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158th Advanced Course on Administration and Development

Individual Assignment/Report/Exercise

NAME OF THE MODULE: Research for Governance **MODULE NO: 5**

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Roll No. **101**

Circular Economy as a Pathway to Inclusive Growth: Evidence from the Reusable Plastic Industry of Bangladesh

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Abstract

Despite the growing amount of plastic waste produced each year, Bangladesh has only been able to recycle a small fraction of it—primarily through an informal chain of waste pickers, itinerant waste buyers and small aggregators called tokais, feriwallas, and bhangari operators. This paper questions the potential for the Bangladesh reusable plastic sector of the circular economy to provide a viable direction for inclusive growth, or be an extractive, exclusionary model of the larger informal sector with a green veneer. The paper combines the concept of circular economy, inclusive growth and global value chain analysis with secondary evidence from government documents, World Bank and development-partner reports, peer-reviewed literature on Bangladesh's plastic value chain and field-level livelihood studies of waste pickers. This analysis traces the value chain, quantifies income and bargaining power along its segments and assesses how the new Extended Producer Responsibility framework is expected to impact the livelihoods of informal actors. The paper contends that the industry is environmentally and export valuable, but it is distributed among a few people and the workers who do the most dangerous and labor-intensive work are least secure and receive the smallest portion of the value. It ends with a policy approach to formalisation, which considers inclusion the design goal of circular economy policy, rather than material recovery.

The topic of this paper is the informal sector and its inclusion in plastic recycling and the circular economy in Bangladesh, with emphasis on waste pickers, who play a crucial role in the waste management system.

1. Introduction and Background

Bangladesh has the one of the more condensed industrialization processes in South Asia, moving from a predominantly agrarian economy to one dominated by manufacturing and export, with its main support being ready-made garments since independence in 1971. This transformation has provided decades of high GDP growth significantly higher than the regional average, and tens of millions of people have been lifted out of extreme poverty. But industrialisation on this scale has come at an environmental price – the nation's regulatory institutions have been unable to catch up with. Plastic pollution is both highly visible and closely tied to the consumption habits of the

country's expanding urban middle class, and Bangladesh is highly susceptible to flooding, riverine pollution, waterlogging and marine pollution.

Bangladesh was a pioneer with the prohibition of polythene shopping bags in 2002, one of the first plastic ban laws in the world. However, there are inconsistent regulations and the country is still on an increasing trajectory of plastic consumption with urbanisation and packaged foods going hand-in-hand. National material flow estimates reveal that Bangladesh imports considerably more plastic resin and finished plastic than it exports; packaging is the largest single end-use category; and only a minority of the plastic entering the economy is recovered for recycling each year. Estimates of recycled waste vary from about one third to more, but the consistent result is that recycling capacity is still much lower than the amount of waste produced, and the rest is disposed of in landfills, open dumps, and water bodies.

What is unique about Bangladesh's plastic recycling industry is that the recovery is done by the informal sector, outside labour law, environmental legislation, or the tax and social protection umbrella. Tokais, or waste pickers, walk streets, landfills and waterways looking for recyclable goods. Itinerant waste buyers (feriwallas) buy recyclables door-to-door for re-selling. Small aggregation shops or bhangari are informal sorting and consolidation centres where pickers and feriwallas sell their waste, and bhangari sell it on to processing units, where it is shredded, washed and pelletised into flakes or granules for manufacturing or export. Independent estimates agree this informal sector accounts for the bulk of the country's plastic recycling, some as high as ninety per cent. It is a workforce of several hundred thousand, widely unrecognised, absent from the measures regulating the sector, unfunded by formal credit, uncovered by formal insurance, and without institutionalised voice.

In such a context, the idea of the circular economy becomes relevant in the case of Bangladesh. As outlined in the literature launched by the Ellen MacArthur Foundation and followed up with academic taxonomies like Kirchherr, Reike and Hekkert 2017, the circular economy is an economic system that aims to decouple value creation from virgin resource extraction by keeping materials in circulation for as long as possible, through the cascade of reduce, reuse and recycle. Re-use and re-cycling of plastic products fall close to this logic: single-use plastic is thrown away after use and adds to landfills or open burning, while re-use and re-cycling of plastic material can be used many times over, providing recurring added value and, in principle, recurring employment.

The aspiration to the circular economy as a jobs and livelihood strategy is not a magic bullet. A circular economy can be created in ways that formalize, protect and reward the people who do the material-recovery work, or in ways that simply digitize and "green-wash" the same extractive relationships that typify the informal economy, in which collection and sorting is low-pay, unprotected, and socially stigmatized. Whether Bangladesh's reusable plastic industry is moving toward the first or the second direction is an empirical question this paper examines through the concept of inclusive growth.

The concept of inclusive growth, as elaborated by the World Bank's Ianchovichina and Lundstrom (2009) and the Asian Development Bank's Ali and Son (2007), goes beyond aggregate growth to question who is and isn't part of it, in terms of contributing to it and benefiting from it. Inclusive growth occurs when a wide share of the working population, particularly the poor, women and other marginalized groups, can be mobilized for productive activities and benefit from the growth in income, not limited to a small group of already empowered individuals. Applied to the plastic value chain, it asks not only who is able to recover the plastic or earn foreign exchange from exporting recycled flakes, but who is able to participate with what income, security and bargaining power.

In this paper, it is argued that the reusable plastic industry is not just an environmental footnote, but an important economic activity that has already employed a significant number of people, generated measurable export earnings, and falls under the country's stated commitments in SDG 8, SDG 10 and SDG 12. The rest of the paper is structured as follows: Section 2 presents the problem; Section 3 discusses the study's significance; Section 4 reviews the literature on circular economy theory, inclusive growth theory, and value-chain research; Section 5 develops a conceptual framework linking value-chains to labor outcomes; Section 6 restates the objectives and questions; Section 7 describes methodology; Section 8 maps the value chain; Section 9 discusses findings; Section 10 sets out recommendations; Section 11 notes limitations; and Section 12 concludes.

2. Statement of the Problem

Insofar as a circular economy can be said to exist in Bangladesh today, it is ad hoc and poorly developed, and separated from the formal economy and social policy. By most estimates, under

half – by some approaching one third – of the nation's plastic use is ever recycled, and the vast bulk of recycling takes place through informal operations rather than registered companies. The income of those who work within informal systems, such as waste pickers and small-scale aggregators, is meagre and uncertain, and they lack access to credit, insurance, legalisation or institutional pathways to improve their position in the value chain.

The exact economic value that the reusable plastic industry creates, and how it is distributed among participants from waste pickers to exporters, is not documented. The extent to which formalization and circular-economy adoption benefits the poorest actors – waste pickers, small aggregators – versus downstream actors – processing firms, exporters, manufacturers – who have a financial interest in formalization, while the base of the pyramid remains unchanged, is not yet well established. If unaddressed, policymakers risk crafting a CE programme that optimises for material recovery and export revenue but inadvertently reinforces the exclusion of the workforce who enable that recovery. A circular economy without explicit consideration of existing informal workers risks formalizing processes that exclude them, as has happened in other developing-country contexts, such as earlier EPR implementation in India or Latin America, where existing waste-picker networks were not always targeted.

The problem, thus, is two-fold: first, to describe the structure of value creation and capture along the value chain of reusable plastic in Bangladesh; and second, to gauge the likelihood and extent to which value-chain formalization will affect the income and working life of workers at the bottom of the chain, so that inclusion can become an explicit goal of environmental policy.

3. Significance of the Study

The study helps both academia and policy practice in Bangladesh. Academically, circular-economy literature has focused heavily on aggregate environmental and economic indicators, with little consideration of who within a value chain benefits from the value that circularity creates. This is exacerbated by the fact that the literature is overwhelmingly focused on the developed world. As documented by Kirchherr and van Santen (2019), reviews yield a similar pattern: research is disproportionately rich for the developed world and sparse for the developing world. Literature on the circular economy in Bangladesh has started filling this gap, with reviews on the garments, tannery, plastics and energy sectors, as exemplified by Ahmed, Mahmud and Acet

(2022), but little of it examines the plastic value chain from a worker or distributional lens. This paper extends that literature.

At the policy level, the study addresses commitments Bangladesh has given itself: SDG 8, Goal 10 and Goal 12, including waste-generation reduction through prevention, recycling and reuse. Since 2021, the Ministry of Environment, Forest and Climate Change has worked on a national action plan for sustainable plastic management, and a draft EPR directive was released in late 2025 for public comment, requiring producers and importers to collect and recycle plastics. Because these instruments are being developed as this study proceeds, the analysis has immediate relevance: a policy framework ignoring the several hundred thousand informal workers now making their living in the sector risks further marginalisation or failure to meet its own collection targets, since informal workers currently handle most collection in the country.

4. Literature Review

4.1 Circular Economy Theory

The concept of the circular economy was originally developed by the Ellen MacArthur Foundation (2013) as an alternative to the linear "take-make-dispose" model, envisioning materials kept in use as long as possible via maintenance, reuse, refurbishment and recycling. In their widely cited synthesis of 114 definitions, Kirchherr, Reike and Hekkert (2017) find that most definitions rest on the 3R principle of reduce, reuse, and recycle, though with significant variation in focus on environmental, economic, and social dimensions, and a particular lack of focus on the social dimension. This is highly relevant to the present study: when the circular economy is conceptualised, it is likely to incorporate social outcomes to a lesser extent, in both design and evaluation of policy.

In a subsequent critique, Kirchherr and van Santen (2019) confirm this point, finding that developed-economy contexts dominate circular-economy research while developing nations—where informal recycling and reuse can be more substantial in relative terms—remain far less studied. Efforts are starting in Bangladesh to fill this void: Ahmed, Mahmud and Acet (2022) apply a circular-economy model to Bangladesh, record existing circular practices across manufacturing sectors, and conclude that a circular-economy strategy in developing countries must reckon with

informality. This paper extends that work to the sub-national, sub-sectoral level of the reusable plastic value chain in Dhaka.

4.2 Inclusive Growth Theory

The paper's normative and evaluative framework is provided by the inclusive-growth literature. For the World Bank, Ianchovichina and Lundstrom (2009) argue that growth diagnostics must go beyond aggregate output and poverty-reduction measures to consider the speed and breadth of growth across sectors, and whether it includes a significant share of the labour force, including historically underrepresented groups. Ali and Son's (2007) Asian Development Bank framework similarly stresses opportunity: growth must be measured in the range of opportunities available to the population as a whole, not skewed to a privileged minority.

Applied to the reusable plastic value chain, the inclusive-growth framework highlights measurable aspects: whether jobs are being created or lost; whether incomes are growing, and for whom; whether working conditions, including exposure to occupational hazards, are improving; and whether participants can transition to more secure, higher-paying jobs, particularly those at the bottom of the chain. These dimensions organize the empirical mapping in Section 8 and the discussion in Section 9.

4.3 Value-Chain and Business-Model Literature on Plastics Recycling

A third strand of literature is applied and technical, focusing on business models and institutional mechanisms used worldwide to improve material recovery rates and the incomes of informal/semi-formal recyclers: buy-back centers, deposit-refund schemes, collective aggregation models, and extended producer responsibility (EPR) schemes, all aiming to provide waste pickers a stable point of sale, a financial incentive, bargaining power, and a shift of financial responsibility from municipalities and informal labor to producers and importers. Wilson, Velis and Cheeseman (2006) report on the significant contribution of informal-sector recycling to waste management in developing nations generally, noting that such systems are "hybrid," with informal actors performing functions formal municipal actors do not or cannot.

Evidence on the distributional issue at the heart of this paper is relatively sparse for Bangladesh. According to Moazzem (2016) and other trade-press analyses, the volume of exportable plastic –

mostly PET flake – has been quantified at more than thirty million US dollars per annum, per Export Promotion Bureau data. What these studies do not examine as carefully is the distribution of that value, i.e. who in the chain benefits, and whether the sector's recent expansion has improved the livelihoods of the waste pickers and small aggregators who supply the raw material. There is limited micro-level evidence, such as the Chattogram open-dumping-site study reporting an average waste-picker income of 443.5 taka per day, or Dhaka-based qualitative research on independent tokais, which is not generally integrated into value-chain analysis of where value is added by aggregators, processors and exporters. This is the integration this paper attempts.

4.4 Synthesis and Gap

Combined, these three streams reveal a gap: no literature on the circular economy examines sectoral practices and material flows for plastics in Bangladesh specifically; no inclusive-growth literature examines the distribution of growth impacts for plastics in Bangladesh; and no value-chain literature examines how outcomes can be improved for informal plastic recyclers in Bangladesh. What is lacking is an integrated analysis of Bangladesh's reusable plastic value chain that examines whether the mechanisms described in the literature are occurring, and whether they reach workers at the bottom of the chain. This paper contributes to filling that gap.

5. Conceptual Framework

The concept of this study rests on the assumption that the organizational structure and governance of Bangladesh's reusable plastic supply chain directly influences the working conditions of those involved. The framework builds on Global Value Chain (GVC) analysis, which examines the distribution of production across actors and locations, and the distribution of value generated by the chain as a whole, within governance arrangements – the rules, standards and power dynamics that coordinate the chain.

There are two interdependent phases in the framework. The first identifies the main players – waste pickers, itinerant buyers, small aggregators, processing units, formal recyclers and manufacturers – and estimates what percentage of value each captures at each node. Rather than a technical pipeline, the value chain is treated as an economic system in which prices are set, bargains are

made, and gaps in bargaining power exist between individual waste pickers and the aggregators and processors who purchase their material.

This structural position is then the primary explanatory variable in the second stage, answering the central question: what is the relation between position and outcome? There is systematic variation in formalisation along the chain, from informal, unregistered, cash-based work common among waste pickers and small aggregators, to formal, contracted work typical of larger processing and manufacturing entities. This position, and its formalization level, affects worker outcomes via three channels: formalization, linked to access to credit, insurance, and legal protection; productivity, linked to access to better technology, storage, and transport; and protection, linked to occupational safety standards, written contracts and grievance mechanisms largely absent at the informal end. These three channels structure the discussion in Section 9; originally designed for thematic analysis of qualitative interview and focus-group data, they are used here for that purpose instead, since there was no primary fieldwork for this paper.

6. Research Objectives and Questions

The study aims at two objectives from the underlying research proposal: first, to understand the current situation of the reusable plastic value chain in Bangladesh, identifying key players from collection to manufacturing and export and how they are connected by material flow, pricing and governance; second, to gauge the situation of actors at the bottom of the chain – mostly waste collectors and micro-recyclers – focusing on their earning potential and access to social protection.

These goals yield two research questions. The first asks about the current structure and distribution of value in the reusable plastic supply chain in Bangladesh – who are the key stakeholders, how do material and payment flow between them, and where is value economically concentrated. The second concerns the differences between informal and formalised parts of the sector and the implications for the distributional effects of current and future formalisation policy, such as the government's draft Extended Producer Responsibility policy.

7. Research Methodology

7.1 Research Design as Proposed

The underlying research proposal outlines a mixed-methods approach: a quantitative component to map the value chain and estimate income distribution across nodes, and a qualitative component of semi-structured interviews and focus groups exploring the challenges of formalizing the recycling system. The proposed study area is Dhaka, with a target population of four actor categories – informal waste pickers (IWP), small-scale aggregators (SSA), formal recycling and reprocessing (RC), and manufacturers using recycled plastic as input. Sampling is multi-stage: purposive sampling of recycling clusters, snowball sampling of informal-sector respondents, and simple random sampling of formal-sector respondents from firm registries, for about fifty respondents – roughly 16 informal-sector, 16 formal-sector employees, and 16 owners, plus five to six key informants. Instruments include a structured worker survey on income, hours, safety and formalization status; a firm questionnaire; interviews; focus groups with waste-picker communities; and secondary data from the Department of Environment, Bangladesh Bureau of Statistics, and trade associations.

7.2 Adaptation for This Paper

The primary data collection described above requires institutional access, ethical clearance, and long-term fieldwork, and is not within the scope of this paper. This paper instead synthesizes secondary evidence, applying the conceptual framework and research questions to the best available published evidence: government and Ministry of Environment policy documents, World Bank and development-partner technical reports including the World Bank's 2025 EPR report, published field studies of waste-picker livelihoods in Dhaka and Chattogram, peer-reviewed material flow analysis, and grey literature. Where the underlying proposal's primary instruments would generate original income-distribution estimates, this paper triangulates across the closest available secondary estimates, marking where they differ by year, geography or methodology. This adaptation is a limitation (Section 11); the paper should be read as a scoping analysis, not a replacement for the field survey identified in the original proposal.

7.3 Analytical Approach

Drawing on the conceptual framework in Section 5, secondary evidence is presented first by documenting the structure of value chains, including actors and, where possible, approximate value shares, then by comparing conditions across the spectrum of formalisation through the three channels of formalisation, productivity and protection. This mirrors the proposed project's quantitative component (description and income-distribution analysis) and qualitative component (the three thematic channels), but synthesizes secondary data instead of original survey and interview data.

8. Structure and Actors of the Reusable Plastic Value Chain in Bangladesh

8.1 Scale of the Sector

The magnitude of the Bangladesh plastic economy is estimated differently depending on methodology and year, but is broadly similar across estimates. A national material flow analysis for FY2019-2020 found Bangladesh imported more than 1.7 million metric tons of plastic, exported about twenty-two percent of that volume, with packaging the largest end-use category (about 43 percent of consumption), and per-capita consumption around 7.9 kg per year. A more recent industry estimate puts total plastic waste generated at around 821,000 metric tons per year, with about 294,000 metric tons recycled, twenty-five per cent lost to the environment, and the rest landfilled. Of the material recycled, around ninety percent goes through the informal sector – a finding echoed by multiple independent sources on Dhaka's recycling economy, and the empirical starting point for this paper.

8.2 Mapping the Actors

Waste pickers or tokais, at the bottom of the chain and often without an employer, collect recyclable materials on streets, landfill sites, drains and waterways. This population is disproportionately internal migrants and internally displaced persons, many of them children and adolescents who pick up waste as a low-barrier livelihood option when no viable alternatives exist. Waste pickers usually do not work for a particular buyer, selling to whichever shop is available or offers the greatest price.

The next group are feriwallas, itinerant waste buyers who collect recyclable material door to door, and bhangari, small aggregation shops that are the main market for tokais and feriwallas. They sort material into types – a value-adding step, since clean sorted plastic commands a significantly higher price than mixed, contaminated material – and build up quantity for onward sale to larger operators or processing units. Areas such as the peri-urban industrial zones of Narayanganj and Gazipur, and Kamrangirchar, Lalbagh, Islambagh, Chawkbazar and Jatrabari, are identified as clusters where this aggregation occurs.

Processing units.break down plastics—especially PET bottles—into flakes or granules, the point at which material enters formal or semi-formal commercial channels: flakes are sold domestically to fiber and resin manufacturers or exported – Bangladesh exported PET flakes worth 30.2 million USD in FY2022-23, mainly to India, China and South Korea. Manufacturers using recycled plastic as input sit at the top of the chain, producing recycled packaging, household products, industrial products (including crates and pallets), and textile fiber.

8.3 Where Value and Risk Concentrate

These nodes together present a pattern typical of informally-led recycling economies worldwide: value and formality rise along the chain, while risk and precarity concentrate at its bottom. Waste pickers and feriwallas do the most strenuous and dangerous work of separating unsegregated waste, often without gloves, footwear or protective gear, bearing the risk of a day's work yielding little income, and hold the smallest, most volatile share of the chain's value. Bhangari operators, though informal, occupy an intermediate position: they can set the price paid to pickers and feriwallas, an imbalance – one side lacking storage space or the power to refuse supply – that is structural rather than incidental. Processing units and manufacturers, by contrast, have registered business status, institutional credit and direct export-market access, positioning them to capture a disproportionate share of value added.

9. Findings and Discussion

This section describes the implications of the secondary evidence for the paper's two research questions, organized around the three channels of formalization, productivity and protection.

9.1 Income Levels Across the Chain

Income levels across the chain differ sharply. This review does not resolve the lack of integrated value-chain income data noted in Section 4; chain-wide income comparisons remain a gap the underlying proposal's primary survey is designed to fill. Available estimates are point estimates at the waste-picker level. The Chattogram open-dumping-site study found an average daily income of about taka 443.5, or roughly taka 10,644 monthly; greater fluctuations are reported in Dhaka's qualitative work with independent waste pickers, with income approaching negligible on bad days. National wage statistics, including the minimum wage, are higher than reported waste-picker wages. Though not exactly comparable populations, the common finding is that waste-picker income sits at or below the working poverty line, even though this work is essential to a sector contributing tens of millions of dollars to Bangladesh's export earnings from PET flake alone. This is the clearest evidence that value created by the industry is not shared inclusively (Section 4.2): a large, poor, informal segment of the labour chain receives a disproportionately smaller share of returns than the value their labour produces.

9.2 The Formalization Channel

The formalisation pathway, which should provide access to credit, insurance, and legal protection, is currently imbalanced. Formal recycling and manufacturing companies can obtain commercial credit, enter export contracts, and join policy processes such as the draft EPR directive, with rising collection and recycling targets for producers and importers. Waste pickers are not part of this formal structure at all. Yet Section 8.1 shows they currently recycle about 90 percent of material flow, with no standing or registration in the processes shaping the new directive's collection targets. This asymmetry carries a policy risk: if producers replace existing waste-picker networks with formal contracts rather than integrate them, they would displace a workforce that has already developed the capacity to recover waste – a trend observed in earlier EPR rollouts elsewhere, where waste-picker networks were bypassed in favour of formal collection contracts.

9.3 The Productivity Channel

There are significant productivity differentials along the chain, tracking the trend in formalization. Waste pickers and feriwallas use a handcart or bicycle and manual sorting; the value they can add per hour is limited by manual collection and sorting capacity. Bhangari shops add a small

productivity increment by combining sorting and storage, obtaining a better unit price than a single picker working alone. The highest productivity is found at processing units with shredding, washing and pelletizing facilities, where mechanization converts collected material into higher-value PET flakes or granules, ready for industrial use or export, in far less time than manual processing. This productivity gap is not purely structural – waste-picker work is often full-time and arduous – but is plausible, since available technology limits how much value their work can create regardless of effort.

9.4 The Protection Channel

The difference between the three channels is most pronounced in protection. Occupational safety for waste pickers and feriwallas is largely lacking; field studies in Dhaka report most lack stable, safe housing. Formal firms sit closer to Bangladesh's labour law and environmental regulation, though compliance is inconsistent, especially among small and medium processing units. Access to social protection – health insurance, pensions, unemployment protection – is virtually nonexistent for informal workers, and only partly covered even in formal manufacturing employment. This inequity links to the income findings in Section 9.1: workers lacking insurance or savings are structurally vulnerable to falling deeper into poverty after a health shock, as observed across Bangladesh's informal and daily-wage workforce during the COVID-19 pandemic.

9.5 Synthesis: Is the Sector a Pathway to Inclusive Growth?

The evidence indicates that the growing reusable-plastics sector in Bangladesh is a genuine growth story: consumption is rising, PET-flake exports are worth tens of millions of dollars annually, and the workforce is estimated at hundreds of thousands nationally. What the evidence does not support is that this growth is inclusive in the sense defined by Ianchovichina and Lundstrom (2009) and Ali and Son (2007): income, productivity, and protection rise with formalization, while those at the bottom – disproportionately the poorest and most marginalized, including displaced migrants and children – hold the smallest, least secure share of the value their labour creates. The paper's key finding, based on secondary rather than primary evidence, is that formalization policy stands at a fork: it can extend inclusion to the base of the chain by formally recognising waste pickers and bhangari operators, or bypass them under new institutional cover.

10. Policy Implications and Recommendations

The analysis above points to several policy directions to achieve an inclusive Bangladesh transition to a formal circular economy for plastic:

1. An EPR scheme, such as the current draft directive, should clearly include existing informal waste pickers and bhangari aggregators in its compliance framework rather than treat the formal system as separate. International experience, including the World Bank's 2025 EPR report and comparative work by the Global Alliance of Waste Pickers and WIEGO, suggests two design paths: formalise and integrate existing informal waste pickers, for example through registered cooperatives as recognised collection agents, or exclude them and adopt new formal collectors instead. The distributional impact of Bangladesh's EPR will depend on this still-open design decision.

2. The formalisation channel identified in Section 5 is generally legalisation, depending on identification and registration of waste pickers, which could be done with city corporations or waste-picker cooperatives and NGOs already active in the sector – a low-cost, high-leverage first step.

3. Waste-picker cooperatives that pool volume as formal groups, rather than selling to bhangari shops individually, offer good prospects, since the price-setting asymmetry between pickers and bhangari shops is structural rather than incidental (Section 8.3); cooperative bargaining is a direct way to address this without wholesale restructuring of the price chain.

4. Investment in basic processing technology – small mechanised sorting or baling equipment via microfinance or blended finance – at bhangari-level aggregation points would raise the productivity ceiling noted in Section 9.3, not only at large processing units.

5. A specific social protection package for informal and quasi-informal waste-sector workers could be designed, along lines already piloted for other informal segments of Bangladesh's economy, to tackle the protection gap identified in Section 9.4 and reduce vulnerability to health and income shocks.

6. More generally, the government's data infrastructure for the sector should improve. As this paper repeatedly notes, there is no income data along the value chain; a periodic,

standardized survey of value-chain actors, as proposed in this paper's original research design, would benefit the Department of Environment, Bangladesh Bureau of Statistics, and trade associations, enabling formalization policy to be monitored against evidence of its actual distributional effects rather than assumptions.

11. Scope and Limitations

This paper has several limitations. Most important, it is not a report of primary field work involving fifty respondents, interviews, and focus groups as specified in the underlying research proposal, but a secondary-evidence synthesis triangulating income, formalization, and protection comparisons from non-uniform sources varying in year, geography, sample, and methodology. Income figures for waste pickers are not necessarily representative of Dhaka specifically, and the national material-flow estimates for FY2019-2020 are outdated by developments such as the 2021 national action plan and the 2025 draft EPR directive. This paper can only flag the inconsistency that the underlying proposal's primary data collection was designed to address.

Second, the analysis is limited to the reusable and recyclable plastic sub-sector and to evidence from Dhaka, per the original proposal's scope, and cannot represent other circular-economy sub-sectors in Bangladesh, such as garments recycling and e-waste, with different value chains and policy regimes.

Third, the paper cannot answer the original proposal's causal, before-and-after questions: has the shift from informal to formal status improved individual workers' income and conditions, or did other factors drive the improvement? The cross-sectional comparisons in Section 9 suggest an association between formalization and better outcomes, consistent with the paper's conceptual framework, but confirming the individual-level causal mechanism would require primary panel or retrospective data as outlined in the original proposal.

Fourth, this paper is not a replacement for the empirical field study outlined in the original proposal, but a scoping and evidence-synthesis paper that motivates and outlines it. The next phase – the mixed-methods survey and interview programme with fifty respondents described in Section 7.1 – will provide the internally consistent, Dhaka-specific, chain-wide income and working-condition data the literature currently lacks.

12. Conclusion

Bangladesh is at a critical policy moment for the reusable plastic sector. In practice, it is already a largely informal-sector-driven circular economy, with most plastic recycling coming from waste pickers, itinerant buyers and small aggregators operating without formal legal, financial or social safety nets, generating tens of millions of dollars in annual export earnings while reducing the raw material import bill. The EPR framework and national action plan now being crafted, with the draft directive still out for consultation, will shape whether Bangladesh's circular economy for plastic is truly inclusive or simply a better-named variant of the extractive model that currently dominates.

The evidence in this paper suggests that, without targeted policy measures, the likely trend runs the other way: value and protection concentrate at the formal, capital-intensive end of the chain, while the workers who do the most hazardous, essential work – waste pickers in particular – remain most distant from formalisation's benefits. This need not be the outcome. The recommendations in Section 10 – direct integration of informal workers into EPR compliance, expanded occupational recognition and social protection, cooperatives to address bargaining imbalances, and investment in technology and productivity – are technically and administratively feasible within Bangladesh's current institutional capacity and have been implemented in other EPR systems where inclusion of informal workers is explicit rather than incidental.

Whether Bangladesh's circular economy for plastic becomes inclusive, or formalizes and rewards only the already-favored end of the chain, depends on whether the government treats distributional inclusion as a policy goal, measured as rigorously as material recovery and export volumes. This paper and the field survey it proposes argue that the latter approach would leave Bangladesh's most vulnerable environmental workers behind at the very moment their sector gains formal recognition. Making Bangladesh's several hundred thousand informal plastic recyclers part of a formal, protected circular economy with adequate remuneration would honour the premise driving this research: that those who build Bangladesh's circular economy deserve to share in the value it generates.

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Roll No:**102**

Assessing the Implementation of the World Bank Country Partnership Framework (CPF) 2023-2027 for Bangladesh

An Empirical Mixed-Methods Assessment of Portfolio Alignment, Ownership and Coordination

Submitted to: Dr. Md. Zohurul Islam (MDS, BPATC)

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September 2026

158th Advanced Course on Administration and Development (ACAD)
Bangladesh Public Administration Training Centre (BPATC)

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Abstract

The Bangladesh Country Partnership Framework (CPF) of the World Bank Group for 2023-2027 is structured with respect to three High-Level Outcomes and eight objectives. The current study explores the degree to which these focus areas have informed the country's portfolio of operations and examines the views stakeholders hold on the effectiveness, ownership, and coordination of such interventions. Utilizing a mixed-methods design, the study incorporates a survey of government and World Bank Group respondents, in-depth key informant interviews analyzed using the Framework Analysis approach, and documentation of signed project records, CPF, IFC, and MIGA documents. In terms of the twenty-five operations that form the indicative IDA20 program, delivery in total is reported to be 60%, including 100% for socioeconomic inclusion, 66.7% for climate resilience, and 25% for private sector employment opportunities. In the context of this indicative IDA20 program, IFC investments are nearly six times the volume of signed sovereign operations, and MIGA addresses one of the focus areas – hence, private sector delivery is significant but largely invisible in the government-managed portfolio. Overall, ownership is almost neutral (3.17), and among government respondents, it is somewhat low (medium effect size). Coordination is highest at the working level, whereas lowest at the government organization level.

Keywords: Country Partnership Framework; Bangladesh; World Bank Group; development effectiveness; country ownership; portfolio implementation; coordination.

1. Introduction

1.1 Background and Context

The Country Partnership Framework (CPF) is the main planning tool for the World Bank Group's engagement with a member country. It is the authorising framework for financing, guarantees and knowledge support under the World Bank Group's Country Engagement Directive and each operation needs to demonstrate how it contributes to the results outlined in it (World Bank Group, 2025). It is part of a broader cycle: an assessment highlights the principal limitations impeding progress, the CPF translates them into a selective program, a Performance and Learning Review allows for correction, and a Completion and Learning Review feeds lessons into the next framework.

The Bangladesh CPF for FY2023-FY2027 was developed as Report No. 181003-BD and was approved by the Board on 26 April 2023 (World Bank Group, 2023a). CPF include IDA, IFC and MIGA, highlighting the Group's desire for working as one institution rather than three separate ones. It is consistent with the Bangladesh Government's Plan. It is based on three High-Level Outcomes: HLO A pursued more private sector jobs HLO B tried to improve more socio-economic inclusion and HLO C improved better climate change resilience. They are maintained by the eight objectives as summarized in Table 1.

HLO	Objective	Focus
A	Objective 1	Improved business environment for broad-based private sector development
A	Objective 2	Strengthened financial intermediation to support long-term growth and resilience
A	Objective 3	Improved effectiveness of public institutions to deliver better services
B	Objective 4	Improved equity in access to quality services for human capital development
B	Objective 5	Enhanced economic opportunities for women and vulnerable groups
B	Objective 6	Strengthened spatial and digital connectivity for inclusive growth
C	Objective 7	Improved effectiveness of delta management to accelerate climate resilience
C	Objective 8	Enhanced sustainability and productivity in the use of natural capital

Table 1. Structure of the CPF 2023-2027 for Bangladesh. Source: World Bank Group (2023a).

The framework came up with a new indicative lending program under the twentieth replenishment of IDA which is shown in Table 2. The Group expected to bring forward twenty-five operations during the period, which were divided as eight under HLO A, five under HLO B and twelve under HLO C. The list was made public right away and is a self-declared benchmark that also allows

delivery to be measured against stated intent rather than an external standard. This comparison forms the core of this study's response to the first research question.

Timing of the framework is also important as Bangladesh is on the path of LDC graduation and transition to an Upper Middle-Income Country by 2031. Graduation results in the loss of trade preferences and concessional financing and encourages private investment, expanding the range of export products and national revenue. Nevertheless, the country is still very susceptible to climate vulnerabilities, macroeconomic pressures, foreign exchange shortages and political transition.

1.2 Statement of the Problem

Partnering frameworks can be evaluated on the basis of good design; nevertheless, good design does not automatically guarantee a good implementation. Implementation challenges can arise in a CPF in terms of project preparation, delayed disbursement, poor inter-ministerial coordination, or lack of ownership by the implementing organizations. In earlier evaluations of World Bank engagements in Bangladesh, some implementation problems have been found, such as extensions of projects, delays in procurement, and absorptive capacity issues (IEG, 2022). One may wonder if there are implementation challenges for the currently existing CPF despite having a specific structure with three outcomes and eight objectives.

The public debate focuses on aggregates-the commitments and projects that have been approved-but does not offer any information about how the framework is perceived to be aligned, owned, and coordinated. This study combines portfolio evidence with stakeholder perceptions.

1.3 Research Objectives and Questions

The study pursues two objectives and two research Questions.

Objectives 1: To assess the extent to which the priorities and objectives of the CPF 2023-2027 have been translated into the Bangladesh development portfolio and implemented through project preparation, approval, financing, disbursement and implementation progress.

RQ1 asks to what extent the priorities and objectives of the CPF have been translated into the portfolio and effectively implemented through preparation, approval, financing, disbursement and implementation progress.

Objectives 2: To assess the perception of stakeholders and development partners regarding the effectiveness, ownership and coordination of CPF-supported interventions.

RQ2 asks how effectively those priorities have been operationalized, as judged by the stakeholders responsible for delivery.

1.4 Justification of the Study

This research is based on the design of the CPF which is cyclical in nature; where diagnostics shape the framework; the framework approves the programs; PLR facilitates mid-way alterations; and the Completion and Learning Review (CLR) ends the process by providing lessons for the next framework (World Bank Group, 2025). As the CPF for 2023-2027 of Bangladesh nears its end in the fiscal year 2027, the preparation of the next CPF is underway simultaneously along with the CLR. This research will facilitate this process by evaluating the process of implementation in relation to the planned outcomes, collecting anonymous perceptions of the administrators of the portfolio, recording deviations between the views of Bank and the Government about the evidence, and offering an assessment approach that can be used again. These findings can serve as input to the CLR and the next CPF. This time is especially significant for Bangladesh due to its graduation from LDC status, less concessional financing and the need of Government of Bangladesh to conduct negotiations and evaluation more strategically.

2. Literature Review

2.1 Overview of Existing Studies

This study relies on three broad streams of literature.

First, literature on the architecture of international aid effectiveness. The Paris Declaration (OECD, 2005) has identified the principles of development cooperation: ownership, alignment, harmonization, managing for results, and mutual accountability; later, the framework was expanded to the Accra Agenda for Action (2008) and the Busan Partnership (2011). The OECD-DAC criteria (2021): relevance, coherence, effectiveness, efficiency, impact, and sustainability become the evaluation framework of the study, where relevance and coherence will serve as the key components in Objective 1.

Second, literature on ownership. Killick (1998) claimed that conditions do not lead to sustainable policy changes without domestic commitment. Buiter (2007) stressed the importance of defining domestic stakeholders and identifying the ownership object, and Whitfield and Fraser (2009)

viewed ownership as an ability to negotiate and seek alternatives rather than merely formally endorsing the strategy. Booth (2012) attributed challenges related to ownership to the collective-action problem and political time constraint and emphasized the focus on procedural issues within the effectiveness agenda. Faust (2010) argued that ownership is achieved through societal consensus that is usually missing. Consequently, documentary alignment is not evidence of ownership, thus Objectives 1 and 2 should be considered together.

Third, literature on Bangladesh and Bank country strategy. IEG (2020) evaluated the country programmes as relevant and characterized by a lack of results frameworks and activity-level indicators, while IEG (2022) assessed FY2011-201 engagement and identified lessons learned for the current CPF. Quibria and Islam (2015) viewed the aid performance as mediocre due to the limited absorptive capacity and implementation delays. National reference documents are 8FYP (GED, 2020a), Perspective Plan 2021-2041 (GED, 2020b), and VNR 2025 (GED, 2025). Sector-specific approaches have been covered by previous literature, while the framework as a whole is ignored.

2.2 Identification of Gaps

However, three gaps still remain. Ownership has been widely conceptualized but not much has been done to measure it, and studies which compare financiers' responses and those of recipients have hardly been undertaken. Most of the literature on Bangladesh concentrates on individual sectors rather than the whole framework, and evaluations have been carried out only after closure despite the possibility for corrections at an earlier point in time.

2.3 Theoretical Framework

The analysis is based on four theoretical frameworks. Implementation theory is the base: Pressman and Wildavsky (1973) have proven that failure occurs not at design but at decision-making steps in the chain of actions necessary for implementation, with each clearance increasing the chances of failure. It is applicable for all operations that require Board approval, signing of Financing Agreement, Development Project Proposal, ECNEC approval, land acquisition and procurement clearance prior to work commencement. According to Lipsky (1980), program execution changes when it is performed by officials who operate it through discretionary power, hence the reason why perceptions of officials are used as evidence.

According to stakeholder theory by Freeman (1984) and Bryson (2004), the need to survey institution groups individually is explained by the possibility that there are different views on the same program, which is the finding itself. Results-based management theory forms the framework

used in CPF results framework to differentiate results that are generated by Group from the results where Group makes a contribution; the criticism of this concept is the tendency of measurement to become something easily quantifiable. Fourth framework, institutional theory by observed how an organisation can follow the procedures adopted from a partner in financing while practices remain the same, called decoupling. They predicted that formal agreement would be more achievable than real ownership, a prediction easily verifiable against the empirical evidence below.

3. Methodology

3.1 Research Design

A convergent parallel mixed methods design is applied to conduct this study (Creswell & Plano Clark, 2018). Both qualitative and quantitative strands of evidence are gathered within the same timeframe and analyzed separately and then integrated in interpreting the results. Neither strand alone is able to address both research questions: Documentary and survey evidence provide a picture of the portfolio and the scope of perceptions whereas interviews give explanations behind the pattern without providing its scope. Convergence of evidence enables researchers to corroborate a finding, while divergence to find new areas for investigation.

3.2 Data Collection Methods

Quantitative analysis was based on a five-part online survey comprising questions on profile; awareness and alignment; ownership; coordination; and implementation performance had a five-point scale. Qualitative analysis was carried out through semi-structured interviews conducted on key informants from both the officials of Bangladesh Govt. and World Bank that had portfolio-wide recognition and analyzed through Framework Analysis (Ritchie and Spencer, 1994). The document review involved CPF indicative programme; Financing Agreement signed; Bank operations (January 2023-August 2026); data from IFC and MIGA. Triangulation methods used included three approaches.

3.3 Sampling and Participants

Purposive sampling was adopted because officials with direct practical experience in World Bank-financed projects in Bangladesh are best positioned to provide relevant data on the research topic. The questionnaire survey included participants from the Economic Relations Division, Planning Commission, Finance Division, and World Bank Group. More than half of the respondents hold policy, negotiation, or approval-related roles. Furthermore, 48.3 per cent have participated in four

or more projects since April 2023. KII participants were selected equally from government and World Bank Group.

3.4 Tools and Instruments

The five-point Likert-type scales were applied, from strongly disagree to strongly agree, and two negatively stated items were reverse-coded. Ownership index included participation, involvement in decisions, consultation, and ownership; Coordination index included information exchange, duplication, joint efforts, communication, and coordination. The internal reliability was measured using Cronbach's alpha coefficient, and the means were converted into the range 0–100; the relevant formulas can be found in Appendix B.

Considering that non-parametric tests should be used for small samples of ordinal variables, they were applied all over the analysis: Wilcoxon signed-ranks test vs 3.5, Mann-Whitney U, Kruskal-Wallis H, and Spearman's rank correlation were applied, along with effect sizes, due to lack of statistical power. The existing CPF operations were cross-checked against the operations list provided by the Bank and against the signed document provided by the Government.

3.5 Ethical Considerations

Respondent selection was voluntary and based on prior consent, and was done with guarantees of anonymity and aggregate reporting only. One person refused participation but still filled out the survey because of confusion in the skip logic rules. This example is considered voluntary and included in the data analysis, although noted within the database itself. Statistical results in Section 4.2.2 are provided with and without the problematic case included.

4. Results

4.1 Presentation of Findings

4.1.1 Familiarity and reported alignment

Awareness of the CPF is high but not universal. Just over half of respondents describe themselves as familiar with its main outcomes and objectives and a further fifth have worked directly with the document, but roughly three in ten report only broad awareness or none at all. Given that every respondent works on operations authorised by this framework, the CPF appears to function more as a document known to a specialised group than as an operating reference used across the delivery chain.

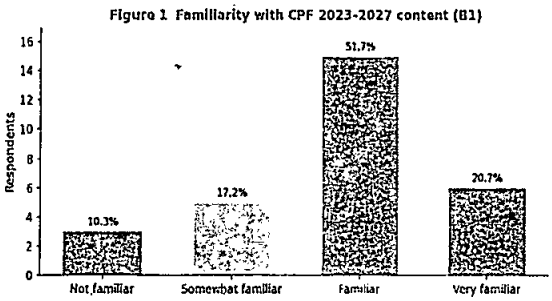

Figure 1. Reported familiarity with the CPF 2023-2027.

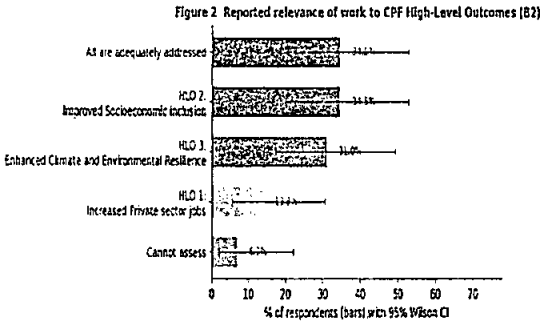

Figure 2. Relevance of work to the High-Level Outcomes.

Respondents were asked which High-Level Outcomes and objectives their work relates to most, selecting as many as applied. Engagement clusters on socioeconomic inclusion, selected by 34.5 per cent, and climate resilience, selected by 31.0 per cent, while the private sector jobs outcome was selected by only 13.8 per cent. At objective level the asymmetry is sharper: Objective 3 on public institutions is the most frequently selected, at 44.8 per cent, while Objective 1 on the business environment draws 20.7 per cent and Objectives 6 and 7 draw 10.3 per cent each.

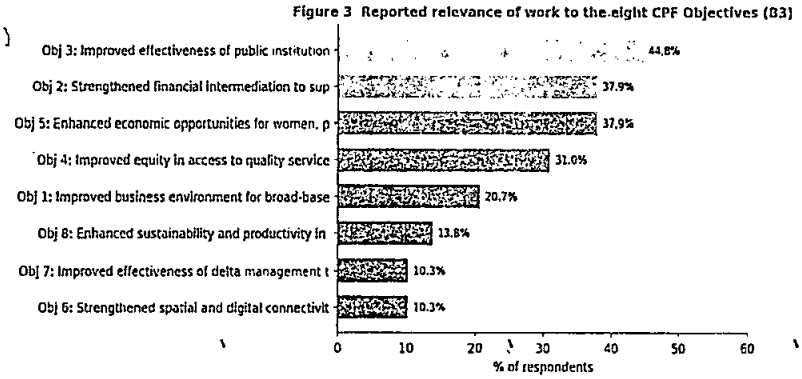

Figure 3. Relevance of work to the eight CPF objectives.

4.1.2 Ownership and coordination

Sections C and D both comprised five items, one each for ownership and coordination (Figure 4; Table 2). Government leadership in priority setting was rated 3.03, being balanced on either side of the mid-point. Authority for the implementing agencies to change project design also received a rating of 3.03, but with the maximum variance in the questionnaire, implying divergence of opinion than indifference. Country systems for procurement, financial management and auditing had the highest rating of 3.66. Two out of three respondents agreed that design decisions come before consultation with the implementing agencies, implying that the design decisions have been made before even the designing of the project.

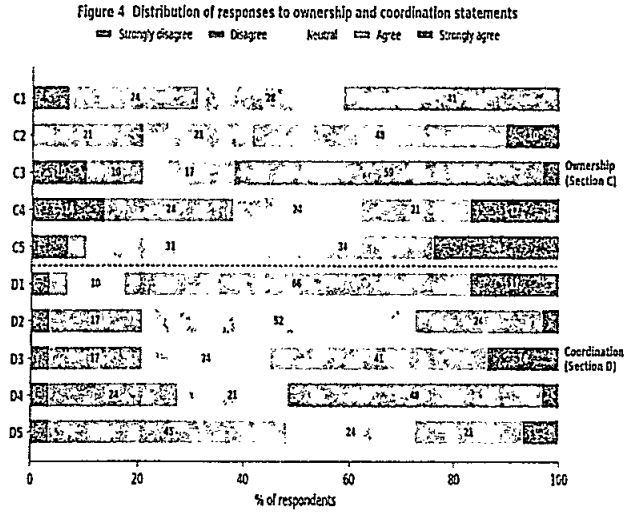

Figure 4. Ownership and coordination responses.

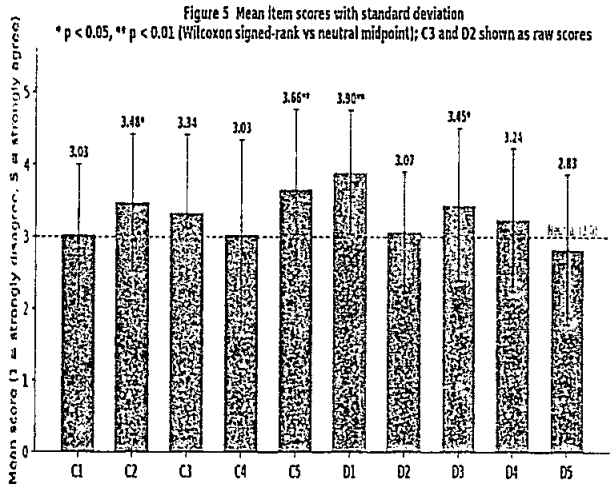

Figure 5. Mean item scores with standard deviation bars.

Of the coordination items in Section D, the highest score of 3.90 with 82.8 per cent agreement and a highly significant Wilcoxon test was received by coordination at the working level of the World Bank-government relationship, the highest in the instrument.

Item	Mean	SD	Median	% Agree	% Neutral	% Disagree	p
C1 Government leadership in setting priorities	3.03	0.98	3.0	41.4	27.6	31.0	0.864
C2 Design reflects implementing agency proposals	3.48	0.95	4.0	58.6	20.7	20.7	0.013
C3 Decisions settled before consultation (raw)	3.34	1.08	4.0	62.1	17.2	20.7	0.117
C4 Agencies can adapt design when needed	3.03	1.32	3.0	37.9	24.1	37.9	0.854
C5 Country systems used rather than bypassed	3.66	1.11	4.0	58.6	31.0	10.3	0.010
D1 WB-government coordination at working level	3.90	0.86	4.0	82.8	10.3	6.9	0.000
D2 Duplication between partners occurs (raw)	3.07	0.84	3.0	27.6	51.7	20.7	0.660
D3 Information shared promptly and openly	3.45	1.06	4.0	55.2	24.1	20.7	0.034
D4 Coordination forums produce acted-upon decisions	3.24	0.99	4.0	51.7	20.7	27.6	0.197
D5 Coordination among government agencies	2.83	1.04	3.0	27.6	24.1	48.3	0.388

Table 2. Item-level statistics (p-values from Wilcoxon signed-rank tests against the midpoint of 3. C3 and D2 are shown as raw scores and reverse-coded before index construction).

4.1.3 Implementation performance and delivery against approved objectives

Performance in implementation was rated cautiously by the respondents. Not a single one chose "poor" or "very poor"; 72.4% chose "satisfactory", 24.1 % "good" and one respondent "very good". The distribution is concentrated towards the middle of the scale, indicating a portfolio which is believed to be working well but not exceptionally.

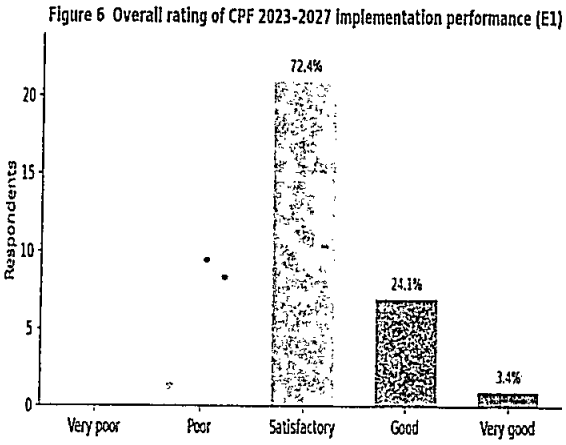

Figure 6. Overall rating of CPF implementation performance.

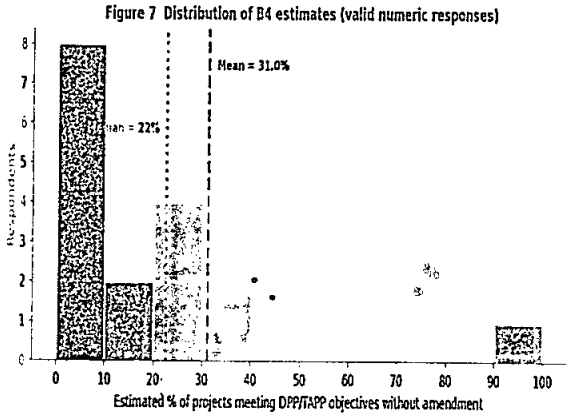

Figure 7. Distribution of B4 estimates.

The fourth item B4 asks respondents to evaluate the percentage of operations signed after April 2023 achieving their approved Development Project Proposal objectives without amendment. Among the usable answers, the average is 31.0 per cent, the median is 22.5, and close to a quarter of answers are zero. A few provided no number, as operations signed after April 2023 operate four to six years and will be closed between 2027 and 2029, hence they cannot be evaluated against their target figures.

4.1.4 Portfolio evidence on preparation and disbursement

Documentation provides an easy means of checking the preparation issue raised in the questionnaire. Twenty-two operations had the date of Board approval and signature of Financing Agreement established. In the case of the nine operations approved on or after 26 April 2023, the average delay between approval and signature was 2.9 months (median 2.8, range 0.7-6.0), while in the case of the thirteen operations approved earlier, the average is 11.3 months. Thus, signature now follows approval much faster and the structural mismatch discussed in section 1.2 takes only about three months of the grace period.

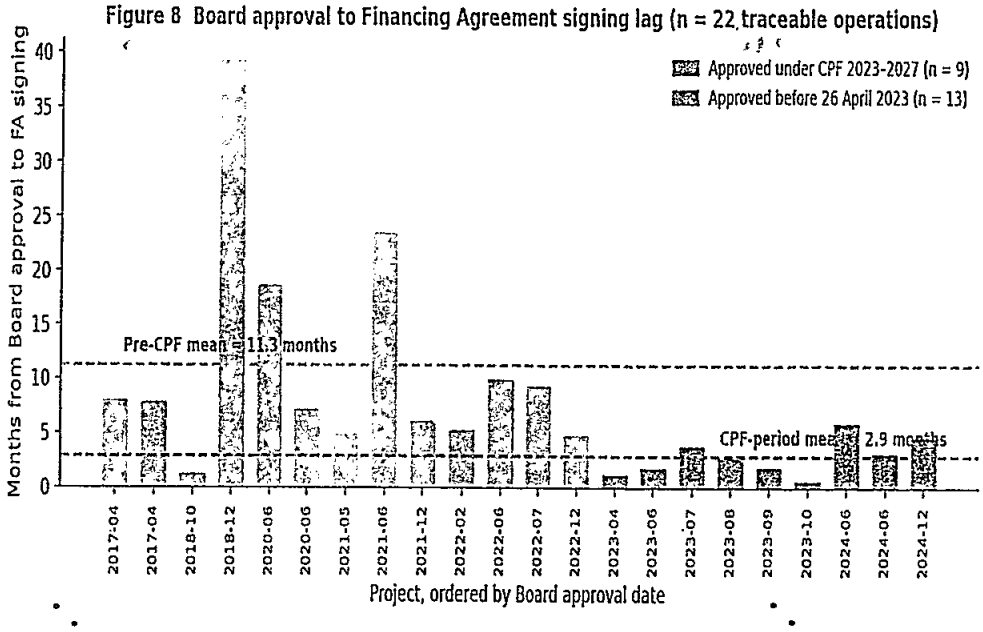

Figure 8. Approval-to-signing lag for traceable operations.

The available data on physical and financial progress provide twenty-four observations. The average physical progress is 34.4 per cent, while financial is 26.1 per cent, there is a gap of 8.2 percentage points. The correlation between these two is 0.949.

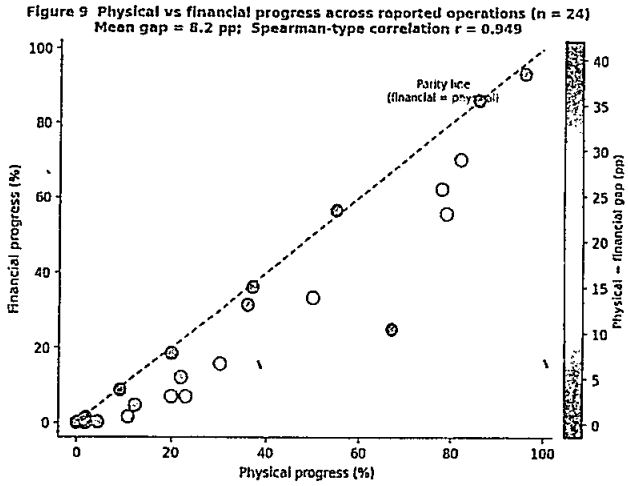

Figure 9. Physical versus financial progress across reported operations.

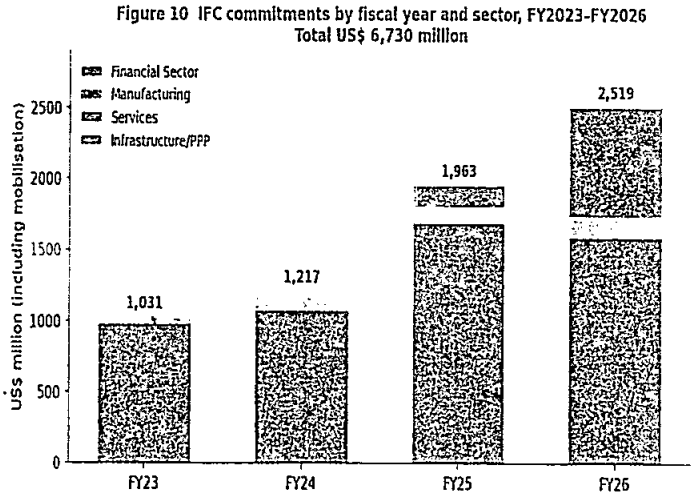

Figure 10. IFC commitments by fiscal year and sector.

4.1.5 Delivery of the indicative lending programme

The CPF report highlights, in its own Table 2, a New Indicative lending program under IDA20 including twenty-five operations that World Bank Group intended to undertake: eight under HLO A, five under HLO B and twelve under HLO C. As this list appeared initially it can be used as an objective measure that does not depend on any perception-based data. Each operation was traced

against the World Bank operations list for January 2023 to August 2026 and the Government's record of signed Financing Agreements, and classified as delivered as specified, substituted where the content was carried by a differently titled operation, partially delivered where only a preparation instrument was signed, or not delivered. The overall delivery rate is 60 per cent, rising to 72 per cent including substituted and partially delivered operations. That headline conceals a very large difference between the three outcomes, shown in Figure 11 and Table 3.

HLO	Indicative	Delivered	Substituted	Partial	Not Delivered	Delivered %	Inc. substitutes %
HLO A Private sector jobs	8	2	2	1	3	25.0	62.5
HLO B Socio-economic inclusion	5	7	0	0	0	100.0	100.0
HLO C - Climate and environmental resilience	12	8	0	0	4	66.7	66.7
Total	25	15	2	1	7	60.0	72.0

Table 3. Delivery of the CPF indicative lending programme, as at August 2026.

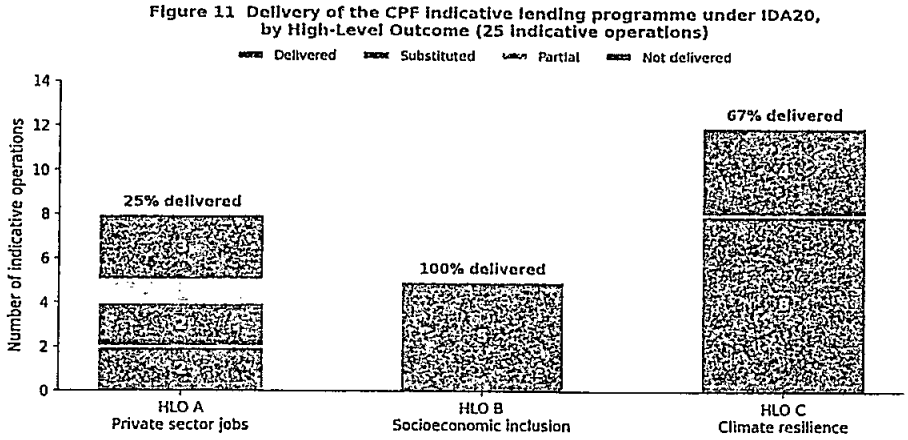

Figure 11. Indicative programme delivery by High-Level Outcome.

Every operation indicated under HLO B was signed, all within the first year. Under HLO C two-thirds were signed, the exceptions being the third Green and Climate Resilient Development Credit, Dhaka Rivers Ecological Restoration, Central and Southern transmission expansion, and Dhaka North corridor management. Under HLO A only two of eight were signed as specified. Two were substituted, the public sector and statistical modernisation operations being absorbed into the Strengthening Institutions for Transparency and Accountability project. One was partial, the financial sector project having reached only a preparation advance. Three were not delivered:

both Growth, Competitiveness and Financial Sector Credits and the digital development operation.

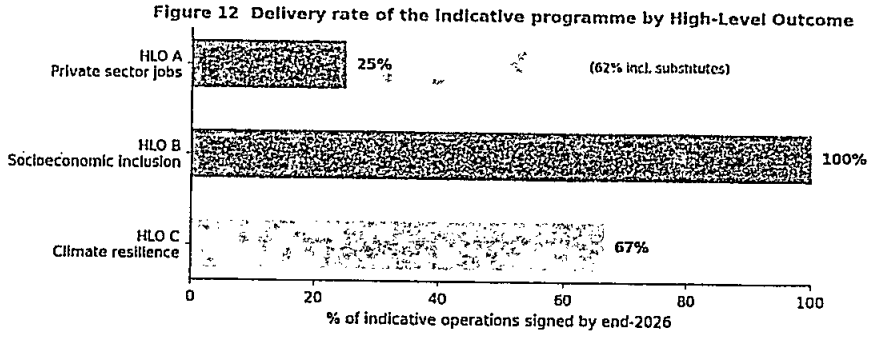

Figure 12. Delivery rate by High-Level Outcome.

The same asymmetry appears in financial terms. Of the US$5,698 million attached to indicative operations actually signed, HLO C accounts for US$3,038 million or 53.3 per cent, HLO B for US$1,510 million or 26.5 per cent, and HLO A for US$1,150 million or 20.2 per cent. The outcome with the weakest delivery rate also carries the smallest committed value.

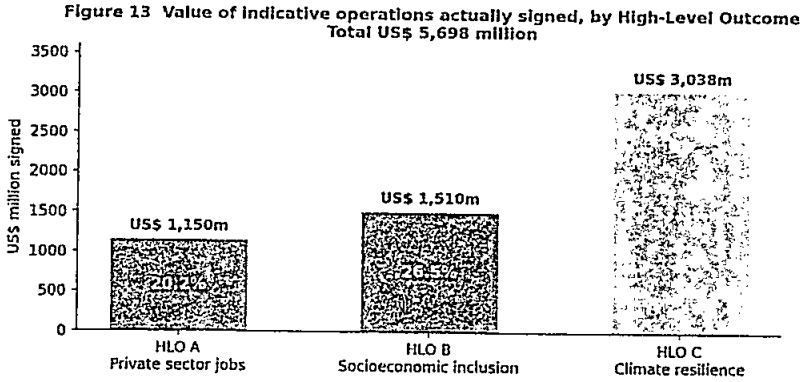

Figure 13. Value of indicative operations signed.

4.1.6 Implementation, effectiveness and portfolio adjustment

Thirty-four operations were Board-approved between January 2023 and August 2026, representing IDA commitments of US$9.58 billion. Of these, twenty-seven had achieved Board approval as their latest status, and the rest were at the Regional Vice President, Country Director, or Concept Review level. Of the thirty-four, twenty-three had been declared effective, for a rate of 67.6%, leaving eleven approved but not operational.

Figure 14 Implementation status of operations approved during the CPF period

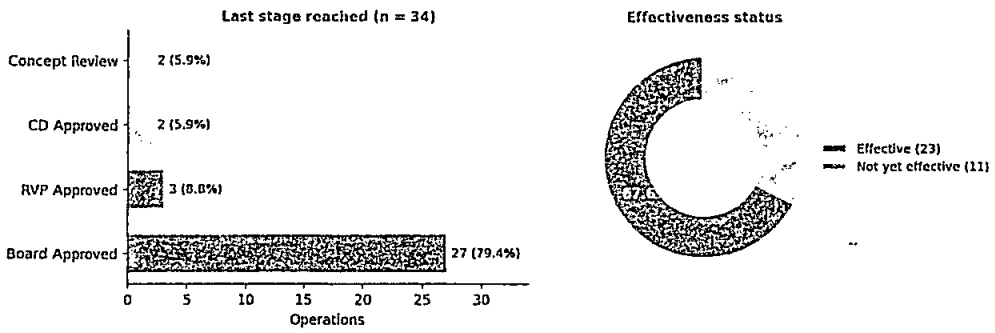

Figure 14. Implementation status of operations approved in the period.

Thirty-four operations were Board-approved between January 2023 and August 2026, representing IDA commitments of US$9.58 billion. Of these, twenty-seven had achieved Board approval as their latest status, and the rest were at the Regional Vice President, Country Director, or Concept Review level. Of the thirty-four, twenty-three had been declared effective, for a rate of 67.6%, leaving eleven approved but not operational.

According to the Government's records, there were thirty-four signed operations, of which thirty-three fell within the timeframe of the framework, and of these, two were additional financings, representing 5.9 per cent of total signings. While five were preparation instruments, or 14.7 per cent. There were no cancellations. With additional financings and preparation instruments excluded, new investment operations would be twenty-six instead of thirty-four, so thirty-four signifies a twenty-five per cent overstatement of new operations. These figures have implications for the interpretation of the portfolio.

4.1.7 The RRO-CERP mechanism

The Rapid Response Option under the Contingent Emergency Response Component mobilised US$ 707 million for urgent expenditure by drawing ten per cent of the undisbursed balances of seven ongoing operations. It is not a new project and is not additional financing, yet it appears within the active portfolio. Its effect is threefold: it reduces the undisbursed balances without corresponding physical progress, mechanically depressing measured disbursement; it supplied rapid liquidity at a point of macroeconomic stress; and it created a reporting artefact in which a reallocation sits alongside new operations.

4.1.8 IFC and MIGA coverage of HLO A and Objective 1

The HLO A shortfall cannot be assessed without the private sector arms of the Group, because Objective 1 is pursued substantially through instruments that do not appear in the sovereign

portfolio. IDA signed US$1,150 million of indicative HLO A operations. IFC committed US$6,730 million over FY2023 to FY2026 including mobilisation, rising from US$1,031 million in FY23 to US$2,519 million in FY26, with infrastructure and public-private partnership commitments appearing only from FY25 and reaching US$793 million in FY26. MIGA held US$796 million in outstanding gross guarantees across six active projects as of 31 January 2026, from a cumulative issued total of US$1.38 billion across twelve projects.

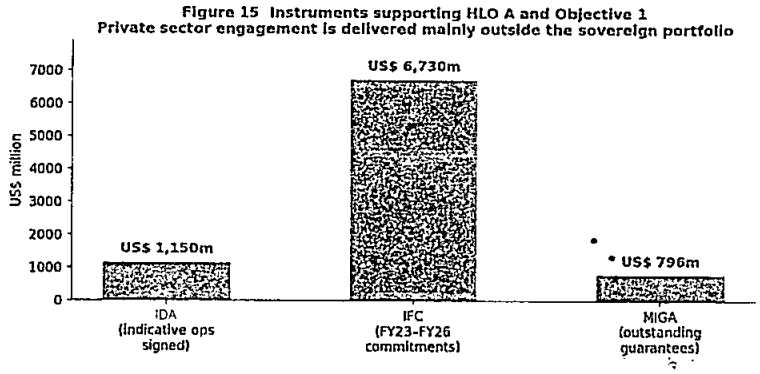

Figure 15. Instruments supporting HLO A.

On these figures the private sector outcome is not neglected, since IFC commitments alone are almost six times the value of signed indicative IDA operations under HLO A. What is true is that engagement with Objective 1 is delivered overwhelmingly through instruments the Government's own portfolio records do not capture, which is precisely the pattern the survey and interviews both identified.

MIGA's contribution is more concentrated still. Its entire active Bangladesh portfolio consists of five power projects and one fertilizer plant. Mapping these against the eight objectives, shown in Table 4 and Figure 16, gives direct coverage of Objective 1 only, emerging coverage of Objective 2 through a proposed US$500 million trade finance facility, and partial coverage of Objective 8. Five objectives receive no coverage. This is structural rather than a failure of effort, since guarantees against non-commercial risk mobilise private capital while most CPF objectives are pursued through public expenditure.

CPF Objective	MIGA coverage	Basis
Objective 1 Business environment	Direct	Six active guarantees, US$796m outstanding, mobilising FDI into power and fertilizer
Objective 2 Financial intermediation	Emerging	Proposed US$500m trade finance facility under discussion; historic banking guarantee closed
Objective 3 Public institutions	None	No instrument addresses public institutional performance

CPF Objective	MIGA coverage	Basis
Objective 4 Access to quality services	None	No exposure in health, education or human capital
Objective 5 Women and vulnerable groups	None	No exposure
Objective 6 Spatial and digital connectivity	None	Ports and logistics remain a stated pipeline interest only
Objective 7 Delta management	None	No exposure
Objective 8 Natural capital	Partial	Gas generation positioned within the decarbonisation pathway; E&S Standards applied

Table 4. MIGA coverage of the eight CPF objectives.

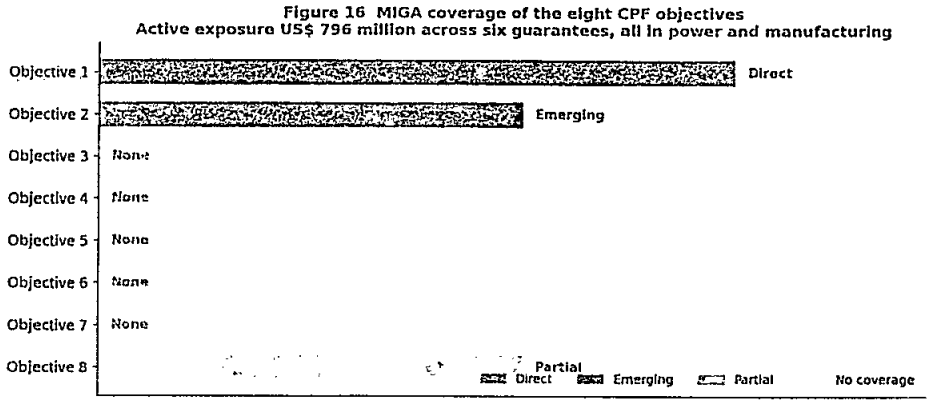

Figure 16. MIGA coverage of the CPF objectives.

This concentration is structurally determined rather than a failure of effort. Guarantees against non-commercial risk are instruments for mobilising private capital and are largely irrelevant where a public agency delivers a service, and the objectives receiving no coverage are those pursued through public expenditure. The observation is therefore about the limits of what a guarantee agency can contribute to a framework whose objectives are mostly public in character, and about the consequent difficulty of describing the Group's contribution as integrated across all eight objectives.

4.2 Statistical and Thematic Analysis

4.2.1 Composite indices, reliability and group differences

The Coordination Index achieved a Cronbach's alpha of 0.727, above the conventional threshold of 0.70. The Ownership Index achieved 0.681, below that threshold though above the more permissive 0.60 sometimes applied in exploratory research. The lower figure is a substantive result in itself: ownership as measured by these five statements is not a single tightly coherent construct,

since a respondent may believe country systems are used while also believing agencies lack authority to adapt design. Ownership is analyzed in relation to item-level measures instead of just the index. Both indices lie somewhat above the neutral midpoint with 54.3 and 56.7 scores out of rescaled hundred.

Index	Mean (1-5)	SD	Scaled 0-100	Cronbach α	Items
Ownership (C1-C5)	3.17	0.73	54.3	0.681	5
Coordination (D1-D5)	3.27	0.66	56.7	0.727	5

Table 5. Composite index summary. C3 and D2 reverse-coded before construction.

"Respondents were divided into two groups: government (approximately three-quarters) and World Bank Group. Ownership for government respondents was lower than that of World Bank Group respondents (means 3.00 and 3.71, respectively; Mann-Whitney U = 39.0, p = 0.054; effect size 0.360, moderate, but statistically insignificant). Coordination did not show statistically significant differences. The Kruskal-Wallis test conducted among five types of organization resulted in H-8.565, p-0.073, eta-squared=0.190, meaning approximately one-fifth of ownership variance was associated with organization type."

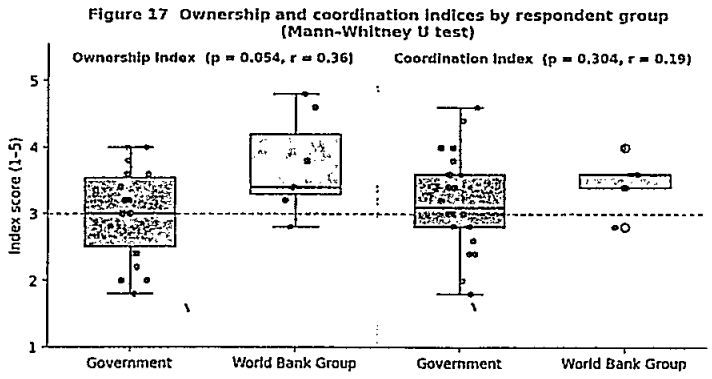

Figure 17. Indices by respondent group.

However, this problem discussed in Section 3.5 only influences the two outcomes mentioned above and none of the other outcomes. Omitting the case in question changes the Mann-Whitney p-value from 0.054 to 0.040 and the Kruskal-Wallis p-value from 0.073 to 0.045, thus crossing the standard significance level. Effect sizes are stable at 0.360 against 0.391 and 0.190 against 0.249, and the direction is identical, so the substantive conclusion does not depend on the decision although its statistical labelling does. This paper reports the more conservative result and rests the argument on the effect size. Table 6 gives both.

Sample	Ownership mean	Ownership α	Mann-Whitney U	p	r	Kruskal-Wallis H	p	η²
Full sample	3.17	0.681	39.0	0.054	0.360	8.565	0.073	0.190
Explicit consent only	3.15	0.673	34.5	0.040	0.391	9.719	0.045	0.249

Table 6. Sensitivity to the consent decision.

Test	Comparison	Statistic	p	Effect size
Mann-Whitney U	Ownership: Government vs World Bank Group	U = 39.0	0.054	r = 0.360
Mann-Whitney U	Coordination: Government vs WBG	U = 56.5	0.304	r = 0.194
Kruskal-Wallis H	Ownership across 5 organisation types	H = 8.565	0.073	$\eta^2 = 0.190$
Kruskal-Wallis H	Coordination across 5 organisation types	H = 4.411	0.353	$\eta^2 = 0.017$
Spearman ρ	Ownership Index vs Coordination Index	ρ = 0.597	0.001	-
Spearman ρ	Ownership Index vs performance rating (E1)	ρ = 0.388	0.038	-
Spearman ρ	Coordination Index vs performance rating (E1)	ρ = 0.246	0.198	-
Spearman ρ	CPF familiarity (B1) vs performance rating (E1)	ρ= −0.270	0.157	-

Table 7. Inferential test results. All tests are two-sided.

4.2.2 Associations and open responses

There is a positive relationship between ownership and coordination (Spearman 0.597). While ownership is positively correlated with the overall performance rating (0.388), the correlation between the latter variable and coordination is non-significant, implying that the former variable predicts implementation performance evaluation better than the latter one. The familiarity with CPF is negatively correlated with the performance rating, however non-significantly. Respondents who know about CPF more are rather likely to provide slightly lower evaluations of its performance.

Almost all respondents responded to the open question about the most useful change. Four main themes are common for most answers: government ownership and inter-ministerial coordination, faster project preparation and approval, especially the DPP process, implementation capacity enhancement and PIU staff recruitment, and fewer delays in procurement and land acquisition.

4.2.3 Key informant interview analysis

Key-informant interviews were analyzed using Framework Analysis, with respondents evenly split between the World Bank Group and the Economic Relations Division. Service length ranged from 3 to 19 years, differentiated by institutional affiliation. Given the small, purposively selected sample, findings are qualitative, organized by survey themes rather than percentages; Figure 18 shows which themes each respondent identified.

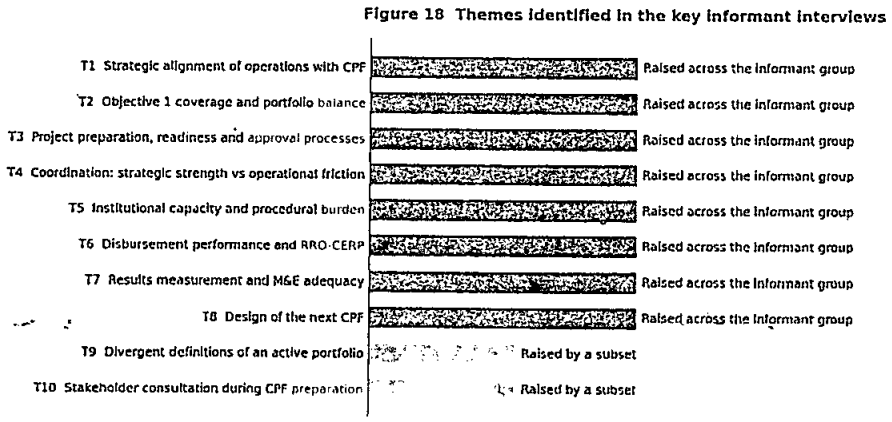

Figure 18. Themes identified in the key informant interviews.

Interviewees were broadly positive on strategic alignment, noting portfolios were 'well aligned' as relevance was required for approval. A World Bank respondent described alignment as 'reasonably good' with caveats, while a government respondent agreed but stressed outcomes were harder to see-climate and competitiveness showed strong alignment, whereas inclusion and governance were more aspirational. This finding reflected ownership perceptions more than alignment itself.

On Objective 1, the informants differed on the issue of no allocation. While the World Bank's respondents felt it was not an issue, the Government respondents considered it as a weakness. However, one of the Government respondents stated that the involvement of IFC and MIGA partially made up for that. In this case, both parties had different views on the same information.

When it came to preparation for projects, government participants reported problems with project preparation, approval, and institutional capability, often adding at least one year to project timelines. Delays included DPP approval, hiring of directors, funding, personnel, and procurement. Participants from the World Bank emphasized problems in public investment management, feasibility studies, and land allocation, with yet another observer reporting "bureaucracy" during the process on the part of both the government and the World Bank.

Regarding coordination, the interviewees confirmed the findings from the survey that there was good coordination between ERD and the World Bank, characterized by trust and time-bound portfolio reviews. The government sources indicated that while coordination is better in strategy terms, it was not so in operations due to multi-agency clearances, procurement and staffing issues. "One World Bank informant further observed that the CPF was not an implementation tool and not discussed at operational levels."

On disbursement, the interpretations of RRO-CERP differed institutionally once again, as noted in Section 5.1. In terms of emerging results, however, respondents advised caution. The World Bank interviewees believed that "not all objectives may be achieved, in particular employment and human development objectives," whereas one government source viewed the framework as producing a very good pipeline of results.

For the **next framework**, the participants agreed on the need for increased selectivity and preparedness; government stressed "balance, readiness checks, and a common understanding of the state of the project."

Two themes emerged: One governmental interviewee observed that ERD and the Bank employed different measures of active portfolios, with alignment, readiness, effective dates, disbursement, and restructuring being more appropriate indicators. The second theme indicated that stakeholder opinions were missing from the CPF creation process, preventing ownership, and reflecting low framework ownership revealed by the survey results.

4.2.4 Integration of the two strands

Table 8 contrasts survey evidence with interview evidence for nine assessment dimensions and indicates whether the strands converge, diverge or expand one another. Five strands converge, two diverge, and two expand.

Dimension	Survey evidence	Interview evidence	Verdict
Strategic alignment	Alignment concentrated on HLO B and C; half of respondents familiar with CPF content	Informants judge alignment strong; some note outcome-level clarity is uneven	Converge
Objective 1 coverage	20.7% link work to Objective 1; 13.8% to HLO A	WBG attributes this to instrument mix; Government reads it as a balance gap	Diverge
Preparation and readiness	Approval-to-signing lag 2.9 months vs 11.3 historically	Clearances add a year or more; DPP revision, procurement and staffing cited	Expand
External coordination	D1 mean 3.90, highest item, 82.8% agreement	Informants consistently describe ERD-World Bank coordination as strong; TPRMs cited	Converge

Dimension	Survey evidence	Interview evidence	Verdict
Internal coordination	D5 mean 2.83, lowest item, 48.3% disagreement	Multi-agency friction described as the day-to-day constraint	Converge
Ownership	Index 3.17; Government below WBG at a medium effect size	Government calls for policy alignment and fuller consultation	Converge
Disbursement and RRO-CERP	Financial trails physical by 8.2 pp; B4 mean 31.0%	Government reads RRO-CERP as evidence of delay; WBG describes a mixed picture	Diverge
Emerging results	No poor ratings; 72.4% satisfactory	Informants describe results as early and uneven	Converge
Portfolio definition	Not directly measured; B4 answers show inconsistent interpretation	Bank and ERD do not define an active portfolio the s ame way	Expand

Table 8. Joint display of survey and interview evidence.

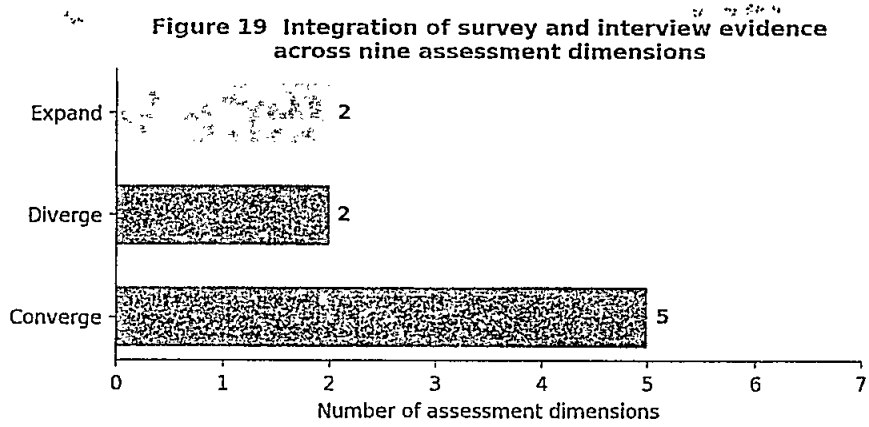

Figure 19. Integration of survey and interview evidence.

5. Discussion

5.1 Interpretation of Results

The evidence supports one central proposition: Implementation challenges in the CPF 2023-2027 are caused not by a lack of strategic alignment between the World Bank Group and Government but by domestic readiness and inter-agency coordination.

Coordination at the external level received the highest score of 3.90 whereas coordination between government ministries had the lowest score of 2.83. Consistent responses indicated that the key problem lies within the country, with bilateral coordination being strategically very good but inconsistent on operational issues. Thus, strengthening the bilateral relationship alone will not resolve bottlenecks between ministries.

The results on ownership add another dimension. The Ownership Index was slightly above neutral; the worst scores were in leadership in priority-setting and agencies' freedom to adjust the project design, while the best were in the use of country-system. This means that the existence of process ownership, but not substantive ownership, has been established. About two-thirds agreed that the decisions on design were made before agencies were properly consulted, in line with the Government's call for consultations. This is another manifestation of the disconnect described in institutional theory (DiMaggio & Powell, 1983). A medium effect size of the higher ownership score of World Bank compared to Government is another confirmation.

With regard to alignment and execution, it is seen that an examination of the twenty-five operations that are made available by the Group has indicated that 100% delivery is achieved for HLO B, 66.7% delivery for HLO C, and 25% delivery for HLO A. With regard to the outcome for the private sector, it is seen that out of eight operations, two are done as per requirements, two have been substituted, one is partially delivered, while three are dropped. The survey revealed that only 13.8% of them were aligned to HLO A.

Private-sector instruments complicate rather than eliminate this gap. Across the whole Group, the outcome is not neglected, as IFC commitments alone exceed signed sovereign HLO A operations almost sixfold. However, within the Government-administered portfolio, HLO A remains the weakest. Both perspectives are valid: the Group distributes the outcome across instruments with different counterparts and visibility, while no single actor sees the whole picture, as exact data of IFC is unavailable. Interviews confirmed this institutional divergence: World Bank considers the objective pursued, while Government questions whether it can sufficiently see and manage that pursuit.

Performance was very good on the **preparation** of the project. It took an average of 2.9 months to sign off the project after approval, compared with an average of 11.3 months before. This was achieved only on the signing aspect. As of August 2026, 67.6 % of projects approved in that period have become effective. Delay beyond this point was said to be due to DPP clearances.

Performance of **disbursements** was uneven. Financial achievement fell behind physical achievement by 8.2 percentage points, but the correlation between them was high (0.949), implying that reimbursement always follows execution. Financial achievement was almost zero when physical achievement was low, implying that the limitation lies in project startup.

Finally, **RRO-CERP** illustrates how the same evidence can support different interpretations. Government informants view its undisbursed balances as evidence of implementation delays, while World Bank informants emphasize its emergency-response function and additional

financing underway for three operations. Both interpretations are defensible: the same balance reflects implementation difficulty while also providing resources for rapid response.

5.2 Comparison with Previous Studies

The results exist within existing academic literature, while being more precise at the country level. The Completion and Learning Review on the previous framework assessed overall performance as Satisfactory, while growth and competitiveness as only Moderately Satisfactory (World Bank Group, 2023a). In this study, the same weakness in the private sector remains present and quantifiable: a 25 per cent delivery rate compared to the indicative programme in the previous framework. The results related to ownership corroborate the findings of Whitfield (2009) about formal support being not the same as control and of Wood et al. (2011), which demonstrated some success in alignment and less success in country systems. In regard to Bangladesh, the former turns out to be stronger than the latter, with influence on design being the weakest form of ownership- the mismatch between process and substance. The inter-agency cooperation result is associated with Pressman and Wildavsky (1973) insight into the nature of implementation failure in too many clearance points.

5.3 Implications for Theory, Practice, or Policy

The study supports decoupling in development cooperation, showing gaps between procedural and substantive ownership and differing financier-recipient perceptions. It also highlights the importance of distinguishing internal and external coordination. For practice, the institutions should adopt a common definition of project commencement or report both statuses to reconcile undisbursed balances and timelines. A standing inter-ministerial mechanism should address cross-agency coordination bottlenecks. Project readiness should improve through earlier DPP preparation, land acquisition, and procurement planning. IFC and MIGA activities should be reported to show the whole-of-Group contribution, while outcome-level reporting should replace aggregate delivery rates. Finally, CPF familiarity should extend beyond specialist negotiators.

5.3.1 Implications for the design of the successor framework

Five implications can be drawn regarding the CPF successor design. Firstly, selectivity must be ensured at outcome level. Less operations per outcome, with clear institutional accountability, will increase delivery verification. Secondly, the CPF must clarify what World Bank Group institution is responsible for achieving each objective and how these contributions will be measured, considering that five out of eight objectives cannot be achieved by MIGA instruments and Objective 1 relies mainly on IFC.

Thirdly, there needs to be distinction between delivery and success because it was possible to examine delivery of lending but not the success in this research. Fourth, readiness is one of the conditions for inclusion in indicative program because it was found out that operations which were signed quickly had high levels of readiness. Fifth, the next report should list the operations which have not been delivered and explain the reasons why they have not been delivered so far.

5.4 Limitations of the Study

- **Limited time:** Limited time for data collection led to limited data administration and validation of stakeholder survey and key informant interviews (KIIs), and thus the findings are illustrative rather than empirical.
- **Lack of representative sample:** Purposive sample (n=30, plus 8-10 KIIs) is smaller compared to the calculated statistically appropriate sample size (n≈47), and is based on non-probability sampling, which means that findings have to be considered as indicative and not generalizable statistically.
- **Source positionality:** Section 4.3.1 relies on information collected from ERD institutional files, which is associated with Government-side perspective only and may not include positions of the World Bank, other development partners, and sub-national institutions.
- **Programme maturity:** The CPF for FY2023-FY2027 is still in the implementation stage, and there has been no completion and learning review of the programme yet, hence no certainty on the impact and sustainability of the programme.
- **Changing context:** The political change that took place in Bangladesh in July-August 2024 and the subsequent changes have an effect on the stakeholder participation, staffing and prioritization.

6. Conclusion

6.1 Summary of Findings

As far as the first research question is concerned, there was translation but it showed a degree of inconsistency. Out of the total 25 CPF operations, 15 operations were performed exactly as intended, 2 operations were replaced with some others, 1 operation was partially delivered, and 7 operations were not delivered at all, which accounted for 60% (or 72% including the replacements). There was a great variance with regards to delivery within the different spheres: 100% for socioeconomic inclusion, 66.7% for climate resilience, and 25% for private-sector employment. Financial progress trails physical by 8 points; additional financing 5.9%, preparation instruments 14.7%, with no cancellations.

As for the second research question, the perception can be described as moderate and not negative. No respondent rated implementation performance as poor and just over seven in ten rated it satisfactory, with both composite indices slightly above the neutral midpoint. Within those averages lie two sharp findings. Government respondents perceive less ownership than World Bank Group respondents, a medium effect marginally short of conventional significance in the full sample and reaching it when the disputed case is excluded. And coordination with the World Bank at working level is the strongest element of the relationship while coordination among government agencies is the weakest measured anywhere in the study.

Taken together, the framework has been translated into a portfolio that is strategically well aligned and administratively better managed than its predecessors, but whose delivery is unbalanced across outcomes and constrained by domestic institutional coordination and by an ownership that is procedural more than substantive.

6.2 Contributions of the Research

The study makes three contributions. Theoretically, it provides quantitative evidence for institutional decoupling in development cooperation by measuring the divergence between financier and recipient perceptions of ownership. Empirically, it supplies primary data from officials directly responsible for a World Bank country portfolio, together with an independent measurement of delivery against a framework's own published indicative programme, a comparison rarely made outside institutional self-assessment. Methodologically, it shows the value of measuring internal and external coordination separately, since the clearest result would have been invisible had the two been combined.

6.3 Suggestions for Future Research

The most immediate application is to the successor framework. The indicative-programme mapping developed here should be repeated once the CPF closes, using final rather than interim data, so the Completion and Learning Review can report delivery by outcome. Three further directions follow. A larger study covering all implementing agencies would allow the group differences identified here to be tested with adequate power and analysed by sector. A longitudinal design tracking operations from approval to closure would replace perception-based estimates with direct measurement, currently impossible because most operations close from 2027 onward. Cross-country analysis in comparable systems of public investments will establish whether the predominance of internal coordination over external coordination is specific to Bangladesh.

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Appendices

Appendix A. Survey Instrument Structure

Section	Items	Measurement
A - Respondent profile	A1-A4	Categorical: organisation, involvement, experience, number of operations
B - Awareness and alignment	B1-B4	Ordinal familiarity; multi-select HLO and objective relevance; open numeric estimate
C - Ownership	C1-C5	Five-point Likert (C3 negatively worded)
D - Coordination	D1-D5	Five-point Likert (D2 negatively worded)
E-Implementation performance	E1-E2	Five-point rating; one open-ended question

Table A1. Structure of the stakeholder questionnaire.

Appendix B. Data Preparation Decisions

- All submissions received are retained in the primary analysis. One carries a consent anomaly; it is flagged in the dataset and its effect tested in Table 6.
- Likert coding: strongly disagree = 1 through strongly agree = 5.
- Items C3 and D2 are negatively worded and were reverse-coded as six minus the raw score before index construction. Item-level tables report raw scores and identify them as such.
- Ownership Index = mean of C1, C2, reversed C3, C4, C5. Coordination Index = mean of D1, reversed D2, D3, D4, D5.
- Index rescaling to a 0-100 range: $((\text{mean} - 1) \div 4) \times 100$.
- Cronbach's alpha = $[k \div (k - 1)] \times [1 - (\text{sum of item variances} \div \text{variance of total score})]$.
- Mann-Whitney effect size $r = |Z| \div \sqrt{N}$. Kruskal-Wallis effect size $\eta^2 = (H - k + 1) \div (N - k)$.
- Wilson score interval used for all proportions from multi-select items.
- B4 cleaning: values greater than zero and not exceeding one treated as proportions and multiplied by 100; narrative answers containing an explicit percentage converted; narrative answers without a usable figure excluded. The large majority of responses were usable.
- Portfolio lags computed only for operations where both Board approval and Financing Agreement signing dates were traceable in the available records (22 operations).

03

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158th Advanced Course on Administration and Development

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NAME OF THE MODULE : Research for Governance **MODULE NO: 5 (Part II)**

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Instructions to be followed

(Please read carefully)

1. *Please write your Name, Roll No. etc. at the specified space otherwise may cause cancellation of your answer script.*
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Name: **Md. Kaisarul Islam**

Roll No. **103**

Strengthening Administrative Efficiency in Skills Development for Harnessing Bangladesh's Demographic Dividend: A Literature-Based Analysis

Abstract

This study analyzes the role of administrative efficiency in skills development systems for harnessing Bangladesh's demographic dividend. It, adopting a qualitative approach, reviews diverse literature like international and Bangladesh-based research to demonstrate that merely investment or extensive quantity of programs is not enough for skills development; rather, efficient administrative coordination, policy execution capability, timely decision-making, and effective labor market linkage are essential in demographic dividend realization. This research identifies administrative efficiency as a central mediating mechanism to connect skills development programs and demographic dividend and emphasizes the importance of result-oriented governance, coordinated administrative structure, and strong monitoring and evaluation system. It further serves as a conceptual basis for future policy and research centered on skills development and demographic dividend in Bangladesh.

Keywords

Administrative Efficiency; Skills Development; Demographic Dividend; Economic Gains; Bangladesh

1 Introduction

1.1 Background

Demographic Dividend [DD], that originates from a specific period of demographic transition when a country's working age of population becomes significantly larger than the dependent age of population, could contribute to the country's economic growth (Mason & Lee, 2004; Navaneetham & Dharmalingam, 2009). This dividend, however, is not an automatic phenomenon; rather, a country needs to adopt supportive policies to ensure human capital development, investment, and appropriate employment for its increased working age of population (Helal & Hossain, 2013; Jafrin et al., 2021; Matin, 2012). Study (Bloom et al., 2020) also found that demographic transition results in economic gains only when the country's administration, policy determining structure, skills development systems, and labor market dynamics work efficiently in sound coordination.

Bangladesh, so far as its demographic transition is concerned, is currently passing through a very significant period when the country is experiencing a declining birth rate and population growth rate **(Appendix A: Figure A1)**, increased working age of population (about 68.12% of total population, as of June, 2025), decreased dependent age of population, and an accelerated supply of potential labor force **(Appendix A: Figure A2)** (United Nations Population Fund [UNFPA], 2025; World Bank [WB], 2025). This particular demographic period has produced for Bangladesh a window of opportunity or DD that could strengthen its economic productivity capacity. However, examples of some developing countries show that countries may miss out on the benefits of DD if their working age people do not turn into skilled labor force or these people face obstacles in entering into the labor market due to administrative inefficiency (WB, 2019). Bangladesh is not an exception here as we see that many repots (International Labor Organization [ILO], 2020) and researcher including Hayes and Jones (2015) found that the country lacks administrative capacity and skilled labor force.

Admittedly, during the last decade, Bangladesh government adopted some important programs like Skills for Employment Investment Program [SEIP] and Skills and Training Enhancement Project [STEP], constituted National Skill Development Authority [NSDA], constructed advanced technical training infrastructure, and reformed Technical and Vocational Education and Training

[TVET] aiming to maximize skills development (Asian Development Bank [ADB], 2021). Yet, it is observed that these initiatives have experienced significant limitations in achieving desired outcomes and the limitations include policy constraints, inefficient administrative arrangement, weak coordination among departments, and absence of information management about labor market (Chowdhury & Miah, 2019; General Economics Division [GED], 2019; ILO, 2020). As a result, a vast number of trained young people are failing to get suitable employment; rather, they are day by day getting devaluated due to either being jobless or being underemployed (Rahman & Chowdhury, 2019). This situation indicates, one of the biggest obstacles to realizing DD in Bangladesh is administrative inefficiency.

1.2 Why Administrative Efficiency [AE] is essential

One of the most crucial foundations for strengthening the skills development sector is AE which includes policy determination, coordination among concerned organizations, budget management, monitoring and evaluation, and so on. AE stands at the central point of a country's skills development system (Rahman & Chowdhury, 2019), because, it -

a) Enhances policy implementation: AE is indispensable to conduct timely training course, use allotted budget properly, and ensure transparency in the supply of training services (United Nations Development Program [UNDP], 2018);

b) Confirms the quality of trainings: Establishment of quality assurance of the training institutes, modification of training modules, and career development of the faculty members directly depends on AE (ILO, 2020);

c) Helps to develop market-driven skill: Labor market information system, analysis of data, and alignment of training module with the market demand - everything are the results of an effective administrative system (Organization for Economic Co-operation and Development [OECD], 2019);

d) Reduces opportunistic mismanagement: A frail administration increases vulnerability to corruption, misuse of money, and undue political interferences, leading to loss of effectiveness of government program (Rahman & Chowdhury, 2019).

These observations actually speak volume about the necessity of AE without which a country cannot guarantee skills development, regardless of how many programs it adopts.

1.3 Problem Statement

Despite Bangladesh's government has adopted numerous skills development initiatives, it is experiencing substantial impediments during the execution phase. In this country, skills development related constraints are long-lasting and structural (ADB, 2021; Islam & Mia, 2020). Research have identified some underlying causes of the constraints, like procedural labyrinth in administration, lack of cohesion both within the training institutes and between the training institutes and their controlling departments, deficiencies in quality control of training institutes, trainers' limited capacity, and shortcomings of collection and analysis of information about labor market (Bloom et al., 2003; Haque & Aziz, 2020; ILO, 2020).

These administrative challenges highly disrupt the entire system of skills development preparation, may block the preparation of human capital development, and as a result, the opportunity of DD fails to transform into the economic benefits in the true sense. That is, lack of AE impairs the process of harnessing DD for economic gains.

1.4 Research gap

There are many studies that observe the potentiality of the conversion of DD into economic gains and these studies covers a wide range of treatises on Bangladesh's human capital development, skill gap, labor market demand, and shortcomings in youths' training system (Haque & Aziz, 2020; Rahman & Islam, 2018). Besides, existing research provide a deep exploration of the country's administrative structure, policy application challenges, and administrative capacity (Islam & Mia, 2020; Siddiki & Uddin, 2016).

Most of these studies, however, present skills development and AE as the two different matters of discussion. How AE acts as the fundamental driving force in making the skills development system effective, and, in which process or to what extent AE facilitates human capital development through causal/mediating mechanism - these integrated analyses are absent in existing studies. In other words, current literatures indicate administrative inefficiency and skill shortage in

Bangladesh, but most of them do not examine the mediating mechanism of how a change in AE can alter the result of development of skill. Moreover, literature lack proper review of how some contextual factors like assortments of Bangladesh's domestic labor market, regional discrimination, hurdles regarding gender issues, and demand of overseas labor market strengthen or weaken the influence of AE. As a result, it is understood that current research lack clear conceptual structure that could examine the interrelationship between AE and skills development system, and how this association influences the realization of economic gains from DD. Literature-based analyses are still too insufficient to explain the interconnection or pathway of AE → skills development results → economic benefits; that is, how some important administrative factors like coordination and monitoring, allocation of resources, and quality control are playing mediating roles in shaping skills development result, and how this result is contributing to the conversion of DD into economic gains - existing literatures are short of this explanation.

Therefore, there is a knowledge gap in current research; how AE functions to expedite Bangladesh's skills development system, what its execution process through mediating mechanism is, which organizational and contextual conditions influence AE most, and how it contributes to harness DD - there is no integrated analysis on these issues. This study aims to meet this gap.

1.5 Aim of the Study

The objective of the study is

- - to analyze the role of administrative efficiency in Bangladesh's skills development system and to explain how this role is conducive to the realization of the country's demographic dividend.

1.6 Research Question

How does administrative efficiency in skill development system influence Bangladesh's ability to harness its demographic dividend?

2 Conceptual Framework

The conceptual framework of this study is based on the concept that skills development is a core tool for harnessing Bangladesh's DD, and the effectiveness of this skills development is fundamentally reliant on AE. Meaning, here AE functions as the causal driver which substantially influences the ultimate economic outcomes through diverse mediating mechanisms.

Firstly, in this study, AE refers to the quality of policy determination, sound coordination among departments, optimized management of budget and resources, prompt decision making, and effective monitoring and evaluation. According to current literature, all skills development programs fail to realize expected outcome without efficient administrative system (ADB, 2021).

Secondly, this AE directly determines the quality and effectiveness of skills development system. For example, when administrative management functions efficiently, training module aligns with the labor market demand, and the coordination among departments is strengthened. These results enhance skills development quality which is conceptualized as the first mediating layer in the framework of this study.

Thirdly, through an advanced skills development system, workforce readiness, labor productivity, and employability are increased. This layer is considered as the second mediating mechanism where the results of skills development are reflected in the reality of labor market.

Fourthly, the realization of DD is contingent upon the skilled labor force. If the larger portion of the working age population engage in economic activities, a country's national productivity and income increases, and overall economic growth is accelerated (Bloom et al., 2020).

Furthermore, in this conceptual framework, some contextual factors like labor market structure and employment opportunity, participation of industry sector, regional disparities, social and gender-based hurdles, and institutional culture are also taken into account as they have a huge impact on the entire process. These contextual factors may strengthen or weaken the leverage of AE. As a result, this framework shows that AE does not function in isolation, rather it operates within a particular and intricate socio-economic context to influence the relationship between skills development and DD.

Below is the conceptual framework of this study.

AE

- Ability of Policy Execution
- Inter and Intra Departmental Coordination
- Management of Budget and resources
- Motoring and Evaluation
- Accountability and Transparency

↓

Skills Development Outcomes

- Quality of Training
- Relevance of Training Module
- Linkage with Industry
- Creation of Skilled Manpower

↓

Labor Market Outcomes

- Employment
- Productivity
- Increase of Income
- Usage of Skill

↓

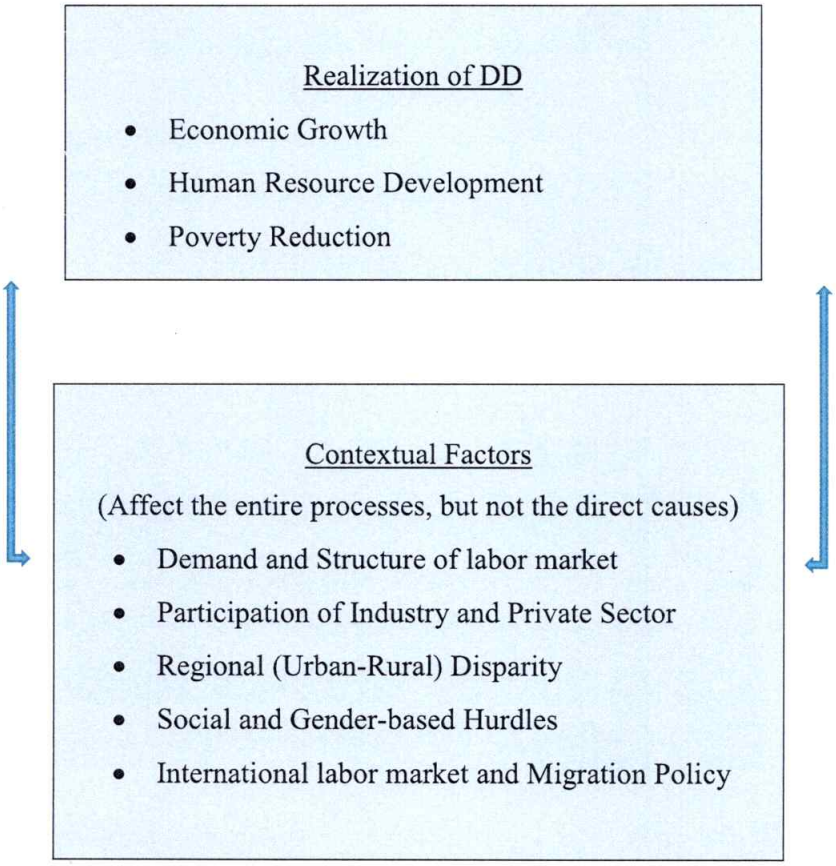

Figure A3: *Conceptual framework of the study (Author's Creation)*

3 Methodology

This is a qualitative and literature-based review study and it aims is to explain, through analyzing existing literature, how AE in Bangladesh's skills development sector influences the realization the country's DD. Since this research does not rely on primary data collection, but rather intends to establish theoretical and conceptual insights by analyzing existing research, policy documents, and organizational reports, reviewing literature is considered as the most effective methodology in this case (Creswell, 2014; Snyder, 2019).

This paper follows narrative-thematic literature review approach which allows the researcher to conduct comparative analysis of the concepts, theories, and empirical findings from diverse

sources, and supports to construct an integrated analytical framework. Specially, this approach is appropriate in analyzing a multidimensional and interrelated affair like the relationship among AE, skills development, and DD)Grant & Booth, 2009).

3.1 Data Sources

As sources, only secondary data is used here and data is collected from national and international peer-reviewed academic journals, research papers published by international organizations, policy documents, seminar papers, and books. Major sources include some peer-reviewed journals like Journal of South Asian Development, Asian Journal of Public Administration, and Journal of Asian Public Policy, Education and Training. Data collection also involves gathering information from policy documents and research papers published by ADB, BIDS, ILO, NSDA, OECD, UNDP, UNPF, and WB.

3.2 Literature Selection Criteria

Some certain standards are followed to include or exclude any literature. The criteria that are considered for inclusion are: a) Research paper should be published in any peer-reviewed journal or it should be a publication by any accredited organization; b) Conference paper should be presented in any recognized and important conference organized by any renowned organization; c) Literature should be relevant to the socio-economic landscape of Bangladesh; and, d) Literature should introduce the relevant experiences of developing nations like Bangladesh. On the other hand, opinionated essays, newspaper columns, and reports without verifiable sources are excluded.

3.3 Data Analysis Method

Retrieved literature have been analyzed through thematic analysis process. Initially, basic concepts, outcomes, and logics from each source are identified, and then these are categorized into some principal themes like 1) Contents of AE, 2) Effectiveness of skills development System, 3) Linkage of Skill with labor market, and 4) Process of Conversion of DD into economic gains. Later, how AE establishes connection between skills development and DD through mediating mechanism is explained (Braun & Clarke, 2006).

3.4 Conceptual Integration

At the final phase of analysis, based on the insights that emerged from the current literature, it is demonstrated how AE facilitates the effectiveness of skill development system and how this developed skill supports the realization of DD through employment, productivity, and economic growth. This conceptual framework lays an analytical groundwork for future research.

4 Literature Review

In this part, existing literature are reviewed by integrating Bangladesh's DD, skills development, and AE. To facilitate the apprehension of how AE influences the transformation of DD into economic gains by improving skills development system, this review is designed with a focus on thematic structure.

4.1 DD and Economic Gains: Conceptual and Applied Insights

DD is conceptualized as a specific period of time when a country's working age population becomes significantly larger than the dependent population (Mason & Lee, 2004; Navaneetham & Dharmalingam, 2009). Some researchers including Alam (2014) and Mason and Lee (2004) also found that, during the period of DD, a country's number of producer (working age of population) grows more rapidly than the numbers of consumers (dependent age of population). Which means, a country's productivity supersedes its consumption during DD period and this particular situation of demographic transition offers a window of opportunity of economic growth. This opportunity, however, does not turn into economic attainments automatically (Bloom et al., 2003; Helal & Hossain, 2013; Matin, 2012); rather, it is about leveraging the country's efficiency of policy formulation and execution that support the realization of DD (Durr-e-Nayab, 2008; Jafrin et al., 2021).

Experiences of various countries reveal that realization of DD depends on a country's AE, effectiveness of education and training, skills development system, and coordination of labor market (Mason, 2003). Especially, some East and South-East Asian countries almost completely realized their DD by adopting supportive polices that facilitate AE, human capital development, and effective institutions. For instance, in South Korea and Singapore, high standard of AE, quality education, and effective linkage with labor market have uplifted youths' skills development and

employment opportunity which have remarkably contributed their economic growth (Bloom et al., 2015). Moreover, countries like Japan and Thailand have ensured, by dint of optimum AE and skills development, the best use of their excessive working age population they received from demographic transitions and thus have guaranteed phenomenal economic achievements (Bloom et al., 2015).

Conversely, albeit Nigeria and Pakistan have more working age population than dependent population, they failed to confirm the complete realization of DD due to ineffectual administrative structure, unemployment, low participation of women in labor market, and limited linkage of industry-labor (Bloom et al., 2003; Durr-e-Nayab, 2008). Similarly, some African countries like Ethiopia (Population Reference Bureau [PRB], 2018) and Mali (Odimegwu & Olamijuwon, 2018) are plagued by the same problem; despite these countries possess a profusion of youths, their economic developments are very limited as they lack quality education and training and efficient administrative system.

Therefore, reviewing different literature shows that proper coordination among AE, skills development and labor market is the ultimate key to the conversion of DD into economic benefits. Success in realizing DD belongs to the countries that can effectively manage the coordination of these components; other countries fall short. In Bangladesh case, researchers identified the country's probability of economic gains from DD, as the country is experiencing a higher working age population ratio (Matin, 2012; WB, 2025); at the same time, some of them alerted about the time-limit of DD, insufficient administrative capacity, and deficit in human capital development (Jafrin et al., 2021; Siddiki & Uddin, 2016). If the country is not cognizant of these circumstances, not only it may miss out on the benefits from DD, but also it may experience a threatening social and economic consequences in the coming decades.

4.2 Skills Development and Human Capital Development: Bangladesh's Context

Skills development is a primary and central component for developing human resources and is deeply connected with employment, productivity, and income (Acemoglu & Autor, 2011; Hanushek & Woessmann, 2012). For long, skill deficiency and skill mismatch are identified as two major problems in Bangladesh's labor market - on one hand, educated youth are unable to

manage appropriate jobs for them, and, on the other, industries are failing to find skilled labor force (WB, 2018).

Generally, multiple TVET programs, different training programs conducted under Technical and Madrasa Education Division [TMED] and NSDA's guidance, and some public and private initiatives are considered as the primary mediums of skills development in Bangladesh. Many researchers including Haque and Aziz (2020) and Rahman and Islam (2018) have identified that, despite Bangladesh's TVET system is structurally extensive, its quality, relevance, and linkage with labor market is very weak. In most cases, TVET's modules are outdated and inconsistent with the demand of labor market and training quality does not meet required standard; as a result, the rate of employment falls short of expectations. Moreover, it is reported that there is a lack of coordination among the government, private sector, and training institutions (ADB, 2016). Particularly, ILO (2022) reported that 'skill mismatch' is a grave predicament in Bangladesh's skills development system. This situation is weakening the effectiveness of human capital development and potentiality of DD.

World Bank reports (2022) also reveal that Bangladesh's human capital index is still comparatively at low level. Poor quality of education and weakness in skill acquisition are impeding the overall productivity; specially, a large number of working forces that engaged in informal sector can hardly have access to structured skills training - which in the long run obstructs the country's economic growth. Besides, participation of women in labor force remains disproportionately low, and in many cases, women are failing to ensure their suitable employments due to social and organizational hurdles, though they are trained (ADB, 2021). Similarly, youths living in rural and marginalized area are being deprived of standard urban-based training, which is further exacerbating the regional disparities.

Overall, current literature indicates that, despite certain policy-structures for developing human capital, Bangladesh lacks administrative capacity, inter-institutional coordination, and proper monitoring to effectively execute the policies. These shortcomings restrict the potentiality of human capital development, and thus act as a major impediment to DD realization (Haque & Aziz, 2020; ILO, 2022).

4.3 Administrative Efficiency: Concepts and Importance

According to the prevailing literature, AE is recognized as a central determining components of human capital development and skills development system. In Public Administration and Development Studies, AE is generally conceptualized the capability of attaining predetermined goals with minimum expenditure, within specified timeframe, and with utmost effectiveness (Weber, 1947). AE also refers to the effectiveness of policy determination, resource allocation, accountability, timely decision-making, program execution, and monitoring, and accountability (UNDP, 2018; WB, 2017).

The importance of AE in skills development sector is particularly noteworthy, because this sector is contingent upon the sound coordination among different ministries, departments, training institutions, and private sector. Research (Haque & Aziz, 2020) show that, in the absence of strong administrative structure, skills development programs often miss the mark, resources are wasted, and trainings fail to keep pace with the labor market demand. As a consequence, skill development system fails to contribute to human capital development.

