (2024) show that poor road connectivity results in sub-optimal performance of growth centers and markets. The literature on LGED's market and growth center development is

relatively limited compared with that on rural roads. Nevertheless, studies conducted by BIDS (Yunus, et al., 2022) and several academic researchers consistently conclude that upgrading rural markets and growth centers has generated substantial economic and social benefits through improved market efficiency, increased agricultural commercialization, expansion of non-farm enterprises, and strengthened rural-urban linkages. At the same time, recent studies identify important gaps in infrastructure quality, governance, maintenance, and gender-sensitive facilities.

This study contributes to a limited but important strand of literature on the role of infrastructure in shaping livelihood outcomes in Bangladesh's coastal regions—contexts that remain underexplored despite their high exposure to climatic shocks. While existing research largely focuses on transport infrastructure and aggregate welfare effects, comparatively little work examines a broader set of infrastructure in coastal settings, where cyclones, flooding, and salinity significantly affect both access and functionality. One of the few relevant studies, Akon and Mia (2024), shows that cyclone-affected populations face constraints in accessing shelters due to inadequate connecting roads, poor design features, and the absence of inclusive facilities, highlighting gaps in both accessibility and usability. Similarly, Faruk, Ashraf, and Ferdous (2018) show that the design of the cyclone shelters failed to address the needs of people with disabilities and the older population, gender discrimination, and the specific needs of local farmers.

The capacity to persevere in the face of climatic vulnerabilities is a social attribute: a collective endeavor stewarded by capable agents at particular times and places (Pouliotte, Smit, & Islam, 2009). Measures to preempt or adequately prepare for prospective calamities, therefore, warrant collective action and community-centered mobilization. The required infrastructures—such as cyclone shelters—enable the materialization of collective capabilities for resilience. Infrastructure such as cyclone shelters and embankments has proven vital in saving lives in disaster-prone regions (Paul, 2009). Yet social dynamics—particularly the imbalance of power among socio-economic groups—significantly influence how resource allocation and utilization translate into benefits (Haque & Blair, 1992).

Previous studies underscore that underprivileged segments among vulnerable populations often seek preferential treatment for themselves during crises (Paul, 2009). Infrastructure designed to mitigate suffering may not adequately serve the needs of the most marginalized groups—particularly women of lower socio-economic status.

Building on this gap, the present study assesses the impact of multiple infrastructure types—including roads, bridges, cyclone shelters, and markets/growth centers—on livelihood outcomes and climate resilience in coastal areas. A key contribution lies in the use of GIS-based measures

to capture household-level access by linking household geospatial coordinates to infrastructure locations. It allows for more precise measurement of proximity and effective access, moving beyond administrative proxies. By integrating multiple infrastructure types with spatially explicit analysis, the study provides context-specific evidence on how infrastructure shapes livelihood resilience in coastal Bangladesh.

Section: 4 Objectives of the Assignment

Building on the overarching goal of assessing the development impacts of LGED interventions in Bangladesh's coastal areas, this study seeks to generate rigorous evidence on how public investments in rural roads, bridges, and cyclone shelters have improved the socio-economic well-being and climate resilience of coastal communities. Recognizing that infrastructure investments influence development through multiple and interconnected pathways, the evaluation adopts a multidimensional perspective that considers both direct and indirect impacts on households, communities, and local economies. Specifically, the study will assess the extent to which LGED investments have enhanced livelihoods, income and employment opportunities, educational participation, healthcare-seeking behavior, accessibility to essential services, and mobility among coastal populations. It will examine the contribution of infrastructure to strengthening climate resilience and disaster preparedness in areas highly vulnerable to cyclones, flooding, and other environmental hazards. The study will further investigate the impacts of LGED interventions on gender equality, women's empowerment, social inclusion, and poverty reduction, while examining whether these benefits are equitably distributed across different socioeconomic groups. In addition, the evaluation will identify the broader spillover effects of improved connectivity and infrastructure on local trade, agriculture, fisheries, enterprise development, and employment generation. Finally, drawing on the empirical findings, the study will distill key lessons and formulate evidence-based policy recommendations to enhance the effectiveness, inclusiveness, and resilience outcomes of future LGED infrastructure investments in Bangladesh's coastal regions.

More specifically, the study aims to:

- Assess the extent to which LGED investments have enhanced key development outcomes, including livelihoods, income, education, health, accessibility, and mobility among coastal communities.
- Examine the role of LGED infrastructures in strengthening climate resilience and disaster preparedness, particularly in areas highly exposed to environmental risks.

- Analyze impacts on gender, social inclusion, and poverty reduction, with attention to differential outcomes across population groups.
- Identify spillover effects arising from improved connectivity and infrastructure, including their influence on local trade, agriculture, fisheries, and employment opportunities.
- Distill key lessons and provide actionable recommendations to enhance the socio-economic benefits and resilience outcomes of future LGED interventions.

Section: 5 Scope of the Assignment

In line with the Terms of Reference (ToR), the Bangladesh Institute of Development Studies (BIDS) will undertake a structured and multi-method approach to assess the impacts of LGED's infrastructure interventions in coastal areas. The study design integrates complementary analytical components that jointly enable a comprehensive understanding of both the direct and indirect effects of investments in roads, bridges, cyclone shelters, and related infrastructure. These components include a desk review to establish the evidence base and conceptual framework; baseline reconstruction and comparative analysis to assess changes over time; primary field surveys and stakeholder consultations to generate new empirical evidence; and a detailed impact assessment covering key socio-economic and resilience outcomes. The evaluation further incorporates dedicated gender and social inclusion analysis as well as policy and institutional analysis to ensure that distributional effects and governance dimensions are adequately captured. Together, these interconnected tasks provide a robust foundation for generating credible, policy-relevant evidence on how LGED interventions contribute to development outcomes in Bangladesh's coastal regions.

5.1. Desk Review

The study will begin with a comprehensive desk review to establish the analytical foundation for the impact evaluation. The review will cover relevant LGED project documents, including project appraisal reports, development project proposals, completion reports, monitoring and evaluation reports, and technical documents related to roads, bridges, cyclone shelters, growth centers, and other infrastructure interventions in the coastal districts. It will also examine national policy documents, government publications, survey and census reports, geospatial data, and relevant studies produced by development partners and research organizations.

In addition, the review will synthesize national and international literature on the socio-economic and resilience impacts of rural infrastructure, with particular attention to coastal and climate-

vulnerable areas. It will identify the key outcome indicators, conceptual frameworks, and quantitative and qualitative methodologies used in previous evaluations, including approaches to assessing the impacts of infrastructure on livelihoods, accessibility, climate resilience, gender equality, and social inclusion. The findings will inform the study's conceptual framework, evaluation questions, sampling strategy, survey instruments, and analytical methodology, while helping to identify key evidence gaps that the evaluation will address.

5.2. Baseline Reconstruction and Comparative Analysis

Subject to the availability of historical data, the study will reconstruct baseline conditions for selected intervention areas by compiling and analyzing secondary socio-economic information from LGED records, national surveys, census data, and other relevant sources. Comparable non-intervention or lower-exposure areas will also be identified to facilitate the construction of credible counterfactuals. Using both quantitative and qualitative evidence, the analysis will examine changes in key development outcomes over time and assess the extent to which observed improvements can be attributed to LGED interventions. The findings will provide a historical context for interpreting current impacts and strengthen the robustness of the overall evaluation.

5.3. Field Surveys and Stakeholder Consultations

The study will undertake comprehensive primary data collection to generate evidence on the socio-economic and resilience impacts of LGED interventions in the selected coastal areas. It will include household surveys, focus group discussions (FGDs), and key informant interviews (KIIs) with a broad range of stakeholders, including project beneficiaries, local government representatives, community leaders, women's groups, traders, transport operators, and other relevant actors. The fieldwork will be designed to capture both quantitative and qualitative insights into the outcomes and pathways of infrastructure investments. Particular attention will be given to ensuring adequate representation of different socio-economic groups, including women, poor and marginalized households, persons with disabilities, and other vulnerable populations, to facilitate an inclusive assessment of the distributional impacts of LGED interventions.

5.4. Impact Assessment

The study will assess the impacts of LGED interventions on a broad range of socio-economic and resilience outcomes at the household and community levels. The evaluation will examine changes in income, livelihood diversification, access to markets and essential services, educational participation, healthcare-seeking behavior, mobility, disaster preparedness, and social inclusion. Where feasible, the study will quantify the economic benefits of infrastructure investments by

estimating reductions in travel time and transportation costs, improvements in market accessibility, and increases in trade, employment, and local economic activity. In addition, it will assess community perceptions of climate resilience, disaster preparedness, and adaptive capacity to understand better how LGED interventions have strengthened the ability of coastal communities to cope with and recover from environmental and climatic shocks.

5.5. Gender and Social Inclusion Analysis

The study will conduct a dedicated analysis of gender and social inclusion dimensions to assess how LGED interventions affect different population groups, with a particular focus on women and other vulnerable communities. It will examine the extent to which women benefit from, participate in, and influence the use and management of LGED infrastructure, including roads, bridges, and cyclone shelters. The analysis will also explore changes in women's mobility, access to services, economic participation, and decision-making roles at the household and community levels. In addition, the study will assess how infrastructure investments have contributed to reducing gender disparities and promoting broader social inclusion, empowerment, and equitable access to development opportunities across different socio-economic groups.

5.6. Policy and Institutional Analysis

The study will undertake a policy and institutional analysis to examine the governance and implementation arrangements underpinning LGED's coastal infrastructure interventions and their linkages to observed socio-economic and resilience outcomes. It will include a review of institutional roles, coordination mechanisms, planning and financing processes, and maintenance systems relevant to roads, bridges, cyclone shelters, and related infrastructure. The analysis will also consider how effectively current institutional arrangements support equity, efficiency, and sustainability in service delivery. Based on the empirical findings and identified gaps, the study will provide evidence-based recommendations for strengthening project design, planning, and monitoring frameworks, including the integration of socio-economic, gender, and climate resilience indicators into future LGED programs and investment decisions.