In Bangladesh's context, limitations in AE are significantly impacting the processes of skills development. Rahman and Islam (2018) found that inadequate coordination among the organizations concerning skills development, policy redundancies, and ambiguity in responsibility distribution are seriously impeding the effective execution of skills development policies. While there is an attempt to coordinate policies and public-private skills development programs by establishing NSDA, the reality of administrative capability, monitoring systems, and evaluations mechanisms still exposes numerous vulnerabilities (NSDA, 2020).

According to international literature, countries that successfully leveraged their DD have efficient administrative structure. Experiences of Japan, South Korea and Singapore, for example, reveal that robust administrative leadership in skills development sector, long-term planning, and close linkage between skills development and industry sector have accelerated their economic growth (Bloom et al., 2015). In contrast, in a country where administrative weakness and policy-misalignment exist, the potential of DD remains constrained (Bloom et al., 2003).

Research further demonstrates that AE acts as a mediating mechanism; which means, the inter-connection between skills development programs and economic outcomes is not direct; rather, AE

stands in between them and it is the AE by which the inter-connection becomes effective or ineffective (WB, 2019). In other words, similar kinds of training programs can yield different results if the administrative structures assigned for conducting the training programs are different - where AE is ensured, employment and productivity is escalated, whereas, outcomes are limited under weak administration.

Recent literature place significant value on the interrelationship of the contextual factors with AE. It is observed, some factors like labor market structure, regional disparity, capacity of industry sector, and the socio-cultural reality remarkably influence the effectiveness of administration (ILO, 2022). Discrimination of skills development opportunity between rural and urban area and women's limited participation in labor market have further intensified the administrative challenges.

Based on the literature analysis, it is evident that AE is not merely facilitator component of skills development system; rather, it is a prime pre-requisite. Any skills development program under weak administrative structure fail to benefit from DD. This is why, in this study, AE is considered as a central analytical lens to examine the connection between skills development and DD.

4.4 Role of AE in Skills Development Sector

Skills development sector is a multi-actor and multi-level system where government, private sector, training institutions, industry sector, and labor market are connected together. In this complex system, a wide gap is obviously created between policy-goals and real outcomes if AE is absent (ILO, 2020). Research (Rahman & Islam, 2018) shows that some major reasons behind the failure of skills development programs are weak coordination, slow decision making, and insufficient monitoring mechanisms.

AE affects each stage of skills development system - from training need assessment and curriculum design to training execution, evaluation, and employment opportunity at post-training phase. An effective administrative structure makes the training programs compatible with the demand of labor market which enhances employability and productivity (Haque & Aziz, 2020).

Two major aspects of AE in skills development sector are inter-ministerial coordination and public-private collaboration. In many developing countries including Bangladesh, skills

development programs are generally conducted under the responsibilities of multiple ministries, departments, and private organizations; hence, a loss of focus, resource wastage, and duplications are sometimes observed (NSDA, 2022). An effective administrative structure bridges the fragmentations among government, private sector, training institutes, industry, and labor market and leads to the development of a well-coordinated skills eco system.

Besides, monitoring and evaluation system is a central component of AE. Literature review indicates that countries that have regular performance monitoring, outcome-based indicators, and feedback mechanisms can guarantee better outcome from skills development programs (ADB, 2021). Conversely, due to lax monitoring, a considerable number of skills development programs become unsuccessful in making real employability through these initiatives.

The ultimate impact of AE in skills development sector lies in employability and labor market outcomes; research have established that the employment rate of trained youths and productivity become higher in the countries where the administrative system is efficient (ILO, 2020; Bloom et al., 2015). This result further accelerates the attainment of DD.

Given this perspective, it is clear that AE is not merely about management; instead, it is a mediating mechanism that bridges the gap between skills development and economic growth. Skill development does not yield desired outcomes without efficient administrative structure, and as a result, there arises risk of missing out on the prospect of DD.

4.5 AE, Skills Development, and DD: Lack of Synergy

The prime condition of realizing DD is to turn the increase of working age population into productive employment and economic growth. It is, however, found that desired transformation of DD into economic growth remains unattainable in many developing countries owing to absence of effective connection among skills development, AE, and DD (Bloom et al., 2015). Especially, in some low-income and middle-income countries including Bangladesh, this weakness in integrated connection is identified as a vital predicament (Haque & Aziz, 2020).

Literature further reveals that skills development does not automatically lead to DD; in fact, it becomes effective only when the skills development systems are planned, executed, and functioned in alignment with labor market demand through an efficient administrative arrangement

(ILO, 2020). It is observed in many cases that skills development programs are conducted in a disjointed manner - education and training institutes are in one side, labor market and industry sector are on the other - leading to a lack of effective coordination. As a consequence, trained youths fail to confirm suitable jobs and DD remains just as an opportunity - researcher terms it as 'Missed Demographic Dividend' (Canning et al., 2015). These examples of disjointedness are clearly evident in many developing nations.

Nigeria, for instance, is now possessing very large number of youth population; yet, youth unemployment has been persisting for long decades as a structural problem due to weak linkage between skills development programs and labor market. Bloom et al. (2003) have identified that Nigeria's education and training systems are basically theoretical-knowledge based where skills are rarely commensurate with industry sector demand. A large section of trained youth is forced to engage in informal employment owing to the absence of proper coordination among government organizations, private sector, and training institutes. Consequently, the opportunity of DD flounders and fails to convert into economic gains.

The same scenario unfolds in Pakistan, Ethiopia and Mali too. Albeit the countries have entered into a clear DD period, there exist troubling incoherencies among skills development, employment policy, private sector demand, and administrative framework (Durr-e-Nayab, 2008; Odimegwu & Olamijuwon, 2018; WB, 2018). As per an analysis by Adroit Associates [AA] (2023), sometimes Ethiopia's skills development training programs are implemented without taking the market demand into account; as a consequence, the country is confronting the challenges of unemployment and underemployment which are the ultimate obstacles to the realization of DD.

In Bangladesh's context also, skills development programs are often conducted in a disjointed manner and major gaps exist in administrative coordination among education and training institutes, labor market and industry sector. For instance, multiple departments have been assigned to conduct TVET, but they lack proper collaboration concerning training module development or standardization, labor market information sharing and training impact assessment (Rahman & Islam, 2018; NSDA, 2020). This often leads the trained youths to failure in achieving required skills necessary to meet the real demand of labor market. ILO (2020) report distinctly mentions that there are deficits of skills development planning and execution and most programs are disproportionate to the reality of labor market demand; therefore, skills mismatch has become a

structural crisis in Bangladesh. WB (2019) also indicates that a substantial number of youths in Bangladesh are the jobless or underemployed due to absence of effective connection between training programs and labor market absorption capacity or demand. This reality shows that AE deficiency is limiting the potentiality of skills development outcomes and thus DD is failing to transform into economic gains. These examples, as a whole, demonstrates that the primary impediment to attain Bangladesh's DD is not just the deficit of skills development; rather, the situation clearly indicates the inefficiency of administration in skills development system.

On the other hand, the experiences of Japan, Singapore, South Korea, and Vietnam reveal how AE can successfully harness DD by utilizing surplus working age population. In these countries, skills development policies are closely connected with industry sector and a robust coordination among education, training, and employment polices is ensured by efficient administrative structure (Bloom et al., 2015; WB, 2020). Theses tangible achievements of the countries have fast-tracked the engagement of trained working force with productivity sector and, thus their DD has been realized.

This comparison clearly points out that deficit of AE weakens the linkage between skills development and labor market and confines the DD to a merely possibility. This is why, literature indicate that without AE, only the surplus of working age population cannot confirm economic gains for a country.

4.6 Analytical Summary Based on Literature Review

Previous literature review clearly identifies that, in the case of realizing DD, skills development is a necessary but individually insufficient condition. Many national and international research show, the results of skills development programs mostly depend on AE (Bloom et al., 2015). In the countries where skills development programs are executed through effective administrative arrangements, the engagements of trained and skilled working force with labor market have become more successful.

Literature further demonstrate that AE signifies timely policy determination, proper coordination, monitoring, and evaluation (Rosenbloom et al., 2020). The experiences of Japan, Singapore, South Korea, and Vietnam reveal that a strong and proper connection of AE with skills development, industry policy, and employment strategy promotes the achievement of DD (Bloom et al., 2015).

In the cases of many developing countries including Bangladesh, literature identify a common tendency - albeit the skills development programs in these countries are abundant and manifold, in most cases the programs are not aligned with labor market demand and fall short of achieving desired outcomes owing to deficit of AE)ILO, 2022). Therefore, literature review provides a comprehensive understanding that, to realize DD, AE should be considered as the central determinant alongside endorsing skills development programs.

4.7 Integrated and Critical Analysis of Literature Review

Current literature differently analyze the three issues - DD, skills development, and AE; however, analysis concerning the interconnectivity among these issues is comparatively limited. Most of the research explain the relationship between demographic changes and economic growth, but how AE makes skills development effective and how DD is expectedly executed through efficient administrative arrangement - there is an absence of clear analysis regarding this.

Especially, in the context of Bangladesh, literature review mainly remains confined to the descriptive analysis of policy-weakness, skills mismatch, monitoring and evaluation limitations, and youth unemployment. Very few studies actually identify AE as the mediating mechanism that establishes the effective connection between skills development and labor market outcomes (ILO, 2022; WB 2022). As a result, there remains a structural void in policy analysis.

Besides, though most research introduce AE as a comprehensive idea, they do not analyze the multidimensional influences of AE components like interdepartmental coordination, accountability, timely decision-making, and implementation capacity (Rosenbloom et al., 2020). Consequently, there is no clear indication of which aspects are more important regarding administrative reforms in skill development system.

It is evident from this critical analysis that current literature fail to provide a complete explanation of the conversion process of Bangladesh's DD into economic gains. Particularly, there is a significant gap in the context-specific analysis of causal mechanisms among AE, skills development, and labor market dynamics. To contribute to filling this gap, this study proposes an integrated analytical structure where AE is introduced as the central determinant of skills development and DD realization.

5 Discussion

The discussion of this study analyzes, in light of literature review and proposed conceptual framework, the interrelationship among AE, skills development, and DD in Bangladesh. It is found in literature review that DD is not an automatic phenomenon; rather, it is contingent upon effective policy execution, skilled human resource formation, and administrative capacity (Bloom et al., 2015). These insights are explained in this discussion, in Bangladesh's context.

5.1 AE and Effectiveness of Skills Development

The first important perspective of discussion is - the limitation of effectiveness of skills development programs in Bangladesh is deeply intertwined with the deficit of AE. As literature review specifies, skills development programs succeed not only because of their quantitative size or budget allocation; also, efficient administrative arrangement in planning, execution, monitoring, and evaluation of skills development programs is essential (Rosenbloom et al., 2020). It is observed, though multiple departments are engaged in skills development programs, they lack proper administrative coordination resulting in substantial disjointedness of the programs (ILO, 2022).

This administrative weakness alienates skills development from labor market demand, so trained youth fail to get suitable jobs and skills mismatch escalates into a serious complication - literature review has precisely pointed out these issues in the cases of Bangladesh and some other developing nations)Farole et al., 2017; Rahman & Islam, 2018).

5.2 Skill Development, Labor Market, and DD Connection

Insights from different country-based experiences **(Appendix B: Table B1)** discussed in literature review indicate that where administration is more efficient, there effective linkage is established between skills development program and labor market demand and DD is successfully realized (Bloom et al., 2015). These insights are applied in this discussion, in the context of Bangladesh.

Granted, Bangladesh is currently passing through a favorable demographic structure, but the country is squandering this opportunity due to very weak connection between skills development and employment (BIDS, 2022; Farole et al., 2017). ILO (2022) report further found that administrative coordination in determining industry-based demand and planning of training is very

insufficient and frail. Therefore, DD mostly remains as a probability in Bangladesh, which echoes the experiences of Pakistan, Nigeria, Ethiopia, and Mali.

5.3 AE: A Mediating Mechanism

A pivotal aspect of this discussion is to explain AE as the mediating mechanism of the relationship between skills development and DD. Literature review has found that most research explain the relation linearly, where it is considered that skills development contributes to economic growth directly. This discussion, however, shows that the relationship between skills development and DD is not effective without AE; in other words, the link between skills development and DD is not direct, it is mediated by AE. In Bangladesh, administrative weakness like the deficit of policy execution, insufficient and ineffective monitoring and evaluation, and inadequacies in evidence-based decision-making confines the probable outcomes of skills development (ILO, 2022). So, administrative reforms appear as the absolute necessity for the realization of DD.

How AE functions as mediating mechanism in the process of connecting skills development with labor market demand is conceptually shown in the appendix **(Appendix A: Figure A3).**

5.4 Relationship Between AE and DD Utilization

An important perspective of this discussion is - DD does not guarantee any automatic economic benefit; rather, supportive polices, skilled manpower, and efficient administrative arrangement are required to realize the best possible outcome from favorable demographic transition (Bloom et al., 2003). Literature review specifies that AE expedites the formation of human resource and assists the transformation of working age population into productive labor force. For Bangladesh, if AE in skills development systems is ensured, DD could more effectively be attained through productivity and income-growth.

It is further observed that the qualitative dimension of AE is affected by different contextual mechanisms; for example, industry sector expansion, labor market structure and demand, private sector participation, regional disparity, international labor market and migration policy, and social and gender-based hurdles significantly influence AE and results of skills development programs (ILO, 2020; Khatun et al., 2022). For this reason, enhancing AE is not adequate in isolation; rather,

if AE functions in proper coordination with greater economic and social perspectives, it could yield optimal utilization of DD.

5.5 The Connection of this Study with Current Literature

The discussion of this study is consistent with current literature; yet, it offers an additional analytical insight. Previous research explore skills development or DD differently, but they pay little to no attention to AE as a mediating mechanism of the relationship between skills development and DD (Haque & Aziz, 2020). By filling that gap, this study shows how AE ameliorates the effectiveness of skills development and thus expedites the process of DD realization.

5.6 Key Findings

Some important findings have clearly emerged from the discussion of this study. First, current literature and policy-documents are in agreement that, though skills development is an essential condition to realize Bangladesh's DD, the effectiveness of skills development is largely shaped by the AE)ILO, 2020; WB, 2018). Second, administrative inefficiencies like weak interdepartmental coordination, flawed or limited monitoring and evaluation system, and inadequate connectivity with labor market are posing massive hindrances in attaining desired outcomes from skills development programs)ADB, 2021; Rahman & Islam, 2018). Third, it is evident from literature review that AE functions as a mediating mechanism that improves the quality of policy execution and, in the long run, facilitates the realization of economic benefits through enhancing employment and productivity (Bloom et al., 2020). Last, this research indicates that the conversion of Bangladesh's DD into tangible economic benefits requires more than just investing in skills development; it necessitates the quality-upgradation of administrative capability.

6 Conclusion

The objective of this research was, through reviewing current literature, to analyze how AE determines the effectiveness of skills development system and by this how it influences the realization of Bangladesh's DD. It is clearly evident from the reviewed literature that DD is not a result of an automatic process; rather, it is deeply contingent upon effective policy structure, organizational strength, and AE.

International experiences indicate that the countries, for example, Japan, Singapore, South Korea, Vietnam that ensured strong administrative coordination, accountability, and execution capacity in skills development sector, have become successful in fully realizing DD. In contrast, in many developing countries including Bangladesh, the benefits of DD have not yet been fully realized due to the disjointed administrative system in skills development programs, weak linkage with labor market, and minimal monitoring and evaluation system.

The primary contribution of this research is to find that skills development and DD are not directly connected; instead, it identifies AE as a mediating mechanism. This suggests that it is not adequate to merely increase the investment for skills development; rather, how the investment is planned, coordinated, and executed - this determines the success or failure of DD realization.

6.1 Policy Recommendations

In light of literature analysis, the following recommendations are put forward to further enhance the effectiveness of AE in skill development system and transform Bangladesh's DD into economic gains:

First, it is imperative to establish a central and effective coordination structure in skills development sector, where distinct division of roles and mutual cooperation among different ministries, training institutes, and industry sector is confirmed. A result-oriented administrative structure is necessary in place of existing incoherent administrative system.

Second, to align skills development programs with labor market demand, regular labor market analysis in administrative level and participation of industry sector should be guaranteed; in this way, entrances of trained labor forces into employment will be easier.

Third, result-based monitoring and evaluation systems should be strengthened to enhance AE, so that the real outcomes of policies and programs can be regularly evaluated and, as per necessity, some policy adjustments can be made.

Fourth, it is necessary to formulate skill development plan based on labor market demand, training outcome, and reliable information regarding skill-gap. Similarly, allotting government resources in line with training nature and needs could enhance the effectiveness of skill development programs.

Fifth, to ensure effective execution of skill development programs, it is essential to strengthen the implementation, coordination and decision-making capacity of the concerned institutions. To this end, the technical and managerial skills of the designated officials need to be developed.

6.2 Limitations of the Study and Guideline for Future Research

Since this study solely relies on literature review through qualitative approach, it has some limitations. No primary data (for example, interview or survey) is used here and no in-depth case study of any particular skills development program or project is included.

These limitations, however, can be addressed in the future. For instance, case study or mixed-methods research can be conducted to examine the administrative effectiveness of any particular skills development program. Besides, different components of AE - coordination, accountability, and monitoring and evaluation - which one influences skills development programs most can be investigated through quantitative analysis.

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Appendices

Appendix A

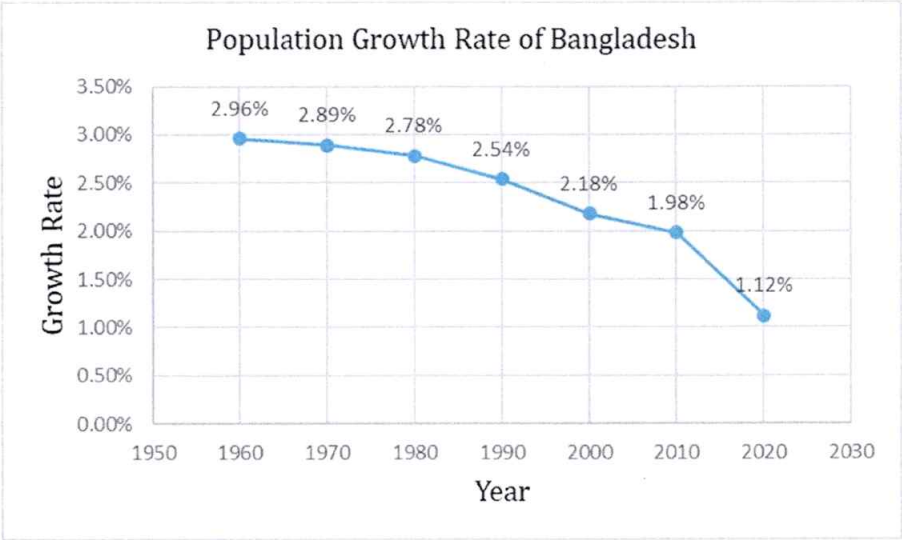

Figure A1: *Population growth rate of Bangladesh is declining*

Note: *Data are from World Development Indicators, June, 2025.*

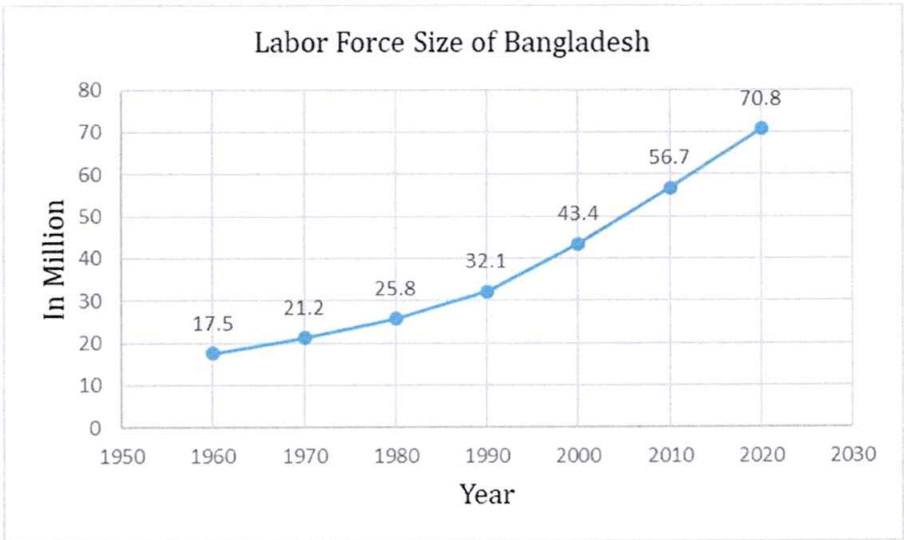

Figure A2: *Labor force supply is increasing in Bangladesh*

Note: *Data are from World Development Indicators, June, 2025.*

Figure A3: *The Role of AE as the mediating mechanism in harnessing Bangladesh's DD (Author's Creation)*

Appendix B

Country	Status of AE in Skills Development Sector	Linkage Between Skills and Labor Market	DD Outcomes	One of the References
Japan	Strong Coordination, Efficient Administration, Effective Policy Execution	Very Strong (Trainings closely linked with Labor Market)	Successful Conversion of DD Economic Growth	(Feeney & Mason, 2001)
South Korea	Effective Coordination and Policy Execution	Very Strong	Successful Realization of DD	(Bloom et al., 2015)
Singapore	Centered and Efficient Administrative Structure	Very Effective	Sustainable Human Resource-based Development	(Bloom et al., 2015)
Vietnam	Comparatively Efficient Administration, Participation of Private Sector	Medium to High	Positive Employment and Increase of Productivity	(WB, 2020)
Bangladesh	Disjointed Administrative Structure, Weak Coordination and Monitoring	Limited (Skills Mismatch Exists)	Fractional Utilization of DD	(ILO, 2022)
Nigeria	Limited Capacity of Administration	Weak	Youth Unemployment, Wastage of DD	(Bloom et al., 2003)

Ethiopia	Inefficient Administration, Disjointed Skills Development Programs	Very Weak	Very limited Realization of DD	(Adroit Associates, 2023)

Table B1: *AE, skills development, and DD - International comparative analysis*

5

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DATE: 03/09/2026

Instruction to be followed

(Please read carefully)

1. *Please write your Name, Roll No etc. at the specified space.*
2. *Writing Name, Roll No. etc. at any other place or making the script otherwise may cause cancellation of your answer script.*
1. *Put tick(✓) marks on Evaluation method and Institute's Name.*

Name: Md. Kamrul Islam

Roll No: 105

Seminar Paper
on
Exploring Students Career Thinking and Planning: From Aspiration to Action

Submitted by

Md. Kamrul Islam
Deputy Secretary
Roll No: 105

158th Advanced Course on Administration and Development
Bangladesh Public Administration Training Centre, Savar, Dhaka-1343

1.0 Introduction

Good leadership of the nation's young people is vital to the strength of the nation. People develop personal motivation and personality from the family, friends and school environment from early childhood. Thus, education plays a key role in cultivating human resources from start. A big tech-savvy youth population in the country form the future economic and political strength of the nation; hence, the career planning and aspiration of freshers are very crucial for the growth of the nation in Bangladesh. While the government is working towards modernizing education and equipping the country with a skilled, technically competent workforce, it is still difficult for students to make a switch from studies to employment. There are significant challenges such as disconnect between the theoretical curriculum and the industry requirement, the lack of training in soft skills/technical skills like communication, decision making and the lack of internship opportunities. The insufficiency of suitable internship opportunities during their studies leaves students uninformed about the appropriate workplace culture and environment, resulting in numerous obstacles when they attempt to enter the job market.

The educational curriculum presently employed in our system is significantly antiquated. The integration of the vocational education system with the conventional school system is not prominently reflected in the existing curriculum. Consequently, the prerequisites for forthcoming job recruitments in the current age cannot be derived from these curricula. Furthermore, the insufficiency of proper career guidance from university officials has resulted in students encountering numerous obstacles concerning the employment sector. In addition to these, there are other obstacles, like poverty, insufficient mentorship, political pressures, a deficient vision for the future, and inadequate familial support and progressive mindset. Nevertheless, in the face of numerous hurdles and hardships, youth are diligently striving and enduring to achieve their aspirations. The diligent effort and tenacity stem from the enduring connections among educational institutions, educators, diverse mentorship organizations, and the essential role of social media. The government of Bangladesh has initiated several efforts to engage more intimately. Modernised curriculum, increased internship opportunities, career guidance and counseling, and continued government encouragement for technical skills are the necessary elements in bridging the gap between theoretical education and industry demands, and empowering the youth to make their dreams a reality and contribute to the development of the country.

Seminar paper
on

Title : Exploring Students Career Thinking and Planning: From Aspiration to Action

Abstract:

Bangladesh is gradually progressing towards development. One of the most important factors for its development is young graduates. The world's most densely populated country is the country. Thousands of educated young people graduate each year and embark on their careers with the promise of success. The number of job seekers are continuously increasing. This creates a problem for the majority of graduates to get jobs. The situation points to the need to build employable skills, foster entrepreneurship and generate more diversified job opportunities so that the country's youth population can effectively participate in the economic and social development of the country. This study employed a mixed methods approach where both quantitative (survey) and qualitative (focus group discussion) data were gathered using a simple random sampling methodology. The results indicate that 43% wanted to pursue careers in the public sector due to factors such as job security, job prestige and social value. Based on the finding of the study, it is recommended that the curriculum of the courses be updated and skill development programs be introduced in order to bridge the gap between education and the implementation of policy. The results offer valuable actionable advice for educators, career advisors and policy makers supporting new graduates in their career journeys.

Keywords: Career thinking, Graduate employability, Youth unemployment, Career aspirations, Public sector preference, Skill development, Entrepreneurship.

2.0 Objectives

The aims of this study are:

a) To know the motivations of present students to pursue a career in Bangladesh;

b) What are their plans about their career and what external factors impact them;

c) Assess how they will overcome the challenges to achieve their career goal.

3.0 Rationale of the Study

Making a career choice and acquiring required professional skills are important milestones in the process of higher education students' learning. The choices made in the labor market for a specific career are influenced by a wide range of personal and environmental factors that include academic experiences, gender, interests, expectations from family members, and the labor market. Thus, the main objective of this study is to explore the career aspiration, preparedness and skill enhancement of college and university students in various fields of study in Bangladesh. The research sets out to assess important factors that influence career decisions, students preparedness, and find the critical development gaps in key skills. The study provides empirical evidence and recommendations for institutional leaders, educators, and policymakers to better equip students for the changing needs of the marketplace through higher education curriculum. In conclusion, this study fills a significant gap in Bangladeshi academic literature and provides practical suggestions for improving graduates' employability and helping them make career decisions.

4.0 Literature Review

The young people join the educational institution with high expectations from their families to pursue a successful career and to climb up the socio-economic hierarchy. Poverty is a key issue in a developing country, and having financial security and a prestigious job would be a goal for young graduates. Aside from that, however, there remains a significant gap between education and employment in many countries, due to a shortage of relevant work experience and skills. New graduates often do not possess the skills that employers demand, including technical, practical and soft skills, which causes them to be underemployed, and extended job search periods. This is compounded by demographic pressures – Bangladesh's population is

estimated at 175–176 million, with youth accounting for about 28% of the population, and working-age people nearly two-thirds of the population of the country as a whole (UN Population Division, 2025).

The situation with youth in the labour market is still a cause for concern. Unemployment among young people (aged 15-24) is estimated to be in the vicinity of 9.1-9.4% in recent years, which is more than twice the national average of 4.3-4.4% in the same age group (2024-2025). Labour Force Survey data from the official Bangladesh Bureau of Statistics (BBS) for the larger age group 15-29 indicate that the youth unemployment rate is around 7.2-7.3% or approximately 1.94 million unemployed youth, representing the bulk of the total labour force which is unemployed. Unemployment among tertiary-educated people is particularly high, standing at 13.5% or higher in recent surveys, and thus paradoxically higher education is associated with higher unemployment.

Likewise, the proportion of young people who are not in education, employment or training is very high. The estimates for the age group 15-29 are around 18.9-30%, which is about several million inactive youths (5.5 million for 15-24 and 8 million for 15-29 in various recent reports). The formal job market is still quite small compared to the annual supply of new entrants to the labour force. The economy creates fewer formal jobs than the number of young people entering the labor force each year (some estimates are around 1.4 million jobs created in some years). The competition is also fierce; for the biggest job platform in Bangladesh (Bdjobs), studies indicate that the number of applications per job posting has increased significantly from 173 to 287 in the post-pandemic era. With consistent economic growth, Bangladesh is making tremendous strides towards becoming an upper middle income country. This trajectory, however, creates a greater future need for a highly skilled and educated workforce that can serve the higher value industries, technological upgrading, and productivity gains.

For the most part, graduates today are not successful in getting "decent" or "respectable" jobs that are commensurate with their qualifications and aspirations. There are many common constraints identified, such as skills gaps within the workforce, especially digital skills, communication, problem solving, and industry-specific hands-on experience. There is a large number of applications that are received by employers for certain professions but they still cannot find the right people to fill up the jobs, especially managerial and technical ones, and resorting to overseas professionals.

Overall, the literature points to a structural mismatch between growth in higher education, the educational goals of young people and their families, and the availability of good jobs in the labour market. The need to overcome the skill shortages, increase the linkage between industry and academia, and create jobs in the formal sector is continually cited as a pressing issue given that Bangladesh is seeking to utilise its 'demographic dividend' in order to ensure sustainable inclusive growth.

5.0 Methodology

This study adopted a mixed-methods quantitative and qualitative approach to collecting numerical data and gaining first-hand understandings from the participants. Primary data collection involved individual interviews, focus group discussions (FGDs), and structured surveys. Secondary data was compiled from literature including academic journals, books, research reports, news articles, and online publications. A sample of 225 recent graduates was selected via simple random sampling to participate in primary data collection. To enable a gender-diversified analysis, the sample included both male and female respondents. Participants were recruited from colleges and universities based on their interest in the topic and participated voluntarily.

5.2. Research Locale Comprehensive face-to-face interviews were carried out in the four educational establishments in Jashore. These academic establishments provided undergraduate and graduate degrees. Purposive sampling instruments are employed to choose educational establishments, specifically selecting the sole public university in the Jashore district, situated approximately 15 kilometers from the city, along with three colleges in Jashore city, which predominantly serve the local student population.

Table 1. Research Study Area:

Sl No	Institution Name	Institution Type	Established Date
1	Government M.M. College, Jashore	Public	1921
2	Government Mohila College, Jashore	Public	1965
3	Government City College, Jashore	Public	1967
4	Jashore Science and Technology University	Public	2007

5.3. Sampling and data collecting involve organized questionnaires utilized to gather pertinent study information. The research data was gathered utilizing both qualitative and quantitative approaches. In the quantitative data gathering, a systematic questionnaire was employed, comprising both closed and open-ended inquiries, concentrating on participants' age, gender, financial status, educational qualifications, technical expertise, and anticipated employment sector. All participants voluntarily expressed their opinions.

Table 2. Sample Population

Sl No	Institution Name	Male	Female	Total
1	Government M.M. College, Jashore	55	58	113
2	Government Mohila College, Jashore		35	35
3	Government City College, Jashore	25	15	40
4	Jashore Science and Technology University	23	14	37
Total		103	122	225

6.0 Data Analysis Strategy

The collected data analyzed using both quantitative and qualitative approaches to provide a comprehensive understanding of students' career aspirations, career planning, influencing factors, and challenges. Since the study uses a mixed-method approach and includes 225 respondents from four educational institutions in Jashore, quantitative data will first be organized, coded, and analyzed using descriptive statistical techniques.

The data will then be coded and transferred to statistical software, e.g., Microsoft Excel. Analysis used Frequency, Percentage, Mean and Standard deviation as appropriate, tables and charts. The major variables were the same as in the questionnaire as described in Methodology above: age, gender, education level, financial status, technical knowledge, career aspiration, preferred sector of work, career preparation, and perceived difficulties.

Frequency and percentage distribution will be used to analyze the respondents' desired career goals. Possible career goals can be categorized as:

- Civil service/public sector
- Private-sector employment
- Further higher education
- Entrepreneurship
- NGO/social impact activities
- Other career choices

Comparisons of career aspirations and preparedness among groups will be made using cross-tabulation. Specifically, the study will focus on comparing:

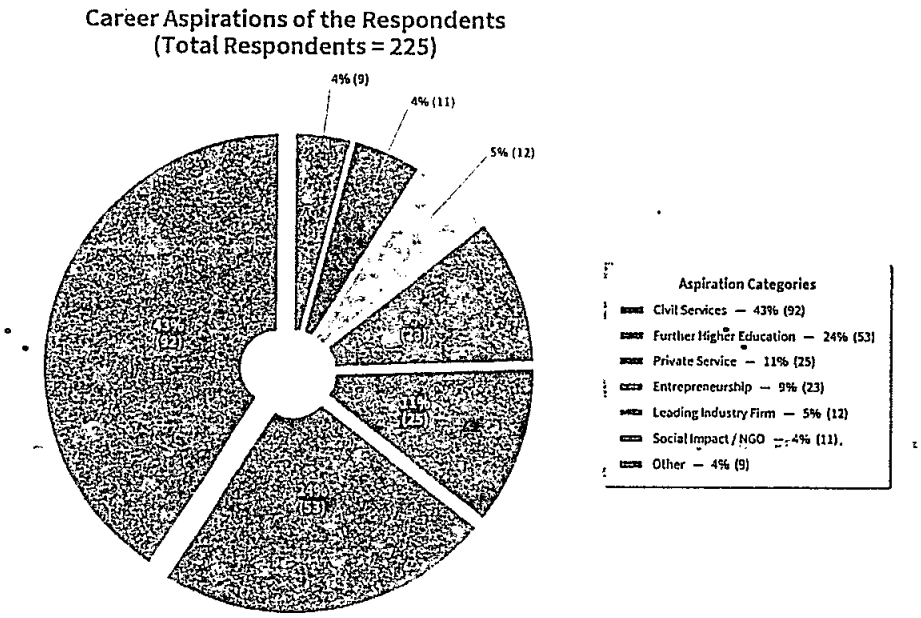
- Male and female respondents
- Different educational institutions
- Different academic backgrounds
- Financial conditions and career aspirations
- Technical knowledge and career preparedness

It includes 103 male and 122 female respondents, which enables comparisons to be made between the two genders. The study explored the influences of family expectations, personal interests, financial status, field of study, job-market opportunities, mentorship and social influence on students' career decisions. The rational of the study is directly connected with these factors.

7. Data Analysis and Result

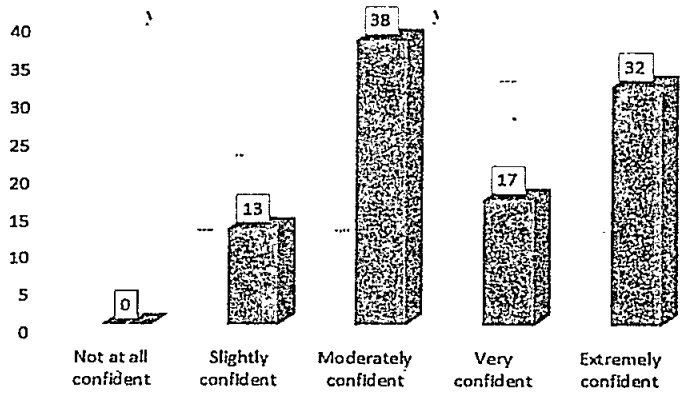
Table 03 shows the different career options of the respondents after graduating. It reveals that the number of students opting for civil services/government jobs is at 43%, further higher education at 25% and private services at 10% as their top career goals. Other aspirations include entrepreneurship (9%), working with leading industry firms (5%), work with social impact/NGOs (4%) and others (4%).

Figure 1: Career Aspirations of the Respondents



The distribution of respondents' confidence levels in achieving their future career goals after graduation is shown in figure 02. The data shows that 32% feel very or extremely confident at meeting their career goals, 17% feel very confident and 38% feel moderately confident. Just 13% are slightly confident and no one is not at all.

Figure 2: Confidence levels in achieving their future career goals after graduation



8.0 Case Study

8.1 Case 01

As a final year Honours student, Sinthea (pseudonym) is aware that, in order to experience a profession in the public sector, she has to build up her academic knowledge with specialized practical skills. She was able to have much theoretical knowledge and some basic communication experience in group work during her undergraduate study program, but she did not have hands-on experience in the field or advanced skills in policy development, research and data analysis. To fill these gaps, Sinthia took an initiative to sign up for online data analytics courses and volunteer with a local NGO every week. These helped her to be able to use her education in real life problems in the community and practice problem solving, critical thinking and team work skills. She is making steady progress in closing the gap between higher education and the requirements of civil service through disciplined self-improvement and its application in practice.

8.2 Case 02

Khalid (pseudonym) is a 3rd year student of Bachelor's of Social Science (BSS) and is not sure about his future career. He likes doing research, and would like to continue his research through higher education and be a teacher. However, his family has a low income and wants to choose a stable and well-paid career. His parents prefer govt. professions because they believe the govt. jobs offer better financial security. Khalid feels that he is not well prepared for these careers and is more interested in research and writing. He is also worried that continuing his education may delay his ability to support his family financially.To solve this problem, Khalid is exploring different career options.

Although Khalid is still uncertain about his future, he hopes to find a career that matches both his interests and his family responsibilities.

8.3 Case 03

Lima (a pseudonym) is a senior undergraduate pursuing a degree in History. As her graduation approaches, she aspires to acquire analytical abilities and financial modeling proficiency to be eligible for competitive analyst positions. Nonetheless, Lima has encountered difficulties in obtaining these technological skills. Her academic curriculum

offers scant practical application, resulting in a deficiency of experiential learning chances. The program provides minimal career guidance to assist with her skill enhancement. The majority of specialist training is prohibitively expensive given her constrained student finances. Furthermore, Lima has had to manage her academic workload alongside the time requirements of enhancing her skills. Nevertheless, she persists in her resolve to surmount these obstacles. She is moreover locating complimentary online courses in financial modeling and data analysis to enhance pertinent skills. Despite the challenges, Lima is confident that she will be able to pursue her career goals through hard work and determination.

9.0 Key findings of the study

This study underscores the career preferences, preparedness, and problems in higher education in Bangladesh from the students' perspective. The top career choice is public service (43%), followed by higher education (25%) and private sector jobs (10%). While 49% of students are confident in achieving their goals, key concerns are career uncertainty (20%) and lack of experience (16%). Mentorship (20%), resources (19%) and practical training (18%) are key challenges to skill development. Additionally, 64% are not satisfied with their academic programs developing professional skills. The colleges and universities need to incorporate experiential learning, updated content and career mentoring into their curriculum to address these skills gaps.

The overall findings indicate that many college/university students are deficient in some of the essential employability skills. It also emphasizes the importance of enhancing career preparation in colleges/universities. The study has been carried out with limited number of students in only three colleges and one university only so the results are not representative of all the colleges/universities of Bangladesh. More students from other Universities are recommended for future study to acquire a better understanding of this phenomenon. Policy makers, educators, and curriculum developers can benefit from the findings, which highlight the need for a career-focused educational approach and for developing practical skills. The recommendations can assist universities to better equip graduates to enter the job market and to help in the development of the country.

10.0 Conclusion and Recommendations

The current study is a mixed methods research that examines the career aspirations, preparedness and skill development of college and university students in Bangladesh. The results indicate that pupils' career interests vary, but that the majority of pupils want Government careers. While most students feel they have a good idea of what they want to do on a career after college/university, they feel there is a disconnect between their skills and those they need in the workplace. In addition to academic knowledge, communication, problem-solving and are the most critical skills they will need in their future careers, as well as leadership. Students proposed improvement of the curriculum through providing more opportunities for practical learning, providing more updated course content, better mentoring, project based learning and better link with industry. Students also experience challenges in skill development opportunities. Hence, the college/University's responsibility should be to deliver more workshops, career guidance, internship program etc. for them, hence the following recommendations are proposed:

1. More practical learning opportunities via projects or internships or industry collaboration should be provided in colleges/universities to enhance students' career readiness.
2. The curriculum should be expanded to incorporate employability skills including those relating to communication, problem solving, team work and leadership.
3. Colleges/universities should enhance career guidance services to develop mentorship programmes, seminar and career counselling centres.
4. Foster good industry/university ties and partnerships to ensure academic programs are relevant to the needs of industry.
5. Colleges/Universities should offer financial assistance, scholarships, and increased access to skill development workshops to students to assist with barriers.

11.0 Limitations of the Study

The study was conducted in only four educational institutions in Jashore—three colleges and one university. Thus, the results cannot be generalized to the career aspirations and challenges of students in other parts of the country, especially disadvantaged, rural, and metropolitan areas of Dhaka. Each of the four institutions selected is a public institution. The study therefore does not reflect the experiences of the students studying in private universities, private colleges or any other higher education institutions. This can affect the

range of views on career planning and employability. Structured questionnaires, personal interviews, and focus group discussions were used in the study. Confidence, skills, and challenges were self-reported in the answers provided by the respondents, and could be subject to personal perception, social desirability, or temporary factors. The educational institutions were selected purposively as the study indicated that 225 respondents were randomly selected. This mix could result in selection bias and restrict the ability of the results to be generalized beyond the institutions selected.

A further drawback is that the study employed a cross-sectional design, which just offers information on students' career thinking at a specific moment. It does not measure if their dreams come true and they end up in a job, starting a business, going to college or another career path.

Thus, future studies will need to involve a larger and more geographically diverse sample of public and private institutions, as well as longitudinal data and the views of employers and other labour-market actors. This improvement would create a thorough and more generalizable knowledge of the way in which Bangladeshi students can turn their career expectations into a meaningful career.

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6

Bangladesh Public Administration Training Centre

Savar, Dhaka.

Programme & Studies Division

Evaluation Department

158th Advanced Course on Administration and Development

Seal

Individual Assignment

NAME OF THE MODULE: **Research for Governance**

MODULE NO: 05 (Part-II)

DATE: 03/09/2026

Marks Obtained

Code No. .....

.....

Code No. .....

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158th Advanced Course on Administration and Development

Seal

Individual Assignment

NAME OF THE MODULE: **Research for Governance**

MODULE NO: 05 (Part-II)

DATE: 02/09/2026

Instruction to be followed

(Please read carefully)

1. *Please write your Name, Roll No etc. at the specified space.*
2. *Writing Name, Roll No. etc. at any other place or making the script otherwise may cause cancellation of your answer script.*
1. *Put tick (✓) marks on Evaluation method and Institute's Name.*

Name: Md. Mustafizur Rahaman

Roll No: 106

Seminar Paper

On

Road Safety Initiatives in Bangladesh

Submitted by

Md. Mustafizur Rahaman
Roll No: 106

158th Advanced Course on Administration and Development
Bangladesh Public Administration Training Centre, Savar, Dhaka-1343

Road Safety Initiatives in Bangladesh

Abstract

Road safety remains a critical public health and development challenge in Bangladesh, despite legal, institutional, infrastructural, technological, and awareness-based interventions. This study assesses existing road safety initiatives, examines their effectiveness in reducing road crashes and casualties, and identifies implementation challenges and measures for improvement. A mixed-methods approach was adopted, using primary and secondary data. Primary information was collected through structured questionnaires and Key Informant Interviews (KIIs) involving government officials, transport professionals, road safety experts, law enforcement personnel, academics, and other stakeholders. Secondary information was obtained from BRTA, Bangladesh Police, BBS, relevant ministries, WHO, policy documents, reports, and academic literature. Findings from 40 respondents show that awareness campaigns were the most recognized initiative (20%), followed by strict penalties (17.5%) and intelligent traffic management systems (15%). Overall, 37.5% of respondents considered current initiatives moderately effective, while only 12.5% rated them highly effective. Digital and technology-based traffic management received the highest effectiveness score (15.47%), followed by public awareness campaigns (14.88%) and penalties under the Road Transport Act 2018 (14.59%). Reckless or aggressive driving (20%), speeding (15%), and inadequate driver training or unlicensed driving (12.5%) were identified as major causes of road accidents. Challenges include weak and inconsistent enforcement, inadequate driver training, unfit vehicles, poor pedestrian facilities, mixed traffic, limited institutional coordination, and under-reporting of crash data. The study recommends stricter enforcement, technology-based monitoring, improved driver training and licensing, regular vehicle fitness checks, safer road design, stronger public awareness, inter-agency coordination, improved emergency response, and an integrated national crash database. Sustained monitoring and evaluation are essential for evidence-based road safety improvements and achieving safer roads in Bangladesh.

Keywords: Road Safety; Traffic Accidents; Road Safety Initiatives; Traffic Management; Bangladesh

Introduction:

1.1 Background of the Study:

Road safety remains one of the most critical public health and development challenges in Bangladesh. Rapid urbanization, increasing motorization, population growth, and expanding road networks have significantly increased traffic volume, resulting in a high number of road crashes, fatalities, and injuries. According to the World Health Organization (WHO, 2023), approximately 1.19 million people die annually in road traffic crashes worldwide, while an estimated 20–50 million people suffer non-fatal injuries, many of whom experience permanent disabilities. More than 90% of global road traffic deaths occur in low- and middle-income countries, although these countries possess only about 60% of the world's vehicles (WHO, 2023).

Bangladesh continues to face one of the highest road safety risks in South Asia. According to the Bangladesh Road Transport Authority (BRTA, 2025) and the Road Safety Foundation (RSF, 2025), road crashes remain a leading cause of premature deaths, particularly among economically productive age groups. The majority of victims are vulnerable road users (VRUs), including pedestrians, motorcyclists, cyclists, rickshaw users, and public transport passengers. Motorcycle-related crashes have increased considerably over the last decade due to the rapid growth in motorcycle ownership and inadequate compliance with traffic regulations.

According to the Road Safety Foundation's Annual Report 2025, Bangladesh recorded more than 6,000 road crashes, resulting in over 6,700 deaths and thousands of injuries during 2025. Although official BRTA statistics generally report lower figures because they rely on police records, independent organizations suggest that the actual number of crashes and casualties is significantly higher due to underreporting, particularly in rural areas. This discrepancy highlights the need for an integrated and reliable national road crash database.

The major causes of road crashes in Bangladesh include reckless driving, speeding, violation of traffic rules, unfit vehicles, inadequate driver training and licensing, poor road engineering, weak enforcement of traffic laws, overloading, driver fatigue, and insufficient pedestrian facilities. In addition, rapid urbanization, mixed traffic conditions, and increasing numbers of motorcycles have further intensified road safety challenges. The WHO Global Status Report on Road Safety (2023) identifies strengthening enforcement, improving infrastructure, enhancing vehicle safety

standards, and promoting safer road-user behaviour as key priorities for reducing road traffic injuries.

Recognizing these challenges, the Government of Bangladesh has undertaken several policy and institutional initiatives to improve road safety. The Road Transport Act 2018, the National Road Safety Strategic Action Plan (2022–2024), ongoing implementation of the Road Safety Audit Guidelines, digital driving licence systems, automated fitness testing, intelligent traffic management, and awareness campaigns have strengthened the national road safety framework. In addition, major infrastructure projects, including expressways, flyovers, and smart traffic management systems in metropolitan areas, are expected to improve road transport efficiency and safety.

Despite these initiatives, significant challenges remain in policy implementation, institutional coordination, enforcement capacity, emergency medical response, and public awareness. Road safety therefore requires a comprehensive Safe System Approach, integrating engineering, enforcement, education, emergency response, and evidence-based policymaking. Strengthening inter-agency coordination, improving crash data systems, promoting technology-based traffic management, and enhancing community participation are essential to achieving the Sustainable Development Goal (SDG) Target 3.6 of reducing road traffic deaths and injuries and supporting the vision of Smart Bangladesh 2041.

1.2 Problem Statement:

Road traffic accidents remain a major public health and development challenge in Bangladesh despite various government initiatives, legal reforms, and road safety programmes. The Government has introduced measures such as the Road Transport Act 2018, the National Road Safety Strategic Action Plan, road safety awareness campaigns, and improvements in traffic management. However, road crashes continue to cause a significant number of deaths and injuries each year. Weak enforcement of traffic laws, reckless driving, inadequate driver training, poor road infrastructure, unsafe pedestrian facilities, unfit vehicles, and limited institutional coordination continue to undermine the effectiveness of these initiatives. Furthermore, inconsistencies in road crash data and limited monitoring and evaluation make it difficult to assess the actual impact of existing interventions. Although several road safety initiatives have been implemented, there is limited evidence regarding their effectiveness in reducing road traffic

accidents and improving road user safety. Therefore, this study aims to evaluate existing road safety initiatives, identify implementation challenges, and recommend measures for enhancing road safety in Bangladesh.

1.3 Objectives of the study:

Specific Objectives:

i. To assess the existing road safety initiatives in Bangladesh;
ii. To examine the effectiveness of road safety policies and programmes in reducing road traffic accidents; and
iii. To identify the challenges and recommend measures for improving road safety in Bangladesh.

1.4 Research Question:

i. How effective are the existing road safety initiatives in reducing road traffic accidents and fatalities in Bangladesh?
ii. What are the major challenges and barriers to the implementation of road safety policies and programs in Bangladesh?
iii. What policy measures and institutional reforms can improve the effectiveness of road safety initiatives and ensure safer roads in Bangladesh?

1.5 Justification of the Study:

Road traffic accidents remain a major public safety and development challenge in Bangladesh, causing significant loss of life, injuries, and economic costs every year. Despite the introduction of various road safety policies, laws, awareness campaigns, and institutional initiatives, the number of road crashes and fatalities continues to be alarming. This study is justified because it aims to assess the effectiveness of existing road safety initiatives, identify implementation gaps, and examine the challenges faced by responsible agencies and stakeholders. The findings will provide evidence on whether current interventions are achieving their intended objectives and where improvements are needed. Furthermore, the study will contribute to policy formulation by recommending practical strategies to strengthen enforcement, improve road infrastructure, enhance public awareness, and promote safer driving behavior. It will also support the achievement of the Sustainable Development Goals (SDGs), particularly SDG 3.6, which seeks to reduce road

traffic deaths and injuries, thereby contributing to safer, more sustainable transportation in Bangladesh.

2.0 Literature Review:

Road safety has become a major public health and development concern in Bangladesh due to the increasing number of road traffic accidents, fatalities, and injuries. Rapid urbanization, motorization, inadequate road infrastructure, weak enforcement of traffic laws, and unsafe road user behavior have significantly contributed to road crashes. The Government of Bangladesh has undertaken several initiatives, including legislative reforms, institutional strengthening, infrastructure improvements, and awareness campaigns, to address these challenges. This literature review examines existing studies on road safety initiatives in Bangladesh and identifies the research gaps.

The World Health Organization (WHO, 2023) identifies road traffic injuries as one of the leading causes of death worldwide, particularly among people aged 5–29 years. Low- and middle-income countries account for approximately 92% of global road traffic deaths despite having only about 60% of the world's vehicles. Bangladesh, as a lower-middle-income country, continues to face substantial challenges in reducing road traffic accidents due to rapid urbanization and inadequate transport management.

The Government of Bangladesh enacted the Road Transport Act 2018 to improve road safety by strengthening licensing procedures, increasing penalties for traffic violations, and promoting accountability among transport operators. The Act replaced the outdated Motor Vehicles Ordinance of 1983 and introduced stricter provisions regarding driver qualifications, vehicle fitness certification, and road safety enforcement (Government of Bangladesh, 2018). However, several researchers argue that the successful implementation of the Act remains constrained by weak institutional capacity and inconsistent law enforcement.

According to the Bangladesh Road Transport Authority (BRTA, 2024), road safety initiatives include digital driving licence systems, computerized vehicle registration, fitness certification, driver training, road safety education, and public awareness campaigns. BRTA has also introduced online services to improve transparency and efficiency in licensing and vehicle registration. Despite these reforms, studies indicate that licensing irregularities, inadequate driver training, and insufficient monitoring continue to undermine road safety outcomes.

The World Bank (2019) emphasizes that Bangladesh suffers significant economic losses from road traffic crashes, estimated at nearly 2–3% of the national Gross Domestic Product (GDP) annually. The report recommends adopting the Safe System Approach, which integrates safer roads, safer vehicles, safer road users, effective post-crash response, and stronger institutional coordination. The World Bank further highlights that sustainable improvements require coordinated actions among transport agencies, law enforcement authorities, local governments, and civil society organizations.

Ahsan et al. (2020) examined the causes of road traffic accidents in Bangladesh and identified reckless driving, speeding, overloading, poor road conditions, inadequate traffic management, and lack of driver discipline as major contributing factors. Their study found that although government initiatives have improved policy frameworks, enforcement remains inconsistent, particularly in rural highways and urban intersections. The researchers emphasized the importance of strengthening driver education and regular vehicle inspections.

Islam and Ahmed (2021) assessed public awareness regarding road safety regulations in Dhaka City. Their findings indicate that awareness campaigns have improved knowledge among road users; however, behavioral compliance remains relatively low. Many drivers continue to violate traffic rules due to weak enforcement, corruption, and insufficient penalties. The study recommends integrating road safety education into school curricula and expanding community-based awareness programs.

The Bangladesh Road Safety Foundation (2024) reports that road crashes continue to cause thousands of deaths and injuries annually despite numerous government interventions. The Foundation attributes many accidents to unfit vehicles, unlicensed drivers, excessive speeding, poor highway design, and inadequate pedestrian facilities. It advocates stronger enforcement of the Road Transport Act 2018, improved accident data systems, and enhanced collaboration between government agencies and transport associations.

The United Nations (2021) launched the Second Decade of Action for Road Safety (2021–2030), aiming to reduce road traffic deaths and injuries by at least 50% globally. Bangladesh has aligned several national strategies with this global framework by promoting safer road infrastructure, improving emergency medical response, enhancing institutional coordination, and strengthening public awareness initiatives. However, progress remains uneven due to resource limitations and implementation challenges.

Recent studies also highlight the growing importance of intelligent transport systems (ITS), digital traffic management, speed monitoring technologies, and automated enforcement mechanisms in improving road safety. Rahman and Sarker (2023) argue that adopting smart traffic management systems, including CCTV-based monitoring and electronic traffic enforcement, could significantly reduce traffic violations and improve road safety in major cities. However, limited financial resources and technical capacity continue to delay widespread implementation.

Overall, the literature demonstrates that Bangladesh has introduced several important road safety initiatives through legal reforms, institutional development, awareness campaigns, and digital governance. Nevertheless, persistent challenges such as weak enforcement, inadequate infrastructure, poor institutional coordination, limited driver training, and insufficient monitoring continue to hinder the effectiveness of these initiatives. Most previous studies focus on accident causes or policy descriptions, while limited research comprehensively evaluates the effectiveness of existing road safety initiatives from policy implementation and governance perspectives. Therefore, further empirical research is needed to assess implementation effectiveness, identify institutional constraints, and recommend evidence-based strategies for improving road safety in Bangladesh.

3.0 Methodology:

This study adopted a mixed-methods research design, combining quantitative and qualitative approaches to assess road safety initiatives in Bangladesh. A descriptive and analytical research design was employed to evaluate existing road safety policies, implementation mechanisms, institutional practices, and their effectiveness in reducing road traffic accidents. Both primary and secondary data were collected. Primary data were gathered through structured questionnaires, Key Informant Interviews (KIIs), and Focus Group Discussions (FGDs) involving road users, transport operators, traffic police, officials from the Bangladesh Road Transport Authority (BRTA), road safety experts, and representatives of relevant government and non-government organizations. Secondary data were collected from the Bangladesh Road Transport Authority (BRTA), Bangladesh Police, Bangladesh Bureau of Statistics (BBS), Ministry of Road Transport and Bridges, World Health Organization (WHO), journal articles, policy documents, and published reports. A purposive sampling technique was used for selecting key informants, while simple random sampling was applied to survey respondents. Quantitative data were analyzed using

descriptive statistical techniques such as frequencies, percentages, and tables with Microsoft Excel and SPSS. Qualitative data were analyzed through thematic analysis. Ethical considerations, including informed consent, voluntary participation, confidentiality, and anonymity of respondents, were strictly maintained throughout the study to ensure the reliability and validity of the research findings.

4.0 Data Analysis and Findings:

4.1 Data Collection & Procedure of KII:

The study was conducted based on three specific objectives. The first objective was to assess the existing road safety initiatives in Bangladesh. The second objective was to evaluate the effectiveness of road safety policies and programmes in reducing road accidents, injuries, and fatalities. The third objective was to identify the major barriers to effective road safety management and recommend appropriate measures for improving road safety in Bangladesh. To achieve these objectives, data were collected from both primary and secondary sources, with priority given to information directly relevant to the research objectives.

Primary data were collected through Key Informant Interviews (KIIs) with selected professionals and stakeholders involved in road safety activities in Bangladesh. The respondents included relevant government officials, transport professionals, road safety experts, law enforcement personnel, academics, and other stakeholders with practical knowledge and experience in road safety management. The interviews aimed to obtain their views, experiences, and assessments regarding existing road safety initiatives and the implementation of road safety policies and programmes.

During the interviews, respondents assessed the effectiveness of existing road safety measures in reducing road accidents and improving road-user safety. They also identified major barriers affecting successful implementation, including institutional weaknesses, inadequate enforcement, poor road infrastructure, unsafe driving practices, lack of public awareness, and coordination gaps among relevant agencies. In addition, respondents provided recommendations for strengthening road safety initiatives and improving the overall road safety situation in Bangladesh. For systematic data collection, interviews were conducted verbally using a structured checklist developed according to the objectives of the study. Both open-ended and closed-ended questions were included to collect factual information as well as detailed opinions and recommendations. The checklist consisted of simple, comprehensive, relevant, and easily understandable questions. The information collected through the KIIs was subsequently organized and analyzed according to the three objectives of the study.

4.2 Data Analysis

The researcher himself collected the data supplying checklist containing few questions among the respondents.

The data analysis has been shown in the table below: -

Awareness of Existing Road Safety Initiatives

4.2.1 Awareness of Road Safety Initiatives in Bangladesh

Table-1

Sl. No.	Road Safety Initiative	Frequency	Percentage (%)
1	Digital Driving Licence System	5	12.5%
2	Automated Vehicle Fitness Testing	4	10%
3	Road Safety Awareness Campaigns	8	20%
4	Intelligent Traffic Management Systems (CCTV, Signal Control, etc.)	6	15%
5	Strict Penalties for Traffic Violations	7	17.5%
6	Driver Training Programmes	4	10%
7	Road Safety Audit / Improved Road Engineering	3	7.5%
8	Emergency Medical Response Services	3	7.5%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The respondents stated that road safety awareness campaigns received the highest share at 20%, followed by strict penalties for traffic violations at 17.5% and intelligent traffic management systems at 15%. The digital driving licence system accounted for 12.5%, while automated vehicle fitness testing and driver training programmes each represented 10%. Road safety audits/improved road engineering and emergency medical response services each accounted for 7.5%. Overall, the responses indicate that awareness campaigns, enforcement, and intelligent traffic management are relatively prominent road safety initiatives, while greater attention is needed to engineering improvements and emergency response services.

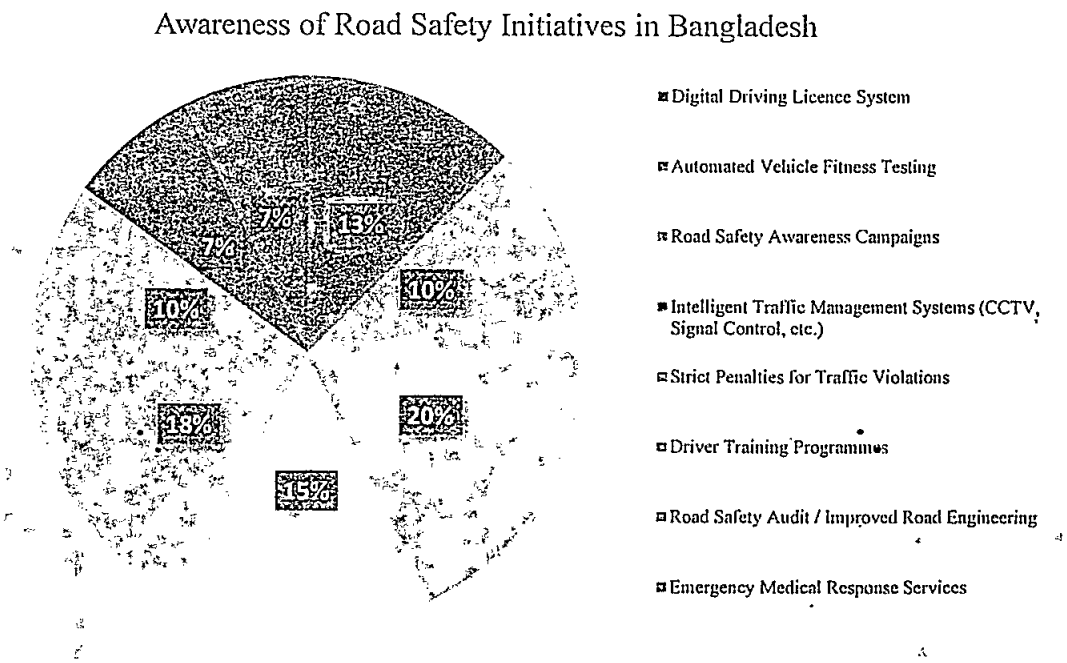


Figure-1: Awareness of Road Safety Initiatives in Bangladesh

4.2.2 Sources of Information about Road Safety Initiatives

Table-2

Sl. No.	Source of Information	Frequency	Percentage (%)
1	Television / Radio	6	15%
2	Social Media	10	25%
3	Newspapers	5	12.5%
4	Billboards / Posters	4	10%
5	School / College Programmes	3	7.5%
6	Traffic Police Campaigns	7	17.5%
7	BRTA Offices	2	5%
8	Family / Friends	3	7.5%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The respondents stated that social media is the main source of information about road safety initiatives, accounting for 25% of responses. Traffic police campaigns represent 17.5%, while television/radio accounts for 15%. Newspapers contribute 12.5%, followed by billboards/posters at 10%. School/college programmes and family/friends each account for 7.5%, while BRTA

offices represent the lowest share at 5%. Overall, the respondents identified social media, traffic police campaigns, and mass media as the most important channels for receiving information about road safety initiatives.

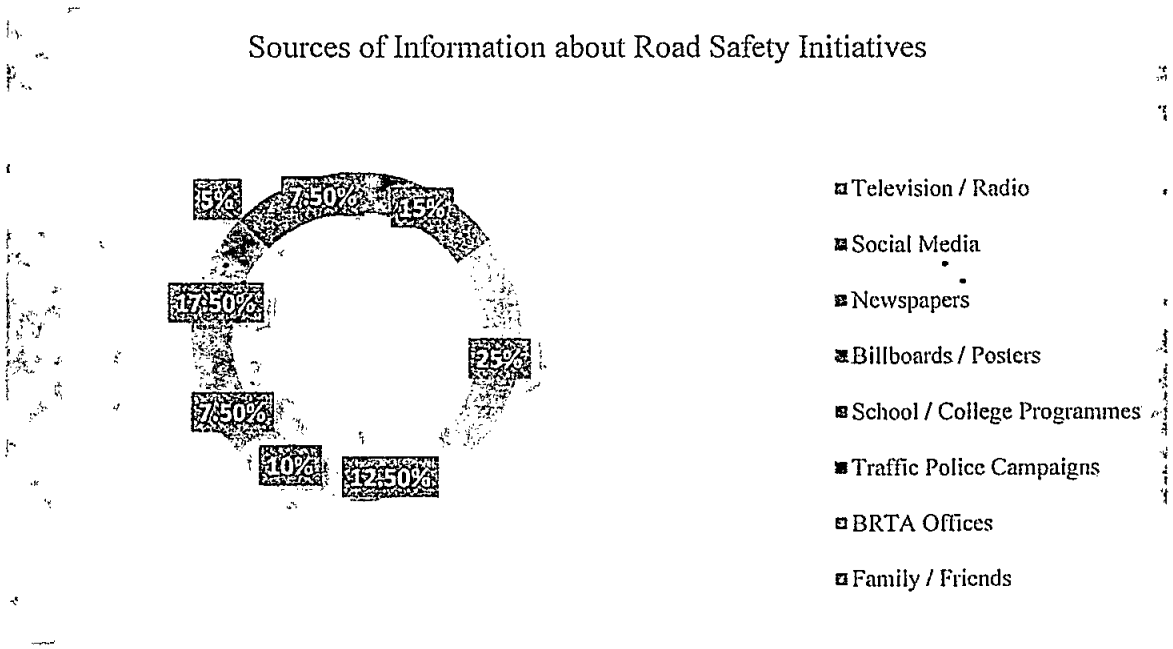


Figure-2: Sources of Information about Road Safety Initiatives

Effectiveness of Road Safety Initiatives

4.2.3 Effectiveness of Current Road Safety Initiatives

Table-3

Sl. No.	Level of Effectiveness	Frequency	Percentage (%)
1	Highly Effective	5	12.5%
2	Moderately Effective	15	37.5%
3	Slightly Effective	10	25%
4	Not Effective at All	7	17.5%
5	Don't Know	3	7.5%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The respondents stated that 37.5% consider the current road safety initiatives moderately effective, making it the most common response. 25% viewed them as slightly effective, while 12.5%

considered them highly effective. On the other hand, 17.5% stated that the initiatives are not effective at all, and 7.5% were unable to provide an assessment. Overall, the responses suggest that existing road safety initiatives have achieved a moderate level of effectiveness, but stronger enforcement, improved infrastructure, public awareness, and institutional coordination are needed to achieve greater reductions in road traffic accidents.

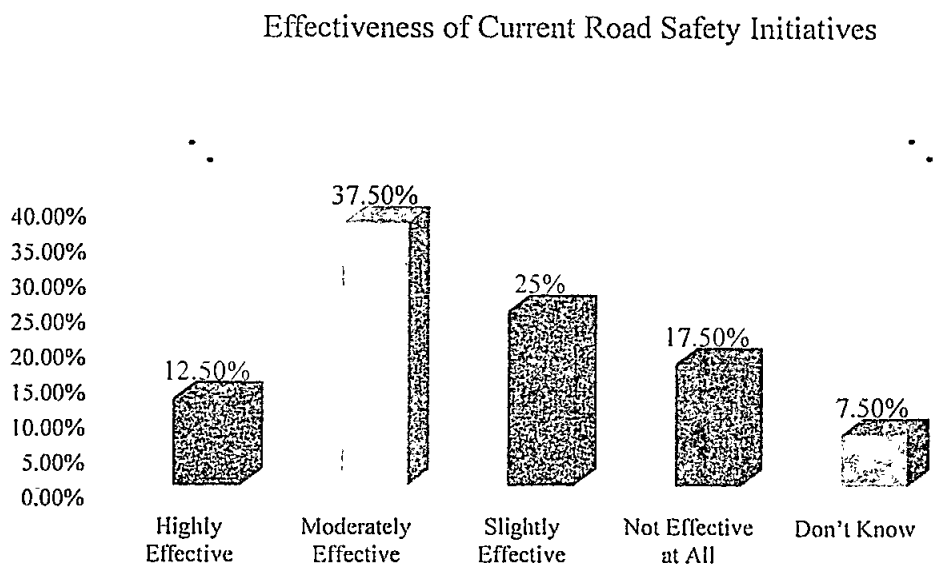


Figure-3: Effectiveness of Current Road Safety Initiatives

4.2.4 Effectiveness of Road Safety Initiatives

Table-4

Sl. No.	Road Safety Initiative	Mean Score	Percentage (%)
1	Enforcement of Traffic Laws	3.55	14.08%
2	Driver Training and Licensing System	3.30	13.09%
3	Vehicle Fitness Certification	3.45	13.69%
4	Public Awareness Campaigns	3.75	14.88%
5	Road Infrastructure Improvements	3.58	14.20%
6	Digital/Technology-Based Traffic Management	3.90	15.47%
7	Penalties under the Road Transport Act 2018	3.68	14.59%
	Total	**25.21**	**100%**

Source: Field data collected on 09-11 August, 2026

The respondents rated digital/technology-based traffic management as the most effective initiative, accounting for 15.47% of the overall effectiveness assessment. Public awareness campaigns followed with 14:88%, while penalties under the Road Transport Act 2018 accounted for 14.59%. Road infrastructure improvements represented 14.20%, followed by enforcement of traffic laws at 14.08%. Vehicle fitness certification accounted for 13.69%, while driver training and licensing received the lowest share at 13.09%. Overall, the results indicate that technology-based traffic management, public awareness, effective penalties, and improved infrastructure are perceived as relatively more effective components of Bangladesh's road safety initiatives.

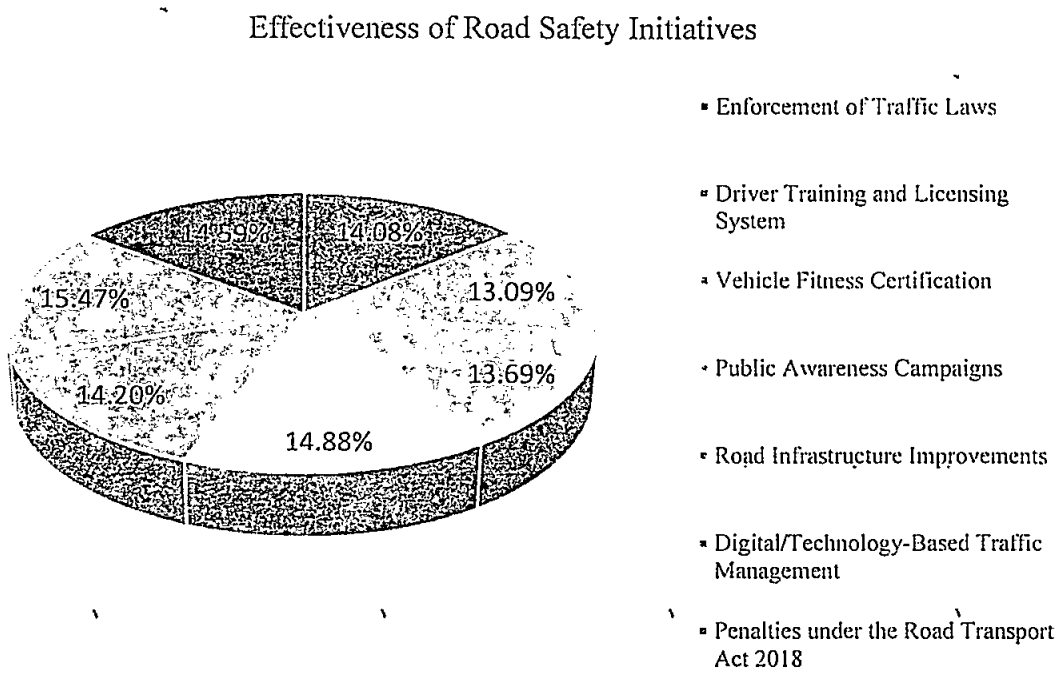


Figure-4: Effectiveness of Road Safety Initiatives

4.2.5 Observed Changes in Reckless Driving and Traffic Rule Violations

Table-5

Sl. No.	Response	Frequency	Percentage (%)
1	Significant Reduction	6	15%
2	Some Reduction	15	37.5%
3	No Change	11	27.5%
4	Increase in Violations	8	20%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The respondents stated that 37.5% had observed some reduction in reckless driving and traffic rule violations in their areas in recent years. 15% reported a significant reduction, indicating some positive effects of road safety interventions and enforcement measures. However, 27.5% observed no change, while 20% reported an increase in traffic violations. Overall, the responses suggest that although some improvement has been observed, reckless driving and traffic rule violations remain a significant concern requiring stronger enforcement, public awareness, and continuous monitoring.

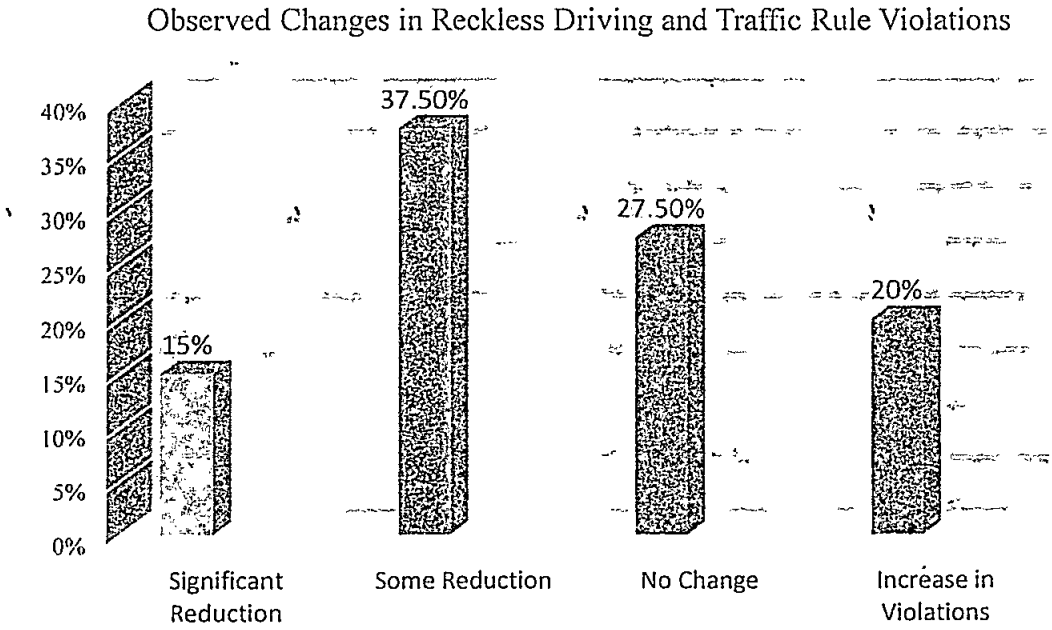


Figure-5: Observed Changes in Reckless Driving and Traffic Rule Violations

Challenges and Barriers

4.2.6 Major Causes of Road Accidents in Bangladesh

Table-6

Sl. No.	Major Cause	Frequency	Percentage (%)
1	**Reckless / Aggressive Driving**	**8**	**20%**
2	Speeding	6	15%
3	Overloading of Vehicles	3	7.5%
4	Unfit / Poorly Maintained Vehicles	4	10%
5	Inadequate Driver Training / Unlicensed Drivers	5	12.5%
6	Weak Enforcement of Traffic Laws	4	10%
7	Poor Road Design / Lack of Pedestrian Facilities	3	7.5%
8	Mixed Traffic (Slow and Fast Vehicles Together)	2	5%
9	Driver Fatigue	2	5%
10	Corruption in Licensing / Enforcement	1	2.5%
11	Lack of Public Awareness	2	5%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The respondents stated that reckless or aggressive driving is the leading cause of road accidents in Bangladesh, accounting for 20% of responses. Speeding represents 15%, while inadequate driver training and unlicensed driving account for 12.5%. Unfit vehicles and weak enforcement of traffic laws each represent 10%. Overloading and poor road design or inadequate pedestrian facilities each account for 7.5%. Mixed traffic, driver fatigue, and lack of public awareness each represent 5%, while corruption in licensing and enforcement accounts for the lowest share at 2.5%. Overall, the respondents emphasized unsafe driving behaviour, excessive speed, inadequate driver competency, and weak enforcement as the major factors contributing to road accidents in Bangladesh.

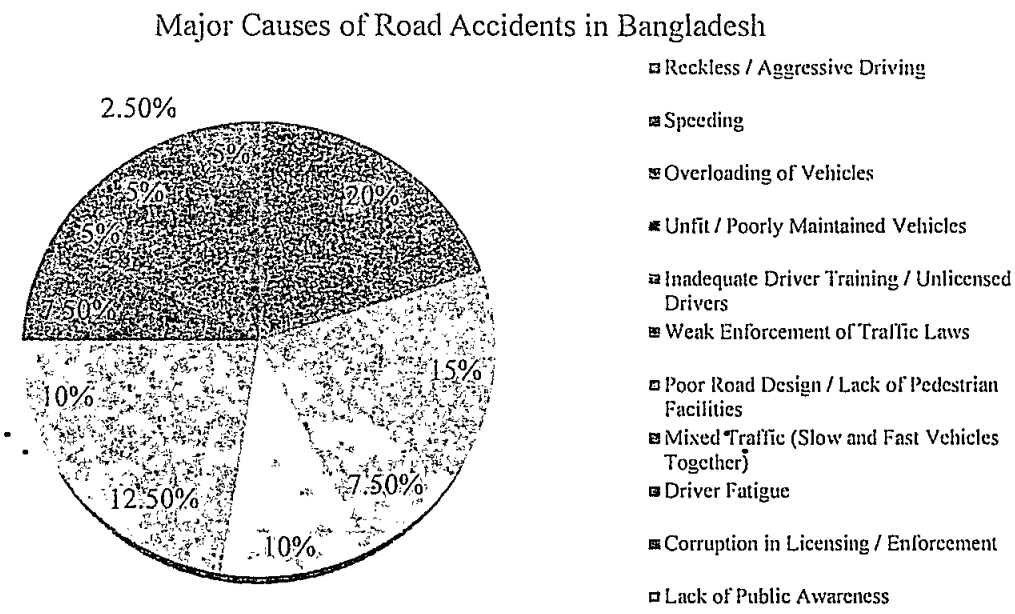


Figure-6: Major Causes of Road Accidents in Bangladesh

4.2.7 Experience or Observation of Road Safety-Related Issues

Table-7

Sl. No.	Experience / Observation	Frequency	Percentage (%)
1	Being Stopped by Traffic Police for Violation	8	20%
2	Paying a Fine under the Road Transport Act	7	17.5%
3	Seeing Unfit Vehicles on the Road	10	25%
4	Seeing Unlicensed Drivers	6	15%
5	Difficulty in Getting a Driving Licence Properly	3	7.5%
6	Lack of Footpaths or Safe Pedestrian Crossings	6	15%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The respondents stated that seeing unfit vehicles on the road was the most common experience, accounting for 25% of responses. Being stopped by traffic police for violations represented 20%, while paying a fine under the Road Transport Act accounted for 17.5%. Seeing unlicensed drivers and experiencing a lack of footpaths or safe pedestrian crossings each represented 15%. Meanwhile, 7.5% reported difficulties in obtaining a driving licence through proper procedures.

Overall, the responses indicate that vehicle fitness, traffic law enforcement, unlicensed driving, and pedestrian safety infrastructure remain important road safety concerns in Bangladesh.

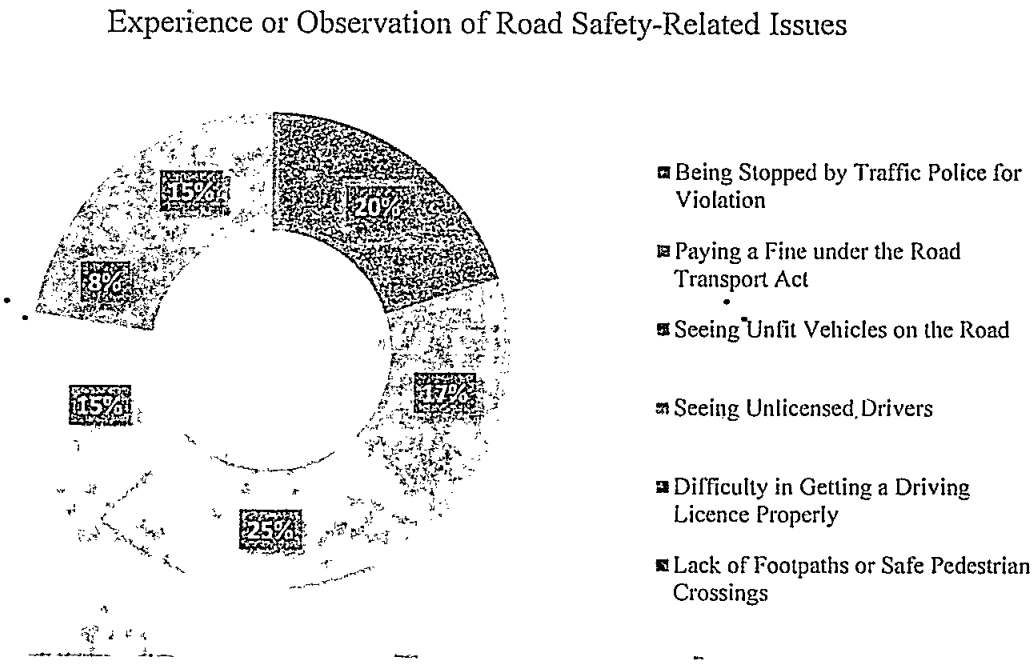


Figure-7: Experience or Observation of Road Safety-Related Issues

Suggestions and Recommendations

4.2.8 Suggestions and Recommendations for Improving Road Safety

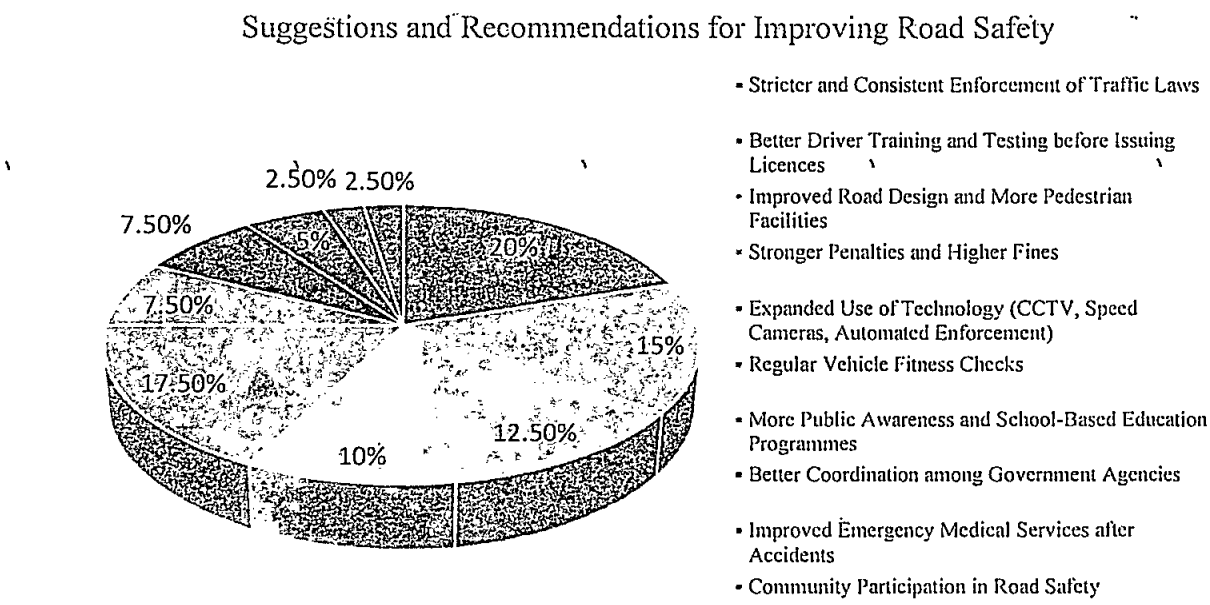
Table-8

Sl. No.	Recommended Measure	Frequency	Percentage (%)
1	Stricter and Consistent Enforcement of Traffic Laws	8	20%
2	Better Driver Training and Testing before Issuing Licences	6	15%
3	Improved Road Design and More Pedestrian Facilities	5	12.5%
4	Stronger Penalties and Higher Fines	4	10%
5	Expanded Use of Technology (CCTV, Speed Cameras, Automated Enforcement)	7	17.5%
6	Regular Vehicle Fitness Checks	3	7.5%

7	More Public Awareness and School-Based Education Programmes	3	7.5%
8	Better Coordination among Government Agencies	2	5%
9	Improved Emergency Medical Services after Accidents	1	2.5%
10	Community Participation in Road Safety	1	2.5%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The respondents stated that stricter and consistent enforcement of traffic laws is the most important measure, accounting for 20% of responses. Expanded use of technology, including CCTV, speed cameras and automated enforcement, represents 17.5%, while better driver training and testing accounts for 15%. Improved road design and pedestrian facilities represent 12.5%, and stronger penalties and higher fines account for 10%. Regular vehicle fitness checks and public awareness programmes each represent 7.5%. Better inter-agency coordination accounts for 5%, while emergency medical services and community participation each account for 2.5%. Overall, the respondents emphasized strong enforcement, technology-based monitoring, competent drivers, and safer road infrastructure as the key priorities for improving road safety in Bangladesh.



Figrue-8: Suggestions and Recommendations for Improving Road Safety

4.2.9 Total Number of Accidents and Fatalities

According to the police-reported accident records, the number of fatalities increased from 187 in 1972 to 3,764 in 2008, representing nearly a 10 percent annual growth over the first 37 years of Bangladesh's independent history. In the subsequent decade (1999–2008), the rise slowed to about 2 percent per year (from 3,314 to 3,764). However, more recent data reveal a markedly different picture. Independent monitoring by the Road Safety Foundation (RSF), which triangulates media reports, online sources and field information, shows that road crash fatalities have risen substantially in the last decade and a half. In 2024, RSF recorded 6,927 accidents resulting in 7,294 deaths and 12,019 injuries. In 2025, the figures further increased to 7,584 accidents, 7,359 deaths and 16,476 injuries. Alternative estimates by the Bangladesh Jatri Kalyan Samiti place the 2025 death toll even higher at 9,111. Motorcycle-related crashes alone accounted for roughly 36 percent of all road fatalities in 2025 (approximately 2,671 deaths), underscoring the growing dominance of this vehicle category.

Despite significant growth in population, personal trips, motorised and non-motorised vehicles, and road network length, as well as improved media monitoring and the formalisation of accident reporting systems, the absolute number of reported fatalities has not declined and, according to independent sources, has roughly doubled compared with the late 2000s. Official police and BRTA statistics continue to report lower figures, reflecting persistent under-reporting, particularly of non-fatal injuries and crashes in rural areas. The apparent stabilisation or modest fluctuations observed in certain official series after the introduction of the improved Accident Report Forum (ARF) and related training under the Institutional Development Component of earlier road projects have not translated into a sustained downward trend in the broader independent datasets.

Several factors continue to shape the current situation. On the positive side, progressive improvement of road geometry (curve straightening, carriageway widening, black-spot treatment), construction of new national and regional highways incorporating safety audit principles, the presence of higher-standard vehicles, expanded road-user education and awareness programmes, and stronger official policy coordination and enforcement efforts have all contributed to containing what could have been an even steeper rise. Conversely, the rapid proliferation of motorcycles, mixed traffic conditions, inconsistent enforcement, inadequate pedestrian facilities, and residual weaknesses in driver training and vehicle fitness certification continue to drive high casualty numbers. The overall picture up to 2025–2026 therefore indicates that while institutional and

engineering interventions have prevented an uncontrolled escalation, the absolute burden of road traffic deaths and injuries remains unacceptably high and has not yet shown a clear, sustained reduction consistent with national and global road safety targets.

4.2.10 Fatalities per Million Persons and per 100 Km RHD Roads

Table 2 shows the number for fatalities per million persons and per 100 km Road and Highways Department (RHD) roads in Bangladesh. Fatalities per million persons indicate the national health burden of traffic crashes. For Bangladesh, the fatality rates have increased from 2.74 fatalities per million persons and 4.48 fatalities per 100 RHD roads in 1972 to 29.8 and 17.83 respectively in 2008 but in the last decade it has also not significantly increased (and more recent figures up to around 2024–2025 show continued fluctuation in the range of roughly 30–50+ per million persons depending on source, with WHO-estimated rates higher at about 186 per million / 18.6 per 100,000 population in recent years, while police/BRTA/NGO-compiled reported deaths remain lower at several thousand annually). In addition, the overall fatalities per 10,000 on road motor vehicles have increased from 40 in 1972 to 53 in 2008; more recent estimates place the rate substantially higher (around 100+ per 10,000 vehicles in some analyses), though official reported numbers have shown mixed trends with growth in absolute deaths amid rising vehicle numbers. Both the figures show the same fluctuation in the same period, may be attributed from the same reason.

From these figures it can also be concluded that as the degree of exposure in the form of number of trips, number of vehicles, road users as well as amount of road network are ever increasing, this trends show a positive and hopeful sign (though absolute reported fatalities have remained high or risen in many recent years, with motorcycle-related deaths particularly prominent, and major discrepancies persist between official counts of roughly 5,000–9,000 deaths annually and higher international estimates).

Note on data (for transparency): Exact matching updates for the original metrics (especially per 100 km RHD roads) through 2026 are limited in public sources. Recent reported annual road deaths (police/BRTA/Road Safety Foundation/Jatri Kalyan Samiti style compilations) are commonly in the 5,000–9,000+ range (e.g., ~7,000–9,000 in various 2024–2025 reports), while WHO/GBD-style estimates have been much higher (~25,000–32,000). Population is now ~170+ million; vehicle fleet has grown significantly. The wording structure is preserved as requested; absolute numbers and rates continue to reflect under-reporting challenges and rising exposure.

4.2.11 Monitoring and Evaluation of The Implemented Road Safety Measures

- ✓ Development of Awareness and Understanding
- ✓ Institutional Development/Performance
- ✓ Safety Manual, Hand Book and Guidelines
- ✓ Evaluation of Geometric Improvement
- ✓ National Road Safety Council and National Road Safety Strategic Action Plan
- ✓ Road Safety Cell and District Road Safety Committee
- ✓ Road Safety Voluntary & Advisory Group
- ✓ Highway Police
- ✓ Speed Limit Zoning and Speed Restriction Rules
- ✓ Traffic Accident Database

5.0 Findings of the Study

The study finds that Bangladesh has introduced multiple road safety initiatives, including the Road Transport Act 2018, digital driving licences, automated vehicle fitness testing, intelligent traffic management systems, public awareness campaigns, stricter penalties, and driver training programmes. Awareness is highest for road safety campaigns (20%), strict penalties (17.5%), and intelligent traffic management (15%). Social media is the leading information source (25%), followed by traffic police campaigns (17.5%).

Respondents rate overall initiatives as moderately effective (37.5%), with digital/technology-based traffic management, public awareness campaigns, and penalties under the 2018 Act perceived as relatively stronger components. Some reduction in reckless driving and traffic violations was observed by 37.5% of respondents, yet 27.5% reported no change and 20% noted an increase. Reckless/aggressive driving (20%), speeding (15%), and inadequate driver training or unlicensed driving (12.5%) are the leading causes of accidents. Common observations include unfit vehicles on roads (25%), enforcement actions, unlicensed drivers, and inadequate pedestrian facilities.

Independent data indicate persistently high absolute numbers of crashes, deaths, and injuries (several thousand fatalities annually in recent years, with motorcycles accounting for a large share), alongside under-reporting in official records. Key barriers include weak and inconsistent

enforcement, gaps in driver training and licensing, infrastructure shortcomings (especially for pedestrians), mixed traffic conditions, limited inter-agency coordination, and insufficient monitoring and evaluation. Stakeholders prioritise stricter enforcement, expanded technology use (CCTV, speed cameras, automated systems), better driver training and testing, improved road design and pedestrian facilities, and stronger penalties.

6.0 Conclusion and Recommendations

6.1 Conclusion

Tackling the road safety problem is a major challenge for transport professionals in Bangladesh. To address this issue, effective coordination and collaboration are required among public and private agencies, using a holistic, integrated approach across multiple sectors and disciplines. Adequate resources must be allocated to strengthen safety, which is currently far lower than the scale of the problem. There is still considerable scope to improve road safety, and therefore established, proven interventions should be implemented with due urgency, covering education, engineering, and enforcement. It is also believed that regular, sustained monitoring and evaluation of safety initiatives will support the identification of appropriate, proven measures that can be incorporated into the design and planning of transport infrastructure.

6.2 Recommendations

- Ensure stricter, consistent, and corruption-free enforcement of the Road Transport Act 2018 and traffic laws.
- Expand technology-based monitoring, including CCTV, speed cameras, and automated enforcement systems nationwide.
- Strengthen driver training, testing, and licensing procedures to ensure only competent drivers receive licences.
- Conduct regular and rigorous vehicle fitness certification with strict action against unfit vehicles.
- Improve road design, black-spot treatment, and provide more safe pedestrian facilities and crossings.
- Increase public awareness campaigns through social media, mass media, and community programmes.
- Integrate comprehensive road safety education into school and college curricula.

- Enhance inter-agency coordination among BRTA, traffic police, local governments, and road authorities.
- Strengthen the National Road Safety Council and implement the Strategic Action Plan with clear accountability.
- Improve post-crash emergency medical response and trauma care systems.
- Establish a reliable, integrated national road crash database to address under-reporting.
- Introduce higher and consistently applied penalties for serious violations such as speeding and reckless driving.
- Promote safer motorcycle practices, including mandatory helmet use and dedicated training.
- Allocate adequate resources for road safety engineering, enforcement, and institutional capacity building.
- Conduct regular monitoring and independent evaluation of all road safety initiatives to guide evidence-based improvements.

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(Please read carefully)

1. *Please write your Name, Roll No. etc. at the specified space otherwise may cause cancellation of your answer script.*
2. *Put tick (✓) marks on Evaluation method and Institution's Name.*

Name: A.K.M Bazlur Rahman

Roll No - 107

A Seminar Paper

on

Factors Affecting the Foreign Exchange Earnings from Jute and Jute Products in Bangladesh

Factors Affecting the Foreign Exchange Earnings from Jute and Jute Products in Bangladesh

Abstract

Jute sector in Bangladesh is staggering with an unsteady pace due to multiple adverse factors. Despite several policy initiatives to re-energize the sector, all attempts of the Government ended with no sustainable results. The primary objective of the study is to identify the factors affecting foreign exchange earnings from Bangladesh's jute and jute goods sector (Objective i), and to explore the challenges that adversely affect those earnings (Objective ii). This study is based on a mixed-method combining quantitative time-series analysis of secondary data with qualitative primary data collection. Primary data were collected through face to face and telephonic interviews with five Key Informants (KIIs) on a semi- structured questionnaire consisting of two themes: 1) finding out the factors liable for export earnings (RQ-i) and 2) the challenges that adversely affect export earnings from jute sector in Bangladesh (RQ-ii). In answer to RQ-i, the study finds 82 distinct factors across eight broad categories - economic, market, production, industrial, policy, political, logistics, and geopolitical – out of which half (50%) play a positive influence on earnings. Among them are the favourable global environmental policy trends, growing demand for diversified jute products, and Bangladesh's existing (though under-implemented) policy framework. In answer to RQ-ii, the study finds that 39% of identified factors are negative, concentrated in weak policy implementation, outdated machinery, an intermediary-led value chain, hostile external trade measures such as India's anti-dumping duties, and rising domestic production costs. The study finds that the sector's difficulties stem less from a lack of global demand or policy intent, and more from implementation gaps, under-investment in modernisation and quality compliance, and structural inefficiencies in the value chain. Nine recommendations are suggested to address the adverse factors and to close the gap between the promising external environment of Bangladesh and its disappointing export outcomes. The consistent and time-bound implementation of these recommendations monitored through the proposed Jute Sector Implementation Cell, can be a realistic pathway to reversing the decline in foreign exchange earnings and to positioning Bangladesh's "golden fibre" in the driving seat in global market.

Key words: Jute sector, staggering, multiple factors, re-energize, geopolitical, intermediary-led value chain, Pathway.

1. Introduction

1.1 Background

Jute as the 'golden fibre' of Bangladesh, has been historically known as one of the core cash crops and export products of the country. Bangladesh and India together produce roughly 85% of the world's raw jute where Bangladesh alone contributes to around 40% of global raw-jute of the world's finest-quality (Rahman, Kazal, Begum, & Alam, 2017). Raw jute and jute products like hessian, sacking, carpet-backing cloth (CBC), yarn and a multiple variety of diversified jute products yielded around 90% of foreign exchange earnings immediately after independence in FY1972–73 (Akter, Sadekin, & Islam, 2020). Due to the invention of artificial fibre and due to the changing world economy, the demand for jute and jute goods faced a sharp decline both home and abroad. Moreover, giving preference to the cultivation of paddy for attaining self-sufficiency in food, government gave more preference to Paddy cultivation and the farmers instead of cultivating jute; they paid more attention to paddy cultivation. Jute fibre being an eco-friendly fibre and because of its potentiality around the globe, the government of Bangladesh adopted Jute Policy 2018 to revive the sector. Around 4 crore people are directly or indirectly involved in production, sale and export process of jute (Amin, 2022; Sorowor, 2020).

Jute sector is the single largest industry in the industrial sector of Bangladesh. Earning of 1 US Dollar from Jute sector equals to 4 US dollar from readymade garments sector. The value addition in jute sector is much more than any other sector because all the steps from production to finished goods are accomplished at home. With a view to reducing poverty and creating employment government of Bangladesh adopted National Jute Policy 2018 to modernize the running state Jute Mills and to develop and up skill the workers, engineers and the managers to ensure the quality of jute goods. Modernization of the jute industry was a priority for the government so that it can significantly contribute to GDP and Bangladesh to be a developed country by 2041.

The sector underwent a lot of wears and tears and export earnings from this sector drastically fell to under 4% by 2009 and to approximately 1.5-2% of total exports today. Dominance of synthetic fibres polypropylene and polyethylene are posing severe threat to the growth of this sector.

Intermittent policy changes i.e. nationalisation of jute mills after the independence, denationalisation and privatisation drives during the 1980s brought about an unstable situation in this sector. Furthermore, a World Bank supported transformation programme in 1994 led to the closure and downsizing the public mills including the contentious closure of the leading Adamjee Jute Mills in 2002 (Rahman et al., 2017).

1.2 Problem Statement

With a view to reviving the jute sector, the Government adopted National Jute Policy 2018 with the objectives including quality jute production, fair price for farmers, diversification of jute goods, mill modernisation (both public and private) and expansion of market and exports of jute products. But the policy efforts to enhance export earnings from jute and jute products ended in vain showing a fluctuating trend consistently. In the FY2020–21, export earnings form this sector was about US$1.16 billion which fell to US$1.13 billion in FY2021–22, US$911.51 million in FY2022–23, US$855.23 million in FY2023–24 and US$820.16 million in FY2024–25 (Export Promotion Bureau [EPB], as reported in New Age, 2025; The Financial Express, 2025).

Lasting underinvestment to modernize the jute mills, inability to expand the global market, inadequate product diversification (only 282 whereas the main competitor India has more than 1100 diversified products), an unstable raw jute supply chain dominated by hoarders led to the gradual decrease of income from this sector. Structural, internal and mounting external constraints i.e. persistent anti-dumping duties imposed by India since 2017 that have restricted access to a key export market, low global demand-especially for jute yarn used in carpets, competition from cheaper synthetic alternatives, rising input and logistics costs, including higher raw jute prices and freight charges badly affected international competitiveness. Periodic closure of mills, especially, in 2020, the closure of 25 state-owned jute mills under BJMC that displaced tens of thousands of workers (Akter et al., 2020; Sarker & Amin, 2023)

1.3 Rationale for the Problem Statement

Foreign exchange earnings are integral to a country's macroeconomic stability, international trade, imports, external debt management, cross-border investment and supporting the exchange rate and foreign reserves. At present, RMG alone provides more than four-fifths of total export receipts. In case of any abrupt internal or external shock to this sector from a global slowdown to the loss of LDC preferences may cause a drastic fall to Bangladesh's export base. Jute sector was once the country's highest export earner. It is the oldest export industry with a huge production base, farmer network, low labour cost and processing facilities. So, this sector can be one of the most immediately available avenues for shock management. Moreover, its biodegradable, plastic-substituting character aligns it with a rapidly growing global "green economy" market (Peu, 2019, as cited in Akter et al., 2020).

Different reviews such as Akter et al. (2020) and studies such as Sarker and Amin (2023) point out a wide range of qualitative challenges i.e. resource scarcity, inadequate demand, land loss, natural calamities, mismanagement, lack of diversification etc. But they do not statistically quantify the factors that most affect the foreign exchange earnings from this sector. Experts in this sector point their fingers to the closure of 25 state-owned jute mills, indiscriminate hoarding of raw jute, seed-supply dependence (almost 75% of required annual jute-seed is imported) and tariff and compliance barriers in destination markets. No study, to the best of my knowledge has assessed the economic, structural, policy, institutional or other factors taking into consideration the stakeholders like farmers, millers, exporters and policymakers. The proposed study will address that gap. Its findings are likely to benefit policymakers at the Ministry of Textiles and Jute, the Bangladesh Jute Mills Corporation (BJMC), the Bangladesh Jute Mills Association (BJMA), the Bangladesh Jute Goods Exporters Association (BJGEA), the Export Promotion Bureau etc. It will definitely help the potential investors and researchers who seek an evidence-based account of what expedites and what mars Bangladesh's jute-related foreign exchange earnings.

1.4 Objectives of the Study

The overall aim of the study is to systematically identify and analyse the factors and challenges that affect Bangladesh's foreign exchange earnings from jute and jute products. The specific objectives are:

i) To find out the factors affecting foreign exchange earnings from jute and jute products in Bangladesh.

ii) To explore the challenges affecting foreign exchange earnings from jute and jute goods.

1.5 Research Questions (RQ)

It is obvious that there are multiple factors that affect foreign exchange earnings from jute and jute products in Bangladesh. I will attempt to find the answers to two simple questions:

i) What are the factors that affect foreign exchange earnings from jute and jute products in Bangladesh?

ii) What are the challenges that adversely affect foreign exchange earnings from jute and jute goods?

2. Literature Review

Rahman et al. (2017) surveyed on 289 jute growers in Kishoreganj and Faridpur districts. He found that jute area declined at 1.2% per annum overall but harvest prices and export value all grew strongly during 2004–2013 (7.7%, 11.0% and 12.1% per annum respectively) without a corresponding rise in productivity. Traditional (Tossa) jute was found to be globally competitive whereas white jute was not. Land, labour and irrigation were identified as the dominant productivity drivers. The study recommended investment in R&D and modern varieties, irrigation expansion, tenurial reform.

Gupta, Sahu, and Banerjee (2009) confirmed a long-run declining trend in cultivation area and productivity across the region, while noting Bangladesh's latent potential to expand both. Molla, Sabur, and Begum (2015) compared the financial and economic profitability of jute against competing crops such as Aus rice and found jute to be a financially attractive option for farmers under existing price structures, a finding consistent with Rahman et al.'s (2017).

Akter, Sadekin, and Islam (2020), using descriptive statistics from BJMC, BJMA and BBS records, the authors documented ten specific and mutually reinforcing problems constraining the sector: lack of scientific knowledge and modern tools among farmers; insufficient storage facilities; volatile market prices; high transportation costs from rural growing areas;

unreliable quality-seed supply; low labour productivity in mills; poor market forecasting leading to unsold inventory; land fragmentation; pest attacks and rising pesticide costs; insufficient retting water; recurrent natural calamities; a global shift toward synthetic substitutes; and periodic mill closures. Their policy recommendations are: a stronger pricing and quality-control regime, training initiatives, expanded transport infrastructure, more government raw-jute purchase centres, cooperative farming to counter land fragmentation, and a moratorium on further mill closures.

Sarker and Amin (2023, Centria University of Applied Sciences), found lack of resources, inadequate demand (jute export share fell from about 90% in 1972–73 to 2.7% by 2009 per Rahman and Khaled, 2011), decreasing agricultural land (from 92% to 83.5% of land area between 1976 and 2010, per Rahman, 2017), natural calamities, mismanagement and corruption within BJMC, and a lack of product diversification relative to India and China. The same thesis also documents the sector's opportunities - jute as a plastics substitute amid a global plastics-pollution crisis (5 trillion single-use plastic bags discarded annually worldwide), rising automotive-sector demand for jute composites from manufacturers such as Mercedes-Benz and Toyota, and Bangladesh's continued position as the world's leading jute exporter.

The global car industry needs about 100000 tons of jute each year. Bangladesh already supplied 12000 tons of its best quality jute to world- leading car brands like BMW, Mercedes-Benz, Toyota, Renault, Mitsubishi, Volvo, Audi, Daimler and Ford. With the quality of Bangladesh jute, Bangladesh can become the main supplier of the jute required for the global car industry and the chance to capture a large portion of the world's car market demand (Mridha, 2018).

An ex-post policy analysis of the National Jute Policy 2018, based on key-informant interviews with the General Secretaries of BJGEA and BJMA, mid-level officials of the Ministry of Textiles and Jute, jute mill Chief Project Officers in Khulna, Jute Development Officers, and farmers, together with EPB and BBS secondary data found that export earnings declined year-on-year by 9.62% (2021–22), 18.90% (2022–23), 5.92% (2023–24) and 4.10% (2024–25). The analysis attributed this decline to the 2020 closure of 25 state-owned jute mills idling roughly 57,000 permanent and temporary workers, affecting an estimated 4 million farming households and 40 million people involved in jute farming, citing large losses and excessive maintenance costs (Amin, 2022; Sorowor, 2020). Among the other

causes are: hoarder control of the raw-jute market depriving mills of affordable input, 75% dependency on imported jute seed against a 6,000-metric-tonne annual requirement, inadequate retting water in northern districts, weak international market research and branding (Bangladesh has developed only about 282 diversified jute products against India's 1,100 plus), high compliance costs (e.g., roughly US$1,500 per shipment for European mineral-oil-hydrocarbon testing), tariff barriers in markets such as Brazil (up to 300%, versus 0% for India), and up to 18 separate categories of domestic taxation on jute mills. This internal evidence is corroborated by independent media and trade-body reporting. The Export Promotion Bureau's own statistics confirm the decline from a historic US$1.16 billion in FY2020–21 to US$820.16 million in FY2024–25 (New Age, 2025; The Financial Express, 2025.

The literature review comes across a set of factors that affect jute-related foreign exchange earnings i.e. low productivity and technical inefficiency (Rahman et al., 2017); an unreliable and hoarder-dominated raw-material supply chain (Akter et al., 2020; Sarker & Amin, 2023); outdated mill technology and chronic underinvestment (Sarker & Amin, 2023); limited product diversification relative to regional competitors; external trade barriers, particularly India's anti-dumping drive (The Business Standard, 2025; Textile Today, 2026).

3. Methodology of the Paper

3.1 Data Collection Method

This study is based on a mixed-method combining quantitative time-series analysis of secondary data with qualitative primary data collection to explain and contextualise the statistical findings - an approach consistent with the methods used by Rahman et al. (2017). This study has undergone a face to face interview and document analysis technique for collecting data. Primary data were collected through face to face and telephonic interviews with five Key Informants (KIIs). Md. Rafiqul Islam (NDC), Joint Secretary, Ministry of Textiles and Jute (MOTJ); Md. Jahid Hossen, Joint Secretary, Ministry of Textiles and Jute (MOTJ) and Chairman, Jute Diversification and Promotion Centre (JDPC); and Dr. Muhammad Mukhlesur Rahman, Deputy secretary, MOTJ gave time for a face to face interview while the General Secretary, Bangladesh Jute Goods Exporters Association (BJGEA) and the General Secretary, Bangladesh Jute Mills Association (BJMA) were interviewed over telephone. Despite the fact that the concerned officers were maintaining a

busy schedule, they have been so cordial to provide information they were asked for. Whenever answers of the questions were beyond their ken, they often referred to the concerned desk officers (Administrative Officers) who provided adequate information regarding the factors affecting export earnings from jute sector. A semi structured questionnaire consisting 17 open ended questions constructed on the basis of two themes i.e. finding out the factors liable for export earnings and the challenges that adversely affect export earnings from jute sector in Bangladesh, was used.

Semi structured method of interview was followed because it is the most widely accepted method of data collection in qualitative research (Willing, 2013). The interview was conducted in Bangla in a conversational manner with careful attempt to elicit the right information from the respondents. Data were translated using the researches own expertise "being thorough, careful, consistent and honest", the most important factor for reliability in qualitative study (Robson, 2002; Noble & Smith, 2015). The interview was conducted in a free, frank and conversational manner so that the respondents feel free to speak their hearts. This interview technique enables participants to express themselves freely on established theme hence increasing the depth and diversity of responses (Creswell, 2017). Notes and reflections were also jotted down during the interviews for the purposes of accuracy and transcription. Each interview consisted of 10-20 minutes on an average. Data was collected from August 09-20, 2026.

This study is based on primary and secondary sources. To collect secondary data, an extensive literature review has been made to identify the factors and their impacts on export earnings. Secondary data have been collected from the annual reports of Jute mills, articles, newspaper and different websites of authorities or organizations associated with Jute data such as Export Promotion Bureau (EPB), the World Bank, Asian Development bank (ADB), the Food and Agricultural Organisation (FAO), the SAARC Agricultural Centre Bangladesh Jute Mills Corporation (BJMC), Bangladesh Jute Goods Exporters' Association (BJGEA), Jute Diversification and Promotion Centre (JDPC) and Directorate of Jute (DoJ). The responses of the interview have been aligned with the secondary data collected from various sources.

4. Data Analysis and Discussion

4.1 Quantitative Trend of Foreign Exchange Earnings

The time-series component of the study's mixed-method design and secondary data from the Export Promotion Bureau reflect a downward trend in jute and jute goods export earnings over the past few years.

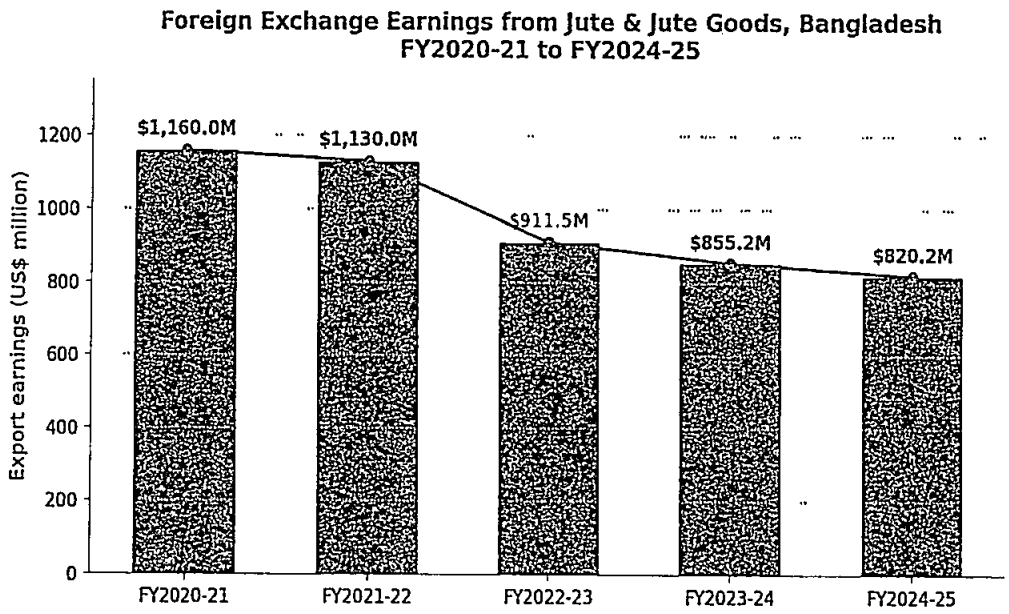

Figure 1: Foreign exchange earnings trend

Table 1: Forex earnings from jute and jute goods (US$ million)

Fiscal Year	Earnings (US$ million)	Year-on-year change
FY2020-21	1,160.00	—
FY2021-22	1,130.00	-2.6%
FY2022-23	911.51	-19.3%
FY2023-24	855.23	-6.2%
FY2024-25	820.16	-4.1%

Source: Export Promotion Bureau (EPB, 2024)

The data show a fall of earnings by nearly 30% over four years, from a peak of US$1.16 billion (FY2020-21) to US$820.16 million (FY2024-25) (EPB, 2024). This declining trend indicates that the sector's challenges are structural and policy-related, a pattern consistent with the multi-dimensional factor set pointed out by the KIIs and secondary literature review. Hopefully, the recent trade data indicating a rise by 1.36% year-on-year to US$346 million in the July-November period of FY2025-26 signals a ray of hope. The renewed demand from Turkey (The Daily Star, 2025), signifies that the negative trend, while persistent, is not necessarily irreversible.

4.2 Factors Affecting Foreign Exchange

The study identified around 82 factors affecting foreign exchange earnings from jute and jute goods and almost all of which are validated by the KIIs and found in secondary sources. The factors are classified into eight broad categories: (1) Economic and Macroeconomic, (2) Market and Demand, (3) Production and Agricultural, (4) Industrial and Structural, (5) Policy, (6) Political and Institutional, (7) Logistics and Infrastructure, and (8) Geopolitical and International.

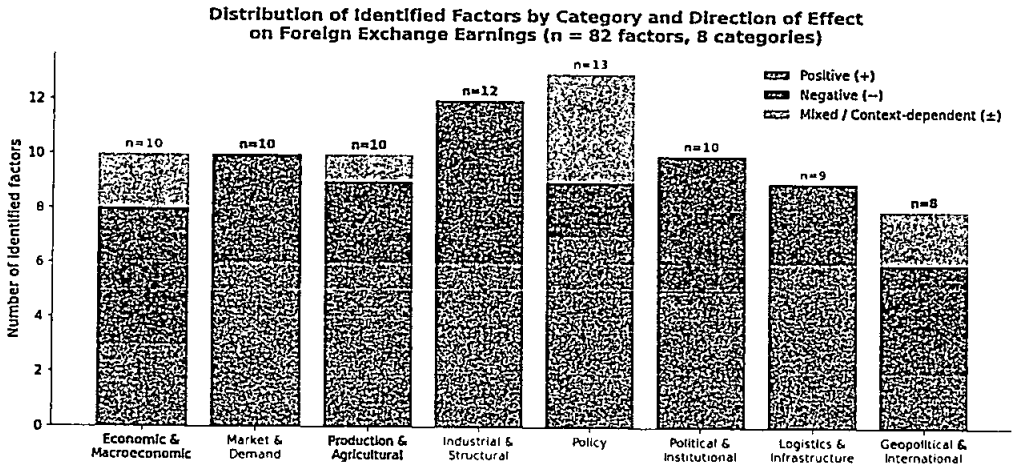

Figure 2: Factor distribution by category

Table 2: Number of identified factors by category and direction of effect

Category	Positive (+)	Negative (−)	Mixed (±)	Total
Economic and Macroeconomic	3	5	2	10
Market and Demand	6	4	0	10
Production and Agricultural	6	3	1	10
Industrial and Structural	6	6	0	12
Policy	7	2	4	13
Political and Institutional	5	5	0	10
Logistics and Infrastructure	6	3	0	9
Geopolitical and International	2	4	2	8
Total	**41**	**32**	**9**	**82**

Out of the 82 factors, 41 (50%) have a positive influence on foreign exchange earnings, 32 (39%) have a negative influence, and 9 (11%) have a mixed effect. Analysis show that Bangladesh's jute sector has an excellent potential which is often obstructed by a number of adverse economic, structural, policy, institutional, agricultural, logistics, international and demand factors leading to the loss of forex earnings.

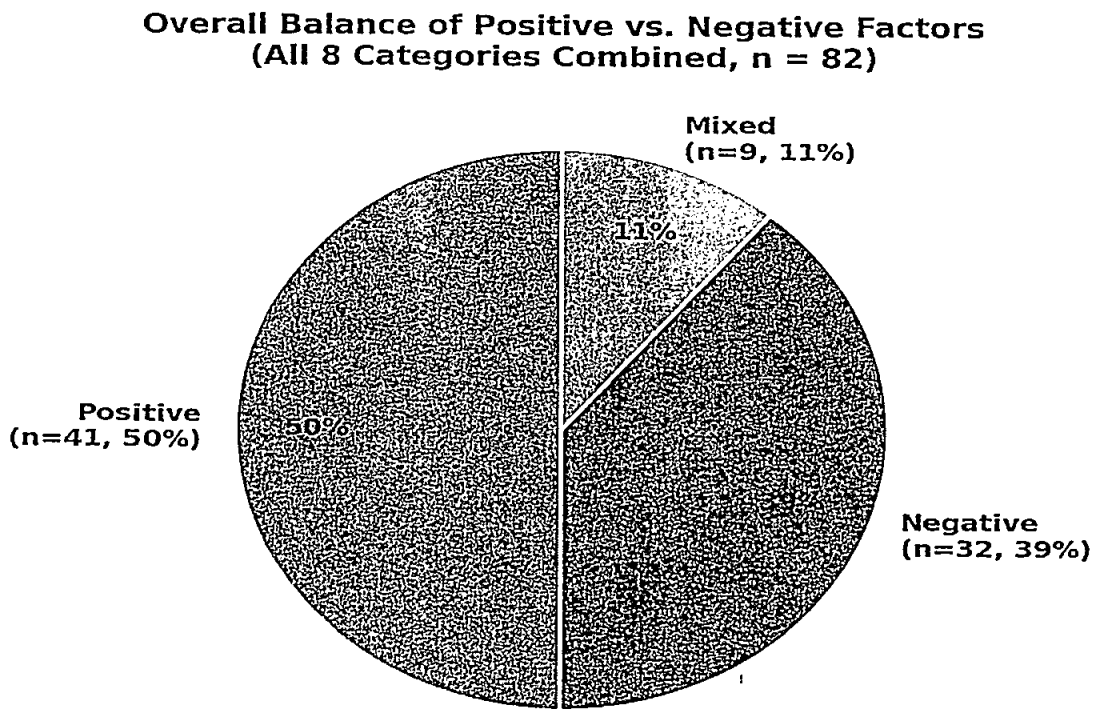

Figure 3: Factor analysis

4.3 Positive Factors That Contribute to Foreign Exchange Earnings

This section attempts to find the 'positive' factors of RQ(i) analyzing and synthesizing the data collected from KIIs and secondary sources that support forex earnings.

4.3.1 Market and Demand Related Factors

Global environmental policy is very much in favour of jute. The European Green Deal, circular-economy action plans, and global ban on single-use plastics are creating positive policy impact on eco-friendly jute and jute products (FAO, 2003). The FAO also notes that diversified jute products like geotextiles and composites have opportunities for market expansion though the sector faces synthetic-fibre competition. The ADB identifies geotextiles, jute-reinforced plastics, laminates, decorative fabrics, carpets and handicrafts as jute diversified products (JDPs) through which Bangladesh could catch the export market (ADB, 2024). Md. Jahid Hossen, JS, MOTJ cited "increased demand in the global market" as

a good opportunity for the sector. The President of BJGEA also identified strong export demand in the global market though tagged a supply-side constraint.

4.3.2 Policy Related Factors

Bangladesh's export policy explicitly facilitates diversified jute products as a "special development sector," with quality improvement support, duty-free import of relevant equipment, production/marketing assistance, and overseas market exploration (study documentation; World Bank, 2003). Government's cash incentives for exports directly improve exporter competitiveness (study documentation, citing Bangladesh Bank and MOTJ policy documents). The Government's ban on raw jute exports to prioritise domestic mills was raised by multiple KIIs as a positive structural lever.

4.3.3 Structural and Production Related Factors

The industrial infrastructure, skilled workforce, R&D capacity, product diversification, and quality-control systems, all positively affect export competitiveness (study documentation). Favourable weather, sufficient retting water, and HYV seed availability increase the volume and quality of raw jute leading to higher-grade and higher-value exports (study documentation; SAARC Agricultural Centre, 2025).

4.3.4 The Value-addition Factors

Among the five KIIs, a common thing was that Bangladesh's earnings depend not only on export *volume*, but also on the *form* of export. According the ADB, this is a core structural issue. Bangladesh's jute exports are concentrated in intermediate products (fibre, yarn, fabric) instead of finished, higher-value goods (ADB, 2024). Figure 4 below exemplifies the value-addition ladder found in the study.

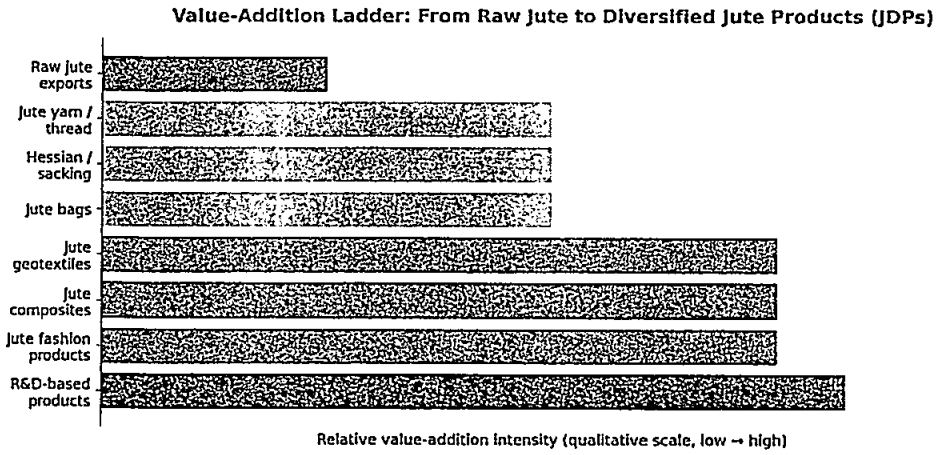

Figure 4: Value-addition ladder

Table 3: Positive factors by category

Category	Positive factor	Effect on earnings	Illustrative source
Market and Demand	Demand for eco-friendly/biodegradable packaging	Plastic restrictions and sustainability commitments open new markets for jute bags	FAO, 2003; study documentation
Market and Demand	Demand for diversified jute products (JDPs)	Geotextiles, composites, home décor and technical textiles create higher-value opportunities	ADB, 2024
Policy	Export incentives / cash assistance	Improves exporter competitiveness where effectively disbursed	Study documentation
Policy	Mandatory jute packaging legislation	Strengthens domestic demand and industrial capacity, where implemented	Hossen, M.J. (2026),BJMA (2026), personal interview
Policy	Raw jute export restriction	Prioritises supply of raw material to domestic mills, raising processed export value	Study documentation
Industrial and Structural	Product diversification and vertical integration	Moving from raw/traditional products to higher-value products increases export value	ADB, 2024.; study documentation

Production and Agricultural	Improved fibre quality and seed availability	Enables production of higher-value export products and better buyer acceptance	SAARC Agricultural Centre, 2025
Logistics	Trade logistics digitisation	Digital customs and documentation reduce transaction costs	World Bank, 2023

4.4 Negative Factors That Adversely Affect Foreign Exchange Earnings

This section addresses RQ (ii) and Objective (ii), synthesizing the challenges found in KIIs and secondary sources.

4.4.1 Economic and Market Related Factors

Instability in exchange-rate, domestic inflation, high interest rates and increasing energy costs combinedly add to production costs weakening the price competitiveness (study documentation; World Bank, 2026). Exchange-rate fluctuation, inflation, energy scarcity and financial-sector barriers are common factual threats to export competitiveness as identified in World Bank's Bangladesh Development Update (World Bank, 2026). Synthetic substitutes like polypropylene and polyethylene continues to challenge jute products in price-sensitive packaging markets (study documentation; FAO, 2003). Md. Rafiqul Islam and Md. Jahid Hossen both JS, MOTJ further pointed out Bangladesh's continued dependence on India for HYV jute seeds leading to higher production cost, a bottleneck to international competitiveness.

4.4.2 Policy, Political and Institutional Challenges

All the five KIIs concurred on institutional and policy problem as the single largest constraint. Md. Jahid Hossen, JS, MOTJ cited "less policy support," lack of implementation of the Mandatory Jute Packaging Act-2010, absence of a favourable state policy, and 15 separate licenses to operate jute business. The President of BJMA complained that no rules could be made in 10 years to operationalise the Jute Act 2017, that exporters face 17 to 18 different types of taxes, and that government purchases of jute products are frequently routed through middlemen rather than directly from mill owners, a practice that harms producer margins. Anti-dumping duties on Bangladeshi jute products by neighbouring India were

branded as a severe external challenge on market access. Bangladesh's jute exports to India fell by 18% in FY2024-25 amid an active Indian anti-dumping review (The Financial Express, 2025). The World Bank's 2023 report links power shortages and labour unrest directly to reduced jute-goods production and exports.

4.4.3 Structural, Technological and Production Level Challenges

The President of BJGEA (2026, personal interview) spoke of scarcity of raw material, poor supply chain, and the opposing role of mediators between farmers and mills. Back-dated machinery, rising raw material and service related costs lead to high production costs and low-quality products throwing out of competition. Absence of an accredited domestic laboratory in the country force the exporters to resort to a third country (Brazil) for compliance test Mineral Oil Aromatic Hydrocarbons (MOAH) and Mineral Oil Saturated Hydrocarbons (MOSH) which adversely affects export earnings (BJGEA, 2026). A recent study by SAARC Agricultural Centre identified high seed prices, labour shortages and high labour cost among the leading obstacles to jute production at farm level (SAARC Agricultural Centre, 2025).

4.4.4 Logistics, Environmental and Geopolitical Challenges

Additional freight charges, container shortages, and broker intervention were all cited by the President, BJMA as factors that minimizes the exporter margins. At the same time, the practice of exporting semi-processed slivers at a lower-cost to competitors like India, Pakistan and Nepal is affecting the sector, he added. At farm level, market hoarding and extensive middleman networks prevent farmers from receiving fair prices, encouraging land conversion away from jute toward more profitable crops such as paddy or maize (study documentation). Sometimes, turmoil in international politics, wars, sanctions, tariff barriers and trade disputes in or near key markets can disrupt shipping routes and adversely affect demand in global market.

Table 4: Negative factors by category

Category	Negative factor	Effect on earnings	Illustrative source
Economic	Currency/inflation/energy-cost pressure	Raises production costs, reduces price competitiveness	World Bank, 2026
Economic	Competition from synthetic substitutes	Undercuts jute in price-sensitive markets	FAO, 2024
Policy	Weak implementation of Jute Act 2017 and packaging legislation	Fails to generate the domestic demand intended by law	Hossen, M.J. (2026); BJMA (2026), personal interviews
Policy	15+ licenses required for jute business; 17–18 tax types	Raises compliance burden and cost of doing business	Hossen, M.J. (2026); BJMA (2026), personal interviews
Policy/Geopolitical	India's anti-dumping duties on Bangladeshi jute goods	Restricts access to a key export market	The Financial Express, 2025
Structural	Outdated machinery (1960s–1970s vintage)	Raises unit production costs, limits quality	Study documentation
Structural	No domestic MOAH/MOSH-accredited laboratory	Forces costly third-country testing (Brazil)	BJGEA (2026), personal interview
Institutional	Intermediary-routed government procurement	Erodes producer/mill-owner margins	BJMA (2026), personal interview
Logistics	Freight costs, container shortages	Increases landed cost, erodes margins	BJMA (2026), personal interview
Production	Middlemen and farm-gate price disparity	Discourages jute cultivation in favour of other crops	Study documentation

4.5 Synthesis of Key Informant Interview (KII) Findings

The primary qualitative data from the KIIs against the secondary literature gives a similar picture. All five KIIs, independently, agreed on three themes: (i) weak implementation of existing legislation (the Jute Act 2017 and Mandatory Jute Packaging Act, 2010); (ii) structural under-investment in modernisation, laboratories, and product diversification; and (iii) the adverse role of intermediaries at both the farm-gate and government-procurement

ends of the value chain. Dr. Mukhlesur Rahman, Deputy Secretary, MOTJ, concurred with these factors in principle (Rahman, M., 2026, personal interview), aggregating institutional validation to the primary data. This qualitative data explains and contextualises that the quantitative decline (Section 4.1) in export earnings is not because global demand for natural fibres has weakened but because Bangladesh has been unable to fully convert the favourable external environment into higher-value, competitive export products.

5. Recommendations

The following recommendations address the negative factors identified in Section 4 .4. They incorporate, and build upon, the six measures recommended by Md. Jahid Hossen, Joint Secretary, MOTJ and Chairman, JDPC: (1) mandatory use of jute goods in public offices, (2) reopening of closed jute mills, (3) continuing the embargo on raw jute exports, (4) increasing policy support, (5) increasing product diversification, and (6) modernisation and market expansion. The recommendations below are expected to reverse the negative factors:

- Effective initiative for HYV Seed Autonomy & Farm-Gate Intermediary Elimination
- Ensure jute-based packaging and stationery in all public offices and government procurement, purchased directly from mills rather than through intermediaries
- Reopen and re-tender selected closed state-owned jute mills under a Public-Private Partnership (PPP) or lease model, prioritising diversified-product capable facilities
- Maintain the raw jute export embargo, with periodic review tied to domestic mill absorption capacity
- Establish domestic accredited testing laboratory for jute exports
- Rationalise the licensing and tax management for jute businesses through a single-window platform
- Immediately allocate a time-bound Jute Diversification and Modernisation Fund, targeted at geotextiles, composites, and R&D-based products
- Expand and diversify export markets through targeted trade missions and diaspora/e-commerce channels, reducing dependence on any single market

- Strengthen policy implementation through an inter-ministerial Jute Sector Implementation Cell with clear KPIs

6. Conclusion

The primary objective of the study was to identify the factors affecting foreign exchange earnings from Bangladesh's jute and jute goods sector (Objective i), and to explore the challenges that adversely affect those earnings (Objective ii).

In answer to RQ-i, the study finds 82 distinct factors across eight broad categories - economic, market, production, industrial, policy, political, logistics, and geopolitical – out of which half (50%) play a positive influence on earnings. Among them the congenial and advantageous global environmental policy trends, growing global demand for diversified jute products, and Bangladesh's existing (though under-implemented) policy framework. In answer to RQ-ii, the study finds that 39% of identified factors are negative, concentrated in weak policy implementation, outdated machinery, an intermediary-heavy value chain, hostile external trade measures such as India's anti-dumping duties, and rising domestic production costs.

The quantitative time-series evidence (Section 4.1) confirms that these constraints have had a real, measurable effect. The fall of foreign exchange earnings by almost 30% between FY2020-21 and FY2024-25 (EPB, 2024) is a visible proof. Yet the qualitative evidence from five independent, well-placed key informants unites on a more optimistic diagnosis: the sector's difficulties stem less from a lack of global demand or policy intent, and more from implementation gaps, under-investment in modernisation and quality compliance, and structural inefficiencies in the value chain. This is substantiated by the early signs of recovery in FY2025-26 export data (The Daily Star, 2025). This markedly shows that the underlying market opportunity remains intact.

Therefore, the recommendations in Section 5 - confirming direct public procurement from mills, mill modernisation and reopening, continuation of the raw jute export embargo, regulatory simplification, laboratory accreditation, a diversification fund, and market expansion - are designed to address the adverse factors and to close the gap between the promising external environment of Bangladesh and its disappointing export outcomes. The consistent and time-bound implementation of these recommendations monitored through the

proposed Jute Sector Implementation Cell, can be a pragmatic pathfinder towards reversing the decline in foreign exchange earnings and to positioning Bangladesh's "golden fibre" for renewed, desired and sustainable growth in the global market.

7. Limitations of the Paper

The main limitation of this paper is the time constraints. A quality research requires a lot of patience and a comprehensive in-depth study. But it was really pressing to conduct the research smoothly, maintaining a hectic course schedule. More data could enrich the research. Any researcher with keen interest in jute sector may venture to an in-depth study into the area with more time and exploring a wider data set.

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8

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Module Director & MDS (R&C)

Submitted By

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On

Title: How Tobacco Consumption Increases Tobacco Related Illness: A Quantitative Analysis.

Abstract

Tobacco use is a serious public health problem and heavy economic burden in Bangladesh. This study combines nationally representative data such as the Global Adult Tobacco Survey (GATS 2009/2017), WHO STEPS and national economic evaluations to explore the trends in tobacco use and other socio-economic and public health costs of tobacco. Overall tobacco use prevalence has decreased from 43.3% in 2009 to 35.3% in 2017, as revealed by the analysis. Perhaps the most significant finding is that of a sharp decline in youth smoking (from 12.03% to 5.01% of people aged 15-24 years). Although these declines have been observed, there remains a clear epidemiological divide as the number of deaths attributed to tobacco use in the country increased almost threefold to an estimated 126,000 per year over the same period. This difference represents a long latency effect, in which past smoking risk (in previous decades) accounts for current mortality risk. There is still a significant difference in prevalence of tobacco use between the genders (with males having the highest prevalence at 32.98% in 2017), rural and urban areas, older age groups, and those with no education. The nation is a big net fiscal deficit in an economic sense. The total cost of tobacco (including direct tobacco treatment costs and loss of productivity) increased to BDT 731 billion by 2024, while the tobacco tax revenues amounted to only BDT 402 billion. Recent progress in the regulation, including the implementation of the Tobacco Control Amendment Ordinance in 2025, has reinforced the restrictions; however, there are still existing gaps in the legislation for the provisions in Article 14 of the FCTC on cessation. Bangladesh needs to rapidly move from multiple tiers of pricing to a single ad valorem taxation system, and implement a statutorily legally binding national cessation system that is linked to the primary health care system.

Keywords: ***Tobacco Control, Public Health Burden, Disease Latency, Fiscal Deficit, Health Governance, Bangladesh.***

1.0 Introduction

The World Health Organization (WHO) approximates that tobacco consumption results in about eight million fatalities per year, while health related expenses and productivity losses generate nearly USD 1.4 trillion in global economic burdens (Tobacco Scorecard 2nd Edition - Policy Note: Tax Structure, 2025). This cost is particularly high in low and middle income countries and Bangladesh is not an exception. Bangladesh has a high prevalence of tobacco use among adults (35.3% of adults (37.8 million people) use tobacco, 46.0% of males and 25.2% of females). It is the first time country signed the WHO Framework Convention on Tobacco Control (WHOFCTC) on 10th May 2004 and has passed the Tobacco Control Act (TCA) on 15th March 2005 (latest revision in 2026) to regulate tobacco use.

Smoking remains the largest preventable cause of death in Bangladesh. The first epidemiological study done in 2004 estimated that smoking caused approximately 57,000 deaths and 1.2 million tobacco-related illnesses each year, with 16% of all deaths among adults over 30 attributed to smoking. Later, using Matlab surveillance data (2003-2010), Alam et al. found that about 25% of deaths from ages 25-69 were attributable to smoking, reducing life expectancy by an average of 7 years per smoker. Their research also shows a rising proportion of tobacco-related deaths, underscoring the rapidly escalating health and economic toll of tobacco consumption in Bangladesh and reinforcing the need for strong regulatory measures.

Smoking continues to be the biggest preventable cause of death in the country of Bangladesh. The first epidemiological study carried out in 2004 estimated that some 57,000 people die annually from smoking and 1.2 million people suffer from illnesses related to tobacco use; in 30% of adult population over 30, smoking is responsible for 16% of all deaths. More recently, Alam et al. (2003 2010) showed that about a quarter of deaths in the age groups 25 69 were caused by smoking, and that this would shorten life expectancy by an average 7 years for each person who smoked. Their studies also reveal that the percentage of tobacco-related deaths is also on the rise, highlighting the growing health and economic burden of tobacco use in Bangladesh and urging for more effective policies and programs to curb tobacco consumption.

Tobacco comprises numerous hazardous chemical constituents such as nicotine, carbon monoxide, cadmium, stearic acid, hexamine, acetic acid, arsenic, among others, which pose risks to human health. These factors contribute to numerous ailments, including various

malignancies (lung, oral, esophageal, gastric, etc.), respiratory disorders (bronchitis, asthma, emphysema, etc.), cardiovascular diseases, and myocardial infarctions, among others.

Tobacco cultivation poses a risk to the health of tobacco farmers, their families, domestic avian and terrestrial animals, as well as individuals in various lifestyles, both directly and indirectly. It is supplanting land and diminishing food output on one side while adversely affecting individuals' health through numerous ailments on the other. The tobacco cultivators are encountering numerous ailments primarily associated with the integumentary and respiratory systems. Coughing affects 33% of tobacco growers, while 29% suffer from asthma, 15% experience skin and gum ailments, 13% contend with eye irritation, infertility, and impotence, and 10% report issues with vomiting and headaches.

Growing tobacco harms the social environment. Children are getting a lot of information at an early age and becoming addicted to smoking in various ways. Tobacco planting activities threaten food security as farmers replace traditional food crops like rice, wheat, potato, pulses, maize and vegetables. Tobacco cultivation has replaced half of the rice land, 16% of the wheat land and 11% of vegetable land.

2.0 Problem Statement

The use of tobacco presents a significant and escalating public health challenge in Bangladesh. The low cost and accessibility, rising population, and misunderstandings about its beneficial health consequences contribute to the elevated tobacco usage in Bangladesh.

Conversely, tobacco consumption resulted in over 160,000 fatalities, representing 26% of male deaths and 10% of female deaths in Bangladesh (Global Burden of Disease Study, 2018). The aggregate yearly expenses attributed to tobacco-related diseases in Bangladesh reached BDT 305.70 billion (USD 3.6 billion) (Faruque et al. 2019). In 2018, the economic losses from tobacco-related illnesses and premature fatalities linked to eight principal diseases owing to tobacco consumption were approximated at BDT 182.40 billion. Overall, the economic costs of tobacco use in Bangladesh was estimated at about 1.4% of GDP in 2018 (Faruque et al. 2019).

Therefore, the growing number of tobacco consumers causes extreme concern and anxiety. Whether the revenue collected from tobacco taxes is higher or lower compared to tobacco-related health costs is a very critical issue, but more concerning issue is the decline in human resource productivity. For this reason, establishing an empirical relationship between health and tobacco consumption can highlight the magnitude of the problem, which will subsequently assist in policy-making.

3.0 Rationale of the study

Bangladesh is one of the biggest economies in Asia. The country covers an area of only 147,570 square kilometers. Nearly 200 million people, making it one of the most densely populated countries in the world.

Among the adult population of our country approximately 23.9% are current smokers. Tobacco smoking is a major risk factor for non-communicable diseases (NCDs), including cardiovascular diseases, chronic respiratory diseases, cancer, and diabetes. More than 1.2 to 1.5 million new cases of severe tobacco-attributable NCDs are diagnosed annually. Roughly 24.6% of tobacco consumers over the age of 30 suffer from at least one diagnosed tobacco-related NCD (IHE, DU, 2026). Therefore, the objective of this study is to examine the relationship between tobacco consumption and tobacco related diseases among the adult population in Bangladesh.

4.0 Research Objective

4.1 General Objective

To examine the relationship between tobacco consumption and tobacco-related death in Bangladesh, with particular emphasis on variations in tobacco consumption by age, education level and place of residence.

4.2 Specific Objectives

1. To analyze variations in tobacco consumption across different age groups.

2. To examine the differences in tobacco consumption between rural and urban populations.
3. To analyze the relationship between educational attainment and tobacco consumption.
4. To examine the relationship between tobacco consumption and tobacco-attributable illness and death.
5. To compare the trend of tobacco-related health costs and overall economic burden with tobacco tax revenue.
6. To make policy recommendations to decrease tobacco use and the health and economic costs of tobacco use.

5.0 Literature review

The existing research on tobacco consumption in Bangladesh does not consistently utilize a nationally representative sample. Flora et al. (2009) assessed the incidence of tobacco consumption in Bangladesh, differentiated by gender and region, utilizing cross-sectional data gathered from urban and rural locales in 2001, 2002, and 2003. This research indicates that the total prevalence rates for smoking, chewing, and gul consumption were 20.5%, 20.6%, and 1.8%, respectively. The prevalence of current smoking and gul use was markedly elevated in males (42.2% and 2.2% respectively) compared to females (2.3% and 1.5% respectively), but the incidence of chewing tobacco was more prevalent among females (21.6%) than males (19.4%). Khan et al. (2009) analyzed the smoking rates among urban adult males in slum versus non-slum regions in 2006. This research noted that the overall male smoking rate was 53.6%, with a markedly higher rate of 59.8% among men residing in slums compared to 46.4% in non-slum areas. Srceramreddy et al. (2014) utilized a nationally representative sample from the 2007 demographic and health survey to assess the prevalence of smoking and smokeless tobacco consumption in nine South and Southeast Asian nations, including Bangladesh, albeit the study featured only one male participant from Bangladesh. This research indicates that the prevalence of smoking among males was 60.1%, whereas the prevalence of smokeless tobacco use among males was 21.35%. Furthermore, to facilitate monitoring, the WHO executed two comprehensive national surveys: the Global Adult Tobacco Survey (GATS) in 2009 targeting individuals aged 15 and above, and the Non-Communicable Diseases Risk Factor Survey in 2010 for those aged 25 and above. The GATs discovered that 23.0% of individuals aged 15 and older in Bangladesh were tobacco smokers, with 44.7% of males and 1.5% of females

participating. The NCD Risk Factor Survey recorded an overall smoking prevalence of 26.2%, with 54.8% among males and 1.3% among women.

6.0 Research design of the study

6.1 Methodology

Methodology was involved at the time of submission of the proposal where regression analysis was proposed to identify what aspects of tobacco related illness is related to high level of tobacco consumption. Due to unavailability of appropriate data related to regression analysis, had to change the technique the analysis. This study contains descriptive analysis using graph, charts etc. to establish the objectives.

6.2 Data Sources

The study uses secondary data collected from nationally and internationally recognized sources. The major sources include:

- Global Adult Tobacco Survey (GATS) Bangladesh, particularly the 2009 and 2017 survey rounds;
- WHO STEP wise Approach to NCD Risk Factor Surveillance (STEPS) Bangladesh;
- Tobacco Atlas Bangladesh Country Profile;
- National Tobacco Control Cell (NTCC), Bangladesh;
- National Heart Foundation and other relevant national institutions;

7.0 Descriptive Analysis

This descriptive section synthesizes nationally representative Global Adult Tobacco Survey (GATS) evidence, Tobacco Atlas country profile indicators, WHO publications and peer-reviewed Bangladesh research. The following paragraph presents through graphs, tobacco consumption prevalence within men and women, how tobacco consumption prevalence is distributed among men and women, across age group and education levels.

7.1 Overall Tobacco Prevalence: 2009 versus 2017

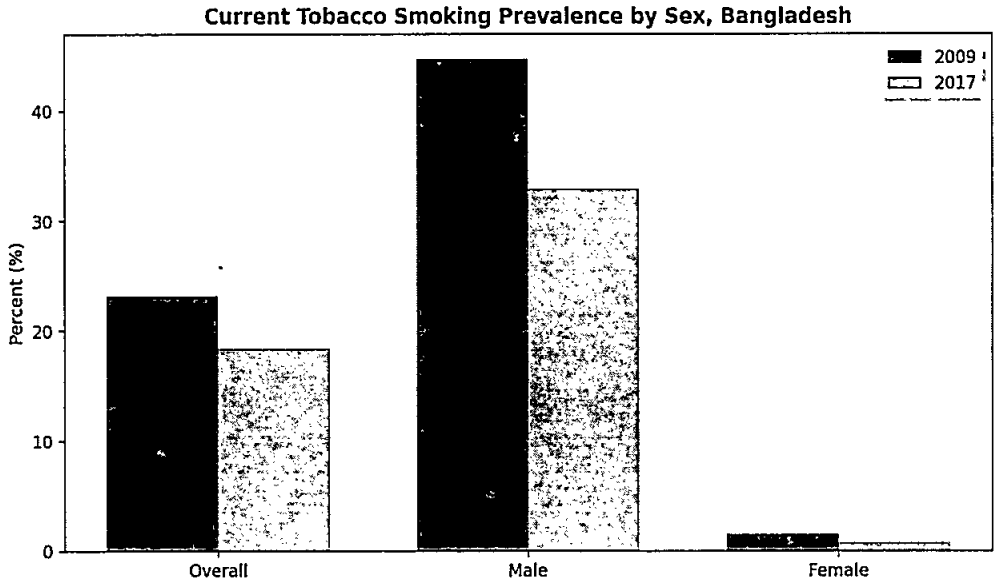

Figure 1. Current tobacco smoking prevalence by sex, 2009 and 2017.

(GATS 2009 and 2017.)

Current tobacco smoking declined markedly between the two survey rounds. The weighted prevalence in the comparative analysis fell from 23.19% in 2009 to 18.42% in 2017. The decline was particularly large among men (44.72% to 32.98%), while smoking among women remained very low (1.51% to 0.81%). Official GATS comparison statistics, using the broader definition of current tobacco use, also show a decline from 43.3% to 35.3%, confirming the direction of change.

The reduction is consistent with strengthened tobacco-control measures, including implementation of the Tobacco Control Act and Rules, higher prices and taxes, restrictions on smoking in public places and broader public awareness. However, causality cannot be assigned to any single intervention because the evidence comes from repeated cross-sectional surveys. The persistence of a large male-female gap is consistent with Bangladesh research showing extremely high adjusted odds of smoking among men.

7.2.0 Age Group Pattern of Tobacco Smoking for 2009 and 2017

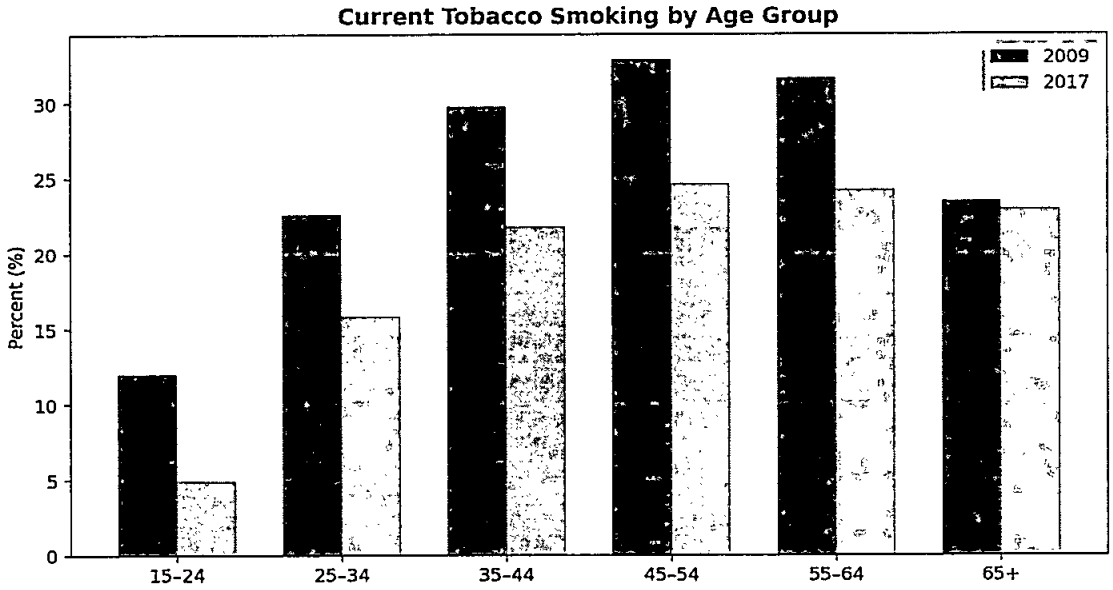

Figure 2. Bar diagram of Tobacco consumption prevalence by different age groups.

(GATS 2009 and 2017.)

Smoking declined in every age group except the oldest group, where the small decline from 23.50% to 23.00% was not statistically significant in the cited analysis. The highest prevalence occurred at ages 45–54 in both years (32.86% in 2009 and 24.67% in 2017). The sharpest relative decline occurred among 15–24-year-olds, from 12.03% to 5.01%.

7.2.1 Age Group Pattern of Tobacco Smoking in line diagram

Age is one of the most policy-relevant dimensions in the dataset. In 2016, prevalence is 7% for ages 15–24, 17% for 25–34, 23% for 35–44, 26% for 45–54, 26% for 55–64 and 23% for 65+. Thus, the highest prevalence is jointly observed among the 45–54 and 55–64 groups.

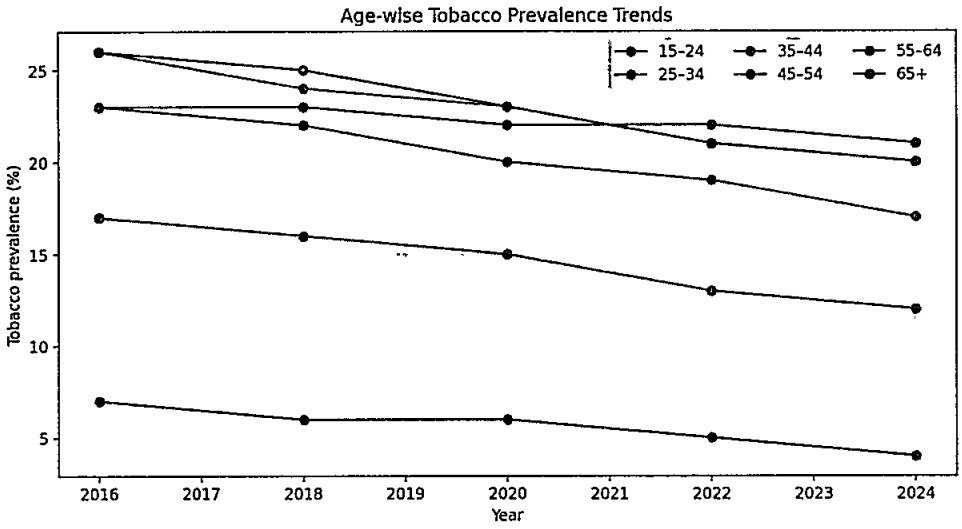

Figure 3. **Line diagram of Tobacco consumption prevalence by different age groups.**

The graph presents age-wise tobacco prevalence trends from 2016 to 2024. The X-axis represents the years, while the Y-axis represents tobacco prevalence as a percentage (%). Each colored line represents a different age group: 15–24, 25–34, 35–44, 45–54, 55–64, and 65+ years. Overall, the prevalence of tobacco shows a downward trend in all age groups in the study period. The 15-24 age group always has the lowest prevalence, dropping from about 7% in 2016 to 4% in 2024. There is also a gradual decrease in the 25–34 age group from 17% to 12%. Tobacco prevalence is relatively high in the older age groups. The 35 to 44 age group drops from some 23% to 17% and the 45 to 54 age group falls from some 26% to 20%. Likewise, there is a significant drop of approximately 26% to 20% in the 55 to 64 age group. The 65+ age group has a relatively smaller decrease and a value above 20% for all the period. To sum up, the graph suggests the higher prevalence of tobacco use among middle-aged and older age groups, and lower prevalence among younger age groups. Overall, the trend was toward a decrease in tobacco use among the population of all ages from 2016 to 2024.

7.3.0 Rural Urban Differences in Tobacco Consumption

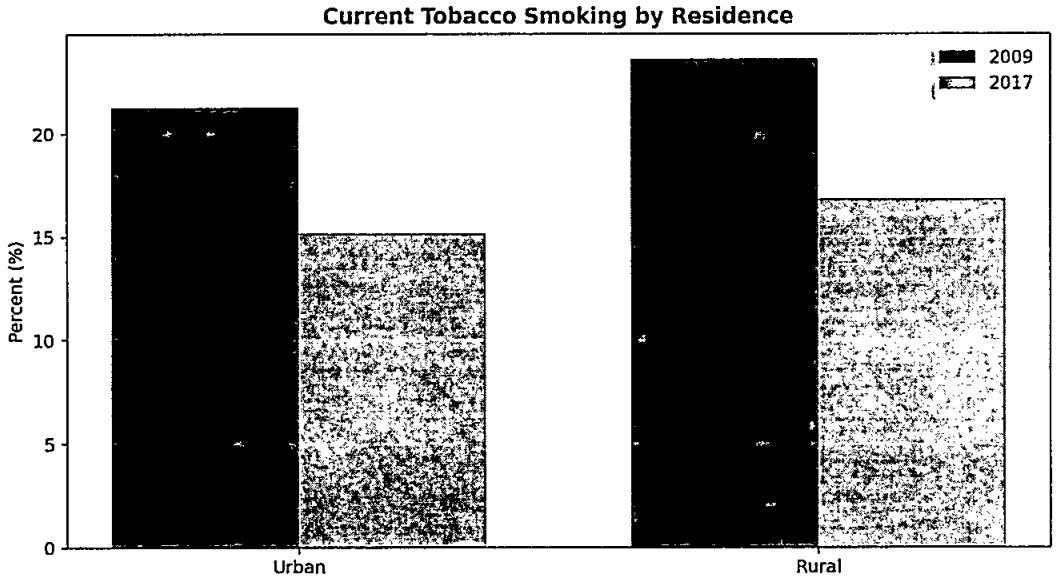

Figure 4. current tobacco smoking prevalence by residence.

Source: Based on GATS 2009 and 2017.

The prevalence of smoking reduced both in urban and rural residential settings, from 21.28% to 15.18% and from 23.60% to 16.86%, respectively. The prevalence of rural areas was also higher in both survey waves. This may be due to reduced access to tobacco quitlines, increased social acceptance for smoking in certain workplaces, or increased access to affordable tobacco products. Meanwhile, the declines in both areas indicate that the national tobacco-control policies were widely effective, but there remains a rural gap.

7.3.1 Rural Urban Tobacco Consumption in line diagram

In each year of the data set, tobacco prevalence is higher in rural areas than in urban areas. The rural values are 39%, 37%, 34%, 32% and 30%, while the urban values are 32%, 30%, 28%, 26% and 24%. The rural–urban gap is therefore 7 percentage points in 2016, 7 in 2018, 6 in 2020, 6 in 2022 and 6 in 2024.

There is improvement in both areas, and a consistently higher rural prevalence. This indicates that a national average does not address geographical inequality. Rural tobacco control may

require interventions tailored to local retail environments, occupational settings, smokeless tobacco practices, literacy and access to cessation services. A uniform urban-focused communication strategy is unlikely to close the gap by itself.

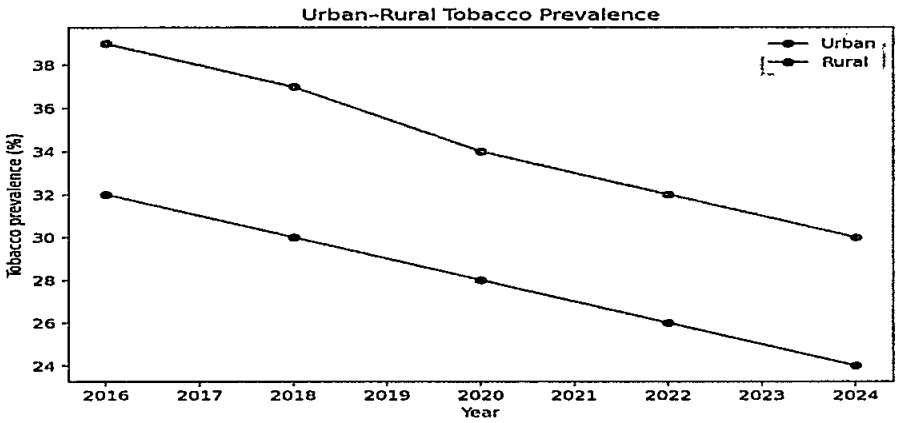

Figure 5. Tobacco consumption prevalence within rural and urban areas.

7.4 Tobacco consumption prevalence according to education categories

The level of tobacco (smoking) use or tobacco prevalence across education categories estimates from u the Global Adult Tobacco Survey (GATS) Bangladesh 2009 and 2017 rounds, the WHO Tobacco Atlas Bangladesh country profile, and Global Burden of Disease (GBD) 2021.

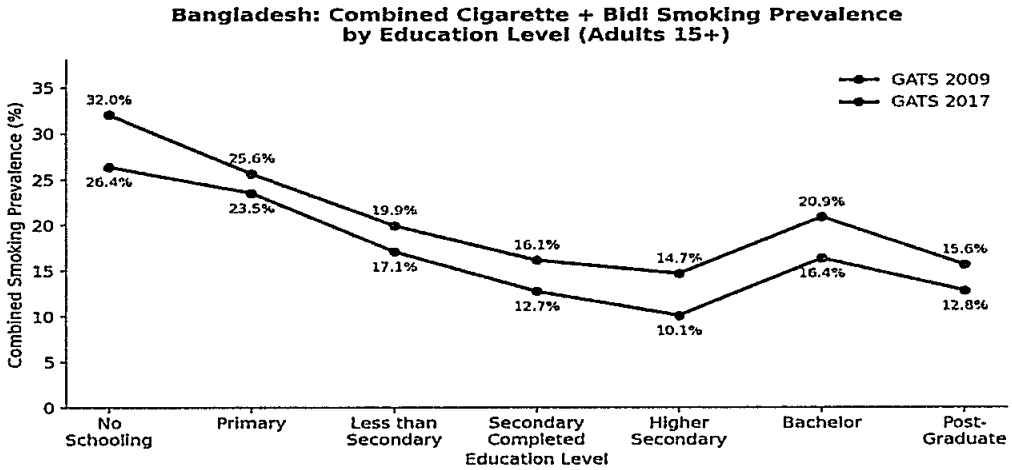

Figure 6: Combined cigarette + bidi smoking prevalence by education level, *GATS Bangladesh 2009 vs 2017.*

The likelihood of tobacco smoking decreased as education level increased in both GATS rounds — having at least primary, secondary, or higher education was associated with progressively lower odds of smoking. Figure 1 shows this clearly: combined smoking prevalence falls from about 32% among adults with no schooling to about 15–16% among post-graduates in 2009, and from about 26% to about 13% in 2017 — close to a halving across the education gradient in both years.

Every education category shows lower prevalence in 2017 than in 2009, consistent with the national decline in overall tobacco use from 43.3% to 35.3% over the period. Tobacco use nonetheless remained most concentrated among those with no formal education (58.7% overall tobacco use, including smokeless forms, per GATS 2017) and in rural areas. Education keeps the same ordering — less schooling, more tobacco use — even as the national average improves.

Cigarette smoking prevalence is high across almost every education category with little clear gradient, while bidi smoking is markedly lower among the more educated — falling from double digits at "no schooling" to essentially zero among Bachelor's and post-graduate respondents. This is why there is a small increase in the number of smokers at the "Bachelor" level of education in figure 1: this is the group of urban people with higher income who use cigarettes but not bidis. Overall, education primarily provides protection from bidi smoking because it is cheaper and more harmful than cigarettes.

7.5 Health Cost, Economic Burden and Tax Revenue

Economic indicators have a positive upward trend. The cost of direct health treatment has increased from 76 in 2016 to 262 in 2024. Indirect costs and damages increase by 199 to 469. The total economic costs are therefore raised to 731 from 275. There is also an increase in tobacco tax revenue (from.185 to 402), but it does not catch up with the overall burden in the data set.

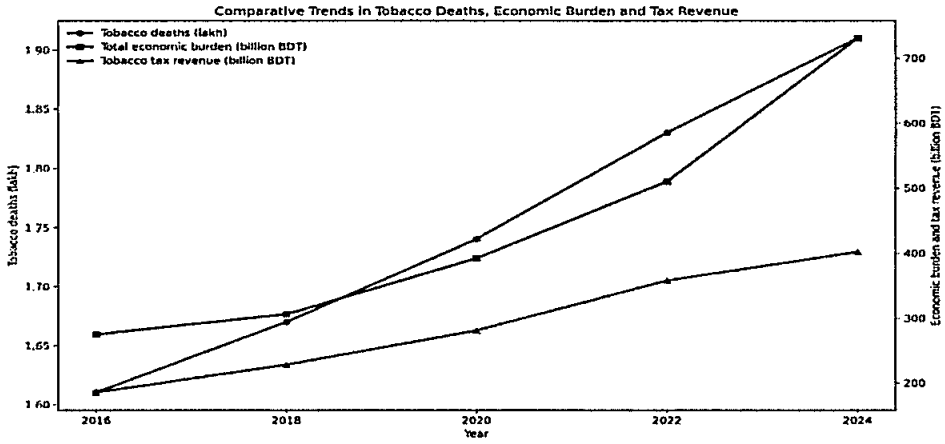

Figure.7: **Health Cost, Economic Burden and Tax Revenue**

The implied net fiscal deficit equals 90 in 2016, 78 in 2018, 111 in 2020, 152 in 2022 and 328 in 2024. The gap at the end of the year is significantly greater than at the beginning of the year. In other words, in all observations, the reported tax revenue is less than the reported combined economic burden.

The relationship must not be assumed to be an exact accounting identity of government benefits and expenditure in the absence of checking the original definitions of the data. Economic burden comprises social and private losses which may not be reflected in the public budget. This comparison is not just relevant to policy, however: tobacco taxes should not be considered as a source of revenue only without taking into account any costs of treatment, productivity losses, or other damages.

8.1 Tobacco attributed death versus different age pattern

Tobacco prevalence is consistently decreasing for each age group from 2016 to 2024 and the tobacco-death indicator is increasing over the same time period. Prevalence is lowest in the 15-24 age group (7%-4%) and highest among the middle-aged and older age groups (3%-2%), although there is also a significant drop in prevalence for the 45-54 and 55-64 age groups. This trend is mostly similar to the finding of the GATS Bangladesh 2017 that overall tobacco has decreased.

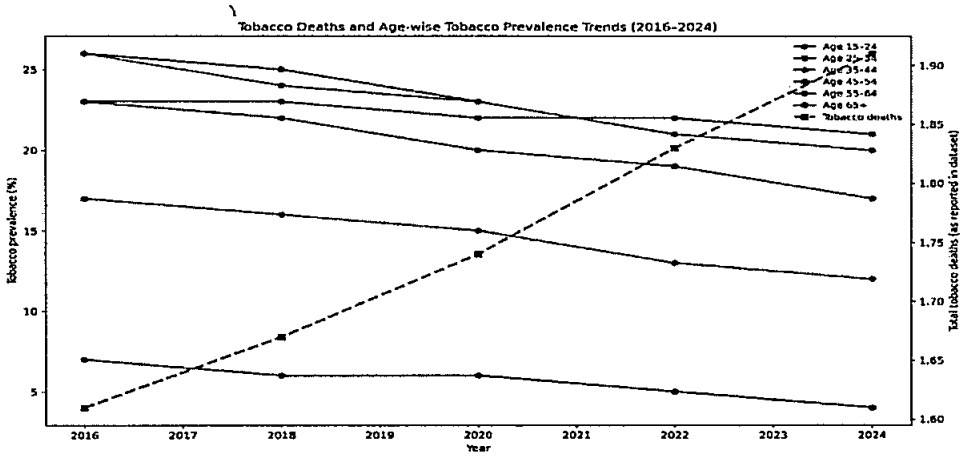

Figure 8: Tobacco attributed death versus different age pattern

A research conducted using the GATS also found the highest smoking rate among the age group 45-54, compared with the 2009 research. The age gradient is also supported by the data of the STEPS Bangladesh 2018 report, which showed increasing tobacco use by age. But when prevalence declines, that doesn't necessarily mean that the number of deaths will decline immediately, since tobacco-related diseases can take a number of years to develop. The Tobacco Atlas Bangladesh Country Profile reveals the ongoing significant mortality impact from tobacco use, with 199,149 deaths caused by smoking each year, and 18.27% of all deaths attributed to tobacco use.

2 Tobacco attributed death versus education level

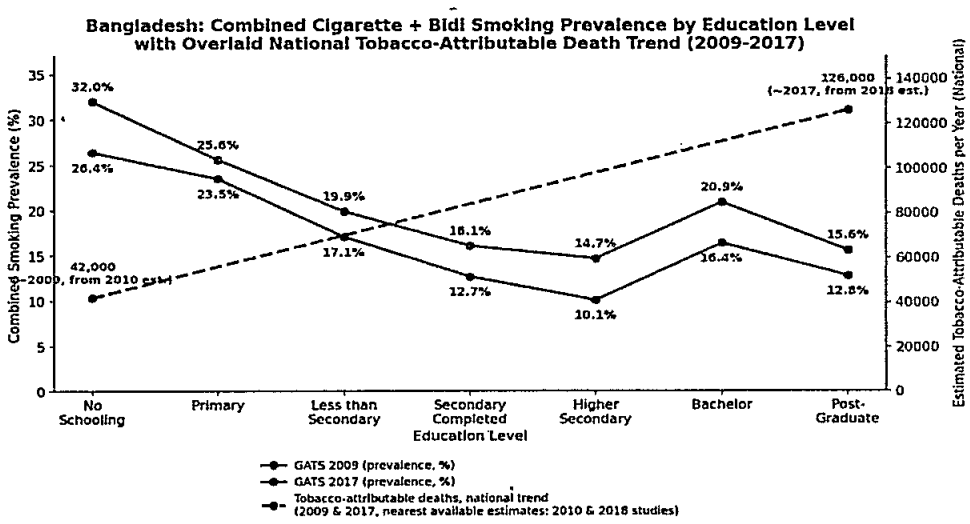

Figure 9. Prevalence of combined (cigarette and bidi) smoking by education level (left axis) plus trends in tobacco-attributable mortality (right axis) in the nation, aligned to the year of the GATS survey (2009 & 2017) with the closest available estimates of mortality (2010 and 2018 studies).

With the tobacco attributable death trend drawn directly with the two GATS survey points, the mortality prevalence relationship is easier to comprehend at a glance. Despite a decline in combined cigarette prevalence and bidi prevalence at each educational level between 2009 and 2017, the number of deaths attributable to tobacco use nearly tripled in the country from an estimated 42,000 in 2009 to an estimated 126,000 in 2017 (based on the cost of illness assessment in the 2018 Tobacco Atlas). This difference does not indicate any data miscoding but rather the long time lag between exposure to tobacco products and tobacco-related mortality. Because chronic diseases (like lung cancer, ischemic heart disease, COPD) tend to take 15 to 30 years to manifest after the start of sustained smoking, the smoking behaviour measured in the GATS 2017-2018 is reflected in the mortality experienced in the late 1980s to 1990s, when there was a great deal more and less regulated tobacco use than was measured in 2009 or 2017.

The second is population growth and increasing latency: Bangladesh's population increased by approximately 20 million during 2009 to 2017, despite a decrease in the smoking population, which can create an increased absolute number of long-term smokers at disease age.. This pattern is corroborated by Alam et al., whose Matlab case-control study found that 25% of Bangladeshi male deaths aged 25–69 were smoking-attributable as of 2010, and by the Tobacco Atlas's 2018 finding that tobacco caused 13.5% of all deaths nationally, alongside BDT 305.6 billion (about 1.4% of GDP) in annual economic costs. Read together, **the two curves argue that today's declining prevalence is a leading indicator of future mortality reduction, not a reflection of current mortality, meaningful death rate improvement should be expected roughly a decade or two after sustained prevalence decline, not immediately.**

9.0 Tobacco Cessation Programs

Bangladesh acceded to the WHO Framework Convention on Tobacco Control (FCTC) on 27 February 2005 and, to comply with this commitment, implemented the Smoking and Tobacco Products Usage (Control) Act, 2005 (Act No. XI of 2005), which was later reinforced by the

Smoking and Tobacco Products Usage (Control) (Amendment) Act, 2013 and, most recently, the Smoking and Tobacco Products Usage (Control) (Amendment) Ordinance, 2025 (effective from 30 December 2025). The 2025 Ordinance represents the most substantial overhaul of the domestic framework to date: it bans all emerging nicotine products (e-cigarettes, heated tobacco products, and nicotine pouches), raises pictorial health warnings from 50% to 75% of packaging, eliminates Designated Smoking Areas, prohibits point-of-sale display and tobacco-industry CSR activity, bars sales within 100 metres of schools, hospitals and playgrounds, and extends smoke-free provisions to cover smokeless tobacco as well. It is also important to remember that the definition of 'tobacco products' in Section 2 of the Act has been expanded by the 2013 Amendment to include all forms of smokeless tobacco, including gul, jorda and khaini, so that there is not a significant gap in terms of the definition, although enforcement against these products is poor in practice.

Despite all these progress, Bangladesh's law is still far from fully fulfilling the requirement from FCTC Article 14 ("Demand reduction measures concerning tobacco dependence and cessation") to establish comprehensive guidelines on cessation, incorporate treatment into primary health care services and provide access to counselling and treatment with pharmacotherapy. The BTCA 2005 and subsequent changes do not provide a statutory framework for cessation services. In reality there is not a national toll-free quitline available in Bangladesh, although this is a commitment in the National Multisectoral Action Plan for Prevention and Control of NCDs (2018-2025); in Bangladesh, there is no standardised clinical protocol or referral systems, and there is no public supply of NRT or approved tobacco cessation medication (e.g., varenicline, bupropion), meaning that only an estimated 0.2% of Bangladeshi tobacco users currently access pharmacotherapy when they attempt to quit. Likewise, there is no mention of Article 6 (price and tax measures), the most cost-effective tobacco control measure, in the legislation, and the current tiered excise tax structure on cigarettes still enables substitution for lower-priced variants, and no specific statutory use of tobacco tax revenues for tobacco cessation or health promotion exists. Notwithstanding the fact that smokeless tobacco use is concentrated among women (GATS Bangladesh data indicate smokeless use by women aged 30+ is several times that of female smokers) and that messaging on smoking and cessation in the current law is not specifically targeted to this group, there is no gender-specific regulatory response.

Finally, amendments to the BTCA 2005 (as amended) should include (i) a dedicated cessation and treatment provision, consistent with Article 14, to integrate brief advice protocols into

primary health care system, provide access to NRT and pharmacotherapy, and ensure it is available to the public sector; (ii) the introduction of a statutory tax and pricing framework consistent with Article 6 including an ad valorem-based excise which would be less complicated than current measures, and an earmark for allocation of funds for cessation and NCD programming; and (iii) provisions for multisectoral coordination that involve coordination among the Ministry of Health, the National Board of Revenue, local government institutions, and civil society, consistent with Article 5.2; and (iv) provisions for gender-disaggregated data collection, monitoring, and targeted cessation and awareness programming for smokeless tobacco use among women, an area currently addressed indirectly by its smoke-free extension.

10.0 Conclusion

This study underscores an important public health challenge in Bangladesh – although government policies have been effective at decreasing smoking rates, especially among youth, the overall burden on health and economy is growing. Between 2009 and 2017, combined smoking rates fell from 23.19% to 18.42%. However, the rising of long-term exposure latency has resulted in a rapid rise in the death rate and economic loss from tobacco use, and the total economic loss has reached BDT 731 billion by 2024. Socio-demographic differences include being more likely to use tobacco by older age, lower levels of education, and rural residents. Moreover, the current tax rate on tobacco is no longer an economically efficient way of lowering the cost of tobacco consumption to the country as it is linked to rising treatment costs and lost productivity. To overcome these gaps, Bangladesh should strengthen law enforcement of the tobacco control act, abolish tiered pricing, ban the sale of tobacco single sticks and incorporate the tobacco control program within primary health care to mitigate this impending national burden.

11. Recommendations:

a. Eliminate the use of price brackets for differential taxation.
b. Raise the tax on all tobacco products to be equal to the tax on cigarettes and thereby reduce the use of all tobacco products.
c. Designate tobacco tax funds for health-related efforts, including health promotion and tobacco control.
d. To encourage the discontinuation of tobacco consumption and appropriate management of tobacco addiction.

e. Cigarette and bidi are being sold here and there throughout the country. Cigarette stalls are near the tobacco consumers. That is, Government should establish the selling site of cigarette/bidi. There should have enough distance between two. Not establish in the area of educational institute. This is why is willing to smoke discourage new smoker.

f. Selling of single sticks of cigarette and bidi should be strongly prohibited. It will also help to dissuade smoking new one and encourage quitting occasional smoker.

g. Most of the elements of The Smoking and Use of Tobacco Products (Control) (Amendment) Act, 2026 (amendment of 2005) are not enforced. Although the legislation prohibits smoking in public places and public transport, many continue to smoke openly in these places.

h. The Smoking and Use of Tobacco Products (Control) (Amendment) Act, 2026 (amendment of 2005) has provided guidelines to health-related warnings on packaging which apply to the written notices. Legislation should require that there be graphic images on the billboards that show the health effects of smoking.

i. The taskforces set up at district and upazila levels for implementing the The Smoking and Use of Tobacco Products (Control) (Amendment) Act, 2026 (amendment of 2005) are mostly inactive. There are many districts and upazilas where these committees are not in place. Government should think about having long-term plans in place to mobilize these committees.

j. The activities, including games and sports, organized by firms that promote tobacco should be banned.

k. School textbooks ought to include articles addressing the detrimental impacts of tobacco and smoking.

l. School textbooks should contain articles on ill effects of tobacco and smoking.

m. Local social organizations, NGOs, professional associations, student groups, political parties, and civil society, including the Imams of over 500,000 mosques, ought to vocally oppose the manufacture and consumption of tobacco.

n. Increase the price of bidi (by imposing any form tax such as sales tax etc.) to prevent the higher rate tobacco user in rural and slum area.

o. To restrict the entrance of cigarette or tobacco related product from unauthorized way (Black Marketing).

p. To ensure food security, tobacco cultivated land should be replaced by another food crop by giving enough necessary incentive to the farmer.

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Appendix/Annexure:

- Appendix-1

Underlying data (GATS Bangladesh, % of adults aged 15+)

	2009			2017		
Education Level	**Cigarette %**	**Bidi %**	**Combined %**	**Cigarette %**	**Bidi %**	**Combined %**
No Schooling	15.03	17.01	32.04	16.22	10.16	26.38
Primary	16.41	9.22	25.63	17.49	6.01	23.50
Less than Secondary	15.38	4.54	19.92	14.02	3.06	17.08
Secondary Completed	13.57	2.56	16.13	11.79	0.93	12.72
Higher Secondary Completed	12.74	1.94	14.68	9.63	0.46	10.09
Bachelor	20.15	0.73	20.88	16.36	0.00	16.36
Post-Graduate	14.22	1.42	15.64	12.81	0.00	12.81

Source: GATS Bangladesh 2009 and 2017 data, as tabulated in ARK Foundation / University of Illinois at Chicago, "Estimating Elasticity of Cigarette Smoking in Bangladesh Using GATS Data" (2009 vs 2017 prevalence by demographic characteristics). "Combined" is the simple sum of cigarette and bidi prevalence for each education category and may slightly overstate true combined smoked-tobacco prevalence due to a small share of dual users.

- Appendix-2

Overall Tobacco Use Prevalence, GATS 2009 vs 2017 (%)

Indicator	2009 (%)	2017 (%)	Change
Any tobacco use — Overall	43.3	35.3	↓ 8.0 pts (−18.5%)
Any tobacco use — Male	58.0	46.0	↓ 12.0 pts
Any tobacco use — Female	28.7	25.2	↓ 3.5 pts
Tobacco smoking — Overall	23.0	18.0	↓ 5.0 pts
Tobacco smoking — Male	44.7	36.2	↓ 8.5 pts
Tobacco smoking — Female	1.5	0.8	↓ 0.7 pts
Smokeless tobacco use — Overall	27.2	20.6	↓ 6.6 pts

Source: Global Adult Tobacco Survey (GATS) Bangladesh 2009 and 2017, Bangladesh Bureau of Statistics / National Tobacco Control Cell, Ministry of Health and Family Welfare, with WHO/CDC comparison fact sheet (2018); Palipudi et al. and related GATS-based analyses for smokeless tobacco figures.

- Appendix-3

Tobacco Use by Age Group, GATS 2009 (%)

Age group	Any tobacco use	Smoking	Smokeless use
15–24 years	16.9	12.0	6.6
25–34 years	36.3	22.6	19.9
35–44 years	55.0	29.8	35.0
45–54 years	67.6	32.9	46.7
55 years and above*	64.2*	26.9*	47.1*

*Source: GATS Bangladesh 2009, cited in Bangladesh demographic/tobacco-use studies (e.g., PMC6349135). *The 55+ row is drawn from a separate nationally representative older-adult survey (not the GATS 2009 age band itself, which top-codes differently) and is presented as an indicative reference point for the oldest cohort rather than a directly comparable GATS figure. A full 2017 age-disaggregated table was not available in public GATS 2017 dissemination materials at the time of writing; independent analyses of GATS 2017 microdata confirm the same pattern — prevalence rises with age and peaks in the 45–54/46–60 bracket before older cohorts (Rahman et al., 2021; consistent finding across both survey rounds).*

Appendix-4

Current Tobacco Smoking Prevalence, Annual Estimates 2009–2024 (%)

Year	Overall	Male	Female	Basis
2009	23.0	44.7	1.5	GATS (survey)
2017	18.0	36.2	0.8	GATS (survey)
2018	22.3	44.4	0.9	STEPS Survey (modelled/survey)
2019	20.9	40.8	1.0	WHO GHO estimate
2020	18.6	36.4	0.5	WHO GHO estimate
2024	15.9	32.5	0.3	WHO GHO estimate

Source: GATS Bangladesh 2009 and 2017 (survey years); STEPS Survey 2018; WHO Global Health Observatory modelled prevalence estimates as compiled by the Global State of Tobacco Harm Reduction (GSTHR) country profile for Bangladesh. Modelled estimates for 2021–2023 were not publicly available at the time of writing and are omitted rather than interpolated. Figures cover tobacco smoking only and exclude smokeless tobacco, so they are not directly comparable to the "any tobacco use" figures in Table 1.

Appendix-5

Cessation-Related Indicators, GATS 2009 vs 2017 (%)

Indicator	2009 (%)	2017 (%)	Change
Current smokers advised to quit by a health care provider	52.9	65.8	↑ 12.9 pts
Smokers who made a quit attempt in past 12 months	No significant change between rounds		
Noticed anti-tobacco information in any media (30 days)	49.8	55.9	↑ 6.1 pts
Thought of quitting because of pack health warnings	Increased significantly		

Source: GATS Bangladesh 2009 & 2017 Comparison Fact Sheet, Bangladesh Bureau of Statistics / WHO / CDC Foundation (Bloomberg Initiative to Reduce Tobacco Use), last updated 7 August 2018. These are the only indicators in the official comparison fact sheet directly bearing on cessation behaviour; no equivalent indicator set has been published for years after 2017.

9

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2. *Put tick (✓) marks on Evaluation method and Institution's Name.*

Name: Sandwip Kumar Sarkar

Roll No. 109

Financial Implications of Vehicle Benefits for Entitled Government Officials: A Cost-Benefit Analysis of the Interest-Free Vehicle Loan and Government-Owned Vehicle Models

An Individual Seminar Paper

158th Advanced Course on Administration and Development (ACAD)

Module 5: Research for Governance

Bangladesh Public Administration Training Centre, Savar, Dhaka

August 2026

Financial Implications of Vehicle Benefits for Entitled Government Officials: A Cost-Benefit Analysis of the Interest-Free Vehicle Loan and Government-Owned Vehicle Models

Abstract

In 2014, the Government of Bangladesh took the *Policy of Interest-Free Special Advance and Monetization of Vehicle Service for Entitled Government Officials and* replaced the departmentally-owned vehicles and full-time drivers for entitled government officials with a one-time interest-free loan and a monthly maintenance allowance. Through several stages, the policy was last revised in 2020 and the amounts stand now at Tk 30 lakh and Tk 50,000 respectively. By 2026 an estimated 2,315 serving officials are drawing the allowance, with 2,098 more on Post-Retirement Leave and 198 already retired, together representing a recurring commitment of well over Tk 11.7 crore a month. Yet the scheme has rarely been subjected to rigorous cost-benefit scrutiny. This study evaluates the financial implications of the scheme from the perspective of the exchequer using a mixed-methods design. Secondary data on departmental and loan-financed vehicle operating costs were used to construct two formal cost-benefit analyses using Net Present Value (NPV), Benefit-Cost Ratio (BCR) and where a computable sign-change existed - Internal Rate of Return (IRR), discounted at 8%, 10% and 12% over an eight-year vehicle life-cycle and 10% depreciation cost. A structured questionnaire completed by 83 entitled officials (54 DS, 25 JS and 4 Additional Secretaries) supplied primary data. The analysis finds that the vehicle-loan model imposes a substantially lower net present cost on government than department ownership (Tk 36.3 lakh against Tk 101.6 lakh per official at a 10% discount rate; BCR ≈ 2.80), and that the cash-based driver allowance alone is markedly cheaper than a departmentally-provided full-time driver (BCR ≈ 2.80). Since this is a choice between two recurring-cost service-delivery arrangements rather than an investment project and the switch generates a positive net cash flow to government in every year of the vehicle life-cycle, no conventional break-even discount rate (IRR) is reported as a substantive policy indicator. However, the primary survey shows that 81.9% of respondents rate the present Tk 50,000 allowance as insufficient or extremely insufficient, and respondents suggest a revised allowance of approximately Tk 68,800 and a revised loan ceiling of approximately Tk 50.6 lakh. The paper concludes that the monetisation model remains fiscally sound for government but requires a periodic, inflation-indexed revision mechanism to preserve its real value.

Keywords: civil service compensation; vehicle monetisation; cost-benefit analysis; Net Present Value; interest-free loan; Bangladesh public administration

1. Introduction

1.1 Background

"*Every person in the service of the Republic has a duty to strive at all times to serve the people.*" {Section 21(2)}- states the Constitution of Bangladesh. Thus, it becomes imperative to provide full-time official transport to senior civil servants of the administration. However, this unique, old item of administrative expenditure of the government remains least examined. In the post-independence period entitled officials were carried on departmental fleets: the ministry purchased a vehicle, employed a driver on a regular pay scale, met fuel and repair bills from the revenue budget and absorbed the resulting pension liability. Reportedly, interest-free vehicle financing was introduced in 2012 for officers of the rank of Joint Secretary (JS) and above and in 2014, it was consolidated into the *Policy of Interest-Free Special Advance and Monetization of Vehicle Service for Entitled Government Officials, 2014* (Ministry of Public Administration, 2014).The facility was later extended to Deputy Secretaries (DS) through policy revision in 2018 and the perks were upgraded to present form in its last revision in 2020 (Jugantor, n.d.; RisingBD, 2021).

By 2026 an estimated 2,315 officials were drawing this allowance, representing a recurring monthly government expenditure of over Tk 11.7 crore, with the cumulative value of loans disbursed exceeding Tk 700 crore, excluding the Judiciary, Armed Forces and Election Commission who also absorbed such policy later (Prothom Alo, 2026a). Data compiled for the study, drawn from Ministry records as of 30 July 2026, identify 2,315 officials currently in service and drawing the allowance, a further 198 enjoying Post-Retirement Leave (PRL) still covered by the loan arrangement, and 2,098 already fully retired - a combined total of 4,611 officials who have availed the facility since its inception. It has to be noted that the one-time interest-free vehicle loan ceiling is Tk 30 lakh since the Ministry of Public Administration (MoPA) order of 25 April 2019. However, the Finance Division (FD) orders of 31 July 2023 and 5 January 2026 revised the government vehicle procurement ceiling to Tk 45 lakh and Tk 56 lakh respectively. Thus, financial benefits through switching the vehicle provision model were designed to rein in the substantial hidden government expenditure on drivers' salaries and service benefits, fuel and maintenance. The one-time loan and a fixed monthly allowance shifted most of these recurring costs onto the official and was expected to cut total government outlay. Whether that expectation has been borne out has never been tested.

1.2 Problem Statement

From the perspective of entitled officials, the vehicle loan and the allowance are better understood not as an unearned indulgence but as a calibrated, monetised replacement for a set of in-kind privileges historically provided at a significantly higher and less transparent cost to government. The problem this study addresses is the absence of an evidence-based assessment of the actual financial implications of the scheme - for the official, for the exchequer, and for the wider economy - an absence that has left both defenders and critics of the scheme arguing largely from anecdote rather than from quantified cost and benefit streams.

1.3 Research Objectives

The specific research objectives are:

I. To analyse the transition from departmentally-maintained vehicles with permanent drivers and associated perquisites to the current cash allowance system and to compare the fiscal costs of this shift using a formal cost-benefit framework.

II. To evaluate the sufficiency of the current Tk 50,000 monthly maintenance allowance against rising inflation and fuel prices and propose a more reasonable, evidence-based framework for periodically revising the allowance.

1.4 Research Questions

In line with the objectives above, this study explores the following research questions:

A. What is the comparative fiscal impact on government of the current cash-based vehicle scheme versus the previous system of departmentally-owned and maintained vehicles including all associated personnel and perquisite costs?

B. Is the present monetary value of the scheme's cash components still adequate to its original purpose?

1.5 Justification of the Study

Several considerations justify this study. First, the scheme represents a substantial and recurring item of public expenditure - exceeding Tk 11.7 crore per month in allowances alone, quite apart from the value of the underlying interest-free loans. Yet it has rarely been subjected to systematic cost-benefit analysis (CBA) (Prothom Alo, 2026a). Second, the policy has from time to time been criticised without the benefit of an evidentiary basis that could either justify

it on efficiency grounds or support its reduction on equity grounds. Third, as a matter of institutional learning for BPATC and the wider administration, the study has relevance for the design of future public expenditure reforms and civil service benefits. Finally, the study responds to public and civil society scrutiny by offering a rigorously argued account of the scheme's rationale, rather than leaving the debate to be characterised solely in terms of bureaucratic self-interest (Financial Express, 2026a).

2. Literature Review

2.1 Compensation structure and the case for monetisation

Civil service remuneration in developing countries is typically built on a modest basic wage supplemented by non-cash entitlements - housing, transport, medical and education allowances - that together determine effective compensation (World Bank, 2020). Such structures allow governments to compete for scarce senior talent without inflating basic pay but the compensation is delivered through channels that are administratively costly and difficult to count. Transport is the clearest case: a departmental vehicle is a tool of office, a status marker and a consumption benefit and its true cost is dispersed across capital, personnel and maintenance heads in ways that make it nearly invisible in budget documents.

The argument for converting such a benefit into cash rests on three strands of theory. Transaction-cost economics predicts that an organisation should internalise an activity only where market contracting costs exceed hierarchical governance costs; where the service is standardised, as vehicle operation is, in-house provision carries avoidable governance costs (Williamson, 1985). Agency theory adds that in-kind provision creates a monitoring problem, since the marginal cost of use is zero to the user and consumption is not disciplined by price (Jensen and Meckling, 1976). Niskanen (1971) adds the political-economy reading - bureaux maximise the establishment they administer, so fleet size grows independently of need.

2.2 International practice

One-time or concessional vehicle entitlements are widespread across Asian and African administrations, placing the Bangladesh scheme within established international practice rather than outside it. Nepal has proposed a *Vehicle Management Directive for Government Employees, 2083* offering interest-free loans of upto Rs 6 million over 20 years with the government bearing the interest cost, explicitly conditional on the employee forgoing any

government-provided vehicle (Meroauto, 2026). Kenya lends to state officers and civil servants at 4% on a reducing balance over five years with ceilings set by grade (Kenyans.co.ke, 2026). Pakistan runs vehicle and housing advances with a mark-up subsidy (Teacheducator.com, 2026), Malaysia has extended public-sector financing into vehicle-adjacent welfare lending (The Vibes, 2025), and Zimbabwe moved directors off direct vehicle allocation onto graded loan ceilings in 2018 (PressReader, 2018). In every case, the instrument is presented as a fiscal management device rather than simply a perquisite and in the Nepali and Zimbabwean cases, the stated purpose is explicitly to reduce fleet operating cost.

2.3 Evidence on fleet versus allowance provision

Evidence on outcomes is thinner than evidence on adoption. The clearest recent illustration of the hidden costs of departmental ownership comes from India, where in July 2026 the Union government barred senior bureaucrats from being allotted more than one official staff car, after finding that officials holding multiple positions had accumulated vehicles and that unused vehicles were not secured against unofficial use (Business Standard, 2026; BusinessToday, 2026). The relevant efficiency comparison is therefore not only the running-cost total but the governance burden of monitoring a fleet, to which a monetised scheme is far less exposed. This accords with the fleet management literature, which finds departmental-owned programmes carry higher fixed and administrative costs than allowance-based alternatives (Cardata, 2026); with the New Public Management proposition that disaggregating composite services into priced components improves cost visibility (Hood, 1991; Savas, 2000).

2.4 Research gap

Three gaps emerge in the research development. Although monetisation of vehicle entitlements is now common across South Asia and East Africa, no publicly available study evaluates the cost-effectiveness of any such scheme against the departmental alternative it replaced; none distinguishes the capital component of the entitlement from its recurrent component; and none tests whether the fiscal saving is an economic saving or a transfer of cost onto the beneficiary. This paper addresses all three.

3.0 Methodology

A mixed-methods approach was adopted because the research questions require both a quantifiable comparison of physical cost and an understanding of the administrative and

behavioural rationale that cost data alone cannot capture. This follows a sequential explanatory design, in which quantitative analysis is conducted first and the qualitative material is used to explain, validate and contextualise the quantitative results (Creswell and Plano Clark, 2011).

3.1 Data Sources

Three categories of data were used. First, documentary secondary data: a comparative statement of monthly operational costs, prepared administratively and supplied for this study, itemising fuel, maintenance, registration, driver compensation and driver pension/gratuity costs for vehicles directly supplied and maintained by the Department of Government Vehicles and private vehicles purchased by officers using the interest-free loan. Second, a short administrative note on the fiscal treatment of the loan itself, including the applicable customs duty (CD), VAT, supplementary duty (SD) and advance income/tax (AIT) incidence on an imported reconditioned vehicle in the 1,200-1,500cc band, used to estimate the one-off revenue government recovers when a loan-financed vehicle is imported. Third, primary data collected via a structured, self-administered online questionnaire (Google Forms) circulated to entitled officials, which received 83 valid responses: 54 from DS, 25 from JS and 4 from Additional Secretaries. The questionnaire covered respondent profile, itemised monthly and annual running costs of the cash-based model. Besides, there were open-ended questions on suggested revision levels and the respondent's view of the scheme's future design.

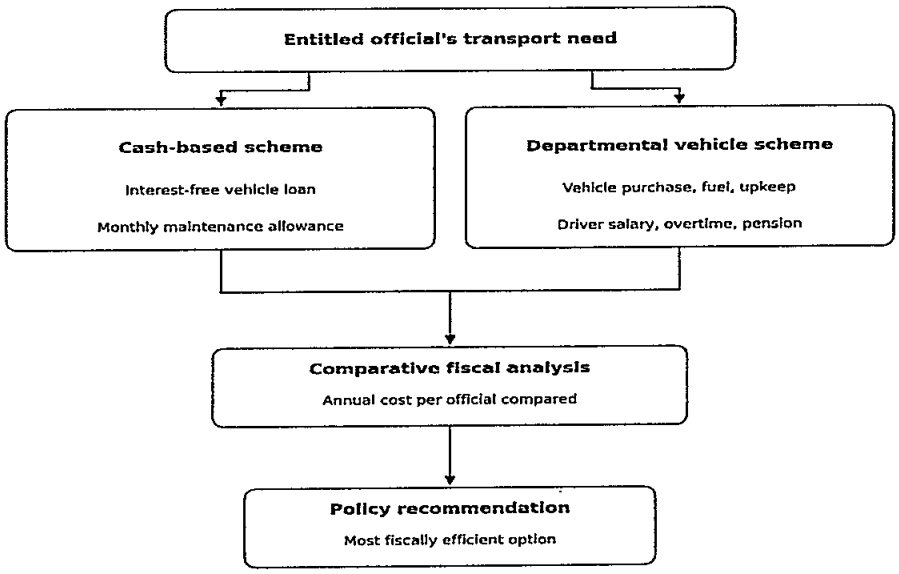
3.2 Comparative Cost Modelling and Analytical Framework

Following the study's original proposal, two cost models were constructed and compared over a standard vehicle life. The Department-Ownership Model includes vehicle capital cost, depreciation (proxied here by a straight-line 10% residual/salvage value), fuel, repair and maintenance, insurance and registration, and the full cost of a departmental driver - salary, overtime, festival and other allowances, and a pro-rated share of pension and gratuity. The Cash-based Model treats the interest-free loan principal, the one-off customs/tax revenue recovered on import, the officer's loan repayments with 1% service charge, yearly AIT and the monthly Tk 50,000 allowance as the relevant government cash flows. The officer's own additional running costs beyond the allowance are treated as a private, not a government, cost and are analysed separately using the primary survey.

A formal cost-benefit analysis was then applied to both models over an eight-year vehicle life-cycle - acknowledged by the government- using NPV, BCR and IRR as the principal decision

criteria. This approach follows the general CBA framework recommended by the Bangladesh Planning Commission for public investment appraisal (Planning Commission, n.d.) and mirrors the application of NPV/BCR-based CBA to a Bangladeshi public-service delivery scheme by Bakshi and Rahman (2016). Besides, three plausible discount rates – 8%, 10% and 12% - were applied throughout as a sensitivity band. A supplementary model repeats the Department-Ownership calculation over a 15-year horizon, reflecting the observation that an entitled official typically serves 12–15 years from first eligibility, over which period the department would need to purchase two vehicles rather than one.

A second, narrower cost-benefit comparison isolates the driver-provision component alone - the departmentally-arranged full-time driver, with associated overtime, festival allowances and pension/gratuity accrual, against the consolidated cash driver allowance embedded in the loan scheme.



3.3 Data Cleaning and Analytical Treatment of Survey Responses

Because the questionnaire used free-text numeric entry for cost fields, responses were cleaned programmatically: currency symbols, unit labels and word-form amounts (e.g. "50 lac", "1 lakh") were converted to numeric values. Composite respondent-level monthly running cost was constructed by summing driver compensation, one-twelfth of the annual festival bonus,

fuel, servicing, pro-rated repairs, one-twelfth of annual insurance and fitness/tax-token/AIT cost, and miscellaneous running costs. This bottom-up figure is reported alongside respondents' own direct self-rating of the allowance's adequacy and their self-reported deficit bracket.

4. Results and Findings

4.1 Quantitative Analysis

4.1.1 Comparative Monthly Operational Cost: Department-Ownership vs Vehicle-Loan Model

Table 1 sets out the itemised monthly operational cost of a single vehicle under each model, drawn from the administrative cost comparison prepared for this study. The department-provided vehicle carries a total monthly operational cost of Tk 113,473 driven overwhelmingly by driver-related costs: Tk 62,982 in salary, overtime and allowances plus Tk 19,228 in pension and gratuity accrual, together 71.7% of the total. The loan-financed vehicle, by contrast, carries a monthly cost of Tk 70,534 borne substantially by the officer, against which government pays a flat allowance of Tk 50,000. Even before any formal discounting, government therefore avoids (113,473-50,000)=Tk 63,473 per vehicle per month - a reduction of 55.9% which, at 2,315 officials currently drawing the allowance, aggregates to an undiscounted annual saving of approximately Tk 176.32 crore (Tk 63,473×2,315×12).

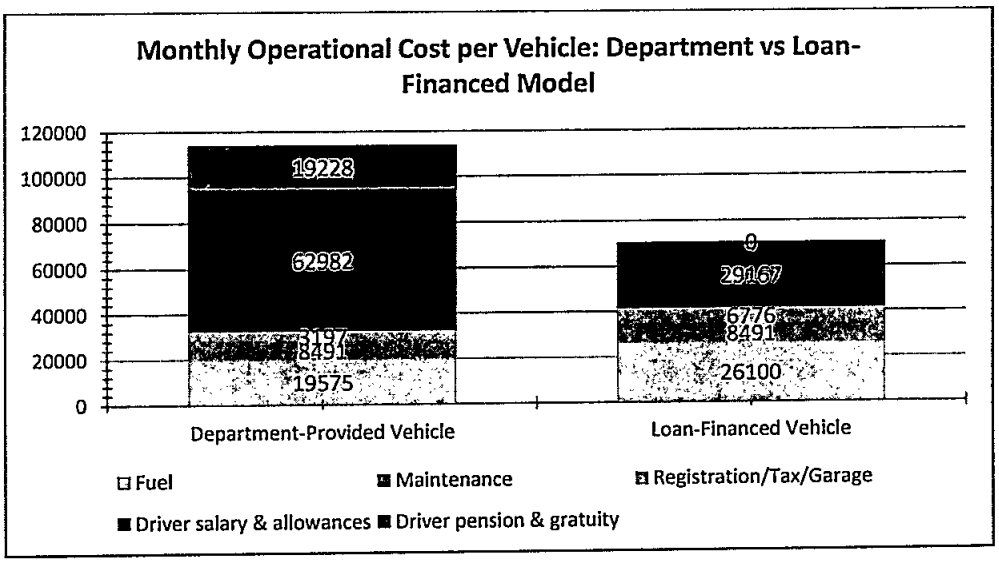


Figure 1 & Table 1: Comparative Monthly Operational Cost per Vehicle (Tk)

Sl.	Cost Component	Monthly Department - Provided	Cost Component	Monthly Loan-Financed

Financial Implications of Vehicle Benefits for Entitled Government Officials: A Cost-Benefit Analysis of the Interest-Free Vehicle Loan and Government-Owned Vehicle Models.

		Vehicle Cost [Taka]		Vehicle Cost [Taka]
1	2	3	4	5
1	The maximum allocation of fuel to an entitled officer is 180 Liters Diesel/Octane/Petrol per month. At the cost of Tk 145 per liter for Octane, the total monthly fuel cost would be- 180 litres XTk145=Tk.26,100. However, 75% of the vehicles of the Department of Government Vehicles are Diesel/Octane/Petrol-run and 25% are Gas-run. Thus the average monthly fuel cost for Octane driven vehicles is (Tk.26,100X 75%)Tk.19,575.	19,575	Octane: 180 Liters × Taka 145 per liter (Octane-run vehicle)	26,100
2	Vehicle Maintenance Average Monthly Cost: (a) Servicing every three months: Lubricating oil, filters (air, AC, lubricant) and servicing charges = 5,000 + 1,400 + 600 + 600 = Taka 7600 ÷ 3 months	2,533	Vehicle Maintenance Average Monthly Cost: (a) Servicing every three months: Lubricating oil, filters (air, AC, lubricant) and servicing charges = 5,000 + 1,400 + 600 + 600 = Taka 7,600 ÷ 3 months	2,533
	(b) Tire and Battery replacement every two years: 4 tires at Taka 20,000 each (including VAT & IT) = Taka 80,000 + Battery Taka 15,000 = Taka 95,000 ÷ 24 months	3,958	Tire and Battery replacement every two years: 4 tires at Taka 20,000 each (including VAT & IT) = Taka 80,000 + Battery Taka 15,000 = Taka 95,000 ÷ 24 months	3,958
	(c) Repairs & general maintenance	2,000	(c) Repairs & general maintenance	2,000
3	(a)Fees and others: Registration Tk 1,47,500 ÷8 ÷12= Tk 1536X2 (One time for loan-based vehicle, Twice for two government vehicles in 15 years time)	3072	(a) One time Registration Tk 1,47,500 ÷8 ÷12= Tk 1536 (b) Monthly garage rent -2,500	4036
	(b) Annual Advance Income Tax (AIT) + Tax Token (Not Applicable for government-provided vehicles) (Government of Bangladesh, 2023, s. 153)	--	(b) Annual Advance Income Tax (AIT) Taka 25,000 + Tax Token Taka 5,802 + Assistant Fund Taka 575 = Taka 31,377. Monthly equivalent cost (31,377 ÷ 12)	2,615
	(d) Fitness Certificate fee: Taka 3,000. Monthly equivalent cost (3,000 ÷ 24)	125	(d) Fitness Certificate fee: Taka 3,000. Monthly equivalent cost (3,000 ÷ 24)	125

4	Driver's Salary & Allowances: (a) Average monthly salary of a driver (Grade 16)	22,490	Monthly Driver's Salary (Tk.25,000) + Two Festival allowance (25,000X2=50,000÷12) monthly Tk.4,167	29,167
	(b) Monthly overtime (Assumed) (Maximum 250 hours but not more than Basic) allowance Tk 22,000 + Two Festival allowance (22,490X2= 44,980÷ 12) monthly Tk.3748 + Boishakhi Allowance (22,490X20%=4,489÷ 12) monthly Tk. 374+ Medical allowance Tk 1,500 + House rent (22,490X55%) Tk.12,370	39, 992		
	(c) Monthly conveyance allowance+Tiffin allowance+washing allowance	500		
5	Driver Pension & Gratuity: Driver Salary Scale: Grade-16 (Tk 22,490): (a) One-time Lump-grant (assuming 25 years of service): 18 months' basic salary (22,490 × 18 = Taka 4,04,820). Monthly equivalent cost (4,04,820 ÷ 25 years ÷ 12 months)	1,349	Driver Pension & Gratuity: Not Applicable	–
	(b) Gratuity (assuming 25 years of service): Tk10,120X 230-month gratuity factor= Tk 23,27,715. Monthly equivalent (23,27,715÷ 25 years ÷ 12 months)	7,759		
	(c) Monthly pension (assuming 25 years of service=90%): Tk 22,490X90%=Tk. 20, 241/ month. Half surrendered for gratuity, monthly pension (20,241÷ 2) Tk. 10,120	10,120		
6	Total monthly cost	113,473		70,534
7	Government monthly outlay	113,473 (full cost)	Allowance only	50,000
8	Government saving per vehicle per month	(113,473-50,000) =63,473 (55.9%)	Out-of-Pocket cost	20,534

Table 1 Source: Comparative Statement of Monthly Operational Costs.

Two features of **Table 1** are noteworthy. First, fuel is the only line item in which the loan-financed model costs more (Tk 26,100 against Tk 19,575), because the loan-scheme allocation assumes the full 180-litre entitlement priced at the premium octane rate, whereas 25% of the departmental fleet runs on comparatively cheaper gas. Second, the entire saving is generated

on the personnel side: the consolidated driver monthly allowance of Tk 29,167 replaces a departmental driver cost of Tk 82,210 once pension and gratuity accrual are included.

4.1.2 CBA I: Vehicle-Purchase (Loan) Model vs Department-Ownership Model

To move from a monthly cost comparison to a formal appraisal, both models were evaluated over an eight-year vehicle life-cycle incorporating capital cost, salvage value, the one-off customs/tax revenue recovered when a loan-financed vehicle is imported. As per the Customs Schedule 2025-2026, the applicable duties for one reconditioned 1,200-1,500cc vehicle are- CD 25%+ SD 5%+ VAT 15%+ Advance Tax 5%+ AIT 5% + Regulatory Duty 3%, amounting to Total Tax Incidence (TTI) ≈ 127.43% of the assessable value. Thus, against a loan of BDT 30 Lakhs, the government recovers approximately Tk 15 Lakhs in revenue form. The officer's loan repayments with 1% service charge (approximately Tk 14 lakh over the 10-year life of the loan) and annual AIT of Tk 25,000 also deposited in government exchequer.

2A Department-Ownership Model - Cash Flow Schedule (per official, Tk)

Year	Capital cost	Recurring operating cost (113,473 × 12)	Salvage value	Net cash flow
0	3,000,000	—	—	3,000,000
1	—	1,361,676	—	1,361,676
2	—	1,361,676	—	1,361,676
3	—	1,361,676	—	1,361,676
4	—	1,361,676	—	1,361,676
5	—	1,361,676	—	1,361,676
6	—	1,361,676	—	1,361,676
7	—	1,361,676	—	1,361,676
8	—	1,361,676	(300,000)	1,061,676

Table 2A: Department-Ownership Model Cash Flow Schedule (undiscounted, Tk)

$$NPC_{Dept,10\%} = 3{,}000{,}000 + \frac{1{,}361{,}676}{1.10^1} + \frac{1{,}361{,}676}{1.10^2} + \ldots + \frac{1{,}061{,}676}{1.10^8}$$

$$= Tk\ 10{,}161{,}620$$

For the Department-Ownership Model, Year 0 requires a capital cost of Tk 3,000,000. Years 1 to 7 require annual running costs of Tk 1,361,676. Year 8 requires running costs of Tk 1,361,676 minus a Tk 300,000 salvage credit, yielding a net Year 8 cash flow of Tk 1,061,676. Discounting each term at 10% and summing them yields the final Net Present Cost (NPC):

NPC at 8% = Tk 1,07,02,976; at 10% = Tk 1,01,61,620; at 12% = Tk 96,77,726.

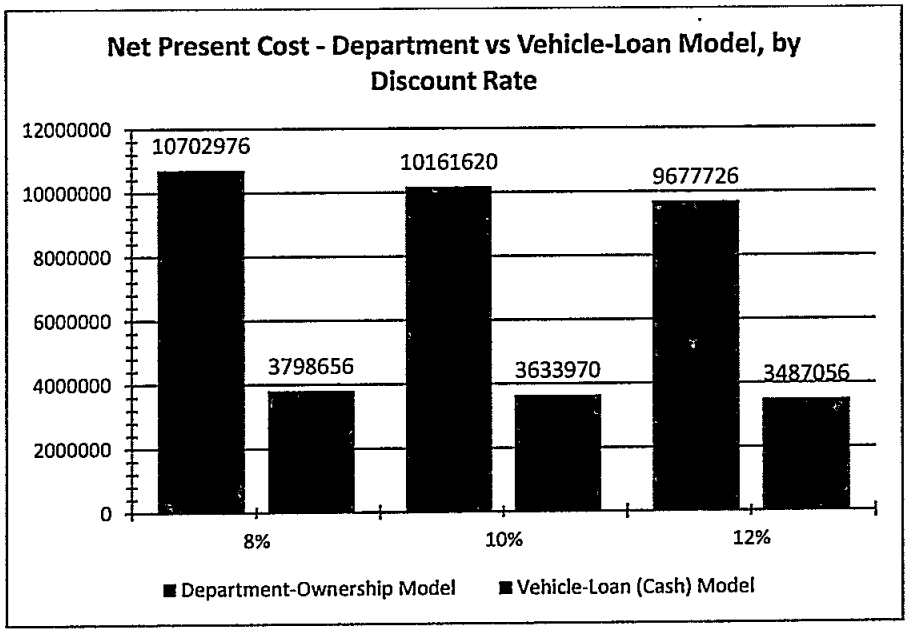


Figure 2: Comparative Net Present Cost per Vehicle (Tk)

Discount rate	NPC - Department-Ownership Model (Tk)	NPC - Vehicle-Loan Model (Tk)	BCR (Dept. cost ÷ Loan cost)	NPV of switching to loan model (Tk)
8%	1,07,02,976	37,98,656	2.82	69,04,321
10% (central case)	1,01,61,620	36,33,970	2.80	65,27,649
12%	96,77,726	34,87,056	2.78	61,90,670

Table 2B: Net Present Cost per Official over an 8-Year Vehicle Life-Cycle

3A Vehicle-Loan (Cash) Model- Cash Flow Schedule (per official, Tk)

Year	Loan disbursed	Customs recovery	Allowance paid (50,000×12)	Loan repayment inflow	AIT inflow	Net cash flow
0	3,000,000	(1,500,000)	—	—	—	1,500,000
1	—	—	600,000	(175,000)	(25,000)	400,000
2	—	—	600,000	(175,000)	(25,000)	400,000
3	—	—	600,000	(175,000)	(25,000)	400,000
4	—	—	600,000	(175,000)	(25,000)	400,000
5	—	—	600,000	(175,000)	(25,000)	400,000
6	—	—	600,000	(175,000)	(25,000)	400,000
7	—	—	600,000	(175,000)	(25,000)	400,000
8	—	—	600,000	(175,000)	(25,000)	400,000

Table 3A: Vehicle-Loan Model Cash Flow Schedule (undiscounted, Tk; figures in parentheses are inflows netted against cost)

For the Vehicle-Loan Model, Year 0 requires a net disbursement of Tk 1,500,000 (Tk 3,000,000 loan principal minus Tk 1,500,000 immediate customs duty recovery). Years 1 to 8 require annual net outlays of Tk 400,000 (Tk 600,000 allowance paid minus Tk 175,000 loan repayment and Tk 25,000 advance income tax collected). Discounting and summing at 10% yields the loan model's NPC:

$$NPC_{Loan,10\%} = 1{,}500{,}000 + \frac{400{,}000}{1.10^1} + \frac{400{,}000}{1.10^2} + \ldots + \frac{400{,}000}{1.10^8}$$

$$NPC_{Loan,10\%} = 1{,}500{,}000 + 363{,}636 + 330{,}579 + 300{,}526 + 273{,}205 + 248{,}369 + 225{,}790 + 205{,}263 + 186{,}603 = Tk\ 3{,}633{,}970$$

NPC at 8% = Tk 37,98,656; at 10% = Tk 36,33,970; at 12% = Tk 34,87,056.

The BCR and NPV of switching (capital cost and recurring operational expenses avoided) at the 10% discount rate are:

$$BCR_{10\%} = \frac{NPC_{Dept,10\%}}{NPC_{Loan,10\%}} = \frac{10{,}161{,}620}{3{,}633{,}970} \approx 2.80$$

$$NPV_{Switching,10\%} = NPC_{Dept,10\%} - NPC_{Loan,10\%} = 10{,}161{,}620 - 3{,}633{,}970 = Tk\ 6{,}527{,}650$$

NPV of switching: Tk 69,04,321 (8%); Tk 65,27,649 (10%); Tk 61,90,670 (12%).

Table 2B reports the NPC of each model per official, the resulting BCR and the NPV of switching from the department model to the loan model, at three discount rates. The median 10% discount rate to own and operate a vehicle departmentally costs government a net present Tk 1,01,61,620 per official over the vehicle's eight-year life, compared with Tk 36,33,970 under the loan model - a BCR of 2.80, meaning the department model costs almost three times as much in present-value terms. The NPV of switching (that is, the discounted value of the cost avoided by adopting the loan model instead of the department model) is Tk 65,27,649 per official, which, applied to the 2,315 officials currently in service, implies an aggregate present-value saving in the order of Tk 1,511 crore over a single vehicle life-cycle. Because officials typically serve 12-15 years - requiring the department to purchase and retire two vehicles over a comparable period that the loan model does not.

4A Incremental (Switching) Cash Flow and IRR Test

Year	Avoided dept. operating cost net of allowance (63,473×12)	Loan repayment inflow	AIT inflow	Customs recovery	Foregone salvage value	Net incremental benefit
0	—	—	—	1,500,000	—	1,500,000
1	768,636	175,000	25,000	—	—	968,636
2	768,636	175,000	25,000	—	—	968,636
3	768,636	175,000	25,000	—	—	968,636
4	768,636	175,000	25,000	—	—	968,636
5	768,636	175,000	25,000	—	—	968,636
6	768,636	175,000	25,000	—	—	968,636
7	768,636	175,000	25,000	—	—	968,636
8	768,636	175,000	25,000	—	(300,000)	668,636

Table 4A: Incremental Cash Flow of Switching from Department to Loan Model (Tk)

The switching cash-flow stream, net benefit to government year by year of adopting the loan model instead of the department model is positive in every single year of the eight-year horizon, including the year of loan disbursement itself, once the offsetting customs revenue is taken into account (Tk 15,00,000 net benefit in year zero, Tk 9,68,636 in years one to seven, and Tk 6,68,636 in year eight after netting the department model's foregone salvage value). Because there is no year in which switching requires a net cash outflow and every entry in the final column is positive. The cash-flow stream contains no sign change, and a conventional IRR - the discount rate at which NPV falls to zero - cannot be computed. Thus, there is no discount rate at which the department-ownership model becomes preferable. The loan model is unambiguously the lower-cost option to government at any plausible discount rate and it begins generating a net fiscal benefit immediately rather than after a payback period.

4.1.3 CBA II: Cash-Based Driver Allowance vs Departmental Full-Time Driver Provision

Having established that the vehicle-purchase model dominates the department-ownership model overall, a narrower comparison isolates the single largest driver of that result: the cost of providing a driver. **Figure 3** and **Table 5A** compare the fully-loaded cost of a departmental driver (salary, overtime, festival and other allowances, plus pro-rated pension and gratuity accrual) against the consolidated driver allowance assumed within the loan model, and against the driver cost actually reported by survey respondents.

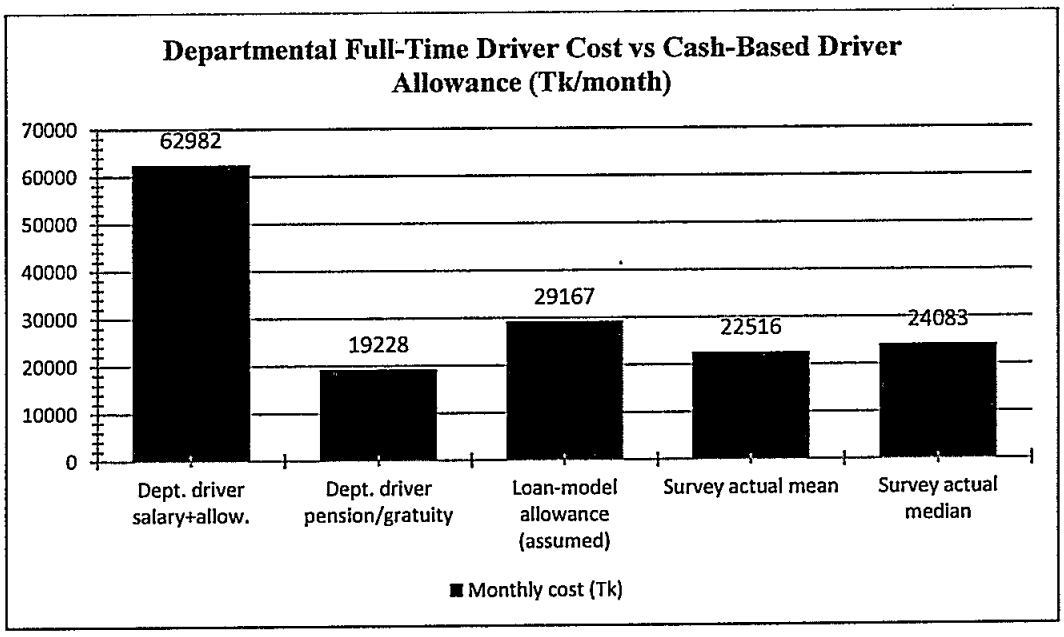


Figure 3: Departmental Full-Time Driver Cost vs Cash-Based Driver Allowance (Tk/month)

Driver provision arrangement	Monthly cost (Tk) (Source-Table 1)	Annualised cost (Tk)
Departmental driver - salary, overtime & allowances	62,982	7,55,784
Departmental driver - pension & gratuity accrual	19,228	2,30,736
Departmental driver – total	82,210	9,86,520
Loan-model consolidated driver allowance (assumed)	29,167	3,50,004

Driver provision arrangement	Monthly cost (Tk) (Source-Table 1)	Annualised cost (Tk)
Survey-reported actual driver cost - mean (n = 83)	22,516	2,70,192
Survey-reported actual driver cost - median (n = 83)	24,083	2,88,996

Table 5A: Cost of Departmental Driver Provision vs Cash-Based Driver Allowance

Source: administrative cost comparison; primary survey data, n = 83 (driver compensation + one-twelfth of annual festival bonus).

1. Present Value of an Ordinary Annuity: PV = PMT * [1 - (1 + r)^-n] / r

- PMT = Annual operational cost (constant stream over Years 1 to 8)
  - Department Driver PMT = Tk 986,520 (**Table 5A**)
  - Cash Driver Allowance PMT = Tk 350,004 (**Table 5A**)
- r = Discount rate (8%, 10%, or 12% per annum)
- n = 8 years (Year 1 to Year 8)
- Annuity Factor = [1 - (1 + r)^-8] / r

Annuity Factor (10%)= [1 - $(1.10)^{-8}$] ÷ 0.10 = [1 - 0.466507] ÷ 0.10 = 0.533493 ÷ 0.10 = 5.334926

2. BCR = PV (Dept. Driver) ÷ PV (Cash Allowance) = 2.80

3. Departmental Driver NPV (10%): PV = Tk 986,520 * 5.334926 = Tk 52,63,011

   Cash Driver Allowance NPV (10%): PV = Tk 350,004 * 5.334926 = Tk 18,67,245

4. NPV of Switching (Driver Sub-Model): PV(Dept. Driver) – PV(Cash Allowance)

A. BCR and NPV of Switching (10%):

- BCR: Tk 52,63,011 ÷ Tk 18,67,245 = 2.81
- NPV of Switching: Tk 52,63,011 - Tk 18,67,245 = Tk 33,95,766

Discount rate	NPV — Departmental driver (Tk)	NPV — Cash driver allowance (Tk)	BCR	NPV of switching (Tk)
8%	56,34,694	20,11,347	2.80	36,23,347
10% (central case)	52,63,01	18,67,246	2.80	33,63,756
12%	48,70,870	17,38,694	2.80	31,32,176

Table 6A: CBA II - Driver-Provision Sub-Model, per Official over 8 Years

The sub-model confirms and quantifies that a departmentally-arranged full-time driver costs government a net present Tk 52,63,011per official over eight years at the central discount

rate, against Tk 18,67,245 for the consolidated cash-based model - a BCR of 2.81, confirming that driver provision is the principal cost driver in both. As with **CBA Model I**, every year of the switching cash-flow stream is non-negative, so no conventional IRR exists for this sub-model either.

5.1 Survey Respondent Profile

The questionnaire received 83 valid responses. **Figure 4** summarises the respondent profile. 54 respondents (65.1%) are serving as DS, 25 (30.1%) JS and 4 (4.8%) Additional Secretaries. 57 respondents (68.7%) drove octane/petrol vehicles, 24 (28.9%) hybrid vehicles and 2 (2.4%) diesel vehicles. 56 respondents (67.5%) reported prior first-hand experience of the departmentally-maintained pool vehicle system before availing the loan, providing a substantial base of comparative experience of both systems within the sample.

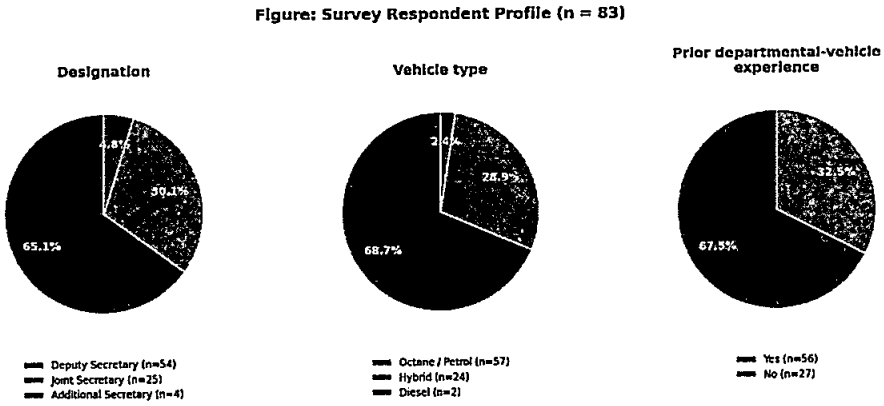


Fig 4: Survey Respondent Profile (n = 83)

5.2 Adequacy of the Present Tk 50,000 Monthly Allowance

Respondents were asked to rate the adequacy of the present Tk 50,000 monthly maintenance allowance under current economic conditions. As **Figure 5** shows, 68 of 83 respondents (81.9%) rated the allowance either "Insufficient" (48 respondents, 57.8%) or "Extremely Insufficient" (20 respondents, 24.1%); only 3 respondents (3.6%) considered it "Sufficient", with the remaining 12 (14.5%) neutral.

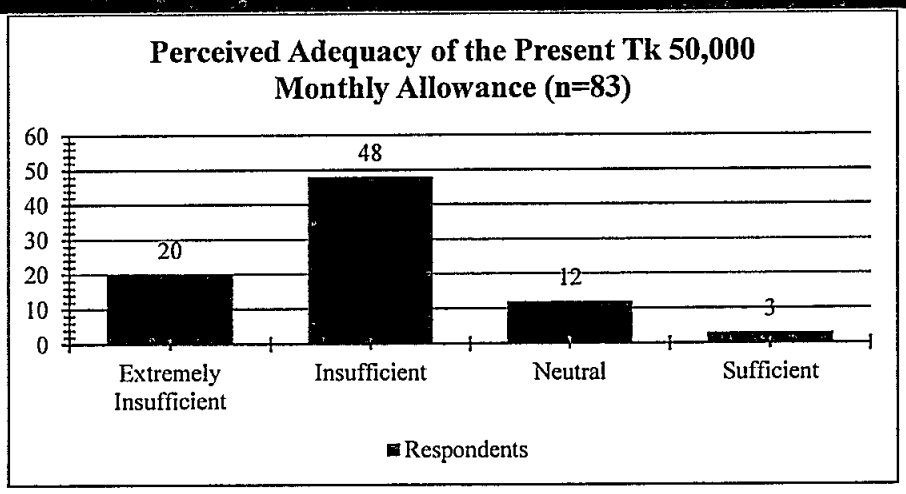


Figure 5: Perceived Adequacy of the Present Tk 50,000 Monthly Allowance (n = 83)

This self-rated inadequacy is corroborated by two further, independent lines of evidence. First, respondents' self-reported monthly out-of-pocket deficit - shows that 74 of 83 respondents (89.2%) report some deficit: 31 (37.3%) a deficit of Tk 1-10,000, 28 (33.7%) a deficit of Tk 10,001-20,000, 10 (12%) a deficit of Tk 20,001-30,000, and 5 (6%) a deficit exceeding Tk 30,000 per month. Only 9 respondents (10.8%) reported no deficit (Figure 6).