Section: 6 Key Challenges and Way Forward

A key methodological challenge in this assignment is the lack of pre-intervention baseline data for a representative sample, which limits straightforward before–after comparisons. At the same time, the near-universal coverage of LGED infrastructure across coastal areas makes it difficult to identify clean treated and untreated groups, thereby constraining the use of experimental designs or simple treated–control comparisons. These features of the context necessitate a carefully structured quasi-experimental strategy, complemented by mixed methods, that can credibly isolate the effects of infrastructure investments.

In response, the proposed methodology adopts an integrated approach that leverages spatial variation in exposure to LGED interventions, combines multiple data sources (household, community, administrative, and geospatial), and explicitly acknowledges and addresses identification challenges. The analytical framework brings together GIS-based measures of infrastructure proximity and intensity, propensity score matching (PSM) to construct comparable groups, and regression analysis to control for observable differences, alongside qualitative inquiry to understand mechanisms and contextual dynamics.

This combination of methods enables the study to move beyond descriptive analysis and generate credible, policy-relevant evidence on the socio-economic impacts of infrastructure, including effects on livelihoods, market access, and resilience to climate risks. It also allows for the identification of spillover effects and heterogeneous impacts across locations and population groups. Importantly, the approach is designed to remain fully consistent with the ToR, ensure transparency in assumptions and limitations, and strengthen the robustness of the findings.

Section: 7 Approach and Methodology

A wide range of methodologies has been employed to estimate the causal impact of infrastructure on livelihoods and related outcomes. These include two-stage least squares (Gautam et al., 2025), panel data approaches with household fixed effects (Khandker & Koolwal, 2010), difference-in-difference designs (Qin, Wu, & Shan, 2022), and proximity-based measures combined with year and region fixed effects (Banerjee, Duflo, & Qian, 2020). However, these approaches typically rely on panel data or exogenous variation for identification—neither of which is available in the present study. Therefore, we plan to employ a mixed-methods evaluation framework, combining quantitative and qualitative approaches to capture both measurable outcomes and the mechanisms underlying impact. The quantitative component will focus on

estimating the relationship between exposure to LGED infrastructure and key socio-economic outcomes, using quasi-experimental techniques to strengthen causal interpretation. Complementing this, qualitative methods will explore community experiences, behavioral responses, and dimensions of gender and social inclusion that are not easily captured through survey-based data alone.

A central feature of the proposed approach is the integration of geospatial analysis to accurately link households and communities to specific LGED infrastructure assets. Instead of relying solely on administrative boundaries or simple treated–control classifications, the study will construct continuous measures of infrastructure exposure based on proximity (following Banerjee, Duflo, and Qian, 2020), as well as the density, type, and duration of investments. This approach is particularly appropriate for coastal Bangladesh, where infrastructure is widely present but varies significantly in its intensity, accessibility, and functional role.

In line with the ToR, the methodology also introduces targeted refinements to enhance analytical clarity. Specifically, it will distinguish between direct effects, indirect spillover impacts, and resilience-related outcomes, while systematically integrating gender and poverty considerations across all stages of analysis, rather than treating them as isolated components.

7.1 Quantitative Methodology

A central element of the methodology is the integration of geospatial data to link surveyed households and communities with LGED infrastructure. GPS coordinates will be collected during household and community surveys and systematically matched with georeferenced datasets of LGED assets, including cyclone shelters, growth centers and markets, roads, bridges, and water resource management facilities.

Based on these spatial linkages, the study will construct a set of infrastructure exposure indicators, including (i) distance to the nearest LGED infrastructure facility, disaggregated by type, (ii) density of LGED infrastructure within defined geographic clusters, (iii) type and functional classification of nearby infrastructure, and (iv) duration since the establishment of major infrastructure assets, subject to data availability. These indicators enable continuous and multidimensional measurement of exposure, moving beyond simple binary classifications. This approach allows the analysis to capture gradients of access and intensity, as well as heterogeneous effects across households and locations.

Since the Difference-in-Differences (DiD) estimation is not feasible without representative baseline data, the study will adopt a cross-sectional quasi-experimental strategy, combining

regression analysis with PSM to address potential selection bias arising from the non-random placement of infrastructure. The core empirical model can be expressed as:

$$Outcome_{ic} = \beta_0 + \sum_{d=1}^n \beta_{1d} LGED_{cd} * Time_{cd} * distance_{icd} + \beta_2 Indiv/HH_{icd} + \beta_3 cluster_c + \beta_4 distance_{icd} + \beta_4 LGED_{cd} + \varepsilon_{ict}$$

Here, $Outcome_{ic}$ is the outcome variable (such as income, education, health, climate resilience and disaster preparedness, mobility, etc.) of household i from cluster c in each regression; $LGED_{cd}$ is the particular LGED intervention in cluster c - there will be separate variables for each LGED intervention; $Time_{cd}$ is how long a particular intervention has been in the cluster; $cluster_c$ is a vector of cluster characteristics (this data will come from the community survey); $distance_{icd}$ is the distance of household i from the intervention d ; and ε_{icd} is the error term. This model considers the types of LGED interventions, their duration, and distance to them to estimate their impact.

One concern with this specification is potential endogeneity: LGED interventions may be correlated with regional characteristics that also influence the outcome variables, leading to biased estimates. To address this, we propose constructing a comparison group based on observable characteristics using the PSM score. Building on Rosenbaum and Rubin (1983) and Abadie and Imbens (2016), the PSM will be used to create appropriate control groups and estimate the causal impact of LGED infrastructure.

Specifically, households and communities with higher exposure to LGED infrastructure will be matched to those with lower exposure based on a rich set of covariates, including demographic composition, educational attainment, asset ownership, poverty status, and relevant geographic attributes. The matching procedure will employ alternative algorithms—such as nearest neighbor and kernel matching—and standard balance diagnostics will be conducted to assess the quality and robustness of the matches. This approach is somewhat similar to that of Ahmed and Hossain (1990), who divided villages into two groups based on exposure to a range of infrastructure components, such as roads, bridges, markets, and social services. However, their approach was less effective at addressing potential endogeneity concerns. In contrast, our proposed PSM method is likely to partially mitigate endogeneity by matching villages/clusters based on observable characteristics.

The resulting matched samples will then be used to estimate average treatment effects of infrastructure exposure on key socio-economic outcomes, including livelihoods, income

generation, access to essential services, mobility, and indicators of disaster preparedness and climate resilience.

Following the construction of the matched sample using the PSM, the impact of LGED infrastructure will be estimated using the following regression model:

$$Outcome_{ic} = \beta_0 + \beta_1 LGED_c + \beta_2 X_{ic} + \varepsilon_{ic}$$

Where, $Outcome_{ic}$ represents the outcome variable for individual or household i residing in cluster c . The key explanatory variable, $LGED_c$, is a binary indicator equal to 1 if the household belongs to a high-LGED-infrastructure cluster, and 0 otherwise. The vector X_{ic} includes a rich set of control variables at the individual, household, and cluster levels. These typically include demographic characteristics (such as age, gender, and household size), socioeconomic indicators (including education, asset ownership, and poverty status), and relevant geographic or community-level attributes. The coefficient of interest, β_1 , captures the average effect of exposure to high LGED infrastructure on the outcome variable, conditional on observable characteristics. Since the estimation is conducted on a matched sample, where treated and control units are balanced on observed covariates, β_1 can be interpreted as the average treatment effect on the treated (ATT) under the assumption of selection on observables. Standard errors are estimated using robust methods and, where appropriate, clustered at the relevant geographic level to account for intra-cluster correlation.

Finally, we will employ quantile regression analysis to explore potential non-linear and heterogeneous effects of LGED infrastructure on the outcome variables. Unlike conventional mean regression approaches, quantile regression allows us to examine whether the impacts of infrastructure vary across quantiles of the outcome distribution. In particular, this approach will help identify whether LGED infrastructure has differential effects across different quantiles of poverty, food insecurity, and climate resilience outcomes. It will provide a more nuanced understanding of how infrastructure investments affect households and communities situated at different points of the socioeconomic and vulnerability distribution.

7.2 Outcome Variables

We plan to estimate the impact of infrastructure on several outcome indicators. Some of them include monetary poverty, income and employment, school enrolment, access to facilities, climate resilience, women's mobility and empowerment, food security, health care seeking behavior, etc.

- **Poverty:** Poverty is included as a core welfare indicator to assess whether LGED infrastructure investments contribute to sustained improvements in household living standards and reductions in economic deprivation in coastal areas.
- **Income and employment:** Income and employment are key channels through which infrastructure affects livelihoods by reducing transaction costs, improving market access, and enabling diversification into non-farm activities.
- **School enrolment:** School enrolment is included because improved connectivity and reduced travel time to educational institutions can directly influence children's access to and participation in schooling.
- **Access to facilities:** Access to facilities is a critical outcome as infrastructure improvements are expected to reduce physical barriers to essential services such as markets, health centers, financial institutions, and administrative services.
- **Climate resilience:** This is included to capture the extent to which infrastructure investments reduce vulnerability and enhance households' and communities' ability to prepare for, cope with, and recover from climatic shocks.
- **Women's mobility:** Women's mobility is included because transport infrastructure can significantly reduce physical and social constraints that limit women's ability to travel for education, work, healthcare, and markets.
- **Women's empowerment:** Women's empowerment is included to assess whether improved mobility and access translate into greater decision-making power, economic participation, and control over resources.
- **Food security:** Food security is included because improved infrastructure can enhance food availability and affordability by improving market integration, increasing incomes, and reducing supply chain inefficiencies.
- **Health care seeking behavior:** This is included to examine whether improved accessibility reduces delays and costs in accessing preventive and curative health services, particularly in remote coastal areas.

7.3 Quantitative Sample Design

The study will adopt a multi-stage stratified sampling design to ensure adequate representation across varying levels of coastal exposure and geographic diversity. The sampling frame covers 147 coastal upazilas across 19 districts in Bangladesh, comprising 48 exposed and 99 interior

upazilas (see Annex A for the digitized geographic locations of the exposed and interior upazilas on the map). In the first stage, 45 upazilas will be randomly selected, stratified by coastal type to ensure a balanced representation between exposed and interior areas, while also preserving coverage across different coastal regions.

In the second stage, villages and households will be selected for primary data collection. From each of the 45 selected upazilas, two primary sampling units (PSUs) called enumeration areas (EAs) will be sampled, for a total of 90 PSUs. The selection of enumeration areas or clusters will be carried out in collaboration with the Bangladesh Bureau of Statistics (BBS). Within each selected PSU, 25 households will be selected using systematic random sampling from a household listing, yielding a total sample of 2,250 households (90 PSUs × 25 households).

In addition to the household survey, a community-level survey will be conducted in each of the 90 sampled PSUs to capture information on local infrastructure, community characteristics, and contextual factors that shape socio-economic outcomes and resilience.

7.4 Qualitative Approach and Sample Design

The qualitative component is designed to complement quantitative analysis by capturing the processes through which LGED's interventions generate impact. Using a combination of Focus Group Discussions (FGDs), Key Informant Interviews (KIIs), and Case Studies, the study will provide collective insights, nuanced perspectives, and illustrative examples of long-term outcomes. This mixed-method approach strengthens robustness by triangulating evidence across different sources and respondent groups, ensuring methodological rigor and policy relevance.

Focus Group Discussions (FGDs)

Focus Group Discussions (FGDs) will be conducted across coastal districts where quantitative will be collected, each FGD with approximately 8–10 participants selected to ensure diversity by gender, socio-economic background, and geographic exposure. Groups will be balanced between exposed and interior upazilas, as well as tidal and salinity-affected regions. Gender parity will be maintained wherever possible. FGDs will generate collective insights into community experiences, highlighting shared challenges, opportunities, and adaptive strategies linked to LGED's interventions.

Key Informant Interviews (KIIs)

Similarly, KIIs will be undertaken with individuals identified during FGDs and through snowball sampling. These informants will include local leaders, technical experts, service providers, and

community representatives with specialized knowledge or lived experience of LGED's infrastructure projects. KIIs will provide deeper, nuanced perspectives on institutional processes, community-level impacts, and the broader socio-economic implications of interventions, complementing the collective narratives from FGDs.

Case Studies

Finally, Case studies will be developed to document illustrative examples of LGED's long-term impacts. These will be drawn from FGDs and KIIs, focusing on both exemplary successes and areas requiring policy attention. Case studies will highlight the experiences of underserved groups—including persons with special needs, artisanal fishers, and small agri-entrepreneurs—ensuring that the analysis captures equity dimensions and community aspirations.

Together, these FGDs, KIIs, and Case Studies form a coherent qualitative strategy that captures collective voices, expert insights, and lived experiences. This triangulated design ensures that findings are both credible and inclusive, providing a rich evidence base to inform policy decisions and enhance the responsiveness of future LGED interventions in coastal Bangladesh.

7.5 Stakeholder Consultations

Based on the findings from the desk review, field surveys, FGDs, KIIS, and case studies, which will ultimately lead to a comprehensive impact assessment, BIDS will prepare a draft report presenting the methodology, key findings, conclusions, and policy recommendations of the study. The draft report will be shared with LGED and other relevant stakeholders for review and validation through validation workshops and/or consultation meetings. Participants are expected to include representatives from LGED, relevant government ministries and agencies, local government institutions, development partners, academia, civil society organizations, private-sector representatives, and community stakeholders from the coastal regions. The validation process will provide an opportunity to verify findings, solicit feedback on interpretations and recommendations, and ensure that the conclusions accurately reflect field realities and stakeholder perspectives. Feedback received during the validation process will be carefully reviewed and, as appropriate, incorporated into the final report to enhance its analytical rigor, policy relevance, and practical applicability.

Section: 8 Work Plan of the Assignment

Following submission and approval of the Inception Report, the study will be implemented over a subsequent 10-month period, structured to ensure rigorous analysis, efficient field execution, and timely delivery of outputs.

The first phase (Months 1–4 after inception) will focus on finalizing instruments, conducting pilot testing, and collecting primary data, including household and community surveys as well as qualitative fieldwork (FGDs, KIIs, and Case Studies). This phase will incorporate close field supervision, back-checks, and real-time data quality assurance. The second phase (Months 5–7) will involve data cleaning, integration of geospatial datasets, and detailed quantitative and qualitative analysis, including the construction of infrastructure exposure measures and implementation of the proposed econometric techniques.

The final phase (Months 8–10) will be dedicated to report preparation, validation, and submission. A Draft Report will be prepared and shared with LGED for review, followed by stakeholder consultations to validate key findings. Based on feedback, the study team will finalize and submit the Final Report, along with cleaned datasets, technical annexes, and policy-relevant outputs. This phased plan ensures a coherent progression from data collection to analysis and reporting, while maintaining flexibility for iterative feedback and quality assurance. The following Gantt chart presents the activities and deliverables.

Table 8.1: Work Plan of the Activities and Deliverables

N	Activity	Months														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Inception Report	■	■													
2.	Draft Survey Instruments		■	■												
3.	Piloting of Survey Instruments			■												
4.	Data Collection				■	■										
5.	Data Cleaning					■	■									
6.	Survey Report						■	■	■							
7.	Data Analysis						■	■	■	■						
8.	Draft Report										■					
9.	Stakeholders Seminar										■	■				
10.	Final Report												■	■		
11.	Final Dissemination															■

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Annex B: Draft Household Questionnaire

Confidential

(For research purposes only)



**Bangladesh Institute of Development Studies (BIDS)
E-17 Agargaon, Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh**

Socio-economic Impact Assessment of LGED's Interventions in Coastal Areas of Bangladesh

Household Survey Questionnaire

A. Basic Information of the Household

A.01. Name of the Respondent: _____

A.02. District: _____

--	--

A.03. Upazila: _____

--	--

A.04. Union: _____

--	--	--

A.05 Village: _____

--	--	--

A.06. Para/Mohalla: _____

A.07. Important Landmark near the Household: _____

A.08. Respondent's Relationship with Household Head[§]

--	--

A.09. Name of HH Head: _____

A.10. Father's/Husband's Name of the HH Head: _____

A.11. Mobile Phone Number of the Household Head:

0	1										
---	---	--	--	--	--	--	--	--	--	--	--

A.12. How long has the household (Household Head) been living in the present residence?

--	--	--

 Year.

§ Note: Use the relationship code from B.1.03 for the relationship with the HH Head

B. Household Roaster: (For all members)

B.1.01	B.1.02	B.1.03	B.1.04	B.1.05	B.1.06	B.1.07	B.1.08
MID	Name of the household members (including respondent)	Relationship with HH Head (code)	Sex (Male=1, Female=2)	Age (Years)	Marital Status (code)	Year(s) of schooling completed (code)	Current employment status (if engaged in more than one activity, list the one that gives the highest compensation) (code)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Codes for Section B

B.1.03: Relationship with HH Head		B.1.06: Marital status		B.1.07: Schooling years completed			
Self	1	Son-in-law/Daughter-in-law	7	Unmarried	1	In grade 1 in public/private/NGO school/Madrasa	0
Husband/Wife	2	Brother-in-law/Sister-in-law	8	Married	2	Completed grade 1/In grade 2 in public/private/NGO school/Madrasa	1
Son/Daughter	3	Grandson/Granddaughter	9	Widow/widower	3	Completed grade 2/In grade 3 in public/private/NGO school/Madrasa	2
Brother/Sister	4	Nephew/Niece	10	Separated	4	Completed grade 3/In grade 4 in public/private/NGO school/Madrasa	3
Father/Mother	5	Other Relative	11	Divorced	5	Completed grade 4/In grade 5 in public/private/NGO school/Madrasa	4
Father-in-law/Mother-in-law	6	Other Non-relative	12			Completed grade 5/In grade 6 in public/private school/Madrasa	5
						Completed grade 6/In grade 7 in public/private school/Madrasa	6
						Completed grade 7/In grade 8 in public/private school/Madrasa	7
B.1.08: Current employment status							
Wage employment in the farm sector				1		Completed grade 8/In grade 9 in public/private school/Madrasa	8
Wage employment in the non-farm sector				2		Completed grade 9/In grade 10 in public/private school/Madrasa	9
Salaried employment				3		Completed grade 10 (passed SSC/equivalent)/In 1 st Year (grade 11,10 in College/Diploma/Madrasa	
Self-employment in the farm sector (agriculture, livestock, poultry, fishery, orchard/forestry, etc.)				4		In 2 nd Year (grade 12) in College/Diploma/Madrasa	11
Self-employment in the non-farm sector (owner of industry, manufacturing, processing, retail stores, trading, etc.)				5		Completed grade 12 (passed HSC)/In BS/BS (Hons.) 1 st year/Diploma 3 rd Year.	12
Transport owner/transport business				6		In BS/BS (Hons.) 2 nd year/Diploma 4 th Year.	13
Fisherman				7		Completed 2-year BS/In 3 rd year of a 3 or 4-year BS/ Passed Diploma	14