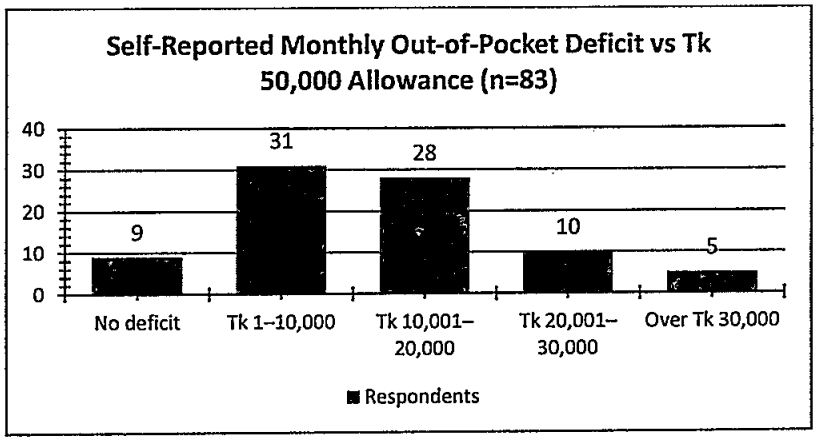


Figure 6: Self-Reported Monthly Out-of-Pocket Deficit vs the Tk 50,000 Allowance (n = 83)

Second, a bottom-up composite monthly running cost was constructed for each respondent from the itemised cost questions. This estimate gives a mean composite monthly cost of Tk 58,911 implying a mean deficit against the Tk 50,000 allowance - consistent with the qualitative finding that perceived inadequacy is compounded by inflation expectations and irregular, lumpy repair costs that a monthly average understates.

Respondents were separately asked to rate the impact of inflation and fuel-price rises since 2020 on the allowance's real purchasing power (**Figure 7**). A combined 61.4% rated the impact "Major" (31 respondents, 37.3%) or "Severe" (20 respondents, 24.1%), with a further 34.9% (29 respondents) rating it "Moderate"; only 3 respondents (3.6%) rated the impact as minor or absent. Combined with the deficit data, this indicates that inadequacy is now the dominant, rather than a marginal, experience among entitled officials.

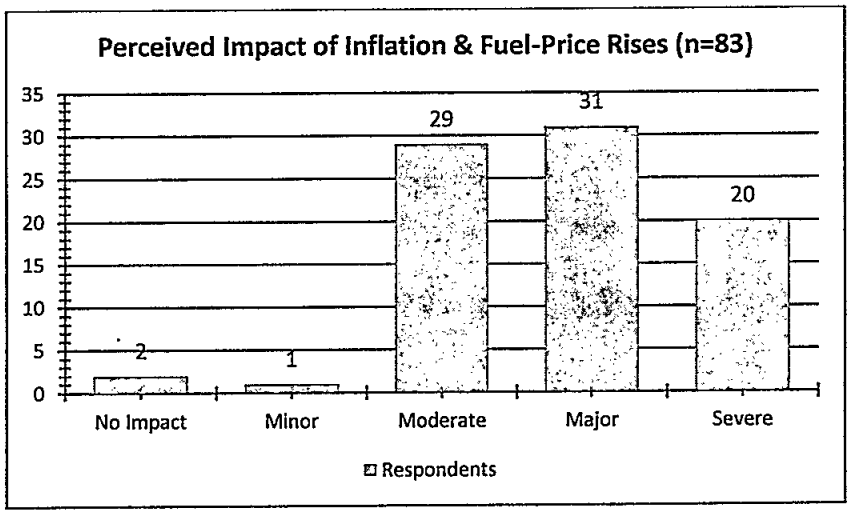


Figure 7: Perceived Impact of Inflation and Fuel-Price Rises on the Allowance's Purchasing Power (n = 83)

5.3 Respondent Perceptions of the Cash-Based Model

Notwithstanding the clear finding that the cash amount itself is inadequate, respondents overwhelmingly endorse the cash-based model in principle over the departmental alternative. Six five-point Likert statements were used to test specific claimed advantages of the monetised scheme; **Figure 8** reports the proportion of respondents agreeing or strongly agreeing with each.

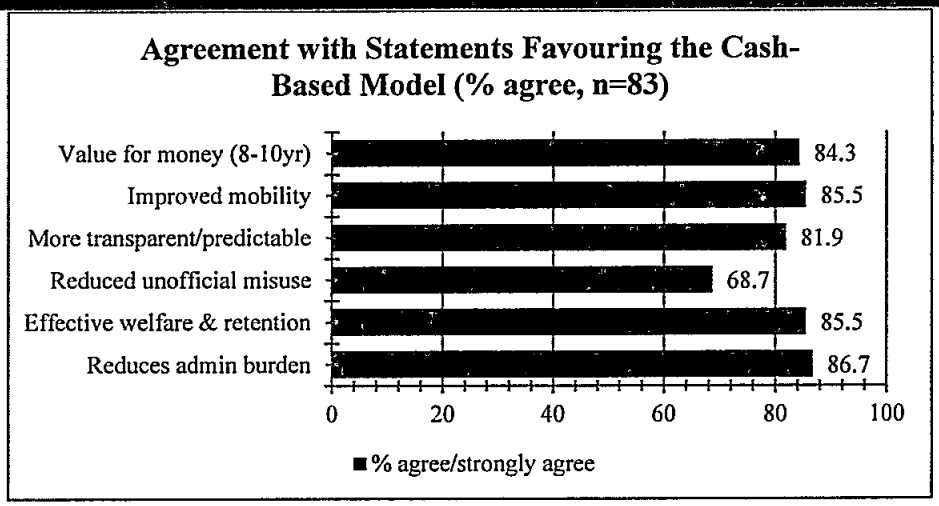


Figure 8: Respondent Agreement with Statements Favouring the Cash-Based Model (n = 83)

Statement	Mean (1–5)	SD	% agree (4–5)	% disagree (1–2)
Reduces government administrative burden	4.52	1.03	86.7%	6.0%
Effective welfare & retention instrument	4.40	1.06	85.5%	7.2%
Reduced unofficial misuse of vehicles	4.00	1.33	68.7%	13.3%
More transparent & cost-predictable	4.24	1.17	81.9%	9.6%
Improved official mobility	4.30	1.10	85.5%	8.4%
More cost-effective (value for money, 8–10 yr)	4.37	1.07	84.3%	7.2%

Table 7: Summary Statistics - Perceptions of the Cash-Based Model (n = 83)

Agreement is the strongest and the most consistent, with the claim that the scheme reduces government's administrative burden (86.7%) directly corroborating the CBA finding in Section 4.1.2 that the loan model dominates on cost and the weakest, with the most dispersed responses, on the claim that the scheme has reduced unofficial or unauthorised misuse of government vehicles (68.7% agreement, 13.3% disagreement). This pattern is consistent with the international evidence reviewed in Section 2.3.

5.4 Respondent-Suggested Revision Levels

Respondents were asked, independently in two separate sections of the questionnaire, what they considered a realistic revised monthly allowance. The two questions produced closely consistent answers: a mean of Tk 67,781 (median Tk 70,000; n = 80) when framed as the amount needed for "full cost recovery", and a mean of Tk 69,935 (median Tk 70,000; n = 77) when framed as an "adequate" amount against current fuel and living costs - a pooled mean across both questions of approximately Tk 68,838, roughly 38% above the current Tk 50,000 allowance. Respondents were similarly asked what they considered an adequate one-time interest-free loan; the mean suggested loan was Tk 50,59,460 (median Tk 50,00,000; n = 74), some 69% above the current Tk 30 lakh ceiling (**Figure 9A–9B**).

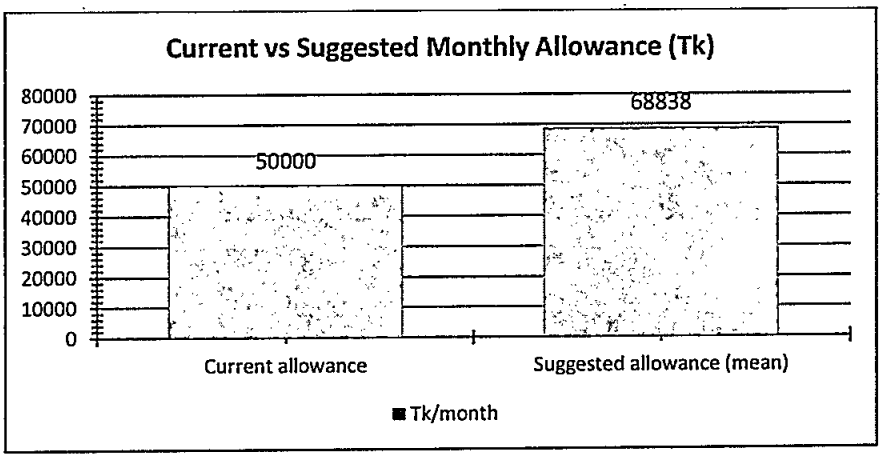


Figure 9A: Current vs Respondent-Suggested Monthly Allowance

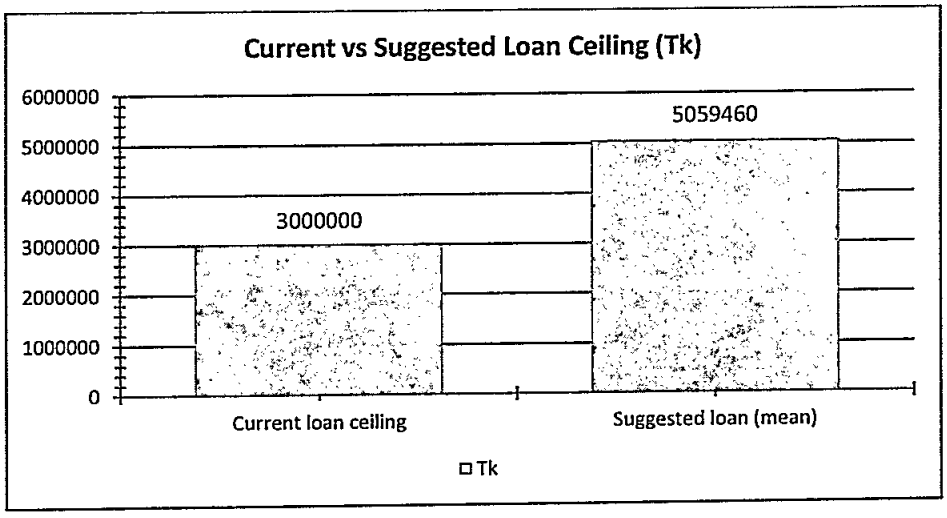


Figure 9B: Current vs Respondent-Suggested Loan Ceiling

Asked directly what should happen to the scheme going forward, 75 of 83 respondents (90.4%) favoured continuing the scheme but with the loan and allowance revised upward; only 4 (4.8%) favoured continuing it unchanged, 3 (3.6%) favoured a restructured hybrid model, and a single respondent (1.2%) favoured reverting fully to the departmental vehicle system. On the mechanism for periodic revision, the most favoured option was a fixed statutory review and revision every three years (28 respondents), followed by direct linkage to the Consumer Price Index (13 respondents), linkage to National Pay Scale announcements (8 respondents) and automatic adjustment with domestic fuel prices (7 respondents); a substantial minority of respondents favoured combining two or more of these mechanisms rather than relying on a single trigger.

Item	Current value	Respondent-suggested value	Implied increase
Monthly maintenance allowance	Tk 50,000	Tk 68,838 (pooled mean); Tk 70,000 (median)	+37.7% (mean) / +40.0% (median)
One-time interest-free loan ceiling	Tk 30,00,000	Tk 50,59,460 (mean); Tk 50,00,000 (median)	+68.6% (mean) / +66.7% (median)
Scheme should continue, revised upward	—	75 / 83 respondents (90.4%)	—

Table 8: Summary of Respondent-Suggested Revision Levels

5.5 Qualitative Analysis

The quantitative findings above are broadly corroborated by respondents' open-ended remarks, which cluster around three themes. First, and most frequently, respondents attributed the inadequacy of both the loan and the allowance to price levels that have moved substantially since the figures were last set in 2020: several respondents specifically cited the rising market price of reconditioned vehicles, noting that the Tk 30 lakh ceiling now typically leaves an official to arrange additional money from personal resources, alongside the increased cost of fuel, rising driver salary expectations and the depreciation of the Taka against the USD. This directly corroborates the quantitative deficit and suggested-revision findings in Sections 5.2 and 5.4.

Second, several respondents who had prior departmental-vehicle experience volunteered that the cash-based scheme is administratively preferable: comments referred to "hassle-free management", reduced dependence on drivers who were themselves sometimes implicated in

"public money misappropriation" under the pool system. This qualitative theme reinforces the quantitative finding in Section 5.3 that agreement is strongest precisely on the administrative-burden and welfare-retention dimensions of the scheme.

6. Discussion

The findings converge on a single, consistent picture that the vehicle-loan and cash-allowance model is unambiguously the cheaper option for government, at every discount rate tested and on every cost line examined, while the specific Taka value at which its cash component was fixed in 2020 has been overtaken by events and is now judged inadequate by more than four in five entitled officials. These are not competing conclusions but the same underlying story: the architecture of monetisation is sound but its calibration has not kept pace.

The scale of the fiscal case is striking. A BCR of approximately 2.80 for the vehicle model as a whole, and an identical 2.80 for the driver-provision sub-model alone, indicate that the department-ownership costs government very nearly three times as much in present-value terms as the loan model, chiefly because departmental driver provision carries substantial deferred pension and gratuity liabilities that a consolidated cash allowance entirely eliminates. This finding is consistent with the international pattern reviewed in Section 2.2 - Nepal's and Zimbabwe's parallel moves away from departmental fleet ownership and the fleet-management literature's general finding that employer-owned vehicle programmes carry higher fixed and administrative costs than allowance-based alternatives (Cardata, 2026) - and it is corroborated independently by the survey respondents, 86.7% of whom agree that the scheme reduces government's administrative burden. That the IRR could not be computed in the conventional sense is not a methodological shortcoming but a substantive finding: because the switching cash flow is positive in every year, including the year of loan disbursement once customs revenue is credited, there is no discount rate, however high, at which continued departmental ownership would become the cheaper option. Policymakers should consider this as confirmation that the 2014/2020 policy direction was fiscally correct, not merely fiscally tolerable.

At the same time, the survey data show plainly that the scheme's current cash parameters have not been revised since 2020 in line with the inflation and fuel-price movements. The consistency between the two independently-asked suggested-allowance questions (means of Tk 67,781 and Tk 69,935, both with a median of Tk 70,000) is itself a methodologically

reassuring result: it is unlikely that 83 respondents, asked the same substantive question in two different sections of a questionnaire without being shown their earlier answer, would converge so closely by chance, and the convergence lends confidence that approximately Tk 68,000–70,000 represents a genuine, considered view of present adequacy. The suggested loan revision (to approximately Tk 50 lakh) is corroborated by the qualitative theme, discussed in Section 5.4, that vehicle prices have risen such that officials must now supplement the Tk 30 lakh ceiling with a further Tk 15-20 lakh of personal funds.

Taken together, these results support a policy conclusion that is more precise than either a blanket defence or a blanket criticism of the scheme: the monetisation model itself should be retained and, on the evidence assembled here, expanded rather than reversed, but its cash parameters require a periodic, rules-based revision mechanism.

7. Limitations

As this paper was prepared for training purposes within the constraints of the ACAD course, the survey sample of 83 respondents, while sufficient to establish clear directional findings and statistically meaningful proportions, is not a full census of the 2,315 currently entitled officials, and self-reported cost data are subject to recall and estimation error. Precise historical data on departmental driver costs and vehicle depreciation prior to 2014 were not available and there are reasonable assumptions (grade-16 driver salary, standard fuel allocation, standard service intervals). The capital cost of a departmentally-procured vehicle is assumed, for comparability, to equal the Tk 30 lakh loan ceiling available to a loan-financed purchase of similar specification; or that departmentally-imported vehicles are exempt from AIT, and the import duties assumed recoverable under the loan model. The sensitivity analysis across three discount rates was used to bound, rather than eliminate, the resulting uncertainty. Finally, as this paper was prepared for training purposes, the scope for extensive key-informant interviewing was limited, and the qualitative analysis in Section 5.1 draws on open-ended questionnaire responses rather than a fuller programme of semi-structured interviews originally envisaged in the research proposal.

8. Conclusion and Recommendations

This study set out to evaluate, on an evidence basis rather than an anecdotal one, the financial implications of the interest-free vehicle loan model. Using a formal CBA of documentary cost

data, supported by a structured survey of 83 entitled officials, three findings emerge with reasonable confidence. First, the interest-free loan model imposes a substantially and consistently lower NPC on government than the department-ownership model it replaced, with a BCR of approximately 2.80 and no discount rate at which the department model becomes preferable. Second, this advantage is concentrated in, though not limited to, the driver-provision component: a cash-based driver allowance costs government roughly a third of a fully-loaded departmental driver once pension and gratuity liabilities are included. Third, notwithstanding this fiscal soundness, it is perceived that the present Tk 50,000 monthly allowance is insufficient incurring active monthly deficit to the officials' wallet. Besides, respondents converge on a suggested revised monthly allowance and loan ceiling.

On this basis, the study offers the following recommendations for consideration by the MoPA and the FD:

A. Revise the monthly maintenance allowance from Tk 50,000 to the range of Tk 68,000–70,000.

B. Revise the seven-year old one-time interest-free loan ceiling from Tk 30 lakh to a figure in the region of Tk 50 lakh.

C. Institute a rules-based periodic revision mechanism - the most-favoured option among respondents being a fixed statutory review every three years, potentially combined with a CP Index or fuel-price trigger for interim adjustment - rather than relying on ad hoc revision, to prevent the recurrence of the real-value erosion documented in this study.

D. Commission a fuller, census-based follow-up study, ideally linked to the FD disbursement records, to validate and refine the present findings at a larger sample size and track the real value of the allowance over time.

In sum, the evidence assembled here supports continuation and expansion of the vehicle monetisation model as sound public financial management but only if paired with a disciplined, periodic revision mechanism that preserves the real value of its cash components.

(Words-5,729 without Tables and Figures)

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Appendices

Appendix A: Parameters and assumptions

Parameter	Value adopted	Basis / source
Service horizon (T)	15 years	Typical span from first entitlement as DS to PRL
Vehicle service life	8 years	Government practice
Depreciation	10% per annum, straight line	Residual value 20% of cost at 8 years; 30% at 7 years
Discount rate (r)	12% per annum	Planning Commission reference rate
Price base	2026 prices	All streams in real terms; inflation handled separately in §4.9
Cash-based capital outlay	Tk 30,00,000 (one-time)	MoPA Order No. 05.00.0000.124.26.003.17-636, 25 April 2019
Departmental unit price (base case)	Tk 43,66,667	Mean of Tk 30 lakh, Tk 45 lakh (FD order, 31 July 2023) and Tk 56 lakh (FD order, 5 January 2026)
Loan recovery	Tk 14,00,000 over 120 instalments	Recovery @ 10% annual depreciation and 1% Service Charge adjustment
Population for aggregation	2,315 serving officials	Officials holding a loan-purchased vehicle as at 30 July 2026
Total Tax Incidence (TTI) of ≤1500cc vehicle	**127.43%**	Customs Duty **25%**+ Supplementary Duty **45%**+ VAT **15%**+ Advance Tax 5%+ Advance Income Tax 5%+

Parameter	Value adopted	Basis / source
(HS Code 87032231000-31-000)		Regulatory Duty 3% amounting to **TTI ≈ 127.43% of the assessable value.**

Appendix B:

QUESTIONNAIRE

Purpose of this survey: This questionnaire is administered solely for an academic research paper submitted as part of the 158th ACAD course at BPATC. It seeks quantitative data on the actual costs, benefits and adequacy of the interest-free vehicle loan and monthly maintenance allowance scheme (2020 policy) for the entitled officials to this facility.

Time: It will take not more than 5 minutes.

Confidentiality: Responses will be used strictly for aggregate academic analysis. No individual name or identity will be disclosed in the paper or its findings.

Instructions: Please tick (✓)(*Copy and paste ✓mark* beside the appropriate box) or fill in the blank space as accurately as possible. Where exact figures are not readily available, kindly provide your best estimate.

Section A: Respondent Profile

1. Current designation:

☐ Deputy Secretary ☐ Joint Secretary ☐ Additional Secretary ☐ Secretary / Senior Secretary

2. Ministry / Division / Department:

Answer: _____

3. Total length of service as Deputy Secretary and above (in years):

Years: _____

4. Year in which you first availed the interest-free vehicle loan:

Year: _____

5. Before availing this loan/allowance, did you use a departmentally-owned vehicle with a government-paid driver in your official capacity?

☐ Yes ☐ No

6. If yes to Q5, for how many years did you use a departmentally-owned vehicle? *(Leave blank if not applicable)*

Years: _____

7. Your year of PRL:

Year: _____

8. Your email address/ mobile number (Optional):

Answer: _____

Section B: Allowance Particulars

7. Your average **monthly** fuel expenditure for this vehicle:

Monthly fuel cost: Tk. _____

8. **Monthly** salary you pay to your driver (Including overtime/refreshment allowance if provided):

Driver's monthly salary: Tk. _____

9. **Monthly** miscellaneous Running Costs (parking rent, toll charges, cleaning materials, etc.):

Miscellaneous monthly cost: Tk. _____

10. Taking all the above together, your total estimated monthly out-of-pocket cost of running this vehicle (fuel + driver etc.):

Total monthly running cost: Tk. _____

11. Any other recurring **annual** benefit you provide the driver (festival bonus etc.):

Other annual driver cost: Tk. _____

12. Your average **annual** servicing/repair/maintenance expenditure:

Annual maintenance cost: Tk. _____

13. Annual insurance and tax token/insurance/fitness renewal cost of the vehicle:

Annual tax token/insurance/fitness cost: Tk. _____

14. Annual AIT/ Tax cost of the vehicle:

Annual AIT/ Tax cost: Tk. _____

Section C: Adequacy of the Interest-free Lloan and Monthly Maintenance Allowance

14. *Please tick (✓)(Copy and paste ✓mark beside one box) per row indicating your level of agreement.*

Statement	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
The Tk 30,00000 interest-free loan is sufficient to purchase your vehicle.	☐	☐	☐	☐	☐
The loan amount should be revised from time to time rather than fixed.	☐	☐	☐	☐	☐

Statement	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
The Tk 50,000 monthly allowance covers all vehicle-related costs combined.	☐	☐	☐	☐	☐
The current allowance has kept pace with inflation and fuel price increases since 2020.	☐	☐	☐	☐	☐
The allowance should be periodically revised (e.g., annually or biennially) rather than fixed.	☐	☐	☐	☐	☐

15. In your assessment, what would be an adequate amount of interest-free loan given to purchase a vehicle for your use?

Suggested one-time interest-free loan: Tk. _____

16. In your assessment, what would be an adequate monthly allowance today against current fuel and living costs?

Suggested adequate monthly allowance: Tk. _____

Section D: Comparison with the Earlier Departmental Vehicle System

Answer this section only if you have prior first-hand experience of the departmentally-owned vehicle system (i.e., you answered 'Yes' to Q5). Otherwise, proceed to Section E.

17. To the best of your knowledge/estimation, what was the approximate total annual cost borne by your department for your vehicle and driver (fuel + maintenance + driver salary, overtime, bonus, insurance) during that period?

Estimated annual departmental cost: Tk. _____

18. Compared to the current cash-based scheme, the earlier departmental vehicle-and-driver system was, in your assessment:

☐ More costly to government ☐ About the same cost ☐ Less costly to government ☐ Cannot say / no basis to estimate

19. Which system did you personally find more convenient?

☐ Departmental vehicle system ☐ Current cash-based scheme ☐ No significant difference

Section E: Overall Assessment

19. *Please tick (✓)/(Copy and paste ✓mark* beside the appropriate box) *one box per row indicating your level of agreement.*

Statement	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
The current cash-based scheme reduces overall government expenditure compared	☐	☐	☐	☐	☐

Statement	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
to a departmentally-maintained vehicle and driver.					
The current scheme gives officials greater flexibility and autonomy in vehicle choice and use.	☐	☐	☐	☐	☐
The current scheme is a fair and reasonable form of compensation for the responsibilities of the officials.	☐	☐	☐	☐	☐
The interest-free loan and allowance scheme should be continued.	☐	☐	☐	☐	☐

20. In your view, the scheme should be:

☐ Continued unchanged ☐ Continued but loan and allowance revised upward ☐ Restructured (e.g., partial departmental pool + reduced allowance) ☐ Reverted to departmental vehicle system

21. Any additional remarks on the financial adequacy or design of this scheme (optional):

_____

Thank you for your valuable time and cooperation.

Appendix C: Survey Data Used for Quantitative Analysis

Survey data from 83 entitled government officials. Designation, workplace/posting, and (where voluntarily provided) email address, itemized monthly costs (driver compensation, festival bonus, insurance, and fitness/tax/AIT) are grouped as Fixed Costs, and (fuel, servicing, repairs, and miscellaneous) as Variable Costs; both are pro-rated to a monthly basis. A full itemized breakdown is available in the accompanying supplementary workbook.

https://docs.google.com/forms/d/1KvohVGhLGUQB_E2vFfI19HNv-s7pJW60MmMk_8Bd-AU/edit#responses

ID	Designation, Workplace (Email)	Service Length	Vehicle Type & CC	Fixed Costs (BDT/mo)	Variable Costs (BDT/mo)	Total Monthly Cost (BDT)	Suggested Revised Allowance (BDT)
R1	DS (National Academy for Planning and Development, Ministry of Public Administration) *(kaisarulislam@gmail.com)*	18	Hybrid (1800 cc)	33,749	24,000	57,749	65,000

ID	Designation, Workplace (Email)	Service Length	Vehicle Type & CC	Fixed Costs (BDT/mo)	Variable Costs (BDT/mo)	Total Monthly Cost (BDT)	Suggested Revised Allowance (BDT)
R2	JS (Mopa)	6 yrs2018	Octane/Petrol (2000 cc)	35,433	41,250	76,683	70,000
R3	DS (IMED)	18 years	Hybrid (1800 cc)	33,832	92,842	126,675	40,000
R4	DS (Rural Development and Cooperative Division) *(e.kabir@yahoo.com)*	18	Octane/Petrol (1492 cc)	6,832	72,000	78,833	75,000
R5	DS (Ministry of cultural affairs) *(dsalamin23@gmail)*	5	Octane/Petrol (1500 cc)	29,916	18,800	48,716	75,000
R6	JS (MOEWOE) *(shahid.chy22@gmail.com)*	23 years	Octane/Petrol (1500 cc)	25,333	38,500	63,833	70,000
R7	DS (Ministry of Commerce)	3 years	Hybrid (1380 cc)	8,736	39,000	47,736	75,000
R8	DS (Ministry of Commerce)	7 years +	Hybrid (1999 cc)	30,916	71,050	101,966	70,000
R9	JS (Mopa)	21 years	Octane/Petrol (1500 cc)	2,083	14,000	16,083	60,000
R10	DS (National Savings Department 5years) *(rezaehtasham0@gmail)*	5years above	Octane/Petrol (1500 cc)	32,166	19,750	51,916	70,000
R11	DS (Ministry of Agriculture) *(rafiq15506@gmail.com)*	8 years	Octane/Petrol (1500 cc)	26,041	19,250	45,291	65,000

ID	Designation, Workplace (Email)	Service Length	Vehicle Type & CC	Fixed Costs (BDT/mo)	Variable Costs (BDT/mo)	Total Monthly Cost (BDT)	Suggested Revised Allowance (BDT)
R12	DS (Bangladesh Public Administration Training Centre)	18	Octane/Petrol (1500 cc)	31,041	28,500	59,541	75,000
R13	Addl. Secy (Ministry of Railways)	10 years	Octane/Petrol (1500 cc)	25,582	26,833	52,416	70,000
R14	DS (Ministry of Land)	18 years	Hybrid (1500 cc)	33,832	26,000	59,833	75,000
R15	DS (Public Administration)	19 years	Hybrid (1800 cc)	33,749	116,000	149,750	75,000
R16	JS (Ministry of Public Administration) *(kibria10613@gmail.com)*	22	Octane/Petrol (1500 cc)	2,666	42,499	45,165	75,000
R17	Addl. Secy (Labour & Employment) *(rahim_bang@uahoo.com)*	20 years plus	Octane/Petrol (1500 cc)	30,166	45,000	75,166	60,000
R18	JS (MOPA (OSD for NDC Course))	8 years	Octane/Petrol (1500 cc)	26,458	31,666	58,124	15,000
R19	DS (Ministry of Foreign Affairs) *(tajulislam166@gmail.com)*	5 years 5 months	Hybrid (1800 cc)	35,957	13,836	49,794	65,000
R20	JS (Ministry of Commerce)	8 years	Octane/Petrol (1500 cc)	30,832	45,000	75,833	60,000
R21	JS (Attached to MoPA)	22	Octane/Petrol (1500 cc)	31,832	45,000	76,833	80,000
R22	DS (Power Division)	5	Hybrid (1800 cc)	33,166	33,500	66,666	75,000

ID	Designation, Workplace (Email)	Service Length	Vehicle Type & CC	Fixed Costs (BDT/mo)	Variable Costs (BDT/mo)	Total Monthly Cost (BDT)	Suggested Revised Allowance (BDT)
R23	DS (Ministry of Defence) *(mirzashakila25@yahoo.com)*	8	Octane/Petrol (1500 cc)	30,541	214,000	244,541	60,000
R24	JS (Ministry of Industries) *(dsgony@gmail.com)*	11	Hybrid (2000 cc)	27,499	19,950	47,450	70,000
R25	DS (Maksuda Khandaker)	5 +	Octane/Petrol (1600 cc)	34,166	28,500	62,666	65,000
R26	DS (Science and technology fellowship trust)	5 years	Octane/Petrol (1500 cc)	30,416	34,533	64,949	80,000
R27	JS (Member (Joint Secretary), BTTC, MoC) *(mdenamulhaque1030@gmail.com)*	10 years	Hybrid (1500 cc)	3,082	15,200	18,283	60,000
R28	JS (Directorate of Primary Education)	10 years	Octane/Petrol (1500 cc)	2,666	11,000	13,666	50,000
R29	JS (Posts and Telecommunications Division)	21 years	Octane/Petrol (2000 cc)	32,748	11,233	43,983	87,500
R30	DS (LGD)	9 years	Octane/Petrol (1500 cc)	14,249	61,000	75,250	60,000
R31	DS (Health Services Division)	8 years.	Octane/Petrol (1500 cc)	26,166	29,000	55,166	75,000
R32	DS (Ministry of commerce) *(brashid16136@yahoo.com)*	17	Hybrid (1800 cc)	40,499	45,500	86,000	70,000

ID	Designation, Workplace (Email)	Service Length	Vehicle Type & CC	Fixed Costs (BDT/mo)	Variable Costs (BDT/mo)	Total Monthly Cost (BDT)	Suggested Revised Allowance (BDT)
R33	DS (Ministry of Agriculture)	5	Hybrid (1800 cc)	28,832	18,000	46,833	60,000
R34	JS (Power Division)	11	Octane/Petrol (1500 cc)	40,666	63,000	103,666	80,000
R35	DS (ERD)	17+	Octane/Petrol (1800 cc)	27,666	27,977	55,643	80,000
R36	JS (Health Services Division)	7 years	Octane/Petrol (1500 cc)	30,666	180,000	210,666	70,000
R37	DS (Ministry of Planning) *(almasudabdullah27@gmail.com)*	5 years 5 months	Hybrid (1800 cc)	33,415	33,400	66,816	75,000
R38	DS (BCS Administration Academy)	5	Hybrid (1800 cc)	38,333	30,500	68,833	75,000
R39	DS (National parliament secretariat)	6 years	Hybrid (1800 cc)	35,832	29,000	64,833	60,000
R40	DS (Dhaka South city corporation)	Five	Octane/Petrol (1500 cc)	38,207	50,000	88,208	65,000
R41	DS (Economic Relations Division)	6	Hybrid (2000 cc)	30,790	26,000	56,791	70,000
R42	JS (Finance Division)	21	Octane/Petrol (1500 cc)	30,832	30,500	61,333	75,000
R43	DS (Housig Ministry) *(shila16208@gmail.com)*	5	Octane/Petrol (1500 cc)	15,749	14,000	29,750	70,000
R44	DS (Ministry of Land)	8 years	Hybrid (2000 cc)	31,666	230,000	261,666	75,000

ID	Designation, Workplace (Email)	Service Length	Vehicle Type & CC	Fixed Costs (BDT/mo)	Variable Costs (BDT/mo)	Total Monthly Cost (BDT)	Suggested Revised Allowance (BDT)
	(moyenul15950@gmail.com)						
R45	DS (Economic Relations Division)	5	Octane/Petrol (1499 cc)	30,000	22,500	52,500	65,000
R46	JS (ministry of land)	11 years 3 months	Octane/Petrol (1500 cc)	54,899	22,277	77,177	75,000
R47	DS (Ministry of Railway)	18 yrs	Octane/Petrol (1500 cc)	23,332	34,000	57,333	60,000
R48	JS (Ministry of Commerce)	7	Octane/Petrol (1500 cc)	29,166	16,500	45,666	60,000
R49	JS (Ministry of Railways) *(bristibapon@gmail.com)*	8 years 6 months	Octane/Petrol (2000 cc)	29,207	62,800	92,008	100,000
R50	JS (Finance Division)	21	Octane/Petrol (1500 cc)	30,832	30,500	61,333	75,000
R51	JS (Dhaka Mass Rapid Transit Development Project Line - 6)	11	Octane/Petrol (1497 cc)	5,166	37,500	42,666	75,000
R52	Addl. Secy (Ministry of land)	2012 to2026	Octane/Petrol (1500 cc)	4,062	44,000	48,062	100,000
R53	JS (Ministry of Commerce) *(mdh16040@gmail.com)*	19 years	Hybrid (1999 cc)	4,650	35,000	39,650	75,000
R54	JS (Bangladesh Overseas Employment and Services Ltd. (BOESL).) *(skamal15960@gmail.com)*	8	Hybrid (1990 cc)	7,333	28,000	35,333	75,000

ID	Designation, Workplace (Email)	Service Length	Vehicle Type & CC	Fixed Costs (BDT/mo)	Variable Costs (BDT/mo)	Total Monthly Cost (BDT)	Suggested Revised Allowance (BDT)
R55	JS (MoPA)	9yrs	Octane/Petrol (1500 cc)	28,416	18,000	46,416	50,000
R56	DS (Ministry of commerce)	8 years	Octane/Petrol (1500 cc)	32,915	32,000	64,916	60,000
R57	JS (Ministry of Expatriates' Welfare and Overseas Employment)	30 years	Octane/Petrol (1500 cc)	27,266	11,500	38,766	65,000
R58	DS (Ministry of Commerce)	5 years and 5 Months	Octane/Petrol (1495 cc)	32,332	35,000	67,333	75,000
R59	DS (Ministry of Health snd Family Welfare) *(hamidulac@yahoo.com)*	5.5	Hybrid (1790 cc)	33,582	24,000	57,583	70,000
R60	DS (Ministry of Public Administration)	5 yrs	Octane/Petrol (1500 cc)	28,415	34,000	62,416	65,000
R61	DS (Commerce ministry)	6	Octane/Petrol (1800 cc)	13,332	32,000	45,333	25,000
R62	DS (Ministry of Planning)	5	Octane/Petrol (1500 cc)	31,833	37,000	68,833	70,000
R63	JS (Department of Youth Development) *(sasmopa@gmail.com)*	9 years	Octane/Petrol (1500 cc)	32,582	10,523	43,106	75,000
R64	DS (Road Transport and Highways division)	5	Octane/Petrol (1500 cc)	2,916	19,000	21,916	75,000
R65	DS (Rural Development and Cooperatives Div.)	15	Octane/Petrol (1500 cc)	31,666	29,000	60,666	75,000

ID	Designation, Workplace (Email)	Service Length	Vehicle Type & CC	Fixed Costs (BDT/mo)	Variable Costs (BDT/mo)	Total Monthly Cost (BDT)	Suggested Revised Allowance (BDT)
R66	DS (Ministry of Railways) *(bmmasiur@gmail.com)*	5 years	Diesel (1499 cc)	31,999	26,000	57,999	80,000
R67	DS (Ministry of Public Administration)	5 years	Hybrid (1500 cc)	30,332	25,000	55,333	70,000
R68	DS (Ministery of Public Administration) *(mamun5th@gmail.com)*	5	Octane/Petrol (1495 cc)	66,166	30,500	96,666	60,000
R69	DS (BCS Admin Academy)	9 years	Octane/Petrol (1500 cc)	28,016	26,000	54,016	60,000
R70	Addl. Secy (Ministry of Power, Energy and Mineral Resources) *(mullickdc@gmail.com)*	15 years	Octane/Petrol (1500 cc)	2,916	21,000	23,916	70,000
R71	DS (Road Transport and Highways Division)	8 years	Octane/Petrol (1500 cc)	26,915	28,500	55,416	65,000
R72	DS (LGD)	5	Diesel (1500 cc)	32,499	28,000	60,500	70,000
R73	DS (Ministry of Commerce) *(sharminelish@gmail.com)*	5 years	Hybrid (1800 cc)	33,915	19,000	52,916	55,000
R74	DS (Ministry of Commerce)	8.5 years as DS	Octane/Petrol (1500 cc)	23,000	55,500	78,500	75,000
R75	DS (Ministry of Land)	8 years	Octane/Petrol (1500 cc)	27,500	22,000	49,500	60,000

Financial Implications of Vehicle Benefits for Entitled Government Officials: A Cost-Benefit Analysis of the Interest-Free Vehicle Loan and Government-Owned Vehicle Models

ID	Designation, Workplace (Email)	Service Length	Vehicle Type & CC	Fixed Costs (BDT/mo)	Variable Costs (BDT/mo)	Total Monthly Cost (BDT)	Suggested Revised Allowance (BDT)
R76	DS (MoDMR)	5 years	Hybrid (1800 cc)	29,583	24,500	54,083	65,000
R77	DS (Ministry of Agriculture) *(rahanakoly@gmail.com)*	17 years	Octane/Petrol (1500 cc)	28,249	26,000	54,250	80,000
R78	JS (DC Shariatpur)	6	Octane/Petrol (1500 cc)	33,833	23,000	56,833	70,000
R79	DS (Ministry of Commerce) *(tanvirazim@gail.com)*	5.5 yrs	Octane/Petrol (1497 cc)	42,666	35,000	77,666	80,000
R80	DS (BSCIC, Ministry of Industries)	5	Hybrid (2000 cc)	30,165	23,000	53,166	20,000
R81	DS (HSD, MOHFW) *(dr.moyenulhkhan@gmail.com)*	3 years	Octane/Petrol (1500 cc)	41,749	29,000	70,750	60,000
R82	DS (RDA, Jamalpur, Ministry of Local Government, Rural Development and Cooperative) *(shahen16077@gmal.com)*	5 years	Octane/Petrol (1500 cc)	36,332	98,000	134,333	30,000
R83	DS (Jatiya Muktijiddha Council)	20 years	Octane/Petrol (1500 cc)	33,166	30,000	63,166	75,000
Average	—	—	—	**27,686**	**39,659**	**67,345**	**67,500**

Appendix D: CBA Detailed Calculations - Model 2 (Driver Sub-Model) and Extended 15-Year Horizon

D.1 Driver-Provision Sub-Model — Annual Cash Flows (per official, Tk)

Item	2	Annual cost — Cash allowance
Salary, overtime & allowances (62,982 × 12)	754,944	—
Pension & gratuity accrual (19,228 × 12)	230,736	—
Consolidated driver allowance (29,167 × 12)	—	350,004
Total annual cost	986,520	350,004

Table D1: Driver-Provision Sub-Model Annual Cost (Assumed Allowance Basis)

1. Present Value of an Ordinary Annuity: PV = PMT * [1 - (1 + r)^-n] / r
   - PMT = Annual operational cost (constant stream over Years 1 to 8)
     - Department Driver PMT = Tk 986,520 (**Table 5A**)
     - Cash Driver Allowance PMT = Tk 350,004 (**Table 5A**)
   - r = Discount rate (8%, 10%, or 12% per annum)
   - n = 8 years (Year 1 to Year 8)
   - Annuity Factor = [1 - (1 + r)^-8] / r

Annuity Factor (10%)= [1 - $(1.10)^{-8}$] ÷ 0.10 = [1 - 0.466507] ÷ 0.10 = 0.533493 ÷ 0.10 = 5.334926

2. BCR = PV (Dept. Driver) ÷ PV (Cash Allowance) = 2.80
3. Departmental Driver NPV (10%): PV = Tk 986,520 * 5.334926 = Tk 52,63,011

   Cash Driver Allowance NPV (10%): PV = Tk 350,004 * 5.334926 = Tk 18,67,245
4. NPV of Switching (Driver Sub-Model): PV(Dept. Driver) – PV(Cash Allowance)

A. BCR and NPV of Switching (10%):
   - BCR: Tk 52,63,011 ÷ Tk 18,67,245 = 2.81
   - NPV of Switching: Tk 52,63,011 - Tk 18,67,245 = Tk 33,95,766

B. Sensitivity Band @ 8% & @ 12% Annuity Factor:
   - At 8%: Annuity Factor = [1 - $(1.08)^{-8}$] ÷ 0.08 = 5.746639
     - Dept NPV = 986,520 * 5.746639 = Tk 56,69,174
     - Cash NPV = 350,004 * 5.746639 = Tk 20,11,346

- NPV of Switching = 5,669,174 - 2,011,346 = Tk 36,57,827

• At 12%: Annuity Factor = $[1 - (1.12)^{-8}] \div 0.12 = 4.967640$

- Dept NPV = 986,520 * 4.967640 = Tk 49,00,676
- Cash NPV = 350,004 * 4.967640 = Tk 17,38,693
- NPV of Switching = 4,900,676 - 1,738,693 = Tk 31,61,982

D.2 Extended 15-Year Career-Tenure Horizon

Because entitled officials typically serve 12-15 years from first eligibility (Deputy Secretary and above), the Department-Ownership Model requires two full vehicle purchase-and-retire cycles over a comparable horizon, while the Loan Model requires only one loan disbursement. Table B2 reports the extended-horizon comparison.

Discount rate	NPC — Department (15 yr, 2 vehicles) (Tk)	NPC — Loan model (15 yr) (Tk)	BCR	NPV of switching (Tk)	National NPV of switching, 2,315 officials (Tk crore)
8%	1,64,85,461	56,61,494	2.91	1,08,23,968	2,505.5
10%	1,49,02,090	51,27,240	2.91	97,74,851	2,262.9
12%	1,35,86,397	46,90,864	2.90	88,95,533	2,059.1

Table D2: Extended 15-Year Horizon — Department Model (Two Vehicle Cycles) vs Loan Model

Appendix E: Government Order for Drivers' Overtime Allowance

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গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
মন্ত্রিপরিষদ বিভাগ
সংস্থাপন বিভাগ
পরিবহন শাখা

নং ইডি/টিআর/১এম-০/৭৫(অংশ)-১৫৭, তারিখ ঢাকা, এপ্রিল ২৯, ১৯৮০

প্রেরকঃ আবদুল হক,
উপ-সচিব।

প্রাপকঃ মহা-হিসাব রক্ষক,
বাংলাদেশ, ঢাকা।

বিষয়ঃ সরকারী ড্রাইভারদের অধিকাল ভাতা।

নির্দেশ মোতাবেক মন্ত্রিপরিষদ বিভাগের জারীকৃত আদেশ নং সিডি/টিআর/১এম-০/৭৫-৭৬, তারিখ ২২-৪-৭৭ইং এবং অত্র বিভাগের আদেশ নং ইডি/টিআর/১এম-০/৭৫(অংশ)-১৯৫, তারিখ ১২-৭-৭৯ইং এর আংশিক পরিবর্তন করিয়া জানাইতেছি যেঃ—

(ক) সকল সরকারী অফিসের ড্রাইভারদিগকে ঘন্টা প্রতি মূল বেতনের সমান হারে রবিবার ও সরকারী ছুটির দিন সহ মাসিক সর্বোচ্চ ২৫০ ঘন্টা হিসাবে অধিকাল ভাতা প্রদান করা হইবে।

(খ) প্রতি ঘন্টা খাটুনী লগ বইতে লিপিবদ্ধ প্রকৃত সময়ের উপর ভিত্তি করিয়া হিসাব করিতে হইবে।

(গ) নূতন হারে অধিকাল ভাতার জন্য অতিরিক্ত ব্যয় ১৯৭৯-৮০ সালের মঞ্জুরীকৃত বাজেট বরাদ্দ হইতে মিটাইতে হইবে। এই বাবদ কোন অতিরিক্ত অর্থ বরাদ্দ করা হইবে না। প্রয়োজনবোধে অন্য খাত হইতে ব্যয় সংকোচন করিয়া এই অতিরিক্ত ব্যয় মিটাইতে হইবে।

(ঘ) অধিকাল ভাতার এই নূতন হার ১-৩-১৯৮০ইং তারিখ হইতে কার্যকরী হইবে।

(ঙ) এই ব্যাপারে অর্থ মন্ত্রণালয়ের সম্মতি আছে।

আবদুল হক
উপ-সচিব(পরিবহন)।

Appendix F: A Salary Sheet of a Driver

Yearly Salary Statement

CAFO Public Administration

Year : 2025-26

Employee Name: Md. Eman Ali
Designation: Driver
NID: 19768718647182428
Office Name: Government Road Transport

Current Grade/Scale: GRADE-13 : 11000-26590
GPF Account No: 20011/1000/00001043

Code / Month	July 2025	August 2025	September 2025	October 2025	November 2025	December 2025	January 2026	February 2026	March 2026	April 2026	May 2026	June (Pre) 2026	Total
3111201-Basic pay (Employee)	27,950.00	24,110.00	24,110.00	24,110.00	24,110.00	24,110.00	24,110.00	24,110.00	24,110.00	24,110.00	24,110.00	24,110.00	288,170.00
3111302-Conveyance allowance	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	3,600.00
3111311-Medical allowance	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	18,000.00
3111314-Tiffin allowance	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	2,400.00
3111316-Washing allowance	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1,200.00
3111325-Festival allowance								24,110.00			24,110.00		48,220.00
3111336-Bangla new year allowance										4,822.00			4,822.00
3111306-Special benefit	1,148.00	3,616.50	3,616.50	3,616.50	3,616.50	3,616.50	3,616.50	3,616.50	3,616.50	3,616.50	3,616.50	3,616.50	40,929.50
GROSS	28,208.00	29,826.50	29,826.50	29,826.50	29,826.50	29,826.50	29,826.50	53,936.50	29,826.50	34,648.50	53,936.50	29,826.50	407,341.50

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Individual Assignment/Report/Exercise

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DATE: 04.09.2026

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158th Advanced Course on Administration and Development

Individual Assignment/Report/Exercise

NAME OF THE MODULE : Research and Governance **MODULE NO: 5**

DATE: 04 September 2026

Name **Sohel Ahmed**

Roll No. **110**

Unlocking Green Climate Fund (GCF) Resources for the Public Sector in Bangladesh: An Assessment of Opportunities, Institutional Challenges, and Policy Options

Abstract

Bangladesh, one of the world's most climate vulnerable nations, has received only USD 503.16 million from the Green Climate Fund (GCF) since 2014- a fraction of its estimated USD 230 billion adaptation needs. Public sector continues to experience barriers to access to GCF resources, despite the strong policy and institutional structure. This study assesses opportunities, institutional constraints, and policy considerations for improving the access to resources of the public sector in the context of GCF. The study uses qualitative thematic analysis that is based on six key informant interviews with senior officials from the National Designated Authority (ERD), accredited entities (PKSF and IDCOL), a GCF project implementing agency (MoEFCC), an international accredited entity (UNDP), and the GCF Liaison Office. The study highlights opportunities as the vulnerability narrative of Bangladesh, NDA in place, existing DAEs, and support from GCF Readiness Programme. The identified issues include the lack of direct access facilities for the public sector, lengthy accreditation processes (24 months for DAEs compared to 11 months for IAEs), procedural delays (389 days for approval compared to 180 days for IAEs), the dominance of IAEs (which account for 77% of projects), and unfavourable financing terms (56.2% loans and 19.5% grants). It outlines evidence-based policy suggestions in the areas of institutional strengthening, accreditation reform, coordination and advocacy. The findings have significant implications for Bangladesh's climate finance governance as the country approaches LDC graduation in 2029.

Keywords: *Green Climate Fund, climate finance, public sector, institutional challenges, direct access, Bangladesh, governance, policy options*

1. Background

The 21st century's dominant global problem is climate change. Recent assessments indicate with strong confidence that most of the observed global warming is caused by human activities' emissions of greenhouse gas (IPCC, 2023). This problem was noticed by the international community that the 1992 adoption of UNFCCC to address the problems connected to climate change, which was later developed through the Kyoto Protocol (1997) and the Paris Agreement (2015) (UNFCCC, 2015). The Paris Agreement's Article 9 emphasizes the mobilization of financial resources from developed to developing countries to support mitigation and adaptation efforts, making climate finance one of the core pillars of international climate governance (UNFCCC, 2015).

To operationalize these commitments, several multilateral climate funds have been established such as Green Climate Fund (GCF), Global Environment Facility (GEF) and Adaptation Fund (AF). Of these, the GCF was created in 2010 under the UNFCCC to accelerate a paradigm shift towards low-emission and climate-resilient development pathways, and has since grown into the world's largest dedicated multilateral climate finance institution (GCF, 2024a). The Fund provides grants, concessional loans, equity investments, guarantees and readiness support through accredited entities.

Bangladesh is known to be one of the most climate-vulnerable countries in the world owing to its geographical location, high population density, long coastline and dependence on climate-sensitive sectors (IPCC, 2023). The IPCC projects a sea level rise of 0.5–1.0 meters by 2100, which could inundate 17% of Bangladesh's landmass and displace 20 million coastal inhabitants (IPCC, 2023). The number and intensity floods, cyclones, salinity intrusion, river erosion, droughts and heatwaves continue to rise in the country resulting in huge pressure on productivity of agriculture, food security and livelihood (World Bank, 2022).

Despite these vulnerabilities, Bangladesh has shown excellent leadership in climate policy by adopting the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009, Bangladesh Delta Plan 2100, National Adaptation Plan (NAP) 2023–2050, and the updated Nationally Determined Contribution (NDC 3.0) (Government of Bangladesh, 2009; 2018; 2023; 2025). The NAP estimates that from 2023 to 2050, USD 230 billion will be required, approximately USD 8.5 billion annually, including USD 6 billion from external sources (Government of Bangladesh, 2023; Global Center on Adaptation, 2024). Similarly, the NDC 3.0 also shows the requirement of US$ 116.18 billion as financing from 2026 to 2035 (Government of Bangladesh, 2025). Given the constraints of domestic resources, accessing international climate finance through the GCF has become a strategic national goal.

2. Problem Statement

Bangladesh is very vulnerable to climate change and has robust policy frameworks but has yet to fully leverage its ability to access and use the resources of the GCF. Since 2014, Bangladesh has received $503.16 million from GCF but the sum is far below the expected finance needs, particularly with the increasing costs of adaptation and mitigation (ICFC, 2026).

Several institutional and operational challenges hinder Bangladesh's capacity to maximize access to the GCF. National Direct Access Entities (DAEs) take some 24 months for accreditation, while International Accredited Entities (IAEs) 11 months (TIB, 2024). The GCF has a mandated timeline for approval of funding proposals of 180 days, but the average currently stands at 389 days (TIB, 2024). Similarly, the GCF has set a target of 180 days for the disbursement of the first instalment, but the average time taken is 562 days and 92.2% of project funds have not been disbursed within the stipulated time frame (TIB, 2024).

To a large extent, the implementation of GCF projects is dominated by IAEs over the national DAEs. 77% of GCF projects are implemented by IAEs, with only 13% being implemented by national entities (TIB, 2024). Furthermore, GCF funding is predominantly loan-based: 56.2% loans and only 19.5% grants (TIB, 2024) and the remaining 24.3% comprises other instruments such as equity, guarantees, and performance-based payments, which is contrary to the polluter-pays principle. Transparency International Bangladesh (TIB) expose that 'good-governance' norms has hardly been implemented by GCF due to bureaucracy and discrimination in which the developing countries like Bangladesh have been deprived (TIB, 2024). All these challenges together constrain the ability of the public sector of Bangladesh to effectively access GCF resources.

3. Rationale

The study is justified by the urgent need to increase Bangladesh's institutional capacity for attracting international climate finance, the strategic importance of the GCF in the global climate finance architecture and the central role of public institutions in climate governance. The public sector, i.e. the Economic Relations Division (ERD) as the National Designated Authority (NDA), line ministries, implementing agencies and accredited entities, is the primary actor responsible for climate policy formulation, project identification, resource mobilization, inter-agency coordination and implementation oversight (ERD, 2016).

TIB's research has shown that GCF's recognition process is complex and time-consuming, preventing vulnerable countries from directly accessing funds (TIB, 2024). Institutional barriers including lack of technical expertise in climate finance, lack of resources for project preparation, fragmented inter-ministerial coordination, fiduciary compliance challenges and environmental and social safeguard requirements (Independent Evaluation Unit, 2023; OECD, 2023). Because of these difficulties, funding proposals are less competitive, and project preparation and approval processes are longer.

Bangladesh has taken several institutional reforms like establishment of the International Climate Finance Cell (ICFC) in ERD, implementation of GCF Readiness Programs, development of Bangladesh GCF Country Program and accreditation of national entities like IDCOL and PKSF (UNDP, 2023; Global Center on Adaptation, 2024). However, there is limited empirical evidence of their effectiveness in improving the public sector's access to GCF resources. The study is also timely in view of Bangladesh's graduation from LDC status, which will alter access to concessional development finance, and the shift in international climate finance from project-based to transformational programming.

4. Research Objectives

4.1 General Objective

This study aims to assess opportunities, institutional challenges and policy options to improve the access of Bangladesh to GCF resources by the public sector to improve the country's climate finance governance and support the implementation of national climate and sustainable development priorities.

4.2 Particular Objectives

I. To identify and analyze the opportunities for Bangladesh's public sector to access resources of the GCF.
II. To examine the institutional, policy, technical, financial and governance barriers that restrict public sector institutions from accessing GCF-fund.
III. To develop evidence-based policy options and institutional reforms for strengthening the capacity of Bangladesh's public sector to access GCF resources.

5. Research Questions

5.1 Key Research Question

How can Bangladesh's public sector access GCF resources better by making use of existing opportunities, addressing institutional challenges and implementing appropriate policy and institutional reforms?

5.2 Specific Research Questions

I. What opportunities are available for Bangladesh's public sector to mobilize additional GCF resources?

II. What are the institutional, policy, technical, financial, fiduciary and governance challenges that affect public sector access to GCF resources?

III. What are the policy options required to enhance public sector access to GCF resources in Bangladesh?

6. Review of Literature

6.1 Theoretical Framework

Climate finance refers to financial flows targeted at addressing and mitigating climate change (UNFCCC, 2018). GCF fund uses a country-driven strategy in which each recipient country establishes a National Designated Authority (NDA) to coordinate national priorities, endorse financing requests, and ensure alignment with national development strategies (GCF, 2024b).The GCF has two modalities of access: direct access via national or regional accredited entities and international access via multilateral development banks, UN agencies and international financial institutions (Schalatek, 2012; GCF, 2024b). The direct access is designed to enhance country ownership and institutional capacity, whereas the international access provides immediate implementation capacity, but it might reduce national ownership (Bird et al., 2011).

Climate finance governance is defined as the institutions, policies and processes that mobilize, allocate and manage climate finance (Schalatek, 2012). Transparency, accountability, participation and coherence between and across sectors and levels of government is essential to good climate finance governance (Kalinowski, 2020). Institutional readiness also covers the ability of public institutions to successfully access, manage and mobilize climate finance resources, including the technical capacity, the fiduciary requirements, environmental and social safeguards, and gender responsiveness, etc. (Independent Evaluation Unit, 2023).

6.2 Comparative Literature and World Literature

Studies on the efficiency of GCF have found numerous problems faced by developing nations in getting climate assistance (Fonta et al., 2018; Schalatek, 2012; Ricci and Mangenot, 2023; Timilsina, 2021; Chaudhury, 2020). A 2018 study by Fonta et al. revealed that many African countries are facing challenges to access funding from the Green Climate Fund due to the lack of required systems, a complicated process to get approved and need for more planning support for projects (Fonta et al., 2018). Schalatek (2012) has investigated the governance of climate finance and believes it is very significant that the process of decision making is made more democratic to allow for the participation of all. More recently, Kalinowski (2020, 2024) did

research on GCF and identified some issues with its design, especially related to the interests of different countries, civil society and businesses.

In 2023, the Independent Evaluation Unit conducted a second performance study of the GCF that revealed that significant gaps remain in the performance of the fund for helping countries adapt to climate change and provide immediate access to the resources they need. This represents a significant challenge, as underperformance by the GCF undermines progress on climate change.. Ricci and Mangenot (2023) found positive (though not significant) effects on mainstreaming adaptation in the study they conducted on the effects of the GCF Readiness Grants on mainstreaming adaptation and institutional adaptive capacity. Research on adaptation and mitigation financing has pointed to the global imbalance between the two, with mitigation receiving the lion's share of climate finance, even when developing country priorities are in favor of adaptation (Timilsina, 2021; Chaudhury, 2020).

6.3 Literature Specific to Bangladesh

The NDA of Bangladesh to the GCF is the Economic Relations Division (ERD), which was officially endorsed on 24 November 2014 (ERD, 2016; FAO, 2020). Country ownership is the responsibility of the NDA Secretariat, which also coordinates stakeholders, endorses funding proposals, facilitates accreditation and oversees GCF-supported activities (ERD, 2016). Bangladesh has nominated a number of national entities for GCF accreditation such as IDCOL (mitigation) and PKSF (adaptation) (Huq, 2018; TIB, 2024). PKSF was awarded the DAE accreditation in October, 2017 (PKSF, 2021). IDCOL has wide experience on Clean Development Mechanism projects and handling multilateral funds.

In Bangladesh, the National Adaptation Plan (2023-2050) includes 113 interventions across eight thematic areas with an estimated budget of USD 230 billion (Government of Bangladesh, 2023). Bangladesh's NDC 3.0 has ambitious targets for climate action such as an unconditional reduction of 6.39%, and conditional reduction of 13.92% in greenhouse gas emissions by 2035 (Government of Bangladesh, 2025). TIB undertook a detailed assessment of the GCF access and identified the following key governance challenges: lengthy accreditation procedures, delays in project approval, bottlenecks in fund disbursement, preponderance of IAEs, and preponderance of loans in financing. The study found that Bangladesh has received so far only about 3.7% of the climate finance it needs from the GCF (TIB, 2024).

The Government has also worked to mobilize climate finance through the Climate Fiscal Framework (2014, updated 2020) which seeks to mainstream climate change in the fiscal and budgetary processes (Finance Division, 2020). The UNDP (2023) has extended its assistance in building the capacity required to benefit from this fund, while the training courses are offered by the Global Centre for Adaptation (2024) to strengthen national capacity to enhance access to the fund. But there are still institutional coordination problems in place as responsibilities are scattered between different ministries and agencies.

6.4 Synthesis of Research Gap

Despite the increasing literature on climate finance and access to GCF, there are several critical research gaps. Most of the existing studies have been limited to climate vulnerability or

adaptation planning and the broader institutional structure of international climate finance, but have paid less attention to the institutional capability of Bangladesh's public sector, especially in the area of GCF mobilization. While governance challenges have been identified, there has been little systematic empirical research on the institutional, policy and procedural barriers that influence the ability of public agencies to prepare, submit and implement GCF-funded projects. There are no comprehensive studies that integrate opportunities, institutional challenges and policy options in a single analytical framework appropriate to the Bangladesh public sector context. The effects of recent institutional reforms have not been systematically evaluated. This study aims to address the gaps through integrated assessment of opportunities, institutional challenges and policy options for unlocking GCF resources for the public sector of Bangladesh.

7. Research Methodology

7.1 Research Design

This study employs a qualitative research design with descriptive, analytical, and exploratory elements. The design is descriptive in understanding the present scenario of Bangladesh's engagement with the GCF, analytical in examining institutional and policy impediments to GCF access, and exploratory given the paucity of empirical studies on public sector readiness for GCF access.

7.2 Data Collection

Primary Data: Primary data were collected through Key Informant Interviews (KIIs) with six senior policymakers and practitioners directly involved in GCF finance. Table 1 presents the profile of key informants.

Table 1. Profile of Key Informants

KII No.	Organization	Role in Climate Finance
KII 1	ERD	National Designated Authority (NDA)
KII 2	UNDP	International Accredited Entity (IAE) & Capacity Building Partner
KII 3	GCF Liaison Office	Works with International Climate Finance Cell (ICFC) and Liaison with GCF
KII 4	MoEFCC	Manages active GCF-funded project
KII 5	PKSF	Direct Access Entity (DAE)
KII 6	IDCOL	Direct Access Entity (DAE)

Source: Author's compilation from KII data.

Semi-structured interview guides were employed, addressing background context, opportunity for access to GCF, institutional challenges, technical barriers, financial and fiduciary barriers, governance challenges, procedural delays, equity and balance issues, and policy recommendations. Interviews were held between July and August 2026, with a duration of about 60 – 90 minutes per interview. All respondents gave informed consent and anonymity was ensured.

Secondary Data: Secondary data was gathered from GCF publications (Strategic Plans, Investment Framework, Programming Manual, Country Programme, project documents); UNFCCC and IPCC reports; Bangladesh government documents (NAP, NDC 3.0, BCCSAP, BDP 2100, Climate Fiscal Framework); ERD and MoEFCC publications; peer-reviewed journal articles; research reports; development partner reports; and Independent Evaluation Unit evaluations.

7.3 Data Analysis

Thematic analysis and content analysis were used for qualitative data analysis from the interviews and document reviews. Interview responses were categorized into thematic content and categorized to the research objectives. Thematic analysis was carried out using the six-stage process proposed by Braun and Clarke (2006) which included familiarization with data, initial coding, search for themes, review of themes, defining and naming themes, and report preparation.

7.4 Validity, Reliability, and Ethical Considerations

Multiple data sources, pre-testing of interview guides, priorising of official documents, cross checking of findings with the existing literature, and respondent validation (as appropriate) were used to ensure the validity and reliability of the findings. Ethical procedures followed were informed consent, voluntary participation, confidentiality and anonymity, protection of personal data, impartial interpretation of data and giving due credit to all sources to prevent plagiarism.

8. Findings

The results are organised into the eight themes identified from the thematic analysis of the interviews with the key informants from the NDA/ERD (KII 1), UNDP (KII 2), GCF Liaison Office (KII 3), MoEFCC (KII 4), PKSF (KII 5), and IDCOL (KII 6).

8.1 Opportunities for GCF Mobilisation

8.1.1 Country-Level Opportunities

Vulnerability Narrative: Extreme climate vulnerability was identified as a strong opportunity by all the respondents KII 2 (UNDP) remarked that the vulnerability of Bangladesh has been well documented, which is compelling empirical evidence that is clearly in line with GCF's mandate.

Established NDA: The NDA's location within ERD was identified as a structural advantage. KII 2 (UNDP) elaborated that ERD sits within the Ministry of Finance, negotiates with all development partners, and holds standing convening authority over line ministries. KII 1 (ERD) confirmed that ERD's endorsement on 24 November 2014 established one of the earliest NDAs globally, providing a decade of relationship-building.

Direct Access Entities: Bangladesh's two accredited DAEs- IDCOL and PKSF were identified as genuine assets. KII 1 (ERD) stated that PKSF (accredited October 2017 for adaptation) and

IDCOL (with extensive CDM experience) provide credible national implementation mechanisms embodying country ownership. KII 3 (GCF Liaison Office) noted these are genuine assets few LDCs have.

GCF Readiness Programme: Readiness support of USD 6.1 million has strengthened NDA functions, developed the Country Programme, enhanced project preparation, and supported accreditation efforts, as noted by KII 2 (UNDP).

8.1.2 Policy and Strategic Opportunities

NAP and NDC Frameworks: KII 2 (UNDP) observed that the NAP and NDC 3.0 have done the hard analytical work of identifying and costing interventions. KII 1 (ERD) confirmed these documents demonstrate Bangladesh has done its homework- knowing what is needed, prioritised, and costed.

GCF Country Programme: Developed through multi-stakeholder consultations, the Country Programme identifies priority sectors. However, KII 3 noted it could function as a missing translation layer between policy and pipeline if properly resourced.

Climate Fiscal Framework: KII 2 (UNDP) noted that the Climate Fiscal Framework and climate budget tagging add traceability between national plans, budget lines, and expenditure- something GCF assessors look for. KII 3 suggested it could anchor co-financing planning ahead of submissions.

8.1.3 Sectoral Opportunities

Respondents identified promising sectors- climate-induced health risk management; low-carbon transport; coastal protection; climate-smart agriculture; urban resilience; industrial energy efficiency; and Sundarbans ecosystem protection. KII 2 (UNDP) noted scope for South-South exchange, with Bangladesh's Trust Fund model studied elsewhere. KII 6 (IDCOL) emphasised there is no cap for GCF funds if projects demonstrate paradigm shift, replicability, scalability, and sustainability.

8.2 Institutional Barriers

8.2.1 Accreditation Challenges

Lengthy Timelines: The 24-month DAE accreditation versus 11-month IAE timeline was a major barrier. KII 2 (UNDP) framed the issue: national entities must demonstrate policies they had no prior reason to develop, before having any GCF project. KII 5 (PKSF) confirmed DAEs face multi-year backlogs spanning 2–4 years from submission to approval.

Fiduciary and Safeguard Requirements: KII 5 (PKSF) identified stringent fiduciary standards for project management and independent audit; translating national compliance into GCF-compliant ESS frameworks requiring rigorous impact assessments; and institutionalising mandatory gender assessments. KII 6 (IDCOL) added that government entities cannot be AEs because the government does not audit its own accounts by third-party firms.

8.2.2 Human Resource Capacity

Concentrated Expertise: KII 3 noted technical climate finance expertise is concentrated in a handful of individuals across NDA/ERD, IDCOL, PKSF, and some ministries- when they move, institutional memory goes. KII 2 (UNDP) pointed on the fact that climate finance is not a career path in public administration – officers are trained and the process of the transfer cycle brings them.

Understaffing: Climate finance cells are generally under-resourced. KII 5 (PKSF) said officials are handling the portfolio of GCF, Adaptation Fund, or GEF as add-on to the main mandates. KII 1 (ERD) admitted the ICFC acting as a unit for NDA functions is under-resourced in relation to its responsibilities.

Brain Drain: KII 5 (PKSF) pointed out that regular transfers of trained personnel from the government to climate desks wipe out institutional memory and public sector remuneration is not competitive with the International Organisations and Private Consultancies.

8.2.3 Inter-Ministerial Coordination

Fragmented Synergies: KII 3 noted coordination between ERD and MoEFCC for formal sign-offs is not very strong and MoEFCC has its own donor relationship, thereby creating a fragmented approach to pipelines in terms of roles and quality of proposals. While macro-economic approach by KII 5 (PKSF) may cause procedural friction with the environmental diplomacy approach by MoEFCC, the two do not always align, KII 5 (PKSF) added.

Four Centres of Gravity: KII 2 (UNDP) identified four centres: ERD has NDA, environment ministry has policy, line ministries have delivery, and Planning Commission has approval – each has their own authority and a requirement for a project to satisfy each. KII 4 (MoEFCC) noted this fragmentation causes sector-level approach rather than a holistic multi-sectoral approach to resilience.

8.3 Technical Barriers

Climate Rationale Deficits: KII 2 (UNDP) clarified the most difficult component- GCF must be based on a climate change-induced need, not a development deficit. In Bangladesh, there is near total overlap, and separating them is challenging as downscaled projections and sub-district hazard baselines are not always available at the necessary resolution.

Theory of Change: KII 3 pointed out that the most significant gap is to make climate rationale the language of theory-of-change and paradigm-shift of GCF – most of the line-ministry drafts read as project rationale, not GCF grade concept notes.

Financial Modelling: KII 3 found that financial modelling skills (cash flow, co-financing structuring, blended instruments) were lacking in IDCOL and PKSF. The proposals frequently get bogged down in data gaps, as KII 3 reported baseline emissions and project-scale vulnerability data regularly. There is no repository for climate data in the public sector even though there are proposals that are evidence-based, KII 6 (IDCOL) confirmed.

Consultant Dependency: KII 5 (PKSF) pointed out that public institutions depend on external short-term consultants to fill in the technical gap, which in turn slows down the process of transfering institutional knowledge.

8.4 Financial and Fiduciary Barriers

Sequencing Problem: KII 2 (UNDP) said that demonstrated track record is required by GCF, but to build up this track record GCF requires national entities to start at basic level and widen slowly, with limits on project size, and choice of instruments, for years.

Co-Financing Challenges: KII 3 said co-financing is possible for mitigation, but is difficult for public infrastructure projects with limited fiscal space, where they have not yet seen the payoff from their investment. An example cited was a Forest Department project with IDCOL which took over 1.5 years from MoEFCC to get co-financing from the Government.

Fiscal Constraints: KII 2 (UNDP) found the implementation of ADP in FY2025-26 at 67.5% as the lowest on record. The easiest way to go through this is for co-financing to be more difficult, and loan-grant imbalance is directly created.

Financial Reporting and Audit Capacity: KII 3 noted financial reporting and audit capacity in GCF-specific formats as a real gap. KII 6 (IDCOL) verified that a lot of AEs are unable to adequately meet the reporting and compliance timelines of GCFs.

8.5 Procedural Delays

Approval Delays: The 389 day average approval time (compared to a 180 day target) is due to the two systems operating in series, not parallel. KII 2 (UNDP) outlined both sides (due diligence, iTAP review, Board consideration and implementing agency appraisal, ministry scrutiny, Planning Commission, SPEC, ECNEC approval, then ADP inclusion). Representatives from KII 4 (MoEFCC) expressed their experience of keeping a project on hold for more than a year, while going through this process.

Disbursement Delays: The average disbursement delay of 562 days (against the 180-day goal) was even worse. The first disbursement of KII 4 (MoEFCC) took almost 500 days, thus delaying the implementation by almost 2 years. The KII3 witnessed a lot of time-wasting in the form of resubmission of proposals following comments on proposals; it is not only a sign of processing bottlenecks, but also under-resourced proposal development upstream.

Consequences: KII 2 (UNDP) summarised the cumulative impact: costs escalate; baselines drift; communities lose confidence; and each delayed project reduces appetite for the next-turning procedural problems into pipeline problems.

GCF Staff Turnover: GCF Staff Turnover: KII 6 (IDCOL) experienced frequent changes of GCF focal points (five changes in three years) which caused difficulties because of the time needed for new GCF staff to catch up on matters and because of different approaches to the work.

8.6 Governance Challenges

Predominance of IAEs: IAEs account for 77% and impact on national ownership. KII 4 (MoEFCC) expanded on this and said that when IAEs are implemented, then the focus of decision making shifts toward international partners; national priorities may be pushed aside; and local knowledge may be lost. KII 3 noted that national actors are mostly implementers and not principals, leading to a lack of ownership of design decisions and long-term stewardship of assets.

Transparency and Accountability: KII 2 (UNDP) reported that the discussion on transparency of climate finance has come under consistent pressure, and TIB's 2024 study has helped influence the public debate surrounding it.

Structural Conflicts of Interest: KII 3 identified that entities recommending/endorsing concepts sometimes have institutional or consulting relationships with the IAEs that deliver the concepts, which is often not consistently disclosed.

Lack of Board Representation: KII 6 (IDCOL) mentioned that there is currently no representation of the Board in Bangladesh although the Board members somehow participate in approving projects of their country.

8.7 Equity and Balance Issues

Loan vs. Grant Imbalance: A significant constraint is the Loans vs Grants imbalance of 56.2% loans and 19.5% grants. KII 3 described adaptation investments (embankments, drainage, salinity resistant agriculture) don't bring in incomes to pay off loans. KII 2 (UNDP) commented that adaptation does not create cash flows, but it does create avoided losses; and in a country that is facing increasing debt and fiscal space constraints, it is the responsibilities of others that are being shifted from future budgets to current budgets because of adaptation loans. KII 5 (PKSF) noted public entities hesitate to take sovereign debt for protective, humanitarian projects.

8.8 Policy Options and Recommendations

8.8.1 Strengthening Institutional Capacity

Permanent Climate Finance Unit: KII 2 (UNDP) emphasised the most consistent recommendation- a permanent climate finance unit within ERD on sanctioned revenue-budget posts- nothing else durable is possible without dedicated, protected staffing to hold institutional memory and coordinate actively. KII 3 concurred, adding that NDA needs officers not rotating on secondment.

Designated Focal Points: KII 2 (UNDP) recommended designated climate finance focal points in major line ministries with actual terms of reference, giving the NDA consistent counterparts.

Knowledge Management: KII 2 (UNDP) identified deliberate knowledge management- documented decision criteria, handover protocols, and maintained records- as essential, since much history exists only in individuals' memory.

8.8.2 Policy Reforms

National Climate Finance Strategy: KII 2 (UNDP) highlighted Bangladesh's first National Climate Finance Strategy as a potential vehicle for most reforms.

Climate Fiscal Framework Reform: KII 3 recommended the Framework move from budget-tagging to a planning tool that Finance Division and Planning Commission use to sequence co-financing commitments ahead of submissions.

Climate Budget Tagging: KII 2 (UNDP) identified moving budget tagging from reporting into the budget preparation cycle- informing ceilings and appraisal rather than describing outcomes afterwards- as the single most valuable reform.

Project Appraisal Reform: KII 2 (UNDP) recommended that if the DPP format required climate rationale, resilience screening, and theory of change at appraisal stage, every domestic project would be substantially closer to international fundability.

8.8.3 Strengthening Project Preparation and Accreditation

National Project Preparation Facility: KII 2 (UNDP) recommended establishing a national PPF, noting GCF's PPF offers up to USD 1.5 million per application designed specifically for direct access entities.

Expanding DAE Roster: KII 3 indicated that Bangladesh should actively increase the number of DAE members beyond IDCOL and PKSF- more candidate groups are available in agriculture, water and finance but require some structure to provide accreditation support.

Project-Specific Assessment: KII 2 (UNDP) highlighted GCF's 2023 pilot for project-specific assessment (single project rather than full institutional accreditation) as underutilised.

Enhanced Direct Access: KII 2 (UNDP) noted the Enhanced Direct Access modality, piloted with USD 200 million allocation, pushes decisions to country level and is underutilised.

8.8.4 Addressing Procedural Delays

Parallel Processing: KII 2 (UNDP) identified the highest-value change requiring no external negotiation: running national approval in parallel with GCF processes rather than sequentially- accepting some work may be wasted is preferable to guaranteed delays.

Standing Pipeline: KII 2 (UNDP) recommended maintaining a standing pipeline of concepts developed to a common standard from NAP and NDC priorities, so the country is never starting from zero.

Update Country Programme: KII 2 (UNDP) noted the 2018 Country Programme predates NAP, NDC 3.0, and the current fiscal situation- updating it would signal to every accredited entity what the country actually wants.

8.8.5 Improving Direct Access and National Ownership

Climate Change Trust as DAE: KII 2 (UNDP) suggested Bangladesh's national climate fund has over fifteen years of operating experience and hundreds of projects but is not accredited- it is the obvious candidate for the role FONERWA plays in Rwanda or PROFONANPE in Peru.

Twinning Partnerships: KII 3 recommended IDCOL and PKSF be resourced to mentor emerging DAE candidates directly- peer-to-peer capacity transfer is faster and more credible than another round of IAE-led technical assistance.

Capability Transfer with Exit: KII 2 (UNDP) recommended explicit capability transfer with a stated exit timeline- a national institution moving from executing entity to accredited entity across successive projects.

8.9 Summary of Key Findings

Table 2. Summary of Key Findings

Theme	Key Findings	Stakeholder Consensus
Opportunities for GCF Mobilisation	Bangladesh has ample opportunities to tap into the GCF because its climate vulnerability is widely recognized, with IPCC projections providing compelling empirical evidence. Additionally, its NDA is well posited with necessary authority within ERD, and its two DAEs- IDCOL and PKSF possess huge capacity, supported by the Readiness Programme and robust NAP/NDC frameworks that provide clear, costed sectoral priorities.	High
Institutional Barriers	There is a critical lack of direct access facility in public sector – no line ministry or department is accredited, only IDCOL and PKSF have DAE status, and therefore public entities are completely reliant on intermediaries. Moreover, public agencies have a tough clock of 24 months to get accredited (compared to the 11-month window of IAEs) and are bound by strict fiduciary and safeguard norms, and by a sharp focus of expertise in a small number of hands, resulting in frequent transfers of personnel, understaffing, and disjointed coordination across four separate centres of gravity (ERD, MoEFCC, line ministries, and Planning Commission).	High
Technical Barriers	There are significant technical weaknesses in public institutions, including their ability to communicate a climate argument beyond the need for development, and their capacity to develop a sound theory of change in language that resonates with the GCF paradigm shift. Further, there are important weaknesses in financial modelling, lack of a project-scale climate data repository and an dependence on short term external consultants that reduces the quality of proposals and inhibits organic institutional learning.	High
Financial and Fiduciary Barriers	One of the most significant limitations on public entities is the sequencing issue; they cannot apply for accreditation and gain experience without first having a track record to demonstrate they meet the GCF standards, and they cannot have the track record without first gaining accreditation and experience. Furthermore, adaptation projects are still very challenging to co-finance, with only 67.5% of projects being implemented and the absence of any reporting or audit capacity for GCF projects leading to a vicious cycle of low levels of financing and reliance on loan structures.	High
Procedural Delays	Problems of procedural delays are severe and the approval process takes 389 days to 180 days, while disbursement takes 562 days to 180 days, with one MoEFCC respondent having to wait nearly 500 days for first funds. Such delays are exacerbated by sequential national and GCF approval processes, under-resourced	High

Theme	Key Findings	Stakeholder Consensus
	proposals that need a number of repeats, and the often rapid change of GCF focal points, which can break the chain of relationships and continuity.	
Governance Challenges	The dominance of IAEs with implementation of 77% of projects and the absence of the national actors as principals, and instead of them being implementing partners, weakens country ownership and excludes local knowledge from the governance process. This is compounded by lack of transparency, inconsistent disclosure of structural conflicts of interest, and Bangladesh's representation in the GCF Board being completely absent which hinders its strategic role in project approvals.	High
Equity and Balance Issues	Financing terms are fundamentally misaligned with the priorities of adaptation in the NAP, with 56.2% of financing provided as loans and 19.5% in the form of grants. This debt-laden setup shifts debt onto the next generation's budget for adaptation investments, which result in no cash flow (adaptation is about avoided losses, not cash flow), leaving debt sustainability as a high priority concern and effectively flouting the polluter pays principle.	High
Policy Options and Recommendations	Respondents have continuously called for the creation of a permanent climate finance unit within ERD on sanctioned posts on revenue budget, and an Inter-Ministerial Task Force and a National Project Preparation Facility to directly assist public entities to retain institutional memory. They also call for running national and GCF approvals concurrently; updating the Country Programme to reflect NAP/NDC 3.0; building up the roster of DAE to include public organisations such as the Climate Change Trust, and making use of twinning partnerships for direct transfer of capacity with a clear exit plan.	High

Source: Author's compilation from KII findings and secondary data analysis

9. Discussion

9.1 The Paradox of Advanced Infrastructure, Limited Access

The findings bring to light a paradox in climate finance governance in Bangladesh; although the country has relatively advanced institutional infrastructure from an early NDA establishment (2014), two accredited DAEs (IDCOL and PKSF, both 2017), a comprehensive NAP and an updated NDC, climate finance access is limited in terms of scale, speed and strategic alignment. The results of these are analysed from three perspectives: institutional fragmentation, structural inequalities in the design of the GCF, and the political economy of climate finance.

9.2 Institutional Fragmentation

The separation of the climate finance mandates between ERD (as NDA, with emphasis on aid mobilisation) and MoEFCC (as climate policy lead, with emphasis on NAP/NDC implementation) causes coordination gaps, which extend no-objection procedures and reduce pipeline development. There are four centres of gravity- ERD, MoEFCC, line ministries and the Planning Commission, none of them is able to hold complete control over the entire chain, and proposals must meet all of them.

There is no Inter-Ministerial Task Force on Climate Finance, so project ideas are not generated on a regular basis, but rather on an ad hoc basis. The fragmentation has actual impact on the

quality of the proposal. As mentioned by the PKSF respondent, proposals are sectoral and not a holistic, multi-sectoral approach towards resilience. The iterative nature of the process is often prolonged as elements of localised stakeholder consultation, baseline data and common M&E frameworks are not sufficiently developed, leading to numerous requests from the GCF Secretariat for major changes to proposals at short notice, in order to meet international deadlines.

9.3 Structural Asymmetries

The Bangladesh portfolio reflects a worldwide trend of an IAE dominance – but with a unique feature IDCOL (USD 256.5 million) shows that national DAEs can handle large scale, complex projects successfully when they have already built-up financial intermediation capacity. This success has not been duplicated, though. Although PKSF is accredited at the basic level and has a small-scale size limit (USD 1–10M), it can only be used for community-based adaptation projects which, although socially valuable, do not take care of the structural adaptation deficits identified in the NAP.

The GCF's 2025 accreditation reform, with the transition of specialised standards to the programming phase, provides an opportunity for PKSF to enhance their accreditation, in turn, to allow them to project larger-scale. This will require targeted readiness support which has not yet been fully mobilised in Bangladesh. The UNDP respondent said that the more institutions are accredited before the two already accredited institutions are running at their full capacity, the more capacity will be spread thin.

9.4 Political Economy of Climate Finance

The concentration of GCF funding in the RMG energy efficiency sector (FP150; 55.3% of total portfolio) reflects the political and economic weight of the textile industry in Bangladesh's export economy, rather than a climate-vulnerability-based prioritisation. While RMG decarbonisation is important, the skew raises equity concerns: communities in climate-vulnerable coastal, drought-prone, and flood-prone regions receive disproportionately less GCF resources per capita than industrial zones.

This is a recurring theme in global criticism of climate finance "capture" by economically powerful sectors/regions (Buchner et al., 2023). This is the political economy dynamic highlighted by the GCF Liaison Office- the pipeline appears to be as much driven by what is bankable as opposed to what is needed in Bangladesh the most, given the current instrument mix under the auspices of the GCF.

9.5 The Reform Agenda Context

The GCF's 2024–2027 Strategic Plan and 2025 accreditation reform create a favourable policy window for Bangladesh. The programming goal of 15 DAE projects (USD 390–550M) for 2025, if achieved, would nearly double the current DAE portfolio share. However, realising this potential requires concurrent national reforms: (i) establishing a GCF Accreditation Support Facility to prepare Bangladesh Bank, LGED, or BCCT for accreditation; (ii) activating an Inter-Ministerial Task Force to streamline no-objection and pipeline coordination; and (iii)

creating a national Project Preparation Facility to reduce reliance on expensive international consultants.

9.6 LDC Graduation Implications

The impending graduation of Bangladesh from LDC status in 2029 has further accelerated the reform process. Graduation will not be based on the criterion of being a GCF Party, as all developing country Parties to the Convention are eligible, but will impact access to the Least Developed Countries Fund and participation in the LDC negotiating group under the Convention. The UNDP respondent mentioned the impactful question, which is the floor of vulnerability for the GCF, which includes half of the adaptation allocation for particularly vulnerable countries "including" LDCs, SIDS, and African States. On all interpretations of the evidence, the case for Bangladesh's continued treatment as a particularly vulnerable upon graduation is robust, yet it is an argument that needs to be argued, and done so in advance.

9.7 The Sustainability Challenge

The sustainability challenge is a key finding, arising from the thematic analysis. The unspectacular, the unsung, is what matters most- the knowledge must be in place in institutions, and not in projects; almost every climate finance capacity we have built in the past decade is attached to a grant with an expiration date; when the grant is over the trained officers go elsewhere and the documentation is put in a drawer; established posts, written procedures, and a maintained institutional record of what was submitted, and why it worked, or why it didn't- these are what carry the knowledge across a transfer cycle or a change of government. A key addition: "A lot of what looks like an institutional capacity gap is an incentive gap. Staff that are developing expertise in the GCF system, for example, are not being rewarded with career paths that hold them within the system.

10. Conclusion

Bangladesh is in a critical moment throughout its climate finance journey. As the LDC graduation nears in 2029 the country should urgently accelerate institutional changes to guarantee availability and future access to GCF resources and to make itself a leader in climate-resilient development. The components are already in place: existing NDA, two validated DAEs, policy framework and implementation capacity. All that is required is a political will and institutional commitment to link these blocks into a coherent and effective system. This study has identified opportunities, challenges and policy options to make that vision a reality. In a nutshell, there is a clear pathway forward – one that will take institutional and policy change, sustained commitment, and strategic advocacy.

11. Recommendations

Table 3. Challenges and Policy Options

Challenge Identified	Recommended Action(s)	Lead Agency	Timeline	Priority
Critical Gap: Public sector/ line ministries do not have direct access to GCF; only IDCOL/PKSF are DAEs.	Lead advocacy efforts with other LDCs and SIDS in the GCF Board urging for dedicated direct access modality for public entities and reporting that 68.8% of GCF eligible countries still do not have DAEs as there is a lack of readiness support. Establish an Accreditation Support Facility within ERD to expedite the fiduciary, ESS and documentation processes for public entities (e.g., LGED, DAE, DLS).	ERD (NDA) with MoEFCC	Medium-term (6–18 months)	Critical
Procedural Bottlenecks: Sequential national (DPP/ECNEC) and GCF approvals cause 389-day delays.	Run national (DPP) and GCF approval processes in parallel. Simplify Funded Activity Agreement (FAA) templates for DAEs.	ERD & Planning Commission	Medium-term (6–18 months)	Critical
Accreditation Delay: Long accreditation time for new DAEs (18–24 months)	Lobby the GCF Secretariat on issues that blocked Bangladeshi entities to gain accreditation by almost a year and a half, and seek a streamlined accreditation process for direct access. Enhance the capacity of ICFC by technical staff for hands-on support in GCF accreditation, documentation, fiduciary gap analysis, ESS system development, etc.	ERD (NDA)	Short-term (0–12 months)	High
Foundational Gap: No permanent institutional memory for climate finance.	Strengthen ICFC as a permanent climate finance unit in ERD on sanctioned revenue-budget posts to retain expertise across government transfers.	ERD (NDA)	Medium-term (6–18 months)	High
Coordination Gap: Fragmented responsibilities across ERD, MoEFCC, line ministries, and Planning Commission.	Activate a Standing Inter-Ministerial Task Force on Climate Finance (IMT CF) with fixed term membership without loss of institutional memory by key ministries. Quarterly meetings to review pipeline and resolve no-objections.	ERD (NDA)	Short-term (0–6 months)	High
Weak Proposal Quality: Limited capacity to develop GCF-grade concept notes and full proposals.	Develop a National Project Preparation Facility (PPF) co-funded by GCF Readiness to provide TA for feasibility, engineering, ESIA, and financial modelling. Capacity building on proposal preparation for all stakeholders (e.g., NDA, DAEs, line ministries and departments)	ERD with IDCOL/PKSF	Medium-term (6–18 months)	High
Policy Drift: GCF projects not strategically aligned with NAP and NDC 3.0 priorities.	Mandate NAP/NDC alignment screening using a standardized MoEFCC checklist for all GCF funding proposals.	ERD with MoEFCC	Short-term (0–6 months)	High
Loan-Grant Imbalance: 56.2% loans vs. 19.5% grants; adaptation lacks revenue streams.	Prioritize adaptation projects to achieve a 60:40 adaptation-mitigation grant-equivalent split, aligned with NAP's USD 230 billion needs.	ERD (NDA)	Long-term (12–36 months)	High

Source: Author's compilation from KII findings and secondary data analysis

12. Limitations and Future Research Directions

This paper only focuses on analyzing the access of public sector to GCF in Bangladesh. It does not cover private sector interaction with the GCF or GCF use, effectiveness of project implementation, or post-approval monitoring. Considering the limited time and resources, primary data collection was restricted to the use of Key Informant Interviews.

There are some areas in need of further research. First, the proposed institutional changes, especially the creation of a permanent climate finance unit and the National Project Preparation Facility, need to be assessed during their implementation. Second, the LDC graduation effect on access to climate finance needs to be monitored and analysed on an ongoing basis. Third, the possibility of Bangladesh Climate Change Trust as a GCF-accredited entity, as has been the case with the FONERWA in Rwanda, or PROFONANPE in Peru, should be explored in detail. Third, comparative studies with other countries in the climate vulnerable group who have managed to increase DAE access may be beneficial.

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Roll- 111

Assessing the Effectiveness of the Kabi Nazrul Institute in Achieving Its Mandates: Challenges and Policy Options

Abstract

Bangladesh's National Poet Kazi Nazrul Islam (1899-1976) left a rich literary, musical and philosophical legacy which is preserved, researched and disseminated through the Kabi Nazrul Institute (KNI), an institution established under the Kabi Nazrul Institute Act, 2018. After more than 40 years of activity, there is very little empirical evidence on the effectiveness of the Institute to accomplish its statutory mandate. This research evaluates the effectiveness of KNI as an institution, pinpoint areas of concern, and offers policy options grounded in evidence to improve the institution. The study used a qualitative case study design, 7 Key Informant Interviews (KIIs) were held with institutional leaders, ministry officials, scholars and 2 Focus Group Discussions (FGDs) along with training participants and stakeholders. To find patterns across four dimensions of analysis: mandate achievement, governance and resources, stakeholder perceptions, and future readiness. Results show how KNI has made significant achievements in music notation authentication (1,450 songs in 58 volumes), in publication output and in cultural programming. But there are still barriers like human resource issues, lack of digitisation, budget constraints, lack of public outreach and constraints in governance. The research uses Public Value Theory and institutional effectiveness frameworks to propose comprehensive short term (6-12 months), medium term (1-3 years) and long term (3-10 years) recommendations. Legislative reform, organisational restructuring, complete digitisation of archives, divisional centres, strategic collaboration with universities and increased international collaboration are key recommendations. The study gives the idea about the effectiveness of the institutions in the process of cultural heritage preservation in the public administration system of Bangladesh.

Keywords: Kabi Nazrul Institute, cultural heritage, institutional effectiveness, public value, cultural governance, Bangladesh, policy reform, Nazrul studies

1. Background

Bangladesh's National Poet Kazi Nazrul Islam (1899-1976) has a unique status in the country's cultural and political discourse. His poetry, songs and prose voiced a radical message of human equality, anti-colonial resistance and spiritual universalism, which remained relevant across generations (Islam, 2012; Huda, 1997). Nazrul is popularly called the Bidrohi Kobi (Rebel Poet) and his work includes over 4,000 songs (Nazrul Geeti), copious literary work, and philosophical writings, which challenged the social hierarchy of caste, class and religion. The inheritance and propagation of such legacy was shifted to the agenda of the cultural policy of the state, as post-independence Bangladesh had come to see cultural heritage as a key factor of identity formation and social cohesion (UNESCO, 2003; Ministry of Cultural Affairs, 2026).

Kazi Nazrul Islam was the National Poet of the country and for maintaining his legacy, the Kazi Nazrul Institute (KNI) was established as a statutory autonomous body under the Ministry of Cultural Affairs through Nazrul Institute Ordinance, 1984 (Ordinance No. XXXIX of 1984) which has been re-enacted as Kabi Nazrul Institute Act, 2018 (GoB, 2018). Its main objectives are to carry out research on Nazrul's works, to collect, preserve, edit and publish his literary works and music, to hold seminars, conferences and festivals, to establish libraries, archives and museums, to provide training in Nazrul song and recitation, to award prizes and to promote national and international cooperation (Banglapedia, 2021). In the span of 40 years, the Institute has published a number of volumes of musical notations, research collections and translations, preserved around 1500 authentic Nazrul Geitis and held annual commemorative programs and also awarded the Nazrul Award to eminent artists and scholars.

In spite of these activities, a systematic empirical evaluation of the effectiveness of KNI in fulfilling its mandate is limited. For a number of reasons, an evaluation of KNI's institutional effectiveness is thus important. First, it fills a gap in the cultural administration studies in Bangladesh. Second, it offers suggestions for policy adjustment in the Ministry of Cultural Affairs. Third, it is a reflection of the wider debate in which statutory cultural organizations must find ways to provide 'public value', while retaining their original mandate. Fourth, it is in line with SDG Target 11.4: strengthen efforts to protect and safeguard the world's cultural and natural heritage (United Nations, 2015). This study aims to bridge the gap identified above by producing robust, mixed methods evidence regarding KNI's performance, challenges and policy options.

2. Problem Statement

Despite the Kabi Nazrul Institute being in existence for over 40 years, there is little empirical evidence available on how far the Institute has been able to accomplish its statutory mandates. Most of the research so far focuses on literary criticism, biographical studies and musicological analysis (Huda 1997, Islam 2012). Institutional analysis on KNI itself is limited and mostly descriptive that lacks systematic performance evaluation and is mostly devoted to the listing of the program or commemorative narrative (Daily Star, 2016; Banglapedia, 2021). This means that topics relating to organizational effectiveness, achieving outcomes and using resources and cultural impact are still not answered. There has been limited systematic attention to governance issues like board composition, leadership continuity, inter-agency coordination and autonomy and accountability. From a methodological perspective, there were no detailed studies conducted earlier on KNI.

There have been no systematic surveys of stakeholder perceptions of program quality, accessibility and relevance. However, archival and digitization capacity, as well as the effectiveness of training and the scope of public awareness campaigns, are also poorly documented. Overall, these knowledge, practice, policy, and methodological gaps remain uncertain and compromise institutional effectiveness. Opportunities to learn, optimize resources and create more public value can be lost if there is no assessment. This is all the more significant as the Institute is a statutory body and plays a key role in protecting a major part of

the cultural heritage of Bangladesh. The research is therefore needed to provide evidence that can support policy options to improve the performance and accountability of KNI.

3. Rationale of the Study

Policy-wise, findings will help the Ministry of Cultural Affairs to improve their regulation mechanisms, resource allocation and direction for KNI and like institutions. The research results contribute to the practice of the relevant stakeholders in the field with the practical model for evaluating institutional effectiveness, which could be adapted to other public institutions. From the cultural point of view, the study helps to preserve and propagate the heritage of Nazrul and enhance the national identity and cultural continuity. KNI will also have a diagnosis of its strengths, weaknesses and pathway for improvement, which will benefit it institutionally. Socially, the betterment of the institutional performance can bring the Nazrul's body of works nearer to the masses, much closer to the young and rural people. The study offers a baseline of information and a methodological model for future studies.

4. Research Objectives

Overall Objective: To evaluate the effectiveness of Kabi Nazrul Institute as per its statutory functions and pinpoint the major issues of the institution and suggest feasible policy measures with valid evidence and data to be effective.

Specific Objectives:

1. To analyze how much KNI is doing in its basic statutory functions of research, preservation, publication, documentation, training and dissemination of Nazrul's literary and musical legacy.
2. To review and pinpoint institutional, operational, governance and resource constraints hindering the Institute to realize its mandates.

5. Research Questions

Key Question: To what extent has the Kabi Nazrul Institute effectively achieved its mandates, and what policy options can strengthen its institutional performance and public value contribution?

Sub-questions:

1. How effective it has been in meeting the mandate of Kabi Nazrul Institute and what are the policy options to make it more effective in terms of its institutional performance and public value?

2. What are the current institutional/operational, governance and resource constraints that hinder mandate achievement?

3. What are the most viable policy and management solutions for increasing the Institute's performance?

6. Literature Review

6.1 Cultural Institutions and Cultural Governance

Cultural institutions are unique place in the public sector. Different from traditional service delivery agencies they are tasked with preserving symbolic capital, communicating collective memory and promoting creative expression (Throsby, 2010; UNESCO, 2015). Cultural governance is the mechanisms of governance, accountability and participation in the management of cultural policies and institutions (UNESCO, 2015). There is a need for a professional management, fair decision-making, resourcing and engaging stakeholders in effective cultural governance.

6.2 Public Value Theory and Institutional Effectiveness

The second strand of thought is that of Mark Moore's Public Value Theory (1995), which argues that public management must be devoted to producing public values that are seen as valuable by citizens and their representatives. Public value, operational capacity, and legitimacy/support are three elements of the strategic triangle that are useful as a diagnostic tool for cultural institutions (Benington and Moore, 2011). An institutional effectiveness is generally defined as the ability of an institution to fulfil its mission and to adjust to the external circumstances and remain coherent internally (Scott, 2014; OECD, 2019). The cultural domain, however, requires a measure of effectiveness in addition to outputs (publications, events); these must include increased public engagement, scholarly advancement, and intergenerational transmission of the heritage.

6.3 Heritage Preservation and UNESCO Frameworks

Documentation, research, transmission and participation of communities are highlighted in the UNESCO 2003 Convention for the Safeguarding of the Intangible Cultural Heritage and in related instruments. The need for institutional capacity to manage the archives, to digitize, and to educate the public is consistently cited as an important success factor. ICOM standards for museum and archive practice also support the professional standards for the care and presentation of collections (UNESCO, 2003).

6.4 Bangladesh's Cultural Institutions and Policy Context

Bangladesh has several statutory cultural institutions such as Bangla Academy, Bangladesh Shilpakala Academy and the Kabi Nazrul Institute. Although Bangla Academy has been the subject of occasional scholarly studies on its contributions in the promotion of language and literature, there are relatively few studies that systematically evaluate these institutions. There are repeated references to the importance of cultural development in national policy documents, such as the successive Five-Year Plans and the Perspective Plan 2021-2041, but not much operational guidance on how the institutions perform is provided (Planning Commission, 2020). Whenever it has been formulated, the National Cultural Policy focuses on the principles

of preserving, promoting and democratizing culture, but does not provide specific evaluation procedures.

6.5 The Kabi Nazrul Institute in Existing Literature

Studies which focus specifically on KNI are mainly descriptive or commemorative. Officials provide mandates and provide a list of activities, while the media coverage emphasizes annual programs and awards (Daily Star, 2016). There is a vast amount of literature about Nazrul himself, but few studies on the institution tasked with his legacy. This is a clear research gap which is filled by the present study in which international theories and empirical approach has been taken to study a significant cultural institution in Bangladesh. To conclude, whilst there are different rich theoretical and comparative bodies of literature on cultural governance, public value, and the effectiveness of institutions, their systematic application to the Kabi Nazrul Institute, and most statutory cultural bodies in Bangladesh is yet underdeveloped. It is the aim of this research to fill this gap by providing original empirical evidence and information relevant to the policy.

7.0 Research Methodology

7.1 Research Design

A qualitative case study design was employed, with KNI as the case. This enabled contextual understanding, triangulation across multiple sources, rich description, and theoretical application. Document analysis and observation supplemented the case study.

7.2 Study Area and Population

The primary study was conducted at KNI's headquarters in Dhaka, supplemented with data from the Ministry of Cultural Affairs and stakeholders across Bangladesh. The population included KNI staff/board members, ministry officials, Nazrul scholars, artists, training participants, and cultural stakeholders.

Purposive sampling was used to select 7 Key Informant Interviews (KIIs) with ministry officials, institutional leaders, scholars, and artistic stakeholders. Two Focus Group Discussions (FGDs) were conducted with 15 participants including training participants and cultural stakeholders.

7.3 Data Sources and Collection Methods

Primary data were collected through semi-structured KIIs exploring mandate understanding, achievements, constraints and policy recommendations; FGDs examining programme experiences, service quality and improvement suggestions; and observation of programmes and facilities. Secondary data included legislation, annual reports, policy documents, UNESCO reports, and academic literature.

7.4 Data Analysis

Thematic analysis (Braun and Clarke, 2006) was applied through familiarisation, coding, theme generation, review, definition and reporting. Manual coding with an Excel-based framework was used. Multiple methods and sources were used to triangulate for validity.

7.5 Validity and Ethical Considerations

Triangulation, member checking, thick description and reflexivity and audit trails were used to assure trustworthiness. Ethical procedures adopted were: informed consent, voluntary participation, confidentiality, anonymity and secure data storage. Include only one institution and time limits, and potential response bias.

8.0 Analysis and Findings

8.1 Overview

This section discusses the findings of qualitative data obtained from Key Informant Interviews (KIIs), Focus Group Discussions (FGDs) and secondary document analysis. The findings are presented thematically in accordance to the research objectives and questions. Analysis combines triangulated evidence from several sources, and illustrative quotes from participants. Participants have codes to ensure anonymity and to identify participants' categories.

Key informants were well-versed about the statutory functions of KNI. A KNI official said that the primary purpose of KNI is to publish, preserve, research and propagate Nazrul's writings (KII-1) based on the Kabi Nazrul Institute Act 2018. The Executive Director confirmed that research and publication, promotion and training programmes are being carried out, with more emphasis on research and publications (KII-6).

Achievements: Several respondents reported on multiple achievements spanning a number of mandates. 1,450 songs have been authenticated in music notation authentication, and 58 volumes of publication (KII-2, KII-6) have been achieved. Digital projects include a publicly available YouTube channel (KII-5) with 1,500 original gramophone recordings. 11 topics have been studied on Nazrul's literature and music related manuscript, which has been published in book form (KII-5). The activities in culture have grown to be larger, with Nazrul festivals being held in 12 districts for 180 days in 2026 (KII-6). The first English translation was done by the international translation efforts and it was named 'Quintessence of Nazrul' (KII-6). The Nazrul Award selection process is transparent and there are clear policies (KII-2). The library has about 20,000 books (KII-2). The training programmes are undertaken by excellent quality trainers, but the number of trainees is low (KII-6). Youth engagement initiatives include rock music arrangements, open-air concerts, school and college programmes, and literary recitation competitions (KII-7).

Areas of Limitations: Despite achievements, respondents consistently identified significant gaps. Digitisation was described as unsatisfactory, with no online access and inadequate skilled

personnel (KII-6). The institutional portal remains static and non-user-friendly, with very limited archive content (KII-5). Research quality, quantity and support require enhancement, with researchers receiving no effective support (KII-1, KII-2). Public outreach suffers from inadequate promotion and limited grassroots recruitment (KII-1, FGD-2). Governance challenges include backdated law and organogram, and shortages of skilled personnel (KII-2, KII-3). Original collections face preservation issues, with many first editions not yet collected and some infested with insects (KII-5).

Consistency with Mandates: Most respondents affirmed that KNI's activities are broadly consistent with its legal mandates, with no activities conducted outside the law (KII-2, KII-3, KII-5). Some, however, said there was some activity that was done occasionally with the wider Bengali literary personalities and with national day activities, as suitable extensions (KII-1).

Key Finding: KNI has been successful in the areas of music notation authentication, library development, publications and cultural programming. But there is a big lack of digitisation, promotion of research, outreach to the public, governance, and adequate resources.

Table 1: Summary of KNI Mandate Achievement

Mandate Area	Achievements	Gaps/Challenges
Music Notation Authentication	1,450 songs authenticated; 58 volumes published	Need to complete remaining authentication
Digitisation	YouTube channel with 1,500 original records	Inadequate digitisation; static website; limited online access
Research and Publication	11 research topics published; library with 20,000 books	Limited research support; quality concerns; insufficient publications
Training Programmes	Quality trainers; regular courses	Low trainee numbers; limited accessibility; infrastructure constraints
Cultural Events	District-level festivals; international conferences	Limited youth engagement; low attendance; insufficient outreach
Translation	First English translation published	Only one-third translated into English; 2-5% in other languages
Awards	Transparent Nazrul Award process	Limited award categories; promotion gaps
Public Engagement	School/college programmes; rock music adaptations	Limited youth outreach; inadequate promotion; restricted accessibility

8.3 Governance and Resource Constraints

Human Resource Constraints: 100% of the respondents pointed out the human resource constraints as a major challenge. The respondents on the informants always mentioned the lack of adequate personnel, lack of skilled personnel and the need for an effective and time appropriate organogram (KII-2, KII-3, KII-4). The identified skill gaps are digital archiving and technology specialists, research professionals, Nazrul subject experts, translation specialists and marketing professionals.

Financial Constraints: Budget capacity was referred to as insufficient, inadequate funds for promotion, publication and digitisation (KII-1, KII-2, KII-5, KII-6). Limited financial resources poses a problem when it comes to programme implementation and even the desired results.

Infrastructural Constraints: Lack of space for training (KII-5). FGD participants identified the needs for soundproof classrooms, quality musical instruments, digital screens, and improved furniture (FGD-1, FGD-2).

Governance and Legal Constraints: The legal framework needs to be reformed and backdated law and organogram are major challenges (KII-3, KII-1). Copyright issues are not cleared, causing obstacles (KII-4). There is a need for strengthening of accountability mechanisms whilst the Trustee Board's decisions are being implemented (KII-1, KII-7).

Key Finding: KNI has significant human resource, financial, infrastructural, legal and governance constraints that need to be comprehensively reformed.

8.4 Stakeholder Perceptions of Services and Impact

Overall Satisfaction: FGD participants generally expressed positive views, with ratings ranging from 6 to 10 (out of 10). Different experiences and expectations led institutional stakeholders to rate higher than external users.

Training Programmes: Strengths are the quality training, correct lyrics and tunes provided by expert teachers who are highly caring and experienced (FGD-1, FGD-2). But drawbacks are the small number of students, suboptimal timetables and fee sensitivity for higher diploma courses (FGD-1, KII-3).

Library and Archive Services: Strengths are the access to around 20,000 books, old records and handwritten items, and access for trainees (FGD-1, FGD-2). Weaknesses are the absence of digitised cataloguing and the inability to access original records that are preserved (KII-1, FGD-2).

Music Notation Authentication: This was always reported as a great achievement and notation books were sent all over the world, and trusted sources (FGD-2, KII-6).

Cultural Events: Good response is received to the district level programmes and conferences are important for the promotion of Nazrul's works internationally (FGD-1, KII-5). But attendance is low and there is need for more inclusive and bigger events (KII-1, FGD-2).

Digital Services: There are some mobile applications but digital and website accessibility is not good and needs a lot of improvements (FGD-1, FGD-2).

Youth Engagement: Achievements include rock music adaptations that engage young people and school level programmes (KII-6, KII-7). But, involvement of youths is not enough and promotion of Nazrul's works among the young generation is very little (FGD-1, FGD-2).

Translation and International Promotion: Translation work has begun, 'Quintessence of Nazrul' (KII-6) has been published. But only a third of works are translated in English and 2-5% in other languages which needs to be expanded in Urdu, Hindi, Chinese, Russian, and Arabic (KII-5, FGD-2).

Key Finding: Stakeholders have generally positive perceptions of core services, especially music authentication and quality of training. However, significant challenges persist in the domains of public participation, youth work, digital engagement, and translation services.

8.5 Digitisation and Archival Capabilities

Current Status: Satisfactory progress is being made on comprehensive archives (KII-3) and no online access exists: Digitisation unsatisfactory (KII-6). While archival work in hard copy has developed, digitisation has faced limitations on manpower and funding (KII-5). There is a movement around music, with 1,500 original records uploaded on the website of YouTube; however, there is no movement for literature and poetry (FGD-2).

Barriers to Digitisation: Lack of adequate technical infrastructure (KII-1) (international standards – budget increase and training of skilled staff needed). Not developing skilled personnel and shortage of skilled staff limiting progress (KII-6 KII-4). Limited content on the institutional portal and static, less user friendly with limited content on archive (KII-5).

Need for Improvement: To have a complete digital archive, similar to the Tagore archive, to enable online access and reach out to readers across the globe (KII-5, KII-6). Digitisation work should be accompanied by translation and promotion arrangements on international level.

Key Finding: Digitisation is still underdeveloped and the reasons are not just a lack of funding, but also lack of technical infrastructure, skilled personnel and an outdated website.

8.6 Key Challenges and Policy Constraints

Several inter-related issues were highlighted by the respondents. Most consistently cited constraints are human resource constraints (100%), financial constraints (86%) and promotion constraints (86%). 71% identified legal/regulatory and technological constraints, and 57% infrastructural constraints. The challenges faced are: Skilled manpower shortage, inadequacy of organogram, inadequate budget, inadequate digitisation, backdated law, inadequate facilities, and weak youth engagement.

Patterns and Priorities: The key difficulties mentioned repeatedly are: Human resources shortage (KII-2, KII-3, KII-7), limited use of digital technology (KII-6, FGD-1), lack of modernised law (FGD-1), and inadequate promotion (FGD-1).

Key Finding: KNI faces a number of challenges, which are interdependent. The human resource shortage is the most critical followed by financial constraints compounded by legal, technological and infrastructural constraints.

Table 2: Key Challenges Affecting KNI Effectiveness

Challenge Category	Specific Challenges	Frequency of Citation
Human Resources	Skilled personnel shortage; inadequate organogram; lack of specialists	100%
Financial	Insufficient budget; limited resources for promotion and digitisation	86%
Promotional	Limited outreach; weak youth engagement; restricted international presence	86%
Legal/Regulatory	Backdated law; copyright issues; governance constraints	71%
Technological	Limited digitisation; outdated website; inadequate infrastructure	71%
Infrastructural	Inadequate facilities; limited space; insufficient equipment	57%

8.7 Policy Options and Recommendations

Short-Term Recommendations: Respondents recommended appointing skilled personnel and increasing manpower (FGD-2). Infrastructure improvements include better sound systems, soundproof classrooms, and quality musical instruments (FGD-1, FGD-2). Programme enhancements include need-based training courses, monthly music soirees, school and college competitions (FGD-1), and nationwide programmes to create public interest, especially among youth (KII-7). Promotion should be strengthened at grassroots levels and through social media (KII-1, FGD-1).