Skilled trades (carpentry, masonry, weavers, etc.)	8	Completed 3-year BS/ In 4 th year of a 4-year BS program	
Various repair work	9	(Engineering/ MBBS)/In MS 1 st year after completion of 3-year BS	15
Contractor	10	Completed 4-year BS (Engineering/MBBS)/In MS 1 st year after completion of 4-year BS/In MS 2 nd year after completion of 3-year BS	16
Hawker/barber	11		
General business	12	In MS 2 nd year, after completion of 4-year BS / Completed MS program after completion of 3-year BS	
Tailor	13		17
Self-employed professional/specialist (doctor, nurse, spiritual healer, lawyer, tutor, religious imam/priest, etc.)	14	Trade course (Vocational Training)	88
		No schooling	99
Other self-employment	15		
Domestic help	16		
Pensioner	17		
Housewife	18		
Student	19		
Disable/Old age	20		
Unemployed	21		
Child	22		
Others	23		

D. Schooling (for the concerned members) Copy MID for members from Section B.1.01, **currently students at schools/madrasas/colleges**

D.01	D.02	D.03	D.04	D.05a	D.05b	D.06a	D.06a
MID	Type of Institution (Code)	Distance (km)	Mode of travel (Code)	One-way travel time (minutes) in dry seasons	One-way travel time (minutes) in the rainy season	One-way travel cost (Tk.) in dry seasons	One-way travel cost (Tk.) in the rainy season

D.02: Type of Institution (Code): Primary school/Madrassa/NGO school=1, Secondary school/Madrassa=2, College/Madrassa/TVET centers=3, University College/University=4, Other (specify) _____=5

D.04. Mode of Travel (Code): On Foot=1, Rickshaw/van/bicycle=2, Easy bike/CNG/Nasiman/Karimon/Bhotbhoti=3, Bus=4, Boat=5, Engine boat=6, More than one mode=7, Other (specify) _____=8.

E. Housing, Water, and Sanitation

<p>E.01. Ownership of the house <input type="checkbox"/> Owned=1, Rented/Leased=2, No Rent=3</p> <p>E.02. Number of rooms in the dwelling house, not including the kitchen and cow shed <input type="text"/> <input type="text"/></p> <p>E.03 Material used for floor <input type="text"/> <input type="text"/></p> <p>E.04 Material used for the wall <input type="text"/> <input type="text"/></p> <p>E.05 Material used for the roof <input type="text"/> <input type="text"/></p> <p>E.06. If owned, total value of the dwelling house (excluding the value of land) Tk. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>	<p>E.07 Type of latrine the household members use <input type="checkbox"/></p> <p>E.08. Main source of drinking water for the household <input type="text"/> <input type="text"/></p> <p>E.09. Do you have access to electricity? <input type="checkbox"/> Yes=1, No=2</p> <p>E.10. If yes, what is the source of electricity? <input type="checkbox"/> Grid=1, Solar Home System=2, Other=3</p> <p>E.11. If yes, duration of connectivity <input type="text"/> <input type="text"/> <input type="text"/> Months</p>
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E.03, E.04, and E.05: Materials for floor, wall, and roof									
Mud	1	Bamboo	2	Thatched/Straw	3	Jute stick	4	Timber	5
CI sheet (Tin)	6	Brick/Cement	7	Tally	8	Nothing (remain open)	9	Other (specify) _____	10
E.07: Type of latrines used by HH members					E.08: Source of drinking water				
Sanitary latrine with septic tank	1	Ring slab (water sealed)	2	Tube well (arsenic contaminated)	1	Supply water (piped water)	6	Deep tube well	7
Ring slab (water not sealed)	3	Ordinary pucca	4	Tube well (no arsenic contamination)	2	Shallow tube well	8	Ring well	9
Kancha (without septic tank)	5	Bush/open space	6	Tube well (arsenic contamination not checked)	3	Other (specify) _____	10	Artisan well	5
Other (specify) _____	7			Pond/river/canal					

F. Household assets

F.1. Land and other real estate assets

SI.	Description	Size (decimals)	Current value (Tk.)
B.1.01	Homestead land		
B.1.02	Other land(Agricultural, Non-agricultural, Others)		
B.1.03	Buildings/structures/godowns/warehouses/shops (used for own income generation activities, residential purpose, commercial purpose, others)		

F.2. Agricultural, Non-agricultural, and Transport equipment

SI.No.	Description	Current value of Ownership share (Tk.)
B.2.01	Agricultural equipment (Irrigation pump, Power tiller, Tractor, etc.)	
B.2.02	Non-agricultural equipment (Hand tube well, Rice/flour mill, Handloom/power loom, Fishing boat, etc.)	
B.2.03	Transport equipment (Motorcycle, Bicycle, Boat, etc.)	
B.2.04	Other equipment (specify)	

F.3. Other Assets & Debt

Sl. No	Items	Description	Current value (Tk.)
B.3.01	Industrial and business asset	Furniture, appliances, utensils, etc.	
B.3.02	Household Items and Furniture	Ornaments/jewelry, bed frame, table/chair, cloth hanger (ulna), almirah/wardrobe/chester drawer, dressing table/dresser, showcase/meat safe, sofa set, radio/2-in-1, TV (BW or color), charger lights/charger lanterns, charger fans, mobile phone sets (of all HH members), sewing machine, watches, clocks, cooking utensils, etc.	
B.3.03	Livestock, fish, and trees	Cows/buffalos, calves, goats/sheep, kids/lambs, chicken/duck/pigeon/quail, other animals, fish (in own ponds), timber trees, fruit trees, bamboo grove, kitchen or flower garden, other trees, etc.	
B.3.04	Financial asset	Savings in commercial banks, microcredit organization, deposit pension scheme, bonds/insurance scheme/wage earners' scheme/post office, informal organizations/cooperatives, shares/stocks (current value), money invested in other ways, savings or loans to other individuals, cash in hand, land mortgaged in/leased in, etc.	
B.3.05	Debts	Debt with commercial banks, microcredit loans, informal lenders/mahajans, with friends/relatives, goods purchased on credit, assets mortgaged, other debts, etc.	

H. Household Income

H.1. Costs and Returns on Crop Production [Last 12 months]

H1021	H1022	H1023		H1024		H1025		H1026	
ID.	Description	Crop 1		Crop 2		Crop 3		Crop 4	
1.	Name of the crop								
2.	Crop code								
3.	Area planted (decimal)								
4.	Land type (code)								
5.	Soil fertility (code)								
6.	Area Irrigated (decimal)								
7.	Mode of irrigation water (code)								
	Costs and Returns	Quantity	Unit/Total Value (Tk.)	Quantity	Unit/Total Value (Tk.)	Quantity	Unit/Total Value (Tk.)	Quantity	Unit/Total Value (Tk.)
8.	Own Labor* (person days)								
9.	Hired Labor*(person days)								
10.	Animal labor (pair-day)								
11.	Power tiller (Tk.)								
12.	Seed/seeding (Tk.)								
13.	Fertilizer (kg)								

14.	Pesticide (Tk.)								
15.	Irrigation water (Tk.)								
16.	Transport Cost (Tk.)								
17.	Thrashing Cost (Tk.)								
18.	Other Costs (Bamboo, fencing, etc.) (Tk.)								
19.	Production of main product (maund/40 kg)								
20.	Amount of main product sold (maund/40kg)								
21.	Amount sold in local market (maund/40kg)								
22.	Production of by-product (Tk.)								
23.	Amount of by-product sold (Tk.)								
24.	Amount sold in local market (Tk.)								

*Own and Hired labor employed for (i) Land Preparation, (ii) Sowing/planting, (iii) Weeding, (iv) Applying Fertilizer, (v) Applying Pesticide, (vi) Harvesting and carrying, and (vii) Thrashing and winnowing, etc.

Crop Codes: Aus=1, Aman=2, Boro=3, Aromatic Rice=4, Wheat=5, Maize=6, Brinjal=7, Potato=8, Sweet potato=9, Bitter gourd=10, Cabbage=11, Cauliflower=12, Teasel gourd=13, Sweet gourd/squash=14, Bottle gourd=15, White gourd=16, Sponge gourd=17, Snake gourd=18, Ribbed gourd=19, Okra/lady's finger=20, Bean=21, French bean=22 Spinach=23, Red Amaranth=24, Kalmi=25, Danta=26, Colocassia=27, Tomato=28, Cucumber=29, Carrot=30, Water melon=31, Melon=32, Papaya=33, Banana=34, Lentil=35, Gram=36, Black gram=37, Mung bean=38, Pea bean=39, Mustard=40, Sun flower=41, Sesame=42, Green Chili=43, Onion=44, Ginger=45, Garlic=46, Turmeric=47, Jute=48, Tobacco=49, Sugarcane=50, Betel leaf=51, Other=52.

Land Type Code: High land = 1, Medium high land = 2, Medium = 3, Medium low land = 4, Low land = 5, Very low land = 6

Soil Fertility Code: Poor = 1, Medium = 2, Good = 3

Mode of Irrigation Code: Deep tube well = 1, Shallow tube well = 2, Low lift pump (LLP) = 3, Treadle pump =4, Tara pump =5, Traditional = 6, Other = 7

.H.2. Income from off-farm activities [Without Inland Capture Fisheries]

H201	H202	H203
ID.	Description	Total Value (Tk.)
1.	Receipt from the sale of livestock and poultry during the last 12 months	
2.	Receipt from renting out livestock (rent out for cultivation, bullock cart, etc.)	
3.	Receipt from the sale of animal products, including meat, milk, eggs, leather, butter/ghee, dung/roost, etc., during the last 12 months	
4.	Value consumed from own livestock, poultry, and other animal products during the last 12 months	
5.	Costs incurred in livestock and poultry rearing, fodder, vaccination, and processing during the last 12 months	
6.	Value of fish sold during the last 12 months (own aquaculture)	
7.	Value of consumed fish caught from own sources during the last 12 months	
8.	Cost of fish rearing and other costs related to fish production during the last 12 months	
9.	Value of own tree sold during the last 12 months	
10.	Value of timber or firewood used from own tree during the last 12 months	
11.	Value of fruits, vegetables, and plants sold from own trees during the last 12 months	
12.	Value of fruits, vegetables, and plants consumed from own trees during the last 12 months	
13.	Cost of production of fruits, vegetables, and plants during the last 12 months	

14.	Value of Captured Inland Fisheries (Tk)	
15.	Cost Associated with Capturing Inland Fisheries (Tk)	

H.3 Income and Expenditure on non-farm activities

H301	H302	H303
ID.	Description	Total Value (Tk.)
1.	Value of sold products and services from own non-farm enterprises ¹ during the last 12 months	
2.	Cost incurred in the above-mentioned non-farm enterprises, including raw materials and processing, during the last 12 months	
3.	Cost incurred in the above-mentioned non-farm enterprises for hired labor during the last 12 months	
4.	Cost incurred in the above-mentioned non-farm enterprises for rent during the last 12 months	
5.	Cost incurred in the above-mentioned non-farm enterprises for other purposes (storage, insurance, interest payment, etc.), and insurance during the last 12 months	
6.	Income from transport ² operations and service during the last 12 months	
7.	Transport, maintenance, and repair costs during the last 12 months	
8.	Income from various professional or independent contracting ³ during the last 12 months	
9.	Cost incurred from various professional or independent contracting during the last 12 months	

¹ Factory, industrial organization, cottage industry in a specific area, processing, handicrafts, blacksmith, potter, goldsmith, carpenter, tailor, hairdresser, laundry, shop for selling farm and non-farm products, restaurant, repair shop, petrol pump, service providing commercial organization, pharmacy, mobile/cell and recharge shop, etc.

² Bus, truck, microbus, pick-up van, motorcycle, CNG, tempo, rickshaw/van/easy bike/CNG/nasiman/kariman, push cart, boat/motor boat, etc.

³ Doctor, advocate, teacher, and other self-employed professionals, village doctor/kabiraj/quack, marriage registrar, midwife/nurse, carpenter, handyman, technician, electrician, etc.

H.4. Have you sold any products produced in your household during the last 12 months? Yes=1, No=2

H.5. If yes, have you faced any problems in selling the products produced during the last 12 months? Yes=1, No=2

H.6. If yes, what type of problems did you face? (multiple responses possible)

Code: Low price=1, Transport problem=2, lack of good roads=3, lack of capital=4, lack of customers=5, lack of storage facilities=6, credit sale=7, problem related to water supply problem=8, problem related to electricity supply=9, problem related to raw materials=10, other (specify)_____ =11

H.4 Income from other sources, pension benefit, savings and investment (Last 12 months)

H401	H402	H403
ID.	Description	Total Value (Tk.)
1.	Income from savings scheme during the last 12 months	
2.	Income from prize bonds, lottery, stocks/shares during the last 12 months	
3.	Income from pension/gratuity during the last 12 months	
4.	Income from other miscellaneous sources (savings, interest, raffle draw, etc.) not mentioned above during the last 12 months	
5.	Income from remittance during the last 12 months	
6.	Income from social safety net programs ¹ during the last 12 months	
7.	Income from other sources	

¹ FFW/CFW, FFE, VGD, VGF, Family Card, Farmers Card, Old age allowance, freedom fighter allowance, village development program, employment for 100 days program, etc.

J. Household Expenditures

J.1. Expenditures on food items (Consumption at home during last 7 days)

J101	I102	J103	J104	J105	J106	J107	J108	J109
ID.	Food items	Unit	Consumption from Own Production		Consumption from Market Purchase		Consumption from Gift/Transfers	
			Amount	Total Value (TK.)	Amount	Total Value (TK.)	Amount	Total Value (TK.)
1.	Coarse rice	kg						
2.	Medium rice	kg						
3.	Fine rice	kg						
4.	Atap rice	kg						
5.	Ata/flour	kg						
6.	Beef	kg						
7.	Mutton	kg						
8.	Chicken	kg						
9.	Duck	kg						
10	Egg	no.						
11	Fish	kg						
12	Milk	liter						
13	Powder Milk	gram						
14	Baby food	gram						

15	Pulses	gram						
16	Oil	liter						
17	Butter/ghee/dalda	gram						
18	Onion	gram						
19	Ginger/garlic	gram						
20	Chili/green chili	gram						
21	Turmeric	gram						
22	Spices	Tk.						
23	Potato	kg						
24	Vegetables	kg						
25	Fruits	Tk.						
26	Salt	gram						
27	Sugar	gram						
28	Tea/coffee/biscuits	Tk.						
29	Betel leaf and nuts	Tk.						
30	Cigarettes	Tk.						
31	Bidis	Tk.						
32	Cold drinks	Tk.						

33	Other (specify) _____ —	Tk.					
----	-------------------------------	-----	--	--	--	--	--

J110. Except for the above-mentioned food items, in the last 7 days, how much did you spend on purchasing and consuming food items from outside (from restaurants, street food, fairs, cinema, etc.)? _____Tk.

J.2. Monthly Non-food Expenditures (Last 30 days)

J201	J202	J203
ID.	Description	Total Value (Tk.)
1.	Cosmetics, toiletries, and cleaning products during the last 30 days*	
2.	House rent paid during the last 30 days	
3.	Electricity bill for the last 30 days	
4.	Water, dish/cable, and telephone (land phone) bill during the last 30 days	
5.	Mobile bill for all family members during the last 30 days	
6.	Fuel cost (kerosene, gas, diesel, LPG, and firewood) during the last 30 days	
7.	Energy cost (candles, matches, battery, generator/IPS, solar power installments, etc.) during the last 30 days	
8.	Expenditure on personal grooming (hairdressing, shaving, beauty parlor, shoe polish, etc.) during the last 30 days	
9.	Transport cost (rickshaw, bus, van fare, petrol/diesel for cars, etc.) during the last 30 days	

10.	Salary and wages paid to domestic help during the last 30 days	
-----	--	--

*Cream, lotion, powder, perfume, soap, shampoo, shaving and grooming products, etc.

J. 3. Annual Non-food Expenditures (Last 12 months)

J301	J302	J303
ID.	Description	Total Value (Tk.)
1.	Clothing and clothing products during the last 12 months	
2.	Purchase and repair of shoes and other footwear during the last 12 months	
3.	Household textile products* during the last 12 months	
4.	Household furniture and utensils during the last 12 months	
5.	Home maintenance, repair, improvement, land tax, etc., during the last 12 months	
6.	Purchase of jewelry and other valuables during the last 12 months	
7.	Education expenses (books, school fees, tuition, etc.) during the last 12 months	
8.	Social and religious ceremonies/charity during the last 12 months	
9.	Recreation and leisure (going to the cinema, park, traveling, etc.) during the last 12 months	
10.	Insurance, taxes, interests, fines, tolls, fees, etc., during the last 12 months.	
11.	Medical expenditure during the last 12 months.	
12.	Other non-food expenditure during the last 12 months	

*Bed sheet, bed cover, quilt, table cover, curtain, pillow cover, cushion cover, etc.

K. Food security/Consumption pattern

K.1. Food security situation in the household during the last year

Food Security Code: Always deficit = 1, Sometimes deficit = 2, Neither surplus nor deficit = 3, Surplus = 4 **[Ask Questions K.2, if food security code is 1 or 2, else proceed to Section K.3.]**

K.2. If always deficit or sometimes deficit, how many months did the members of the household get sufficient food?
months

K.3. Food insecurity experience in the household (SDG 2.1.2)

[Enumerator: I will ask some questions about your food-taking experience. Please listen carefully and answer with understanding]

SL No	Questions	Put a tick mark in the given answer (√)
3.1.1.a	In the past 12 months, did you worry that you (any other adult member of your household) would not have enough food for lack of money or any other assets?	Code 1
3.1.1.b	If answer 1-Yes, then how many times has this happened?	Code 2
3.1.2.a	During the past 12 months, have you (any other adult member of your household) been unable to eat healthy and nutritious food for lack of money or any other resources?	Code 1
3.1.2.b	If answer 1-Yes, then how many times has this happened?	Code 2
3.1.3.a	During the past 12 months, did you (any other adult member of your household) have to eat a few meals in a few days for lack of money or any other resources?	Code 1
3.1.3.b	If answer 1-Yes, then how many times has this happened?	Code 2
3.1.4.a	During the past 12 months, did you (any other adult member of your household) have to eat one meal at a time due to lack of money or any other resources?	Code 1

3.1.4.b	If answer 1-Yes, then how many times has this happened?	Code 2
3.1.5.a	Please think back over the last 12 months, did you (any other adult member of your household) have to eat less than the required amount due to lack of money or any other resources?	Code 1
3.1.5.b	If answer 1-Yes, then how many times has this happened?	Code 2
3.1.6.a	And in the last 12 months, did you (any other adult member of your household) run out of food due to lack of money or any other resources?	Code 1
3.1.6.b	If answer 1-Yes, then how many times has this happened?	Code 2
3.1.7.a	Additionally, in the last 12 months, has there ever been a time when you (or any other adult member of your household) had to go without food because of lack of money or other resources to buy food?	Code 1
3.1.7.b	If answer 1-Yes, then how many times has this happened?	Code 2
3.1.8.a	At last, asking to know, during the past 12 months, did it happen that you (or any other adult member of your household) did not have to eat all day due to lack of money or any other resources?	Code 1
3.1.8.b	If answer 1-Yes, then how many times has this happened?	Code 2

Code 1: 0-No,1-Yes, 98-Don't know, 99-No Answer

Code 2: 1- This happened almost every month, 2- Not every month but sometimes it happened, 3-1 or 2 months this happened, 98-Don't know, 99-No Answer