Medium-Term Recommendations: Legislative reform is essential, including reformulating the Act and organogram and modernising the law (KII-3, KII-2). Organisational strengthening requires creating specific departments for specific tasks, increasing manpower, and improving staffing structure (KII-4, KII-1). Digitisation efforts should create a comprehensive digital archive and make all works available online (KII-5, KII-3). Divisional expansion should establish KNI centres in all 8 divisions (FGD-1, KII-6). Partnerships should be developed through MoUs with universities and similar institutions at home and abroad (KII-3).

Long-Term Recommendations: Institutional recognition includes nationalising the institute (KII-6). International expansion should establish centres on several continents and market Nazrul literature through international publishing houses (KII-6). Academic programmes should arrange for PhD, MPhil, Diploma and other professional degrees (KII-3, KII-6). Translation should cover all works into English and major world languages including Urdu, Hindi, Chinese, Russian, Arabic and Spanish (KII-5, FGD-2). University Chairs should be created to practice, promote, and disseminate Nazrul's works (KII-5). Youth engagement should involve all educational institutions and students (KII-3, FGD-1).

Key Finding: Recommendations range from short-term operational improvements to long-term structural reforms across legal, organisational, technological, and programmatic dimensions.

9.0 Concluding Remarks

9.1 Summary of Key Findings

This chapter gives a summary of the key findings from the credibility check. The research evaluated the effectiveness of Kabi Nazrul Institute to meet its statutory duties, identified major challenges and made evidence based policy suggestions. Qualitative case study was used with 7 KIIs and 2 FGDs, and analysed thematically, using an integrated framework of Public Value Theory, Institutional Theory, and Stakeholder Theory, along with Results Based Management (RBM) principles.

Institutional Effectiveness: KNI has accomplished significant success, most notably in music notation authentication, library development, publications and cultural programming. The authentication of 1,450 songs contained in 58 volumes is a huge effort towards the preservation of Nazrul's musical legacy. Continuity, for decades, has been ensured through publications, training programmes and cultural events.

Challenges and Constraints: While this is an achievement, KNI still encounters a number of challenges that are connected. Human resource constraints are most consistently reported – such as the lack of skilled staff, and insufficient organisational structure. Other factors contributing to ineffectiveness are financial limitations, limited digitisation, governance and infrastructural limitations. The institution is governed by legislation which may be inappropriate to the needs of the present day and is hampered by copyright restrictions in certain of its functions.

Stakeholder Perceptions: Core services are generally perceived positively by stakeholders, especially training quality and music authentication. But there are substantial issues with public engagement, youth services, digital services and translation. There are varying degrees of satisfaction with the institutions, with the satisfaction levels of the institutional stakeholders being higher than that of external users.

Public Value Creation : Preservation, research, and cultural dissemination are the ways of public value creation of KNI. But there is potential for increased public value that is not realised by limited outreach, gaps in digitisation and limited stakeholder engagement. The institution needs to be strengthened in terms of intergenerational transmission of skills and youth involvement.

Digital Readiness: There is a significant delay in digitisation, limited access online and static institutional portal. Progress is coming in the realm of music, with some success in digitisation through YouTube uploads and so forth, but extensive archives are not digitised overall. This restricts access, conservation and international outreach.

9.2 Policy Implications

The results have important policy implication for the government and the Ministry of Cultural Affairs of Bangladesh:

1. Legal Reform: The KNI Act 2018 must be reviewed and reformed so as to respond to current day needs such as a modern organogram, expanded mandates and autonomy.
2. Resource Allocation: More allocations of money and human resources are needed for strengthening institutions.
3. Digitisation: It is required to have a thorough digitisation plan that will guarantee the preservation and accessibility of the collection.
4. Expansion: Open more divisional centres that would improve accessibility and engagement in the area.
5. Partnerships: Strategic partnerships with universities, cultural institutions and international partners can boost capacity and reach.
6. Accountability: Better system for performance monitoring and evaluation needed.

10.0 Recommendations

From the research findings, the following seven recommendations have been derived which are interlinked with each other and will create the Kabi Nazrul Institute (KNI) stronger and more effective. These are grouped thematically, and cover the most urgent priorities regarding legal framework, human resources, funding, digitisation, programming, international outreach and governance.

Legal and Governance Reform

There is a need to comprehensively review and amend the KNI Act 2018 in consultation with a wider range of stakeholders. The new law should include a modern organogram, larger mandates, greater autonomy and better regulations regarding copyright and accountability. At the same time, the Trustee Board needs to be enriched with different skills and transparent decision making processes should be established. This reform will lay the groundwork for a flexible and accountable governance for all other improvements. Human Resource Development.

Human Resource Development

The biggest and ongoing issues are manpower shortage and gap in skills. It is imperative to urgently fill all the vacancies and also update the organogram to incorporate priority roles in digitisation, research, marketing, translation and youth engagement. Specific staff members to be recruited and already existing staff members should be trained specifically for the field of digital archiving and cultural management. Institutional capacity will be further strengthened through partnerships with universities and international exchange programmes in the medium term.

Financial Sustainability

There is a need for more government allocation, and evidence-based budget proposals, which connect resources with outcomes. KNI should seek to diversify income sources by public private partnerships, publications, training fees, grants from international bodies, and a long term endowment fund to aid in reducing dependency on public funds. This combination will not only offer short-term relief but long-term financial stability as well.

Comprehensive Digitisation and Technology Strategy

KNI has a large collection of materials, the majority of which are not digitised, thus threatening their preservation and access. The development of a clear digitisation strategy with priorities and timelines should be established, encompassing literary works, music, manuscripts and visual materials. The need for an online platform that is user friendly and has digital preservation standards. In addition to preservation, digital technology (mobile apps, virtual exhibitions, social media, online courses, e-publishing) should be used to reach younger generations and help KNI increase its presence on the national and international levels.

Programme Enhancement and Youth Engagement

Training, research and cultural promotion are fundamental functions that need to be strengthened. Training curricula should be improved and new courses should be created, online and divisional training delivery should be set up to make it more accessible. Research should be structured with specified priorities, grants and quality assurance, and cooperation with universities could be worked out to increase the scholarly output. There is a need to make youth engagement a strategic priority – through competitions, festivals, school partnerships, and digital outreach – to ensure that Nazrul's legacy is passed on to the next generation.

Translation and International Collaboration

The translation of Nazrul's works is still inadequate to achieve worldwide recognition. English translations of untranslated works should be given priority followed by major world languages (Urdu, Hindi, Chinese, Arabic, Spanish, Russian). Quality of translation needs to be ensured by expert review and international publishers. KNI should form strategic partnership and create "Nazrul Chair" in different universities and cultural institutions in other countries, attend international festivals and organize exchange programme. In the long run, permanent centres/partnerships in strategic areas would consolidate cultural presence of Bangladesh.

Performance Monitoring, Accountability, and Infrastructure

Systematic monitoring and evaluation frameworks should be in place, including clear performance indicators which are aligned with KNI's mandate, regular reporting and feedback mechanisms to lead to ongoing improvement. Findings should feed into strategic planning and resource allocation. At the same time, upgrades are needed to physical facilities including training spaces, studios, library/archives and equipment to bring them up to professional

standards. These will increase accountability, help the user and show effectiveness of the institution.

11. Limitations and Future Research

This research offers valuable insights, but with limitations to consider. Restriction to one institution, time and resource limitation of the study. Future research could:

1. **Comparative Studies:** Compare KNI with other cultural institutions in Bangladesh and internationally.
2. **Quantitative Studies:** Develop and test quantitative measures of institutional effectiveness.
3. **Longitudinal Studies:** Track institutional performance over time.
4. **Impact Assessments:** Assess long-term cultural and social impacts of KNI's programmes.

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Bangladesh Public Administration Training Centre

Savar, Dhaka.

Programme & Studies Division

Evaluation Department

158th Advanced Course on Administration and Development

Seal

Individual Assignment

NAME OF THE MODULE: **Research for Governance**

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Seminar Paper

On

Economic Contribution of Leather Industry in Bangladesh

Submitted by

Zebun Nesa Hyder
Roll No: 112

158th Advanced Course on Administration and Development
Bangladesh Public Administration Training Centre, Savar, Dhaka-1343

Economic Contribution of Leather Industry in Bangladesh

Abstract:

The leather industry is one of Bangladesh's important non-RMG export-oriented sectors, contributing significantly to export earnings, employment generation, industrial value addition, and overall economic development. This study assessed the economic contribution of the leather industry in Bangladesh, focusing on export performance, employment generation, industrial development, and the major challenges affecting sustainable growth and global competitiveness. A mixed-methods research design was adopted, combining both quantitative and qualitative approaches. The study was conducted across Bangladesh, involving relevant government agencies, leather and leather-product industries, TVET and training institutions, industry representatives, workers, and other key stakeholders. Primary data were collected through structured questionnaire surveys and Focus Group Discussions (FGDs). Secondary data were obtained from government agencies, industry associations, international organizations, policy documents, reports, and academic literature. The study included factory owners and managers, exporters, government officials, industry representatives, academics, workers, and SME entrepreneurs. Quantitative data were analyzed using Microsoft Excel and SPSS through frequencies, percentages, averages, tables, and graphs, while qualitative information was analyzed thematically. The findings indicated that Bangladesh's leather and leather products exports had increased to approximately US$1.35–1.50 billion, accompanied by a structural shift from raw and semi-processed leather toward higher value-added footwear and leather goods. China accounted for 45% of reported export destinations, followed by the European Union at 25% and North America at 15%. The sector supported hundreds of thousands of direct and indirect jobs. However, environmental compliance, particularly the ineffectiveness of the Central Effluent Treatment Plant (CETP), remained a major constraint to LWG certification and premium market access. Logistics and infrastructural weaknesses were identified by 47.5% of respondents as a leading cause of declining competitiveness.

Keywords: Leather Industry; Economic Contribution; Export Earnings; Employment Generation; Environmental Compliance

Introduction:

1.1 Background of the Study:

The leather industry is one of the world's oldest and most important manufacturing sectors, contributing significantly to industrialization, export earnings, employment generation, and value addition. Globally, countries such as China, India, Vietnam, and Pakistan have developed competitive leather industries by investing in modern technology, environmental compliance, skilled human resources, and global value chains (UNIDO, 2023; World Bank, 2023). Among Bangladesh's neighbouring countries, India has emerged as one of the world's leading exporters of leather products, while Vietnam has rapidly expanded its footwear exports through strong foreign investment and international compliance standards. These experiences demonstrate that an efficient and environmentally sustainable leather industry can substantially contribute to national economic growth.

Bangladesh possesses a strong comparative advantage in the leather sector due to the availability of locally sourced raw hides and skins, relatively low labour costs, and a long tradition of leather processing (BIDA, 2024). Recognizing its potential, the Government of Bangladesh has identified leather and leather products as one of the country's priority export sectors (MoC, 2021). The industry includes leather processing (tanning), leather footwear, leather goods, and leather accessories, creating strong backward linkages with the livestock sector and forward linkages with domestic and international markets.

Over the past decade, the sector has experienced structural transformation. While exports of raw and finished leather have declined because of environmental compliance challenges and the relocation of tanneries to the Savar Tannery Industrial Estate, exports of leather footwear and leather goods have increased steadily, reflecting a shift toward higher value-added products (EPB, 2024). According to the Export Promotion Bureau (EPB, 2024), Bangladesh exported approximately US$1.35 billion worth of leather and leather products in FY2023–24, making the leather sector the country's second-largest non-RMG export industry. The industry also comprises more than 250 tanneries, around 90 large manufacturers, and nearly 3,500 SMEs, providing direct employment to approximately 0.2–0.6 million workers, while supporting many more indirect jobs across livestock farming, transportation, chemicals, packaging, and retail distribution (BIDA, 2024).

Despite these achievements, Bangladesh has not fully realized the sector's economic potential. Environmental compliance issues, particularly the incomplete operation of the Central Effluent Treatment Plant (CETP) at Savar and the lack of Leather Working Group (LWG) certification, have limited access to premium international markets, reducing the competitiveness of Bangladeshi leather exports (World Bank, 2023). In contrast, neighbouring countries such as India and Vietnam have strengthened their global market positions through compliance, technological upgrading, and product diversification.

Against this backdrop, this research aims to assess the economic contribution of the leather industry in Bangladesh by examining its role in GDP growth, export earnings, employment generation, industrial development, and value addition. The study will also identify the major challenges affecting the sector's performance and explore opportunities for improving competitiveness through policy support, environmental compliance, technological advancement, and workforce development.

Ten-Year Trend of Bangladesh Leather Industry (Indicative): Between FY2014–15 and FY2023–24, Bangladesh's leather and leather products industry demonstrated overall positive growth and structural transformation. Total exports increased from approximately US$1.0 billion to around US$1.35 billion, reflecting the sector's expanding contribution to the national economy. During this period, raw leather exports declined significantly, indicating a gradual shift away from exporting unprocessed materials toward higher value-added products. In contrast, leather footwear and leather goods exports recorded steady growth, highlighting improvements in domestic manufacturing and export diversification. Employment in the sector remained broadly stable while showing an upward trend according to industry estimates, and the number of small and medium-sized enterprises (SMEs) also increased, indicating greater private sector participation and industrial expansion. Overall, these trends suggest that Bangladesh's leather industry is progressively moving toward value addition, enhanced competitiveness, and stronger export performance.

1.2 Problem Statement:

Despite being recognized as one of Bangladesh's priority export-oriented sectors, the leather industry has not fully realized its economic potential. Although the sector makes an important economic contribution through its contribution to GDP, export earnings, and employment generation, its performance remains below expectations. Bangladesh possesses abundant raw materials and a competitive labour force; however, challenges such as inadequate environmental compliance, limited value addition, low technological adoption, insufficient Leather Working Group (LWG) certification, weak infrastructure, and shortages of skilled labour continue to hinder sustainable growth and global competitiveness. These constraints also limit export expansion and access to premium international markets. Moreover, comprehensive and updated evidence on the industry's contribution to GDP, export earnings, and employment generation remains limited. Therefore, this study aims to assess the leather industry's economic contribution by examining its contribution to GDP, export earnings, employment generation, and the major challenges affecting its sustainable growth and international competitiveness.

Research Gap:

Although several studies have examined the leather industry's export performance and production capacity in Bangladesh, limited research has comprehensively assessed its economic contribution, including employment generation, value addition, GDP growth, and foreign exchange earnings. Existing literature also provides insufficient attention to environmental compliance, particularly in relation to sustainable leather processing, waste management, and adherence to international environmental standards. Many studies rely on outdated data and overlook recent developments in technology, global market requirements, and regulatory reforms. Therefore, updated empirical research is needed to evaluate the industry's current economic contribution while addressing environmental compliance challenges to support sustainable growth and global competitiveness.

1.3 Objectives of the study:

Specific Objectives:

i. To investigate the contribution of export earnings from leather industry;
ii. To examine the employment generation of the leather industry; and
iii. To identify the key challenges for sustainable growth of the leather industry.

1.4 Research Question:

i. What is the economic contribution of the leather industry to Bangladesh over the last 10 years?
ii. How does the leather industry contribute to employment and labour development in Bangladesh?
iii. What are the major challenges affecting the sustainable growth of the leather industry in Bangladesh?

1.5 Justification of the Study:

The leather industry is one of Bangladesh's most important manufacturing and export-oriented sectors, making a significant economic contribution through its contribution to GDP, export earnings, and employment generation. The industry supports thousands of workers, creates value addition, and contributes to foreign exchange earnings through leather, footwear, and leather goods exports. However, its full economic potential is constrained by several challenges, including inadequate environmental compliance, limited technological modernization, low value addition, weak infrastructure, and shortages of skilled labour. Despite the sector's importance, recent empirical studies comprehensively examining its economic contribution and associated challenges remain limited. Therefore, this study is justified as it will provide updated evidence on the leather industry's contribution to GDP, export earnings, and employment generation while identifying the major challenges affecting sustainable growth. The findings will support policymakers in developing effective strategies to strengthen the industry's competitiveness and economic contribution.

2.0 Literature Review:

The leather industry is one of the most important export-oriented manufacturing sectors in Bangladesh and has been identified as a priority industry for export diversification. The sector includes tanneries, finished leather, leather footwear, leather goods, and leather accessories. It contributes to export earnings, industrial value addition, employment generation, and rural economic development through its strong linkage with the livestock sector (Bangladesh Economic Review, 2024).

Sharif and Mainuddin (2003) stated that Bangladesh enjoys a comparative advantage in leather production due to the availability of quality raw hides and skins, low labour costs, and abundant human resources. Similarly, Rahman (2009) argued that the leather industry significantly contributes to manufacturing output, employment creation, poverty reduction, and foreign exchange earnings. Ahmed (2010) further observed that despite its considerable potential, the industry has remained underperforming because of inadequate technological modernization, poor environmental compliance, and weak institutional support.

Recent statistics indicate that the leather industry continues to be one of the country's leading non-RMG export sectors. According to the Export Promotion Bureau (EPB), Bangladesh exported approximately US$1.50 billion worth of leather and leather products in 2024, recording around 45% annual export growth. The government has set a target of increasing leather exports to US$5 billion within the next five years through greater value addition, investment, and market diversification.

The structure of leather exports has also changed over the past decade. Earlier, Bangladesh mainly exported raw and semi-processed leather (wet blue), whereas currently leather footwear and leather goods account for the largest share of exports. This transformation has increased domestic value addition and strengthened the country's position in global leather value chains. However, export performance has fluctuated because of compliance-related issues at the Savar Tannery Industrial Estate and limited access to premium international markets. The Export Promotion Bureau's Annual Report (2023–24) shows that leather remains one of Bangladesh's major export industries despite these constraints.

Employment generation is another major contribution of the leather industry. According to the Bangladesh Investment Development Authority (BIDA), the sector consists of approximately 250 tanneries, over 3,600 footwear manufacturing units, and thousands of small and medium

enterprises. The industry provides direct and indirect employment to more than 0.6 million people, including workers engaged in livestock production, raw hide collection, tanning, footwear manufacturing, leather goods production, packaging, transportation, and export marketing. Women also constitute a significant share of the workforce, particularly in footwear and leather goods manufacturing.

Several studies have identified environmental compliance as the most critical challenge affecting the industry's economic contribution. The relocation of tanneries from Hazaribagh to the Savar Tannery Industrial Estate was intended to improve environmental sustainability. However, incomplete operation of the Central Effluent Treatment Plant (CETP), poor solid waste management, and the absence of Leather Working Group (LWG) certification have restricted exports to high-value markets, particularly in Europe and North America. Consequently, Bangladesh has not yet fully utilized its export potential despite having abundant raw materials and competitive production costs (CPD, 2023).

Technology and skilled human resources are also frequently discussed in the literature. Ahmed (2010) emphasized that productivity can be enhanced through automation, cleaner production technologies, and quality assurance systems. Likewise, the Eighth Five-Year Plan (2021–2025) and Bangladesh Economic Review (2024) recommend strengthening technical education, industry–university collaboration, innovation, and investment in modern manufacturing technologies to improve productivity and global competitiveness.

Although numerous studies have examined export performance, environmental issues, and industrial challenges, limited research has comprehensively evaluated the leather industry's overall economic contribution using recent data on exports, value addition, employment, and industrial growth. Therefore, this study aims to fill this research gap by providing an updated assessment of the leather industry's economic contribution to Bangladesh over the last decade, with particular emphasis on labour and employment.

3.0 Methodology:

Research Design:

This study adopted a mixed-methods research design, combining both quantitative and qualitative approaches to examine the economic contribution of the leather industry in Bangladesh. The study was descriptive and analytical in nature, aiming to assess the industry's contribution to

employment, export earnings, GDP, industrial growth, and socio-economic development while identifying existing challenges and future opportunities.

Primary data were collected through Key Informant Interviews (KIIs) with selected stakeholders, including factory owners, senior managers, exporters, government officials, representatives of industry associations, academics, and workers engaged in the leather industry. The purpose of these interviews was to obtain practical and expert insights into the economic contribution and challenges of the sector. The respondents were asked to provide their views, experiences, assessments, and recommendations regarding the leather industry's contribution to Bangladesh's GDP, export earnings, employment generation, and sustainable development.

For systematic data collection, verbal interviews were conducted using a structured checklist developed in accordance with the study objectives. The checklist included both open-ended and closed-ended questions to obtain quantitative information as well as detailed qualitative opinions. The open-ended questions allowed respondents to explain their experiences, observations, and recommendations, while the closed-ended questions helped ensure consistency and comparability across responses.

The interview checklist consisted of simple, relevant, comprehensive, and easily understandable questions. During the interviews, the researcher provided necessary explanations whenever clarification was required. Responses were recorded carefully and subsequently organized according to the four research objectives. The collected primary information was then analyzed alongside relevant secondary data to develop a comprehensive assessment of the economic contribution, export performance, employment generation, and major constraints of Bangladesh's leather industry.

Study Area:

The research was conducted in major leather industry clusters of Bangladesh, particularly Savar Tannery Industrial Estate, Dhaka, and selected leather goods and footwear manufacturing industries located in Dhaka, Gazipur, Narayanganj, and Chattogram.

Data Sources:

The study utilized both primary and secondary sources of data.

- **Primary Data:** Structured questionnaires, and Focus Group Discussions (FGDs) with industry stakeholders.

- **Secondary Data:** Bangladesh Economic Review, Bangladesh Bureau of Statistics (BBS), Export Promotion Bureau (EPB), Bangladesh Tanners Association (BTA), Bangladesh Finished Leather, Leather Goods and Footwear Exporters' Association (BFLLFEA), Ministry of Industries, Bangladesh Bank, World Bank, Asian Development Bank (ADB), journal articles, books, and relevant reports.

Population and Sampling:

The target population included leather factory owners, managers, workers, exporters, government officials, industry association representatives, and academics.

A purposive sampling technique was used to select key informants, while simple random sampling was employed for selecting survey respondents.

Proposed Sample Size

A total of 40 respondents were selected through purposive sampling to ensure representation of key stakeholders in Bangladesh's leather industry. The sample included 10 factory owners/managers, 15 industry workers, 10 exporters, and 5 government officials. Respondents were selected based on their direct involvement in leather production, export activities, policy implementation, and industry operations. Their views provided comprehensive insights into GDP contribution, export earnings, employment generation, sustainable development, and industry competitiveness.

Data Collection Methods:

Data were collected through structured questionnaire surveys, KIIs, FGDs, document and policy reviews, and field observations to obtain both quantitative and qualitative information on the leather industry.

Data Analysis:

Quantitative data were analyzed using Microsoft Excel. Descriptive statistics, including frequencies, percentages, means, charts, and tables, were used to present the findings. Qualitative data collected through KIIs and FGDs were analyzed using thematic content analysis.

Ethical Considerations:

Participation in the study was voluntary. Informed consent was obtained from all respondents before data collection. Confidentiality and anonymity of participants were maintained, and the collected information was used solely for academic research purposes.

4.0 Findings of the study:

The study pursued four specific objectives. The first objective was to assess the contribution of the leather industry to the Gross Domestic Product (GDP) of Bangladesh. The second objective was to examine the contribution of the leather industry to the country's export earnings. The third objective was to review the employment generation capacity of the leather industry, while the fourth objective was to identify the major constraints affecting the sustainable growth and development of the sector. To achieve these objectives, data were collected from both primary and secondary sources, with particular emphasis on information directly relevant to the research objectives.

4.1: Data Analysis:

KII-1: Factory Owners

4.1.1 Primary Sub-sector of the Organization:

The findings indicate that the tannery sub-sector is the dominant area of organizational involvement, accounting for 60% of the respondents. Footwear represents 25%, while leather goods account for 15%. This distribution suggests that the study has a strong representation of organizations directly involved in tanning and leather processing. The higher proportion of tannery-related organizations also provides important insights into raw material processing, environmental compliance, technological adoption, and sustainability challenges within the leather industry.

4.1.2 Use of Modern Automation or Advanced Technology:

A significant finding concerns the adoption of modern technology and automation. 80% of the respondents reported that their organizations currently utilize modern automation or advanced technology, while only 20% reported that they do not use such technologies. This indicates a relatively positive trend toward technological modernization within Bangladesh's leather industry. The widespread adoption of modern technology may contribute to improving production efficiency, product quality, productivity, cost competitiveness, and the ability of Bangladeshi leather firms to meet international market requirements. However, further investment in advanced machinery, automation, digital technologies, and technical skills is necessary to ensure sustained technological development and enhance the sector's global competitiveness.

4.1.3 Biggest Challenge Currently Facing the Organization:

Environmental compliance is identified as the biggest challenge currently facing organizations in Bangladesh's leather industry. Respondents highlighted environmental management and compliance requirements as a major concern, particularly in relation to sustainable production and meeting international standards. The lack of skilled workers was also identified as an important challenge, indicating the need for greater investment in technical and vocational skills development. High production costs emerged as another significant concern, affecting the competitiveness and profitability of leather-producing organizations. Respondents also pointed to the lack of modern technology as a constraint, suggesting the need for technological upgrading and improved production systems. In addition, market and export-related constraints were identified as challenges affecting the sector's ability to expand into international markets. Overall, the findings indicate that environmental compliance, skilled manpower, production costs, technological limitations, and market access require coordinated attention to ensure the sustainable growth and international competitiveness of Bangladesh's leather industry.

4.1.4 Export Destinations of Bangladesh's Leather Products:

Table-1

Sl. No.	Export Destination	Percentage (%)
1	European Union	25%
2	**China**	**45%**
3	North America (USA/Canada)	15%
4	India/Vietnam	10%
5	Others	5%
	Total	**100%**

Source: Field data collected on 09-11 August, 2026

The findings indicate that China is the leading export destination for Bangladesh's leather products, accounting for 45% of the total reported export markets. This substantial share demonstrates the growing importance of the Chinese market to the country's leather industry and its potential for further expansion. The European Union (EU) is the second-largest destination, representing 25% of exports, which highlights the continued significance of European markets for Bangladeshi leather and leather goods.

Meanwhile, North America (USA/Canada) accounts for 15%, indicating a considerable presence in the high-value North American market. India/Vietnam represent 10%, while the remaining 5% is distributed among other international destinations. Overall, the findings suggest that Bangladesh's leather industry has a diversified export market, but its export performance is strongly concentrated in China and the European Union. Together, these two markets account for 70% of the reported export destinations. This concentration creates opportunities for strengthening existing trade relationships while also emphasizing the need to explore new markets to reduce dependency on a limited number of destinations and improve the long-term sustainability and competitiveness of Bangladesh's leather industry.

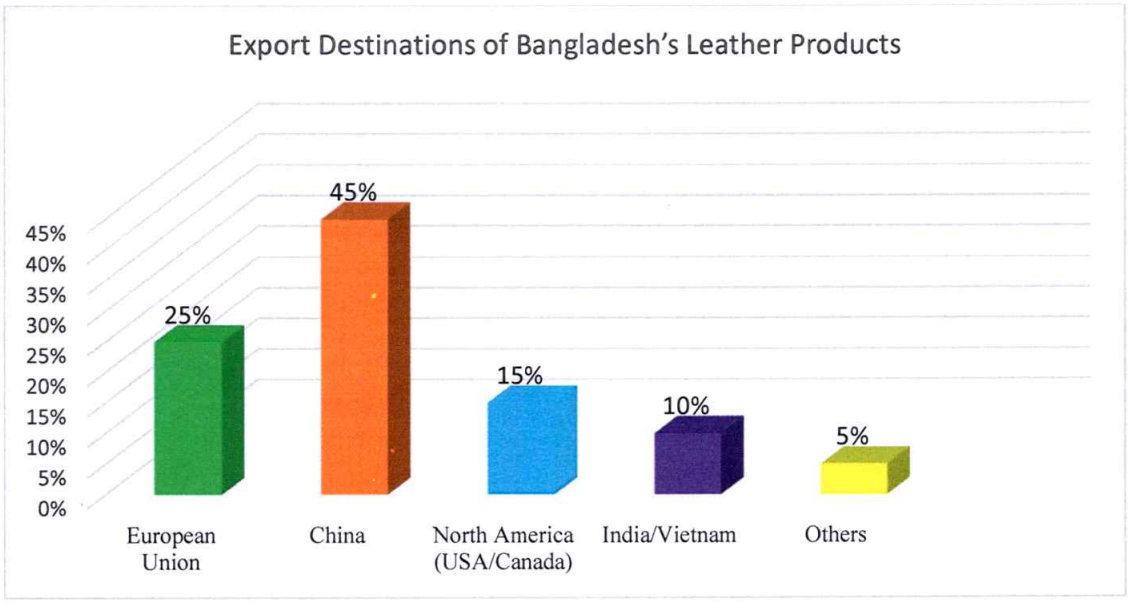

Chart-1: Export Destinations of Bangladesh's Leather Products

4.1.5 Government Support Expected to Boost Leather Industry Exports:

Table-2

Sl. No.	Type of Government Support	Frequency	Percentage (%)
1	Tax Holiday	6	15%
2	Low-interest Loan Facilities	7	17.5%
3	Infrastructure Development of Savar Tannery Estate	22	55%
4	Support for Participation in International Fairs	5	12.5%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The findings indicate that infrastructure development of the Savar Tannery Estate is the most important form of government support, accounting for 55% of the responses. This reflects strong concerns regarding inadequate infrastructure, waste management facilities, utility services, environmental compliance, and overall operational efficiency at the tannery estate. Low-interest loan facilities received 17.5%, indicating the need for affordable financing to support technological upgrading, modern machinery, production expansion, and business development. Tax holidays accounted for 15%, suggesting that tax incentives could help reduce operational costs and encourage further investment in the leather sector. Meanwhile, support for participation in international fairs received only 12.5%, making it the least preferred option among the four alternatives. Overall, the findings demonstrate that respondents place greater emphasis on improving the infrastructure of the Savar Tannery Estate and providing financial incentives than on promotional support for international fairs.

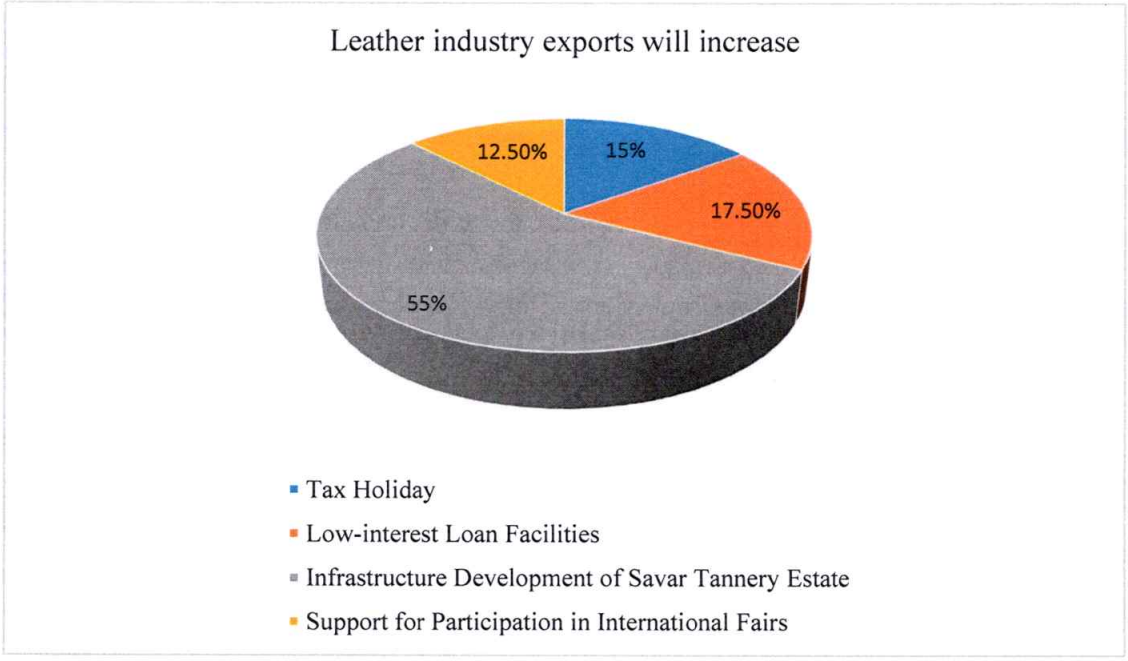

Chart-2: Government Support Expected to Boost Leather Industry Exports

4.1.6 Main Obstacles to Obtaining LWG Certification:

Table-3

Sl. No.	Main Obstacles	Frequency	Percentage (%)
1	High Cost	8	20%
2	Lack of Technical Expertise	7	17.5%
3	Ineffectiveness of the Central Effluent Treatment Plant (CETP)	17	42.5%
4	Stringent Conditions	8	20%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The findings indicate that the ineffectiveness of the Central Effluent Treatment Plant (CETP) is the major obstacle to obtaining LWG certification, accounting for 42.5% of the responses. This highlights serious concerns regarding effective wastewater treatment and environmental compliance within the Savar Tannery Estate. High cost and stringent certification conditions each account for 20%, indicating that the financial burden and demanding requirements associated with LWG certification are also significant barriers for leather-processing organizations. Meanwhile, 17.5% of respondents identified a lack of technical expertise as a major obstacle, suggesting limitations in the availability of skilled professionals capable of implementing and maintaining the required environmental and technical standards. Overall, the findings suggest that improving the effectiveness of the CETP, developing technical expertise, reducing compliance costs, and providing appropriate technical support could facilitate greater adoption of LWG certification among Bangladesh's leather industry organizations.

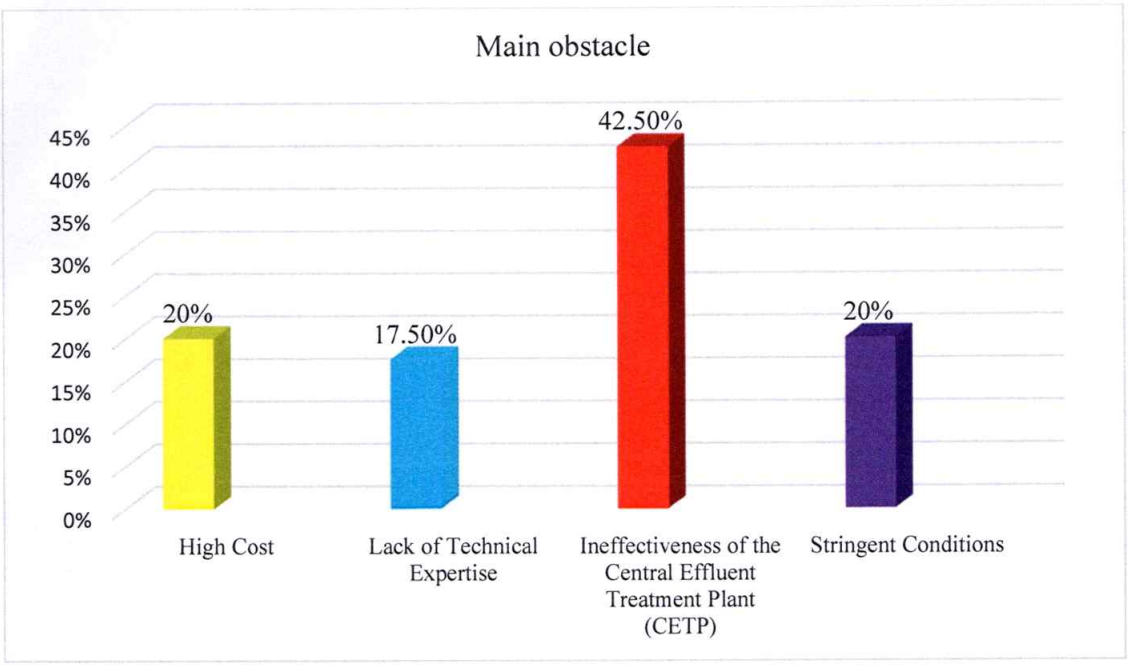

Chart-3: Main Obstacles to Obtaining LWG Certification

KII-2: Government Officials

4.1.7 Possibility of Achieving the US$5 Billion Export Target:

The findings indicate that a strong majority of respondents believe that Bangladesh's leather industry can achieve the export target of US$5 billion within the next five years. This positive response reflects optimism regarding the sector's export potential, particularly through product diversification, technological modernization, improved product quality, stronger international market access, and enhanced environmental compliance. Respondents also emphasized that achieving this target will require coordinated government support, improved infrastructure, increased investment, and greater competitiveness in international markets.

4.1.8 Most Crucial Steps to Increase the Leather Industry's Contribution to GDP:

Regarding the most crucial steps for increasing the leather industry's contribution to GDP, respondents identified improvement of the Central Effluent Treatment Plant (CETP) as a major priority. They also emphasized technological modernization, skilled manpower development, improvement of product quality, increased value addition, export diversification, better infrastructure, access to finance, and stronger government–industry collaboration. These measures

are considered essential for increasing productivity, employment, investment, value addition, and the overall economic contribution of the leather sector.

4.1.9 Satisfaction with the Current Environmental Status of the Savar Tannery Industrial Estate:

The findings reveal that a majority of respondents are not satisfied with the current environmental status of the Savar Tannery Industrial Estate. Major concerns include the effectiveness of the CETP, wastewater treatment, solid waste management, pollution control, and compliance with international environmental standards. The findings suggest that substantial improvements in environmental management and pollution-control systems are necessary to ensure sustainable development and strengthen Bangladesh's competitiveness in international leather markets.

4.1.10 Adequacy of the Current Education and Training System for Skilled Manpower Development:

With regard to skilled manpower development, most respondents reported that the current education and training system is not sufficient to meet the requirements of the leather industry. Respondents identified gaps between theoretical education and practical industry requirements, inadequate technical training, limited industry–academia collaboration, and insufficient exposure to modern machinery and production technologies. Strengthening industry-oriented curricula, practical training, apprenticeships, and professional development opportunities would help develop a more competent and industry-ready workforce.

4.1.11 Extent to Which Priority-Sector Benefits Have Reached the Grassroots Level:

Finally, the findings show that a majority of respondents believe that the benefits of declaring the leather industry as a 'priority sector' have reached the grassroots level. This positive perception suggests that policy recognition has generated benefits through increased government attention, investment opportunities, institutional support, and development initiatives. However, respondents also emphasized the need to ensure that these benefits reach small and medium enterprises, workers, local entrepreneurs, and other grassroots stakeholders more effectively. Stronger implementation, monitoring, and inclusive policy support are therefore necessary to maximize the benefits of priority-sector recognition.

4.1.12 Reasons for the Decline in Global Competitiveness of Bangladesh's Leather Industry:

Table-4

Sl. No.	Major Reasons	Frequency	Percentage (%)
1	Lack of Environmental Compliance	9	22.5%
2	Slow Adoption of Technology	7	17.5%
3	Lack of Branding	5	12.5%
4	Logistics and Infrastructural Weaknesses	19	47.5%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The findings indicate that logistics and infrastructural weaknesses are the leading factors behind the decline in the global competitiveness of Bangladesh's leather industry, accounting for 47.5% of responses. Lack of environmental compliance represents 22.5%, while slow adoption of technology accounts for 17.5%. Lack of branding is identified by 12.5% of respondents. Overall, improving logistics and infrastructure, ensuring environmental compliance, adopting modern technology, and strengthening international branding are essential for enhancing the sector's global competitiveness.

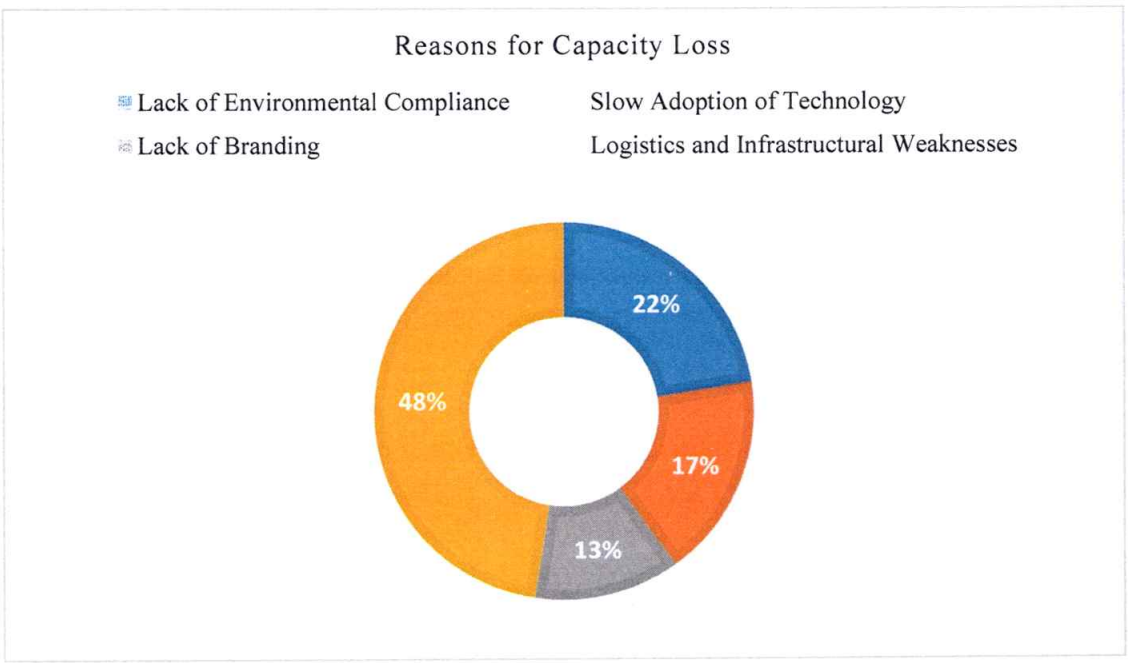

Chart-4: Reasons for the Decline in Global Competitiveness of Bangladesh's Leather Industry

4.1.13 Government Policy Priorities for Sustainable Development:

Table-5

Sl. No.	Policy Area	Frequency	Percentage (%)
1	Solid Waste Management	14	35%
2	Attracting Foreign Direct Investment (FDI)	8	20%
3	Exploring New Markets	10	25%
4	Increased Allocation for R&D	8	20%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The findings indicate that solid waste management is the most important policy priority, accounting for 35% of responses. Exploring new markets follows with 25%, highlighting the need for export diversification. Attracting FDI and increasing R&D allocation each account for 20%. Overall, respondents emphasize environmental management, market diversification, investment, and research as key areas for the sustainable development of Bangladesh's leather industry.

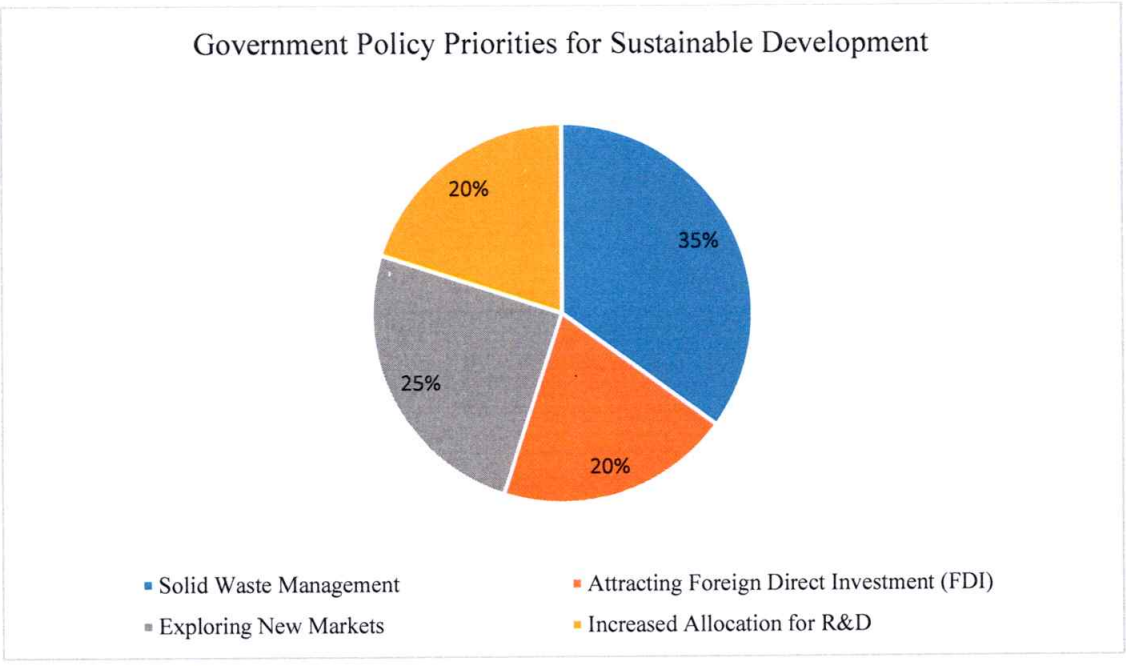

Chart-5: Government Policy Priorities for Sustainable Development

4.1.14 Measures to Improve the Living Standards of Leather Industry Workers:

Table-6

Sl. No.	Essential Measures	Frequency	Percentage (%)
1	Revision of Minimum Wage Structure	16	40%
2	Ensuring Health Insurance	10	25%
3	Occupational Safety Training	9	22.5%
4	Providing Housing Facilities	5	12.5%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The findings indicate that revision of the minimum wage structure is the most important measure, accounting for 40% of responses. Health insurance represents 25%, while occupational safety training accounts for 22.5%. Housing facilities represent 12.5%. Overall, improving wages, ensuring healthcare protection, strengthening workplace safety, and providing basic housing support are essential for improving the living standards and overall well-being of leather industry workers.

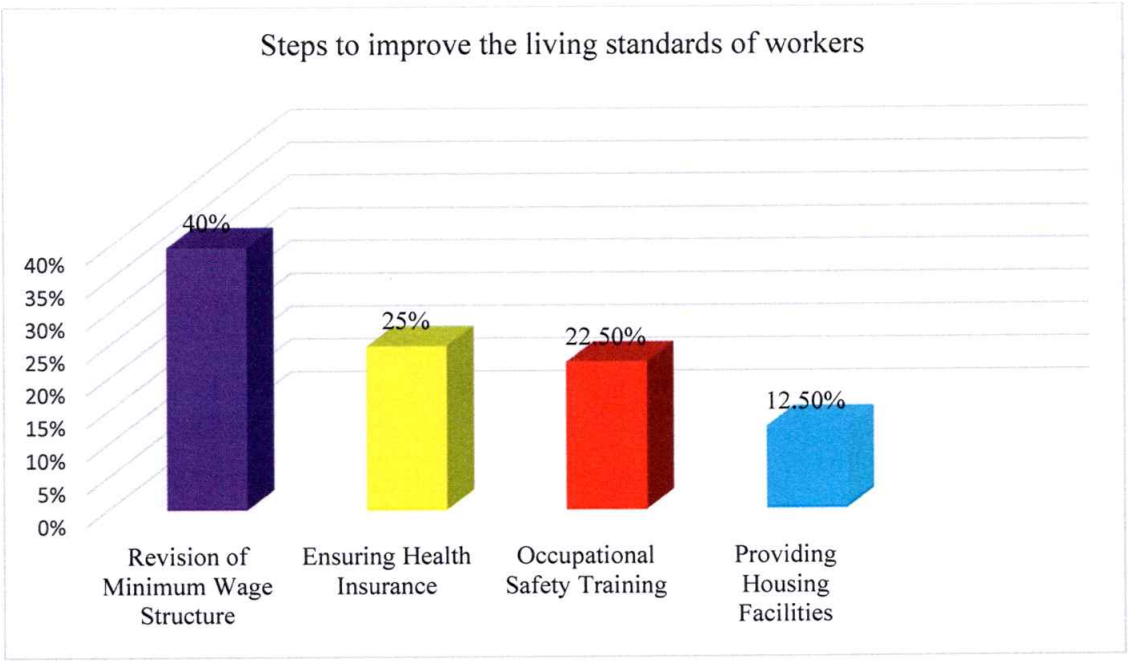

Chart-6: Measures to Improve the Living Standards of Leather Industry Workers

FGD-1: Leather Industry Workers

4.1.15 Findings on Workers' Employment Experience, Working Conditions and Welfare:

Years of Experience in the Leather Industry: The findings show that workers have different levels of experience in the leather industry. Among the respondents, 7 years, 9 years, and 3 years of employment experience were commonly reported, indicating a mix of relatively experienced and less-experienced workers. This diversity provides useful perspectives on changes in working conditions over time. **Ease of Commuting after Relocation from Hazaribagh to Savar:** The findings indicate that most workers reported that their commute has not become easier after the relocation of factories from Hazaribagh to Savar. The increased distance, transportation difficulties, travel costs, and limited convenient transport options were identified as important concerns affecting workers' daily commuting experiences. **Availability of Personal Protective Equipment (PPE):** A majority of workers reported that they receive the necessary Personal Protective Equipment (PPE) at their workplaces. This indicates a positive level of attention to occupational health and safety. However, ensuring regular supply, proper use, maintenance, and monitoring of PPE remain important for reducing workplace risks. **Wage and Cost of Living:** The findings show that most workers consider their current wages to be commensurate with the cost of living. This suggests a relatively positive perception of wage adequacy among the surveyed workers, although continued wage review is important considering inflation, household expenses, and changing living costs. **Skill Development Training:** In contrast, **most workers reported that they had not received any skill development training during the last year.** This indicates a significant gap in continuous professional development. Regular technical training, practical skill development, and industry-oriented capacity-building programs are therefore necessary to improve workers' productivity, employability, and career progression.

4.1.16 Main Problems Faced by Workers at the Workplace:

Table-7

Sl. No.	Main Problem	Frequency	Percentage (%)
1	Long Working Hours	9	22.5%
2	Unhealthy Environment	15	37.5%
3	Irregular Salary	7	17.5%
4	Job Insecurity	9	22.5%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The findings indicate that unhealthy working environments are the most significant problem, accounting for 37.5% of responses. Long working hours and job insecurity each represent 22.5%, while irregular salary accounts for 17.5%. Overall, the findings highlight the need to improve workplace health and safety, regulate working hours, ensure timely payment of wages, and strengthen employment security for workers in Bangladesh's leather industry.

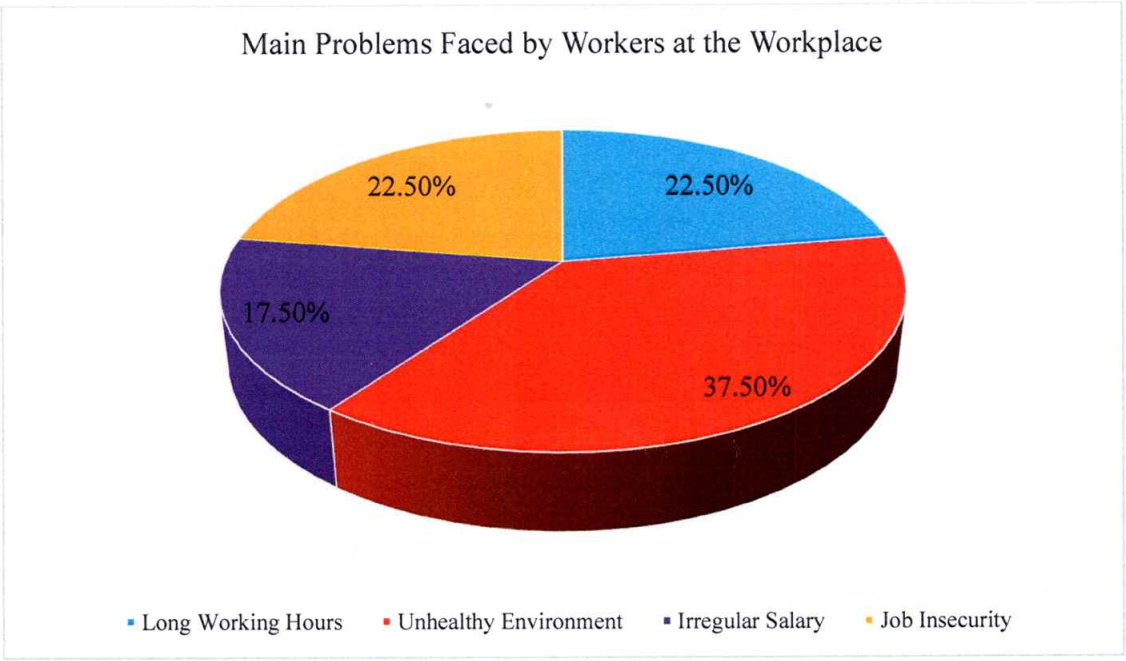

Chart-7: Main Problems Faced by Workers at the Workplace

4.1.17 Health Problems among Leather Industry Workers:

Table-8

Sl. No.	Health Condition	Frequency	Percentage (%)
1	Skin Diseases	11	27.5%
2	Respiratory Problems	9	22.5%
3	Back or Waist Pain	8	20%
4	No Problems	12	30%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The findings indicate that 30% of workers reported no health problems related to factory work, while 27.5% reported skin diseases as a major health concern. Respiratory problems accounted for

22.5%, and 20% experienced back or waist pain. Overall, the findings suggest that occupational health risks remain a concern for a considerable proportion of leather industry workers, highlighting the importance of proper PPE, workplace hygiene, ventilation, regular health check-ups, and effective occupational safety measures.

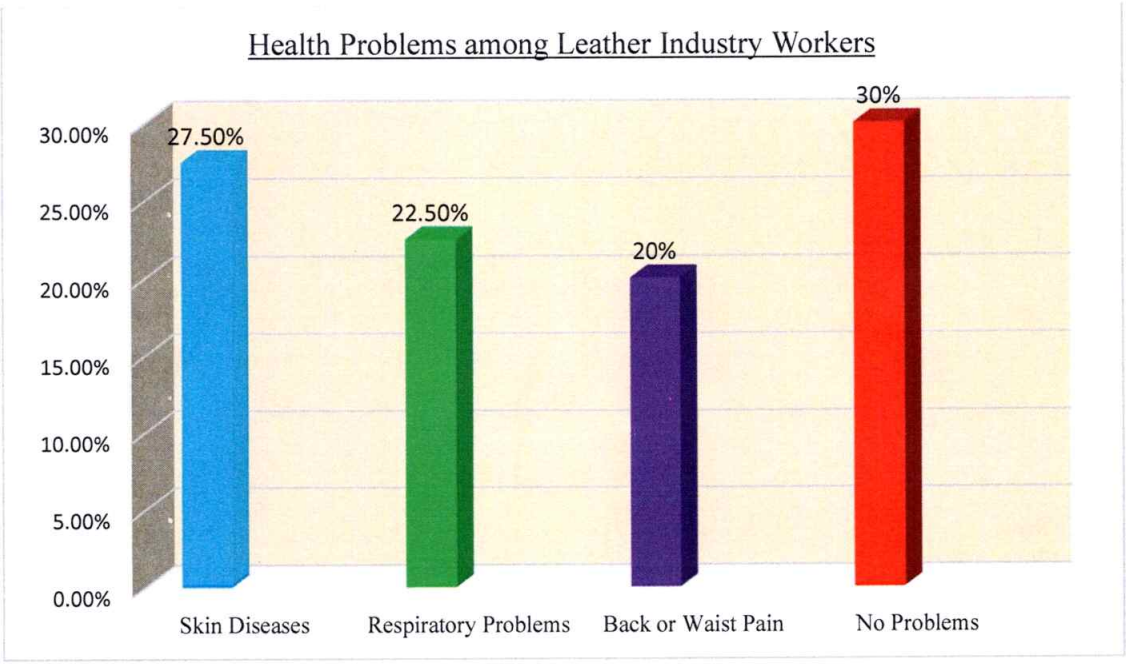

Chart-8: Health Problems among Leather Industry Workers

FGD-2: Entrepreneurs / Exporters

4.1.18 Main Obstacles Faced by SME Entrepreneurs in the Leather Industry:

Table-9

Sl. No.	Main Obstacle	Frequency	Percentage (%)
1	Lack of Capital	14	35%
2	Lack of Skilled Technicians	10	25%
3	Weakness in Marketing	6	15%
4	High Production Costs	10	25%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The findings indicate that lack of capital is the most significant obstacle, accounting for 35% of responses. Lack of skilled technicians and high production costs each account for 25%, reflecting challenges in accessing skilled human resources and maintaining competitive production costs. Marketing weaknesses account for 15%, indicating difficulties in branding, market promotion, and accessing new customers. Overall, improving access to finance, developing technical skills, reducing production costs, and strengthening marketing capacity are essential for supporting the sustainable growth of SMEs in Bangladesh's leather industry.

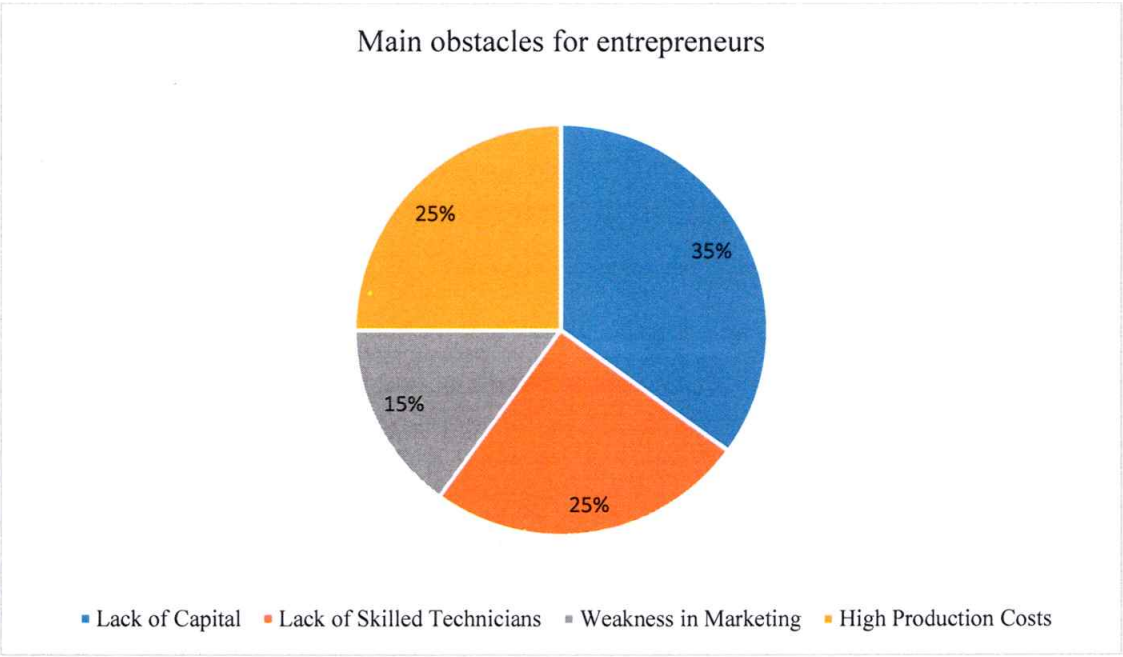

Chart-9: Main Obstacles Faced by SME Entrepreneurs in the Leather Industry

4.1.19 Special Facilities Expected from the Government by SME Entrepreneurs:

Table-10

Sl. No.	Expected Government Facility	Frequency	Percentage (%)
1	Easy Loans through SME Foundation	15	37.5%
2	Low-rent Showroom or Outlet Facilities	7	17.5%
3	Design and Fashion Training	8	20%
4	Duty Exemption on Raw Material Imports	10	25%
	Total	**40**	**100%**

Source: Field data collected on 09-11 August, 2026

The findings indicate that easy loans through the SME Foundation are the most preferred government facility, accounting for 37.5% of responses. Duty exemption on raw material imports accounts for 25%, highlighting the importance of reducing input costs for SME entrepreneurs. Design and fashion training represents 20%, reflecting the need to improve product design, innovation, and market responsiveness. Meanwhile, low-rent showroom or outlet facilities account for 17.5%. Overall, the findings suggest that improved access to finance, reduced raw material costs, skill development, and better market facilities are important forms of government support for strengthening leather-sector SMEs.

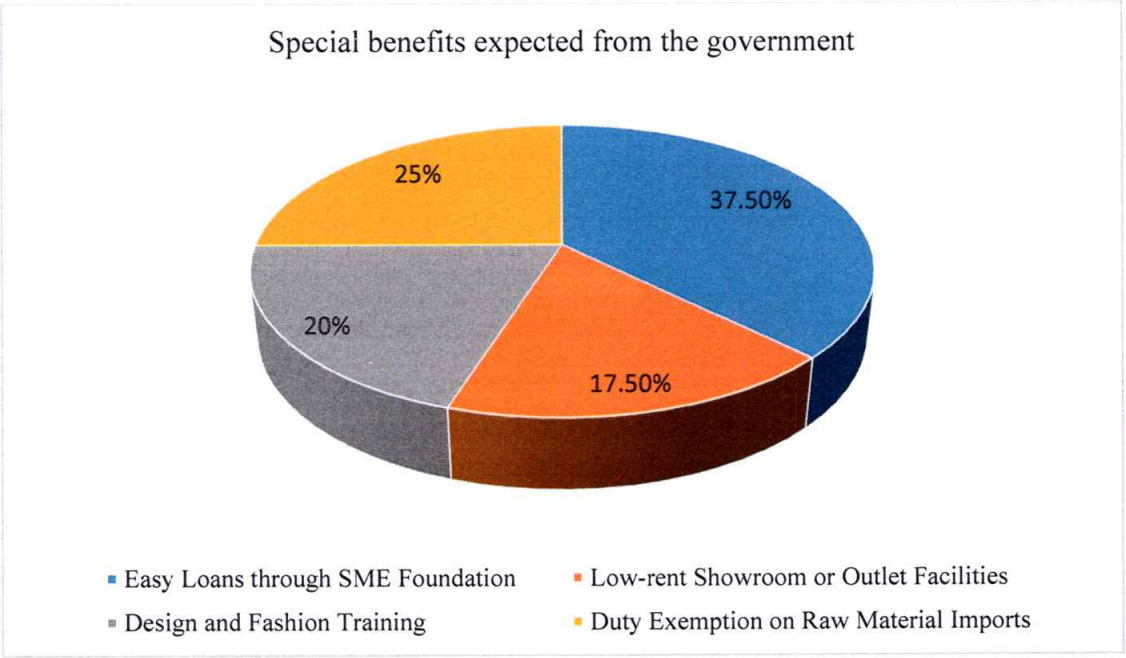

Chart-10: Special Facilities Expected from the Government by SME Entrepreneurs

Key Findings:

The study reveals that Bangladesh's leather industry makes a meaningful economic contribution through export earnings, employment, and industrial linkages, yet falls short of its full potential. Exports reached approximately US$1.35–1.50 billion in recent years, with a clear shift from raw/semi-processed leather toward higher value-added footwear and leather goods. China is the leading destination (45%), followed by the EU (25%) and North America (15%). The sector supports hundreds of thousands of direct and indirect jobs across tanneries, footwear, leather goods, SMEs, and related activities.

Primary data from KIIs and FGDs highlight structural constraints. Environmental compliance, particularly the ineffective Central Effluent Treatment Plant (CETP) at the Savar Tannery Industrial Estate, is the dominant obstacle to Leather Working Group (LWG) certification and access to premium markets. Logistics and infrastructural weaknesses (47.5%), slow technology adoption, skilled-labour shortages, high production costs, and limited branding further reduce global competitiveness. Workers report unhealthy working environments, commuting difficulties after relocation from Hazaribagh, limited recent skill-development training, and occupational health concerns (skin diseases, respiratory problems). SMEs face capital shortages, skilled-technician gaps, and marketing weaknesses. Respondents strongly prioritise infrastructure development at Savar, solid-waste management, easier access to finance, and improved training systems. Despite these challenges, stakeholders' express optimism that the US$5 billion export target is achievable with coordinated policy support, technological upgrading, and stronger environmental compliance.

5.0 Conclusion and Recommendations:

5.1 Conclusion:

The leather industry remains one of Bangladesh's most important non-RMG export sectors and a significant source of employment and industrial value addition. Over the past decade it has shown structural progress, moved toward higher value-added products and maintained broadly stable employment. However, the sector's contribution to GDP, export earnings, and sustainable growth is constrained by incomplete environmental infrastructure at Savar, weak logistics, skill gaps, limited technology diffusion among smaller firms, and insufficient worker welfare measures. Primary stakeholder insights confirm that these bottlenecks restrict access to high-value markets and prevent the industry from fully capitalizing on Bangladesh's comparative advantages in raw materials and labour costs. Realizing the sector's potential requires decisive action on environmental compliance, infrastructure, skills, finance, and market diversification. With focused policy support and industry upgrading, the leather sector can substantially increase its contribution to national economic development and achieve higher export targets in the coming years.

5.2 Recommendations:

- ✓ Fully operationalize and upgrade the Central Effluent Treatment Plant (CETP) at Savar Tannery Industrial Estate.

- ✓ Accelerate solid-waste management systems and environmental compliance to facilitate LWG certification.
- ✓ Prioritise infrastructure development (utilities, roads, waste facilities) at the Savar estate.
- ✓ Expand low-interest loan facilities and easy financing through the SME Foundation for technology upgrading.
- ✓ Strengthen technical and vocational training programmes aligned with industry needs, including apprenticeships.
- ✓ Promote industry–academia collaboration for practical skills development and modern production technologies.
- ✓ Provide targeted support for automation, cleaner production technologies, and quality-assurance systems.
- ✓ Diversify export markets beyond China and the EU to reduce concentration risk.
- ✓ Offer tax holidays and duty exemptions on essential raw materials and machinery for leather enterprises.
- ✓ Revise the minimum-wage structure and ensure timely payment of wages for industry workers.
- ✓ Mandate and monitor provision of personal protective equipment (PPE) and improve workplace health and safety.
- ✓ Introduce health-insurance coverage and regular occupational health check-ups for workers.
- ✓ Support branding, design, and fashion training to enhance product competitiveness and value addition.
- ✓ Attract foreign direct investment (FDI) through improved infrastructure and compliance readiness.
- ✓ Increase public and private allocation for research and development (R&D) focused on sustainable leather processing and product innovation.

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(Please read carefully)

1. *Please write your Name, Roll No. etc. at the specified space otherwise may cause cancellation of your answer script.*
2. *Put tick (✓) marks on Evaluation method and Institution's Name.*

Name: **Mohammad Ullah**

Roll No. **113**

Exploring the Verification and Recommendation Process of Freedom Fighters by JAMUCA: a study.

Sumitted

To

Dr. Md Zohurul Islam

MDS, BPATC and

Module Director

Submitted

By

Mohammad Ullah

Deputy Secretary

Ministry of Liberation War.

03 September 2026

Exploring the Verification and Recommendation Process of Freedom Fighters by JAMUCA: a study.

Abstract

This paper focuses on the recognition verification and recommendation process followed by Jatiya Muktijoddha Council (JAMUKA) in recognizing freedom fighters, especially its legal and institutional framework and flaws in its implementation. Recognition of true freedom fighters is a very sensitive aspect of public administration as it involves issues of justice, national pride, benefits for the state and citizens' trust. This paper will review the laws and rules, the processes of verification and evidence required, coordination among institutions, transparency, accountability, and communication with the applicants.

Qualitative method was used through conducting interviews using structured questionnaires with the JAMUKA officials, officers and staffs, Ministry of Liberation War Affairs officials, and the applicants. Secondary data were analyzed which include the relevant laws, verification rules, official records, policies, and court judgments. The findings show that the current legal and institutional framework can provide a functional basis, especially on documentary verification and managing contradictory information. Nevertheless, there are some crucial weaknesses in clearness and consistent application of the rules and recommendation criteria, digitalization of the records, available reliable historical evidence, communication with the applicants and political/locally non-interference.

According to the applicant findings, there are considerable delays, repeated submission of documents, and ambiguity during verification. On the whole, the conclusion is drawn that the credibility of the whole process of recognition depends not only on correct decisions, but also on clear, consistent, evidence based and reviewable process. Thus, the following recommendations were made: developing the standard national verification checklist; digitalizing the case file management and historical record; providing the written reasons for decision and so on.

Key words: Recognition, Verification, Citizens' trust, Digitalization, Recommendation, verification checklist;

Introduction

1.1 Background of the study:

The liberation war of Bangladesh is a glorious chapter in the national life. Bangladesh gained independence on December 16, 1971 at the cost of millions of lives. The brave freedom fighters are the best generation of the nation, the ideology and the spirit of the liberation war is the way to achieve our national goals. Government of Bangladesh has the responsibilities to recognition of freedom fighters for preserving the history, values and sacrifices of the liberation war in 1971. For verifying and identify the recognize genuine freedom fighter's government has introduced laws, policies and institutional mechanisms since independence. So that they receive the honor and state benefits. (website Jatiya Muktijoddha Council, Ministry of Liberation War Affairs).

The Ministry of Liberation War Affairs was formed by the President in 2001 under the powers conferred by Article 55(6) of the Constitution as the main institution with the aim of establishing the spirit and ideals of the Great Liberation War in all spheres of state and national life. In order to uphold the ideals of the Liberation War in national life and ensure the overall welfare of the valiant freedom fighters and freedom fighter families, the Jatiya Muktijoddha Council (JAMUKA) was formed under the provisions of the Jatiya Muktijoddha Council Act, 2002. Later, the said act was updated and amended and the Jatiya Muktijoddha Council Act, 2022 (amended 2026) was enacted in 2022 and the previous Act of 2002 was repealed. "JAMUKA will recommend to the Government to prepare a list of genuine freedom fighters,issue certificates and attestations, and cancel fake and forged certificates and attestations"(Jatiya Muktijoddhá Council Act,2002 section7 jhoa and Jatiya Muktijoddha Council Act, 2022 section 6 Kha and Gha). JAMUKA as a principal statutory body responsible for preserving the history of the liberation war, formulation policies related to freedom fighters and overseeing the verification and recommendation process. Over the past two and half decades JAMUKA plays a key role in compiling the officials list of freedom fighters, preserving historical records, coordinating nationwide verification activities. In spite of these institutional legacies and mechanisms, the verification and recommendation process are not out of controversy. "List of freedom fighters under review, fake names to be removed: Minister" (Prothom Alo. 02 Mar.2026). "Six thousand four hundred seventy-six (6746) fake freedom fighters excluded". (Kaler khontho. 15 Apr. 2026). "A large number of fake freedom fighters are again eager to be verified". (The Daily Ettefaque. 28 Feb. 2026).

Over the years allegation of fraudulent inclusion, exclusion from the list, political influence, in-consistence decision making, forged documents and lengthy administrative delays raised concerns about the credibility of the system.

It has been raising important questions regarding procedural fairness evidentiary standards. This system explains the continuous challenges of balancing rigorous verification with the protection of the legitimate rights and respect of genuine freedom fighters.

This study attempts to assess the verification and recommendation process of freedom fighters in JAMUKA. Specially, it examines the institutional framework. It evaluates the transparency, efficiency, consistency and accountability of the verification process. It also identifies the major challenges and controversies affecting its implementation and proposes recommendations to strengthen the credibility, fairness and integrity of the freedom fighter's recognition system.

1.2 General Objectives:

To examine the verification and recommendation process for the recognition of freedom fighters in Jatiya Muktijoddha Council (JAMUKA).

1.3 Specific Objectives:

(A) To assess the legal and institutional framework governing the verification and recommendation process.

(B) To identify the weakness of the current verification and recommendation process.

1.4 Problem statement:

The Government has the sole responsibility for the recognition of freedom fighters who made invaluable contributions to the country's liberation war of 1971.To ascertain the authenticity of such recognition, the government has established a verification and recommendation mechanisms under the Jatiya Muktijoddha Council (JAMUKA). This process is designed to verify the eligibility of applicants through documentary evidence, witness, testimonies and official records before formal recognition as a freedom fighter. The credibility of this system is essential for preserving the honor of genuine freedom fighters and maintain public trust in state institutions. The recognition of freedom fighter is a fundamental responsibility of the government, as it honors those who made invaluable contributions in the liberation war of

1971. To ensure the authenticity of such recognition, government has established a verification and recognition system under the Jatiya Muktijoddha Council. This process is intended to examine the eligibility of applicants on the basis of documentary evidence, witness testimonies, office records and so on. Then ensure formal recognition as a freedom fighter and associated state benefits. The authenticity of this process is essential for preserving the dignity of actual freedom fighters and continue public trust in the state institutions. Notwithstanding the existence of a legal an institutional framework, the verification and recommendation process has been evaluated for various procedural and administrative shortcomings.

Allegations of fraudulent inclusion, submission of forged documents, political influence, inconsistent application of verification criteria, inadequate record management and lengthy delays in decision making have repeatedly emerged. (Daily Inquilab, 16 Dec. 2025).

Government verification drives have identified and canceled numerous fraudulent freedom fighter certificates, while several decisions regarding recognition and cancellation have been challenged before the High Court Division of the Supreme Court of Bangladesh. (Writ Petition No. 20120 of 2025 High Court Division of the Supreme Court). These situations indicate that the current verification system continues to face significant governance and implementation challenges. Affecting the credibility of the recognition system may undermine public confidence in the government institutions and diminish the honor accorded to genuine freedom fighters. Previous studies have extensively examined the history of the Liberation War and the welfare of freedom fighters, limited empirical research has focused on evaluating the institutional performance of (JAMUKA) in conducting verification and recommendation activities. Consequently, there is insufficient evidence regarding the strengths and weakness of the existing process. As a result, administrators, applicants as well as the effectiveness of the current legal and administrative process face challenges. Therefore, there is a need for a comprehensive assessment of JAMUKA's verifications and recommendation process. This study seeks to address this gap by providing the evidence-based assessment of JAMUKA's verification and recommendation process. The findings are expected to contribute to improve institutional governance, strengthening policy implementation as well as enhance the credibility of the freedom fighter's recognition system.

1.5 Significance of the study:

The verification and recommendation of freedom fighter is a matter of national identity, historical justice and public accountability. National recognition as freedom fighter carries moral prestige, constitutional significance and enjoy various state benefits. Therefore, transparency and accuracy should be ensured and fair verification process is essential for preserving the integrity of Liberation war history of Bangladesh. The Jatiya Muktijoddha Council was formed under the provisions of the Jatiya Muktijoddha Council Act, 2002. Later, the said Act was updated and amended and the Jatiya Muktijoddha Council Act, 2022 (amended 2026) was enacted in 2022 and the previous Act of 2002 was repealed. JAMUKA as the principal statutory body responsible for preserving the history of the liberation war, formulation policies related to freedom fighters and overseeing the verification and recommendation process. Over the years, JAMUKA has assisted significantly to preserving the legacy of the Liberation of the war by preparing the official list of freedom fighters, conducting nationwide verification programs, maintain historical records and advising the Ministry of Liberation War Affairs on related policies. In spite of these achievements, the verification process has faced continuous challenges that has affected public confidence in the institution.

Numerous allegations of fake freedom fighter certificates, political interference, forged documents inconsistent verification standards and prolong administrative delays have generated widespread debate.

In response government has conducted several verification drives and canceled many fraudulent certificates and gazettes. In addition, certain rulings by verification have been questioned in the High Court Division, drawing attention to the issue of procedural fairness and due process. Such issues indicate the necessity of conducting an objective evaluation of the current verification and recommendation system. While many studies have considered the history of the Liberation War and the socio-economic well-being of the freedom fighters, there are few studies on the efficiency of JAMUKA's verification and recommendation system This study seeks to fill the gap by examining the existing procedures, identifying administrative and legal challenges and evaluating the transparency, efficiency, accountability as well as the consistency of the process.

The findings of this study are expected to contributed to policy development by providing evidence-based recommendations for improving the verification and recommendation

system. This will be useful for policymakers, JAMUKA, researchers, the Ministry of Liberation War Affairs and other stakeholders. Ultimately, the study contributes to safeguarding the dignity and legacy of the Liberation War while promoting good governance and public trust in the administration of freedom fighter recognition.

2.0 Literature review:

The verification and recommendation of freedom fighters is very significant for the preservation of the history of Liberation War, national identity, and public administration. From the independence, the government has adopted various legal and institutional mechanisms to identify and officially recognize genuine freedom fighters. The Jatiya Muktijoddha Council (JAMUKA), was established under the Jatiya Muktijoddha Council Act, 2002 and strengthened through the Jatiya Muktijoddha Council Act, 2022 (amended 2026), is the principal institution responsible for verifying and recommending applicants for official recognition. The National Freedom Fighters Council started its formal activities in 2010. Ministry of Liberation War affairs formulated Freedom Fighters Verification Guidelines, 2016 and The Civil Gazette Verification Guidelines for Brave Freedom Fighters 2020. "The screening process will be carried out through the Upazila/District/Metropolitan Screening Committee on the date place and time determined by the National Freedom Fighters Council"(Freedom Fighters Verification Guidelines, 2016). "A 4 member committee will be formed at the Upazila or Metropolitan level to verify the participation of individuals in the Great War of Independence as published in the civil gazette"(The Civil Gazette Verification Guidelines for Brave Freedom Fighters 2020). The National Freedom Fighters Council held 103 council meetings till February 2026.

The following issues were resolved through the meetings:

SL.no	Title	Number
1.	Recommendation for inclusion in the Civil Gazette	16077
2.	Recommendation to cancel gazette	6465
3.	Recommendation for regularization of the Gazette	23733
4.	Recommendation for gazette listing as Shahid freedom fighter	768
5.	Recommendation to abolish the military gazette and include it in the civilian gazette	957

6.	Recommendation for gazette listing as female freedom fighter (birangana)	529
7.	Recommendation for gazette listing as an employee of the Mujibnagar government	274
8.	Recommendation for gazette listing as war-wounded freedom fighters.	198
9.	Recommendation for gazette amendment	137
10.	Recommendation for gazette listing as collaborator of the Liberation War	56

Table-1: Jatiya Muktijoddha Council recommendation.Source: Jatiya Muktijoddha Council recommendation report.

In spite of extensive literature exists on the liberation War and the welfare of the freedom fighters, relatively little scholarly attention has been drawn to the institutional performance of JAMUKA's verification and recommendation process. "Definition of a freedom fighter changed 5 times since independence and Controversy over lowering the age limit"(Prothom Alo English 26March 2026.

Previously, applicants seeking recognition as Bir Muktijoddha had to be at least 15 years old in 1971. After coming to power in 2009, the Awami League government reduced this age limit in two phases.In June 2014, a notification set the minimum age at 13 years, and the relevant gazette was published on 10 November 2016. It stated that, for new inclusion as a freedom fighter, an individual must have been at least 13 years old on 26 March 1971. Later, on 31 January 2018, the government revised this again, specifying that the minimum age must be 12 years and 6 months as of 30 November 1971. The lowering of the age limit facilitated the inclusion of those people who did not take part in the Liberation War among Bir Muktijoddha. The research indicates that the official acknowledgment of the freedom fighters is not only an ethical but also a mandatory task for the administration. This helps keep alive the history of the Liberation War and gives state honors and benefits to the people. However, the researchers have pointed out the problems of documentation, changing of eligibility criteria, and political pressure in post-war recognition systems. JAMUKA has been established to make a recommendation to the government for the preparation of the list of genuine freedom fighters in the gazette and detect and cancel forgery certificates to the government. The enactment of the Jatiya Muktijoddha Council Act, 2022 enhanced the legal power of JAMUKA and improved administrative processes. Nevertheless, implementation

challenges remain significant particularly in relation to documentary verification, appeals as well as consistency of decision making.

One of the most discussed issues in recent years has been the controversy surrounding the inclusion of ineligible persons in the government freedom fighters' list. National newspapers have reported allegations of forged documents, political influence and inconsistent verification standards. Government examination drives resulted in the cancellation of huge number of gazettes. It demonstrates concerns regarding the integrity of the verification process. (The Daily Star, 09 Jul. 2026). Moreover, several decisions of JAMUKA have been challenged before High Court Division of the Supreme Court where petitioners questioned procedural fairness and due process. (Writ Petition No. 14902 of 2022. High Court Division of the Supreme Court). About 3000 writs/appeals/civil revision/contempt cases are currently pending against the Jatiya Muktijoddha Council of Freedom Fighters. Effective verification system should ensure transparency, accountability, consistency, efficiency as well as fairness.

Good governance literature suggests that administrative decision involving public recognition and distribution of state benefits should be based on clear standards, objective evidence and procedural justice. Frail institutional capacity, weak record management and poor transparency may reduce public confidence in government institutions and increase opportunities for administrative disputes. Existing literacy focuses on the political history of the Liberation War, the contributions of freedom fighters as well as government welfare programs. Media reports and court judgements controversies surrounding the verification process but few empirical studies have systematically assessed JAMUKA's institutional performance in verification and recommendation. There is limited research examining the effectiveness,

Transparency, accountability consistency and legal challenges of the verification process from the perspective of administrators, policymakers and applicants.

Methodology

3.1 Research Design:

A qualitative research design has applied in this study. It enables a comprehensive assessment of JAMUKA's verification and recommendation process by the evidence with stakeholders' experiences and perceptions. A pragmatic research philosophy employs in this study that

allows the qualitative methods to address complex public administrative issues. It used descriptive approaches to examine how the verification and recommendation process operates and to identify factors affecting its effectiveness.

3.2 Data sources and collection methods:

Primary data were collected through structured questionnaires and key informant-oriented responses. The attached field return documents contain three stakeholder categories: JAMUKA officers and associated staff, Ministry officials as well as applicants. The JAMUKA officer questionnaire has examined work experience, involvement in verification, perceptions of the adequacy of laws and rules, coordination documentary verification witness evidence local committee recommendations, detection of fraudulent claims, adherence to policy, transparency, political or local influence, accountability, communication with applicants and the principle weakness of the current process. The ministry questionnaire addresses similar institutional issues from the policy and administrative perspective and also asked about incomplete or inadequate records, opportunities for appeal or reconsideration, influence, digital database, and improvement required in the process. The applicant questionnaire focuses on application status, previous attempts, knowledge of documentary requirements, communication, verification stages, transparency, influence, complaint or appeal opportunities, duration, difficulties and suggestions for improvement.

Secondary sources identified in the Jatiya Muktijoddha Council Act, 2002, Jatiya Muktijoddha Council Act, 2022 (amended 2026). Freedom fighter's verification guidelines, 2016, The Civil Gazette Verification Guidelines for Brave Freedom Fighters 2020. JAMUKA's annual reports and policy documents, High Court and Appellate Division judgments. Government gazettes and circulars. Ministry of Liberation War Affairs publications as well as Ministry of liberation war and Jatiya Muktijoddha Council websites. Reports from development organizations and credible newspapers (used cautiously for contextual information).

The analysis in this report uses thematic comparison. Responses were examined for recurring theme rather than treated as probability sample because the field information/data do not establish a statistically representative same of all stakeholders. The findings should therefore be interpreted as evidence of stakeholder perceptions within the collected field materials.

Ethical considerations include confidentially, avoidance of unnecessary disclosure of applicants' personal information and use of the material solely for research purposes. The report does not produce names, address or identifying details appearing on the questionnaires.

3.3 Study Area:

The study will focus on the Jatiya MuktiJoddha Council (JAMUKA) and the Ministry of Liberation War Affairs. Data may also be collected from JAMUKA's and Ministry's officers and staffs whom are involved in the verification and recommendation process as well as applicants of the recognition for freedom fighter.

4.0 Data Analysis:

Data/information that was collected from 12 JAMUKA's officer and staffs in the structured questionnaire, where 8 official experiences 11-15 years and only 4 official has1-5year experiences in JAMUKA. The respondents represented direct verification, administrative, document-verification and related roles.

Item-by-item analysis

Item	Mean	Agree/Strongly Agree	Disagree/Strongly Disagree	Interpretation
1. Existing laws/rules are sufficiently clear	3.17	50.0%	41.7%	Mixed
2. Laws/rules are properly followed	3.33	58.3%	33.3%	Moderately positive
3. Effective coordination exists	3.58	58.3%	25.0%	Positive
4. Adequate evidence is collected	3.50	66.7%	16.7%	Positive
5. Documents are properly verified	3.58	75.0%	16.7%	Relatively strong
6. Local committee recommendations are properly evaluated	3.33	50.0%	25.0%	Mixed
7. Effective mechanism exists for contradictory information	3.67	75.0%	25.0%	Strongest area
7. Adequate mechanisms identify false claimants	3.33	58.3%	33.3%	Moderately positive

8. Recommendation standards/evidence criteria are followed	3.00	50.0%	50.0%	Major concern
9. Transparency mechanisms are adequate	3.42	58.3%	25.0%	Moderately positive
10. Decisions can be made free from political/local influence	3.08	41.7%	33.3%	Weak/mixed
11. Officials have adequate accountability	3.50	41.7%	16.7%	Mixed due high neutrality
12. Applicants receive sufficient progress information	2.75	33.3%	**41.7%**	**Weakest area**

Table-2 Respondents represented direct verification, administrative, document-verification and related roles. **Scale:** 1 = Strongly disagree, 5 = Strongly agree

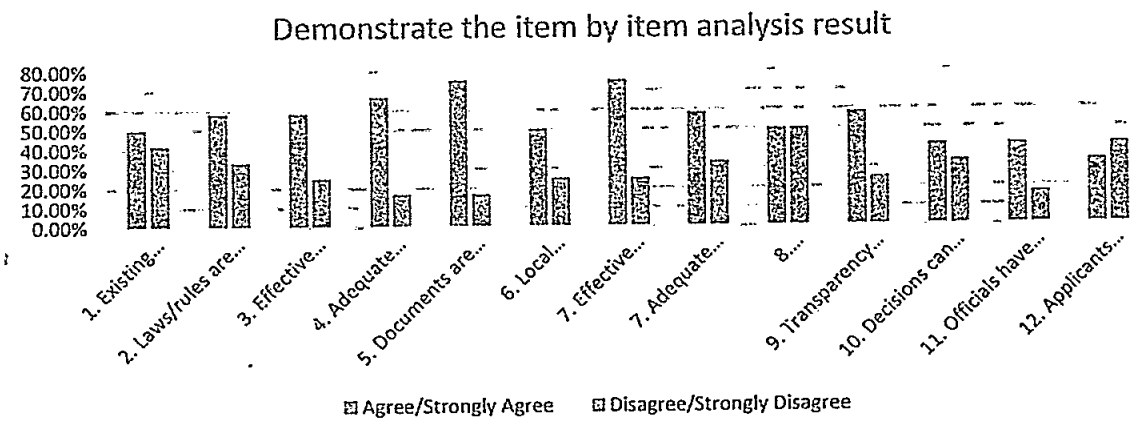


Fig-1: Demonstrate the item by item analysis result

The strongest perceived component is the mechanism for dealing with contradictory information, **mean (3.67)**, followed by document verification **(3.58)**. The weakest component is applicant communication/progress information **(mean 2.75)**. This suggests that the verification system may function internally better than it communicates with applicants. 50.0% agreed/strongly agreed that the existing laws and rules are sufficiently clear and **41.7%** disagreed/strongly disagreed. The responses suggest that the legal framework is not universally regarded as sufficiently clear. The relatively high disagreement indicates that legal clarity may be an institutional weakness.11 of 12 respondents identified shortage of evidence/testimony either as a selected problem or among their major problems. Respondents

appear to see evidentiary and information problems as more immediate operational barriers than direct local influence. Only 41.7% agreed/strongly agreed that decisions can be made free from political or local influence. This means that independence of decision-making is not strongly established in the perceptions of the officers. The questionnaire asks whether there is a central digital database for verification information. Out of 12 respondents 10 respondents answered no.Thus, the data strongly suggest that officers do not perceive a fully functioning/accessible central digital database as being available.

The data do not indicate that the entire JAMUKA verification system is dysfunctional. Rather, they show a system with several functioning components particularly documentary verification and handling contradictory information but significant weaknesses at the standardization, recommendation, applicant communication, evidence availability and digital information-management stages.

A useful conceptual model from these findings is:

Legal framework → Local verification → Evidence/document verification → Recommendation → JAMUKA decision → Applicant communication

The strongest parts appear to be document verification and contradiction checking, while the weakest appear to be applicant communication, consistency of recommendation standards, legal clarity and digital information management.

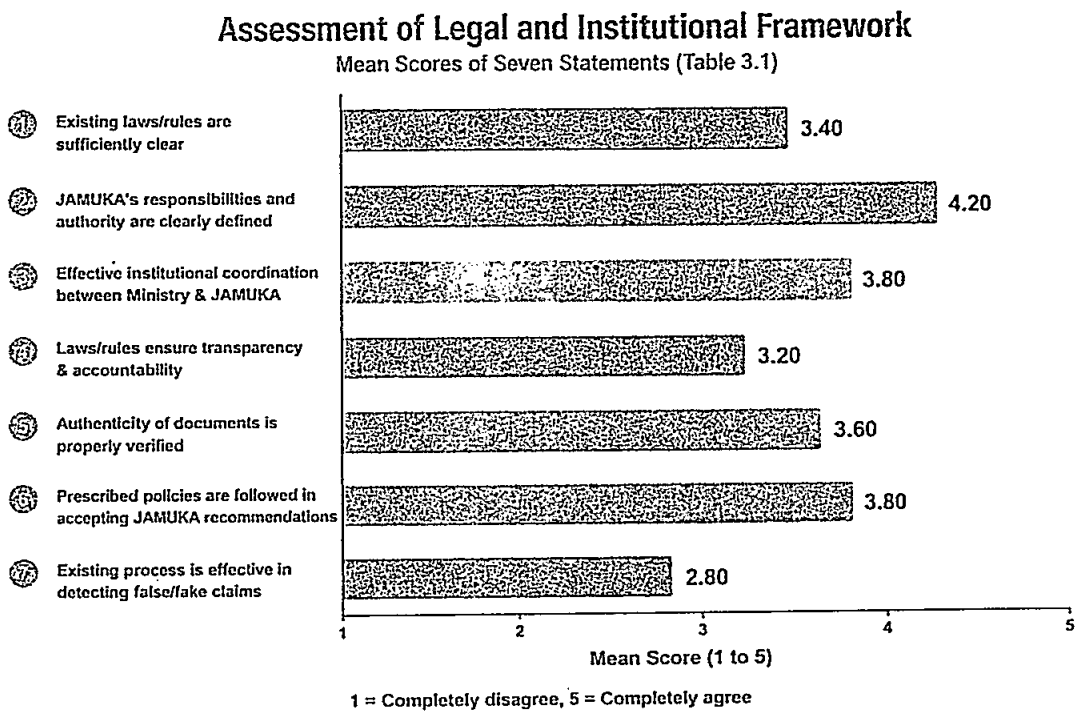
The officer survey indicates that JAMUKA's verification system possesses a functioning institutional foundation, particularly in document verification, evidence assessment and handling contradictory information. However, the findings reveal important weaknesses in the clarity and consistent application of rules, recommendation standards, applicant communication, digital record management and the availability of reliable historical evidence. The prevalence of evidence shortages and information inconsistencies suggests that verification difficulties are driven substantially by the quality and availability of supporting information rather than solely by administrative decision-making. The low score for applicant communication and the uncertainty surrounding recommendation standards indicate a need for greater procedural standardization, transparency and accountability.

In the same way Data/information was collected from 5 official of the ministry of Liberation War Affairs with the slightly modified structured questionnaire than JAMUKA.

Likert-scale results are given below:

SL.no	Issue assessed	Mean	Interpretation
1.	Existing laws/rules are sufficiently clear	3.40	Moderately positive
2.	JAMUKA's responsibilities and authority are clearly defined	4.20	Strong
3.	Effective institutional coordination between Ministry & JAMUKA	3.80	Positive
4.	Laws/rules ensure transparency & accountability	3.20	Moderate
5.	Authenticity of documents is properly verified	3.60	Positive
6.	Prescribed policies are followed in accepting JAMUKA recommendations	3.80	Positive
7.	Existing process is effective in detecting false/fake claims	2.80	Weakest area

Table-3. 1 = Completely disagree,5 = Completely agree



The overall mean score of **3.54 out of 5** indicates that Ministry officials perceive the existing verification and recommendation system as generally functional, but with significant weaknesses.
The strongest area is JAMUKA's responsibilities and authority score 4.20, and the weakest area is effectiveness in detecting false or fraudulent claims score 2.80.

While officials generally agree that existing laws and regulations are sufficiently clear, the score is not particularly high. This suggests that legal clarity is adequate but not unequivocal.

There may be room for more detailed operational guidelines, standardized procedures and more detailed verification criteria. The most significant weakness identified by the quantitative data. Even though officials generally consider the institutional framework and coordination reasonable, they express significantly less confidence in the system's ability to identify false or fraudulent claims.

Data and information was collected from 8 applicants. They are in different stages in their application are actually waiting for final decision from JAMUKA. Their data are summarized accordingly.

Respondent profile and application status

Variable	Result
Number of applicants analyzed	8
Applied at Upazila/Thana level	7 (87.5%)
Applied directly at JAMUKA	1 (12.5%)
Currently under verification	8 (100%)
Applied twice	4 (50%)
Applied 3+ times	4 (50%)
Received information about rules/document requirements	8 (100%)
Found document collection/ submission easy	6 (75%)
Found it moderately difficult	2 (25%)

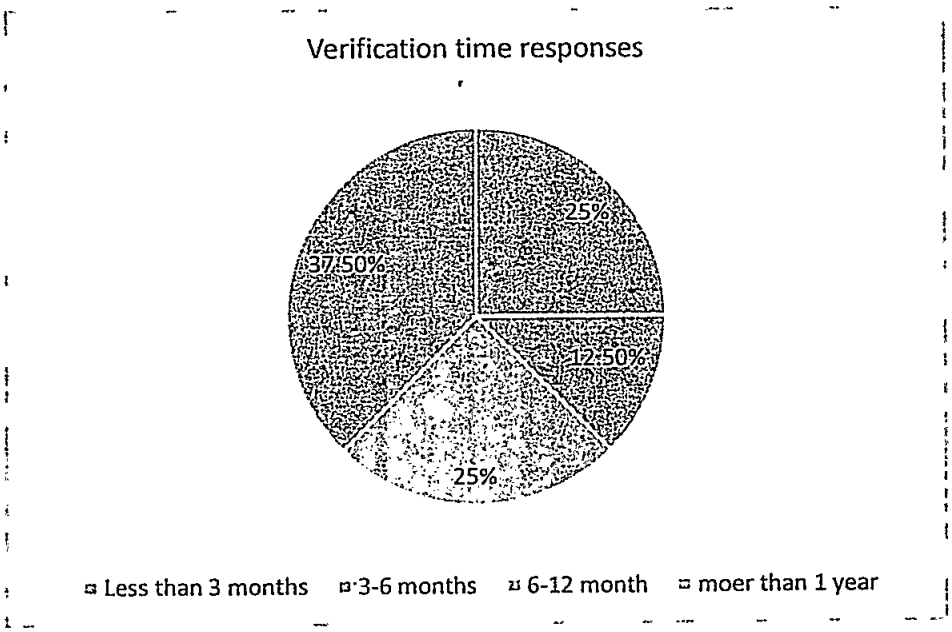
Table-4. Respondents application status

A particularly important finding is that all eight applicants were still shown as "under verification." Therefore, this sample represents applicants experiencing an ongoing verification process rather than applicants whose cases have reached final approval or rejection.

Verification time responses:

Verification time	Respondents	Percentage
Less than 3 months	2	25.0%
3–6 months	1	12.5%
6–12 months	2	25.0%
More than 1 year	3	37.5%
Total	**8**	**100%**

Table-5. Duration of application processed



Thus, 5 of 8 applicants (62.5%) reported that verification had taken at least six months, and 3 applicants (37.5%) reported more than one year.

The question asking whether applicants had to provide the same information or documents more than once produced an exactly divided result:

- **Yes: 4 (50%), No: 4 (50%)**

This suggests that repeated submission is not universal, but it is a substantial problem affecting half of the respondents.

When asked whether the verification committee had accepted their statement or testimony: Yes: 5 (62.5%), No: 3 (37.5%). So, although a majority reported that their statements were accepted, more than one-third did not. This indicates that documentary verification does not necessarily translate into equal opportunity for applicants to present or establish their evidence.

The applicant survey identifies the principal weakness in the freedom-fighter verification process as not access to the application procedure but in the subsequent processing and verification. Although all respondents reported having received information on application requirements and most found document submission easy, half were uncertain or dissatisfied with the verification of their submitted documents, half reported repeated submission of information or documents, and 62.5% had experienced verification periods of six months or more. The gravity of the delay problem was underlined by the fact that 87.5% indicated that prolonged verification was a significant problem. In addition, the applicants showed a remarkable hesitation about the freedom from political, social or local influences, while all the respondents supported enhanced digital management of applicant information and records. Overall, the results indicate a necessity for faster processing, more effective document-tracking mechanisms, greater procedural transparency, improved digitalization, and safeguards to strengthen the perceived independence of verification decisions.

4.2 Findings and Discussion:

Legal and Institutional Framework

While some respondents of JAMUKA rated quite favorably the adequacy of existing laws and rules and compliance with the verification procedures, others provided low ratings for the same statements. This difference is significant, showing that the effectiveness of the institutions may vary depending on the role of the particular respondent, his experience, case exposure and/or his perception of the process. The Ministry responses also indicate that the relationship between the Ministry and JAMUKA is institutionalized, yet further coordination efforts are still needed. For example, one of the Ministry responses include a relatively positive assessment of the formal legal environment, at the same time revealing practical shortcomings, such as insufficient information and the necessity of improving systems. In addition, the questionnaire structure itself demonstrates that the participants of the study recognize the distinction between the legal mandate and the practical performance of the

process. Accordingly, the evidence supports the distinction between the adequacy of the process formally and operationally. Formally, there exists an identifiable institutional mandate, verification mechanism and recommendation function. However, operationally the stakeholders encounter difficulties related to evidentiary issues, coordination, records, communication and timeliness. The field questionnaires address the questions regarding whether established policies and evidentiary standards are complied with and whether the verification decisions are made in a transparent way: The conclusion that can be drawn from the respondents' answers is that while there are written rules, consistent application of these rules is the main concern. It means that in addition to legal reform, it will be necessary to develop institutional protocols, standard operating procedures, record systems, decision templates, etc.

Documentary and Evidentiary Verification

Documentary and evidentiary verification constitutes one of the most obvious concerns. In the JAMUKA questionnaire, the question directly addresses the sufficiency of the collected information and

evidence, the assessment of the authenticity of the documents, evaluation of the recommendations of the local committee, and the existence of arrangements aimed at the detection of fraudulent and false claimants. The most repeated weakness which manifests in the field data is related to the sufficiency and reliability of evidence. In one JAMUKA response, shortage of evidence or proof is indicated as the

most critical problem. The same is asked by the Ministry questionnaire in relation to the occurrence of

incomplete or insufficient records. These answers correspond to the observations made in the proposed recognition system in regard to the necessity of documentary evidence, witness testimony and official records for verification. The oldness of the historical events makes this weakness structural. Recognition system dealing with claims which occurred in 1971 should not suppose that all applicants have a comprehensive documentary file. Thus, the system requires the development of an evidentiary hierarchy and the way of handling missing or conflicting records. The low standards would allow to accept fraudulent claims.

High standards, however, would negatively influence genuine claimants due to the loss of records in time. Another question relates to the authentication of the documents. Verification should be able to distinguish an original record, a certified copy, a secondary record and a document whose authenticity is questionable. It also should reveal the way how conflicting records are handled. Without the documentation of the reasoning, the similar cases might result in different conclusions. Witness evidence poses another challenge is the genuineness of the documentation. Verification should differentiate between original document, certified document, secondary document and the document with unknown origin. It should also specify how conflicting documents will be handled. In absence of reasoning behind a decision, two cases which seem alike end up getting different conclusions. Then there is witness evidence. Witnesses might give good contextual information, but the reliability of the witness needs to be determined systematically.

Local verification committees would give good information since local people know things about history which cannot be accessed centrally. But the local information should not substitute for evidence

standards. There should be common checklist and written criteria by which local recommendations can be evaluated. It is clear from above discussion that evidence management should come ahead of document collection. Each case should have evidence of the evidence used, evidence verified, insufficient evidence, contradictions and reasons for recommendation made.

Transparency, Accountability and Communication with Applicants

JAMUKA asks whether appropriate arrangements are in place to ensure transparency, as well as whether enough information is given to applicants about the status of their applications. The applicant survey in turn asks whether the information on verification stages is communicated well enough and whether there is an opportunity to deal with complaints or objections. It is clear from the answers provided by the applicants that the length of the process is an issue of concern. There are numerous answers in the forms concerning long processing times. Some even say that the application took more than one year. It does not prove directly what caused such delays, but it shows that applicants may see the process as lengthy. Accountability goes beyond finding out the accountable organization. The decisions must be backed up by the documentation describing who checked the evidence, what criteria were used and why the decision was made. In cases when the application is rejected or the

recognition withdrawn, such reasoning is all the more important. The written explanation of the decision is useful for the internal investigation, understanding of the applicants and the judicial review if needed. Ministry survey asks questions about appeals or reconsiderations. The fact that such questions are asked itself is important because any reliable verification process must include mechanisms to rectify mistakes. Review procedures should be available, time limited and based on clear criteria. If appeal process is only there nominally and not easy to utilize, it will not provide enough protection for the legitimate applicants.

Political, Social and Local Influence

One of the issues raised in the research proposal that affect the credibility of the process includes allegations of political influence. The field questionnaires directly ask if there is any chance that verification decision is affected by politics or local influences.

Answers vary. While some of the forms express worries about the chance of influence from political or local authorities, others show a more positive attitude towards safeguards against such influences. This variation should not be taken as evidence of political influence on individual decisions. This simply means that independence itself is an issue within the institution.

The credibility of a recognition process is built on its impartiality as well as safeguards against influence. Even when the officials perform their duties correctly, bad procedures might create a chance for perceptions of undue influence. On the other hand, the safeguard of role separation, established evidence standards and recording of reasons can protect both the officials and the applicant.

Record Keeping and Digitalisation

Record keeping is a basic requirement for any recognition procedure. The proposal highlights inadequate record management as one of the consistent problems, while the Ministry questionnaire deals with incomplete records and digital databases. Historical validation usually involves cross-referencing different sources. Should records be scattered among the institutions, kept in different formats and hard to access, the validation process would become time consuming and prone to mistakes. It might also be hard to determine if a particular document had already been validated before.

An efficient record system should involve the unique case number, the index of all documents submitted, the status of the verification process, the name of the institution that issued it, the date of validation, the recommendations made by the Committee and the decision made in the end.

The field data proves that enhanced record management and case tracking through the use of digital technology could solve more than one problem at once, such as delay, repetition, evidence gathering, transparency and accountability.

5. Recommendations and Conclusion

Recommendations

1. Have a standard national verification checklist for each case to be evaluated. The checklist should include identity, documentation, witnesses, official documents, contradictions and recommendations from local committees.

2. Have a computerized case management system for each application. Each application should have a unique case number and the system should track the submission, verification, committee recommendations, objections, appeals and the final decision.

3. Improve reasons for decisions given. Reasons for rejection, cancellations or recommendations should give the main reasons and evidence for this.

4. Scan and process historical data. Scans should be accompanied by indexes, metadata, duplicates and

data quality control. Records should be linked whenever legally and technologically possible.

5. Have dashboards for management information. Management should keep track of pending cases, processing times, cases requiring further information, recommendations, reviews and complaints.

6. Safeguard verification against external pressures.

7. Improve coordination between the Ministry, JAMUKA and local committees.

Conclusion

Verification and recommendation of freedom fighters is a sensitive public administration function. Verification of freedom fighters and their recommendation for legal recognition connected with historical activities of freedom fighters for state benefits and dignity is a sensitive issue. The research proposal adequately dealt with JAMUKA's roles and its relationship with Ministry of Liberation War Affairs for the verification and recommendation of freedom fighters. A formal legal and institutional framework exists for verification and recommendation of freedom fighters but its implementation is a challenge. Sustained inquiries conducted in the field revealed mixed assessment of adequacy and consistency of existing verification and recommendation processes. The most straightforward conclusion is that credibility of decisions depends, at least in part, on the processes that create them. The correctness of a decision is less important that its justification: even a good decision that is not properly documented and defended can be questioned, but a fair process will protect the government against fraudulent applications.

Therefore, the system needs to be enhanced by developing standard criteria for verification, improving evidentiary standards, coordinating records, case tracking and documentation, establishing accountability, informing applicants, giving reasons for decisions, creating effective review and conducting periodic quality control audits, all of which should reduce the unwarranted delays without jeopardizing the verification. The ultimate aim should be to develop a system that is rigorous against fraud and fair to the claimants, yet transparent to all and answerable to the public; such a system would enhance governance while respecting the dignity and legacy of the Liberation War.

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Name: **Md. Shahenur Islam**

Roll No. **114**

A Research on

Digital Literacy of High School Students in Bangladesh: An Empirical Study in Urban and Rural Areas

Abstract

Digital media is getting popular in Bangladesh day by day due to the rapid proliferation of smartphones and widening internet accessibility among young users. The government plans to achieve the application of digital media in every sphere of society. Besides the positive impact, many problems arise due to the uninformed and unaware use of digital media by young users. This research is conducted using a mixed-method research design and interviewing high school-going students (N=50) located in 20 rural and urban areas of Bangladesh. Students' access to digital technology, ownership of the digital device, infrastructure quality, type and speed of internet, technological literacy, digital ethics, and computational thinking have been considered as the key factors of the analysis of collected data during the research. The research states that the geographic location, gender disparity, household income, and parental awareness shape the digital literacy of school-going students in Bangladesh.

Keywords

Digital Literacy, Mixed- Methods, Urban – Rural Divide, Secondary Education, Regression Analysis

1. Introduction and Background

Digital literacy has become a fundamental competency to ensure proper learning, livelihood, and civic life in the 21st century. In addition to the sole familiarity with the device, it indicates the know-how to locate, evaluate, utilise, and communicate information in the digital landscape. Digital literacy is directly connected with adolescents preparing for tertiary education, vocational training, and earning a livelihood through searching for economic opportunities. The demand for digitally literate skills is increasing as Bangladesh is undergoing rapid digitalisation across government and non-government organizations.

Government policy and development project design emphasise ICT integration in education and learning programs to boost digital learning, reduce the skill gap, and improve employability skills. Despite the continuous effort, Digital Literacy is passing through an uneven readiness phase across schools, marking the disparities in access to the internet and teachers' capability to integrate technology while teaching. Therefore, it requires more study to determine the areas to be prioritized and optimized to generate a digitally literate nation.

4.1. Problem Statement

High school students in Bangladesh remain fragmented despite having notable government policy support and substantial contributions from donors. Evidence reflects that high school students require improvement in computer and digital literacy to increase the adoption of e-resources. In contrast, some focus on the limitations of information evaluation skills, safe surfing practices, and preparedness for advanced digital competencies. Then, skill gaps are remarkably high among rural area high school students and teachers, which makes a significant barrier in developing a digitally literate nation. Similarly, low-income families, religious education streams, and limited access to digital platforms make it more challenging to acquire the required knowledge. Without comprehensive and robust empirical research evidence, policy-makers and decision-makers face a challenging situation to address the problem accordingly.

4.2. Research Objectives

The empirical study seeks to address the following specific objectives:

a. To measure the position of digital literacy among high school students from grades 6 to 10 across various domains including operational, information, and communication skills, as well as digital citizenship.
b. To determine the barriers to digital literacy competencies, including access to devices, quality of internet connections, teachers' ICT competence, and socio-economic status.

4.3. Research Questions

To achieve these objectives, the study addresses the following key questions:

a. What is the distribution of digital competencies among high school students across operational, informational, communicational, and domain ownerships?
b. Which school, household, and teacher-related contextual factors drive digital literacy, and how substantial are their effects?
c. Are there any digital literacy inequalities in terms of gender, geography, and school categories?
d. How do school teachers and management perceive the opportunities of digital literacy skills in the classrooms?
e. What policy and programming approaches can effectively address the identified research gaps?

4.4. Rationale and Contribution of the Research

The study aims to bridge the existing gaps in several ways. Firstly, it generates an empirical measurement of digital literacy among high school students in rural and urban areas, while existing research focuses only on computer literacy.

Secondly, the research integrates qualitative and quantitative findings from different perspectives to find actionable recommendations for policymakers, while current research recommends based on qualitative or quantitative research.

4.5. Research Scope and Limitations

The research is accomplished in a certain time period on digital literacy among secondary-level (high school) students in Bangladesh, including both rural and urban areas. In that case, the digital literacy of secondary-level students in Madrasah and Vocational Institutes is not covered in this research. Additionally, the scope of this study is bounded by the specific baseline knowledge and methodological constraints inherent to individual research boundaries. As a result, temporal dynamics and changing situational contexts are not addressed in this study.

2. Review of Literature

2.1. Conceptualising Literacy of Digitalization: The concept of digital literacy has evolved in different situations. Gilster (1997) introduced the concept as the ability to understand and use information available in multiple formats in a diversified range of sources. Gradually, scholars started to state that understanding and information-using skills are not enough for the changed and dynamic workplaces. UNESCO (2018) conceptualised that digital literacy is the ability to access, manage, understand, integrate, communicate, evaluate, and create information safely on digital platforms to participate in social and economic life.

2.2. Measurement Approach and Instrument: Proper assessment of digital literacy is challenging as it comprises observational skills and cognitive skills. A self-report questionnaire was used earlier to measure digital literacy, and it was very easy to administer in Bangladesh. Meanwhile, misjudgement and social desirability generate biased outcomes in the assessment. Performance-based measurement, such as accomplishing the assigned task on time with reliability and credibility, has evolved, and this offers more valid and resource-intensive outcomes.

2.3. Digital Literacy and Academic Outcome: There is a positive and comprehensive correlation between digital literacy and academic outcome in Bangladesh. Highly digitally literate students tend to perform better in research, collaboration, connectivity, and social engagement. In contrast, with high digital literacy, students might have the tendency to doubt the authenticity of the information without reference or citations.

2.4. Digital Literacy and Equity: The first level digital divide indicates limited access to the internet and ownership of a digital device. The second level digital divide refers to the skill and

quality of utilising the availability of the internet and infrastructure. In Bangladesh, household income, geographical location, gender, and community culture are the predictors of digital access. Bangladesh Bureau of Statistics stated that urban students have twice as much access to the internet compared to rural students. During the COVID-19 pandemic, 28% of rural students and 65% of urban students at the secondary level could join online classes.

2.5. Teachers' Capacity and Pedagogical Integration: The teachers' competence level is a significant driving factor in educating high school students to be digitally literate. The TPCK framework stands for Technological Pedagogical Content Knowledge, which illustrates the interplay between the teacher and student while teaching offline and online. In Bangladesh, ICT training for high school-level teachers has reached, but the return from the training is not measured or justified yet. Further evaluation of the impact of the training and barriers to pedagogical integration should be addressed properly.