K.4.1 Consumption-Based Coping Strategies

During the past seven (7) days, how many days did most of the members of your household have to do the following because of lack of food?		Answer
		Number of Days (0-7 days)
4.1.1	Rely on less preferred, less expensive food	
4.1.2	Borrow food or relied on help from friends or relatives	
4.1.3	Reduce the number of meals eaten per day	
4.1.4	Reduce/limit the portion size of meals	
4.1.5	Restrict consumption by adults so that young children can eat	

K.4.2 Livelihood-based coping strategies

Serial No	(Coping strategies) In the last 30 days, did anyone in your household do the following because of lack of food or lack of money to buy food?	Answers
		1-Yes 2-No (Did not need) 3-No (Have sold or disposed of those assets within the last 12 months) 4-Not applicable
4.2.1	Spent savings	
4.2.2	Bought food on credit or borrowed food/borrowed money due to lack of food	

4.2.3	Sent household members to eat elsewhere due to lack of food	
4.2.4	Selling household assets/goods (radio, furniture, mobile, solar panel, television, clothes, Jewelry, kitchen items, etc.	
4.2.5	Food received from food aid has been sold, exchanged, or shared	
4.2.6	Any other items (other than food) received as assistance had to be sold	
4.2.7	Selling productive assets or means of transport (sewing machines, wheelbarrows, bicycles, livestock, etc.)	
4.2.8	Reduce essential non-food expenditures such as education, health, and clothing	
4.2.9	Withdrew children from school/not resuming school after school opening, due to lack of food	
4.2.10	Children (below 18 years) are working to contribute to the HH income	
4.2.11	Adults (18+) are accepting high-risk, illegal income activities	
4.2.12	Begged and/or scavenged (asked strangers for money/food) due to lack of food	
4.2.13	The entire household migrated to a different location (for example, from one village/union to another place)	
4.2.14	Had to marry any of your children (<18 years)	
4.2.15	Mortgaged/Sold house or land due to lack of food	
4.2.16	Whether cows/goats/milch buffaloes, etc. have been sold?	

4.2.17	Engaged in illegal income activities (theft, prostitution)	
4.2.18	Decreased expenditures on fertilizer, pesticide, fodder, animal feed, veterinary care, etc.	

K.5.1 Food intake criteria: Food Consumption Score (FCS)

On how many days in the past 7 days did most of the members of your household eat the following food items, prepared or consumed at home? [Enter 0 if not consumed in the last 7 days]			
Serial No	Food item list	Examples	How many times in the last 7 days did your family member eat the following food items?
5.1.1	Rice, wheat, corn, potatoes/sweet potatoes, noodles		
5.1.2	Pulses and pulses type	Lentils, lentils, chickpeas, peas, kesari, anchor, mung and other pulses, beans, various types of nuts, etc.	
5.1.3	Milk and dairy products	Milk, milk powder, curd, cheese, other dairy products	
5.1.4	Fish, meat, eggs	Any types	
5.1.5	Foods like fish, dried fish, crab		
5.1.6	Meat	Only Fresh Meat	
5.1.7	Liver, kidney, liver	Organ meat	

5.1.8	Egg		
5.1.9	Vegetables	All types of vegetables	
5.1.10	Orange-colored vegetables	Example: Carrots, sweet pumpkin	
5.1.11	Green vegetables	Only green vegetables will be included. For example: spinach, spinach, collard greens	
5.1.12	All types of fruits		
5.1.13	If the answer to 5.1.12 is between 1-7, then the result are? (There may be more than one answer)	Mango-1, Jackfruit-2, Litchi-3, Pineapple-4, Berry-5, Other Fruits-6	
5.1.14	Yellow-colored fruits	Eg: All orange fruits rich in vitamin A, including mangoes, ripe papayas (but not oranges and maltas).	
5.1.15	Sugar type	Such as: sweets, sugar, molasses, honey, pies, jams, jellies, biscuits, cakes, candies, pastries, and other sweet drinks.	
5.1.16	Oily/fatty	Eg: soybean oil, mustard oil, almond oil, vegetable oil, palm oil, butter, ghee, margarine, other fatty oils.	
5.1.17	Spicy	Onion, Garlic, Ginger, Salt, Yeast/Baking Powder, Tomato Sauce, Fish/Meat Spices, Milk/Tea/Coffee for Aroma/ Taste. etc.	

K.5.2: Information on main food stocks

Serial No	Questions	Number of Days/Source code
5.2.1	What is the main source of rice currently stored in your household?	
5.2.2	How many days will you cover with the rice currently stored in your household?	
5.2.3	What is the main source of flour currently stored in your household?	
5.2.4	How many days will you manage with the amount of flour you currently have in your pantry?	
5.2.5	What is the main source of pulses currently stored in your household?	
5.2.6	How many days will you manage with the current stock of pulses in your house?	

Source Code: 1- Buy (In cash/debt), 2-Own production, 3-Aid (Government/Non-government), 4-No storage

L. Experiences, effects, and coping mechanisms of shocks (Last 12 months)

L101	L102	L103	L104	L105		
ID	Description of Shocks	Did you experience [shock] during the past 12 months? 1=Yes>>L104 2=No >> ID	If yes, the extent of monetary loss/damage because of the shock (Tk.)	How did your household cope with this [shock]? Up to three answers for each shock experienced, use code below:		
				1 st code	2 nd code	3 rd code
1.	Drought/Irregular rains					
2.	Floods/Excessive rains					

3.	Fire/ Earthquake/Tornado, etc.					
4.	Landslides/River Erosion					
5.	Unusually High Level of Crop Pests and Disease					
6.	Unusually High Level of Livestock Disease					
7.	Unusually High Prices of Agricultural Inputs					
8.	Unusually Low Prices of Agricultural Output					
9.	Loss of Employment of Household member(s) (not due to illness/accident)					
10.	Serious illness or accident of household member(s)					
11.	Death of an earning member of the household					
12.	Theft of Money/Valuables/Assets					
13.	Other (Specify)_____					

Codes for L105

- 01 Unconditional help provided by relatives/friends
- 02 Unconditional help provided by the local government

- 07 Household member(s) migrated
- 08 Relied on savings

- 13 Rented out land/building
- 14 Distressed sales of animal stock

- | | | | | | |
|----|---|----|--|----|-------------------------------|
| 03 | Changed dietary patterns involuntarily | 09 | Obtained credit from formal institutions | 15 | Advanced sale of labor |
| 04 | Changed cropping practices (crop choices or technology) | 10 | Obtained credit from friends/relatives | 16 | Could not cope with the shock |
| 05 | Household member(s) took on higher wage employment | 11 | Sold durable household assets | 17 | Other (specify_____) |
| 06 | Household member(s) took on more farm wage employment | 12 | Sold land or building | | |

M. Current transport and marketing costs (For sale of products)

M101	M102	M103	M104	M105	M106	M107	M108
ID.	Parameters	Village Market 1	Village Market 2	Wholesale Market 1	Wholesale Market 2	Market/Growth Center 1	Market/Growth Center 2
1.	Distance (km)						
2.	Mode of transport (code)						
3.	One-way travel time (minutes)						
4.	One-way transport cost (Tk)						
5.	Market tolls (Tk)						

Mode of transport: Foot=1, Rickshaw/Van=2, Easy bike/CNG/Nasiman/Karimon=3, Pickup van (up to 3 ton)=4, Truck=5, Boat=6, Engine boat=7, Multi-modal=8, Other (specify)=9.

N. Health Services

N.1. Access to Health Services (For *members* of the household who were/have been sick during the last 1 month) [Repeat MID from section B.1.01 if a member fell sick more than once.]

N101	N102	N103	N104	N105	N106	N107	N108	N109	N110
MID. (up to 4 members)	Type of illness (Up to 3 for each member) (Code)	Whether taken medical advice, or support (Yes=1, No=2)	If Yes, from where? (Healthcare center code)	If went, distance (km)	Mode of transport (code)	One-way travel time (minutes)	One-way travel Cost (Tk.)	Total treatment cost for each illness (Tk.)*	Satisfaction with the quality of health service (Code)

*Treatment cost includes the cost for consultation, diagnosis, and medication.

Type of Illness										Healthcare centers	
1	Cough/Cold	5	Common Fever	9	Diarrhea	13	Urinary infection	17	Abdominal Pain	1	Trained/MBBS doctor
2	Headache	6	Acidity/Indigestion	10	Cholera	14	Ear/Eye Problem	18	Jaundice	2	Community clinic
3	Breathing Problem	7	Gastric Ulcer	11	Malaria	15	Skin Problem	19	Chest Pain	3	Upazila health center
4	Asthma	8	Dysentery	12	Typhoid	16	Vomiting	20	Any other (specify)	4	District/Division Hospital
										5	Village Doctor
										6	Private hospital
										7	Other (specify)

Mode of transport: Foot=1, Rickshaw/Van=2, Easy bike/CNG/Nasiman/Karimon=3, Bus/car=4, Train=5, Boat/Engine boat=6, Other (specify)=7.

Satisfaction with the quality of health service: Highly satisfied=1, Satisfied=2, Neither satisfied nor dissatisfied=3, Dissatisfied=4, Highly dissatisfied=5.

N.2. Reproductive and Child Health Services [For children less than 60 months old and their mothers]

N201	N202	N203	N204	N205
ID.	Description	Response	Response	Response
1.	Last Child's MID [For children less than 60 months old]			
2.	Mother's MID			
3.	When pregnant with your last child, did you attend prenatal consultations at a healthcare center/doctor? (Yes=1, No=2)			
4.	If yes, where did you first receive this care? (Code)			

5.	Where did you give birth? (Code)			
6.	After the birth, did you visit a healthcare facility within 6 weeks of delivery for a post-natal checkup? (Yes=1, No=2)			
7.	If yes, where did you go for this checkup? (Code)			
8.	[Name of the child] has ever been fully immunized or is being immunized? (1=Yes, 2=No)			
9.	Do you have an immunization card for (name)? (1=Yes, 2=No, if yes, ask to see the immunization card)			
10.	Where was the most recent immunization given? (Code)			
11.	Did [Name] take vitamin A capsules in the last 12 months? (1=Yes, 2=No)			

Code: Satellite Clinic/Community clinic=01, Union health & family welfare center=02, Thana/Upazila health complex=03, District hospital=04, NGO health center=05, Medical College hospital=06, Private clinic/Hospital/Doctor=07, At home=08, Other (specify)=09

P. Migration-related information (For the concerned members)

P101	P102	P103	P104	P105	P106	P107	P108
ID	Name of the migrant	Causes of migration (code)	Destination of migration (within country=1, abroad=2)	Duration of migration at the destination during the 12 months (months)	How many times did (name) send money during the last 12 months? (number)	Total amount of money that (name) has sent over the last 12 months (Tk.)	Value of goods or things that (name) has been sent during the last 12 months (Tk.)
1.							
2.							
3.							

P103 code: Seeking employment=1, Better income=2, Political threat=3, Natural disaster (river erosion, flood, cyclone, etc.)=4, Land grabbing=5, Land acquisition=6, Other (specify) =7

Q: Mobility of Household Members during the last 3 months: [Repeat MID if a member travels to more than one destination.]
Information on the 3 most frequently visited destinations of 2 adult members of the household. [Copy MID from section B.1.01]

Q101	Q102	Q103	Q104	Q105	Q106	Q107
MID	Destination (Code)	Number of times traveled	One-way distance (km)	Main Mode of Travel (Code)	Duration of one-way travel	Transport costs of one-way travel

Destination Code: Work place=1, Village hat/bazar=2, Health center/hospital/clinic=3, Krishi Bank/Commercial Bank/Grameen Bank/NGO office=4, Union Parishad/Upazila Head Quarters=5, Launch/Steamer/Bus/Railway Station=6, Home of friends/relatives=7, Other (specify)_____ =8

Mode of Transport Code: On foot=1, Bicycle=2, Motor bike=3, Rickshaw/van=4, Bull/buffalo/horse cart=5, Bus/car/tempo/scooter=6, train=7, boat/engine boat/launch/steamer=8, Other (specify)_____ =9

R. Women empowerment: Participation of female members in decision making in the family [preferably to be answered by the 15-50 female member(s) of the household and their husbands/fathers] (Copy MID from section B.1.01)

R201	R202	R203
1.	Woman's MID	
2.	MID of Woman's Eldest Son	

3.	MID of Woman's Eldest Daughter	
4.	Woman's Husband's/Father's MID	
Code: Self =1, Jointly with husband/father=2, Jointly with others=3, Husband/father=4, Others=5, Not Applicable=6		
	R202	R203
ID.	Description	
Freedom of Mobility		
5.	Visiting the parental home	
6.	Going shopping in the marketplace	
7.	Going to banks/microfinance branches	
8.	Visiting friends and relatives	
9.	Going outside the village	
10.	Other mobility not mentioned above	
Household Decision Making		
11.	Education of children	
12.	Own matrimony (with whom/how/at what age to get married)	
13.	Children's healthcare	
14.	Own healthcare	
15.	Matrimony of sons/daughters/other dependents	
16.	Solving family problems	
17.	Other household decisions not mentioned above	

Economic Decision Making		
18.	Purchase of personal items such as clothes, jewelry, etc.	
19.	Purchase of household items, etc.	
20.	Purchase of expensive properties such as land, etc.	
21.	Purchase of children's clothes	
22.	Purchase of food items	
23.	Children's educational expenses	
24.	Other economic decisions not mentioned above	
Personal Autonomy		
25.	Voting in the elections	
26.	Standing in (local) elections	
27.	Family planning	
28.	Participation in social events	
29.	Other personal autonomy not mentioned above	
Awareness		
Code: Yes ... 1; No ... 2		
30.	Women and men should have equal opportunities in all affairs	
31.	Women and men should have a clear division of works/chores	
32.	Own income is important for a woman's self-reliance	
33.	Women's income increases respect from family	

34.	Women's income increases respect from the community	
35.	Women's income makes her hopeful about the future	
36.	Women's income makes her believe that she has control over her own life	

S: Community participation (Ask the adult member(s) of the household)

S101	S102	S103	S104	S105	S106
ID.	Indicators	Member -1	Member -2	Member -3	Member -4
1.	MID				
2.	Member of an NGO? Yes =1, No = 2				
3.	Participated in any school management activity during the last year? Yes				
4.	Participated in community volunteer activities during the last year? Yes =1,				
5.	If yes, how many times during the last year (number)?				
6.	Helped community people when needed during the last year? Yes =1, No =				
7.	Participation in political protests over the last year? Yes =1, No = 2				
8.	If yes, how many times during the 12 months (number)				

T: Indicators for understanding natural disasters and climate variability

1	2	3
Serial no	Questions	Answer Codes (Yes=1, No=2)
	Natural Disaster	
1.	Has flooding damaged your household?	
2.	Did any member of the household receive training on disaster preparedness for floods and other natural calamities?	
3.	Was your household able to receive early warnings or forecasting information regarding floods and other natural disasters?	

4.	Were the non-agricultural activities of your household disrupted due to natural disasters?	
5.	Was any member of the household unemployed during the flood season?	
6.	Did the availability of natural resources for the household increase during the flood season?	
7.	Is your household a victim of riverbank erosion every year?	
Climate Variability		
8.	Has your household faced increasing occurrences of flooding over the past ten years?	
9.	Has your household been a victim of increasing riverbank erosion over the past ten years?	
10.	Has your household experienced rising summer temperatures over the past 10 years?	
11.	Has your household experienced rising winter temperatures over the past 10 years?	
12.	Has your household been experiencing an increasing trend in rainfall over the past ten years?	
13.	Has your household been experiencing an increasing trend in rainfall during the monsoon season over the past ten years?	
14.	Has your household experienced a progressive increase in the duration of the winter season over the past ten years?	
15.	Has your household experienced a progressive increase in the duration of the summer season over the past ten years?	
16.	Has your household experienced a progressive increase in the intensity of droughts over the past ten years?	
17.	Has your household experienced an increasing frequency of cyclones over the past ten years?	

Thank you for your participation

Annex C: Draft Community Questionnaire

Confidential

(For research purposes only)



**Bangladesh Institute of Development Studies (BIDS)
E-17 Agargaon, Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh**

Socio-economic Impact Assessment of LGED's Interventions in Coastal Areas of Bangladesh

Community/Village Survey Questionnaire

1. Total Number of Households in the village _____ Total Population in the village _____

2. Households by Land Ownership (Percent)

Landless	Marginal Landholders	Small Landholders	Medium Landholders	Large Landholders
< 0.5 Acres	0.5-1.0 Acres	1.0-2.5 Acres	2.5-7.5 Acres	7.5 + Acres

3. Nature of Employment (Percent)

ID	Category	Farm Employment	Non-Farm Employment	Service	Farm Self-employment	Non-Farm Self employment (Business, Industry, Doctor, Lawyer, etc.)
1	Male					
2	Female					

4. Number of Shops in the Village

ID	Types	Number	% of owners from within the village	% of owners from out of the village	% of male owners	% of female owners
1	Kancha					
2	Semi-pucca					
3	Pucca					

5. Number of markets/growth centers connected with the village Number

6. **Number of infrastructures/facilities in the village [if more than one infrastructure/facility of the same type exists, please repeat the relevant rows and provide information for each infrastructure separately].**

ID.	Types	Name	GPS locations	When was the facility built? [year]	Total length (km)	Availability of Public Transport Facility (Adequate=1, Not adequate=2)	Average HH Distance to the Facility (in minutes)
1	Paved(Pucca Road)						
2	HBB/WBM						
3	Earthen(Kancha)						
4	Waterway(Riverways)						
5.	Railway Station						
6	Ghat/jetty						
7	Bridge						
8	Cyclone shelters						
9	Markets/growth centers						
10	Village markets						
11	Wholesale markets						
12	Other (specify) _____						

7. Mode of transport used by the residents of the village

ID	Description	Percentage of Transport Users*	Passenger Fare (person/km)	Freights Rate (ton/km)	Adequacy of the transport (Yes=1, No)	If no, should the type of transport be increased? (Yes=1, No=2)
1	Bus					
2	Truck					
3	CNG/nasiman/kariman/easy bike					
4	Rickshaw					
5	Rickshaw van					
6	Motorbike (for hire)					
7	Other road transport					
8	Boat					
9	Engine boat					
10.	Launch/ Ferry					
11	Other water transport					

*Column total of the column "Percentage of Transport Users "will be 100.