2.6. Gaps in the Literature: The global literature offers a mature and realistic framework to improve digital skills for advanced research and scientific discovery. In the meantime, the literature in Bangladesh sticks to computer literacy, access to the internet and its speed, parental control, and domain coverage.

3. Research Methodology

3.1. Research Design and Justification

The research is conducted by adopting a mixed-method approach to collect and analyse qualitative and quantitative research data. Adoption of a qualitative or quantitative approach enables collection and analysis of a single type of data, which generates shortcomings in research results. Hereby, the collection and analysis of both types of data help overcome the limitations of the nature of a single type of research data. In contrast, the use of mixed methods generated a dilemma regarding which type of research data should be emphasised.

3.2. Research Location and Scope: The research data is collected from the 6~10 grade students enrolled in government high schools located in Dhaka, Chattogram, Khulna, and Rajshahi districts. As the capital of Bangladesh, the student of Dhaka districts school represents a better

infrastructure, stable internet access, higher socio-economic status, as well as an urban educational environment.

Similarly, the port city Chattogram represents a dynamic and socio-economic aspect of the high school-going students in an urban area. Rajshahi is a northwestern district of Bangladesh with a moderately developed area, and it represent the semi structured and semi-urban area. Finally, Khulna is a southwestern district of the country, and it is deprived in terms of infrastructure and internet access relative to other urban areas.

3.4. Target Population and Sample Technique

The target population for this study comprises secondary-level students enrolled in grades 6 to10 within government high schools located in Dhaka, Chattogram, Rajshahi, and Khulna districts. Additionally, the population encompasses Information and Communication Technology (ICT) teachers and the professionals in charge of the ICT laboratories within school premises.

The convenience sampling method was applied during the research to ensure voluntary and meaningful participation from the target demographic. The government school list published by the education board will be followed, and 5 schools per four districts were selected for quantitative data collection. Hereby, 30 students from the randomly selected five schools are enlisted for quantitative research data collection. Similarly, 10 teachers were randomly selected from each school for quantitative data collection.

On the other hand, for the qualitative data collection, 5 school teachers per four selected districts (20 in total) were randomly chosen for the semi-structured interview. Similarly, two focus groups, including 6~8 students (total 8 focus groups), were selected for focus group discussion for the qualitative data collection and analysis during the research.

3.5. **Sample Size and Justification**: The sample size in this research is determined by the power analysis software G*power by targeting a statistical power of 0.80, alpha of 0.05, and a medium effect size. Thus, the data collection from this sample size enabled the detection of a significant association between socioeconomic variety and digital literacy. In addition, the sample size determination for the collection of qualitative data follows the

principle of data saturation, which drives continuing the data collection till the emergence of a new theme during the research.

3.6. Data Generation and Assessment

Quantitative Tools: This study employs quantitative data collection, a semi-structured survey of students and teachers on their digital literacy. The key areas of the questionnaire are digital device ownership, frequency of access to the internet, social media usage patterns, and the use of digital literacy for academic purposes.

In addition, the ongoing data collection of the teachers was surveyed based on the use of ICT for professional skills development, use of social media tools to communicate with students, barriers and supports to using ICT in the classroom, pedagogical practices to teach students, and their attitude towards digital literacy in the classroom.

For qualitative data collection, an open-ended questionnaire was used to note the participants' feedback. Each interview lasted for a maximum of 30 minutes and more if needed, with the participants' consent. Furthermore, the focus group discussion with the participants was recorded in audio with their consent for further analysis during the research. Hereby, each focus group discussion was aimed to be completed within 45 minutes.

Data Analysis: Research data were analysed using SPSS to compute descriptive statistics, demographic profiles, and inferential statistics, including ANOVA, t-test, correlation, and regression analysis. Hereby, the correlations in digital literacy with predictors – such as socio-economic status, gender, and geographic location--were examined. Qualitative data findings from the interviews and focus groups were transcribed verbatim and translated into English where necessary. Finally, survey findings from urban and rural student cohorts were compared during the data analysis phase.

Thematic analysis was conducted by following the six phases introduced by Braun & Clarke (2006). Firstly, the researcher became familiar with the research data and content through continuous reading. After becoming familiar, initial codes were generated through highlighting the relevant content. From the prepared list, the themes were searched and reviewed to define and name the themes. Finally, the engaging and coherent themes are written in the research paper.

3.7. Ethical Considerations

The research was conducted by following ethical standards such as informed consent and parental consent for the data collection from participants aged under 18. Also, the participant had the right to withdraw consent without having any consequences. The research data were recorded anonymously, and analysis was conducted in a manner that does not reveal the identity of any participant. Finally, ethical approval was granted by Bangladesh's Ministry of Education research committee.

3.8. Research Limitations

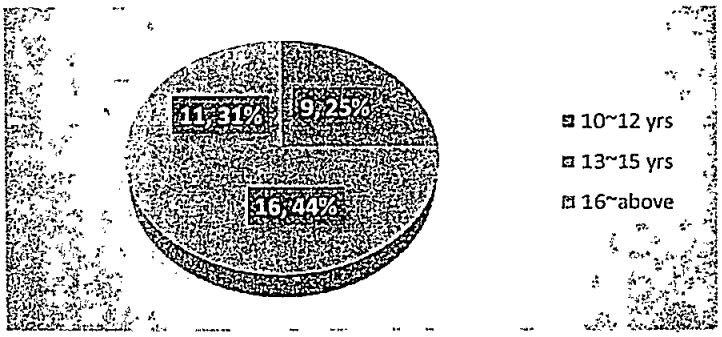
A primary limitation of this study was an exclusive focus on government high schools; consequently, students enrolled in private schools and madrasah streams were not included. Additionally, the data collection was restricted to specific four districts may not represent the other urban and rural areas of Bangladesh. Moreover, an individual's skills and data analysis with a limited boundary of knowledge shape the research outcomes. Therefore, further study by considering the above limitations would generate more meaningful research outcomes.

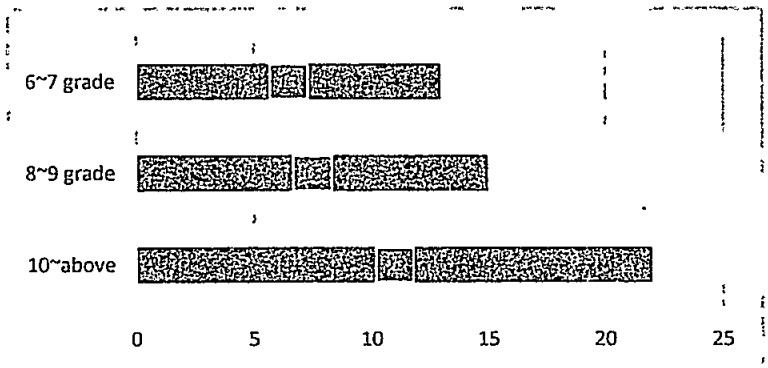
4. Findings and Analysis

The findings were derived from participant responses gathered through a semi-structured questionnaire developed on a Likert scale. Research findings were analysed using Microsoft Excel and SPSS (Statistical Package for the Social Sciences). Hereby, the demography and background of the participants are presented in pie charts, bar charts and column charts. Subsequently, the findings on the independent and dependent factors were analysed in terms of inferential statistics.

4.6. Participants' Demography and Background

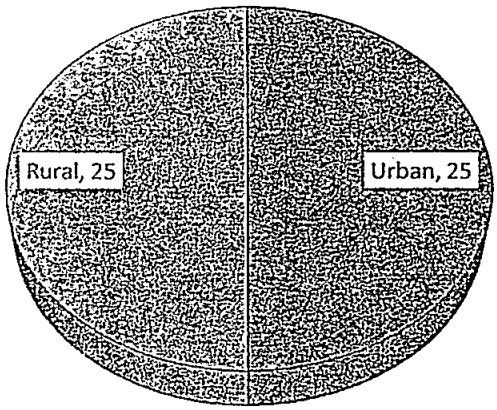
The research data were collected from the minor group with the consent of their parents, and participants were selected randomly. Due to the target population's age and experience, no participants were forced or compelled to participate in research by sharing the required data. Hereby, the majority of the sample (44%) were aged above 16 years, and their intention to participate in research was commendable.

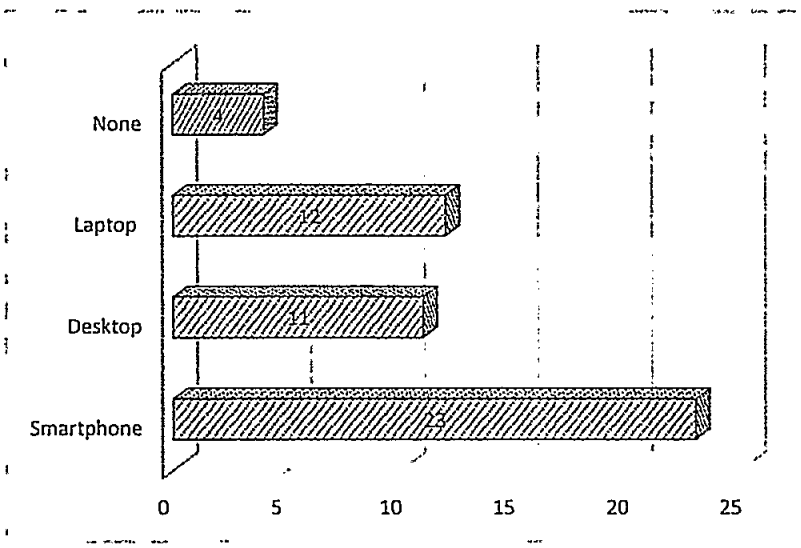




The research data were collected from high school students studying in six to ten grades, while the chart above indicates the students waiting to sit for the secondary board exam during the research. Hereby, the majority of the participants, such as 44% of the respondents, were from 10th grade and above. Due to the higher grade level in high school, the feedback on the research questionnaire was more measured and meaningful than that of other participants.

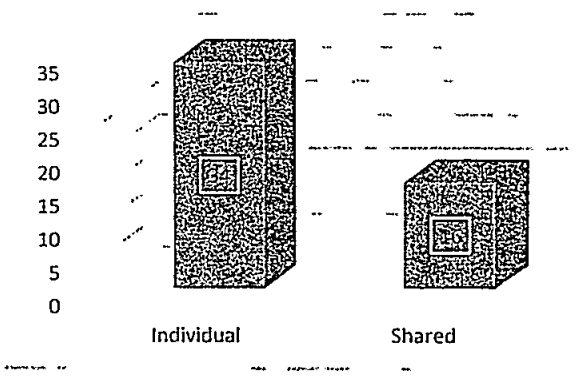
To compare the digital literacy among the high school students in Bangladesh, research data was collected from 50 students, while 25 were from an urban school and the other 25 were from a rural school. Reaching the urban students was easy, but getting a convenient schedule was very difficult as they were busy with the out of curricular works. In the meantime, filling the quota for the research data collection from rural students was easy as they shared the passion to share their thoughts on the research topic.





The research found that the majority of the participants have access to a digital device at their home. Meanwhile, 6% of the total participants had limited or no access to a digital device. Surprisingly, the students with no access to a digital device at home were not disadvantaged in terms of digital skills. They were also familiar with the terms and technologies required to accomplish the academic task. Furthermore, having a digital device at home did not guarantee high digital literacy.

The majority of the participants own a digital device, while 32% of the total respondents have to share the digital device at home. Hence, 68% of the high school student own a digital device with the financial support from their family. During the interview, no one claimed that the digital device was purchased at their own expense. Therefore, the household income and parental intention to give access to the digital device play a significant role in their digital literacy.



4.7. Findings and Analysis of Urban School Students

Hereby, the feedback from the urban school students is analysed using SPSS in terms of frequencies of the feedback, correlation, and regression analysis. The responses regarding the digital platforms are computed as the digital resources of the urban students, while feedback on the digital skills and competence is evaluated as the digital literacy.

4.7.1. Frequencies of Findings from Urban Students

Regarding budget- friendly digital devices, 28% of the urban school students agreed that they possess budget-friendly digital tools such as smartphones, tablets, laptops, and desktops. In contrast, 24% strongly agreed, 24% remained neutral, and another 24% disagreed with the statement.

During data collection, 72% of the urban students replied that they have stable power backup to overcome the frequent load shedding to continue using the digital devices for study purposes. In contrast, 24% of the urban students remained neutral regarding confirming the availability of stable power backup.

Research question on having affordable mobile data and Wi-Fi: 48% of the urban students strongly agreed, and another 28% of them agreed that they can afford mobile data and Wi-Fi while using the digital device. In contrast, 24% of urban school students remained neutral in replying to the question.

During the survey, the majority of the urban students (48% remained neutral to confirm their access to the localised e-learning platform. In contrast, 52% of the urban school student has the access to the localised e-learning platform. Therefore, almost half of the urban students are not utilising the available e-learning platform for academic purposes.

The majority of the urban school students (76%) are aligned with the national curriculum in terms of using the digital platforms. In contrast, 24% of the urban school students remained neutral on the matter. Hence, there is still room for engaging the students to align with the national curriculum while utilizing the digital platforms.

Most of the urban students (76%) can spot the misinformation by identifying the sources and evaluating the reliability of the information on digital platforms. On the other hand, 24% of the participants from the urban schools did not confirm that they could identify misinformation on digital platforms.

During the research, it was revealed that 76% of the urban school students can communicate and collaborate in group work on digital platforms. In the meantime, 24% of the urban students have the confusion on it, and they must be trained to utilise the available platform in the best way.

The survey revealed that 52% of the urban students are not engaged in copying and pasting the information available on digital platforms. On the other hand, 48% of the urban school students were neutral, as they might be practicing copying and pasting the information available on the digital platform to accomplish the required assignment.

The research also found that 76% of urban school students can protect their personal data on digital platforms. On the other hand, 24% of the urban students remained neutral to confirm it. Hence, they might not be trained or skilled enough to ensure personal data protection.

The survey stated that most of the urban student (72%) are engaged in robotics technology or using artificial intelligence as a part of their academic and extracurricular activities. On the other hand, 28% of the urban school students remained neutral in responding to respond on it.

Therefore, the majority of urban students have skills in understanding misinformation on digital platforms, personal data protection, and using robotics and artificial intelligence. On the other

hand, weaknesses of urban student reflected in having a budget-friendly digital device, affordability to use mobile data or Wi-Fi, and having access to the localized e-learning platform.

4.7.2. Correlation Analysis

Hereby, Pearson Correlation (r) = 1.000, P <.001 indicates a strong and perfect positive correlation. Hereby, stable power backup and spot misinformation, affordable data and effective communication, access to e-learning site and plagiarism practices, national curriculum and personal data protection are positively correlated. Thus, improvement in one variable will bring improvement in another variable.

On the other hand, notable negative correlations are found between power backup and national curriculum, misinformation and national curriculum, and budget-friendly device and mobile data are negatively correlated. Therefore, if one variable improves, the other will drop significantly.

Correlations

		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Q1	Pearson Correlation	1	-.624**	-.676**	.154	.630**	-.624**	-.676**	.154	.630**	-.382
	Sig. (2-tailed)		<.001	<.001	.461	<.001	<.001	<.001	.461	<.001	.060
	N	25	25	25	25	25	25	25	25	25	25
Q2	Pearson Correlation	-.624**	1	.722**	.000	-.707**	1.000**	.722**	.000	-.707**	.160
	Sig. (2-tailed)	<.001		<.001	1.000	<.001	<.001	<.001	1.000	<.001	.445
	N	25	25	25	25	25	25	25	25	25	25
Q3	Pearson Correlation	-.676**	.722**	1	-.626**	-.426*	.722**	1.000**	-.626**	-.426*	.559**
	Sig. (2-tailed)	<.001	<.001		<.001	.034	<.001	<.001	<.001	.034	.004
	N	25	25	25	25	25	25	25	25	25	25

Q4	Pearson Correlation	.154	.000	-.626**	1	-.408*	.000	-.626**	1.000**	-.408*	-.601**
	Sig. (2-tailed)	.461	1.000	<.001		.043	1.000	<.001	<.001	.043	.001
	N	25	25	25	25	25	25	25	25	25	25
Q5	Pearson Correlation	.630**	-.707**	-.426*	-.408*	1	-.707**	-.426*	-.408*	1.000**	.000
	Sig. (2-tailed)	<.001	<.001	.034	.043		<.001	.034	.043	<.001	1.000
	N	25	25	25	25	25	25	25	25	25	25
Q6	Pearson Correlation	-.624**	1.000**	.722**	.000	-.707**	1	.722**	.000	-.707**	.160
	Sig. (2-tailed)	<.001	<.001	<.001	1.000	<.001		<.001	1.000	<.001	.445
	N	25	25	25	25	25	25	25	25	25	25
Q7	Pearson Correlation	-.676**	.722**	1.000**	-.626**	-.426*	.722**	1	-.626**	-.426*	.559**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	.034	<.001		<.001	.034	.004
	N	25	25	25	25	25	25	25	25	25	25
Q8	Pearson Correlation	.154	.000	-.626**	1.000**	-.408*	.000	-.626**	1	-.408*	-.601**
	Sig. (2-tailed)	.461	1.000	<.001	<.001	.043	1.000	<.001		.043	.001
	N	25	25	25	25	25	25	25	25	25	25
Q9	Pearson Correlation	.630**	-.707**	-.426*	-.408*	1.000**	-.707**	-.426*	-.408*	1	.000
	Sig. (2-tailed)	<.001	<.001	.034	.043	<.001	<.001	.034	.043		1.000
	N	25	25	25	25	25	25	25	25	25	25
Q10	Pearson Correlation	-.382	.160	.559**	-.601**	.000	.160	.559**	-.601**	.000	1

	Sig. (2-tailed)	.060	.445	.004	.001	1.000	.445	.004	.001	1.000	
	N	25	25	25	25	25	25	25	25	25	25
**. Correlation is significant at the 0.01 level (2-tailed).											
*. Correlation is significant at the 0.05 level (2-tailed).											

4.7.3. Linear regression analysis

In the model summary, R indicates the linear correlation between the actual observed value and the predicted value by the model. The R value of .816 represents a strong positive relationship between the digital resources (independent variables) and digital literacy (dependent variables).

Similarly, R-squared measures the proportion of the variance in dependent and independent variables. The value from the table below indicates 66.6% variance, while the remaining 33.3% variance is not explained by this model.

In addition, the adjusted R square is a modified version of R square, and it explains the complexity of the model. If R square is increased for adding variables are added, adjusted R square accounts for the variables' uselessness. The difference between R square and adjusted R square is noticeable as the sample size is small (N=25). Meanwhile, it indicates predictors enhance the explanatory power of the model.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.816[a]	.666	.599	.13416
a. Predictors: (Constant), Aligned with national curriculum, Access to a localized e-learning platform, Budget-friendly devices, Stable power backup				

The regression model is statistically significant as the significance value ($p<.001$) is less than .05. Regression (0.718) is the amount of variation in digital literacy explained by the four independent variables or predictors. Meanwhile, the residual (0.360) is the error or unexplained variation.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.718	4	.180	9.978	<.001[b]
	Residual	.360	20	.018		
	Total	1.078	24			
a. Dependent Variable: Digital literacy of students						
b. Predictors: (Constant), Aligned with national curriculum, Access to a localized e-learning platform, Budget friendly devices, Stable power backup						

From the coefficients table, stable power backup is the most statistically significant predictor of the digital literacy of the student in this model. The other three predictors do not have a statistically significant impact if evaluated at once.

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.293	.663		4.964	<.001
	Budget friendly devices	-.033	.039	-.177	-.861	.400
	Stable power backup	.273	.087	.645	3.144	.005
	Access to a localized e-learning platform	-.087	.045	-.354	-1.919	.069
	Aligned with national curriculum	.027	.082	.089	.327	.747
a. Dependent Variable: Digital literacy of students						

Using the unstandardized coefficients, a standard linear regression can be established ($Y = a + bX$). In contrast, the equation should be used to make a real-world prediction for the higher statistical significance. Therefore, increasing the efforts on the predictors will ensure the improvement of digital literacy among the urban high school students.

Digital literacy = 3.293 - 0.033 (Devices) + 0.273 (Power backup) – 0.087 (E-learning platforms)

4.8. Findings and analysis of rural school students' feedback

4.8.1. Frequencies of findings from the rural school students

The survey reveals that the majority (48%) of the rural school students remained neutral, and another 16% of them disagreed with having a budget-friendly digital device. In contrast, 36% of the rural school students have a budget-friendly digital device like a smartphone, tablet, desktop, or laptop.

Similarly, 16% of the rural students do not have a stable power backup, and another 48% remained neutral to reply. On the other hand, the other 36% of them have stable power backup to continue using the digital device during the load shedding time. Hence, load shedding during the study hours makes a significant impact on their concentration.

The research found that 52% of rural school student has the affordable mobile data or wi-fi to use digital devices. On the other hand, the other 48% of the participants remained neutral in replying to the questions. Therefore, a large number of rural school students have difficulties to get the access to use internet.

The survey found that the majority of rural school students, 56%, have access to a localized e-learning platform for academic purposes. In contrast, 16% of the rural students disagreed, and 28% remained neutral in replying that. Therefore, almost half of the rural school students do not have access to an e-learning platform.

The survey found that 32% of the respondents have been aligned with the national curriculum while using the digital platform. In contrast, 20% of the rural school students are not aligned, and the majority, 48% of the respondents, remained neutral. Therefore, around two-thirds of rural students are not effectively aligned with the national curriculum.

The survey revealed that 28% of the rural school students could not spot the misinformation available on the digital platform, while another 48% of students remained neutral in answering that question. Meantime, 24% of them agreed that they can spot misinformation by identifying the source of the information.

During the survey, it was revealed that 16% of the rural school students are unable to communicate and collaborate effectively on the digital platform, while another 52% of the participants remained neutral in replying to it. In contrast, 32% of the rural students agreed that they can communicate properly on the digital platform.

The survey found that 52% of the rural school student do copy and paste the information from the digital platform to accomplish their homework. On the other hand, 48% of the rural school students remained in a neutral position. Therefore, they might be engaged in copying the information by making a slight change or paraphrase.

The data shows that 52% know about personal data protection on the digital platform. Similarly, 24% of the participants lack knowledge of it, while another 24% of the participants remained neutral in replying to this question. Therefore, half of the rural students require training or a seminar on personal data protection.

The research found that 28% of rural school students are engaged in robotics and using artificial technologies as extracurricular activities. On the other hand, 20% of the participants disagreed with it, and the other 53% remained neutral on it. Therefore, rural students could not move forward to the advanced use of digital platforms.

Therefore, rural school students have a positive sign in terms of having affordable mobile data, access to the e-learning platform, and not engaging in plagiarism. On the other hand, they have areas to improve, like aligning with the national curriculum and providing opportunities to move towards the advanced use of digital platforms.

4.8.2. Correlation Analysis

From the correlation table, the key significant positive relationships are found between personal data protection and access to localised e-learning platforms, affordable data and alignment with the national curriculum, engaging in robotics or AI and not copying information from the internet, robotics and budget-friendly devices. Thus, the improvement in any aspect will cause improvement in another context.

Similarly, negative correlations are found between personal data protection and plagiarism, e-learning platform and affordable data, budget-friendly device and access to e-platform. Hereby, an increase in any variable will result in a drop in another variable due to the negative correlation.

In addition, no real connection is found between stable power back with all other variables, communication and collaboration versus all other variables computed in this research. Therefore, power backup and communication skills are completely independent from all of the other variables computed in this research.

Correlations											
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Q1	Pearson Correlation	1	-.056	.346	-.531**	.363	-.116	.317	.229	-.453*	.453*
	Sig. (2-tailed)		.789	.090	.006	.074	.582	.123	.271	.023	.023
	N	25	25	25	25	25	25	25	25	25	25
Q2	Pearson Correlation	-.056	1	-.163	.150	-.193	.288	-.100	.035	.042	.200
	Sig. (2-tailed)	.789		.437	.475	.356	.163	.634	.868	.843	.338
	N	25	25	25	25	25	25	25	25	25	25
Q3	Pearson Correlation	.346	-.163	1	-.551**	.514**	-.432*	-.117	.241	-.276	.029
	Sig. (2-tailed)	.090	.437		.004	.009	.031	.578	.246	.181	.890
	N	25	25	25	25	25	25	25	25	25	25
Q4	Pearson Correlation	-.531**	.150	-.551**	1	-.294	.291	-.051	-.210	.540**	-.211
	Sig. (2-tailed)	.006	.475	.004		.154	.158	.810	.314	.005	.312
	N	25	25	25	25	25	25	25	25	25	25
Q5	Pearson Correlation	.363	-.193	.514**	-.294	1	-.130	-.374	.400*	-.421*	.101
	Sig. (2-tailed)	.074	.356	.009	.154		.534	.066	.047	.036	.630
	N	25	25	25	25	25	25	25	25	25	25
Q6	Pearson Correlation	-.116	.288	-.432*	.291	-.130	1	.016	-.053	.272	.444*
	Sig. (2-tailed)	.582	.163	.031	.158	.534		.938	.800	.188	.026
	N	25	25	25	25	25	25	25	25	25	25
Q7	Pearson Correlation	.317	-.100	-.117	-.051	-.374	.016	1	-.307	.227	.339

	Sig. (2-tailed)	.123	.634	.578	.810	.066	.938		.136	.274	.097
	N	25	25	25	25	25	25	25	25	25	25
Q8	Pearson Correlation	.229	.035	.241	-.210	.400*	-.053	-.307	1	-.741**	.465*
	Sig. (2-tailed)	.271	.868	.246	.314	.047	.800	.136		<.001	.019
	N	25	25	25	25	25	25	25	25	25	25
Q9	Pearson Correlation	-.453*	.042	-.276	.540**	-.421*	.272	.227	-.741**	1	-.235
	Sig. (2-tailed)	.023	.843	.181	.005	.036	.188	.274	<.001		.259
	N	25	25	25	25	25	25	25	25	25	25
Q10	Pearson Correlation	.453*	.200	.029	-.211	.101	.444*	.339	.465*	-.235	1
	Sig. (2-tailed)	.023	.338	.890	.312	.630	.026	.097	.019	.259	
	N	25	25	25	25	25	25	25	25	25	25
**. Correlation is significant at the 0.01 level (2-tailed).											
*. Correlation is significant at the 0.05 level (2-tailed).											

4.8.3. Linear Regression Analysis

R measures the correlation between the actual and forecasted values computed by the formula. As the value is 0.469, the relationship between the dependent and independent variables is moderate and positive. Hereby, 22.0% of the variance in digital literacy is explained, while the remaining 78% variation is not explained by the model. Also, the adjusted R-squared value is 1.5%, which is a massive drop from 22% and indicates the predictors computed during the research are weak. Furthermore, the prediction made by this regression model will miss the actual observed value by 0.379 units.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.469[a]	.220	.015	.37866
a. Predictors: (Constant), Aligned with national curriculum, Stable power backup, Access to a localized e-learning platform, Budget friendly device, Affordable mobile data and wi-fi				

The Variance table assesses the importance of the regression model. Hence, the model below is not statistically significant, while the digital literacy of the rural students doesn't have a reliable relationship with the national curriculum alignment, stable power backup, access to an e-learning platform, budget-friendly device, and affordable mobile data.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.770	5	.154	1.074	.406[b]
	Residual	2.724	19	.143		
	Total	3.494	24			
a. Dependent Variable: Digital literacy of rural students						
b. Predictors: (Constant), Aligned with national curriculum , Stable power backup, Access to a localized e-learning platform , Budget friendly device, Affordable mobile data and Wi-Fi						

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.757	1.017		2.711	.014
	Budget friendly device	.183	.112	.405	1.632	.119
	Stable power backup	.042	.094	.093	.449	.659
	Affordable mobile data and Wi-Fi	-.080	.177	-.122	-.449	.658
	Access to a localized e-learning platform	.115	.119	.262	.963	.347
	Aligned with national curriculum	-.121	.118	-.253	-1.025	.318
a. Dependent Variable: Digital literacy of rural students						

5. Conclusion and Recommendations

Digital literacy among high school students in Bangladesh varies in terms of the urban and rural divide, basic knowledge with low awareness of the critical aspect, and structural gaps in the national curriculum. Despite access to digital platforms backed by government efforts on the multimedia classroom, students' true efficiency has been subject to demography, gender, school type, and household income. Therefore, urban versus rural device, variation in the educational institution, gender disparity, and safety vulnerability are not the least but the major factors in the digital literacy of the high school student.

Also, the teachers at high schools are significantly proficient in the urban area, while it is different in the high school located in the rural area. They are proficient in basic use such as screen navigation, internet browsing, and social media scrolling. On the other hand, they student as well as teacher have lag in digital skills like information evaluation, meaningful content creation, and basic programming for daily application. The research found the student face cyberbullying and harassment while they have low awareness of ICT laws, digital safety, and protection. Even many affected by cyberbullying do not share it with peers out of fear or shyness.

In addition, educational institutions are facing a challenging situation to make a transition from passive learning to proactive digital skills learning. The information and communication technology classes are focused on memorization, which is not making a real impact on the implementation in daily life. Very few students are exposed to modern technological skills like coding, robotics, and artificial intelligence. Rural parents view access to the internet as a structural distraction rather than considering it as a learning aid for the student. Digital literacy among adults is also low in rural areas, while parents prohibit use of the internet rather than guiding safe use of it.

Therefore, the rural high school student is in a weaker position in digital literacy. To overcome this situation and ensure the growth and advancement of high school students can be addressed through the recommendations below.

Recommendation One: Information Evaluation

The student must be aware enough to spot misinformation, identify the source, and determine the digital manipulation and bias in the online content. A group of interested students might be trained to act as the technical support and digital mentors for their peers. It would eliminate the barrier of financial cost, which is the biggest hurdle for the high school students in rural and urban areas.

Recommendation Two: Upgradation of the Academic and Technical Skills

Students should be trained to use spreadsheets, document creation, data collection and analysis, and multimedia presentations. The teacher can develop the lesson plan on online banking, agricultural tools, and designing digital resumes for job application. Hence, it would increase the engagement of the student through the demonstration of the immediate value of technology for their families and career.

Recommendation Three: Digital Ethics and Cybersecurity

Workshops on safe internet browsing, strong password creation, personal data privacy management, the counter steps for cyberbullying and plagiarism should be conducted in high schools in rural and urban areas. Tech Squad is a school that conducts weekly workshops on basic troubleshooting, web browsing, and software navigation. It would develop leadership skills and establish a low-cost support system in the school.

Recommendation Four: Implementation of the Offline Digital Toolkits

The localised server should be deployed by loading educational software that operates without internet access. Currently deployed platforms are RACHEL and KA Lite, which provide access to books, academic lectures, and learning content. This would enable the students to continue learning and practice despite frequent connectivity disruptions without purchasing cellular data.

Recommendation Five: Implement Mobile-Based Micro Learning Program

Students' assignment requirements should be designed for smartphones as the mobile devices are more accessible than personal computers in the rural household. SMS, WhatsApp, and light browser tools deliver bite-sized lesson data privacy, data footprint, and fact-checking. It would leverage the available or existing hardware without forcing the parents to purchase expensive and individual laptops or desktops.

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Appendix 1: Research questionnaire

Demographic information of students

a. Age
b. Class
c. Location
d. Types of digital device
e. Ownership of digital device

Digital resources of students

Q1: You have a budget-friendly smartphone, tablet or laptop

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree

Q2: You have stable power backup to cover load shedding during study hours

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree

Q3: You have affordable mobile data and wi-fi to ensure consistent internet use

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree

Q4: You have access to a localized e-learning platform to support studies

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree

Q5: The available platforms are aligned with the national curriculum to support study

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree

Digital literacy of students

Q6: You can spot misinformation and identify the source of information

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree

Q7: You can communicate and collaborate effectively in group work on digital platforms

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree

Q8: You do not copy information from the internet to do homework

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree

Q9: You know how to protect personal data and set a strong password on digital platforms

6. Strongly disagree
7. Disagree
8. Neutral
9. Agree
10. Strongly agree

Q10: You are engaged in robotics or using artificial technologies in the school digital club

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree

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Seminar Paper

On

The analysis of social impact of the Food Friendly Programme in Bangladesh: a case study of Satkhira Sadar, Satkhira District

Submitted by:

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158th Advanced Course on Administration and Development [ACAD]

Bangladesh Public Administration Training Centre
Savar, Dhaka

The analysis of social impact of the Food Friendly Programme in Bangladesh: a case study of Satkhira Sadar, Satkhira District

Abstract

Social security is essential to upgrade the socio-economic condition of the marginalized segments. Social safety net is an ideal alternative for social security and welfare. In the light of NSSS, SDG, post-MDG and 2nd Perspective Plan, Strategic framework for reform and development (2026-2030), Delta Plan 2100, and different human, social and constitutional rights, Bangladesh tries to ensure standard living to all including the Poor. Bangladesh operates over 90 such programmes now. The Food Friendly Programme (FFP) provides subsidized rice to ultra-poor households during lean pre-harvest seasons. So, it is important to measure its social impacts on beneficiaries of Satkhira Sadar Upazila, a coastal, salinity-affected and disaster-prone region of Bangladesh. Adopting qualitative method, data were collected from Key Informant Interviews (KII) and 16 purposively selected FFP card-holding beneficiaries through semi-structured questionnaires and analyzed three themes: decision-making power in the family, educational expenditure reallocation, and standard of living. Findings reveal that 87.5% of respondents reported increased participation in household decision-making, particularly women, though the shift was moderate rather than transformative. Reduced food expenditure enabled families to redirect savings toward children's education, indirectly supporting human-capital investment. Food security emerged as the strongest impact area, with 87.5% reporting significant improvement, while gains in sanitation and infrastructure remained weak. The study concludes that FFP provides meaningful short-term social protection but requires improved targeting, digitalization, transparency towards achieving sustained, equitable social transformation among ultra-poor households.

Key words: Beneficiaries, Social impacts, Standard living, Food Friendly Programme

1. INTRODUCTION

1.1 Background of the study

Social Safety Net is a universally acknowledged proven concept. It carries different names and structures ranging from the USA to African nations. It revolutionizes to expand quietly at least two countries per year and exists 131 countries either nationally or pilot-basis for individual or families (Benarji and Gentilini, 2013).It is taken as a strategic tool and a vital instrument for poverty alleviation. It is a successful mechanism for protecting the vulnerable groups of the society (Kabir et al., 2004). World Bank terms it as 'non-contributory transfer programs for the poor and the vulnerable'. It becomes significant and inevitable for many counties around the globe especially for its unique feature of crisis management and timely action. In the recent discourses, a paradigm shift has been formulated as social safety objectives have been categorized from social security to social welfare mechanism. It not only promotes human development but also accelerates economic development (Hulme, 2014).

According to Universal Declaration of Human Rights of the UN, Article 15 and 22 ensure the right to every citizen of the state to have standard living, healthcare and wellbeing. States together with other organizations must ensure the socio-economic rights, cultural rights, dignity, personality development and security at the time of sickness, disability, unemployment etc.

Especially goals like 1, 3, 5,8,10 numbers of the Sustainable Development Goals (SDGs) and Millennium Development Goals (MDGs) number 3 along with post-MDG focus on the socio-economic development of the poor across the world. The social protection floor (SPF) is a unified social policy concept approved by the UN chief executive board in 2009 that promotes the national strategies for income security and essential services to all citizens. Considering SPF framework, the International Labour Organization (ILO) Outlines four key national protections: access to healthcare, financial support for children, retirement pensions, and livelihood assistance for the poor and jobless (Hasan, 2017).

As an active member of UN, Bangladesh covers the obligatory provision to ensure the citizen's right to social security in its constitution. It becomes obligatory to the government of Bangladesh

to promote human and basic rights with standard of living because of being a signatory to the SPF initiative of the UN.

The 2nd Perspective Plan of Bangladesh (2021-2041), the 8th Five Year Plan (2020-2025), five year strategic framework for reform and development (July 2026-june 2030) Transforming economy from fragility to prosperity with 3R strategies Recovery, Restoration and Reconstruction, Volume II, Bangladesh Delta Plan 2100,SDGs framework (Agenda 2030), the post-MDG declare conceptually that Social Safety Net Programmes (SSNP) play a significant role in the socio-economic development, let alone poverty reduction. Bangladesh's National Social Security Strategy (NSSS) serves as additional proof of the government's commitment to protecting its poorest citizens.

Despite the commitments and policy obligations of different national and international organizations and overt declaration of human and citizen's rights first, the Govt. is expected to incorporate all needs following holistic approach. Due to recent decline weakening of moral integrity and constant changing nature of culture and customs are compromising the socio-economic stability of elderly people (Uddin, 2013). From the socio-economic evaluation point of view it is significant to know the real impact analysis to get the future prospects of the social safety net programme.

1.2 Problem statement

In Bangladesh, out of total 175million population, half of them are female (UNFPA, 2025). Elderly population (Aged 65+) in Bangladesh is also increasing rapidly. The present BNP Government proposed an allocation of **Tk 1,44,338 crore** for total 90 Social Safety Net Programmes (SSNPs) this year, representing a **14.4% increase** from the previous year's revised budget of Tk 1,26,731 crore (BSS, 2026).For the 2026–27 fiscal year, funding for social safety net programs represents 2.1% of the total GDP and roughly 15.39% of the proposed national budget, reflecting an increase from 2.02% of GDP recorded in the previous fiscal year (The daily star, 14 June 2026). The newly formed Govt. formulated five year strategic framework for reform and development (July 2026-june 2030) where social safety net programme and its significane have been highly considerered as vital instrument for Streamlining safety net disbursements through G2P (Government-to-Person) digital systems with Unified Registry & E-Health

Integration according to a time-frame of three phases- recovery, restoration and reconstruction. As per to the BNP's electoral pledges and with the introduction of new six new programmes, total 1 crore new beneficiaries will be given within which 41 lakh families will get TK 2500 per month as flagship family card that will cost TK 14500 crore next fiscal year.

In order to provide seasonal food security to the ultra-poor across the country, one of Bangladesh's largest social safety net initiatives name Food Friendly Programme (FFP) locally known as *KhaddoBandhobKarmasuchi.* The lean-season rice subsidy or the FFP was officially launched in September 2016 taking the core objective to eliminate seasonal hunger like Mongain rural area specially designed to prioritize women-headed households, widows, and families with disabilities with the subsidized rice price was set at TK 10 per kg. Due to agricultural employment drops, causing food insecurity for low-income laborers and considering the lean season concept, the food ministry operates during 5 to 6 critical "lean" pre-harvest months (typically March–April and September–November). Because of macroeconomic pressures, global inflation and rising trend of procurement costs, the ministry revised the rate at **TK 15 per kg** in September 2022 till today to 5.5 million beneficiaries. Managing the huge number of ultra-poor and their smooth social engagement become challenge for Bangladesh. Its association with social aspects like living standards, dignity, power of decision-making etc are undeniably recognized (Lister, 2004).

Moreover, the numbers of poor population are always on rising trend. One of the major procedural shortcomings of the present SSNPs, including food friendly programme, is the absence of a fruitful monitoring and evaluation (M&E) system. Moreover, at the individual or national level, there is no formal review mechanism for the performance of SSNPs. Some say social protection reduces the working spirit but evidences show that it is an effective tool for sustainable social and economic growth.

No significant study has been conducted in Bangladesh on the satisfaction level of the poor beneficiaries concerning the contribution of the food friendly programme on their social lives. Considering the inadequate attention given to this specific aspect, some questions related to social perspective need to be studied. To what extent this programme is effective in upgrading their status or standard of living? Do the beneficiaries exercise any power regarding decision-

making in the family? What is about educational expenditure reallocation? These social perspectives in their day-to-day life are overlooked and unclear.

1.3 Objectives of the research

The objectives of this research are following:

1. To examine the social impacts of the food friendly programme on beneficiaries
2. To recommend some possible ways of improving on the basis of findings.

1.4 Justification of the study

Food insecurity remains a critical barrier to socio-economic development. FFP serves as a key safety net program for rural vulnerable community. Most policy evaluations measure program success solely through coverage metrics or grain delivery volumes, neglecting long-term social changes in recipient households. It is important to measure changes on over-all life-standard of the beneficiaries caused by the FFP, this result can contribute for policy decision-making whether to expand or contract the programme outreach and budget.

Given the existing gaps, the importance of this one of the largest programmes and the increasing trends of the budget demand the impact analysis of this programme. This study fills that gap by analyzing social impacts like including household living standard, educational expenditure reallocation, and decision-making power resulting from food assistance. The findings will provide actionable insights for policymakers to optimize FFP implementation, ensure equitable benefits, and strengthen national social safety nets. Considering the context scenario, the present research intends to explore impacts of the food friendly programme, identify the positive and negative contributions of the programme and suggest policy implications thereof.

2. LITERATURE REVIEW

The Food-Friendly Programme (FFP) (KhaddoBandhobKarmasuchi) in Bangladesh is a social safety net initiative managed by the Ministry of Food to support low-income families during lean pre-harvest periods. It provides 30 kilograms of subsidized rice per month at Tk 15 per kg to 5.5 million card-holding families across 495 upazilas.

2.1 Core Program Details

Target Beneficiaries: 5.5 million low-income, marginalized and rural ultra-poor families

Subsidy & Allocation: 30 kg of rice monthly at Tk 15 per kg.

Distribution Schedule: Active for six months each year—split between August to November and March to April (lean agricultural seasons).

Nutritional Focus: Includes fortified regular rice in 248 upazilas (reaching about 2.53 million people) to fight malnutrition among women and children, with plain rice distributed in the remaining 247 upazilas.

Management Tool: Implemented using digital tracking via the Food Friendly Dealer App for transparent dealer inventory and recipient verification. Last three years data about the FFP are as following...

Table-1

No.	FY	Budget (LakhMT)	Beneficiaries (Lakh)	Distribution (Lakh MT)
1	2024-25	7.40	49.33	7.39
2	2023-24	7.40	49.33	7.25
3	2022-23	6.75	45.03	6.61

Source: **Ministry of food**

Concerning the social protection issue it is widely applied across the globe and it is universally acknowledged that there are numbers of studies worldwide for the constant upgrade of this humanly welfare program. While the social safety net acclaims a huge number of studies available, dealing with the studies about the food friendly program in Bangladesh is very few. Broadly speaking those studies summarize the subject matter as poverty alleviation, faults and error in the selection procedure and the impacts of the program.

As the social safety is a worldwide concept, it demands varied types and different extents and peripheries. Benefits are of different categories in different countries. The Vulnerable and ultra poor are the main target beneficiaries. These food supports or incentives for the marginalized

section of the society have been termed as survivor benefit for its feature of lifetime consumption (James, E. 2009).

A study by Lloyd-Sherlock, Corso and Minicuci (2015) has been done to find the socio-economic conditions and impacts on the vulnerable women and old-aged widow in five countries like China, Ghana, India, Russia and South Africa. Poor health and nutrition is prevalent in India while loneliness and depression exists in China. Adult mortality is high in Ghana whereas pension coverage for aged women gives them relief in Russia.

Food-based safety net programmes in Bangladesh are mostly formulated to target the vulnerable poor residing in a naturally disaster-prone, food-insecure or agricultural scarcity-based area selected upon the criteria of low income, landless or minimal ownership and day labor (Rahman et al., 2011).

Examining char areas in the Jamalpur district, this study evaluated key social safety net programs concerning elderly people, vulnerable women, and VGD/VGF recipients and so on. The findings indicate that these interventions significantly improved dietary habits and overall health outcomes among beneficiaries, underscoring SSNPs as vital instruments for poverty alleviation in Bangladesh (Badhan et al., 2019).

This study found that food aided programme to the hard core poor improved the poverty status and influenced on literacy. It has also found the existence of leakage in the program and indifference to the labour issue and need to be modified of the implementation process (Alam, S., 2003).

This article found that the amount, duration and payment interval are vital factors for food security, poverty and standard of living. Upon consideration of some demographic and socio-economic issues, it suggests higher amount, longer duration and shorter payment for redesigning the social safety net program (Asma, et. al, 2023).

This study got some positive effects on the immediate outcomes of poverty and social exclusion, especially in terms of improving food security, means of earning and social involvement

strengthening surveying Chittagong Hill Tracts in Bangladesh about the Vulnerable Group Development (Siddiki, et.al, 2014).

Based on observational data, this study strongly pointed out the errors in the selecting process of inclusion and exclusion of the food friendly program (FFP). Having measured upon the scale of corruption in the program, they examined that 0.88 taka out of 1.00 taka spent reaches its target and eligible beneficiaries under this Govt.- subsidized program. It disclosed the spatial heterogeneity is a significant drawback and high target efficiency is its strong output (Chowdhury, et.al, 2020).

Targeting inaccuracies, Grain leakage during warehousing and distribution and Over-reliance on Carbohydrates are some of the identified structural bottlenecks within the FFP in spite of some positive outcomes. Fortification, behavioral change and digitalization of beneficiary list are the recommended future strategies of IFRI synthesis outline (Ahmed, Bakhtiar and Mahzab, 2024).

The studies carried out in Bangladesh cover a variety of issues like different factors behind the vulnerability of poor, socio-economic impact and analysis regarding food friendly programme and other safety net programmes in the context of Bangladesh and few studies about low-, middle- and high-income countries. The objectives of the programmes were to provide food assistance in order to maintain a basic standard of living while enhancing their social standing within both domestic and community spheres.

In the context of Bangladesh's upgrading to a lower middle income country, the substantial size of the national budget, the steady advancement and engagement of women in politics and job sector and the recent expansion coverage of food friendly programme, a critical study on Social Safety Net programme especially the food friendly programme is deemed to examine its socio-economic perspective for the holistic development of the society as well as the nation. So, a deep examination is essential anew for future policy-making and inclusive development of the country. Most of the studies shed lights on the beneficiaries' selection only. Moreover, there is no study about the social impact on beneficiaries examining their household living standard, educational expenditure reallocation, and decision-making power resulting from food assistance.

2.2 Analytical framework and selection of themes

Considering the analytical framework to bring out the social impact, this study frames to analyze the societal outlook in regard to living standard, education expenses reallocation and decision-making power. In addition, the traditional family patterns are breaking down. The norms and values like respect to the elders are also changing. As a consequence, the elders face the vulnerabilities more in terms of food, shelter, healthcare, community and social attitude (Barikdar, Ahmed and Lasker, 2016). So, the social conditions of the poor people especially their living standard, education expenses reallocation and participation in family decision-making need to be measured.

So, in line with the objectives of the FFP, this study will focus three important aspects in order to reflect the social impact of the programme. They are decision-making power in the family, educational expenditure reallocation and their living standard. This research will develop three conceptual indicators by which the social impact and implications regarding performance of the programme for being measured.

The social impact of food friendly programme

Themes

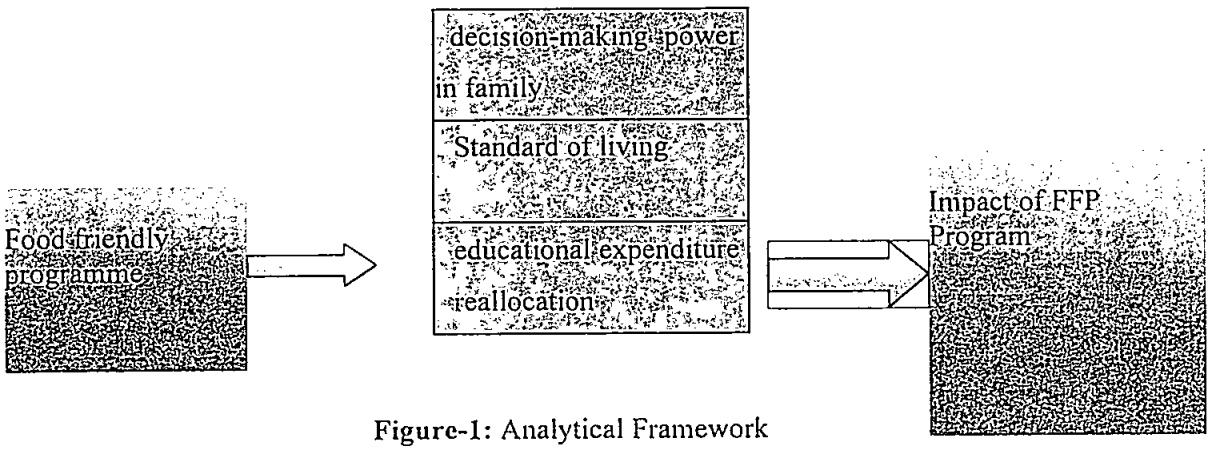


Figure-1: Analytical Framework

Unlike other studies, this study is an impact analysis on beneficiaries with having the same socio-economic background of the food friendly programme which was not studied by anyone before. Thus, it is important and necessary to analyze the overall social impact of FFP to make it more effective and more compatible socio-culturally. So, this research is unique of its kind.

3. RESEARCH METHODOLOGY

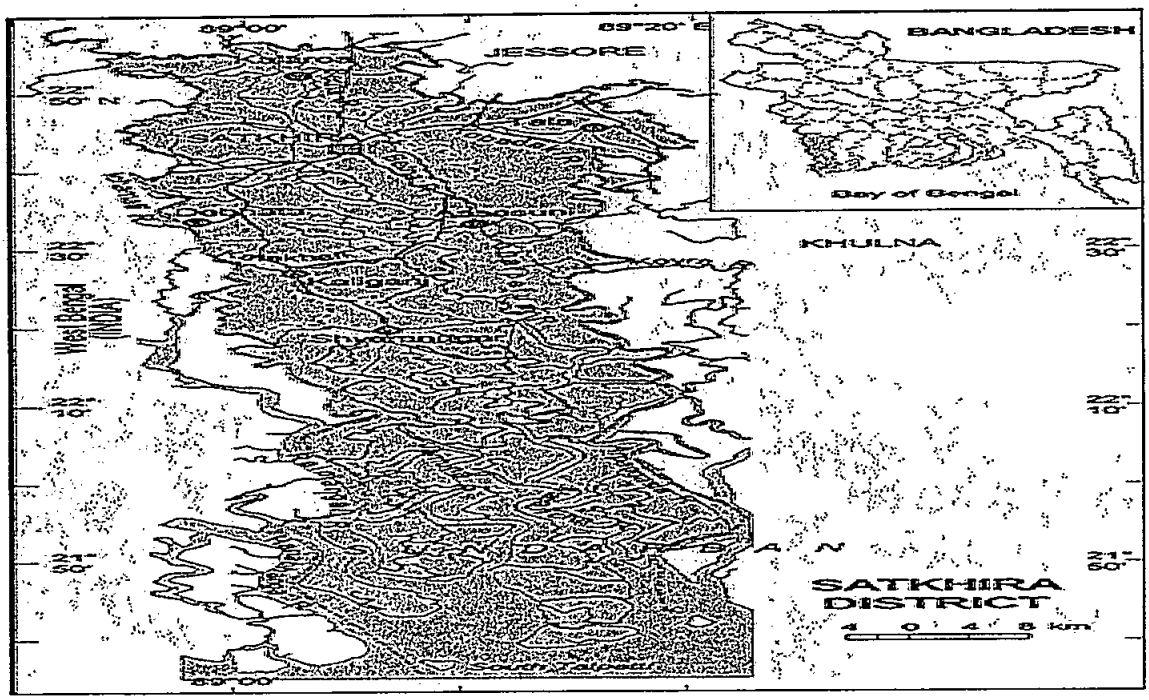
A research design generally involves the researchers to relate the empirical world with the specific sites, selected beneficiaries, groups and institutions. This research selects the case study of Satkhira Sadar Upazilla to relate the theoretical context of Social Safety Net Programme (SSNP), especially the social impact of food friendly programme.

3.1 The study settings

Bangladesh is a deltaic plain land. The total area is 147570 Square Kilometers surrounded by a shared 4,096 kilometer-long border which is the 5th longest international land border with India (Jamwal, 2004). Administratively, Bangladesh is divided into eight divisions. Each division is divided into several districts, and then districts are subdivided into sub-districts or Upazillas and union councils or unions. Satkhira was upgraded to a district on February 3, 1984. Satkhira sadar consists of Satkhira Municipality, 14 Union Parishads. This is a case study of Brahamarajpur and dhulihar union of SadarUpazilla under Satkhira district will be selected purposively for convenience but it has also several valid reasons to choose.

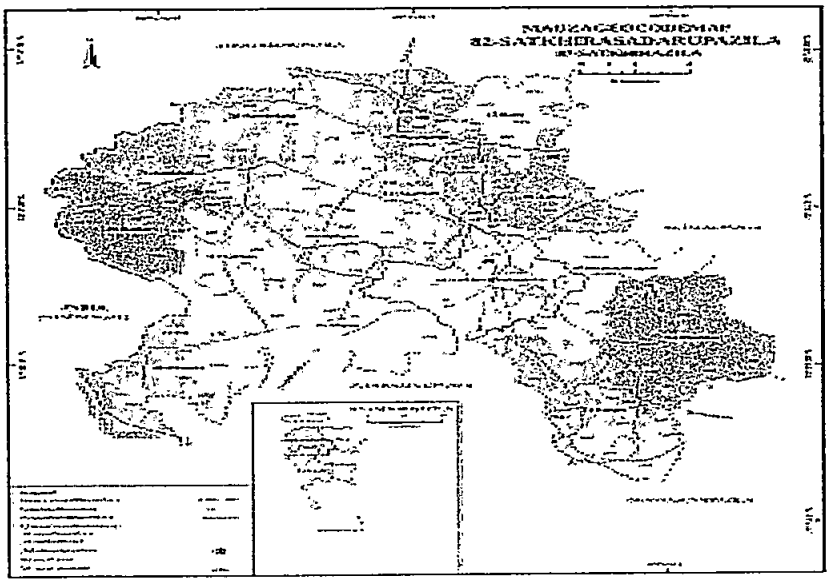
These unions are taken on the ground of economic condition and vulnerability of the people. It is situated in the southern part of Bangladesh beside the largest mangrove forest Sundarbans and the Bay of Bengal. Due to close proximity to the sea side, salinity in water has been high in this area. The natural calamity like cyclone and salinity aggravate the vulnerability to children, women and disabled people most severely. Frequent natural disasters multiply this situation. The **food friendly programme is aimed to improve the life standard and welfare of this needy section of the society.** Therefore, study area selection deserves justification.

Figure-1.1: Map of Satkhira District, Bangladesh



Source : Banglapedia: The National Encyclopedia of Bangladesh (Asiatic Society of Bangladesh).

Figure-1.2: Map of Satkhirasadar sub-District, Satkhira, Bangladesh



Source: *Small Area Atlas / District Statistics & Census Reports,* Bangladesh Bureau of Statistics

3.2 Tools and techniques of collecting data

In the light of analytical framework of the research, this research adopted qualitative method to achieve the purpose of the study. Key informant interview (KII) and Semi-structured questionnaire analysis were used to collect and analyse primary data (see **Appendix A and Appendix B**). Secondary data was also used to analyze the research works from the government manual, books, journals, rules, regulations, dissertations, articles, DSS reports, websites and previous reports are used as secondary sources to get the detailed information and other characteristics and aspects of the food friendly programme.

Semi-structured questionnaire and KII method was used to explore the deep insights and the in-depth opinions of the respondents and leading associated personalities to get the real impact of the FFP. So, semi-structured questionnaire including open-ended questions developed to examine their nature and social perspective. They independently and freely gave their information in assurance of not disclosing their information to the public. We also assured them as they could retain their information and might withdraw it accordingly. Purposive sampling was used to bring out the best result. We selected two unions named Brahamarajpur and Dhulihar unions for picking respondents until it is saturated for repetition.

3.3 Sample size and data analysis

Selection of the sample respondents was dependent upon two considerations: time and resource constraints and accessibility of the institutional management. The list of beneficiaries collected from the Upazilla controller of food officer, Satkhira sadarA holistic overview was not possible due to shortage of time and resource. The study area reported in table-1.1.

Table-1.1: Selection of the study area

Union	Beneficiaries	Total number of respondents
Brahamarajpur	8	8
Dhulihar	8	8
Total	16	16

Data analysis was operated through the continuous reflection of the collected data for deeper realization, representation and interpretation (Creswell, 2003). The large number of data converted into small and condensed form. We analyzed our collected data through tables and graphs focusing on demographic and social characteristics of the respondents along with the impact of food friendly programme on the three key indicators.

4. FINDINGS AND DISCUSSION

This chapter presents the findings of the study on the social impact of the Food Friendly Programme (FFP) among beneficiaries of Brahamarajpur and Dhulihar unions, Satkhira Sadar Upazila. Findings are drawn from thematic analysis of Key Informant Interviews (KII) and semi-structured questionnaire responses collected from 16 respondents (n=16), and are organised around the three conceptual indicators set out in the analytical framework (Figure-1.3): decision-making power in the family, educational expenditure reallocation, and standard of living, followed by a discussion of implementation and targeting issues that cut across all three.

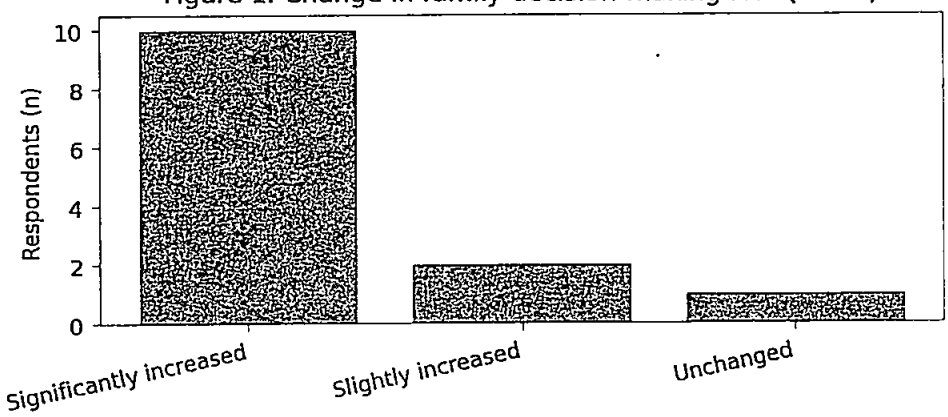
4.1 Socio-Demographic Profile of Respondents

The analytical sample comprised 16 FFP card-holding beneficiaries drawn from the two purposively selected unions. The mean age of respondents was 55.2 years, the mean monthly household income was approximately BDT 7,300, and the mean duration of FFP membership was 8.0 years. The sample was predominantly male, reflecting the household-head registration pattern common to card-based safety-net enrolment, although women were reported as the principal decision-takers on food-related matters within these households (see Section 4.2). This profile is consistent with the programme's stated targeting criteria of low-income, ultra-poor and lean-season-affected households described in the literature (Rahman et al., 2011; Chowdhury et al., 2020).

4.2 Theme 1: Decision-Making Power in the Family

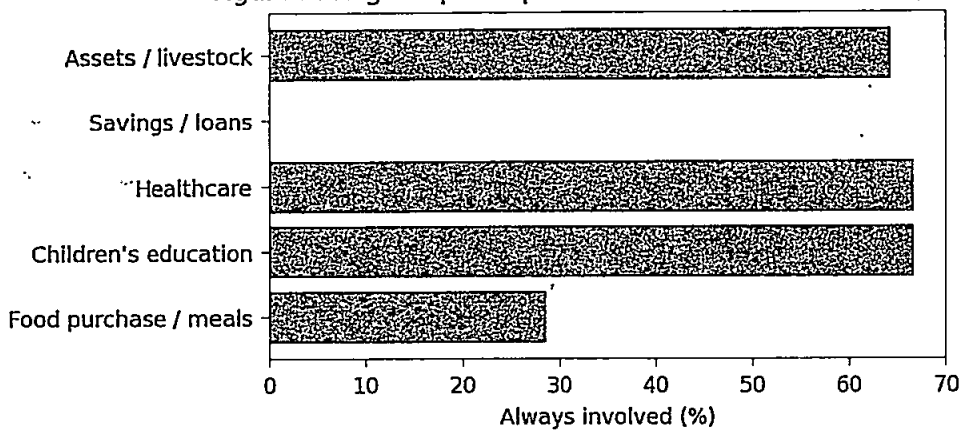
Fourteen of the 16 respondents (87.5%) reported an increase in their role in family decision-making after joining FFP. Regular participation was strongest in decisions concerning children's education and healthcare, while participation in savings and loan decisions remained comparatively lower. Informants, particularly women, described gaining greater influence over household expenditure, children's welfare and healthcare choices, which they attributed to the easing of food-related financial pressure and a resulting increase in their contribution to household financial management. The strongest regular participation remains concentrated in decisions concerning children's education and healthcare, while savings/loan decisions show comparatively lower regular participation. The pattern suggests that access to subsidized food can contribute to a greater perceived role in household decisions, although the case-study design does not establish causality.

Figure 1. Change in family decision-making role (n=16)



Source: Plotted by Author

Figure 2. Regular participation in household decisions (n=1(



Source: Plotted by Author

However, the magnitude of this shift was consistently described by respondents as limited or moderate rather than transformative, suggesting that traditional intra-household power structures continue to constrain women's agency even where FFP has created new financial space. This finding is consistent with Lister's (2004) observation that food-based transfers are linked to dignity and decision-making power, while also echoing the moderate, non-linear empowerment effects reported in cross-country studies of social protection for vulnerable women (Lloyd-Sherlock, Corso and Minicuci, 2015). The finding directly answers the study's second research question on whether beneficiaries exercise greater decision-making power within the family.

4.3 Theme 2: Educational Expenditure Reallocation

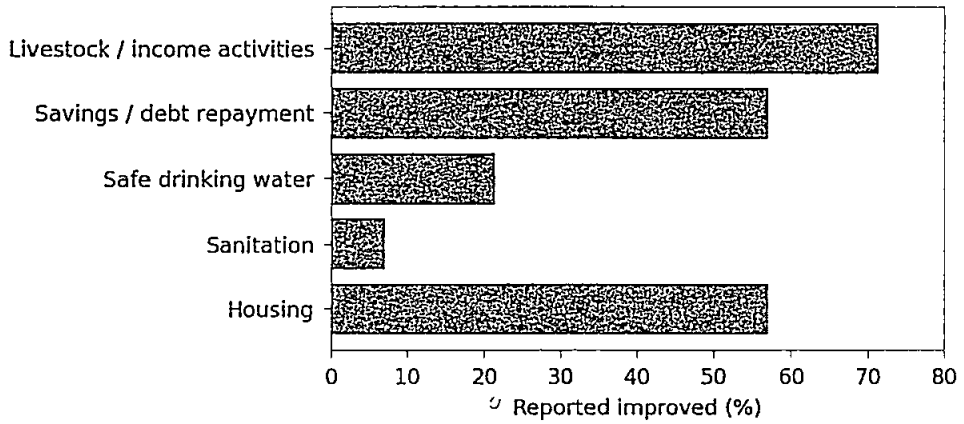
Seven of the 16 respondents reported having school-going children. Among these households, a positive pattern of educational expenditure reallocation was recorded: reduced spending on staple food was associated with an increased capacity to finance private coaching, tuition fees, books, stationery and other school-related charges. Informants also reported improved school enrolment and reduced dropout pressure since joining the programme. The dataset indicates a positive education-reallocation pattern. This supports the study's conceptual argument that reduced food expenditure can release household resources for children's education

FFP therefore does not finance education directly, but it appears to create fiscal space within the household budget that families redirect toward children's schooling. This supports the study's conceptual argument, set out in the analytical framework, that food subsidy operates as an indirect enabler of human-capital investment rather than a direct educational transfer, and responds to the research question on educational expenditure reallocation among beneficiary households.

4.4 Theme 3: Living Standard and Socio-Economic Impact

Food security emerged as the strongest and most consistently reported dimension of impact: 14 of the 16 respondents (87.5%) rated their household food security as "much better" since joining FFP. Beyond food, informants reported improvements in healthcare access, medicine purchases and the ability to meet routine household necessities, particularly during the programme's lean-season distribution windows (August–November and March–April). Several beneficiaries reported undertaking small income-generating investments, such as livestock rearing, using resources freed up by the rice subsidy. Thus, FFP appears to provide its clearest immediate benefit through food security and the capacity to cope with household economic pressures.

Figure 3. Improvements in living-standard components (n=



Source: Plotted by Author

Improvement in livestock and income-generating activity, and in households' general financial coping capacity, was rated stronger than improvement in sanitation and access to safe drinking water, indicating that FFP's benefits are concentrated in food and immediate economic coping rather than basic infrastructure. Most respondents characterised the overall improvement in living standard as moderate rather than substantial, suggesting that FFP functions as an effective short-term protective mechanism during lean periods but is, on its own, insufficient for sustained long-term poverty reduction — a pattern consistent with the broader social-safety-net literature on Bangladesh (Badhan et al., 2019; Asma et al., 2023).

4.5 Summary of Findings

Table 1.3: summarizes the study's findings against the three conceptual indicators.

Indicator	Key Finding	Strength of Effect
Decision-making power	87.5% report increased role in family decisions; strongest in education/healthcare decisions	Moderate
Educational expenditure reallocation	Food savings redirected to tuition, books and school charges among households with school-going children	Moderate, indirect
Standard of living	87.5% report much-better food security; weaker gains in sanitation and safe water	Strong (food); Weak (infrastructure)

Taken together, the evidence indicates that FFP has made a generally positive but uneven contribution to the social lives of beneficiaries in Satkhira Sadar: strongest in food security, moderate in decision-making power and educational investment, and weakest in the fairness and consistency of its implementation.

4.6 Data Analysis of Key Informant Interviews (KII)

The collected Key Informant Interviews (KIIs) were analyzed thematically according to three major themes. Overall, the findings show that the Food Friendly Programme (FFP) has produced generally positive social impacts, although the changes are mostly gradual and some implementation problems remain. It shows that the strongest perceived impact was on living standards, particularly food security, healthcare and household necessities. In respect of decision-Making Power in the Family, the findings indicate that FFP has contributed to a positive change in the household status of beneficiaries, particularly women. Informants reported that women have gained greater importance and are participating more in household decisions concerning expenditure, children's welfare and healthcare. The reduction of food-related financial pressure also increases their contribution to family financial management.

However, the increase in decision-making power was generally described as limited or moderate, suggesting that traditional household power structures continue to influence women's agency. In terms of educational Expenditure Reallocation, FFP appears to have a positive indirect effect on children's education. Informants observed improved school enrollment and reduced dropout pressure among poor households. As most of the families spend less on staple food like rice then the saved money is spent private coaching, tuition fees and educational materials. Therefore it can be told that the FFP creates financial space for families to invest more in children's schooling though directly does not finance on it. In respect of the theme of living Standard, the programme was found to be especially significant during lean economic periods, when poor rural workers experience unemployment or does not have sufficient income. Participants primarily noted enhancements in household food security, healthcare accessibility, medical expenses, and daily essential needs. A group of beneficiaries successfully made minor capital investments, such as livestock gaining. Nevertheless, the overall rise in living standards was largely characterized as moderate rather than significant. As a result, while the Food Friendly Programme (FFP) serves as a critical short-term safety net, it remains inadequate on its own to achieve sustainable poverty alleviation.

4.7 Overall interpretation

The analysis suggests a generally positive social impact of FFP especially on the improved food security, increase decision-making participation, and some reallocation of food savings toward private coaching and education. The main limitations concern basic infrastructure-related living-standard outcomes by beneficiaries and KII participants. Its strongest effects are visible in reducing food insecurity. Some challenges like delays in rice distribution, transportation, storage problems, and weight-related irregularities. The main recommendations were digitalization of beneficiary databases, regular updating and re-verification of beneficiary lists, transparent selection, waiting lists etc. Inclusion of teachers, Imams and civil society representatives in selection committees was also suggested. Various social incentives to the widow and elderly poor people may help them to meet up beyond their basic needs. In this connection, the government officials, local representatives and common people can play imperative role to make an inclusive policy which can certainly increase the programme's effectiveness.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This research formulated to scrutinize the social impact of the Food Friendly Programme on some beneficiaries in Satkhira Sadar and to propose ways of improving it. The data and evidence collected through KIIs and semi-structured questionnaires shows that FFP has shaped a normally positive social impact. It has significantly enhanced household food security, created modest but real gains in decision-making power in the household especially for women, and opened partial fiscal breathing space for educational venture. Simultaneously, contradictory targeting, political influence and corruption in selection procedure and faulty operative systems continue to limit the programme's full social prospective. The positive mindset of the local representative-lead selection committee can reduce the error in the target beneficiary selection. Digitalization, more focused and more transparent selection committees, stronger monitoring watchdog would allow FFP to convert its already-positive social involvement into a more

substantial and impartial one, in harmony with Bangladesh's broader and new political social-protection commitments under the NSSS, the Year Plan strategic framework for reform and development(2026-2031)and the SDG framework.

5.2 RECOMMENDATIONS

Deriving directly from the findings and thematic discussions in Chapter 4, the given recommendations below are intended to strengthen the social impact of FFP.

5.2.1 Strengthen Targeting and Selection

- **Digitize & Re-verify Data:** Update beneficiary records regularly using the Food Friendly Dealer App to resolve selection inaccuracies.
- **Diversify Selection Committees:** Include teachers, religious leaders, and civil society members to curb political influence and nepotism.
- **Enhance Transparency:** Post waiting lists publicly and establish an accessible grievance mechanism at the union level.

5.2.2 Improve Distribution and Monitoring

- **Strengthen Oversight:** Fix delays, storage issues, and weight discrepancies through local monitoring and independent spot-check.
- **Improve Accessibility:** Offer home delivery, priority queues, or designated support for elderly and disabled beneficiaries.
- **Establish M&E Framework:** Implement periodic monitoring and evaluation systems for FFP and related programs to ensure ongoing review.

5.2.3 Reinforce Positive Social Outcomes

- **Add Complementary Programs:** Link food subsidies to existing stipend and savings schemes to sustain gains in education and decision-making.
- **Integrate WASH Referrals:** Include targeted messaging and linkages to sanitation and safe water programs to improve broader living standards.

- **Optimize Transfer Parameters:** Adjust transfer amounts, duration, and payment schedules (as fiscal space permits) to maximize impacts on food security and living conditions.

5.2.4 Digital Transparency & Operational Adaptation

- **Dynamic Social Registry:** Transition to NID/Smart Family Card-linked verification via the FFP Dealer App to minimize inclusion/exclusion errors and leakage.
- **Community Auditing:** Establish local Grievance Redress Mechanisms (GRM) to audit beneficiary selection and reduce political interference.
- **Lean-Period Extension:** Expand distribution windows during peak shock/lean months to protect consumption levels during high food inflation.
- **Supply Chain Monitoring:** Deploy real-time digital inventory tracking to prevent dealer-level diversion and stock shortages

Words Count-5310

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Appendix A

Research Title: *The Analysis of Social Impact of the Food Friendly Programme in Bangladesh: A Case Study of Satkhira Sadar, Satkhira District.*

Part 1: Semi-Structured Questionnaire (For Beneficiaries)

Section A: General & Socio-Demographic Information

- **Respondent Name & ID:** _____
- **Date of Interview:** _____
- **Village / Ward:** _____
- **Union:** _____
- **Gender:** [ ] Male [ ] Female [ ] Other
- **Age:** _____ years
- **Marital Status:** [ ] Married [ ] Single [ ] Widowed [ ] Divorced/Separated
- **Education Level:**

  [ ] No formal education [ ] Primary (Class 1–5)

  [ ] Secondary (Class 6–10) [ ] Higher Secondary or above
- **Primary Household Occupation:** _____
- **Total Household Members:** _____

- **Monthly Household Income (BDT):** _____

- **Duration of Receiving FFP Benefits:** _____ years

Section B: Indicator 1 – Decision-Making Power in the Family

Closed-Ended Questions

1. **Who usually decides how the main household income is spent?**

   O [ ] Respondent alone O [ ] Spouse alone

   O [ ] Jointly (Respondent & Spouse) O [ ] Household Head / Other family member

2. **Since enrolling in the Food Friendly Programme, how has your role in family decision-making changed?**

   O [ ] Significantly increased O [ ] Slightly increased

   O [ ] Unchanged O [ ] Decreased

3. **How often are you involved in decisions regarding the following areas?**

Decision Area	Always (3)	Sometimes (2)	Never (1)
Food purchase and daily meal planning	[ ]	[ ]	[ ]
Children's education spending	[ ]	[ ]	[ ]
Healthcare and medical treatments	[ ]	[ ]	[ ]
Household savings or taking loans	[ ]	[ ]	[ ]
Purchase of household assets or livestock	[ ]	[ ]	[ ]

Open-Ended Questions

- How has receiving subsidized rice under FFP affected your confidence or standing within the family?
- Can you share an instance where you successfully influenced a major household decision after receiving FFP support

---

Section C: Indicator 2 – Educational Expenditure Reallocation

Closed-Ended Questions

1. **Do you have school-going children in your household?**

   O [ ] Yes O [ ] No *(If No, skip to Section D)*

2. **Has saving money on food expenses enabled you to spend more on your children's education?**

   O [ ] Yes, significantly O [ ] Yes, marginally

   O [ ] No change O [ ] Reduced spending

3. **Which specific educational items receive higher investment due to FFP savings?** *(Select all that apply)*

   O [ ] Private tuition / coaching fees O [ ] Books, notebooks, and stationery

   O [ ] School uniforms and shoes O [ ] Transport cost to school

   O [ ] Exam fees and school charges

4. **Have any children who previously dropped out or skipped school returned to classes?**

   O [ ] Yes O [ ] No O [ ] Not applicable

Open-Ended Questions

- How do food savings from the programme specifically allow you to reallocate funds toward education?
  :-

- What remaining financial barriers still prevent you from providing higher quality education to your children?
  :-

Section D: Indicator 3 – Living Standard

Closed-Ended Questions

1. **Compared to before receiving FFP, how would you rate your household's overall food security?**
   O [ ] Much better O [ ] Slightly better O [ ] Same O [ ] Worse
2. **How frequently does your family experience food shortages during lean months now?**
   O [ ] Never O [ ] Rarely O [ ] Frequently O [ ] Always
3. **Have you been able to improve any of the following household conditions due to FFP assistance?**

Living Standard Component	Improved	Unchanged	Deteriorated
Housing structure (Roof/Walls)	[ ].	[ ]	[ ]
Sanitation facility (Toilet quality)	[ ]	[ ]	[ ]
Safe drinking water access	[ ]	[ ]	[ ]
Household savings or debt repayment	[ ]	[ ]	[ ]
Livestock / Small income-generating activities	[ ]	[ ]	[ ]

Open-Ended Questions

- What is the single biggest improvement in your daily living conditions since joining the programme?

:-

- What ongoing socio-economic challenges continue to affect your household living standards?

:-

Section E: Overall Programme Perception

1. What are the major operational issues you face when collecting FFP rice (e.g., distribution delays, grain quality, weight discrepancies)?

   :-

2. What specific adjustments would you suggest to improve FFP effectiveness in Satkhira Sadar?

Appendix B:

Part 2: Key Informant Interview (KII) Guide

Target Informants: Key stakeholders, Local Representatives,Local Food Dealers/ Millers, Teacher, Media and Community Leaders etc in Satkhira Sadar.

Informant Profile

- **Name (Optional):** _____
- **Designation:** _____
- **Organization / Union:** _____
- **Role related to FFP:** _____

Key Themes & Guiding Questions

1. Decision-Making Power in the Family

Have you observed changes in the household status or agency of low-income beneficiaries (especially women) since FFP was introduced?

:-

In what ways does safety-net support shift intra-household dynamics and financial responsibility?

:-

2. Educational Expenditure Reallocation

How has FFP impacted school enrollment, attendance, and dropout rates in Satkhira Sadar?

:-

Are beneficiary families actively redirecting food savings into private coaching, materials, or better schooling options?

:-

3. Living Standard & Socio-Economic Impact

How effectively does FFP protect vulnerable rural households during lean economic periods?

:-

What tangible improvements in housing, health, sanitation, or micro-investments have you observed among beneficiaries?

:-

4. Implementation & System Optimization

How transparent and accurate is the target selection process for FFP beneficiaries in Satkhira Sadar?

:-

What key supply-chain, administrative, or structural challenges exist, and how can policy makers resolve them?

:-

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Programme & Studies Division

Seal

Evaluation Department
158th Advanced Course on Administration and Development
Individual Assignment

NAME OF THE MODULE: **Research for Governance (Part-II)** MODULE NO:5

DATE: 04.09.2026

Marks Obtained

Code No. .....

.....

Code No. .....

Bangladesh Public Administration Training Centre
Savar, Dhaka.
Programme & Studies Division

Seal

Evaluation Department
155th Advanced Course on Administration and Development
Individual Assignment

NAME OF THE MODULE: **Research for Governance (Part-II)** MODULE NO: 05
DATE: 04.09.2026

Instruction to be followed
(Please read carefully)

1. Please write your Name, Roll No etc. at the specified space.
2. Writing Name, Roll No. etc. at any other place or making the script otherwise may cause cancellation of your answer script.
3. Put tick (✓) marks on Evaluation method and Institute's Name.

Name: **Dr. Syed Enamul Kabir**
Roll No. **116**

Bangladesh Public Administration Training Centre

Savar, Dhaka

www.bpatc.org.bd

Marks Obtained

Evaluation department

GA/ GE/GR *(put ✓)*

158th Advanced Course on Administration and Development

Module No. & Name	05: Research for Governance, Part: II
Assignment/ Exercise Title	"A qualitative assessment of the state, industry preparedness and economic effectiveness of net metering rooftop solar systems in Bangladesh"
Submitted to	Dr. Md. Zohurul Islam, MDS and Module Director

We hereby declare that the work contained in this Report/Assignment is solely our own, except for reliance on material that is identified and cited according to the Module Guideline. We have read and understood the Module Guideline.

SL No	Participant's Name	Roll	Signature	Date
1.	Dr Syed Enamul Kabir	116		4 September 2026

"An assessment of the state, industry preparedness and economic effectiveness of net metering rooftop solar systems in Bangladesh"

Abstract

Bangladesh plans to increase its net-metering rooftop solar systems (RTSs) capacity from the current 338 MWp to a large 5500 MWp within five years from 2026. However, empirical study on the industry readiness and economic effectiveness of RTSs is insufficient. This study examines RTS deployment from different aspects, evaluates industry preparedness for the planned large-scale expansion and economic effectiveness. To this end, a qualitative multiple-case study approach was adopted. Secondary data from regulatory sources along with primary data from seven differentiated prosumers in semi-urban and urban settings– three industrial, two commercial and two government institutions using a semi-structured questionnaire and data from four key informant interviews were combined with on-site observations. Findings reveal that RTS growth has concentrated to ten districts mainly in Dhaka Division though having an accelerated growth rate mainly in the last two years. Capital expenditure model of financing dominates the acceleration, and industrial adoption is higher than commercial or residential uptake. The overall deployment shows the existence of a dual-track market with large capacity RTSs showing moderate economic returns and acceptable payback period and small capacity RTSs facing utility delays, cooperation shortfall, and irregular monitoring. The study concludes that reaching the planned target by 2030 is technologically feasible but institutionally quite challenging and it requires regular monitoring, support to the prosumers, equipped utilities with separate divisions for rooftop solar system deployment and coordinated effort among all the stakeholders. The findings provide practical pathways for the policymakers looking to transform ambitious renewable energy targets into achievable, well-managed rooftop solar expansion.

1.0 Introduction

1.1 Background

Fulfilling world's ever-increasing demand for electricity and simultaneous urgency for transitioning to green and renewable energy (RE) sources have left the energy sector experts in a great dilemma. Production of cleaner energy from RE sources like solar power, wind, hydro, etc. is deemed the best options to offset the carbon emissions from conventional sources like coal and oil which still fill up the lion's share of the energy demand. However, current unpredictable onslaught of climate change-induced devastating natural calamities has forced policymakers worldwide to induce faster adoption of green energy sources. Regional warfare and rising energy security concern have intensified the urgency to shift to RE sources. Due to abundance of solar rays, standalone applicability, easy installation system and declining market price, exponential growth has been seen in solar panel installation worldwide. RE power capacity rose to 5149 gigawatts (GW) in 2025 globally and solar contributed 47% of the share (International Renewable Energy Agency, 2026). Net metering rooftop solar system (RTS) is one of its popular varieties installed on rooftops of commercial, residential and industrial buildings. Net-metering is a mechanism which allows the prosumers to own and generate electricity from a distributed generation system (e.g. rooftop solar photovoltaic systems) tied to a gird. It obliges an agreement between the prosumers and the utility that allows the prosumers to get financial paybacks for any surplus electricity sent to grid after their consumptions (Mahmood et al., 2017).

RTSs play an important role in accelerating the transition towards low carbon electricity systems in many countries (Wilkinson et al., 2021). It is preferred in countries with land scarcity as almost 3 - 4 acres of land are required for a 1-megawatt (MW) electricity generation from solar panels (Transparency International Bangladesh, 2026). To achieve self-sufficiency by ground-mounted solar panels, 6.8% of the land area of Bangladesh is required. But sole dependence on it is deemed unrealistic. RTS can be the best alterative which can help achieving a good share of electricity generation (Islam and Huda, 1999). A RTS connects the generation with the grid through a net metering system, and the owners get paid if the systems supply excess to the electricity they consume from the grid. Land constraint country like Bangladesh therefore gives priority to rooftop solar systems apart from the commercial scale solar plants by businesses through solar parks.

Rising demand of electricity in the context of industrialization, sustainable economic growth and rapid urbanization necessitates more power generation in Bangladesh (Power Division, 2026). As part of energy security, Bangladesh government has adopted energy diversification strategy which

allows increase of RE in the conventional energy mix from fossil fuel (Power Division, 2025). Bangladesh has also set its target to achieve 20% and 30% of total energy demand from RE sources by 2030 and 2040 respectively (Sustainable and Renewable Energy Development Authority, 2025). The newly formulated RE policy has aimed to achieve 5500 MW of electricity (20% of the national electricity mix) generation from rooftop solar systems (RSS) between 2026 and 2030 (Power Division, 2026). Unused rooftops of residential, commercial, government and non-government buildings have been considered for achieving the target. As of August 5, 2026, 1350 MW capacity of solar systems (Power Division, 2025) have been installed out of which 338.064-megawatt peak (MWp) capacity generation is from 5028 net metering RTSs (Sustainable and Renewable Energy Development Authority, 2026). As such, RTSs play an important role in fulfilling electricity demands of the country. Empirical study on the industry readiness and economic effectiveness of the already installed RTSs is absent in the context of Bangladesh. To smoothen the implementation process of the proposed robust installation capacity by 2030, an assessment of the installed RTSs can be helpful. It is also worth assessing the readiness of Bangladesh's rooftop solar sector for large-scale expansion.

1.2 Rationale of the Study

The first official net metering rooftop solar panel was installed in 2008 with a capacity of 1-kilowatt (kW) (Islam, 2025). To date, roughly 21 MW capacity has been installed per annum. From an unimpressive installed capacity of 338 MW in 18 years to an installed capacity of 5500 MW within less than 5 (five) years on the rooftop of residential buildings, industrial and commercial establishments including government plus autonomous facilities under all ministries, directorates and offices is really challenging. Further, government plans to encourage private investment rather than government expense to achieve the aim (Power Division, 2026). It is obvious that without profitability, the private sector will not invest in such enterprise. Again, as aimed in the National Renewable Energy Development Policy (2025 – 2026), achieving the target of 20% of the total electricity mix from RE sources by 2030 needs a big leap which necessitates an assessment of the running systems. Hence, it is felt essential to understand the state of the installed RTSs, to investigate industry readiness and to assess the effectiveness of already installed net-metering RTSs. The assessment of both the industry readiness and the economic effectiveness are required to inform the policy makers towards updating and implementing guidelines and revenue expenditure from government exchequer along with gauging the willingness of the businesses to invest in such ventures.

1.3 Objectives of the Study and Research Questions

1.3.1 Objectives

Therefore, this study has been undertaken to achieve the following three objectives:

1. To examine the present state of net metering rooftop solar systems;
2. To assess the industry preparedness for a large-scale expansion;
3. To evaluate the economic effectiveness of installed rooftop solar systems.

1.3.2 Research questions

This study thus seeks to answer the following questions:

1. What is the present state of net metering rooftop solar system in Bangladesh?
2. Is the domestic solar industry prepared for a large-scale expansion of rooftop solar systems?
3. Are the installed rooftop solar systems economically effective?

2.0 Literature Review

2.1 Bangladesh's Rooftop Solar Sector

Three seminal policy documents shape the landscape of the rooftop solar systems in Bangladesh, namely National Renewable Energy Policy 2025, Net Metering Guidelines 2025 (updated from Net Metering Guidelines 2018) and the National Renewable Energy Development Policy (2026 – 2030). The Net Metering Guidelines 2025 offers two options for installing net metering solar systems - capital expenditure (CAPEX) which is consumer-owned investment and operating expenditure (OPEX), which is a third-party investment model (Power Division, 2025). These options have an impact on investment decisions, risk allocation, and adoption rates, making them critical for industry preparedness. The Guidelines also offer the prospect of saving money spent on electricity bills. Its mechanism offers the provision that excess electricity supplied to the grid generates credit. This functions as an economic incentive for investment in rooftop solar. It also creates options for consumers to compensate for the purchased electricity with self-generated electricity.

2.2 Industry Preparedness and Economic Effectiveness of Rooftop Solar Sector

The official National Rooftop Solar Program massively targeting public buildings was initiated in July 2025 (Bangladesh Investment Development Authority, 2025). However, the recent expansion was regulated by the Net Metering Guidelines 2018 which introduced grid-connected RTSs.

Though there have been active attempts on the part of the government to expand RTSs, studies still find limitations of the Guidelines. One study (Chowdhury and Khan, 2020) suggests the provision of carbon credit facility for the utilities, waiver of income tax for the prosumers and using the excess electricity at any place apart from the grid by paying the wheeling charge. In their study, Arshad and Ahmad (2021) examined a 2-kilowatt peak (kWp) net metering RTS and found it profitable with a 12-year payback period. Another study systematically compared and analyzed the appropriate billing schemes for the industrial photovoltaic (PV) system for Bangladesh. To identify the optimal PV billing policies for the industries, it evaluated the economic effectiveness of net metering method with net billing and all energy buy/sell method in Dhaka and Chattogram - two prominent industrial locations. The study found that all energy buy/sell showed the net present value (NPV) which was USD 5.85 million and a profitability index (PI) of 2.54 at the minimum 4.9 years discounted payback time for the large PV system in Chattogram. Best et al. (2019) showed that geographical areas receiving a higher subsidy factor have significantly more small-scale net metering solar installations, with some assumptions. In their analysis, they used indicators like household income, subsidy amount, upfront cost, etc.

Wilkinson et al. (2021) conducted a comprehensive review that identifies four interdependent aspects that shape rooftop solar photovoltaic (PV) transitions: technical, economic, socio-political, and regulatory and institutional. Economic determinants include panel cost, funding and markets showing that use of solar panels increase with the lower price of the panels. Easy access to bank loans and funding accelerate installation. Regulatory determinants include rules, permits and standards. Investors feel safe when laws and rules have clarity. Fast approval steps reduce the delay time, and clean energy targets obligate utilities to purchase electricity generated through RE. In their systematic review, Kunskaja and Pažėraitė (2025) similarly groups RE deployment determinants into five following categories: economic, technological, regulatory, political and social. They concluded that economic conditions and policy/regulation determine RE deployment the most. Mahbub et al. (2026) in their qualitative analysis show that high import duties and insufficient financial incentives are among the bottlenecks that prevent that expansion of RTS in Bangladesh.

2.3 Study Gaps

The focus of the available studies is concentrated on the technical and financial feasibility of RTSs. Indicators like Net Present Value (NPV), Internal Rate of Return (IRR), Levelized Cost of Electricity (LCOE), and payback period are used to assess investment viability. Though these typical indicators provide valuable evidence regarding project profitability, they rarely examine

the existing RTSs' possession of the institutional, technical, financial, and supply-chain capacities required for robust expansion. Thus, the industry preparedness dimension remains sufficiently underexplored.

Next, existing research have examined the RTS projects in two levels – individual projects and consumer level. Collective performance of the current RTS projects' readiness to leap for an extensive expansion is missing in those studies. Consequently, insufficient evidence exists regarding the capacity of the existing rooftop solar market towards Bangladesh's planned expansion of net-metered rooftop solar generation to 5,500 MW. Without this evidence, policy implementation may encounter significant challenges.

2.4 Conceptual Framework

Literature review in the above Section 2.2 offers a conceptual framework of the study as shown in Figure 1.

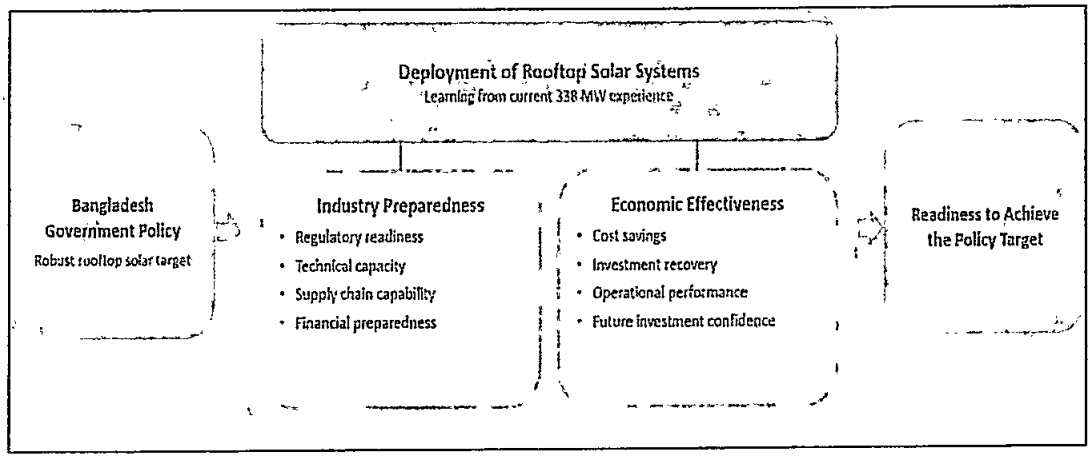

Figure 1: Conceptual framework of the study showing relationship among government policy targets, industry preparedness and economic effectiveness under the existing deployment of rooftop solar systems and readiness to achieve the policy target

The above conceptual framework is an integration of the Technology–Organization–Environment (TOE) framework, Institutional Theory, and the Multi-Level Perspective (MLP) on socio-technical transitions. The way technological, organizational and environmental conditions shape technology adoption is explained by the TOE framework (Wasudawan and Sim, 2024). The Institutional Theory underscores the role of regulatory and organizational legitimacy (Khan, 2022) while the MLP contends that successful energy transitions require alignment among technological, market, institutional, and infrastructural elements (Magnani and Cittati, 2022). Based on these viewpoints,

industry preparedness is conceptualized through four dimensions: regulatory and institutional readiness, technical capability, supply-chain readiness, and financial readiness. Economic effectiveness is assessed through four dimensions: financial savings, investment recovery, operational performance, and future investment confidence. These eight constructs provide a theoretically grounded basis for justifying the readiness to expand net-metered RTS under the proposed policy in Bangladesh.

3.0 Research Methodology

The research seeks to answer the following question: Is Bangladesh's solar energy sector institutionally and economically ready to scale rooftop solar nearly sixteen-fold in five years as targeted in the newly formulated National Solar Energy Development Policy (2026 – 2030)? A qualitative multiple-case study was applied to conduct the study. A qualitative multiple-case study is a kind of research design in which an issue of interest is examined through two or more bounded issues. To test or establish a robust concept, this theory depends on replication logic, within-case analysis, and cross-case synthesis. Its key research design follows four steps: case selection, data collection, intra-case analysis and inter-case analysis (Pauwels and Matthyssens, 2004). To achieve the objectives, the study planned to adopt the methodology elaborated in the next subsections.

3.1 Study Focus

This study stresses more on the focus rather than the study area as there are more than five thousand RTSs and it is practically unfeasible to cover a particular area within a limited study period. Therefore, it focusses on the RTSs installed on industrial, commercial and institutional buildings using only CAPEX (own investment) investment modes in two districts: Feni and Dhaka – one in semi-rural and another urban setting.

3.2 Sampling Size and Data Collection

A purposeful maximum variation sampling or heterogenous sampling technique was used for selecting the sample of this study. It is a non-probability technique which allows researchers to intentionally select a diverse range of cases or participants. It aims to capture the widest possible-the-range of viewpoints or experiences on the core issue of discussion (Palinkas et al. 2015). Content analysis (mainly SREDA and Power Division websites and accessible official reports, etc.) was reviewed for data collection on Objective 1. A convenient approach (purposive sampling)

was adopted to determine the sample size of Objectives 2 and 3. As it is a qualitative study and the multiple-case study was adopted; the following number of cases were considered:

02 (two) commercial entities and 02 (two) government institutions, 03 (three) industrial prosumers were interviewed face to face using a questionnaire for primary data collection.

Expert interviews with two utilities, one regulator and one financer and observation of all seven sites were conducted to collect data on objectives 2 and 3. A semi-structured questionnaire was used for the interviews. For site observation, a checklist was developed. So, the study used both primary and secondary data. Data collection, interviews and observations were completed between August 9, 2026, and August 11, 2026.

For Objective 2, i.e. for examining industry preparedness, following four dimensions were identified: i) technical and service capacity, ii) market and supply chain readiness, iii) institutional and regulatory readiness, and iv) financial readiness. Technical and service capacity is comprised of availability of skilled installers, quality of installation, availability of maintenance services and after-sales service. Market and supply chain readiness includes availability of solar panels, availability of inverters, and availability of mounting structures. Institutional and regulatory readiness includes factors such as ease of getting approval, process time of net metering, cooperation of the utility services and the clarity of regulations. Financial readiness includes indicators like availability of financing, interest rate, loan accessibility and willingness for investment.

For Objective 3 i.e. examining the economic effectiveness of the installed RTSs, the following dimensions were sorted out: i) financial savings, ii) investment recovery, iii) operational performance and iv) willingness to invest in future. i) financial savings dimension is comprised of two aspects: a) impact on electricity bills and b) perception of cost savings of the owner/user. ii) Investment recovery is comprised of a) expected payback period, b) satisfaction with the investment recovery, c) expectation from the RTSs and d) whether the expectation has been fulfilled. iii) operational performance is comprised of a) reliability of electricity generation, b) maintenance frequency (per year). Iv) Willingness to invest is constituted of three dimensions: a) willingness to invest second time, b) willingness to expand the current system, c) willingness to recommend to others for RTS installation.

3.3 Data Analysis and Presentation

The following methods have been applied for data analysis and presentation:

Data and information from SREDA websites, and accessible official documents collected for Objective 1 have been arranged to find out distribution patterns of the RTSs: deployment trend,

utility-wise installation, deployment geographical concentration, and investment type-wise (CAPEX or OPEX) installation. Data has been presented through pie, bar chart and graphs.

Data of the Objectives 2 and 3 were analyzed through Thematic Analysis approach. Thematic Analysis is a qualitative method used to identify, analyze, and interpret patterns of meaning (themes) within data (Braun and Clarke, 2012). The themes for the two objectives were as follows: for objective 2, regulatory readiness, technical capability, supply chain resilience and financial ecosystem. For objective 3, the themes were cost savings, investment recovery, operational reliability and future investment confidence.

Chapter 4: Results and Discussion

This chapter presents the findings and results of the study based on the primary and secondary data. First, it presents the findings and discussion on the first objective and then those of other objectives follow respectively.

4.1 The State of RTS in Bangladesh

4.1.1 Findings

This section showcases the findings of the deployment scenario of RTS in Bangladesh. It covers key regulatory turning points, growth of RTS capacity installation over five years period, utility wise installed capacity of RTS, geographical concentration of RTS, and investment category-wise installation

a) Regulatory and policy scenarios

Rooftop solar regulations in Bangladesh have shifted from the supportive policies in favor of renewable energy to the regulation of grid connected systems. The Renewable Energy Policy of 2008 created the basic foundations to promote renewable energy, while the Net Metering Guideline of 2018, which was later amended, created the primary guidelines for grid integration of rooftop solar (Sustainable and Renewable Energy Development Authority, 2008; 2018). SREDA further strengthened the implementation process by developing technical standards, equipment specifications, training programs, and the National Solar Help Desk (Sustainable and Renewable Energy Development Authority, 2021). Provisions enabling the process of net metering for fresh connections were made in 2023. The policy framework was again strengthened by the Renewable Energy Policy 2025, Net Metering Guideline 2025, National Rooftop Solar Programme

along with its implementation guideline (Power Division, 2026). All these are in line with the fast industrial adoption, according to official figures there was already an adoption capacity of 418.1 MW till June 2026, according to IEEFA figures it is much higher (IEEFA, 2026).

Year	Key milestone	Significance
2008	RE Policy	Foundation for RE development
2018	Net Metering Guideline	Enabled grid-connected RTS
2019–21	Amendments, standards, training and implementation support	Fortified institutional and technical capacity
2023	Net metering for new connections	Expanded application of RTS
2025	Renewable Energy Policy and Net Metering Guideline	Updated regulatory framework
2025–26	National Rooftop Solar Programme	Initiative for large-scale deployment
2026	National Renewable Energy Development Strategy (2026–2030)	Outlines a detailed medium-term roadmap for scaling up renewable energy with a goal of 5,500 MW of rooftop solar by 2030 and an overall goal of producing 20% of the country's power from renewable energy. The plan stresses the need for private investment, improved financing options, financial and payment guarantees, grid upgrades, energy storage, and policy reforms, thus creating a better platform for implementing rooftop solar installations.

Table 1: Regulatory milestones of RTS in Bangladesh

b) Capacity increase, growth, investment and concentration of RTS

Figure 2 shows the increase of RTS installed capacity over five years starting from 2021 with a capacity of 24.71 MWp. After steady growth of RTS number until mid-2025, there started a sharp rise at that time, and reached 5062 with an installed capacity of 342.32 MWp at the latest.

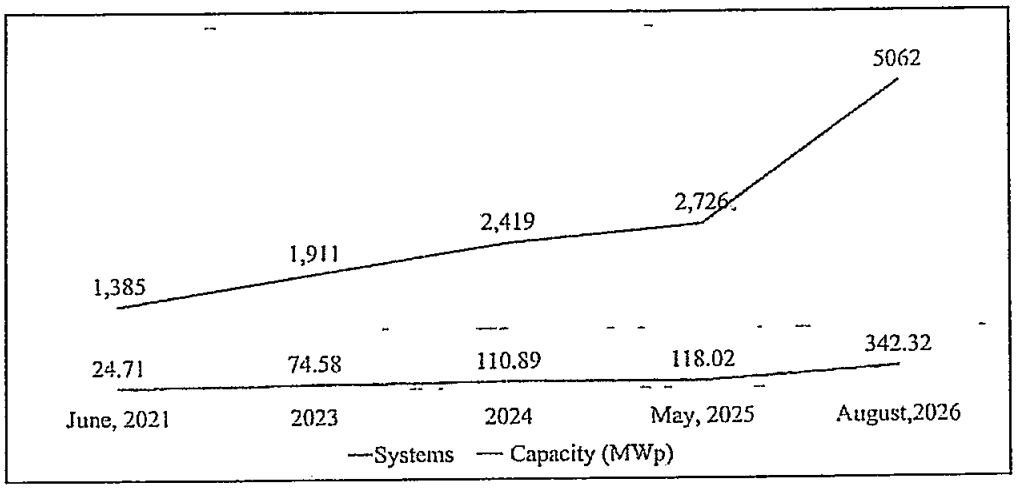

Figure 2: Trend of capacity increase of RTS from 2021 to 2026, Source: Sustainable and Renewable Energy Development Authority (2026a)

Figure 3 shows six utility-wise RTS installed capacity till 31 August 2026. Bangladesh Rural Electrification Board (BREB) owns the highest installed capacity (approximately 255 MWp) while Bangladesh Power Development Board (BPDB) and the West Zone Power Development Company Ltd. (WZPDCL) own the second (28 MWp) and the third (22 MWp) highest installed capacity respectively. Dhaka Power Distribution Company (DPDC) owns the lowest installed capacity (9.65 MWp) among the utilities.

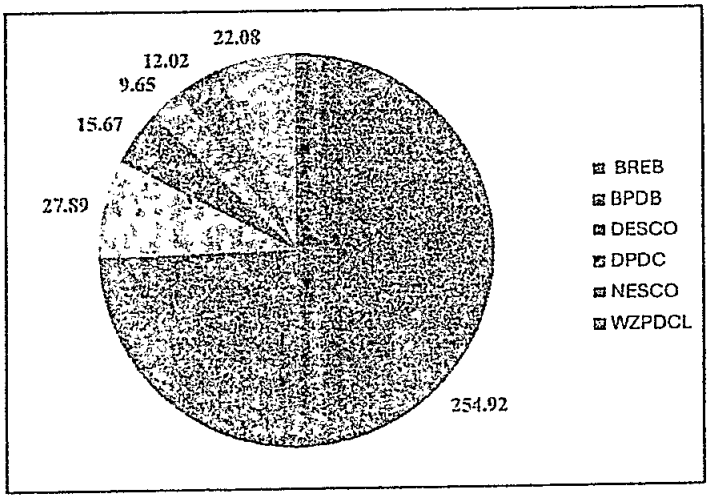

Figure 3: Utility-wise installed capacity of rooftop solar panels Source: Sustainable and Renewable Energy Development Authority (2026b)

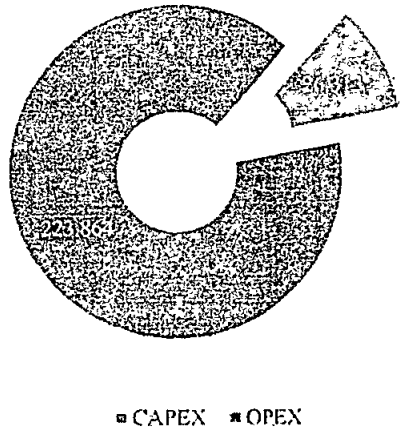

Figure 4: Investment category-wise installation capacity, Source: Sustainable and Renewable Energy Development Authority (2026c; 2026d)

Figure 4 shows that only 10.56% of the total installed capacity of RTS comes from OPEX model of investment whereas the rest 89.44% comes from the APEX type of investment.

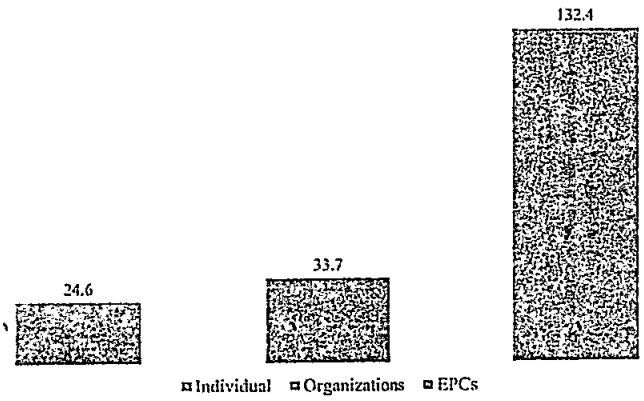

Figure 5: Ownership-wise installed capacity (MWp) of RTS, source: Sustainable and Renewable Energy Development Authority (2026f; 2026g; 2026h)

As Figure 5 shows, individual owners share 24.6 MWp installed capacity while the organizations and EPCs share 33.7 MWp and 132.4 MWp respectively.

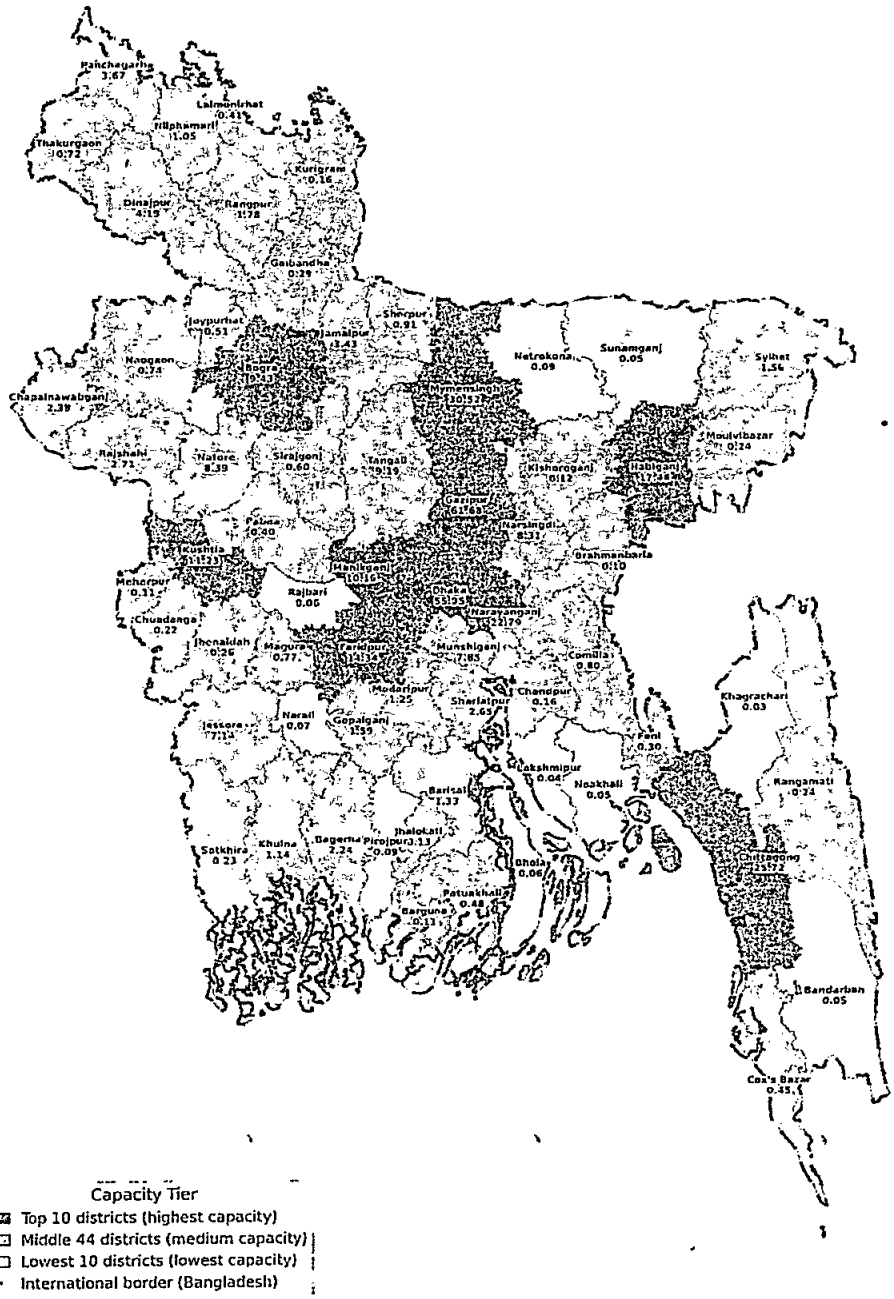

Figure 6: District-wise rooftop solar system in Bangladesh, Source: Sustainable and Renewable Energy Development Authority (2026e)

Figure 6 shows the district-wise concentration of RTS installed capacity. Blue-colored 10 districts show top 10 highest installed capacity districts, the white-colored 10 districts show the low-

capacity districts and the sky-colored 44 districts show the installed capacity in between. Gazipur ranks the top district with a RTS installed capacity of 62 MWp followed by Dhaka, Mymensingh, Chottogram and Narayanganj with installed capacities of 56, 31, 26 and 23 MWp respectively. The lowest capacity district is Khagrachari District with an installed capacity of only 33 KWp. Thirty-five districts have less than 01 (one) MWp installed capacity and fifteen districts have more than 07 (seven) MWp capacity.

4.1.2 Discussion and Analysis

The expansion of RTS in Bangladesh was boosted after the introduction of NET Metering Guidelines in 2018. It allowed industrial, commercial and residential prosumer to benefit from supplying additional electricity if any to the grid after their consumptions. A highly ambitious government's policy decision, the National Rooftop Solar Programme, taken in July 2025, gave a spur to the expansion of RTS. The program aimed to generate 3,000 MW of electricity by installing RTSs in government offices, educational institutions, and hospitals within six months (Invest Bangladesh, 2026). Despite a top-down policy decision, it increased the number of systems and a further policy decision National Renewable Energy Development Strategy (2026 – 2030) approved in July 2026 has given a further push and made it possible to reach a 342 MWp by the end of August 2026.

Six utilities shoulder the main responsibility to ensure the integration of the electricity from RTS to the transmission grid. BPDB, which covers electricity distribution to a vast area of rural consumers, owns almost two-thirds capacity of the RTSs. However, DPDC and DESCO, which supply and distribute electricity to the consumers of Dhaka city, share only 22% of the installed capacity. It signifies that there is still huge scope for RTS capacity increase in Dhaka City. This also indicates the presence of a dual market: countless relatively small urban systems besides fewer but much larger industrial/commercial systems. Furthermore, with the rapid increase in the number of systems, the capacity increases slowly, indicating shortfall in quality and capacity of individual solar panels.

OPEX model is preferred by experts for the rapid and quality expansion of RTSs. It shifts the financial burden of upfront and other costs from the prosumers to the third party, known as renewable energy service company (RESCO) which makes a power purchase agreement (PPA) with the prosumer and owns and operates the system (Islam et al. 2026). However, 65% of the installed RTSs were financed by APEX model signifying the absence of scope and financial

mechanisms for OPEX model. It also reveals prosumers' awareness gap of the benefits of OPEX model. As Figure 4 shows, RTS installation is geographically concentrated mainly in Dhaka and five other districts – Chottogram, Mymensingh, Bogura, Kushtia and Hobiganj. The top installed capacity is due to the adoption of RTS by industrial and commercial entities which have a vibrant presence in those districts. Low adoption of RTS by 10 districts is most likely due to their topographical conditions as those districts fall into hilly, hoar and coastal areas of the country. It also shows that RTS installation is yet to evenly distributed as per the consumer base which is significant in terms of regional development and green energy access.

It is interesting to note that EPCs, which mainly design, build, and transfer solar energy projects and do not permanently own RTS, owns 132.4 MWp capacity (Figure 5). It implies high interest in adopting solar energy systems among the solar industry stakeholders. Industrial RTS adoption is very important as industries do have larger roof spaces. CPD (2026) estimated 828 industrial rooftop systems with an aggregate capacity of 77.5 MWp by 2026, equivalent to roughly 18% of all net-metered systems and approximately 36% of total solar energy capacity. Therefore, expansion of RTS seems increasingly capacity-led by industrial consumers, rather than being driven principally by household installations. Nonetheless, government's plan to increase the RTS capacity using government office buildings, residential buildings and educational facilities can catalyze the adoption of RTS.

The above discussion indicates the transition of Bangladesh from an emerging rooftop-solar market to a rapidly expanding RTS capacity country. However, its development unevenly remains concentrated among larger systems, industrial consumers, particular utilities and Dhaka Division.

4.2 Industry preparedness and economic effectiveness of installed RTS

In this portion of the study addressing Objective 2 and Objective 3, a semi-structured survey questionnaire was used for data collection from seven RTS prosumers in addition to site visits and key informant interviews (KIIs) with representatives from two electricity providers, a regulatory agency, and a financier. The information collected serves two objectives, namely (i) the readiness of the RTS sector and its institutional structure to be scaled up and (ii) economic viability and performance of current RTS installations considering the expansion of the generation capacity from 338 MWp to 5,500 MWp by the end of 2030. The results obtained from the non-probability sample can only be suggestive due to its size.

4.2.1 Industry preparedness for RTS expansion

a) Results

The seven solar installations that were visited included two industrial, two commercial, two government institutions, and one SME facility, with capacity levels ranging between 2 kWp and 3.49 MWp. As the survey reveals, panels, inverters, mounting systems, and installation contractors were available in all cases. Quality of installation was considered good, very good, or satisfactory in five cases, while average in the other two cases. The institutions had relatively low levels of preparedness, and four out of the seven respondents had faced problems, taken long time, or been harassed for getting approvals. Processing time for net-metering ranged from one to eight months, while utility cooperation varied from cooperative to non-cooperative. Regulatory clarity was clear in three cases and unclear in three. Except in one industrial case which could access 80% IDCOL finance apart from its 20% own financing, all were self-financed CAPEX systems.

Dimension	Industrial (N=2)	Commercial/SME (N=3)	Government (N=2)
Availability Of Installer	Available	Available	Available
Installation Quality	Satisfactory; very good	Good; average; average	Good; good
Approval	Long; easy	Extreme difficulty; lengthy/harassment; difficult	Moderate; easy
Net-Metering Time	6–7 months; 1 month	7–8 months; on time; 3 months	7–8 months; 1 month
Utility Cooperation	Cooperated	Non-cooperative; non-cooperation; moderately cooperated	Moderately cooperated; cooperated
Regulatory Clarity	Clear	Mostly unclear	Clear/not recorded

Table 2: Comparative display of industry preparedness, source: prosumers' responses, Source: survey data

The KIIs support the survey results. Utility 2 identified problems with lack of differentiation of rooftop solar (RTS) needs in terms of different types of buildings, poor quality control, and lack of RTS staff. The financer identified high initial costs, unregulated panels market, lack of equal treatment in terms of taxation, high cost of financing, time consumption related to project approval, and limitation on net metering for three-phases connections. Contrarily, the regulator highlighted enough qualified EPCs, availability of panels, inverters, and mounting, quality improvement, approval fast-tracking, and public sector roof-top projects development.

b) Discussion and analysis

Based on these results, it can be concluded that the RTS market performance is dual. The industrial users are better prepared; both industrial respondents had access to technical services, and one had installed 3.49 MWp with net metering set up in just one month. On the contrary, commercial/SME users faced more institutional obstacles, while the systems owned by governments showed potential for scaling but were faced with certain conditions for implementation. The results correlate with Sultana et al. (2025), as the factors that motivate industrial solar adoption include energy security, efficiency, and OPEX schemes, while costs, bureaucracy, and others discourage it.

The key problem is not about the market's basic ability but about its governance. Similar problems regarding large-scale application of RTS have also been raised by Mahbub et al. (2026), who refer to insufficient financial motivation, outdated grid network, poor financial and business model, lack of product standards and testing facilities, and low awareness level. Even though Bangladesh has developed its Renewable Energy Policy 2025, Net Metering Guideline and National Rooftop Solar Program which have fortified its formal network, the practical experience suggests that the implementation capacity should develop simultaneously with the ambitious policy agenda (Power Division, 2026).

4.2.2 Economic effectiveness of the installed RTSs and realizing the 5,500 MWp targets

a) Results

There were variations in economic performance. Two participants provided quantitative reductions in expenses: the 31.5kWp government plant had 70% reduction, while the 3.49 MWp industrial plant had a 22% reduction. The industrial installation expected to have a payback period of three to four years and was satisfied with its recovery time; the government plant expected to have five-year payback and was also satisfied. The 76kWp industrial plant expected a payback period of seven years but could not measure the saving since it had a non-working net meter. One commercial case showed no decrease in the billing of costs, and one 20kWp commercial case

showed savings but did not calculate the payback period. According to the SME, he experienced savings which did not exceed his expectations.

Type of installation	Capacity	Reported bill effect	Payback/recovery status
Industrial	76 kWp	Not measurable because the net meter was non-functional	Expected payback of seven years; dependent on bill reduction
Industrial	3.49 MWp	22% reduction	Expected payback of three to four years; satisfied with recovery
Government	31.5 kWp	70% reduction	Expected payback of five years; satisfied with recovery
Government	90 kWp	Not measured; cost was not reduced	Not measured; recovery status unclear
Commercial	89 kWp	No reduction	Not assessed; respondent not satisfied
Commercial	20 kWp	Reduction reported	Not assessed
SME	2 kWp	Not clear; below expectation	Not assessed; respondent not satisfied

Table 3: Economic performance of sampled RTSs

In terms of operational reliability, five respondents found their generation to be reliable, the one SME system was found to be unreliable, while the one industrial system could not be classified as either reliable or unreliable. Maintenance intervals were infrequent in general, but the 3.49 MWp industrial system experienced maintenance intervals after every 15 days, while the 76 kWp industrial system had intervals of once a month. In this regard, industrial and commercial entities revealed an overall readiness for expansion or reinvestment, but SMEs showed some hesitancy because of the uncertain benefit.

In addition, site observations support these findings. As for the commercial RTS that appeared in the SREDA database, it has apparently not been installed on the rooftop at all, while another commercial RTS was installed just to meet the sanctioned-load requirement rather than deliberate choice. Electricity generated was not reflected in the monthly bills, and inferior photovoltaic panels were evident. In an institutional setting, ground mounted solar systems were observed as RTS, and

another system had panels that were unattended, an inverter that was not working and broken modules were attended even for six months. The industrial installations showed better maintenance practices, and one installation was partially designed to enhance green brand marketing.

b) Discussion and analysis

It is evident that there is economic viability despite the lack of consistency in efficiency. Large-scale industrial RTS have proved very appealing with one example showing a bill cut by 22% and payback period of 3 - 4 years, but this cannot be extrapolated for all consumers. Existing literature has also suggested cost-effectiveness, energy security and environmental reasons as factors behind adoption of industrial RTS, while OPEX may help solve the problem of high initial costs (Sultana et al., 2025).

An important implication with respect to the 5,500 MWp target is the difference between the nameplate capacity and the actual power generation. Mismatches between database data and actual power generation, cases of malfunctioning equipment, and unaccounted-for power generation show shortcomings in the monitoring process. At the same time, there can be an underreporting of deployment based on official numbers, where the data from the government show that there is 418.1 MW of rooftop solar power by June 2026, while according to IEEFA there is 667 MW in 239 large projects. The IEEFA report points to an EPC pipeline capacity of roughly 500 MW. Moreover, the IEEFA also mentions that the government has a goal of 5,500 MW of roof-top installations by 2030 (IEEFA 2026).

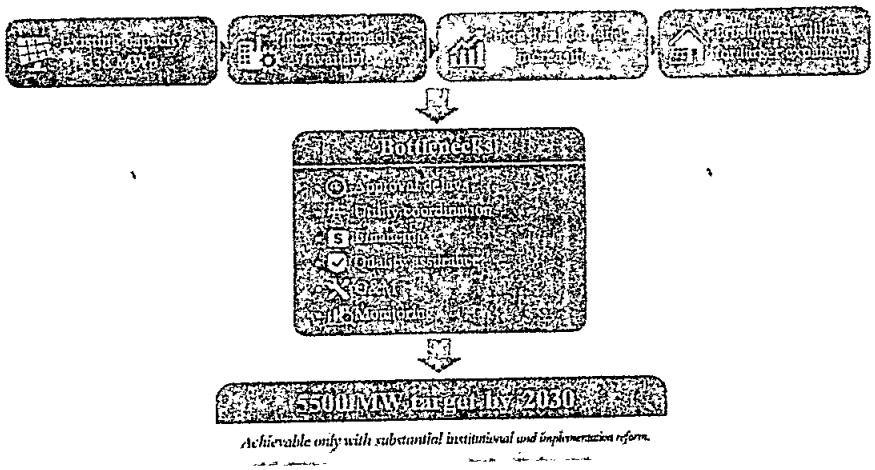

Figure 7: Pathway towards achieving 5500 MWp capacity RTS by 2030

The study findings offer a pathway to achieve the target of installing 5500 MW capacity withing five years (Figure 7). Overall, the goal is technologically possible but institutionally difficult. The most realistic strategy involves speeding up industrial and large commercial scale installation, along with proper public sector aggregation. National Rooftop Solar Programme adopts the CAPEX and OPEX based methods in case of roofs linked to government, educational and healthcare sectors (IEA, 2026), whereas CPD highlights on piloting, standardized tariff system, transparent procurement process, quality technology, O&M and monitoring (Moazzem et al., 2025).

5.0 Conclusion, Recommendations and Future Study Potentials

This study reveals that the use of rooftop solar systems (RTS) has immense potential in contributing to the country's energy transition to renewables, reduction in electricity costs, and distributed electricity generation in Bangladesh. However, the success and sustainability of RTS are dependent not only on their installation but also on the quality of the system, its proper maintenance, reliable net-metering, accurate billing, and effective monitoring post-installation. Findings from surveys among prosumers, observations in the field, and key informants reveal inadequacies in the above-mentioned areas. These issues carry the possibility of reducing the benefits in terms of economics and energy that rooftop solar technologies (RST) were expected to provide. Therefore, the development of institutional coordination, the introduction of a monitoring system, better installer responsibility, and technical and consumer support is necessary. A more flexible policy and regulatory environment, based on solid performance data, would also help. All in all, Bangladesh has the chance to increase significantly the contribution of rooftop solar technology by shifting its emphasis from installation to a lifecycle-based governance and monitoring framework.

The following recommendations are proposed for the expected outcome from RTSs:

i) Establish a centralized RTS monitoring and information system

SREDA, working alongside the Power Division and respective distribution utilities, should create a comprehensive digital platform for updating records on RTS installed, generation, injection into the grid, performance of the inverters, and performance of the net meter. Such a digital platform will improve monitoring and evidence-based policymaking.

ii) Increase prosumers' awareness and technical support

A lot of prosumers need more information about how the system works, net metering, electricity costs, maintenance, and troubleshooting. Utilities and installers should offer standard user manuals, training, and technical assistance.

iii) Ensure regular and better coordination among stakeholders

SREDA, distribution utilities, installers, prosumers, and all other concerned institutions should clearly define their roles and responsibilities. Adopting a standard protocol for reporting and monitoring can help to avoid any kind of duplication.

iv) Improvement of quality assurance and accountability of RTS installers

More solid accreditation, certification, and performance monitoring of the installers is required. The installation quality control, size estimation, security measures, after sales service, and warranty fulfillment must be ensured to protect the interests of the prosumers.

v) Introduction of stronger incentives and policy support for RTS expansion

There should be regular assessments of existing incentives, net metering systems, and other policy instruments based on the real experience of prosumers. Special efforts must be made to lower regulatory barriers and make RTS more economically appealing for households, businesses, and industry.

The study opens potential for the following research issues:

i) Large-Scale Quantitative Study on the performance of installed RTSs

Another study may be carried out on a much larger number of residential, commercial, and industrial applications of RTS in different utilities. This study will be aimed at assessing generation performance, capacity utilization, grid injection, profitability, and factors affecting system performance from a statistical perspective.

ii) Evaluation of institutional framework for net-metering

Future studies could investigate the entire institutional process including installation of RTS, its approval, net-metering, billing of electricity, and its grid connection to find out the regulatory hurdles in the process and improve the governance system.

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Appendices

Appendix A

Questionnaire for the prosumer survey

[**Declaration:** This questionnaire survey is conducted only for research conducted on Rooftop Solar System in Bangladesh as fulfillment of a requirement of a Module of 158th ACAD at BPATC, Savar, Dhaka. The information of the participants will be kept confidential and ethical research practice will be applied. The researcher is privileged to thank you very much for your valuable time and effort]

Please provide information/data on the following:

A. General Information;

i) Prosumer type: Individual/ Commercial/ Industrial /Government/ Others (pls specify by putting a tick mark)

ii) Investment type (please specify): CAPEX/ OPEX

iii) Name (optional) and Designation of the respondent:

B) Rooftop solar system information:

I. Panel type, individual panel capacity, country of origin and manufacturer:
II. Month and year of system installation:
III. Installer company:
IV. Total cost for purchase and installation (approximate, optional):
V. Total Capacity of the system:
VI. Total electricity generation (in MW) till (9 August 2026):
VII. Maintenance time and cost:

C) Industry readiness: This is to measure whether the Solar Industry is ready to expand the present national capacity to 5500 MW

1) **Technical and service capacity:**
   a. Did you face any difficulty finding skilled installers?
   b. What is your view about the quality of installation?
   c. How do you arrange maintenance services?
   d. How was the quality of after-sales service?

2) **Market and supply chain readiness:**
   a. Were your desired solar panels available?
   b. Were quality inverters available?
   c. Were your desired mounting structures available?

3) **Institutional and regulatory readiness:**

a. Was it easy to get approval from the utilities (like REB, DESCO)?
b. How much time did it take to process the net metering?
c. How cooperative was the utility?
d. How clear is the government rules and regulations on rooftop solar?

4) **Financial readiness:**

a. Was financing for rooftop solar system available?

b. What was the interest rate?
c. Was the interest rate affordable?

C) **Economic Effectiveness: (This is to measure the economic effectiveness of the rooftop solar systems that have already been installed)**

1) **Financial savings**
   a. What is the percentage of reduction of the electricity bills per month after installation of the rooftop solar?
   b. Is the rooftop solar installed saving cost of electricity bills?

2) **Investment recovery**
   a. What is the expected payback period (in year) of the rooftop solar system?
   b. Are you satisfied with the investment recovery time?
   c. What is your expectation from the rooftop solar (e.g. cost saving/use of green energy/compliance with the government rule, etc.)
   d. Has the rooftop solar met your expectations?

3) **Operational performance**
   a. How reliable is electricity generation from the rooftop solar system you have installed?
   b. How often do you need to perform maintenance of the rooftop solar system (per year)?

4) **willingness to invest in future:**
   a. Are you willing to invest for second time for rooftop solar installation?
   b. Are you willing to expand the current system?
   c. Are you willing to recommend to others to install rooftop solar system?

Appendix B

Cues for RTS site observation

i) Capacity shown in SREDA database and actual capacity onsite
ii) Presence of dedicated staff for the overall take-care of the installed RTS
iii) Functioning of the inverter and the net energy meter
iv) Awareness regarding the maintenance and other issues of the solar panels
v) Conditions of the solar panels (whether any panel was missing or damaged)
vi) Feel about the utilities' dealings with the prosumers
vii) Overall perception about the installed RTS

- **End of the paper** -

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Bangladesh Public Administration Training Centre

Savar, Dhaka.

Programme & Studies Division

Evaluation Department

158th Advanced Course on Administration and Development

Seal

Individual Assignment

NAME OF THE MODULE: **Research for Governance**

MODULE NO: 05 (Part-II)

DATE: 03/09/2026

Marks Obtained

Code No. .....

.....

Code No. .....

Bangladesh Public Administration Training Centre

Savar, Dhaka.

Programme & Studies Division

Evaluation Department

158th Advanced Course on Administration and Development

Seal

Individual Assignment

NAME OF THE MODULE: **Research for Governance**

MODULE NO: 05 (Part-II)

DATE: 03/09/2026

Instruction to be followed

(Please read carefully)

1. *Please write your Name, Roll No etc. at the specified space.*
2. *Writing Name, Roll No. etc. at any other place or making the script otherwise may cause cancellation of your answer script.*
1. *Put tick (✓) marks on Evaluation method and Institute's Name.*

Name: Md. Tazim-Ur-Rahman

Roll No: 117

Seminar Paper

On

Skilled Manpower Development for Now-Day Bangladesh: Policy, Practice and Prospects

Submitted by

Md. Tazim-Ur-Rahman
Roll No: 117

158th Advanced Course on Administration and Development
Bangladesh Public Administration Training Centre, Savar, Dhaka-1343

Skilled Manpower Development for Now-Day Bangladesh: Policy, Practice and Prospects

Abstract:

This study investigates policy, practice and future prospects of skilled manpower development in Bangladesh with emphasis on the effectiveness of policy, coordination of institutions, inhibitors in implementation, relevance of labour market and future skills. Bangladesh is well endowed with a favorable demographic structure and has created institutions and machinery like the National Skills Development Policy (NSDP) 2020, National Skills Development Authority (NSDA), Bureau of Manpower, Employment and Training (BMET), Directorate of Technical Education (DTE), and expanded technical and vocational education and training (TVET). But, skill mismatch, lack of training facilities, low level of industry-academy partnership, lack of modern technologies, and low trainer capabilities are holding back workforce competitiveness. The methodology of the study was mixed method, both primary and secondary sources. Key Informant Interviews (KIIs) and focus group discussions with government officials, training providers, and trainees/workers, and industry owners/employers were used to gather primary information, and secondary information was gathered from policies, reports and scholarly literature. The results show that 60% of them feel NSDP 2020 is not enough for the needs of the labour-market and 65% point to the lack of institutional coordination. The major obstacles to implementation were the lack of modern laboratories and equipment (37.5%). 70% of employers said they struggled to recruit skilled employees and 75% stated that they required retraining new hires. Major graduate weaknesses identified included technical skills (35%) and English and communication skills (25%). The study emphasises the need for the modernisation of technical training, international accreditation of qualifications, and greater involvement of the private sector and industry placement. There is a need to increase focus on skills that incorporate the elements of artificial intelligence, robotics, green skills, digital competency, creativity, and problem solving. The study suggests that policies need to be updated, investment in modern infrastructure should be increased, trainer development should be strengthened, academia–industry collaboration should be enhanced, and further extension of practical training and internships and the implementation of tracking students' employment after graduation. These interventions can play a vital role in shaping a demographic dividend into a competitive and future ready workforce for Bangladesh.

Keywords: Skilled Manpower, Skills Development, TVET, Labour Market, Bangladesh.

1.0 Introduction:

1.1 Background of the Study:

Bangladesh has a highly favourable demographic transition with nearly two-thirds of its population being in the working age group (15-64 years old) that could help make its human resources productive, innovative and competitive in the global market (Bangladesh Bureau of Statistics [BBS], 2024). One of the most important factors influencing sustainable economic growth, industrial development, job creation, and national competitiveness in the quickly evolving socioeconomic landscape of today is skilled labor. As Bangladesh is progressing towards an upper-middle income country, the development of a skilled workforce has been a national priority for economic diversification, technical innovation and productivity enhancement.

The fourth industrial revolution (4IR), artificial intelligence (AI), automation, digitalization, climate change and geopolitical uncertainty are all part of the remarkable transformation of the global labor market. The World Economic Forum's Future of Jobs Report 2025 (WEF, 2025) suggests that, by 2030, nearly 39% of workers' key skills will be transformed, with skills of technological proficiency and analytical thinking, creativity, resilience and lifelong learning expected to become increasingly important. Similarly, the International Labour Organization (ILO, 2024) emphasizes that investing in digital skills, TVET and continuous reskilling efforts can enhance a country's economic competitiveness, productivity, and creativity in the longer term.

Though Bangladesh has the demographic dividend, yet it is still far from the capability to create a highly skilled workforce. Though the country's unemployment rate remains relatively low at 3.6%, the youth unemployment rate, underemployment and skills mismatch remain a big concern as per Labour Force Survey 2022 (BBS, 2023). Many companies continue to face challenges in recruiting workers with the technical, digital, management and soft skills required to be productive, to adopt new technologies, and to compete effectively at home and abroad.

To mitigate these challenges, the Government of the People's Republic of Bangladesh has taken several efforts to improve the capability system for skills development.To overcome these challenges, the Government of the People's Republic of Bangladesh has taken various initiatives to improve the capability system for skills development. The government has put in place the National Skills Development Policy (NSDP) 2020, the National Skills Development

Authority (NSDA), the expansion of Technical and Vocational Education and Training (TVET), and competency-based training and evaluation systems. As per Bangladesh Economic Review, 2024, the total number of trainees receiving skills training each year is approximately 800,000, which is mainly offered by the Bureau of Manpower, Employment and Training (BMET), NSDA, government's ministries and different public and private training institutions. The aim of these projects is to provide a higher quality of workforce and to improve the alignment of training to labour market needs.

Skilled labor is also a crucial factor for enhancing export competitiveness and employment in Bangladesh. According to BMET (2024), approximately 13 million Bangladeshi workers have moved to foreign countries since 1976, contributing a significant remittance to the economy of Bangladesh. According to Bangladesh Bank (2024), the remittance inflows into Bangladesh totaled more than US$24 billion in FY2023–2024. Despite this, a significant proportion of migrants remain in low-skilled occupations and thus lack the opportunity to participate in the more advanced labor markets and earn higher wages.

Although the Government has put in place robust policies on skill development, a few challenges remain unaddressed. These encompass outdated curricula, limited industry-academia linkages, a lack of digital and green skills training, a lack of involvement from the private sector, regional disparities in training facilities, inadequate labor market information systems, and inadequate monitoring and evaluation mechanisms. Moreover, the rapid growth of robotics, automation, artificial intelligence and smart manufacturing requires constant retraining and upskilling to ensure that workers remain competitive in the global market.

Therefore, it is important to look at the existing legislative framework, execution methods and potential future avenues for the growth of skilled labour in contemporary Bangladesh. This study explores the institutional practices, policies, implementation challenges and strategic opportunities to strengthen manpower development for sustainable economic growth, enhancing employment prospects and strengthening competitiveness in the evolving global economy of Bangladesh.

1.2 Problem Statement:

Despite the concerted efforts and investments in skill development in Bangladesh, there are huge challenges in developing a skilled workforce that will be capable of responding to the evolving demand of the labour market in Bangladesh as well as abroad. While initiatives like the National Skills Development Policy

There has been an enhancement of the capacity of the institutions through (NSDP) 2020 and expansion of Technical and Vocational Education and Training (TVET); however, there is still a gap in its execution. The lack of current educational material, lack of collaboration between industry and academia, lack of digital and environmentally friendly skills, lack of adequate involvement from the private sector, and inadequate labour market information systems all contribute to current skill mismatches. Consequently, the availability of decent employment for many of the recently-qualified is difficult and it is difficult for employers to recruit skilled workers. Such barriers affect productivity and competitiveness in industries, and prevent the opportunity to go abroad and work or to sustain economic development. Thus, it is imperative to critically examine the existing policy, implementation approaches and future prospects to improve the skills of the modern Bangladesh.

1.3 Objectives of the study:

General Objective:

The general objectives of this study will be to explore the policy, practice and future aspects of skilled man power development in the Country Bangladesh today.

Specific Objectives:

i. To evaluate the current policies and institutional arrangement for skilled manpower development in Bangladesh;
ii. To assess the existing status and problems in implementation of skills manpower development programmes; and
iii. To explore future possibilities and suggest some strategies to build a skilled, competitive and industry ready workforce in Bangladesh.

1.4 Justification of the study:

The upskilling of man power is vital to raise productivity, make industrial development, generate employment opportunities and increase the competitiveness of Bangladesh in the global economy. Although the government has been trying to enact policies like the National Skills Development Policy (NSDP) 2020 and Technical and Vocational Education and Training (TVET) has been growing, there are still problems in implementing these policies and in integrating them with the labour market. Persistent problems such as skills gaps, lack of cooperation between industry and academia, lack of digital and environmentally friendly skills, and access to quality training are impeding progress towards the workforce. Therefore, it is

critical to review existing policies, implementation approaches, and future possibilities. The findings of this analysis will provide useful inputs for policy makers, schools, training institutes and businesses to design their infrastructure and strategies based on data to nurture skilled, creative and internationally competitive workforce for the sustainable socio-economic development of Bangladesh.

2.0 Literature Review:

Skilled workforce development is a crucial part of the process of sustainable economic growth, industrial competitiveness and societal change in both developed and developing countries. This is a model of giving people the skills, knowledge and abilities required to meet demands of the labour market and enhance productivity such as technical, vocational, managerial, digital and interpersonal skills (Karim, 2025). Skilled workers development has become more important in Bangladesh because of the rapid industrialization, globalization, technological advancement and the desire of Bangladesh to become an upper-middle income economy.

The United Nations reinforces the importance of the development of a skilled workforce to achieve sustainable economic growth, decent employment and comprehensive development. Quality education and relevant technical and vocational skills are called for in Sustainable Development Goal (SDG) 4 and productive employment and decent work opportunities for everyone are the focus of SDG 8 (UN, 2015). The UN recommends improving Technical and Vocational Education and Training (TVET), continuous learning and skills for specific sectors to respond to the needs of the job market. The United Nations emphasizes the need for Bangladesh to align its skills development initiatives with technological advancements, digitalization, and sustainable industrialization, leading towards higher efficiency and competitiveness in the international market.

Human capital development is a vital priority of Bangladesh Government in the country's development path. The National Skills Development Policy (NSDP) 2020 seeks to develop a skills development system that is industry responsive, competency-based and improves the employability and productivity. The policy emphasizes partnerships between the public and private sector, in addition to acknowledging the value of recognizing prior learning, competency-based training, quality, and meeting the needs of the labor market. The government has established the National Skills Development Authority (NSDA) to oversee the skills development activity in the ministries and training providers.

Technical and Vocational Education and Training (TVET) is important for developing a skilled human resource in Bangladesh. The Bangladesh Economic Review (Ministry of Finance, 2024) reveals that more than eight lakh people participate in formal skills training annually at public and private institutions such as the Bureau of Manpower, Employment and Training (BMET), Directorate of Technical Education (DTE) and the training centers of different NGO organizations. Because of the focus on competency training and competency assessment, the level of certification has increased and the employability of graduates as a result. But TVET enrolment is low compared to general education enrolment and the enrolment of women is facing challenges because of societal and institutional factors.

Many studies have emphasized the lack of consistency between the skills offered and needed by employers and training institutions. According to the International Labour Organization (ILO, 2024), Bangladesh faces high demand for skilled professionals in various fields, including advanced manufacturing, information technology, construction, healthcare, logistics, and digital services. Employers often demand employees who have practical experience, communication, analytical, problem-solving, and computer skills. This difference restricts the efficiency of the labor, and limits the competitiveness of industry. The authors of Rahman and Islam (2022) also found that many TVET graduates have theoretical knowledge but they lack industry appropriate skills as they are not exposed to the industry and the syllabus is outdated.

The nature of work and the skills needed have been transformed by digitalisation. The World Economic Forum (WEF, 2025) says that some 39% of the basic skills people need for work are expected to change by the year 2030, thanks to artificial intelligence, automation, robotics, big data, and digital innovations. It is expected that analytical reasoning, technological skills, innovation, adaptability, and continuous learning will be the most in-demand skills. This has led to a growing emphasis on reskilling and upskilling efforts in countries to prepare their workers for new roles. In Bangladesh, digitization of education has also been promoted with the introduction of educational programs based on competency. However, the availability of the digital infrastructure, teachers' competencies, and teaching methods are not the same in all institutions.

Foreign job opportunities still have a major impact on the economy of Bangladesh. According to the report, Bangladesh's remittance inflows reached approximately US$24 billion in FY 2023-24 and the number of workers migrated to other countries since 1976 is more than 13 million, released by Bangladesh Bank in 2024 in the BMET report. However, studies

consistently have shown that many of the migrant workers in the country lack the skills for higher-paying jobs, ranging from unskilled to primarily working in basic jobs. In 2023, IOM proposes to improve training prior to departure, to obtain internationally recognized qualifications, build language proficiency and provide job-specific training to better prepare migrants for the global job market.

Though Bangladesh has made a great progress, still some institutional and policy constraints are impeding the improvement of skilled workforce in the country. According to the Asian Development Bank (ADB, 2021), issues such as division among government bodies, ineffective coordination systems, inadequate labor market data systems, insufficient funding, and limited involvement of the private sector all contribute to diminishing the overall efficiency of skills development initiatives. Like one, UNESCO (2022) emphasises the necessity to enhance the partnership between the business and educational sectors, as well as governmental bodies to guarantee that training courses remain responsive to changing labor market needs. Skills for the environment, entrepreneurship education, and digital skills have also increased in relevance to prepare workers for the economic transition.

In general, the literature shows that Bangladesh has made significant advancements in setting up policy structures and broadening educational opportunities for developing a skilled workforce. There are, however, significant challenges to the implementation of such projects, especially regarding the meaningfulness of the curriculum, the quality of it, business partnerships, digitalization and the job market. There is little foundational research that has already addressed the intersection of policy, implementation and future prospects in the context of developing skilled workers in Bangladesh today, though some scholarship has been done on specific aspects such as TVET, working outside of Bangladesh, or job market outcomes. Thus, the current study will aim to address this gap by critically examining the existing policy frameworks, implementation approaches, challenges for institutions and possible ways to build a skilled, creative and globally competitive workforce that is in demand in the job market in the present and in the future.

3.0 Methodology:

Research Design:

This research used a combination of qualitative and quantitative methods to thoroughly examine the development of skilled workforce in contemporary Bangladesh. Key focus of the research was aimed towards describing and analysing existing policies, methods of implementation, barriers and future opportunities.

Study Area:

The study was conducted in Bangladesh in particular, and identified specific public and private actors involved in skill enhancement including National Skills Development Authority (NSDA), Bureau of Manpower, Employment and Training (BMET), Directorate of Technical Education (DTE), Technical and Vocational Education and Training (TVET) institutions, businesses and relevant government departments.

Data Sources:

Primary and secondary data were used in the study.
Structured questionnaire surveys, Key Informant Interviews (KIIs).
Secondary Data: National Skills Development Policy (NSDP) 2020, data from Bangladesh Economic Review, data from Labour Force Survey, report of Bangladesh Bureau of Statistics (BBS), report of Bureau of Manpower, Employment and Training (BMET), report of National Skills Development Authority (NSDA), information from World Economic Forum (WEF), information from International Labour Organization (ILO), report from World Bank, data from Asian Development Bank (ADB), scholarly articles, books, and other relevant publications.

Population and Sampling:

The target group were government officials, vocational instructors, business and industry representatives, employers, trainees, and policy specialists involved in the development of skilled workforce.

The key informants were selected using purposive sampling technique and the survey respondents were selected using simple random sampling technique.

Proposed Sample Size:

Respondent Category	Sample Size
Government Officials	10
TVET Teachers/Instructors	10
TVET Graduates/Trainees	20
Total	**40**

Data Collection Methods:

For the study the following data collection techniques were used:

- Structured questionnaire survey
- Key Informant Interviews (KIIs)
- Review documents and policies

Data Analysis:

Descriptive statistical techniques such as frequencies, percentages, averages, tables and graphs were used for the quantitative data analysis, which was conducted in Microsoft Excel and SPSS. The interviews and FGDs were conducted using qualitative data that was analyzed through thematic analysis with the aim of highlighting the main themes, implementing challenges, and policy recommendations.

Ethical Considerations:

The research ensured the informed consent of all participants. Participation was voluntary and anonymity and privacy of the participants were ensured. The information gathered was for academic purposes only and ethical guidelines for studies were followed throughout.

4.0 Data Analysis and Findings:

4.1 Qualitative Data Analysis:

Three main goals were the focus of the investigation. The first objective was to assess the existing institutional arrangements and policies in Bangladesh for development of skilled labor. The second aim was to review the current implementation of this and explore the key challenges that are impacting on skilled manpower development programs. The third objective was to explore the need for the future and also offer some practical approaches to the development of a competitive, competent, and business oriented workforce in Bangladesh. To achieve these aims, data were collected from primary and secondary sources with emphasis on data relevant to the study's aims.

Key Informant Interviews (KIIs) with certain stakeholders engaged in the development of skilled labor were used to gather primary data. Respondents included policymakers and government representatives, educators and training providers, trainees, students, employees, and business owners/employers. The aim of the interviews was to gain insights into their experiences and ideas on the existing institutional structures and policies, delivery of the programs, key challenges and future opportunities for the development of the programs.

The respondents also shared information about the implementation of various initiatives for the creation of skilled labor and assessed the effectiveness of existing institutional structures and policies. Other major challenges highlighted by them include inadequate facilities, poor coordination between the industry and the training institutions, lack of trained trainers, discrepancy in the training delivery and the expected outcome and the non-matching of training needs and labour market demands. They also provided strategies for building a competitive, skilled, productive and industry-focused workforce and their views on future opportunities.

Interviews were done verbally using a standardized checklist based on the study's objectives in order to collect data in a methodical manner. Closed ended and open-ended questions were employed to obtain detailed views and recommendations which were larger than just facts. The questions on the checklist were straightforward, thorough, pertinent, and simple to comprehend. The three research objectives were then used to arrange and analyze the data gathered from the KIIs.

4.2 Quantitative Data Analysis:

Data was collected by the researcher himself, who helped the respondents provide him with the information in the form of checklist by asking a few questions.

The data analysis has been shown in the table below: -

Sl. No.	Indicator	Response	Frequency	Percentage (%)
1	NSDP 2020 sufficient for current labour market demands	Yes	16	40%
		No	24	60%
2	Coordination among NSDA, BMET, DTE and other agencies	Satisfactory	14	35%
		Needs Improvement	26	65%
3	Policy framework adequate for 4IR challenges	Yes	15	37.5%
		No	25	62.5%
4	Skills development budget sufficient	Yes	13	32.5%
		No	27	67.5%
5	Special priority for migrant workers' skills	Yes	22	55%
		No	18	45%

According to the results, 60% of the respondents believe that NSDP 2020 is inadequate to meet the demands of the current labour market, while 40% believe it is adequate. This indicates that there is a need for further policy adjustments to accommodate the needs of the labor market, emerging careers and changing industry needs.

Institutional Coordination: 35% of respondents believed the institutional coordination between NSDA, BMET, DTE and other relevant agencies should be satisfactory, whereas 65% believed that it should be improved. This means better institutional coordination and information sharing and clear roles are required to achieve the successful development of skills.

Policy Response to Challenges of 4IR: 62.5% of all the respondents indicated the policy framework is not providing adequate guidance on how to address 4IR challenges. This highlights the need of a greater emphasis on higher technologies, automation, artificial intelligence, digital skills and industry responsive training.

Existing Skills Development Budget: 32.5% of respondents think the existing budget for skills development is adequate, while 67.5% think that it is insufficient. The findings indicate that there is a need for higher and more targeted investments in training infrastructure, equipment, trainers, curriculum development and the use of up-to-date technology.

When asked about the attention given to migrant workers' skills, 55% of the respondents say that it is now getting special attention, while 45% disagree. This is a sign of an appreciation for the importance of working overseas, even if pre-departure training, language skills, certification and technical skills are still to be developed in the specific areas of the job itself.

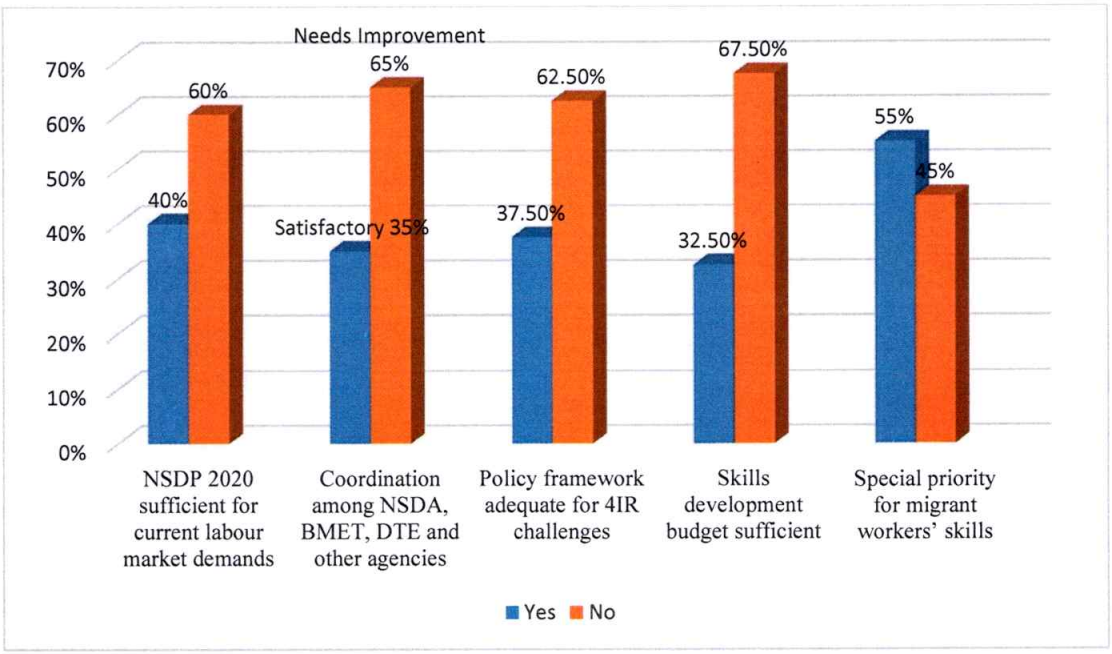

Figure-1: Findings on NSDP, Institutional Frameworks and Coordination

4.2.2 Main Obstacles to Policy Implementation:

Tabel-2

Sl. No.	Major Obstacle	Frequency	Percentage (%)
1	Bureaucratic Complexities	10	25%
2	Lack of Skilled Trainers	9	22.5%
3	Lack of Modern Labs or Equipment	15	37.5%
4	Reluctance of the Private Sector	6	15%
	Total	**40**	**100%**

The lack of modern laboratories and equipment was identified as a significant challenge to the effective implementation of policies among 37.5% respondents. They pointed out that a lot of educational institutions don't have the modern equipment, laboratory and practical training facilities which limit the development of employable skills. Another important hurdle mentioned by respondents was bureaucratic challenges (25%). They listed the complex processes of administration, time for decision making and the complexity of institutions as factors that can make the implementation of skills development programs to take a long time. A lack of qualified instructors was the concern of 22.5% of respondents, who are concerned about the availability of qualified instructors who are up to date with the latest technology and industry knowledge. At the same time, 15% stated that they were not keen to engage private sector, especially industry in training, internships, curriculum development and skill assessment services. The respondents highlighted that the betterment of the training infrastructure, minimalization of administrative procedure, training of qualified trainers and more participation of the private sector is vital for the proper implementation of skilled manpower development policy in Bangladesh.

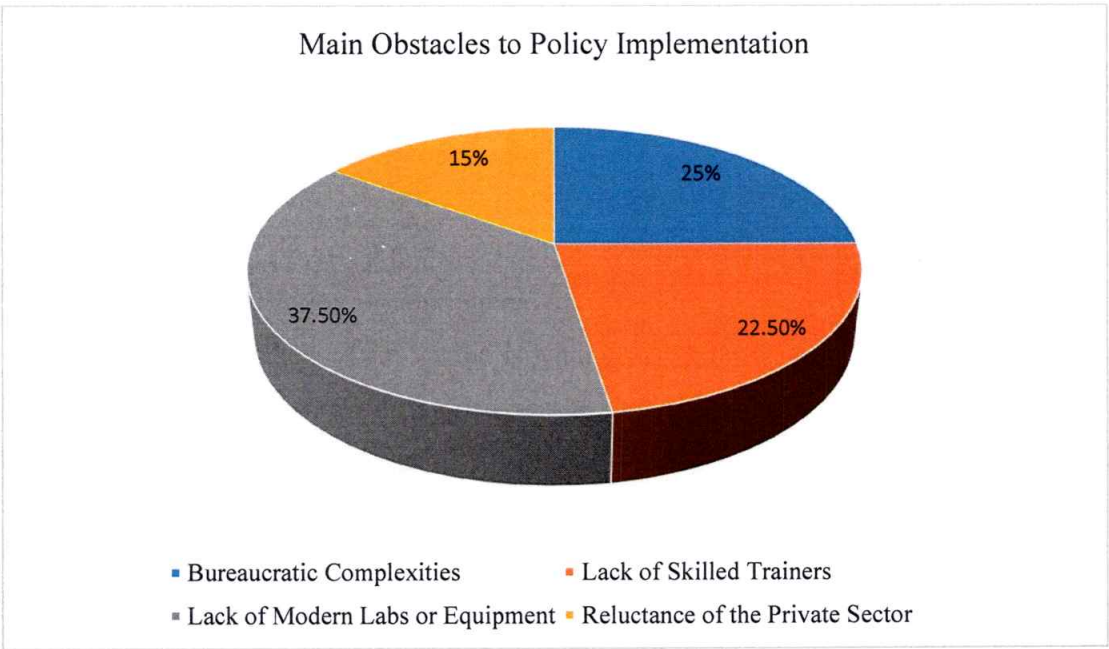

Figure-2: Main Obstacles to Policy Implementation

4.2.3 Priority Areas for Increasing the Export of Skilled Manpower:

Tabel-3

Sl. No.	Priority Area	Frequency	Percentage (%)
1	Providing Internationally Recognized Certification	12	30%
2	Language Training and Communication Skills	9	22.5%
3	Modernizing Technical Training	13	32.5%
4	Exploring New Labor Markets	6	15%
	Total	**40**	**100%**

The majority of the respondents, 32.5%, said that modernization of technical training is the highest priority to boost exports of skilled labour from Bangladesh. They highlighted the importance of making training programs, equipment and practical learning facilities updated according to the evolving international industry standards and demands. Thirty percent of the respondents highlighted the provision of internationally recognized qualifications as an important aspect, which means the employability and mobility of Bangladeshi workers would be improved if they are provided with internationally recognized qualifications. Language and communication skills (22.5%), and reflecting the need for workers to communicate well in the workplace in the target country and to enhance professional integration. At the same time, 15% of the respondents highlighted the creation of new job markets. They recommended that Bangladesh expand its options for overseas employment and seek to find new markets where there is an increased demand for qualified professionals. In general, the respondents pointed out that the successful combination of modern technical training, globally recognized training certificates, language capacities and diversification of the job market is necessary to improve the Bangladesh skilled labor export.

Figure-3: Priority Areas for Increasing the Export of Skilled Manpower

4.2.4 Technologies and Skills to Prioritize for Future Skills Development:

Table-4

Sl. No.	Priority Area	Frequency	Percentage (%)
1	Artificial Intelligence (AI) and Robotics	14	35%
2	Green Skills	12	30%
3	Digital Marketing and Freelancing	9	22.5%
4	Modern Agricultural Technology	5	12.5%
	Total	**40**	**100%**

Artificial Intelligence (AI) and robotics, at 35%, and green skills at 30%, were the most important priorities mentioned by the respondents. Digital marketing and self-employment were 22.5% and 12.5% respectively while modern agricultural technology was 12.5%. In general, the respondents pointed out the role of artificial intelligence, robotics, green technology and digital skills in equipping the workforce for future needs of the labour market in Bangladesh.

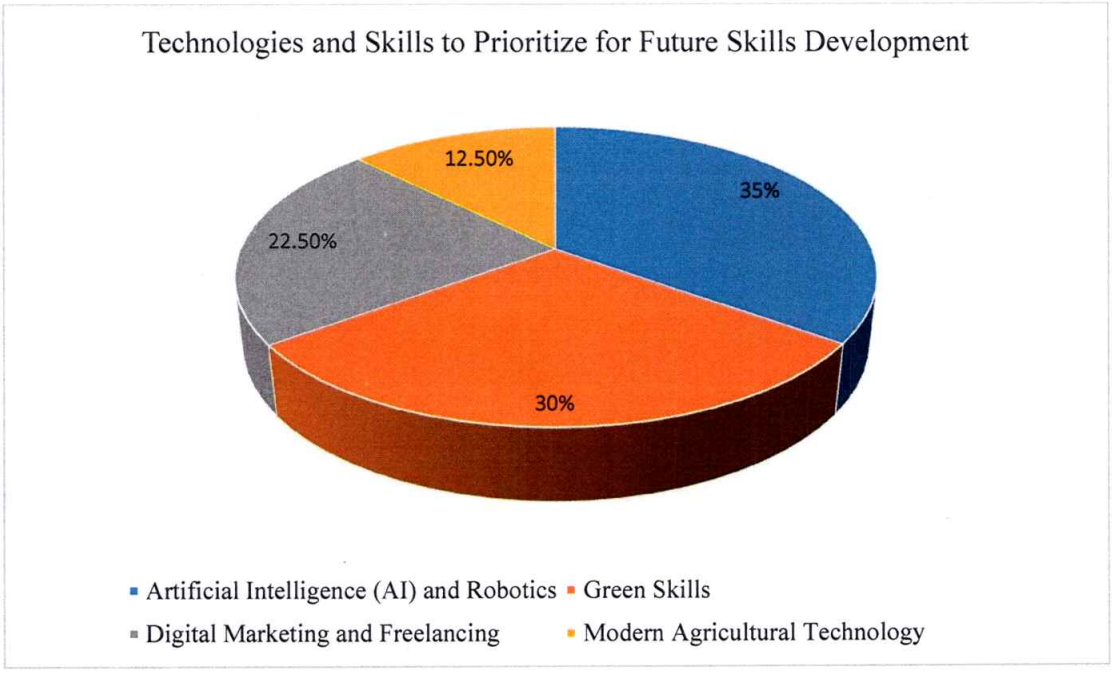

Figure-4: Technologies and Skills to Prioritize for Future Skills Development

A major difficulty with the implementation of the CLTS is that there is a high risk of the approach being misapplied.One of the main challenges of implementing the CLTS approach is the potential for misuse. Regular curriculum updates: Respondents said that 60% of institutions regularly update their curriculum every two to three years, but 40% said their curriculum is not updated regularly. This is better practice, but additional action to meet evolving industry and labour market needs is still needed. Practical learning takes precedence over theoretical learning: 55% of the respondents stated that practical learning is more important than theoretical learning in their institutions, while 45% indicated that theoretical learning was still predominant. This indicates that the practical training should be further developed to enable the production of industry ready graduates. Job and internship opportunities in the industry. 65% indicated that there are opportunities for employment or internship in the industry at their establishment; 35% indicated that there are not opportunities for employment or internship at their establishment. Whilst the picture is fairly bright, the more schools can work closer with companies, the more rewarding work experience can be offered for students. Trainer technology capability: 45% of the respondents indicated that trainers currently have technology skills, while 55% indicated otherwise. This clearly shows the importance of the need for regular teacher development programs, technical training and industry exchanges to enhance the quality of education. Tracking employment status of graduates: 40% of all universities have a system to track the employment status of graduates, while 60% don't. It sheds light on the critical institutional failure in employment follow-up and the importance of having effective

follow-up and tracking systems to evaluate the effectiveness of training and its importance in the labor market.

4.2.6 Reasons for Students' Lack of Interest in Technical Education:

Table-5

Sl. No.	Major Reason	Frequency	Percentage (%)
1	Lack of Social Status	11	27.5%
2	Limited Opportunities for Higher Education	8	20%
3	Low Wages in the Job Market	14	35%
4	Lack of Promotion/Awareness	7	17.5%
Total	**Total**	**40**	**100%**

A total of 35% of the respondents said that low wages in the labor market is the biggest factor why students are not interested in technical education. 27.5% don't have a social status, suggesting that technical and professional jobs might not be considered as prestigious. Limited opportunities for higher education were identified as 20% and lack of promotion and awareness as 17.5%. On the whole, the enhancement of the salary, the opportunity of career, social recognition, and knowledge of technical education may help boost student interest in technical education and vocational education.

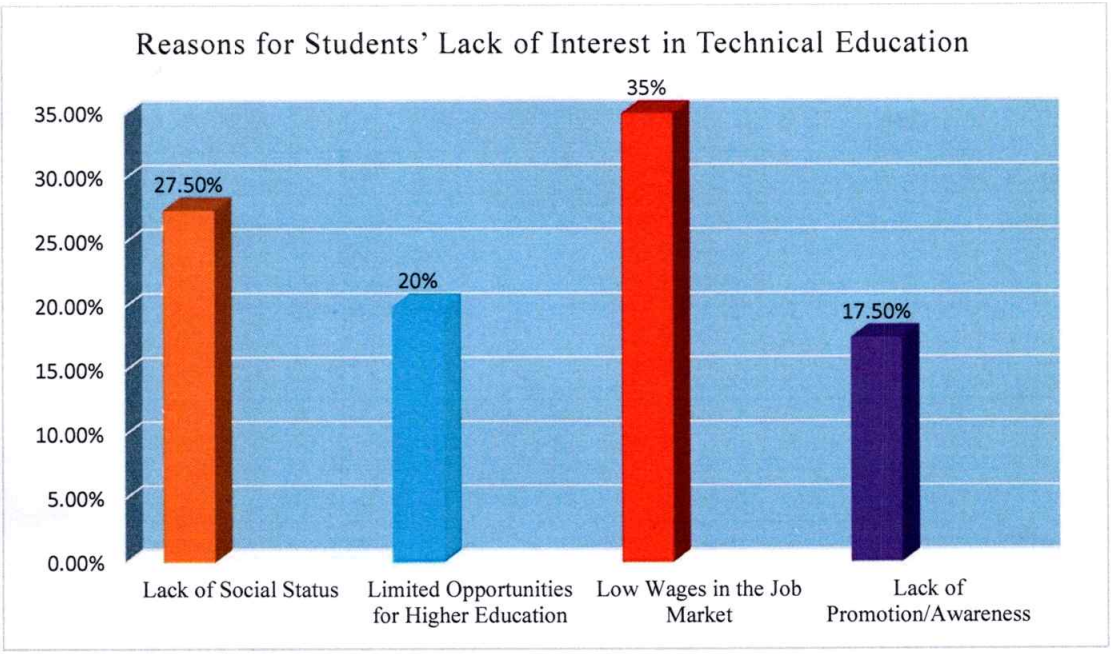

Figure-5: Reasons for Students' Lack of Interest in Technical Education

4.2.7 Crucial Factors for Improving Training Quality:

Table-6

Sl. No.	Item	Frequency	Percentage (%)
1	Advanced Training for Trainers	11	27.5%
2	Establishing Modern Laboratories	13	32.5%
3	Aligning Curriculum with Industry Demand	10	25%
4	Regular Monitoring and Evaluation	6	15%
	Total	**40**	**100%**

The establishment of modern laboratories was the most important aspect of improving the quality of training, according to the respondents (32.5%). The training rate of instructors is 27.5%, indicating that the technical and practical skills of the instructors need to be enhanced. 25% reported that their curriculum was relevant to industry needs, emphasising the need to make sure that training is relevant to industry requirements. Monitoring and Evaluation 15%. Some of the major factors that respondents indicated as being important for enhancing training quality are good training facilities, qualified teachers, industry specific training programs and effective quality control.

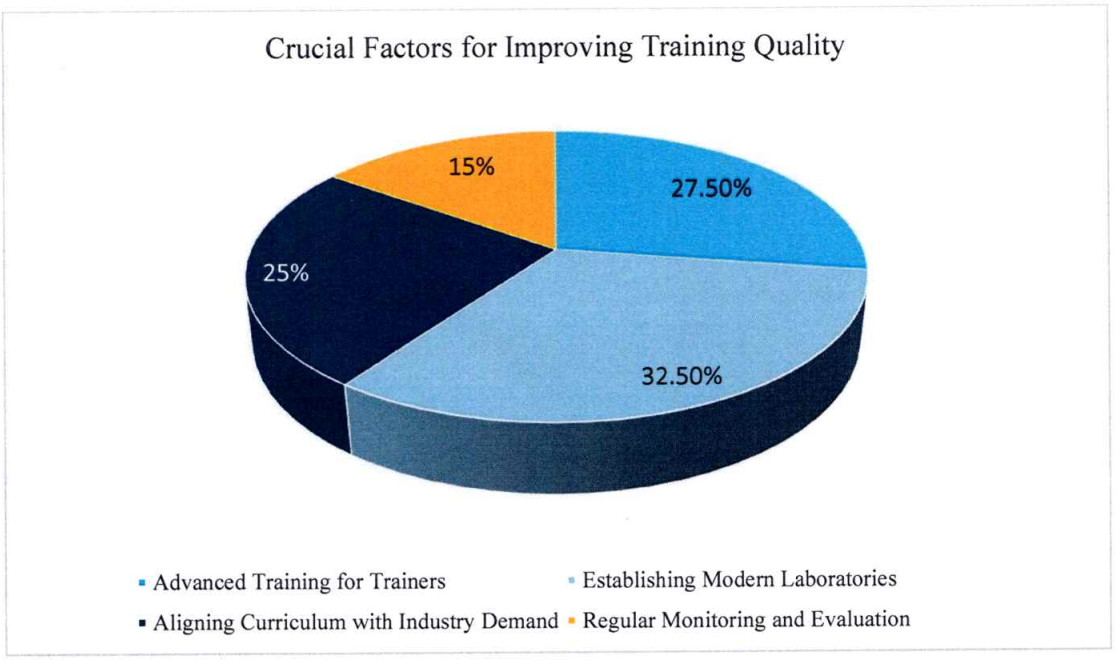

Figure-6: Crucial Factors for Improving Training Quality

4.2.8 Soft Skills for the Fourth Industrial Revolution (4IR):

Table-7

Sl. No.	Soft Skill	Frequency	Percentage (%)
1	Complex Problem Solving	12	30%
2	Creativity and Innovation	13	32.5%
3	Teamwork and Leadership	8	20%
4	Digital Literacy	7	17.5%
	Total	**40**	**100%**

Creativity and innovation are the most important soft skills for the Fourth Industrial Revolution (4IR), with 32.5% of the respondents indicating this. Complex problem solving (30%) is important and requires analytical and decision-making skills. The other 20% was given to teamwork and leadership, while digital culture was awarded 17.5%. Respondents across the country underscored the importance of creativity, problem solving, collaboration, leadership and digital skills as important skills in preparing students for the changing demands of the 4IR.

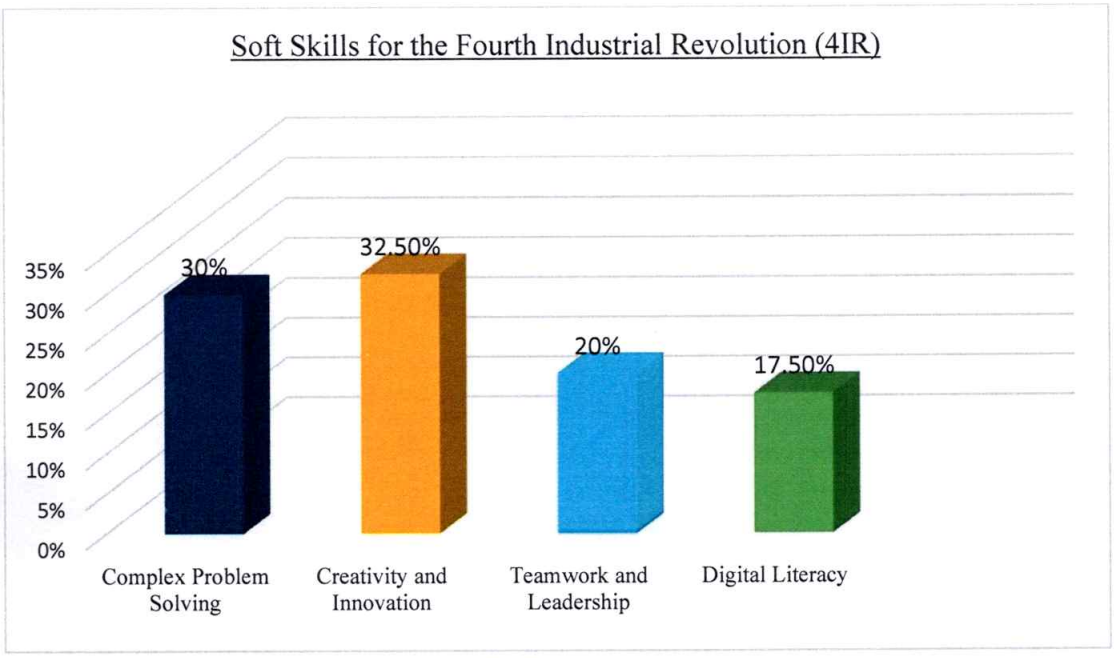

Figure-7: Soft Skills for the Fourth Industrial Revolution (4IR)

4.2.9 Training Experience, Skill Acquisition and Employment Prospects:

A training experience will be carried out to develop an understanding of the process of learning and skill development and to explore career opportunities. Modern and functional educational equipment. 55% of respondents indicated the machinery and equipment used during training was up to date and working, and 45% indicated it was not up to date, or it was inadequate. This implies more modernization of the training facilities is needed. Confidence in employment after training: 40% of respondents are not confident that trainees will find a job after the training and 60% are confident. This indicates a positive trend on employment, but the involvement with industry and employment support is still lacking. Use of Information Technology / Digital technology. The respondents reported that 35% of trainees had no training in the use of IT or digital technologies and 65% had. This indicates an evolution of technical training in digital skills, but still has a way to go before digital technologies are fully embraced. It is expected to improve standard of living: 75% of the respondents expected the training to improve the standard of living, while 25% did not. This indicates that most learners' value skills development as a means to enhance their employability, income and economic status.

4.2.10 Reasons for Choosing Technical or Skills Development Training:

Table-8

Sl. No.	Reason	Frequency	Percentage (%)
1	Rapid Job Opportunities	16	40%
2	To Go Abroad	11	27.5%
3	To Become an entrepreneur	8	20%
4	Not Getting an Opportunity in General Education	5	12.5%
	Total	**40**	**100%**

40% of those surveyed say the main reason for choosing technical or skills development training is because of the immediate job opportunities. Other employment overseas represents 27.5%, showing that working overseas is an important reason. 20% of people show an interest in self-employment and business potential through setting up their own business. Meanwhile, 12.5% decided to pursue technical training, because they did not have an opportunity in General education. The general sentiment of the respondents is that technical trainings are valuable options for work abroad, entrepreneurship and improved economic prospects as well as employment.

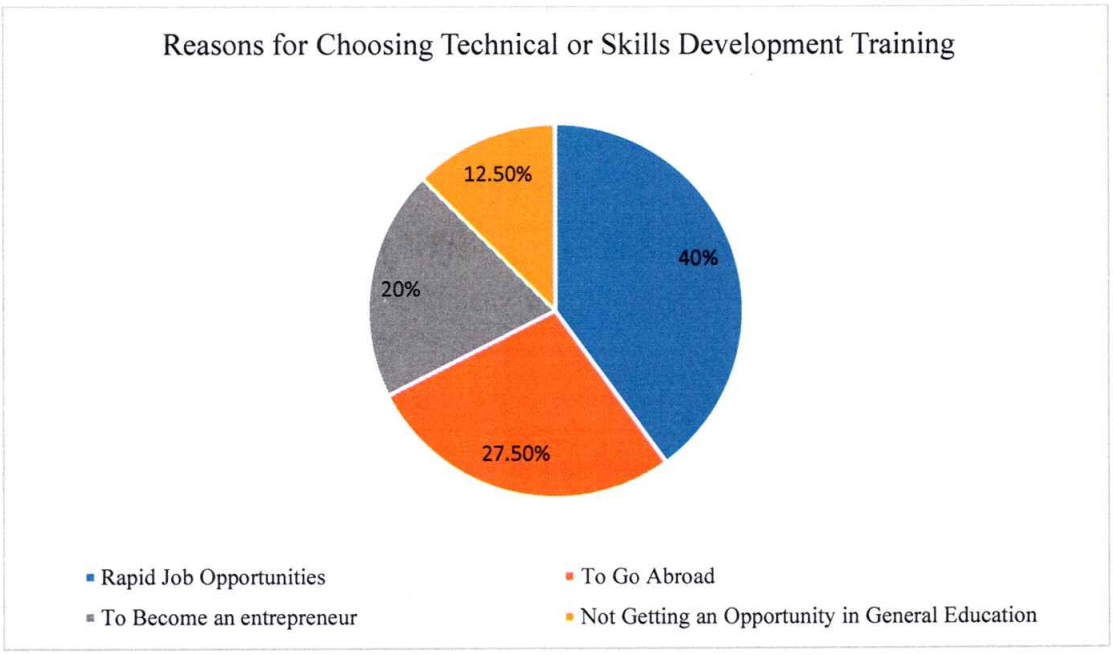

Figure-8: Reasons for Choosing Technical or Skills Development Training

4.2.11 Problems Faced During Training:

Table-9

Sl. No.	Problem	Frequency	Percentage (%)
1	Transportation Issues	10	25%
2	High Training Fees	8	20%
3	Lack of Adequate Practical Classes	15	37.5%
4	Lack of Scholarships	7	17.5%
	Total	**40**	**100%**

The most important problem faced during training is the lack of enough practical classes, according to 37.5% of respondents. Twenty percent are due to high training costs, and twenty five percent are due to transportation problems. Scholarships are not available in 17.5% of the schools. The overall respondents emphasized the need to provide more training facilities in the real environment, make it easier for people to access these courses, ensure that the costs of training are lower and provide more training scholarships to boost the effectiveness and accessibility of skills development programmes.

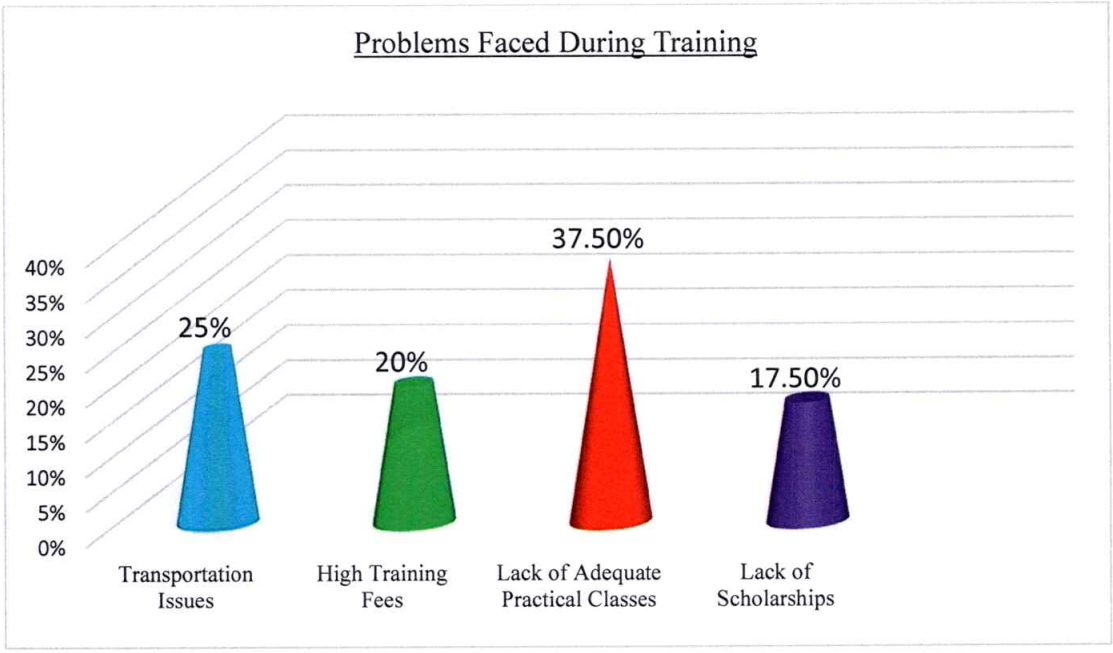

Figure-9: Problems Faced During Training

4.2.12 Preferred Employment After Training:

Table-10

Sl. No.	Employment Type	Frequency	Percentage (%)
1	Government Job	8	20%
2	Private Company	15	37.5%
3	Freelancing or Online Work	9	22.5%
4	Starting Own Business	8	20%
	Total	**40**	**100%**

Private companies were the preferred option among work placements; with 37.5 percent reporting that's their preferred work placement. 22.5% are working online or as a freelancer, while 20% work for the government or start their own business. The overall responses show that the respondents prefer to work in the private sector, but freelancing and business entrepreneurship are also important avenues for being able to implement their acquired skills.

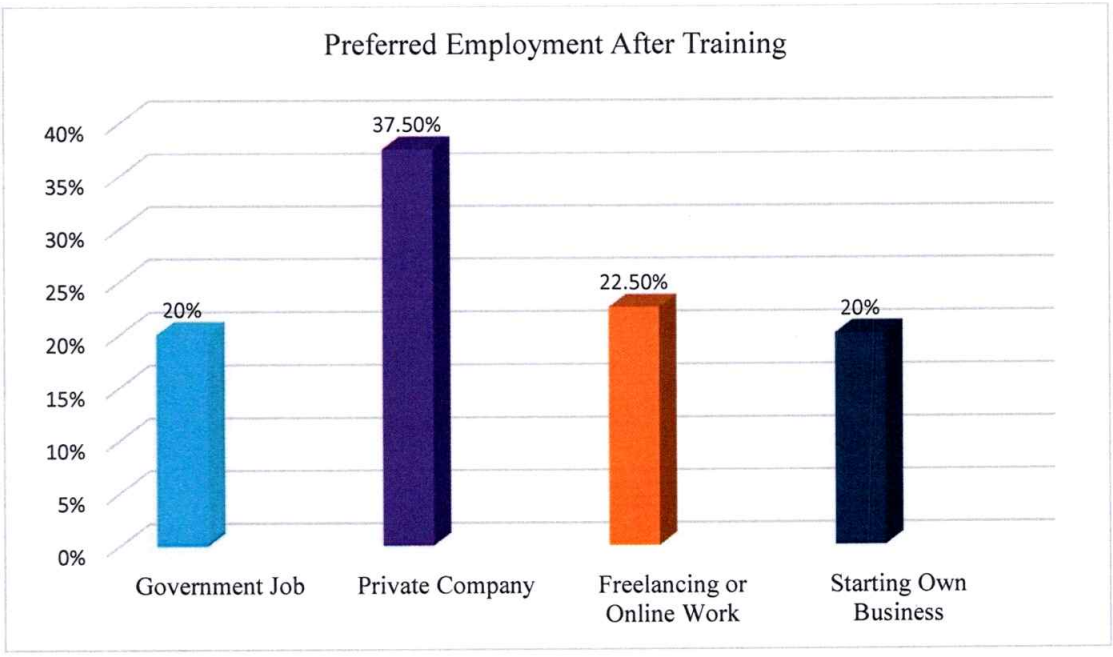

Figure-10: Preferred Employment After Training

FGD-2: Industry Owners & Employers:

4.2.13 Skills Mismatch, Recruitment Challenges and Academia–Industry Relationship:

When recruiting new employees, 70% of the businesses find it difficult to access skilled man power, while 30% do not find it difficult. This implies that there is a large skills mismatch between the labour force available and the needs of the labour market. In the opinion of 55% as opposed to 45% of the respondents, graduates of technical education schools were not competent. This means that a significant proportion of graduates don't have the required technical skills, knowledge and skills for employment. Employee Retraining requirement: 75% of businesses must retrain recently hired employees, 25% do not. This indicates that there was a substantial gap between industry competences required and competencies acquired in school. Organizational Training Facilities: 50% of the organizations have their own training facilities or centers and 50% do not. This indicates there are many firms that depend on the use of institutional structures or external training providers to enable their staff to learn the skills they need. Industry Involvement in Curriculum Development: 40% of the respondents stated their industry's voices are heard when developing the curriculum, and 60% indicated that their industry's voices are not heard enough. This signals the importance of greater engagement with employers in the development, updating and evaluation of skills in the curriculum and exposes a significant lack of communication between the academic world and industry.

4.2.15 Most Common Skill Deficiencies among Current Graduates:

Table-11

Sl. No.	Skill Deficiency	Frequency	Percentage (%)
1	Technical Skills	14	35%
2	English Language and Communication Skills	10	25%
3	Discipline and Professionalism	8	20%
4	Use of Modern Machinery	8	20%
	Total	**40**	**100%**

Thirty-five percent of the respondents said that the biggest challenge among recent graduates is technical skills. 25% of the total is for English language and communication skills, representing a difficult situation in terms of professional engagement and communication at work. Twenty percent say that it is due to the lack of professionalism and discipline, while another twenty percent believe it is due to the lack of the usage of modern machines. The respondents, in general, emphasized the necessity of providing more practical technical

training, communication skills, professional conduct and hands on experience with modern machinery to enhance the graduates' preparedness for the job market.

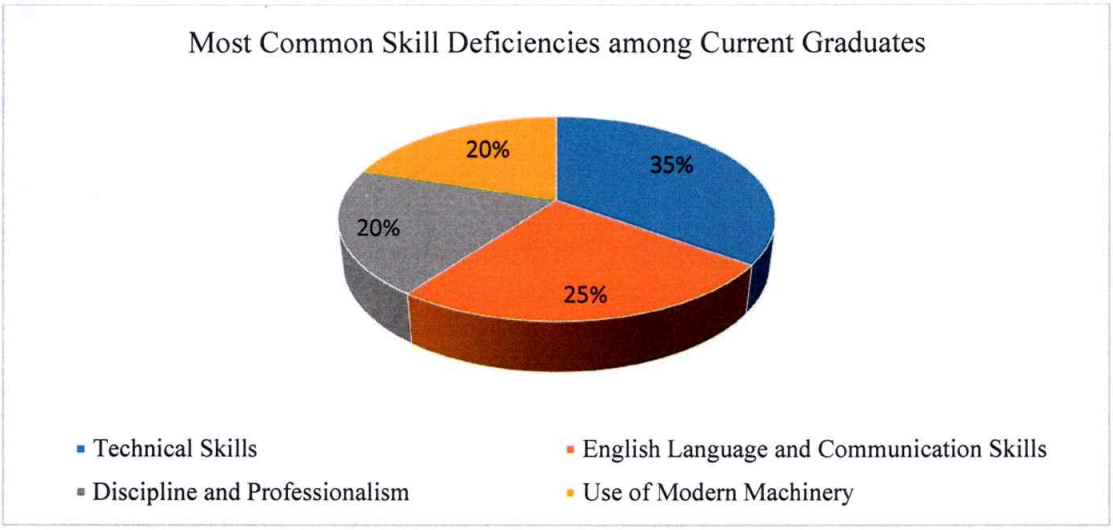

Figure-11: Most Common Skill Deficiencies among Current Graduates

4.2.16 Measures to Strengthen the Academia–Industry Relationship:

Table-12

Sl. No.	Measure	Frequency	Percentage (%)
1	Joint Research and Projects	9	22.5%
2	Increasing Internship Opportunities	14	35%
3	Guest Lectures by Industry Experts	7	17.5%
4	Participation in Curriculum Moderation Committees	10	25%
Total	**Total**	**40**	**100%**

35% of the respondents found the most important action to take in order to create a better engagement between academia and industry is to increase internship opportunities. Business involvement in ensuring curriculum relevance to the needs of the workplace is reflected in the fact that 25% of students are involved in committees that moderate the curriculum. 22.5% of them are joint research, 17.5% are guest lectures by professionals in the field. In overall, the respondents identified more involvement of employers in curriculum development, academic-industry collaboration and more exposure to industry hands-on as the key strategies to reinforce and improve the relationship between academic and industry.

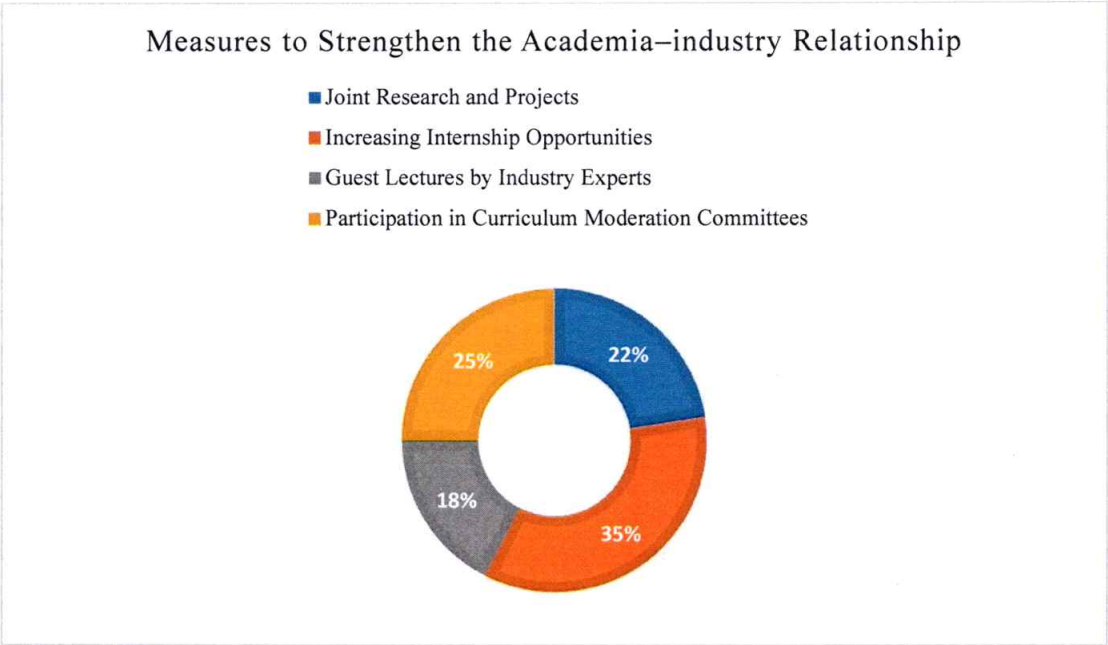

Figure-12: Measures to Strengthen the Academia–Industry Relationship

5.0 Findings of the Study:

The National Skills creation regulatory (NSDP) 2020, the National Skills Development Authority (NSDA), BMET, and expanded TVET programs are just a few of the significant institutional and regulatory structures Bangladesh has put in place for the creation of skilled labor. Nonetheless, there are still large discrepancies between the intent and execution of policies.

The majority of policy level respondents (60%) believe that the NSDP 2020 is inadequate for the demands of the labor market today, and 65% say that coordination between NSDA, BMET, DTE, and other agencies needs to be improved. 62.5% of respondents believe that the policy framework is insufficient for Fourth Industrial Revolution (4IR) concerns, while 67.5% believe that the skills development budget is insufficient. Lack of contemporary labs and equipment (37.5%), complicated bureaucracy (25%), a lack of qualified trainers (22.5%), and little involvement from the private sector (15%) are the main barriers to implementation.

While 60% of training institutions routinely update their curricula, 55% place a strong emphasis on practical training, and 65% provide industry attachments, only 45% of educators are adept in contemporary technology, and only 40% of institutions monitor graduate employment. Low pay (35%) and low social standing (27.5%) are the main causes of students' lack of interest in technical education. Inadequate practical instruction is cited by trainees as

the main issue (37.5%), and they favor freelancing (22.5%) or work in the private sector (37.5%).

70% of employers struggle to locate qualified personnel, 55% are unhappy with graduates' skills, and 75% have to retrain new hires due to a severe skills shortage. The most prevalent deficits are in technical skills (35%) and English/communication abilities (25%). Modernizing technical training, internationally recognized certification, AI and robots (35%), green skills (30%), and improved industry-academia partnership through more internships and curricular participation are all priorities for future development.

Overall, the system's ability to produce a competitive, industry-ready workforce is limited by recurrent mismatches in skills relevance, infrastructure, trainer quality, coordination, and industry linkages, even when institutional capacity and trainee motivation are present.

6.0 Conclusion and Recommendation:

6.1 Conclusion:

Bangladesh enjoys a favorable demographic dividend and has created a basic policy framework for skilled human resource development through NSDP 2020, NSDA and expansion of TVET institutions. These efforts have expanded training opportunities and supported both domestic employment and foreign labor markets that generate significant remittances. However, this system remains constrained by aging or inadequately upgraded equipment, lack of teacher training in new technologies, weak interagency coordination, poor collaboration between industry and academia, and continuing skills mismatches. Employers often reskill graduates, but interns face gaps in practical knowledge and confidence in their professional accomplishments. The rapid development of the Fourth Industrial Revolution further highlights the need to prioritize digital, green and soft skills. It is essential to close these gaps through increased investment, modern infrastructure, greater private sector participation, internationally recognized certifications and continued harmonization of training programs. Only then can Bangladesh transform its demographic advantage into a productive, competitive, future-ready workforce that can generate sustainable economic growth and higher employment at home and abroad.

6.2 Recommendations:

- Review and update the National Skills Development Policy (NSDP) to fully meet 4IR, digital and green skills requirements.
- Strengthen the coordination mechanism between NSDA, BMET, DTE and relevant agencies with clear roles and responsibilities.
- Significantly increase the budget for upgrading modern laboratories, equipment, and infrastructure.
- Creation and upgrading of modern laboratories and practical training facilities in VET institutions.
- Initiate a continuous professional development program to improve the skills of trainers in the field of emerging technologies.
- Regularly adapt all training programs to current industry requirements through mandatory employer participation.
- Expand quality industry employment and internship opportunities for all interns.
- Introducing a systematic system to monitor the employment of graduate students in all institutions.
- Facilitate the acquisition of internationally recognized certifications to improve employment opportunities at home and abroad.
- Improve training in speech, communication and soft skills (creativity, problem solving, teamwork).
- Future skills development programs will prioritize artificial intelligence, robotics, green skills and digital skills.
- Increase private sector participation in program development, evaluation, and on-the-ground training.

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1. *Please write your Name, Roll No. etc. at the specified space otherwise may cause cancellation of your answer script.*
2. *Put tick (✓) marks on Evaluation method and Institution's Name.*

Name **Sondip kumar Singha**

Roll No**118**

The Role of Local Government in Rural Infrastructural Development: An Analysis of the Project Selection Process.

Abstract

Rural infrastructural development is the indication of how LGIs are responsive to the people they serve. This study examines the project selection process in tiered LGI system in Bangladesh. In the study UP, UPZ, and ZP's project selection processes are examined with a particular focus on the degree, quality, and consequences of people participation in that processes. With the three objectives - mapping current selection process, assessing how people's engagement shapes it, and identifying the challenges LGIs face – the study draws on qualitative data from Key Informant Interview (KIIs) with UNO, elected UP chairman, administrator, and operation assistance committee member of ZP, alongside Focused Group Discussions (FGDs) with UP members and people across Sylhet. In the thematic analysis, it is revealed that a formally structured, multi-stage selection process which is moving from ward-level proposals through field verification, technical estimation, and approval does exist. Yet participation from grassroots to formal is a story of divergence rather than duplication: while institutional actors describe active consultation, people report weak, largely symbolic involvement, particularly among women and marginalized groups. Political discretion, resource scarcity, and thin post-implementation accountability further widen the gap between the processes as designed and as practiced. The study concludes that the deficiency is not an absence of rules but a lack of mechanisms ensuring their faithful application. The study concludes that the deficiency is not an absence of rules but a lack of mechanisms ensuring their faithful application. It recommends institutionalizing direct citizen participation, adopting transparent priority-setting, and strengthening monitoring and post-implementation evaluation - positioning meaningful, participatory project selection as central to inclusive, sustainable rural socioeconomic development in Bangladesh.

Keywords: Local Government Institutions, Rural Infrastructure, Project Selection, Citizen Participation, ZP, Sylhet, Bangladesh, Socioeconomic Development

1.0 Introduction

1.1 Background of the Study

Infrastructure investment is widely recognized as a key driver of economic growth and human development. It is estimated that achieving global development goals will require between US$65 trillion to US$70 trillion in infrastructure investment by 2030, while only about US$45 trillion in funding is expected to be available (Islam, 2021). In Bangladesh, one of the main areas of development is rural infrastructure development. In order to enhance public services, encourage local economic growth, and close the development gap between urban and rural areas, Bangladesh has given priority to the construction of rural infrastructure. To achieve these goals, the government has decentralized decision-making authority, financial resources, and management duties to Local Government Institutions (LGIs).

The local government in Bangladesh has been found in the subcontinent since ancient time. Although it first emerged as a representative entity in India during British period (Barkat et al., 2015). People in rural areas felt some sense of stability and progress from the beginning of this system of government. During British rule, this approach made it easier for the central government to collect money. In Pakistan period, the Basic Democracies Order, 1959 was enacted for political reasons (Hasan, *et. al.*, 2022). Now in Bangladesh, the goal of local government division is "People-participatory effective local government." In keeping with this idea, LGIs involve structural development initiatives aimed at raising rural residents' standards of living (Jabbar, 2024).

LGIs operate at two different levels: In rural areas (Union Parishad) and in urban areas (Upazila Parishad, District council, Pourashava, and City Corporations). Through policy and financial assistance for local infrastructure development, the central government is implementing a number of efforts to improve LGIs. However, the most important and debatable aspect of these development initiatives is whether they were chosen based on local needs or priorities (Hasan, *et. al.*, 2022). However, unlike Local Government Institutions (LGIs) in many Asian nations, like the Philippines, Indonesia, and India Union Parishad, Bangladesh's oldest and most significant grassroots LGI is unable to function effectively. The effectiveness of public spending under Annual Development Program (ADP), quarterly block grants, Test Relief (TR), and Food for Work (FFW) is debatable, as is the proper implementation of the projects, specially the selection process, to ensure the satisfaction of local residents (Hasan, *et. al.*, 2022; Jabbar, 2024).

1.2 Problem statement:

In developing countries like Bangladesh LGIs are becoming an integral part of rural infrastructural development. In rural areas infrastructural development projects increase connectivity and public service delivery to citizens. Local government plays a significant part in the mainstream development activities at the local level. The elected body of the local government has taken on many development projects of various kinds for the local infrastructure. Thus, LGIs are implementing a large number of geographically disseminated small sub-projects (Islam, 2021). But this development remains insignificant if it doesn't affect the life of the people of society (Kader and Ullah, 2020). The benefits of these projects to local people depend on the type of project selected for implementation. Each year, the local government body receives funding from the central government for a development program (Hasan, *et. al.*, 2022).

The local government body has completed its development plan in the ward committee, and it is crucial that the local government body choose a project from among several options. The selection and execution of projects are heavily influenced by the local government representative; in most cases, the development of a project depends on how active the local body is. Consequently, it is crucial to understand how much money is set aside for development and how the representatives decide which initiatives to prioritize.

Therefore, the most important factor connected to project is the selection process. But in the existing project selection process people's participation is hardly achieved. There are research studies on the terms like the empowerment, decentralization, and governance which are related to LGIs. But the project selection process of LGIs are not extensively studied. Although a lot of research has been done on local government aspects including decentralization, empowerment, and rural development in Bangladesh, there hasn't been too much done on how the process of choosing infrastructure projects benefits citizens (Islam, 2021). In order to ensure citizen engagement for sustainable development in rural regions, it is relevant to examine project selection procedures in LGIs in the context of Bangladesh. Hence this paper tries to analyze existing rural infrastructural project selection process of LGIs and ensure people centric or community driven project selections for materializing socio-economic return and standard of living of rural people.

1.3 Objectives of the study

The main objective of the study is -

To evaluate infrastructure project selection process of Local Government Institutions (LGIs) in Bangladesh.

Specific objectives

(a) To examine the current status of project selection process in LGIs in Sylhet.

(b) To investigate the degree to which citizen engagement affects project selection process.

(c) To find out the challenges in project selection process in the study area.

1.4 Research question

This study revolved around answering the following questions;

(a) How are the infrastructural development projects selected by LGIs in rural areas?

(b) What are the roles of citizen engagement to project selection process?

(c) What are the challenges in project selection faced by LGIs in rural areas?

1.5 Rational of the study

According the Asian Development Bank, ADB (2007), active and dedicated participation of the key stakeholders in the design and implementation of projects, especially those at the grass-roots level, contribute significantly to the sustainability of developmental activities, through increased ownership and more effective use of grass roots level inputs. Besides participation has intrinsic value because it enhances pro-social thinking, strengthens citizenship, and enables more inclusive civic engagement. It builds capacity for self-reliance and collective action what is sometimes called social capital (a World Bank pricing Research Report-localizing Development, 2013). But in reality, local people's effective participation in project selection is not in parallel with the purposes of decentralization. Therefore, it is imperative to study the project selection process for infrastructural development in rural areas. In case of Bangladesh, central government allocates funds, ADP (General, Special etc.) through Local Government Division to LGIs for infrastructural and socio-economic development for the development of standard of living of people in rural areas. LGIs prepare their budgets for every fiscal year

taking the residue revenues after meeting establishment costs and the ADP as the main source of development budget. This development budget is mostly translated into infrastructure development projects that make visible change in rural areas. In some cases, people's participation in budgeting of LGIs is also well advocated in all walks of life. The logic underpinning people's participation in budgeting varies substantially from place to place (Cabannes & Lipietz, 2017): it may be political (for radical democratic change), related to good governance (to improve links between the public and citizens) or technocratic (to optimize the use and transparency of public resources for citizens' benefit). Whatever the objectives of this type of budgeting are founded, proper allocation of the development budget to the locally selected and need-based projects is very important. Therefore, studying the existing project selection process is necessary for further development of the process so as to ensure people's participation.

2.0 Literature review

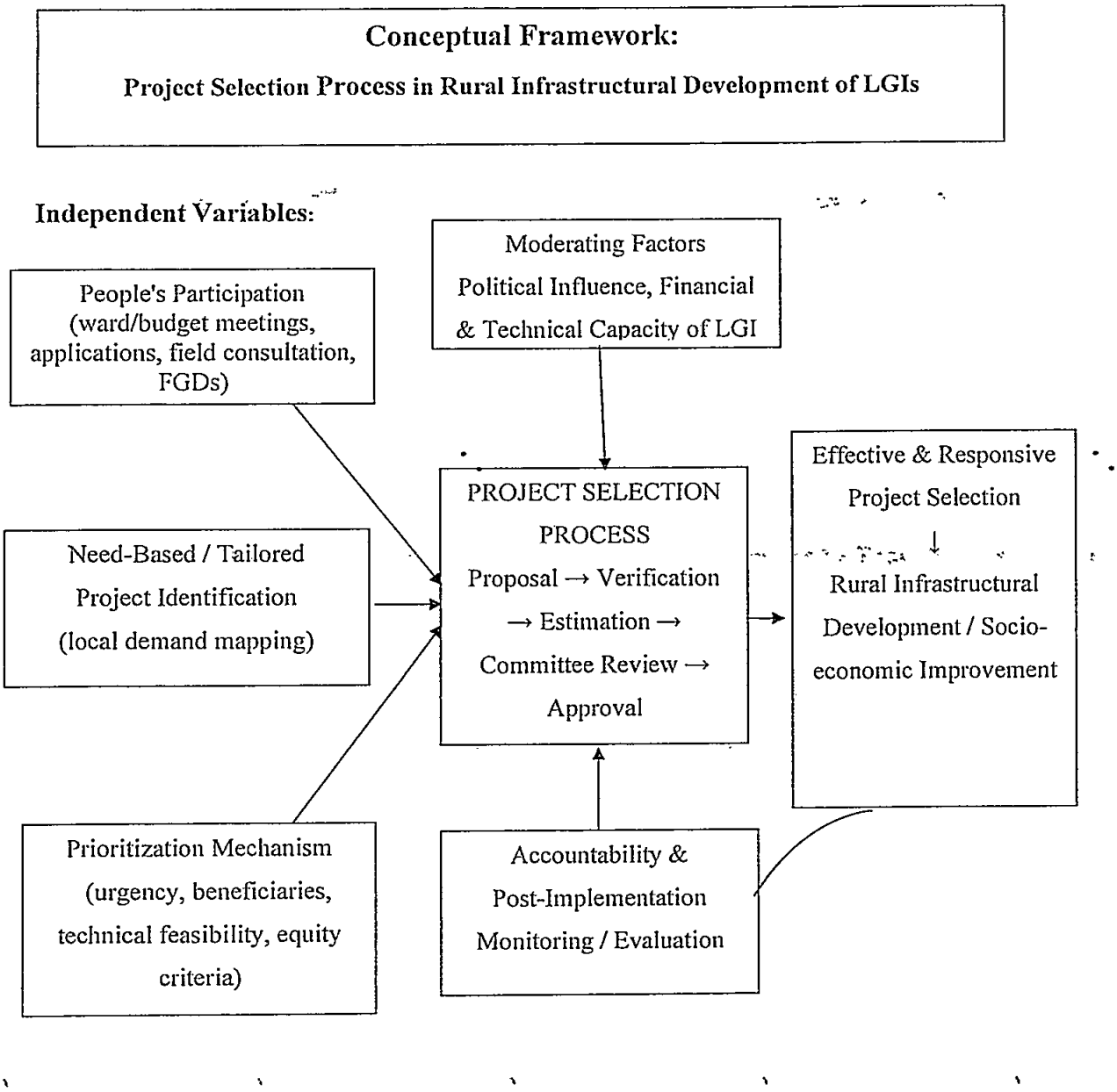
Local governments are the driving force for infrastructural developments in rural areas. With the pace of decentralization, LGIs are implementing infrastructural development projects in rural areas. Local governments are supposed to ensure appropriate services and development activities responsive to local needs and initiatives. Local governments are also created to sensitize and mobilize the various communities in their areas of authority in order to get involved in the overall development of their areas (Ezeani, 2006). In democratic process local government system is generally considered as a veritable agent of development and participation (Zeani, 2006). It has become a mandate for local government to ensure unification, cooperation and participation of the people fundamentally by encouraging them so as to develop and improve their living standard (Orewa, 2018). Rural infrastructural development projects itself carry necessary impacts on the socio-economic development in rural area. LGIs are also struggling to address regional imbalances and empowering community and managing development projects at grassroots.

There are many studies regarding local governments' empowerment and governance. Besides, in managing infrastructural development projects LGIs need to go with many project selection criteria. These criteria can be grouped on the basis of their commonalities such as technical criteria, risk-related criteria, financial criteria, and qualitative criteria (J. D. Frame, 2003). These criteria can be quantitative and qualitative (A. Purnus, C. N. Bodea, 2014). Besides,

many studies focused on selection techniques rather than selection criteria of infrastructural development projects (S. Hansen, E. Too, and T. Le. 2019). Citizens have no opportunity for direct participation in decision making process of project management in LGIs that very often leads to corruption and unsuccessful implementation of the project. The needs of the general people are not always considered in the development activities (Md. Abdul Kader, Mohammad Nur Ullah, 2020). Moreover, a development initiative sees daylight when it fulfills interest of some powerful people in the locality (Billah, 2016). LGIs at peripheral backwardness coupling with capacity and resource constraints fall in incapacity with other technical issues of project selection. Besides, infrastructural developments in rural areas are basic in nature to fulfill and demands for prioritization in project selection. At grassroots LGIs have possible ways to make project selection process more participatory. Hence, synthesizing all the available research findings on LGIs, it is revealed that very few researches were conducted on project selection process of LGIs. Therefore, there is a scope for studying on existing project selection process in LGIs to make it more participatory and tailored needs project to be implemented.

2.1 Conceptual framework

This study identifies key factors (citizen's participation, prioritization of projects, need-based project selection, and political influence) which form a single structure that depicts how they implicate the selection process of rural infrastructural projects in LGIs and their role on infrastructural and socio-economic development in rural areas. People's participation, need-based project identification, and project prioritization mechanisms are treated as independent input variables acting on the project selection process. Political influence and LGIs' financial or technical capacity are treated as moderating variables which strengthen or weaken independent variables' role in shaping the outcome. The project selection process is the mediating or core process, and effective, responsive project selection-leading to rural infrastructural and socio-economic development-is the dependent (outcome) variable. A feedback loop through accountability and post-implementation monitoring links the outcome back into future selection cycles.



3.0 Methodology

This study focused on the Qualitative Research.

3.1 Study area:

This study was conducted in rural areas of Sylhet district in Bangladesh. Data were collected at three stages such as Union, Upazila, and district level.

3.2 Data collection:

Data were collected from primary and secondary sources. Primary data was collected through; **Key Informant interviews** (KIIs) and **Focused group Discussions** (FGDs). This study conducted **two (2)** FGDs one at community level consists of 8 (eight) citizens in a group and other at union level with members of UP consisting 6 (six) in a group. 5 (five) KIIs were conducted with the Administrator, ZP, and officials as member ZP. Besides, UNO at UPZ level and UP chairmen at union level were interviewed as KIIs.

Secondary data was also gathered from articles, books, reports, magazines and available publications.

3.3 Data Analysis:

In the study, collected data were thematically analyzed in the three thematic areas as to meet objectives of the study.

4.0 Findings of the Study:

This study focused on the selection process of rural infrastructural development projects in local government institutions in Sylhet. These projects are undertaken by UP, UZP, and ZP. So other LGIs at urban areas like Pourashavas and City Corporation are excluded from the study. In the study, project selection process is evaluated around the three specific thematic areas: (1) current status of project selection process, (2) citizen engagement, and (3) challenges in the project selection process. The research design envisages qualitative investigation through KIIs with UP Chairmen, UNO, ZP Administrator and officials as members of the ZP operation assistance committee together with FGDs involving UP members and citizens. Accordingly, the findings below integrate the available evidence across these respondent groups rather than treating any single interview as representative of the entire system.

4.1 Current Status of Project Selection Process

4.1.1 Interview Findings:

Response from UNO:

The UNO, Sador, Sylhet describes the project selection process as starting mainly with the proposals submitted by UP chairman. She identifies "An Upazila-level verification committee involving Parishad members, local representatives, officials of different

departments. Project priorities are determined according to the number of beneficiaries, economic importance, area-based priority, and long-term impact."

The UNO also states that open budget meetings, ward meetings, applications and field inspections provide channels through which local needs enter the process.

However, the UNO also estimates that local political influence, representatives' views and administrative priorities play a substantial role in project selection. This indicates that the formal need-based criteria operate alongside political and administrative considerations.

Response from UP Chairman:

The Union Parishad Chairman describes a sequential process beginning with ward meetings, followed by preparation of a project list, final approval through a Union Parishad resolution and submission to the UNO. The Chairman states that "ward members initially identify projects and that local people and respected community members are consulted before projects are finalized."

According to the Chairman, priority is generally given to projects associated with public hardship, roads, drainage, education and other locally important infrastructure. Drainage projects receive particular attention because of local demand. The Chairman also states that written rules and criteria exist for project submission and that development or ADP projects are required to follow those rules.

An important finding, however, is that demand is substantially greater than available resources. The Chairman recognizes that "all community demands cannot be met because the number and size of projects are limited by the available budget."

Response from Administrator, ZP:

The Administrator describes a more formalized district-level process. According to him, "applications for project are received from local people or beneficiaries and representatives; projects are selected; engineers conduct field inspections and prepare estimates; the projects

are presented at the ZP monthly meeting; and the selected projects are forwarded to the Local Government Division for administrative approval."

The Administrator identifies backward and disadvantaged areas, agricultural production areas, connectivity to schools, colleges, madrasas and hospitals, and the needs of poor and marginalized groups as important considerations. He also states that "recommendations from MPs, elected representatives and political leaders are considered during project selection."

Response from the Officers as Members of the ZP Operation Assistance Committee:

The member of this assistance Committee provides a more detailed technical description of the selection process. DRRO states that "people's direct participation in initiation of project proposal is limited." DD, social services and DPEO are also in the same opinion regarding people's participation. Project proposals may originate from UP Chairmen, Chairmen, UPZ, MPs or local people. The engineering branch then conducts field verification, assesses beneficiaries, prepares estimates and submits the proposal to the Operation Assistance Committee. The Committee discusses and determines priorities and recommend before forwarding the list to the ministry for administrative approval.

The officers identify recommendations of representatives as important criteria in project selection. One officer particularly emphasizes need-based selection, while another points to the importance of technical feasibility and budget compatibility.

4.1.2 Findings from FGD

FGD with UP Members:

The Union Parishad members describe project identification as beginning with ward-level consultation. They state that information about ward meetings is communicated through mosques, temples and other local channels, and that community demands are brought to the UP monthly meeting. Roads and drainage are identified as major infrastructure demands.

The members also state that projects are prioritized according to public importance, roads, schools, colleges, religious institutions and other community needs. However, they acknowledge that "local influential persons and the Chairman can have substantial influence over the final selection."

They further explain that limited allocations constrain the number of projects that can be selected. When several projects are important, deciding where a project should begin and end becomes difficult because the available allocation may be insufficient to complete the whole work.

FGD with citizens:

The citizens' FGD presents a substantially more critical picture. Participants report that "some infrastructure projects have been implemented, but they often learn about projects only after implementation has started." One participant reported that "a road constructed approximately one year earlier was already in poor condition and was perceived as having been constructed for particular interests."

Citizens identify drainage, culverts and road rehabilitation as urgent infrastructure needs. However, they state that ordinary citizens are generally not consulted adequately before projects are selected. According to participants, when multiple projects are required, the Chairman or members generally determine which project will be implemented.

Summary: In regard to the first objective of current project selection process the evidence shows that the formal project - selection process is sequential and institutionally structured. In case of UP, the process generally begins with ward-level demands and moves through Union Parishad discussion and submission to the UPZ level. For ZP, proposals move through application, technical inspection, estimate preparation, discussion and recommendation in general meeting (now in the operation assistance committee as there is no elected ZP) and send to ministry for administrative approval. ZP Administrator's account confirms this sequence, while the officers of the committee provide additional information to the process. Nevertheless, the evidence reveals a difference between the formal process and the process as experienced by some participants. The Administrator presents the system as a structured, team-based procedure, whereas the officers (as committee members) indicate that procedures are not always followed in practice and that individual representatives can exert considerable influence.

The citizen FGD provides the strongest indication of this gap. While institutional actors describe ward meetings and consultation, citizens report that they frequently learn about projects only when implementation begins. Therefore, the existence of a formal consultation

mechanism does not necessarily mean that consultation effectively determines project priorities.

So, the current project-selection process is substantively uneven, insufficiently transparent and less participatory. The UP should identify genuine grassroots needs, the UPZ should objectively compare and coordinate those needs and approve the projects. So that a citizen may express a need at UP level, but there is insufficient evidence that the citizen can subsequently know whether the proposal was forwarded; how it was assessed; why it was prioritized or rejected; whether its priority changed; and why another project was ultimately selected. In case of ZP, there is a procedural framework of project identification, technical verification, scrutiny and recommendation for approval. However, the quality of the process depends heavily on how consistently these procedures are implemented. The most important issue is therefore not the absence of a selection procedure, but the gap between procedure and practice. The Administrator, ZP describes political recommendations as a normal input, whereas both officers identify political and influential-person recommendations as potentially distorting project priorities.

The overall assessment is that the process needs stronger objective priority-setting. A project should receive priority primarily according to urgency, beneficiary coverage, socio-economic importance, technical feasibility, equity and community demand-not merely because of the strength of a recommendation.

4.2 Citizen Engagement in project Selection

4.2.1 Interview Findings:

Response from UNO:

The UNO reports several mechanisms through which citizens' needs may enter the project-selection process: open budget meetings, ward meetings, applications and field inspections. He states that "disadvantaged groups' needs are considered to some extent."

This indicates that formal channels for citizen engagement exist at the UPZ level.

Response from Chairman, UP:

The Chairman claims that ordinary citizens can participate directly and that consultation occurs with local residents and community leaders before projects are selected. He also states that

"women, poor families and marginalized communities are consulted through ward meetings, reserved women members and field visits."

However, he simultaneously acknowledges that 100% of community demands cannot be accommodated because available resources are limited.

Response from Administrator, ZP:

The Administrator states that poor, marginalized and disadvantaged communities are considered in project selection and refers to their participation.

However, the interview does not describe a specific institutional mechanism through which these groups are systematically involved in district-level project prioritization. The previous thematic analysis therefore appropriately characterized the Administrator's reference to participation as more of a normative or institutional statement than a detailed operational mechanism.

Response from ZP Operation Assistance Committee Members:

The officers as members of the committee provide a more critical assessment. One officer state that "direct public participation in project proposal preparation is currently low and that projects are mainly proposed by elected members in ZP." Another states that an opportunity exists but depends on the efficiency and sincerity of ZP.

The officers nevertheless recognize consultation with local people during field verification. This means that citizens may influence technical verification and identification of local problems, but their role appears weaker at the actual priority-setting and final decision-making stages.

4.2.2 FGD Findings

FGD with UP Members:

FGD with Union Parishad members provide a relatively positive account of citizen engagement. They state that ward meetings are used to collect information from citizens and that both men and women can attend. They also report that women members consult women separately and bring their concerns to the monthly meeting.

However, they acknowledge that "women often attend such meetings in smaller numbers and that financial limitations prevent many communities demands from being accommodated."

FGD with citizens:

FGD with citizens' account is much more critical. Participants report that "they are not adequately consulted before projects are taken up and often know about a project only when construction begins." They state that the views of "women, poor people and marginalized groups are particularly limited and that such groups are not consistently invited to ward-level meetings."

Citizens also report that they have little influence over prioritization when several projects are proposed. According to them, "the Chairman or members generally decide which project comes first." They perceive that local influential people and political leaders have greater influence than ordinary citizens.

Summary:

There is a clear difference between formal opportunities for participation and effective citizen influence. The evidence demonstrates that participation mechanisms exist: ward meetings, open budget meetings, applications, consultations, field visits and representatives' communication with citizens. However, the evidence from the citizen FGD suggests that these mechanisms do not consistently translate into meaningful influence over final project selection.

This distinction is central to the study. The proposal itself identifies the concern that existing project-selection processes achieve people's participation only to a limited extent and seeks to investigate how citizen engagement affects project selection.

The most significant finding is therefore: Citizen needs may enter the project-selection system, but citizens do not consistently control or substantially influence the final prioritization of projects. This is particularly important for women, poor households and marginalized groups. The evidence suggests that their participation is weaker than the formal policy language might imply.

So, citizen engagement is the weakest dimension of the current project-selection process. The current system is better described as representative consultation rather than direct participatory

decision-making. Citizens communicate needs to ward members, Chairman or other representatives, but they generally do not have a formal mechanism through which they can rank projects, verify the priority list or challenge the final selection.

The difference between the Chairman's assertion of very high direct participation and citizens' reports of limited consultation is especially important. Neither account should automatically be treated as universally representative; rather, the divergence itself demonstrates that the meaning of "participation" differs between institutional actors and citizens.

The research proposal argues that participation in project selection and prioritization is important because projects based on consultation and local priority-setting are more likely to generate benefits for local people. In light of the evidence, stronger mechanisms are therefore required to move from "people's needs being considered" to "people directly participating in priority-setting."

4.3 Challenges in the Project Selection Process

4.3.1 Interview Findings

Response from UNO:

The UNO identifies limited budget allocation and shortage of manpower as major challenges. He also observes that the volume of public demand for roads and infrastructure is placing pressure on the prioritization process.

Response from Chairman, UP:

The Chairman identifies the main challenge as the large gap between demand and available allocation. Many infrastructure needs cannot be accommodated because the available budget is insufficient. He also acknowledges some degree of party influence.

Response from Administrator, ZP:

The Administrator identifies major institutional challenges in the ZP. He identifies insufficient allocation in contrast to demand, shortage of engineers, and the requirement of ministry approval of projects delaying project implementation as major challenges in ZP as LGI. Besides he also finds litigation complications as challenge for the LGIs.

Operation Assistance Committee Members:

The officers as members of this committee identify a broader range of challenges. Most important challenges are inadequate budget, absence of elected representatives in the present arrangement, political influence delayed fund release, shortage of technical personnel, weak post-implementation monitoring and evaluation, public opinion being ignored, projects not always being selected according to ground realities, unequal influence among elected members.

One officer specifically states that political or influential-person recommendations can result in less important projects receiving priority over genuinely urgent projects and can cause repeated concentration of resources in particular areas.

4.3.2 FGD Findings

FDG with UP Members:

Union Parishad members identify limited project allocation as a major practical challenge. They state that project demand is high while allocations remain comparatively small. Consequently, members face difficulty deciding where projects should begin and end and cannot always complete an entire infrastructure intervention.

They also identify difficulty in involving women in meetings and in increasing their attendance. Members recommend increased allocation, greater member involvement and stronger transparency and accountability.

FGD with citizens:

Citizens identify several challenges that are different in character from the institutional respondents' resource concerns. They report challenges such as political influence, favoritism and nepotism, unequal distribution of projects, insufficient consideration of areas with lower political support, limited value given to ordinary citizens' opinions, inadequate inclusion of women and marginalized people, and lack of information about projects before implementation.

Citizens specifically state that project selection may favor local influential people or political leaders rather than the needs of ordinary residents.

Summary:

The challenges identified across UP, UZP and ZP can be synthesized into four categories.

Financial and Resource Constraints: The strongest common challenge across institutional respondents is insufficient funding. The Administrator, Chairman, UNO and UP members all indicate that infrastructure demand is substantially higher than available resources.This means that prioritization becomes unavoidable. The challenge is therefore not simply obtaining more funds but ensuring that scarce funds are allocated according to transparent and objective priorities.

Governance and Political Challenges: Political influence is the most significant governance-related challenge. It is especially strongly identified by the Operation Assistance Committee officers and citizens. The officers as member of ZP state that political and influential-person recommendations can distort priorities, while citizens report that influential and political actors receive greater consideration than ordinary people.

Institutional and Technical Challenges: Shortage of engineering personnel, delayed fund release, higher-level administrative approval and weak post-project evaluation constrain the effectiveness of the selection and implementation process.

Participation and Accountability Challenges: The evidence indicates weak direct citizen participation, inadequate inclusion of marginalized groups, limited information disclosure before implementation and insufficient mechanisms for citizens to monitor or challenge project selection. The thematic-analysis document similarly identifies the gap between formal rules and actual practice as a central concern. The evidence suggests that publication of approved project lists provides procedural transparency, but this does not necessarily amount to citizen oversight or feedback.

So, the most pressing challenges are mismatch between demand and allocation, the influence of political and personal recommendations, particularly problematic when such influence overrides objective need, technical assessment or equitable distribution. These challenges are related to the project selection. In case of citizen engagement, lack of direct participation leads to the difficulty of verifying whether selected projects genuinely reflect the priorities of the people who are supposed to benefit. These challenges are interconnected. Limited resources make prioritization difficult; weak citizen participation makes it harder to establish genuine priorities; and political influence can become more important when objective and participatory mechanisms are weak. The project proposal itself identifies the importance of need-based

allocation, participation and priority-setting and recognizes that citizens' direct participation in LGI project management is often limited.

Hence, the challenges are systemic rather than isolated problems of any one LGI. Such as;

Weak grassroots participation ⟹ incomplete identification of local priorities
imperfect project selection ⟹ less responsive project selection process.

5.0 Key Findings

The overall findings of the study encompass the following conclusions:

A formal project-selection process exists: The current system has identifiable stages involving proposal generation, field verification, technical estimation, committee review, approval and administrative clearance.

The process is predominantly need-oriented in its formal criteria: Public importance, beneficiary numbers, agricultural production, education, connectivity, disadvantaged areas and technical feasibility are recognized as important considerations.

The formal process and practical process are not always identical: The Operation Assistance Committee officers and citizens report that formal procedures are not always followed and that individual influence can affect decisions.

Citizen participation is primarily indirect: Citizens' needs reach LGIs mainly through representatives, applications and consultation rather than through institutionalized direct participation in final prioritization.

Women and marginalized groups have weaker participation: Although formal respondents report consultation with women and disadvantaged groups, the citizen FGD indicates that these groups are not consistently included in project-selection discussions.

Political influence is a significant governance concern: The Operation Assistance Committee officers independently identify political or influential-person recommendations as negative influences, while citizens also perceive preferential treatment of influential actors.

Financial and technical constraints reduce effectiveness: Insufficient allocation and shortages of engineering or technical personnel restrict the number, scope and quality of projects that can be selected and implemented.

Accountability mechanisms need strengthening: There is evidence of publication and formal approval, but insufficient evidence of systematic citizen monitoring, formal reasons for changing committee recommendations and systematic post-implementation evaluation. The previous thematic analysis specifically identifies the absence of a formal mechanism for recording reasons when local needs are overridden.

5.1 Discussion in the Light of the Objectives of the study

Objective-1: Current Status of the Project Selection Process in LGIs in Sylhet

The first objective seeks to examine how projects are currently selected. The findings show that the current system has a recognizable multi-stage process.

At the UP level, project needs generally originate through ward meetings, applications, Union Parishad members, local residents and representatives. At UPZ level, proposals undergo field inspection and verification and final approval. In ZP, after primary selection of the applications for project, engineering personnel inspect proposed sites, prepare estimates then proposals are presented in the general meeting, and recommended projects are forwarded to ministry for administrative approval.

Thus, the current process is not institutionally absent or entirely informal. It contains technical and administrative safeguards.

However, the findings also indicate that formal procedure does not always guarantee actual procedural compliance. The District Primary Education Officer states that although formal rules exist, they are not always followed in practice and that project selection can depend substantially on the will of individual elected members.

Therefore, the current status may be characterized as:

"A formally structured but practically uneven and partly discretionary project-selection system."

This directly answers the first research question concerning how infrastructure projects are selected.

Objective-2: Degree to Which Citizen Engagement Affects Project Selection

The second objective concerns the relationship between citizen engagement and project selection.

The findings demonstrate that citizen engagement does affect project identification, particularly through applications, ward meetings, field consultations and representatives. However, the influence of citizens becomes weaker at the stage of final priority-setting and decision-making.

The Chairman and UP members describe relatively active participation, while the citizens themselves describe limited consultation. The Operation Assistance Committee members (officers) also identify direct public participation as low.

Therefore, citizen engagement currently appears to function mainly as an input into the project-selection process rather than as a mechanism of shared decision-making.

This is consistent with the proposal's conceptual argument that meaningful participation should include involvement in selection, prioritization and access to project decisions.