8. Number of establishments in the village

ID.	Name	Within the Village (Yes=1, No=2)	If no, distance from the Village (Km)	Availability of Services (Regular=1, Irregular=2)
1	Rice mill			
2	Cold storage			
3	Dairy firm			
4	Grocery			
5	Tea stall /Bakery			
6	Pharmacy(Medicine Store)			
7	General Store			
8	Cycle parts shop			
9	Tire or tube shops			
10	Pottery /Weaving			
11	Milk processing center			
12	Other (specify)			

9. Community Population Composition (Last 12 months)

ID	Description	Number
1	People migrated out of the village	
2	People migrated to the village	
3	People traveling to a distant job location on a daily basis	

10. Price of essential food items

ID.	Food Items	Unit	Price per unit (Tk.)	ID	Food Items	Unit	Price per unit (Tk.)	ID.	Food Items	Unit	Price per unit (Tk.)
1	Coarse rice	Kg		11	Gur (date)	Kg		21	Turmeric	Kg	
2	Medium rice / Atap rice	Kg		12	Gur (sugarcane)	Kg		22	Potato	Kg	
3	Fine rice	Kg		13	Sugar	Kg		23	Brinjal	Kg	
4	Flour (maida)	Kg		14	Soybean oil	Liter		24	Green chili	Kg	
5	Flour (ata)	Kg		15	Mustard oil	Liter		25	Red chili	Kg	
6	Pulse (masur)	Kg		16	Coconut oil	Liter		26	Salt	Kg	
7	Pulse (khesari)	Kg		17	Kerosene	Liter		27	Beef	Kg	
8	Pulse(chola)	Kg		18	Egg (chicken)	Dozen		28	Mutton	Kg	
9	Pulse (mung)	Kg		19	Egg (duck)	Dozen		29	Chicken (farm)	Kg	
10	Pulse (maskalai)	Kg		20	Milk	Liter		30	Chicken (local)	Kg	

11. Daily wage rate in the locality (Tk.)

ID	Type of labor		During peak season		During the lean season	
			With food	Without food	With food	Without food
1	Female	Farm				
		Non-farm				
2	Male	Farm				
		Non-Farm				

3	Children	Farm				
		Non-Farm				

12. Educational institutions [if more than one institution of the same type exists, please repeat the relevant rows and provide information for each infrastructure separately].

ID.	Type of Institution	Year of establishment	Within the Village (Yes=1, No=2)	If yes, record GPS locations	If no, distance from the Village (Km)	If no, distance from the Village (Minutes)	Enrolment rate (Percent)	Is the Quality of Education Satisfactory? (Yes=1, No=2)
1	Primary School/Madrassa							
2	High School/Madrassa							
3	College							
4	Others							

13. Healthcare Facilities

ID.	Type of Institution	Within the Village (Yes=1, No=2)	If yes, record GPS locations	If no, distance from the Village (Km)	Quality of service provided (High=1, moderate=2, poor=3)
1	Satellite/Community Clinic				
2	NGO Clinic/Health Center				

3	Union Health and Family Welfare Center				
4	Private Clinic/ Hospital				
5	Immunization Center				
6	Thana/Upazila Health Complex				
7	Other (Specify) _____				

14. (i) Number of Village Doctors in this Village _____ (ii) Number of MBBS Doctors in this Village _____

15. Number of Nurses in this Village _____

16. . Number of Other Health Workers in this Village _____

17. . Status of Financial Institutions

ID	Name of Institution	Within the Village (Yes=1, No=2)	If no, distance from the Village (Km)	If no, distance from the Village (Minutes)	Availability of Services (Regular=1, Irregular=2)
1	NGO				
2	CBO				
3	BANK				
4	Insurance Company				
5	Agent Bank				

6	Others(specify)_____				
---	-----------------------	--	--	--	--

18. Access to Information

ID	Description	Response
1	Availability of newspaper at the nearest marketplace (available=1, not available=2)	
2	Availability of internet/fax provider at the nearest marketplace (available=1, not available=2)	
3	Availability of WIFI provider at the nearest marketplace (available=1, not available=2)	
4	Percentage of households using cable TVs (%)	
5	Percentage of households using WIFI (%)	

19. Crime, Law, and Order Situation (Last Year)

ID	Description	Number
1	How many times have the police, RAB, and other law-enforcing agencies come to the village over the last year?	
2	Incidence of hooliganism in the village	
3	Incidence of rape in the village	
4	Incidence of arson in the village	
5	Incidence of robbery in the village	
6	Incidence of domestic violence in the village	
7	Incidence of child marriage in the village	
8	Incidence of political violence in the village	
9	Incidence of sexual harassment in the village	

10	Incidence of drug abuse in the village	
11	Incidence of torture for dowry in the village	

Name of Interviewees	Signature	Name of Interviewees	Signature
1.		3.	
2.		4.	

Name of Interviewer and code _____

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Date of Interview

--	--	--	--	--	--	--	--

Name of Field Supervisor and code _____

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Annex D: Draft FGD Checklist

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(For research purposes only)



Bangladesh Institute of Development Studies (BIDS)
E-17 Agargaon, Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh

Socio-economic Impact Assessment of LGED's Interventions in Coastal Areas of Bangladesh

Checklist for FGDs

FGD Number:

Community Number:

FGD Facilitator Name:

Coastal Type: Exposed=1, Interior=2 LGED Intervention: Heavy=1, Lite=2

Discussion Date:

Name of the Village: _____ Day Mont Year Name of the Union: _____

Name of the Upazila: _____ Name of the District: _____

FGD Participants' Attendance Sheet

Serial No.	Name	Age	Gender	Contact Number	Occupation	Education	Signature
1							
2							
3							
4							
n							

Discussion Points

1. Awareness of LGED Interventions

- Do you know which LGED infrastructures are available in your village?
- How did you first hear about them (local political leaders, religious leaders, government officials, word of mouth)?
- Can you list the main infrastructures (roads, bridges, embankments, cyclone shelters, schools, markets/growth centers)?

2. General Evaluation of the Activities

- How useful do you think this infrastructure has been for your community?
- Which project/infrastructure has made the biggest difference in your daily life?
- Are there projects/infrastructure that you feel were unnecessary or less impactful?

3. Demand Responsiveness

- Were your community's most pressing needs addressed?
- What problems remain unaddressed despite these projects?
- If you had the chance, what would you prioritize next?

4. Equity & Inclusion

- Do you feel the most disadvantaged groups (poor households, women, people with special needs, landless) benefited?
- Were their voices heard during planning or implementation?
- Did you notice any favoritism (towards elites, relatives, friends of local authorities)?

Perceived Changes After Interventions

- Mobility: travel time, transport cost, frequency of market visits.
- Livelihoods: new opportunities, income stability, gendered participation.
- Education & health: children's schooling, maternal health, emergency access.
- Disaster resilience: reliance on cyclone shelters, trust in embankments.

5. Major Changes

- Stories of significant changes.
- How the LGED interventions (e.g., the infrastructures) caused the changes
- Hopes for children's future in light of interventions.

6. Unintended Consequences

- Negative impacts: traffic accidents, market competition, and land disputes.
- Environmental concerns: salinity, erosion, and drainage issues.
- Social tensions: exclusion, elite capture, unequal benefits.

Annex E: Draft In-Depth Interview Checklist

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Bangladesh Institute of Development Studies (BIDS)
E-17, Agargaon, Sher-e-Bangla Nagar, Dhaka-1207

Socio-economic Impact Assessment of LGED's Interventions in Coastal Areas of Bangladesh

Checklist for In-Depth Interviews

In-depth Interview Number:

Community Number:

Household ID:

Respondent's Name:

Name of the Interviewer:

Coastal Type: Exposed=1, Interior=2 LGED Intervention: Heavy=1, Lite=2

Interview Date:
Day Mont Year

Name of the Village: _____ Name of the Union: _____

Name of the Upazila: _____ Name of the District: _____

In-Depth Interview Guide

1. Accessibility

- Access to doctors, hospitals, and emergency shelters (e.g., cyclone centers).
- Access to schools, markets/growth centers, and social sites (mosques, salish yards).
- Equity of access for marginalized groups (women, older people, and the physically challenged).

2. Mobility

- Road and bridge conditions; suitability and affordability of transport.
- Barriers overcome for the elderly, poor, and physically challenged.
- Perceived changes in commuting, market participation, and emergency evacuation.

3. Impact of Infrastructure on Daily Life

- Memorable incidents and notable stories illustrating change.
- Collection of images, documents, or community artifacts that capture lived experiences.

4. Disaster Preparedness

- Availability, appropriateness, and effectiveness of emergency shelter centers.
- Community perceptions of preparedness and reliance on LGED-supported infrastructure.

5. Livelihoods

- Employment opportunities generated by infrastructure development.
- Emergence of new businesses and income-generating activities.
- Seasonal variations and sustainability of livelihood security.

6. Income

- Important changes in income-earning opportunities attributable to LGED activities.
- Distribution of benefits across socio-economic groups.

7. Education

- Establishment of new institutions or renovation of existing ones.
- Accessibility for underprivileged children and youth.
- Aspirations and perceived opportunities linked to improved education facilities.

8. Health

- Availability of emergency and regular health care facilities.
- Facilities for routine services such as immunization and maternal care.

9. Social Inclusion

- Participation of women, minorities and un(der)served communities in festivals; their membership in committees, and involvement in community decision-making.
- Recognition and celebration of marginalized groups.
- Perceptions of solidarity and cohesion fostered by LGED interventions.

10. Gender & Equity

- Expanding opportunities for women and girls in education, markets, and organization and their committees.
- Women's voices in disaster preparedness and livelihood planning.

11. Connectivity & Community Building

- Role of infrastructure in nurturing collective identity and cohesion.
- Exploration of unintended consequences (e.g., exclusion, dependency, or social fragmentation).

Annex F: Draft Case Study Guidelines

Confidential
(For research purposes only)



Bangladesh Institute of Development Studies (BIDS)
E-17, Agargaon, Sher-e-Bangla Nagar, Dhaka-1207

Socio-economic Impact Assessment of LGED's Interventions in Coastal Areas of Bangladesh **Guidelines for Case Studies**

Case Study Number:

Community Number:

Household ID:

Respondent's Name:

Name of the Interviewer:

Coastal Type: Exposed=1, Interior=

LGED Intervention: Heavy=1, Lite=

Interview Date:

Day Mont Year

Name of the Village: _____

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 Name of the Union: _____

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Name of the Upazila: _____

--	--	--

 Name of the District: _____

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Guidelines for Case Studies

Unlike FGDs and KIIs, case studies will not follow a standardized checklist. Instead, the study team will prepare a customized checklist for each case, tailored to the story being documented. This approach allows careful collection of relevant evidence, ensures equity dimensions are captured, and may involve several rounds of follow-up interviews to validate and enrich narratives.