Key interpretation:

Citizen engagement affects in project identification is low and accordingly its effect on final project prioritization is absent.

Objective-3: Challenges in the Project Selection Process

The third objective is strongly supported by the findings.

The study identifies financial, political, technical, administrative, participatory and accountability-related challenges.

The most common challenge is inadequate funding. The Administrator, Chairman, UNO and UP members all point to the gap between infrastructure demand and available allocation.

The second major challenge is political influence. The Operation Assistance Committee officers and citizens provide particularly strong evidence that political or influential-person recommendations can affect project priority. This contrasts with the ZP Administrator's more neutral treatment of political recommendations.

The third challenge is limited direct citizen participation, particularly among women and marginalized groups.

The fourth is technical and administrative capacity, including engineering staff shortages, delayed fund release and lengthy approval procedures.

The fifth is weak monitoring and evaluation, particularly after project implementation.

Thus, the study's third objective demonstrates that project selection challenges are not only financial but also governance-related.

6. Recommendations

6.1 Institutionalize Direct Citizen Participation: Ward-level consultation should be made a meaningful and documented stage of project selection. Citizens should not merely be informed after a project has been selected; they should participate before prioritization. A simple process could be:

Community consultation - list of demands - community priority ranking - technical verification - final approval.

6.2 Ensure Participation of Women and Marginalized Groups: Special consultation mechanisms should be introduced for: women; poor households; persons with disabilities; disadvantaged communities; geographically isolated communities.

Their participation should be recorded rather than treated merely as a general policy principle.

6.3 Record the Source of Every Project Proposal: Each project should identify whether it originated from: Citizens or community; Ward Member; Chairman; UP; UPZ; MP; government department; other institution.

This would make it possible to measure whether the project-selection system is actually citizen-driven. This recommendation is also consistent with the earlier thematic analysis.

6.4 Ensure the Accountability of Grassroots committee: Ward committees working at grassroots should be accountable to the citizens.

This will increase people's participation in decision-making process.

6.5 Reduce Undue Political Influence: Political representatives can legitimately communicate community needs, but political recommendations should not automatically determine priority. Every politically recommended project should be subjected to the same technical, financial and need-based assessment as every other proposal.

6.6 Increase Budget Allocation: The evidence from the UNO, Chairman, Administrator and Union Parishad members consistently identifies the gap between demand and allocation. Therefore, development allocations should be increased and released in a timely manner.

The Administrator specifically recommends increased government allocation and greater engineering capacity.

6.7 Strengthen Engineering and Technical Capacity

Additional engineering personnel should be provided so that all proposed sites can be inspected; estimates can be prepared accurately; technical feasibility can be assessed; project duplication can be detected; quality can be monitored.

6.8 Strengthen Post-Implementation Evaluation

Every major project should undergo post-completion evaluation to assess: Whether the project was completed as approved; Whether the intended beneficiaries benefited; Whether construction quality was satisfactory; Whether the project remains functional; Whether similar projects should receive priority in the future.

The absence or weakness of post-implementation evaluation is specifically identified by the officer in ZP's Operation Assistance Committee interviews.

6.9 Decentralization with authority and Responsibility

The Administrator, ZP recommends greater local authority and delegation of approval power, while officers as member of ZP committee recommend responsibility.

In my opinion, these two approaches should not be treated as alternatives. ZP can be given greater decision-making authority, but this should simultaneously be accompanied by accountability. Otherwise, decentralization without accountability could increase rather than reduce discretionary influence.

Conclusion:

The strongest overall finding from the KIIs and FGDs is that the central problem of project selection is not simply the absence of rules; it is the weakness of mechanisms that ensure the rules are followed in a participatory, transparent and needs-based manner. The institutional actors demonstrate that a project-selection framework exists. The Union Parishad members show that community demands can enter the system. The citizens, however, indicate that their influence over final decisions remains limited. The Operation Assistance Committee officers (members) reveal the risks of political influence and procedural deviation, while the Administrator, ZP highlights resource and administrative constraints.

Therefore, the appropriate policy direction is not to replace the existing system completely, but to make it more participatory, evidence-based, technically rigorous, transparent and accountable. This would bring the current process closer to the central objective of the research proposal: ensuring that rural infrastructure projects are selected according to genuine community needs and contribute effectively to the socio-economic development and living standards of rural people.

The evidence assembled from the KIIs and FGDs across all three tiers of local government paints a picture that is neither a success story nor a failure story, but something more instructive than either: a system that is institutionally sound on paper and unevenly participatory in practice. A formal, multi-stage pathway does exist-ward meetings, applications, field verification, technical estimation, committee review, monthly-meeting approval or recommendation and administrative clearance from the ministry. This scaffolding is real, and it is one of the more reassuring findings of the study.

Yet scaffolding is not the same as a finished, functioning structure. The quality of project selection depends almost entirely on how faithfully these formal steps are followed, and the study's most consistent finding is that this faithfulness varies. Citizens are present in the story-they raise demands, attend some meetings, and are consulted in principle-but they are rarely in the room when priorities are finally set. The citizens' FGD captures this most vividly: participants describe learning that a project exists only once construction has already begun, a moment that should have been the end of their involvement, not its first appearance.

A second thread running through the findings is a quiet disagreement among the institutional actors themselves. Where the Administrator, ZP sees political and representative

recommendations as a legitimate, almost routine, channel of local demand, the members of Operation Assistance Committee see the same recommendations as a recurring risk to fair prioritization-and citizens, watching from outside the room, sense exactly that risk most strongly of all. This is not a minor footnote; it is arguably the single most revealing finding of the study, because it shows that "participation" and "political influence" are often two names for the same channel, interpreted differently depending on where one stands in the system.

Taken together, the current project-selection system is best summarized as:

"Formally structured, technically supported and partially need-based - but held back by inadequate resources, limited direct citizen voice, political discretion, and thin accountability once a project has been approved."

That is not a verdict of failure. It is a diagnosis of a system with genuine institutional bones, in need of a stronger nervous system - one that carries citizens' priorities all the way to the final decision, rather than losing them somewhere between the ward meeting and the approval order. This is precisely the shift the research proposal set out to argue for: moving rural infrastructure planning from a process that is done for people toward one that is genuinely done with them - because it is only through that shift that public investment translates reliably into better roads, safer bridges, and a tangibly improved standard of living in rural Sylhet.

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Passenger Satisfaction with the Rapid Pass Card as an Integrated Ticketing System: A Study of User Experiences and Expectations for way forward

Abstract

In recent years, integrated ticketing systems have been widely used to improve the efficiency and sustainability of urban public transport in Bangladesh. The Rapid Pass Card has been introduced in order to make Metrorail of Dhaka cashless and contactless. However, the effectiveness of such systems in the long term depends on the passenger satisfaction with them which is not widely researched in the Bangladeshi context. Thus, this research aims to assess the satisfaction of the passengers with the Rapid Pass Card, their experience, the factors that influence satisfaction and future prospects. In order to do this, the research uses the mixed method where the semi-structured interview conducted with fifty regular passengers of metro stations has been complemented by the focus group discussion conducted with seven users. The results show that the passengers are generally satisfied with the experience because of convenience, time savings, and security of transactions. Nevertheless, some operational problems, such as failure to open gates, issues with card reading, the unnecessary step of activation of cards by recharge, lack of personnel capacity in customer service, and universal demand for a multimodal card that could be automated using NFC technology have been revealed. It is concluded that dissatisfaction is associated with the gaps in processes rather than the architecture of the system itself. The recommendations are made for DTCA.

Key Words

Add Value Machine, Dhaka Transport Coordination Authority, Focus Group Discussion, Near Field Communication, Quick Response

Passenger Satisfaction with the Rapid Pass Card as an Integrated Ticketing System: A Study of User Experiences and Expectations for way forward

1. Introduction

1.1 Background

An efficient public transport system is very essential to meet up the crucial demand of rapid growing population in Dhaka city. It needs integrated ticketing system to resolve the problem as well as to make a sustainable urban mobility. In developed country, transport authorities have gradually accepted smart card technologies to simplify fare collection, improve operational efficiency, lessen transaction time, and increase passenger convenience (Vuchic, 2005; UITP, 2021). Newly invented, integrated ticketing systems provide travelers with a unified payment medium avoiding multiple modes of public transport and facilitate a comfortable seamless journey. Regarding this, Dhaka Transport Coordination Authority in Bangladesh have introduced Rapid Pass Card to make transport system modern, easier, cashless and contactless.

But the long-term success of Rapid Pass Card depends on the satisfaction and acceptance of the passengers mostly. Usually, passenger's satisfaction depends on the service quality, system reliability, accessibility, customer care, ease of use and system integration (Davis, 1989; Parasuraman, Zeithaml and Berry, 1988). Adoption of integrated ticketing systems may be hindered due to operational challenges like limited recharge facilities, card malfunction, insufficient public awareness and inadequate interoperability. Therefore, understanding users' experiences is essential for identifying operational gaps and supporting evidence-based improvements in transport services.

Additionally, regarding public transport services, passengers' expectations have been meaningfully transformed as result of introduction of digital payment technologies, such as QR code ticketing, mobile wallets, Near Field Communication (NFC) and automated fare collection systems (World Bank, 2021). Now a days, expectations are getting higher regarding convenient, secured, integrated, and digitally enabled ticketing solutions for a comfortable, hassle free, real-time services and unified multimodal travel. Therefore, assessing these

expectations is also crucial for scheming upcoming transport policies that align with international best practices in intelligent transportation systems (Banister, 2008).

Basically, this study objects to assess passenger satisfaction with the Rapid Pass Card as an integrated ticketing system by exploring users' experiences and expectations for future development. It is expected that the findings will enrich the existing knowledge on smart mobility as well as provide practical commendations for legislators, transport authorities, and facility providers to improve the sustainability, effectiveness, and inclusiveness of integrated ticketing systems.

1.2 Problem statement

Now-a-days, integrated ticketing system facilitates very important role enhancing efficacy, time saving, cashless, and convenience public transport system. It also provides the passengers opportunity to travel different mode with a single unified payment system which makes the journey very comfortable. Therefore, Rapid Pass card has been introduced in Dhaka city for providing comfort as an international standard. So, it is important how the passengers feel about the service of Rapid Pass. Therefore, it is essential to measure that passengers are happy with the Rapid Pass indeed or is there any corner to update the services of it. Basically, passenger's happiness depends on the accessibility, reliability, easy handling, convenience, and complete service quality. The above-mentioned factors also keep the passengers' intention to continuous use of integrated ticketing system. In spite of introducing integrated ticketing system in Bangladesh, very few researches have been done on this important issue. As a result, policymakers and transport authority has very little evidence to make a sound policy for the development of an integrated ticketing system. Therefore, it is essential to assess the satisfaction as well as expectations for the future sustainable development of it.

1.3 Justification of the Study

Following the developed countries smart transport system, Bangladesh has also introduced metro rails as well as integrated ticketing system. Rapid Pass has made a very crucial advancement towards integrated ticketing system aiming efficient, sustainable public transport system in Bangladesh. Usage of Rapid Pass simplifies cashless, smooth, time-saving fare collection and makes travelling convenient for passengers. But it is necessary to be informed

that how positively passengers have accepted the Rapid Pass and what are the expectations about it for present and future period of time.

Although some studies have been accomplished on passenger satisfaction about metro rail, but very few researches have been done on integrated ticketing system, i.e. Rapid Pass (Quddus et al., 2019; Mollik, Alam and Akter, 2024). Moreover, recent studies on Dhaka Metro Services shows that, though the passengers have taken the Rapid Pass positively it needs to improve the standard of accessibility, digital services, as well as overall experience (Fahim and Minami, 2025). Therefore, a study on the satisfaction and expectation is very crucial to improve the Rapid Pass services as well as gather knowledge for the policymakers to upgrade it as a sustainable ticketing system. It will reduce the study gap by assessing passengers' experience and expectations concerning Rapid Pass and also will contribute to the existing knowledge.

Therefore, this study is important because it addresses the existing research gap by exploring passengers' experiences and expectations regarding the Rapid Pass Card. It is expected that the findings will contribute to the existing knowledge on integrated ticketing systems and provide practical commendations for legislators, transport authorities, and facility providers to progress passenger satisfaction as well as support sustainable urban mobility in Bangladesh.

1.4 Research Objectives

The purposes of the study are to assess passengers' perceptions, satisfaction level, key factors influencing satisfaction and expectations as well as preferences using the Rapid Pass as integrated ticketing system. The study is being done as for the following objectives:

1. To assess passengers' experiences with the Rapid Pass as an integrated ticketing system with its accessibility, reliability, usability, service quality, recharge facilities, and effectiveness in supporting unified public transport services.
2. The study will find the key factors influencing user satisfaction.
3. To explore users' expectations and preferences with Rapid Pass for way forward.

1.5 Research Question

This study will mainly emphasis on three (3) research questions to reflect the major dimensions of satisfaction and expectations with the Rapid Pass as an integrated ticketing system in

Bangladesh. The questions will bring out both the current experiences of users and their expectations for way forward.

Research Question 1: How do passengers experience with the Rapid Pass as an integrated ticketing system with its accessibility, reliability, usability, service quality, recharge facilities, and effectiveness in supporting unified public transport services.

Research Question 2: What are the key factors that influence user's satisfaction?

Research Question 3: What are users' expectations and preferences with Rapid Pass for way forward?

2. Literature Review

In the transportation system, it is very important to take care of the passengers' satisfaction regarding the quality of the transportation. A study showed that passengers' satisfaction mostly depends on the security, vehicles condition, services as well as fare of the transportation (Bhuiyan *et al.*, 2023). Again, service quality of transportation is the crucial factor to attract and retain the passengers (Li et al., 2018). In the same way, passengers basically give judgement on the service quality (Eboli et al.,2009). Actually, the higher the quality, the higher the satisfaction level and to achieve the higher quality, transport authority needs to monitor passenger's insight of the service (Khanom et al., 2022). Although there is a strong connection between transportation excellence and passenger's satisfaction, the context is somewhat different in a developing country like Bangladesh (Uzir et al., 2021).

After being introduced Metro rail in Dhaka city, passengers using multimodal transport got shifted towards Metro rail very swiftly. Travelers who used paratransit rushed to shift towards Metro rail and It was near about 96%. Moreover, passengers who used different kinds of personalized vehicles also shifted towards Metro rail. Therefore, it is understood that people take Metro rail very sportively as a comfortable transport mode (Akter, 2024).

Moreover, now a days, cashless smart payment is becoming popular towards the passengers. In this regard, a study proved that both behavioral intention and actual use by the passengers reflects the positive effect towards using smart payment system. It also made a relationship between three primary factors: behavioral intention, users' attitudes and actual use (Islam *et al.*, 2024).

A study shows that there are diverse views of passengers about public transport regarding its service quality. After establishing the Metro rail in 2022, it causes tremendous positive changes in public transport system. The study also shows the satisfaction level of Metro passengers with station, security, platform, information, ticketing system as well as service qualities. In conclusion, it has been seen that 46.7% men and 36.2% women were satisfied with above services. Moreover, the study also shows that passengers were satisfied with the quality and station related rather than issues on ticketing, platform or security services (Fahim and Minami, 2025).

Integrating ticketing system is very popular in most of the developed countries. Nevertheless, in Bangladesh, research on the topic is still limited. An integrating ticketing system named Rapid Pass Card was also introduced with the very beginning of Metro rail inauguration. Some findings showed that service quality, accessibility, convenience and reliability influence the satisfaction of passengers and their inclination to remain using Metro rail as well as smart ticketing system (Islam *et al.*, 2024; Fahim and Minami, 2025). Furthermore, a recent study recommends that integrated ticketing system makes the fare payment simpler, lessen the travel time as well as progress passenger's convenience. However, there are still some challenges regarding implementation problems, limited public awareness and frail organizational synchronization (Kabir *et al.*, 2024).

Many studies show that passengers assess their travel experience comparing their experience before, during, and after the journey. The satisfaction of the passenger exclusively depends on the convenience, safety, reliability, responsiveness, and easy ticketing of the transport system. Above-mentioned factors also influence the continuous use of public transport system (Bhuiyan *et al.*, 2023; Mollik *et al.*, 2024).

In integrated ticketing system, amount of fare is not important, important factor is the card performance, recharge facilities, customer care, information availability and the connection between different services. As the Rapid Pass Card is very convenient, passengers have an inspiring feeling towards it. However, passengers have the expectation to get better mobile applications, improved integrated ticketing system as well as customer-friendly services. It also shows that existing technology is not enough rather its continuous improvement is very essential (Fahim and Minami, 2025).

Again, Passengers expectations become higher after the revolution of digital technology. Now, passengers expect a fast, safe and easy integrated ticketing system regarding transport sector. They also eager to have real time digital services, flexible payment options, mobile applications, QR code ticketing mobile wallets, online recharge, Near Field Communication (NFC) and cloud-based account management (UITP, 2021; World Bank, 2021).

As Metro rail is novel in Bangladesh, very few studies have been done on it. Specially, regarding integrated ticketing system, it can be said that perhaps there is no study on the passenger's satisfaction as well as expectations. Most of the studies have done on Metro rail service quality, not on the passengers' overall experiences with integrated ticketing. Therefore, there is a huge study gap on measuring the satisfaction and expectations of the passenger regarding integrated ticketing system namely Rapid pass Card conducted by Dhaka Transport Coordination Authority.

Therefore, this study is accomplished in order to fulfill the research gap. It will try to assess the satisfaction level of the passengers concentrating on present experience as well as future expectations regarding Rapid Pass Card as an integrated ticketing system. Moreover, it is expected that the study findings will contribute to the existing knowledge as well as develop the system for the comfort of the passengers. It will be also very supportive both for policymakers and transport authorities to make an inclusive, smart and sustainable public transport services in Bangladesh.

3. Methodology

The study has been conducted through a mixed me of both qualitative and quantitative research method where it has been assessed the experience, satisfaction as well as expectation of passengers who frequently use the Rapid Pass card as a payment medium travelling metro rail in Dhaka city. In this study, a mixed research method is suitable because it permits researcher to achieve in-depth understanding of the Rapid Pass users regarding perception, satisfaction, expectation, as well as challenges. The primary data has been collected through both semi-structured interview from the passengers in the metro stations and focused group discussion.

A semi-structured interview was taken from a number of 50 passengers of Kârwan bazar metro station who regularly use Rapid Pass as the integrated ticketing system. The passengers were given a semi-structured guided questionnaire where there were 19 questions to be answered to

achieve in-depth understanding of the Rapid Pass users regarding satisfaction, expectation, perception and also allowed participants to discuss their reactions freely as well as can introduce new issues not included in the questionnaire (Kallio et al., 2016). The respondents were both male (36) and female (14) including job-holders (28), students (11), businessmen (5), advocates (3), doctors (1), engineers (1), teachers (1) and so on. Answers by respondents from the questionnaire are summarized and expressed those in bar charts to assess passengers' experiences, satisfaction and also the way forward as below.

Moreover, An FGD has been conducted with the participation of passengers using Rapid Pass in the Metro rail to assess passengers' satisfaction, experiences as well as future expectations about it .The discussion was conducted to encompass the practical experiences of using Rapid Pass, customer service, technical problems, recharge facilities, integrated smart ticketing as well as the future improvement in the field of service and technology. A group consists of seven (7) respondents from different ages and professions took part in the focus group discussion who travel metro rail using Rapid Pass as fare payment system. Among them three were students and four were service holders including an engineer, a banker as well as other services. There were 13 questions for the respondents to discuss in the focus group discussion. The FGD was conducted in a Zoom online platform as it was very difficult to gather 7 rushing passengers in any Metro rail station. The discussion was analyzed thematically rather than organizing participants' individual response distinctly. The responses given by the participants were then reviewed and classified into repeated issues, differences, as well as similarities. Furthermore, the interpretation of their implications were assembled into wider categories and themes for passenger's satisfaction and future development of Rapid Pass.

Purposive sampling was adopted to select the participants who has the experience of travelling metro rail using Rapid Pass card as they are able to respond accordingly. The interview was noted with the accord of the participants and then it was recorded and subsequently analyzed on the perspective of both qualitative and quantitative research method to identify users' satisfaction and expectations. It is expected that both the qualitative and quantitative design will provide thorough insights to improve the integrated ticketing system in Bangladesh.

4. Analysis of semi-structured Interview with the passengers using Rapid Pass

Questionnaire containing 19 semi-structured questions were supplied to 50 respondents aged from 18 to 53 years old from a prominent metro station named Karwan bazar in Dhaka city to assess the experience, satisfaction and future expectations of them using the Rapid Pass card as an integrating ticketing system. The respondents were both male (36) and female (14) including job-holders (28), students (11), businessmen (5), advocates (3), doctors (1), engineers (1), teachers (1) and so on. Answers by respondents from the questionnaire are summarized and expressed those in bar charts to assess passengers' experiences, satisfaction and also the way forward as below:

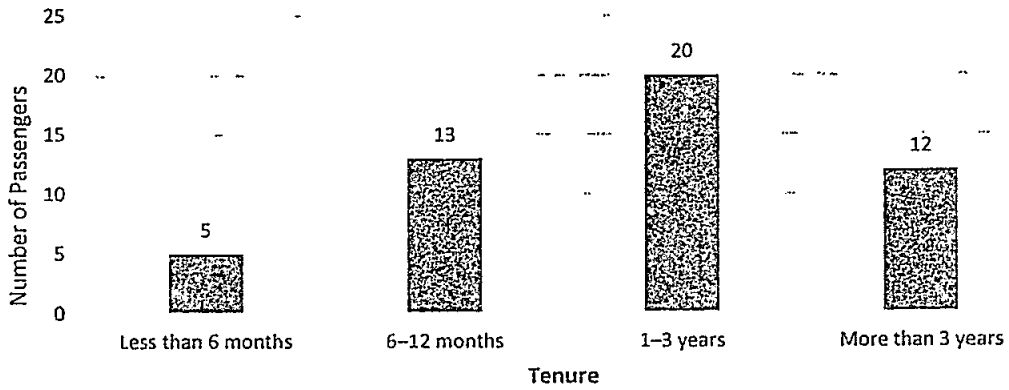

Figure 1: Analysis of Rapid Pass Usage Duration

The figure shows that the respondents whom were selected are wide ranged for understanding passengers' satisfaction and user experience. Long term-users have adequate practical experience with the system as they have had frequent opportunities to assess the Rapid Pass card's accessibility, reliability, usability, service quality, recharge facilities, and effectiveness during regular journeys. At the same time, shorter-term users provide perceptions based on relatively recent experiences. Therefore, the presence of both new and experienced users delivers a balanced basis for assessing whether passengers feel Rapid Pass comfortable and reliable.

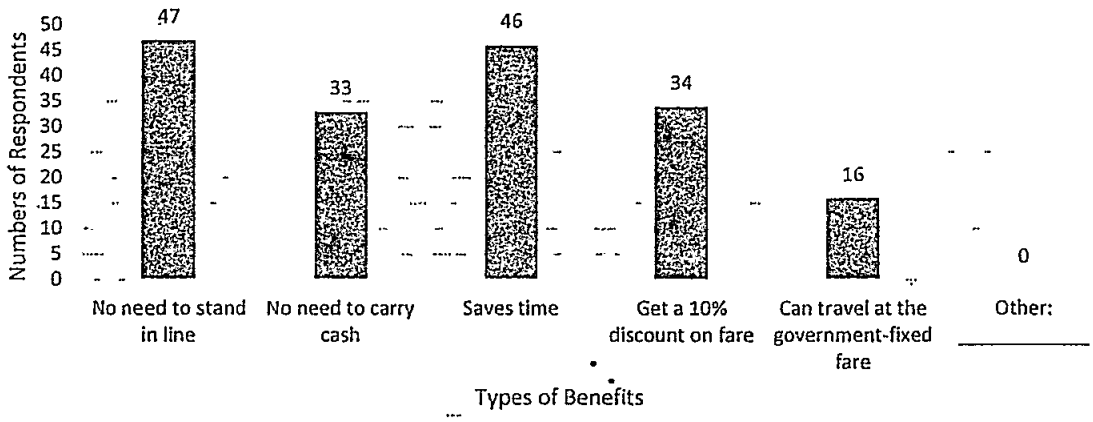

Figure 2: State of passengers' satisfaction towards Rapid Pass

In the figure, it indicates that the features of Rapid Pass have been well accepted by passengers. The passengers give higher preferences on the most of the features those are mentioned in the semi-structured questionnaire suggests that passengers predominantly value those that make their daily travel easier, faster, and more convenient. The findings propose that passengers see the card not only as a fare payment method, but as a suitable and user-friendly solution for public transportation. Overall, the pattern of preferences suggests a positive level of acceptance, comfort, and confidence among passengers in using Rapid Pass for their regular travel.

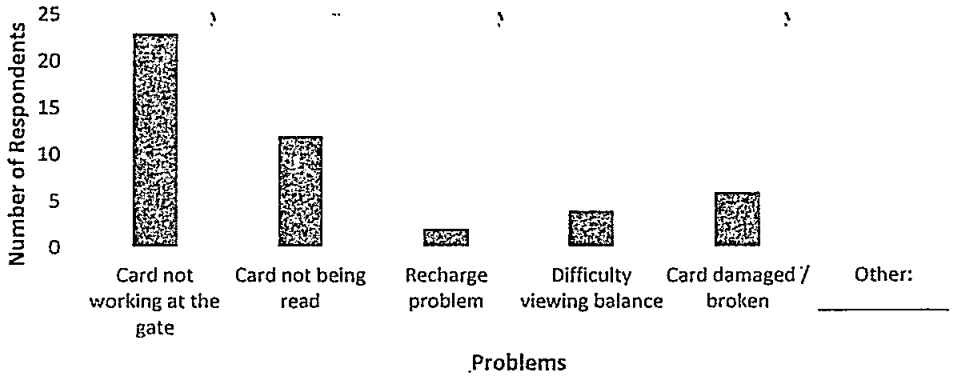

Figure 3: Problems faced using Rapid Pass

The bar chart specifies that though passengers accept Rapid Pass in a satisfactory mood it has some operational difficulties which should be addressed immediately. The most crucial issue is the card not working at the gate, followed by the card not being read, suggesting that there are some problems regarding access and card-recognition create the major barriers to a smooth user experience. In contrast, recharge-related problems, difficulty viewing the balance, and physical card damage are reported considerably less recurrently. Overall, the findings suggest that Rapid Pass is practically user-friendly, but refining gate functionality and card-reading reliability would further deepen passenger satisfaction and confidence.

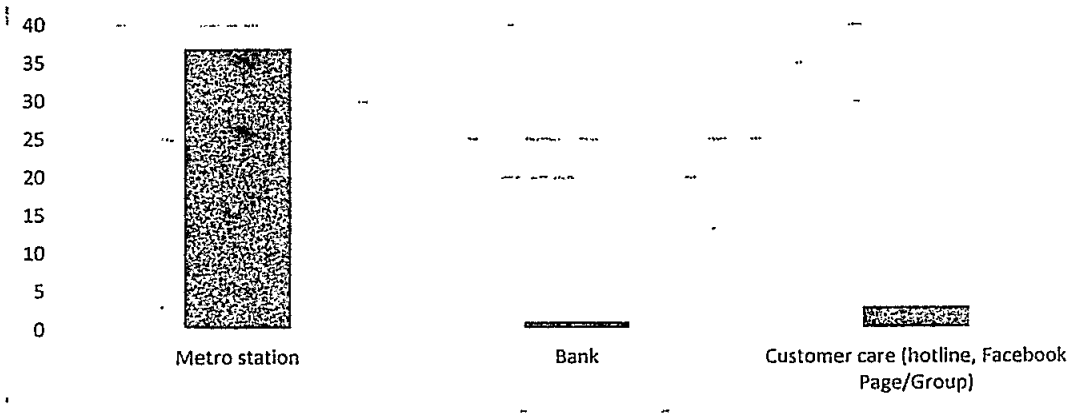

Figure 4: Contact places to resolve Rapid Pass card-related problem

The figure shows that almost all of the passenger's rush to metro stations to solve their card related problems rather than going to customer service or banking channels. It indicates that either the passengers are not well informed about bank counters and customer care units or these systems are not functioning well. Moreover, station staffs are becoming over-burden and the service may be deteriorated severely for this reason. Therefore, it needs to enhance customer care facilities by providing proper training to the staffs in order to relieve the pressure on the metro stations. As a result, a comfortable service environment will be created for the passengers attaining their satisfaction and reliability.

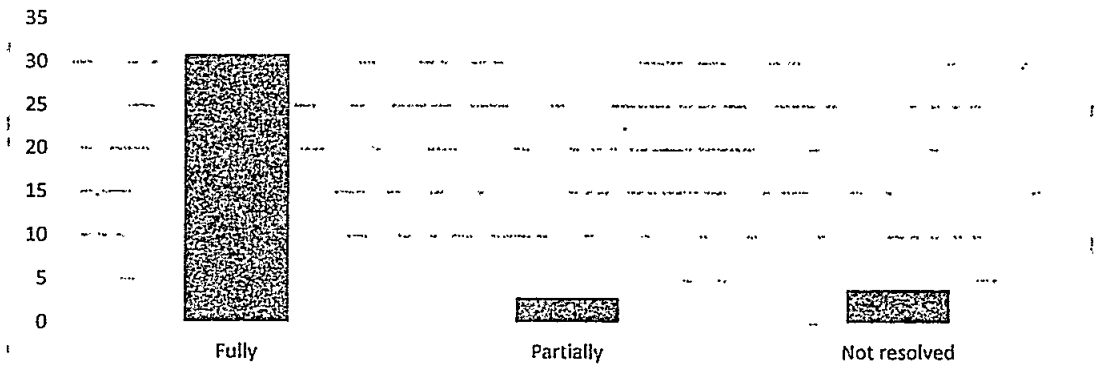

Figure 5: State of problem resolved

The figure shows that about 82% of total respondents who faced problems were fully satisfied with the solutions served by the authority while a small portion of respondents experienced partial or no resolution. Though the partial or unresolved issue very minor, it reflects the service failure by the authority. This indicates that if the complaints can reach the metro stations channels, they get the service actively while other channels of services are not functioning properly.

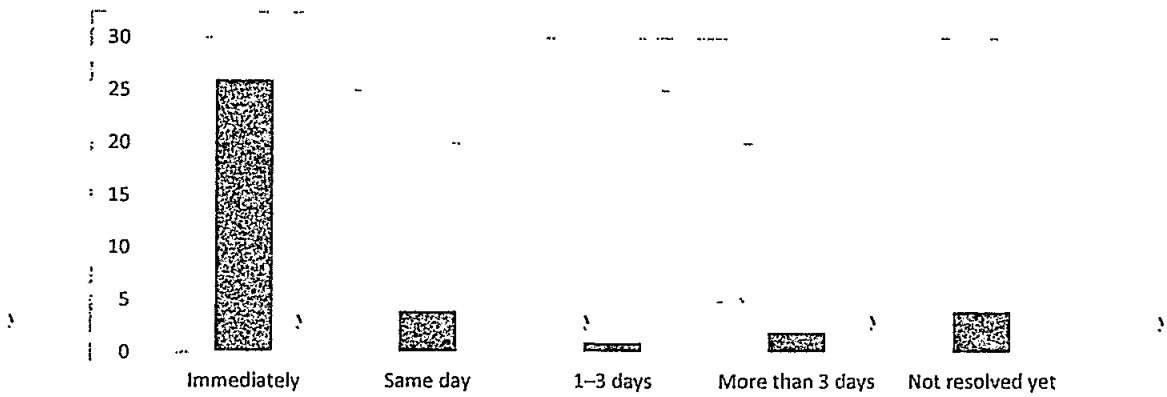

Figure 6: State of taking time to get a resolution

The figure shows that a large number of respondents (70%) have reported getting the solutions immediately from the stations which indicates the solutions in the stations are quick rather than formal processes. On the other hand, problems of the 11% of the respondents remain unsolved is a fact and also a small residual of problems is taking 1 day to over 3 days suggests a middle level handling. Altogether, this weak or middle level problem solution process may reflect the overall satisfaction level of the passengers. The graph also shows that the easy problems are handled instantly but the complex software or chip related issues remain unsolved.

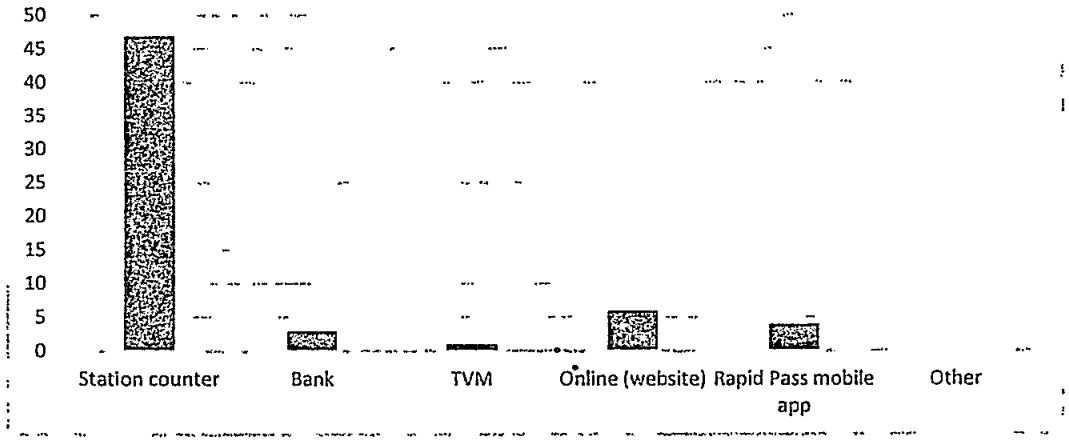

Figure 7: Comparison of recharge Places

The passengers seriously tend to the physical station counters instead of digital channels or the website and mobile app in case of their recharge activities. This pattern indicates that in spite of being convenient, passengers are not adopting the digital recharge system due to low awareness, trust and habit. Inspiring movement towards website and mobile app recharge could be a way to reduce crowd in the metro stations counters.

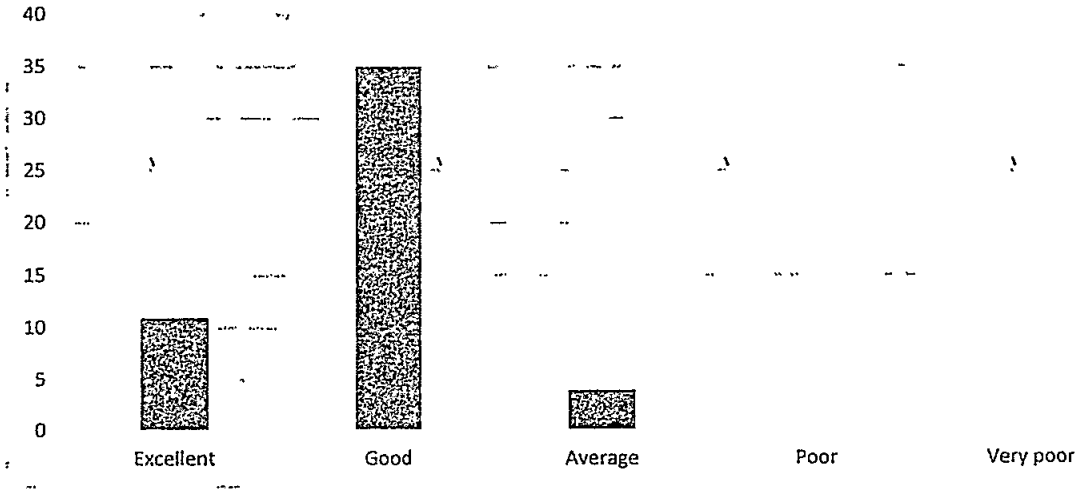

Figure 8: Experience with the currently available recharge facilities

Figure Shows that the perception of passengers towards currently available recharge facility is awesome indeed, 92% of the passengers rate it Good or Excellent while only 8% respondents rate it average and nobody feel it as a poor experience. This finds the recharge function one of

the finest-performing elements to the respondents though it conflicts a little bit with some identified problems such as long counter queues, AVM (Add Value Machine) activation delays, change-return issues.

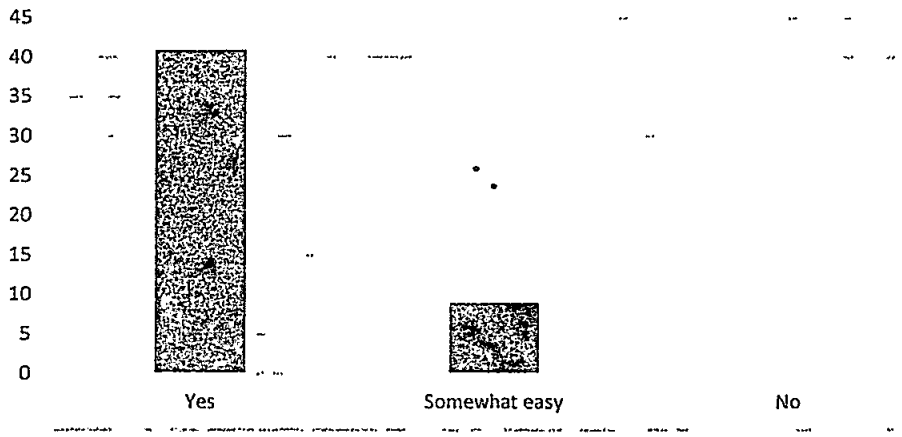

Figure 9: State of easiness of recharge process of Rapid Pass

The figure shows that 82% passengers are tremendously satisfied with the existing recharge system while a minor part of the passengers rated it as somewhat easy and nobody rated it as not easy. However, this expression conflicts to the opinion of the passengers elsewhere in the study saying like in case of card recharge AVM activation step is redundant and it also create long queues. Therefore, it also indicates that passengers' perceptions towards card is sound but its process is somewhat complex.

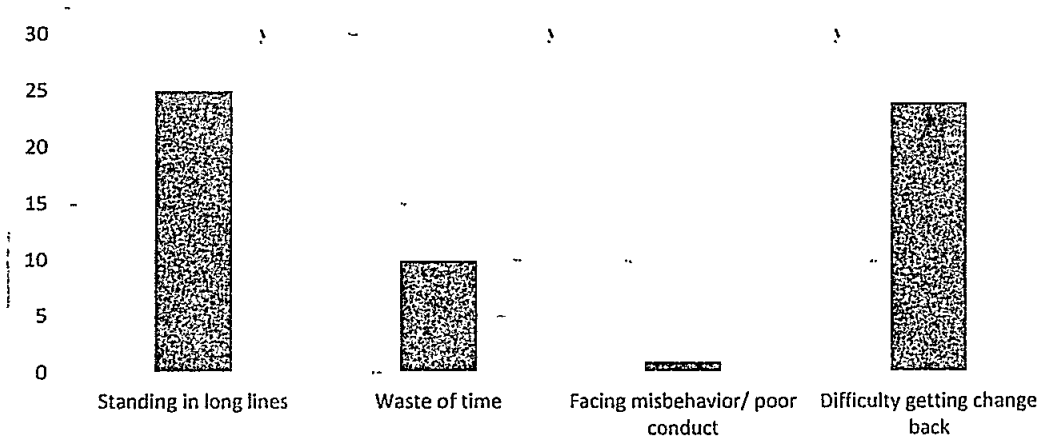

Figure 10: Problems faced recharging at stations and banks

The figure shows that passengers feel mainly two kinds of discomforts regarding car recharging such as standing in long lines (42%) and difficulty getting change back (40%) while Waste of time (17%) is a minor one. The situation basically reflects the necessity of digital/exact-value recharge options to lessen the queuing and cash-transaction problems.

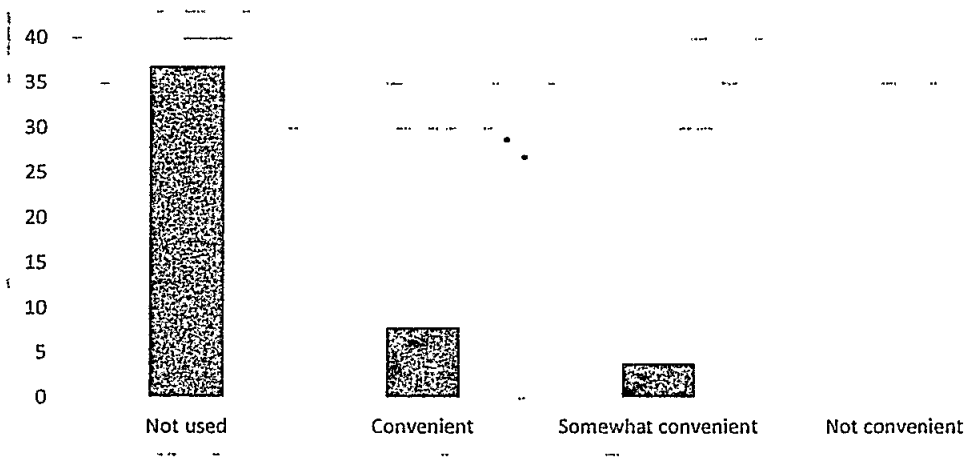

Figure 11: State of convenience of online top-up

The figure shows that near about three-fourth of the respondents never use the online top up and again, who use online top up, among them two-thirds of the of the respondents feels it convenient and one-third feels it as somewhat convenient and nobody feels inconvenient. It indicates the online top-up itself is sound but it is not reached to the passengers or they dare not to adopt new technology. Promotion of the online top-up could convert this large Not used sections into satisfied passengers and also reduce the pressure physical recharge counters.

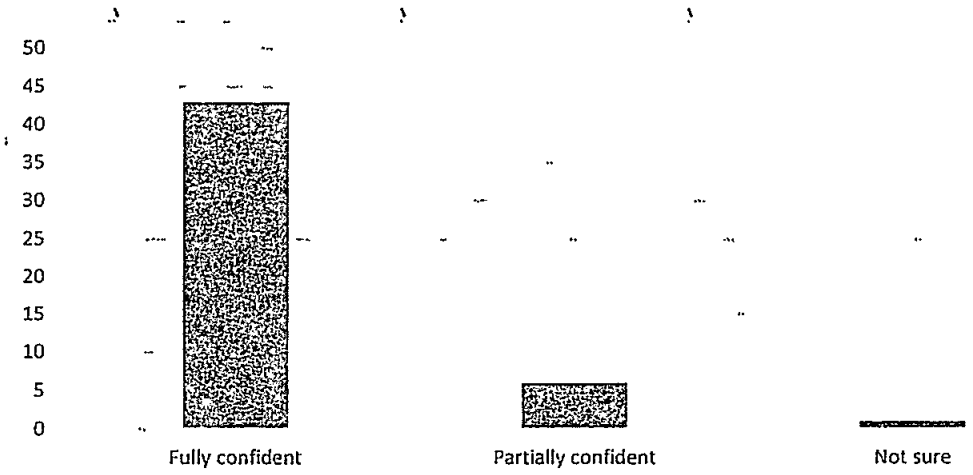

Figure 12: State of confidence about the transparency and security of transactions

The figure shows that passengers have very high confidence about the transparency and security of transactions making through Rapid Pass. Most of the respondents (86%) trusts its transparency and security with full confidence while only very minor residual respondents state it partial confidence or ambiguous. Though there are some frictions about the technical and service-delivery issues but, passengers have profound trust on the financial integrity of the system. Therefore, this foundation about integrity may help to expand the future multimodal integration expecting by the passengers.

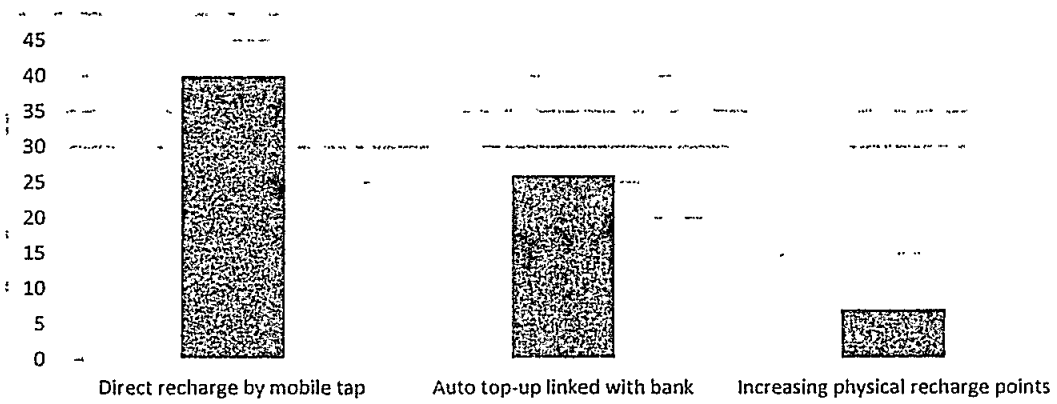

Figure 13: Improvement needed in the Rapid Pass recharge system

The figure shows that passengers prefer digital or automated solutions rather than physical infrastructure expansion. The order of preference getting from the graph, it correlates direct alignment with the Mobile as a Card and NFC-activation expectations raised in the qualitative FGD findings. It also supports strongly to invest more to expand recharge infrastructure in the field of mobile/NFC and auto-debit.

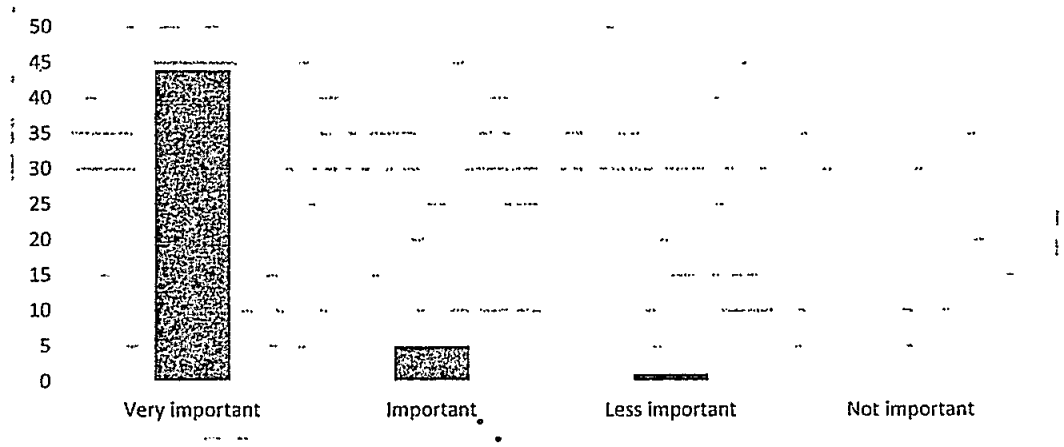

Figure 14: Importance of a single card usable across all public transport in the future

The figure shows the highest consensus recorded across all study items so far as 88% of respondents described the introduction integrated multimodal single card very important. It indicates that passengers expect rapid pass card more powerful featured with one card for all transports.

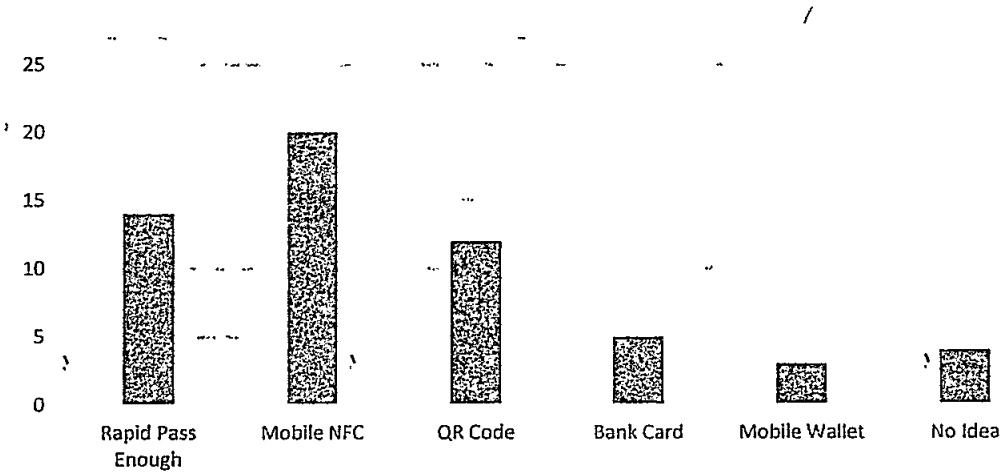

Figure 15: Rapid Pass or any alternatives proposed to use for Metrorail travel

The figure shows that the preferences of alternative future payment media is varied by the respondents not concentrated to any specific media. At the same time, one-fourth of the respondents expressed to keep themselves only with Rapid pass. The novel first most-wanted media is Mobile NFC, then QR Code, bank card and mobile wallet respectively. This fragmentation proposes that respondents have the flexibility and own choice to device-based options for future.

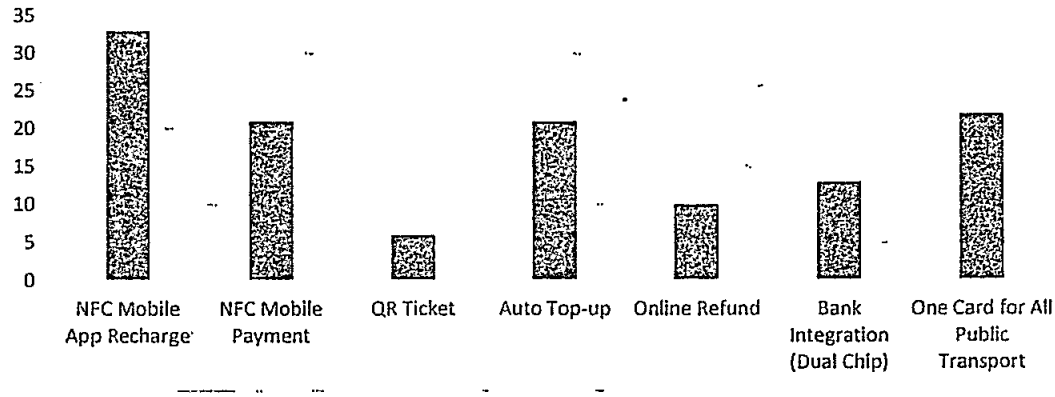

Figure16: Proposed features for collecting fare via Rapid Pass in the future

The figure shows that passengers have many different tastes about the future facilities embedded in the integrated ticketing system. It is seen that passengers like NFC Mobile App Recharge most and then One Card for All Public Transport, NFC Mobile Payment, and Auto Top-up respectively. The key opinions of the respondents might be a clear feature-development hierarchy for Dhaka Transport Coordination Authority (DTCA) regarding integrated ticketing system.

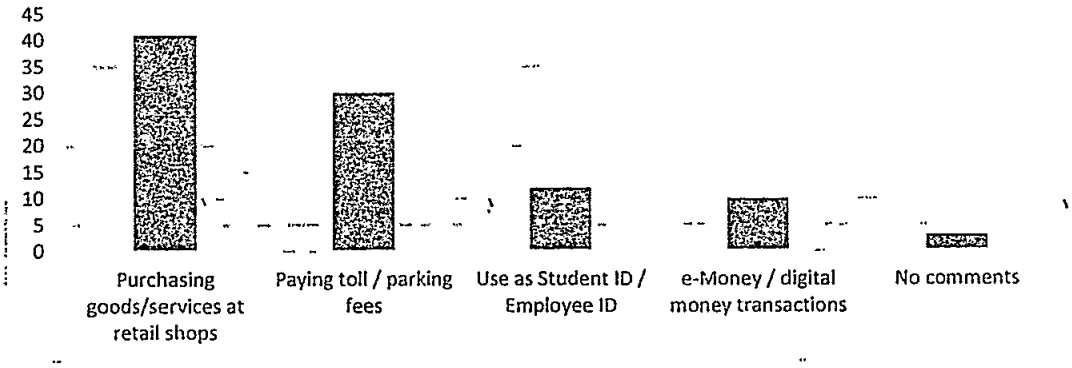

Figure 17: Proposed novel usage of rapid pass Outside the transport

The figure shows that passengers give a clear expectation about the potential use of Rapid Pass beyond transport fare such as retail purchases, toll/parking payments mostly. Three-quarters of the passengers propose this couple features in the Rapid Pass to be inserted. Some other small number of passengers also propose student/employee ID, e-money functions in the Rapid Pass.

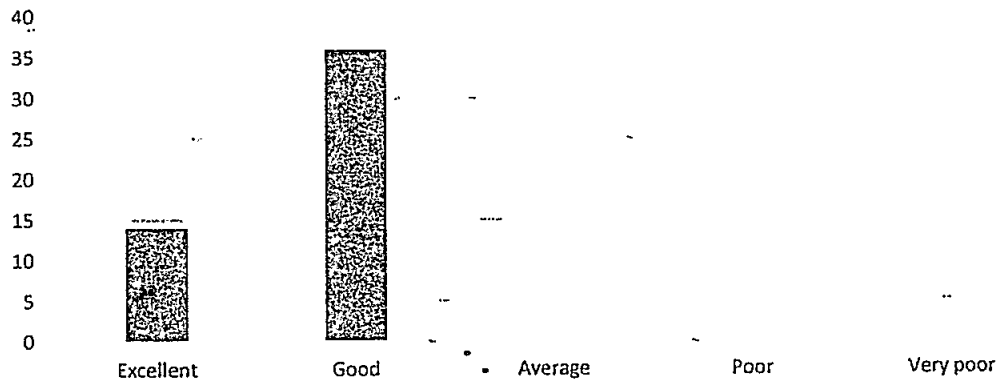

Figure 18: Overall experience of using Rapid Pass

The overall experience of using Rapid Pass shows a tremendous positive feeling towards it. It indicates that in spite of existing some problems with Rapid Pass such as AVM activation delays, card faults, counter queues, and change-return issues, passengers perceived those as manageable. Therefore, the fulfilment of the expectations of the passengers may shift the perception Good to Excellent by the majority.

4.1 Overall Findings on Semi-Structured Interview

The study indicates an effective but not perfect system. Most participants are experienced users and using Rapid Pass for more than one year and satisfaction is extremely high and rating their experience Good or Excellent. Confidence in transaction security and transparency is also high. Problematic Issues are mostly associated with specific aspects of the process rather than the system as a whole. The major technical issue is gate/AFC equipment failure, the card not working or not being read. Recharge-related issues are moderately less and problems are usually resolved at the metro station, most often immediately. However, one-fifth issues are not fully resolved, with no clear escalation procedure for these lingering cases. Although the recharge process is rated easy but digital-channel recharge remains rare. Future expectations are strongly unified and want one card for all public transport and prefer mobile/NFC-based mechanization over growing physical infrastructure, together with interest in retail and toll payment uses are also in high position.

5. Findings and Thematic Analysis of Focus Group Discussion

5.1 Introduction

The study has been conducted also with an FGD with the participation of passengers using Rapid Pass in the Metro rail to assess passengers' satisfaction, experiences as well as future expectations about it .The discussion was conducted to encompass the practical experiences of using Rapid Pass, customer service, technical problems, recharge facilities, integrated smart ticketing as well as the future improvement in the field of service and technology.

A group consists of seven (7) respondents from different ages and professions took part in the focus group discussion who travel metro rail using Rapid Pass as fare payment system. Among them three were students and four were service holder including an engineer, a banker as well as other services. Again, among them, some were very active in the focus group discussion while some were not so. There were 13 questions for the respondents to discuss in the focus group discussion. The FGD was conducted in a zoom online platform as it was very difficult to gather 7 rushing passengers in any Metro rail station. The event of FGD was conducted on the 10th August, 2026. The discussion was analyzed thematically rather than organizing participants' individual response distinctly. The responses given by the participants were then reviewed and classified into repeated issues, differences, as well as similarities. Furthermore, the interpretation of their implications were assembled into wider categories and themes for passenger's satisfaction and future development of Rapid Pass.

5.2 Overall Experience and Passenger Satisfaction

The FGD focused that the passengers of metro rail accept Rapid Pass positively specially for convenience and time savings. Using the card passengers need not wait in a long queue to buy a paper-based ticket and can enter into the AVM quickly. This proposed that metro rail journey has already been improved in terms of efficacy as well as convenience as a result of using Rapid Pass. Participants also value existing digital recharge facilities which feel the passengers relieved from handling cash directly. It also facilitates passengers to recharge without visiting the physical counters with crowds. Hence, the overall FGD situation recommends that swiftness, suitability and reduced dependence on conventional ticketing are key foundations of passenger satisfaction with Rapid Pass.

5.3 Theme 1: Convenience Versus Operational Difficulties

In spite having many positiveness, passengers face some operational difficulties that hampers the goodwill of the Rapid Pass and discussed problem needs an additional tap on AVM after online recharge. Participants feel it extra burden as recharge already has been accomplished digitally. One of the participants mentioned that sometimes it takes time, need to wait before AVM that creates inconvenience for passengers. Hence participants expect online recharge procedure would be completely digital which will allow the balance to be activated simply without visiting AVM.

5.4 Theme 2: Card Reliability and Problem Resolution

The FGD shows that participants are sometimes feel concerns about the reliability as well as problem resolution. One of the participants shared his experience of non-functioning of Rapid Pass without having any visible physical damage and the problem was not resolved fittingly rather he needed to purchase another new card. This proveds that there may be some technical or software related problem of Rapid Pass though appearing physically intact. It also indicates that an effective resolving mechanism is vital keeping passengers' satisfaction stable round the period. Another problem that felt by the participants is the management of multiple cards registered under different mobile numbers not in under a single mobile number. The discussion hence specifies the necessity of improving card reliability, registration, replacement related issues.

5.5 Theme 3: Customer Service and Technical Support

The FGD also brings out the less effective customer service regarding Rapid Pass card. Some participants informed that sometimes staffs of the customer care unit were incapable to solve technical problems of the card which might make the passenger dissatisfied. This issue is very important to resolve because a technically sound system may be a cause of dissatisfaction due to lack of quick quality supports. As a result, participants advised that the personnel of customer care unit needs a regular basis sound training so that they can handle the sensitive issue satisfactorily. Again, as novel features will be being adding continuously, the staffs should be updated regarding its technical as well as general knowledge to support passengers accurately without delay.

5.6 Theme 4: Integrated and Multimodal Ticketing

The FGD shows very keen expectations to use Rapid Pass in different modes of public transport for buses, trains, and launches. Participants think integrated ticketing system will lessen cash-handling, repeated ticket purchasing and also waiting time as well as provide comfort to the passengers. This outcome proposes that passengers gradually consider Rapid Pass not only as a Metro Rail ticketing card but as a probable integrated mobility platform.

5.7 Theme 5: Mobile-Based and Digital Future

The FGD shows a higher expectation to technology-based features in the Rapid Pass such as NFC-enabled mobile phone, Mobile as a Card to enjoy a more comfortable journey. Moreover, participants expect other improvements like transaction history, access to balance information, easier mobile-based recharge, and additional digital services. Again, several participants want to have Rapid Pass as a medium of other payment functions such as retail purchases. Furthermore, participants also want to get additional discounts and special benefits for users. All these expectations mean that they do not want to see Rapid Pass as only a electronic fare collection but also as a wider digital and mobile-enabled service ecosystem

5.8 Theme 6: Incentives, Awareness and User Engagement

Participants shows interest to introduce incentive as well as promotional activities to increase the usage of Rapid Pass. They emphasize to have special discounts for the students for encouraging a larger usage among younger passengers. Moreover, they highlighted about the importance of notifying users the encouraging features of Rapid Pass.

5.9 Overall Findings on FGD

The FGD shows that the overall perception of Rapid Pass is positive in term of convenience, time savings as well as hassle free except some operational and service-related problems. The major concerns come from the discussion comprise of extra AVM step after online recharge, complications in resolving technical problems, multiple-card management, occasional card malfunction, and limitations in customer support. This reflects that passenger's satisfaction rest not only on the existence of digital technology but also on its responsiveness, customer care, reliability or simplicity. Simultaneously, participants confirmed some valid expectations for future way out such as completely digital and simplified recharge, integrated multimodal

transportation, mobile/NFC-based ticketing, improved customer care and card management, and supplementary incentives and digital payment services. At last, it can be stated that passengers expect Rapid Pass not only as a conventional electronic fare card but also a more comprehensive, integrated system.

6. Interpretations of Findings come from both Semi-structured interview and FGD

The results indicate an effective but not perfect integrated ticketing system found both from the semi-structured interview and the Focus Group Discussion (FGD) triangulating closely around the three research questions.

On passengers' experience (RQ1), both methods show strong acceptance of Rapid Pass accessibility, reliability and usability and all interview respondents rated their overall experience Good or Excellent while FGD participants valued avoiding ticket queues and cash handling. Yet both methods surfaced the same frictions such as gate/AFC card-reading failures and the redundant AVM tap after online recharge emerged as the most repeated complaint in the FGD, echoed in the interview's preference for automated recharge. Moreover, most of the problems were resolved only at metro stations rather than formal customer-care unit, and about one in five cases remained unresolved which is pointing to a genuine service-quality gap.

On factors influencing satisfaction (RQ2), convenience, time-saving and strong trust in transaction security were the main positive drivers, while card technical reliability, multiple-card registration management, and inadequately trained frontline and call-center staff were the principal factors undermining satisfaction.

On expectations for the way forward (RQ3), both methods converged strongly near-unanimous demand for a single card usable across all public transport, and a clear preference for mobile/NFC-based automation, Mobile as a Card, NFC payment and recharge over physical infrastructure expansion. Passengers in both methods also expect Rapid Pass to evolve into a broader digital ecosystem, supporting retail purchases, toll/parking payments, improved customer support, and targeted incentives such as student discounts.

7. Recommendations

Grounded on the findings, the following recommendations may be proposed:

First, DTCA may remove the additional AVM activation step by arranging NFC-based mobile-tap recharge which is the most frequently cited complaint across both methods.

Second, a self-service option may let passengers combine multiple cards under one mobile number, with clear, time-bound procedures for repairing and replacing cards with chip-related faults.

Third, structured and technical training should be provided to station and customer care staff, as resolution failures were ascribed to staff capacity rather than technology.

Fourth, DTCA should accelerate and expose Rapid Pass's expansion across all public transport modes, as respondents specified near-unanimous demand for a single multimodal card.

Fifth, DTCA should conduct repeated awareness campaigns to promote existing digital recharge channels whose usage remains low despite high satisfaction among users.

Finally, DTCA should explore student fare incentives and expand Rapid Pass into retail, toll, and virtual/mobile card options, reflecting passengers' vision of it as a broader digital mobility platform.

8. Conclusion

The study is conducted to assess passenger satisfaction, experiences and also the key factors that shapes their satisfaction and their expectations for its future development using Rapid Pass card as an integrated ticketing system. The research attained both extensiveness and deepness by merging a semi-structured interview of fifty passengers with a focus group discussion of seven regular users which allowed quantitative patterns to be substantiated and improved by qualitative clarification. The findings reveal that passengers feel a higher degree of positive perception using Rapid Pass in term of convenience, time-saving and cashless easiness in metro rail as well as high confidence in the transparency and security of its transactions. On the other hand, some operational frictions such as an additional recharge-activation step, gate/card-reading failures, gaps in customer-service capacity, inconsistent problem resolution which limit passengers from experiencing the system at its full potential. These process-level rather than

fundamental design failures might be improved by targeted intervention. The study also proved that passenger expectations concentrated not only on simply fare payment media but also on a single, multimodal ticketing card, mobile/NFC-enabled automation as well as Rapid Pass into retail, toll, and identity-related uses. In addition, this study may be a source of new empirical evidence on integrated ticketing in Bangladesh addressing the existing research gap and also may offer transport authorities and policymakers, particularly the Dhaka Transport Coordination Authority an evidence for planning the short and long-term activities towards an integrated, digitally enabled mobility platform supporting sustainable urban transport.

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Annex A: Semi-Structured Interview Questions for Measuring the Satisfaction and Expectations of Passengers Using Rapid Pass in Metrorail

Name: _____ Gender: ☐ Male ☐ Female ☐ Other

Age (years): _____ Occupation: _____

(Please tick (✓) the applicable option(s))

1. How long have you been using Rapid Pass?	☐ Less than 6 months ☐ 6–12 months ☐ 1–3 years ☐ More than 3 years
2. What benefits are you getting by using Rapid Pass?	☐ No need to stand in line ☐ No need to carry cash ☐ Saves time ☐ Get a 10% discount on fare ☐ Can travel at the government-fixed fare ☐ Other: _____
3. What kind of problems have you faced while using Rapid Pass?	☐ Card not working at the gate ☐ Card not being read ☐ Recharge problem ☐ Difficulty viewing balance ☐ Card damaged / broken ☐ Other: _____
4. Where do you contact to resolve a Rapid Pass card-related problem?	☐ Metro station ☐ Bank ☐ Customer care (hotline, Facebook Page/Group)
5. Did you get your problem resolved?	☐ Fully ☐ Partially

	☐ Not resolved
6. How long did it take to get a resolution?	☐ Immediately ☐ Same day ☐ 1–3 days ☐ More than 3 days ☐ Not resolved yet
7. Where / how do you usually recharge?	☐ Station counter ☐ Bank ☐ TVM ☐ Online (website) ☐ Rapid Pass mobile app ☐ Other: _____
8. What is your experience with the currently available recharge facility?	☐ Excellent ☐ Good ☐ Average ☐ Poor ☐ Very poor
9. Is the Rapid Pass recharge process easy?	☐ Yes ☐ Somewhat easy ☐ No
10. What kind of problems have you faced recharging at stations and banks?	☐ Standing in long lines ☐ Waste of time ☐ Facing misbehavior/ poor conduct ☐ Difficulty getting change back
11. What is your opinion on online top-up?	☐ Convenient ☐ Somewhat convenient ☐ Not convenient

12. How confident are you about the transparency and security of transactions made through Rapid Pass?	☐ Fully confident ☐ Partially confident ☐ Not sure
13. What kind of improvement is needed in the Rapid Pass recharge system?	☐ Direct recharge by mobile tap ☐ Auto top-up linked with bank ☐ Increasing physical recharge points
14. How important is it to have a single card usable across all public transport in the future?	☐ Very important ☐ Important ☐ Less important ☐ Not important
15. Besides Rapid Pass, which medium would you like to use for Metrorail travel, if any?	☐ Mobile NFC ☐ QR Code ☐ Bank Card ☐ Mobile Wallet ☐ Reason: _____
16. What features would you want for fare payment via Rapid Pass in the future?	☐ NFC Mobile App Recharge ☐ NFC Mobile Payment ☐ QR Ticket ☐ Auto Top-up ☐ Online Refund ☐ Bank Integration (Dual Chip) ☐ One Card for All Public Transport
17. Outside the transport sector, in which areas would you be interested in using Rapid Pass?	☐ Purchasing goods/services at retail shops ☐ Paying toll / parking fees ☐ Use as Student ID / Employee ID ☐ e-Money / digital money transactions ☐ Other: _____
18. What is your overall experience of using Rapid Pass?	☐ Excellent ☐ Good ☐ Average

	☐ Poor ☐ Very poor

19. What are your future expectations regarding the Rapid Pass card?

_____

_____

_____

Annex B: List of Passenger Participants in FGD

Code	Name	Occupation	Affiliation	Profile Note
P1	Md. Nasim	Student (Honours 2nd Year)	Dania College	Regular Metrorail passenger
P2	Sifat Ahmed	Student	Uttara University	Regular Metrorail passenger
P3	Md. Kamruzzaman	Employee	Private Bank	Multiple Rapid Pass card holder
P4	Mohammad Maruf	Social Service Secretary, DAKSU	Kabi Jasimuddin Hall, University of Dhaka	Regular Metrorail passenger
P5	Md. Rakibul Hasan	Resident	Uttara, Dhaka	Regular Metrorail passenger
P6	Md. Ejaz	Employee	Private Company, Mirpur	Multiple Rapid Pass card holder
P7	Tasrif Hossain	System Engineer	Private IT Company	Frequent Metrorail passenger

Annex C: Focus Group Discussion Guide

1. What benefits have you experienced while using Rapid Pass? Please share your real experience.

2. What kinds of problems have you faced while using Rapid Pass?

3. How did you resolve the problems you faced while using Rapid Pass?

4. What has your experience been with the recharge process?

5. Have you faced any problems while recharging? Please elaborate.

6. What improvements do you think are needed in the recharge system?

7. Have you ever sought customer service support? Please describe your experience.

8. How was your problem eventually resolved?

9. How long did it take to get a resolution, and what is your opinion on this?

10. What is your opinion on an integrated (multimodal) smart ticketing system?

11. Do you think other smart ticketing systems should be introduced alongside Rapid Pass? Why?

12. What new features would you like to see in Rapid Pass in the future?

13. What initiatives do you think should be taken to make Rapid Pass more popular?

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Instructions to be followed

(Please read carefully)

1. *Please write your Name, Roll No. etc. at the specified space otherwise may cause cancellation of your answer script.*
2. *Put tick (✓) marks on Evaluation method and Institution's Name.*

Name - Md. Abdullah Al Masod

Roll No- 120

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ABSTRACT

The global travel and tourism industry serves as a vital wheel for economic growth, employment generation, and poverty alleviation. As part of an official visit to Cox's Bazar, Bangladesh-home to the world's longest natural sea beach-it was observed that while the destination holds immense prestige and potential, it faces critical challenges regarding participatory development. The local neighborhood areas, including homesteads, roads, and surrounding infrastructure, currently present an unkempt and un-beautified appearance. This seminar paper identifies that this lack of visual and structural integration is primarily a result of long-term negligence and the systematic exclusion of host communities from the planning, benefits and engagement of tourism development activities.

To address these challenges, the study adopts a mixed-methods approach combining literature review, surveys of 150 host community members, and interviews with government officials. Hence, both the qualitative and quantitative methods of research have been applied in this study. The research aims to assess socio-economic conditions, identify community roles in preservation, and explore strategies for making the destination more affordable. The findings reveal a significant gap between the potential of tourist sites and their development. Host communities expect participation but face barriers such as inadequate infrastructure, limited financial resources, and exclusion from decision-making. The study highlights a demand for financial aid, including interest-free loans, to empower local entrepreneurs and integrate them into the tourism value chain.

This research recommends revisiting the existing policies regarding tourism development in Bangladesh. Recommended areas of policy implications are inclusive tourism by establishing local community associations, providing targeted capacity-building programs, and increasing budgetary allocation for community-centric infrastructure. These interventions can transform destinations into models of equitable tourism that provide tangible economic benefits, shifting the industry from luxury-led to community-based development. Addressing these economic disparities in Bangladesh's tourism sector requires a shift from large-scale luxury developments to an inclusive, community-based model.

Sustainable Tourism through Infrastructure and Livelihood Development of Host Community

1.0 INTRODUCTION

1.1 Background and Context

Since the 1950s, successive Bangladeshi administrations have taken steps to expand the tourism sector, but the industry grew slowly for decades. In that sense the tourism is not a new issue in Bangladesh. But according to the Government of Bangladesh (GoB), Cox's Bazar saw a surge in the development of tourism in the 1990s (GoB, 1992). When building any tourism destination, the socio-economic infrastructure of the target locality is frequently regarded as the most important factor. The natural resources in Bangladesh, may be used more effectively if a sustainable tourism sector were to be formed with efficient resource utilization. In terms of the variety of opportunities related to its natural and geographical profile, socioeconomic infrastructure, numerous utility services, and potential for the development of communication networks, Cox's Bazar surpasses any other tourist destinations in Bangladesh.

The GoB published a tourist policy in 1992 that emphasized the importance of the industry to the nation's economic growth. It included tourism in its national economic development goals since it was projected that it would improve peoples' socio-economic well-being. Policymakers and the general public in Bangladesh, where the unemployment rate is high (United Nations Development Programme (UNDP), 2007), embrace any economic opportunity. As a result of the passage of time since the implementation of the 1992 tourism policy, it is now appropriate to assess the economic and socio-cultural effects of the growth of tourism and to examine the nature of these effects on the local community, with a focus on determining whether or not tourism is having positive or negative effects. The significance of addressing community involvement in tourism and how it influences, how benefits are distributed among them is also be emphasized here. Research on the economic and sociocultural effects of tourism on the local population is limited indeed. Additionally, this study outlines the roles and responsibilities of the host communities regarding protection and development of the tourism attractions. It also highlights the barriers and prospects faced by the host communities, the requirements and obstacles that low- and mid-income people face when trying to visit the nation's tourism attractions.

1.2 Statement of the Problem

The host communities residing near the tourist spot in Ukhiya, Cox's Bazar, currently face significant challenges in actively participating and benefiting from the local tourism industry. The lack of adequate infrastructural development of nearby roads and homesteads has hindered the host communities' ability to engage with tourists, resulting in limited income-generating opportunities and a lack of overall economic empowerment. Most of the tourist spots of Bangladesh are getting polluted due to careless use by the developers and hotel owners. Because hotels and restaurants serve expensive food and lodging so mid and low-income travelers are not benefited. As local poor communities get no or minimum benefit so they have less belongingness to environment and sustainability of the tourist spots.

The core problems of this study center on whether the people of the host community are interested in being involved in tourism, whether they want to improve their homesteads by taking loans, whether they are interested in arranging accommodation for low-income tourists, and whether they are concerned about environmental degradation and want to contribute to the environmental development of the tourist spots.

1.3 SCOPE OF THE STUDY

Following the country's declaration of independence in 1971, the government established the Bangladesh Parjatan Corporation (BPC), a national tourism body with the dual duty of promoting and developing tourism. The new administration began encouraging private sector investments in this sector in 1975. As a result of prioritizing the tourist sector, neighboring nations like Nepal, Sri Lanka, and the Maldives have had stronger GDP growth and job creation (UNWTO, 2007).

Although the number of foreign tourists visiting is slowly rising, local tourism is growing at an astounding rate, and it is crucial to highlight this development. Due to the fact that domestic tourism serves as the foundation for foreign tourism, this circumstance offers Bangladesh excellent chances to use tourism as a weapon for economic growth. This study evaluates the host community's ability to generate income as well as the potential to draw low- and middle-income individuals to domestic travel by maintaining and raising industry standards.

This research focuses on the effects of tourism on the local community and analyzes how tourism influences on revenue, investment, employment, the character of business, and local community engagement in order to fill the knowledge gap caused by the paucity of literature. It also focuses on the tasks and duties that the host communities must fulfill in order to protect and promote the tourist destinations, as well as the challenges and opportunities faced by the host communities in order to raise the bar for tourism in Ukhia, Cox's Bazar. It also focuses on the requirements and challenges that low- and middle-income person's face when trying to access the nation's tourism attractions.

As a result, the research's findings will aid in the development of flexible policies by policymakers, assist in the making of profitable investments by investors, and benefit the neighborhood as a whole. This study concentrates on Ukhiya, Cox's Bazar as a prime location to investigate the economic and socio-cultural effects of tourism. Additionally, it is worried about the national economic and social effects of tourism. Cox's Bazar has been chosen as the study location because it is a key area for tourism investment, the most popular tourist destination in Bangladesh, and the site of practically all national investments in the industry.

1.4 RATIONALE OF THE STUDY

Bangladesh is a nation with a large population and relatively few natural resources. A sizable portion of the population remains in extreme poverty, making it challenging to address grave issues like poverty, sickness, and poor infrastructure. Tourism has the potential to make a significant positive economic impact in Bangladesh. Both host community development and the overall development of the nation will benefit from this study. Firstly, by analyzing the infrastructure requirements of the host community in established tourist destinations, it will be possible to enhance their living standards by repairing homes and local roads. Secondly, inclusive tourism will be ensured by involving host communities in the preservation and development of tourist destinations. Thirdly, engaging the host communities will help reduce the income gap between the rich and the poor.

1.5 OBJECTIVES OF THE RESEARCH

The core objectives of the study are:

1. To assess the socio-economic condition and find out the way of economic development of the host communities surrounding the tourist spots at Ukhia, Cox's Bazar by community involvement to local tourism;
2. To identify the roles and responsibilities of the host communities to preserve and develop the tourist spots and developing and promoting the standards of tourism at Ukhia, Cox's Bazar;
3. To explore the potential of attracting the low- and mid-income tourists to the tourist sites within the country and to ensure their easy access and managing food and accommodation for them within their affordable price;
4. To provide policy recommendations for enhancement of smart, easy, affordable, and participatory tourism in Bangladesh.

1.6 LIMITATIONS OF THE STUDY

The goal of this research is to assess the income generation of the host community and potentials for attracting low- and mid-income people to domestic tourism by preserving and developing the standards of the tourism sector. Due to time and training schedule constraints, the study was unable to access a substantial number of samples. Moreover, interview with some potential stakeholders, such as hotel owners and environmentalists, couldn't be conducted due to time limitations.

1.7 LITERATURE REVIEW

1.7.1 INTRODUCTION

> *"The study of tourism focuses on people who are not in their normal environments, the businesses that cater to their needs, and the effects that tourists have on the social, economic, and environmental well-being of their hosts (Wall and Mathieson, 2006:1)."*

In developing nations, tourism is frequently considered as a sector that generates revenue, creates jobs, and promotes a modern way of life (Jenkins, 1991; Sharpley, 2002; Kibirige, 2003; Saayman & Saayman, 2006). Other researchers (Butler, 1992; Hall and Page, 1999; Duffy, 2002) believe that tourism raises the threat of destroying traditional lifestyles and culture, starts neo-colonialist relationships of exploitation (Mbaiwa, 2004), and leads to overdependence on a single, unreliable industry and inflation.

This literature review examines the critical intersection of sustainable tourism and host community livelihood, establishing a framework for assessing infrastructure and socio-economic development. By exploring global and national perspectives, it highlights the pathways necessary to balance tourism growth with meaningful community engagement and poverty reduction. A thorough literature review helped to comprehend the issue as it is assessed the economic and social impacts of tourism on a local community. The literature review on economic development is presented in subsection on the following tourism and development, sustainable tourism, and community involvement in tourism.

1.7.2 ECONOMIC DEVELOPMENT

The standard of living of the people rises as a result of economic expansion due to gains in national productivity and per capita income. It places a strong emphasis on productivity and if those goals are met, the benefits will spread to the entire population. The greater populace often lacks access to and the entitlement to these benefits in many nations, where they are instead enjoyed by elite segments of the population.

By the 1970s, a larger definition of economic development had formed, one that took into account self-reliance, the eradication of poverty, the creation of jobs to combat unemployment, and the narrowing of the gap between the rich and the poor. expansion "may matter a great deal, but, if it does, this is because of some associated benefits that are realized in the process of economic growth," according to Sen (1994:220), who also claims that it "may matter a great deal."

Another similar definition of development in the HDR(1990) of the UNDP. Development is the expansion of people's choices, with the most important ones being to live a long, healthy life, to gain knowledge, and to have access to the resources needed for a decent standard of living.

1.7.3 TOURISM AND DEVELOPMENT

Th World Travel and Tourism Council (WTTC) (2008) projected that travel and tourism would increase steadily between 2009 and 2018, averaging 4.4% annually, providing 297 million employment and 10.5% of the world economy by that year. Academic studies of tourism have included it as a development stream since the 1960s (Peters, 1969; de Kadt, 1979). Tourism increases employment, generates foreign cash, draws in local and foreign private capital for growth, and encourages economic independence (Britton, 1982). Hence tourism and development are considered as interrelated and corelated factors of societal advancement.

According to Jenkins (1980), there are several reasons why LDCs and developing countries wish to embrace tourism as a tool for development. Theoretically, tourism contributes to the redistribution of wealth from rich to poor nations. In contrast to other international trade, there are no trade obstacles in the case of tourism, and it also requires less capital than other businesses. Because of this, many nations viewed it as a crucial component of their development plan (Jenkins, 1991).

The importance of tourism in economic development has drawn criticism from some academics (Bryden, 1973; Turner, 1976; de Kadt, 1979; Britton, 1991; Mowforth and Munt, 1998; Torres and Momsen, 2005). According to Torres and Momsen (2005), rising tourism has led to a greater reliance on imports, which in turn competes with the expansion of local agriculture and small business while also leaking foreign currency. According to Wolfson (1967), certain developing countries' policymakers have a propensity to embrace tourism as a convenient tool for economic development.

1.7.4 SUSTAINABLE TOURISM

Sustainable development has gained traction in development studies in general and tourist study in particular since the 1980s. Environmentalism serves as the foundation for the idea of sustainability. Economic activity has been harming the ecosystem and biodiversity, causing the ozone layer to thin out and causing more pollution. As a result, it is crucial to safeguard the environment and mitigate the negative effects of development. Politicians are aware that for sustained growth, the economy and the environment must work together. Sustainable tourism

development "achieved virtually global endorsement as the new [tourism] industry paradigms in the late 1980s" (Godfrey, 1996:60).

The core idea of sustainable development and its application in tourism is unquestionably accepted by many tourism experts (Liu, et al., 1987; Bramwell, 1993; Buckley, 2003; WB, 2003), and they believe that doing so will address many of the negative effects of tourism. However, a few researchers in the field of tourism (Wheeler, 1993; Butler, 1999; Sharpley, 2000; Lansing and Vires, 2007) voice their doubts regarding the usefulness of the sustainability idea in the industry. "Sustainability in tourism is a vague concept, given to varying interpretations," claims Sharpley (2000:1).

The majority of researchers generally concur that sustainable tourism is important. Therefore, it is now necessary to include all stakeholders in tourist planning and the development process to encourage them to apply the sustainability principle in the tourism industry. The principles of sustainability can be applied to the economic, social, and environmental aspects of tourism, and they promote a balance between these aspects in order to guarantee long-term sustainability.

1.7.5 COMMUNITY PARTICIPATION IN TOURISM

Sustainable tourism development research has extensively covered community involvement in the process of developing tourism as a Western paradigm within natural resource management and utilization. Community involvement in tourism is concerned with how they might participate in decision-making and reap the rewards of tourism development (Murphy, 1985; Inskeep, 1994; Timothy, 1999; Tosun, 2000 and 2006). According to Ioannides (1995), Squire (1996), and Andriotis (2000, 2002, and 2003), tourism generates jobs and revenue for the local population and is seen as a tool for preserving the natural environment, cultural legacy, and infrastructure as well as for fostering political stability.

Numerous academics and industry professionals have put up various justifications for community involvement in tourism (Murphy, 1985; Lea, 1988; Inskeep, 1991; Pearce, 1994; Brohman, 1996; Dei, 2000; Tosun and Timothy, 2003). The local population who reside in the tourist destination bears the majority of the effects of tourism, whether they are beneficial or harmful, according to

Murphy (1985), one of the pioneers on community participation in tourism activities. Community involvement, according to Pearce (1994), is a strategy for reducing adverse social effects.

According to Mitchell and Reid (2001), 90% of Peruvian respondents believe that increasing their participation in tourism activities will boost their ability to make money. If the industry is to be long-term viable, it is important to consider the opinions of the local people (Williams and Lawson, 2001). According to Scheyvens (2004), community participation and their management of tourism resources result in a better distribution of economic advantages within the community.

1.8 RESEARCH GAP

In the context of Bangladesh, this research topic is understudied and it is discovered through a survey of the literature that no prior research endeavor was made to look into the precise research issues of this study. Therefore, the majority of findings that are pertinent to those study issues are generating new literature, and there are still areas for future research that could add to this body of knowledge.

However, because of the narrow focus of this study, future research can examine additional potential gaps. The gaps in this research include, for instance, the effects of tourism on the environment and strategies for protecting natural resources and cultural heritage. How indigenous entrepreneurship manifests itself in SME form is a further research opportunity gap in this study.

2.0 METHODOLOGY

2.1 INTRODECTION

The study employs a mixed method approach, combining quantitative and qualitative research techniques. Combining quantitative and qualitative data collection techniques and analyzing them as a single new methodology characterizes mixed method science (Cresswell, 1999).

2.2 RATIONALE OF THE METHODOLOGY

The quantitative methods is chosen because it permits generalization and quantifies the host community's socio-economic condition, responsibilities, problems, and prospects. In contrast,

qualitative interviews enable the researcher to learn about the respondents' prior experiences and understand their motivations for a particular activity. In this context, in depth interviews provide a deeper understanding of how respondents perceive the needs and barriers.

2.3 SAMPLING DESIGN

The study collects data using a method of purposive sampling. Respondents are chosen willingly based on meeting the requirements. Using a sociological survey, randomly 150 samples were obtained in total from the households of the community level.

2.4 CONSTRUCTION OF THE STUDY TOOLS

While constructing the study tools, the study adopted several methods from Rana (2014). These measures are:

Avoiding jargon, slang, and complexity etc.

a) Confusion, ambiguity, and bewilderment are no longer present. All forms of prejudice, value imposition, and emotionally charged feelings will be avoided.

b) No double-barreled inquiries will be chosen.

c) All provocative/misleading questions will be rejected.

2.5 FORMATTING QUESTIONNAIRE

To provide structure to an open and flexible interview study, I followed the methods outlined by Kvale (1996):

I. **Conceptualization:** Before preparing the questionnaire, important phrases were conceptualized in order to avoid confusion or ambiguity.

II. **Design:** The questionnaire, KII and FGD checklists were organized according to subsections and parts.

Interviews: Two research assistants travelled to the field to conduct face-to-face paper-based interviews. Additionally, qualitative interviews were performed face-to-face based on the respondents' preferences.

Transcriptions: For further investigation, FGDs and KIIs were meticulously recorded and transcribed.

Analysis: For the quantitative section's study, the study utilized SPSS 21 analyze software and qualitative analysis using Atlas.ti software.

2.6 PRE-TEST AND FINALIZING THE INTERVIEW SCHEDULE

To ensure the quality of the questionnaire all necessary steps were properly followed. Before starting finalizing the questionnaire and going to the field for data collection the questionnaire is duly pre-tested. Pre-testing will be conducted at Ukhiya, Cox`s Bazar.

2.7 ADMINISTERING THE SURVEY

Two research assistants were sent to the field throughout the data collection period to ensure the validity of the data. Prior to that several meetings were conducted and finally a zoom was conducted with all concerned who were engage in data collection procedure. All these endeavors and efforts are taken to ensure the authenticity, impartiality and validity of data collection.

2.8 TECHNIQUES OF DATA ANALYSIS

It is to be studied with quantitative data by using a comprehensive system for analyzing data called IBM SPSS 21. Version 9 of Atlas.ti is used for qualitative data analysis. The raw data is controlled to determine if there are any obvious issues, such as the inability to respond correctly (Bryman, 2012), which is meticulously maintain throughout the data collection steps.

2.9 VALIDITY AND RELIABILITY

This study is conducted with the utmost care and attention to guarantee and preserve data consistency. In order to optimize the reliability and validity of this study's results, respondents are selected based on their availability. Moreover, respondents were at liberty to quit the discussion at any time of the survey.

2.10 ETHICAL CONSIDERATIONS

Ethical considerations and confidentiality arise at various stages of social research work. As a researcher, it is acknowledged that the concerns of community members in the study settings by taking ethical and value considerations seriously. Even the written permission from all respondents before starting the survey.

3.0 FINDINGS OF THE STUDY

3.1 SOCIO-DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS

A brief introduction to the socio-demographic and socio-economic characteristics among the respondents of the study area is summarized below in Figure-1.

Figure 1: Socio-demographic and Socio-economic Characteristics (n= 150)

DEMOGRAPHIC INFORMATION	N	%
1.1 UNION		
Jalia Palong	66	42.3
Palong Khali	34	21.8
Ratna Palong	15	9.6
Raja Palong	16	10.3
Haldia Palong	13	8.3
Others	6	3.8
1.2 SEX		
Male	96	61.5
Female	54	34.6
1.3 RELIGION		
Islam	147	94.2

Hindu	3	1.9
1.4 LEVEL OF EDUCATION		
Primary	113	72.4
SSC	24	15.4
HSC	11	7.1
Honors/BA	1	0.6
Masters	1	0.6
1.5 OWNERSHIP OF THE RESIDENCE		
Own	137	87.8
Rented	13	8.3
1.6 LAND OWNERSHIP		
Yes	96	61.5
No	54	34.6
1.7 MONTHLY INCOME		
0-10000	26	16.7
10001-20000	69	44.2
20000-40000	46	29.5
40001-60000	9	5.8
1.8 MONTHLY EXPENDITURE		
< 5000	7	4.5
5001-15000	93	59.6
15001-30000	43	27.6
30001-50000	7	4.5
TOTAL	**150**	**100**

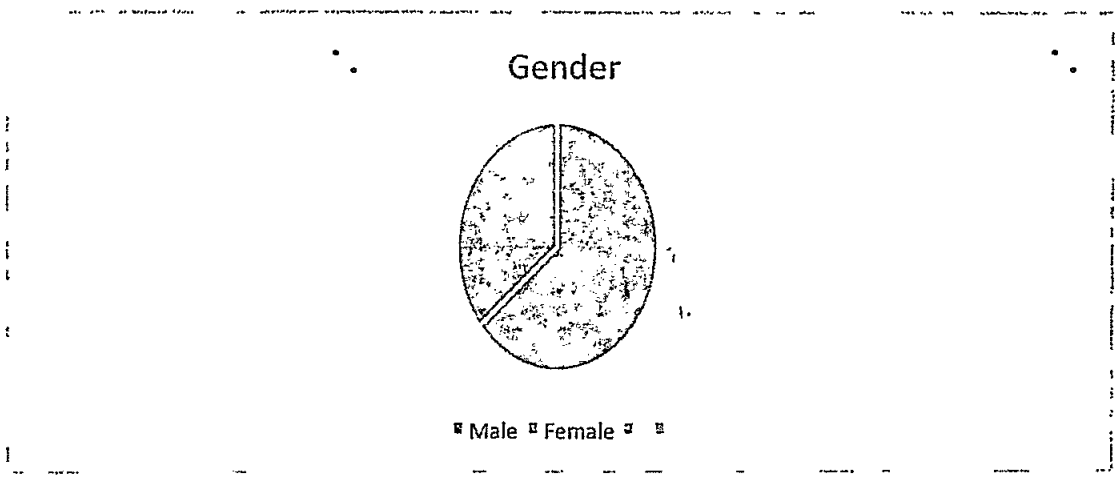
3.1.1 Respondents' Dwelling Area (Union)Based Population Dividends:

- **Jalia Palong:** 66 respondents (42.3%) - The largest representative group, highlighting its strategic significance for localized infrastructure investments and tourism-linked value chains.
- Palong Khali: 34 respondents (21.8%) -The second-largest group, capturing key border and transit communities relevant to regional tourism dynamics
- Raja Palong: 16 respondents (10.3%) -Moderately represented, reflecting semi-rural host demographics suitable for targeted homestead improvements.
- Ratna Palong: 15 respondents (9.6%)- Similar in proportion to Raja Palong, contributing baseline data from interior community settings.
- Haldia Palong: 13 respondents (8.3%) - A smaller representation capturing peripheral rural perspectives within the study area.
- Others: 6 respondents (3.8%) - Dispersed or outlying respondents ensuring inclusive outreach across the broader region.

3.1.2 Respondents' Gender Distribution

- **Male Respondents:** 96 participants (61.5%) — Form the majority of the sample, reflecting a higher overall male representation in the surveyed population.
- **Female Respondents:** 54 participants (34.6%) Constitute a smaller yet significant portion of the total sample, ensuring that women's perspectives are captured within the study.

Gender Based Population Dividends:



3.1.3 RELIGION BASED POPULATION DIVIDENDS:

3.1.3 Respondents' Religious Affiliation

- **Muslim Respondents:** 147 participants (94.2%)
- **Hindu Respondents:** 3 participants (1.9%)

3.1.4 Respondents' Academic Education Based Dividends

- **Primary Education:** 113 respondents (72.4%)
- **Secondary School Certificate (SSC):** 24 respondents (15.4%)
- **Higher Secondary Certificate (HSC):** 11 respondents (7.1%)
- **Honors/Bachelor's Degree:** 1 respondent (0.6%)
- **Master's Degree:** 1 respondent (0.6%)

3.1.5 Respondents' Ownership of House and Land Based Population Dividends

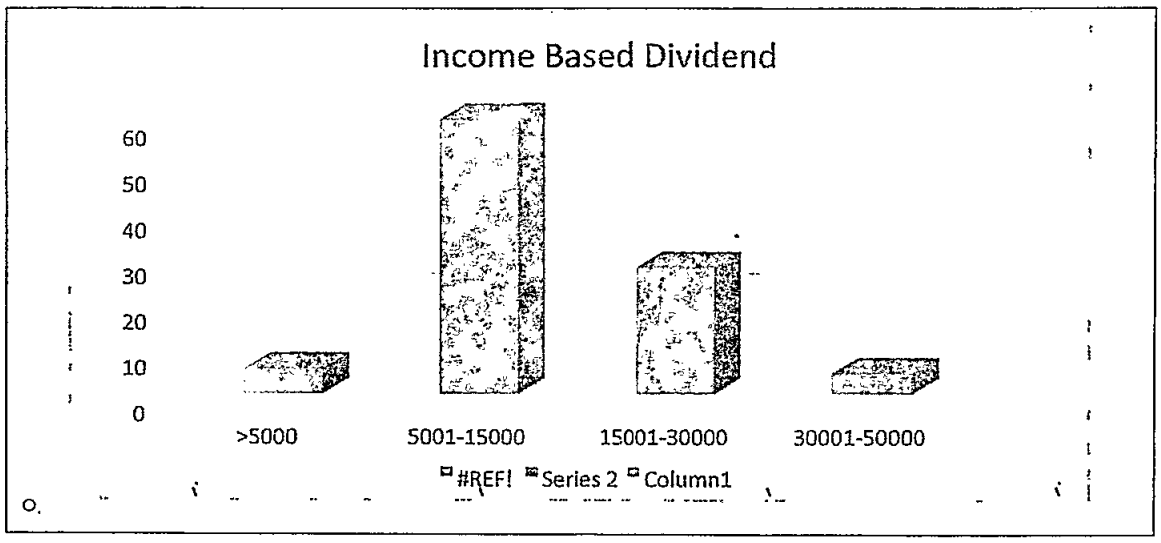
House Ownership : 137 respondents (87.8%) own their residence, while 13 respondents (8.3%) live in rented accommodations, showing that the vast majority are homeowners.

Land Ownership : 96 respondents (61.5%) own land, representing the majority, whereas 54 respondents (34.6%) do not own land

3.1.6 Household Income and Expenditure Based Dividends

- **Monthly Income :**
  - **0–10,000:** 26 respondents (16.7%)
  - **10,001–20,000:** 69 respondents (44.2%) — The majority income group
  - **20,000–40,000:** 46 respondents (29.5%)
  - **40,001–60,000:** 9 respondents (5.8%) — The smallest income group
- **Monthly Expenditure (Figure 1.8):**
  - **< 5,000:** 7 respondents (4.5%)
  - **5,001–15,000:** 93 respondents (59.6%) — The majority expenditure group
  - **15,001–30,000:** 43 respondents (27.6%)

- **30,001–50,000:** 7 respondents (4.5%)



According to Figure 1.7, there are 26 respondents who have a monthly income within the range of 0-10000, accounting for 16.7% of the total sample. This indicates that a relatively small percentage of respondents have a monthly income in this range. Moreover, there are 69 respondents who have a monthly income within the range of 10001-20000, representing 44.2% of the total sample. This suggests that a significant proportion of respondents fall within this income range. There are 46 respondents who have a monthly income within the range of 20000-40000, making up 29.5% of the total sample. This indicates that a substantial portion of respondents have a monthly income in this range. There are 9 respondents who have a monthly income within the range of 40001-60000, accounting for 5.8% of the total sample. This indicates that a smaller percentage of respondents have a relatively higher monthly income in this range. The table shows the distribution of respondents across different income ranges, with the majority falling within the 10001-20000 range. The other income ranges, 0-10000, 20000-40000, and 40001-60000, have varying proportions of respondents, with lower percentages in the highest income range.

According to Figure 1.8, there are 7 respondents who have a monthly expenditure of less than 5000, accounting for 4.5% of the total sample. This indicates that a relatively small percentage of respondents have a monthly expenditure in this range. There are 93 respondents who have a monthly expenditure within the range of 5001-15000, representing 59.6% of the total sample. This suggests that a significant proportion of respondents fall within this expenditure range. There are

43 respondents who have a monthly expenditure within the range of 15001-30000, making up 27.6% of the total sample. This indicates that a considerable portion of respondents have a monthly expenditure in this range. There are 7 respondents who have a monthly expenditure within the range of 30001-50000, accounting for 4.5% of the total sample. This indicates that a smaller percentage of respondents have a relatively higher monthly expenditure in this range. The table shows the distribution of respondents across different expenditure ranges, with the majority falling within the 5001-15000 range. The other expenditure ranges, < 5000, 15001-30000, and 30001-50000, have varying proportions of respondents, with lower percentages in the highest expenditure range.

3.1.7 SNAPSHOT OF SOCIO-DEMOGRAPHIC VARIABLES:

The provided multivariate table presents data on various sociodemographic variables. In terms of union, Jalia Palong has the highest number of respondents, followed by Palong Khali. The majority of respondents identify as male. Religion-wise, the vast majority are Muslims, with a very small percentage identifying as Hindu. Primary education is the most common level of education among respondents. A significant proportion of respondents own their residence and land. In terms of monthly income, the majority fall within the 10001-20000 range. Monthly expenditure is most commonly within the 5001-15000 range. This analysis provides a snapshot of the distribution across different socio-demographic variables.

3.1.8 INVOLVEMENT OF HOST COMMUNITY IN THE TOURISM SECTOR

This section analyzes the host community people's perception and knowledge on tourist sites and tourism and their involvement in the tourism sector. Figure 2 (below) depicts their knowledge of tourist sites in Ukhiya, Cox's Bazar.

Figure 2: Knowledge of Tourist Sites:

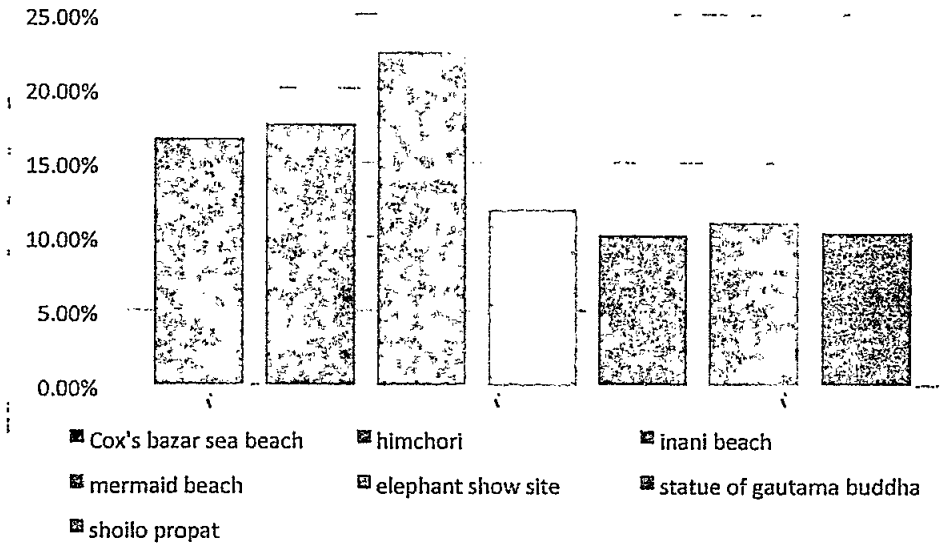
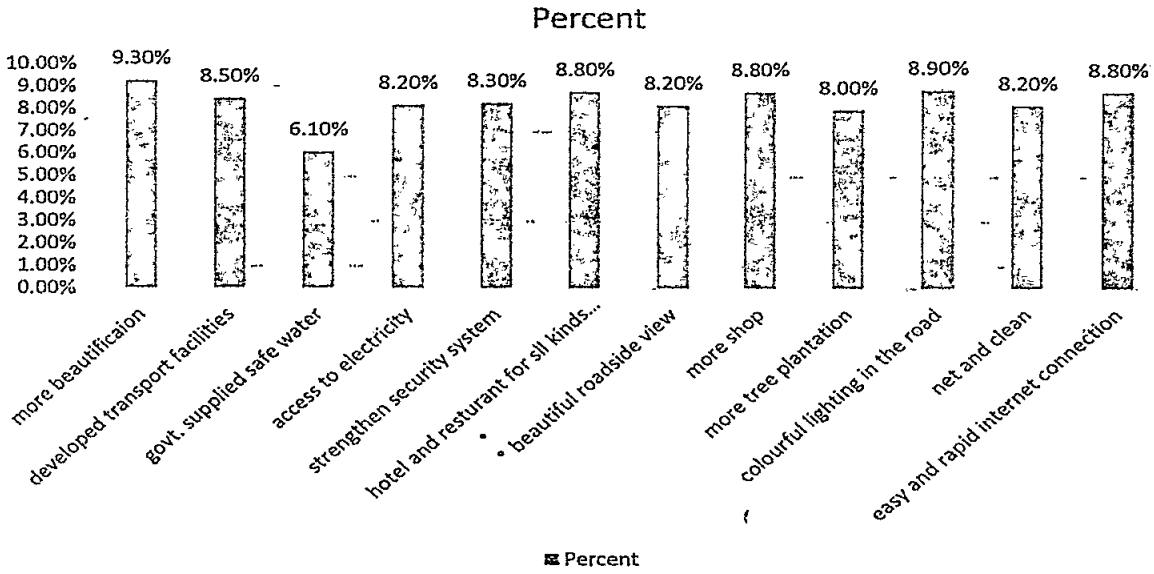


Figure 3: Kinds of Development Needed to Fascinate the Tourist sites:



According to Figure 3, 9.30% of the respondents believe that more beautification is necessary to attract tourists. This suggests that a significant portion of respondents values aesthetic enhancements in the area. 8.5% of the respondents emphasize the need for improved transport facilities. This indicates that better transportation options are considered essential for attracting

tourists. 6.1% of the respondents prioritize the provision of safe drinking water by the government. This highlights the importance of ensuring access to clean and safe drinking water for tourists. 8.2% of the respondents consider access to electricity crucial. This implies that reliable and uninterrupted power supply is seen as an important factor in attracting tourists. 8.3% of the respondents emphasize the importance of a robust security system. This suggests that ensuring the safety and security of tourists is a significant concern. 8.8% of the respondents highlight the need for affordable accommodation and dining options. This indicates that availability of reasonably priced hotels and restaurants is considered important. 8.2% of the respondents value the improvement of the scenic views along roadsides. This suggests that enhancing the natural beauty of the area is seen as an attractive feature for tourists. 8.8% of the respondents believe that having more shops is necessary. This implies that increasing commercial options and retail establishments is seen as a way to attract tourists. 8% of the respondents emphasize the importance of tree plantation. This highlights the significance of preserving and enhancing greenery in the area to attract tourists. 8.9% of the respondents consider colorful lighting on the roads as important. This suggests that aesthetic lighting is seen as a way to create an attractive ambiance for tourists. 8.2% of the respondents prioritize maintaining cleanliness in the area. This implies that cleanliness and hygiene are important factors for attracting tourists. 8.8% of the respondents believe that having easy and fast internet connectivity is necessary. This suggests that providing reliable internet access is seen as an important aspect of attracting tourists in that locality.

The analysis of the responses reveals a range of factors that respondents consider crucial for attracting tourists. These factors include beautification, improved transport facilities, access to basic amenities, security measures, affordable accommodation and dining options, scenic views, commercial options, greenery, aesthetic lighting, cleanliness, and reliable internet connectivity. Addressing these aspects can potentially enhance the appeal of the area to tourists.

According to the survey, a number of the respondents were actively involved in tourism, while the family members of a number of respondents were involved in tourism. Figure 4 summarizes their responses in this regard.

Figure 4: Own Involvement and Family Members' Involvement in Tourism

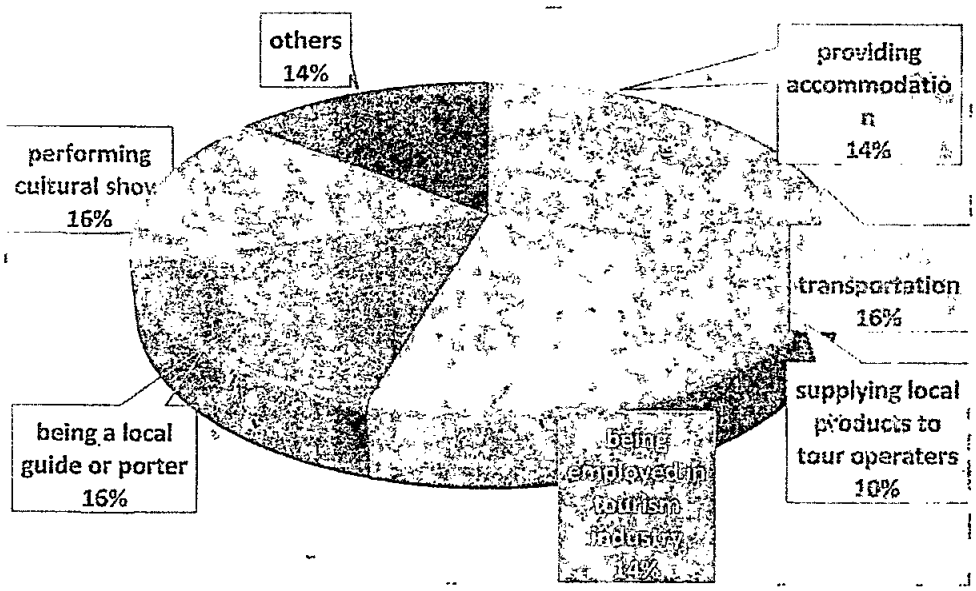
Involvement in tourism			**Involvement of family member in tourism**	
	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)
Yes	25	16	18	11.5
No	125	80.1	132	84.6
Total	150	96.2	150	96.2

According to Figure 4, mentioned above 25 respondents, 16% of the total sample, reportedly involved in tourism. This indicates that a relatively small percentage of respondents personally participate in tourism-related activities. On the other hand, 125 respondents, representing 80.1% of the total sample, stated that they are not involved in tourism. This suggests that the majority of respondents do not engage in tourism activities themselves. Besides, 18 respondents, making up 11.5% of the total sample, reported that their family members are involved in tourism. This indicates that a smaller percentage of respondents have family members engaged in tourismrelated activities. On the other hand, 132 respondents, accounting for 84.6% of the total sample, stated that their family members are not involved in tourism. This suggests that the majority of respondents' family members do not participate in tourism activities.

Figure 4 provides information % of responses regarding personal involvement in tourism and the involvement of family members in tourism. It indicates that a relatively small proportion of respondents are personally involved in tourism, and a smaller percentage have family members engaged in tourism-related activities. This analysis sheds light on the level of participation and engagement in the tourism industry among the surveyed individuals and their families.

The respondents are involved in different types of tourism, according to our survey. Their responses are summarized below in Figure 5.

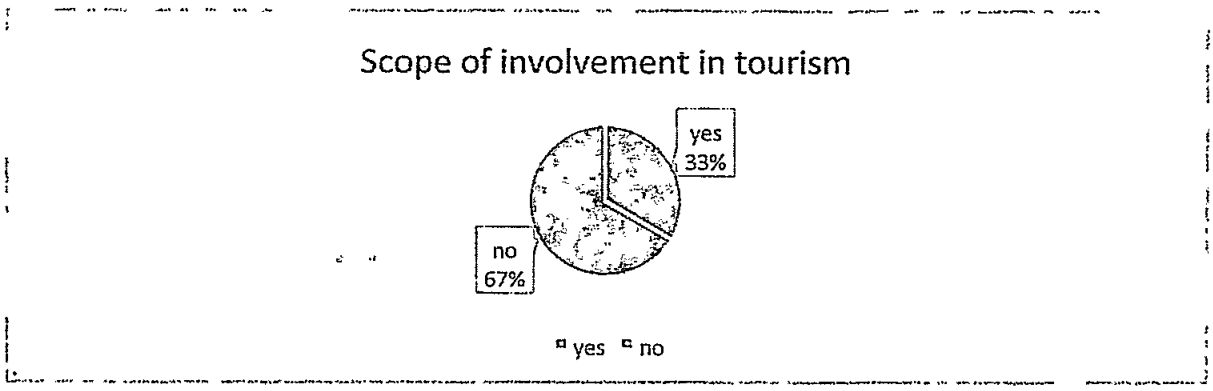
Figure 5: Types of Involvement in tourism



The analysis of Figure 5 indicates the distribution of respondents' involvement in various aspects of the tourism industry. It showcases the percentage of respondents engaged in providing accommodation, transportation, local products, being guides or porters, performing cultural shows, and other forms of involvement. This information provides insights into the diverse roles and contributions of individuals in the local tourism sector.

Figure 6: Scope of Involvement

The figure 6 below summarizes the responses of the respondents to the question of scope of involvement in tourism.



According to Figure 6, 33% of the respondents answered positively to the question about the scope of development. This suggests that a significant proportion of the respondents believe that there is room for further development in the context being discussed. They perceive opportunities for growth, progress, and improvement. On the other hand, 67% of the respondents answered negatively to the question about the scope of development. This indicates that the majority of respondents do not perceive significant opportunities for development or believe that the current state does not offer much room for improvement.

The analysis of Figure 6 reveals that there is a mix of perspectives among the respondents regarding the scope of development. While a notable proportion sees potential for further development, a larger percentage does not share the same view. It is important to consider the specific context and factors that influence these opinions to gain a deeper understanding of the respondents' perspectives on the subject of development.

3.2 INVOLVEMENT OF HOST COMMUNITY IN THE TOURISM SECTOR

Figure 7: Types of support the respondents want

The respondents showed their interest in a number of support they need.

Figure 7 summarizes their responses in this regard.

Types of support	N	Percent
Monetary support	125	61.90%
Government permission	34	16.80%
Local government permission	21	10.40%
Permission of the community leader	13	6.40%
Others	9	4.50%

Figure 8: Interest in Financial Aid

The respondents showed their interest in financial support. Their responses are summarized in Figure 8 below for this end.

Financial Aid	Frequency	Percent
Yes	130	83.3
No	20	12.8
Total	150	96.2

Figure 8, 130 (83.3%) respondents expressed their interest in financial support. This indicates that a significant majority of the respondents are actively seeking or open to the idea of receiving financial assistance. 20 respondents (12.8%) indicated that they do not have an interest in financial support. This suggests that a small portion of the respondents either have alternative means of funding or do not require financial assistance for their current endeavors.

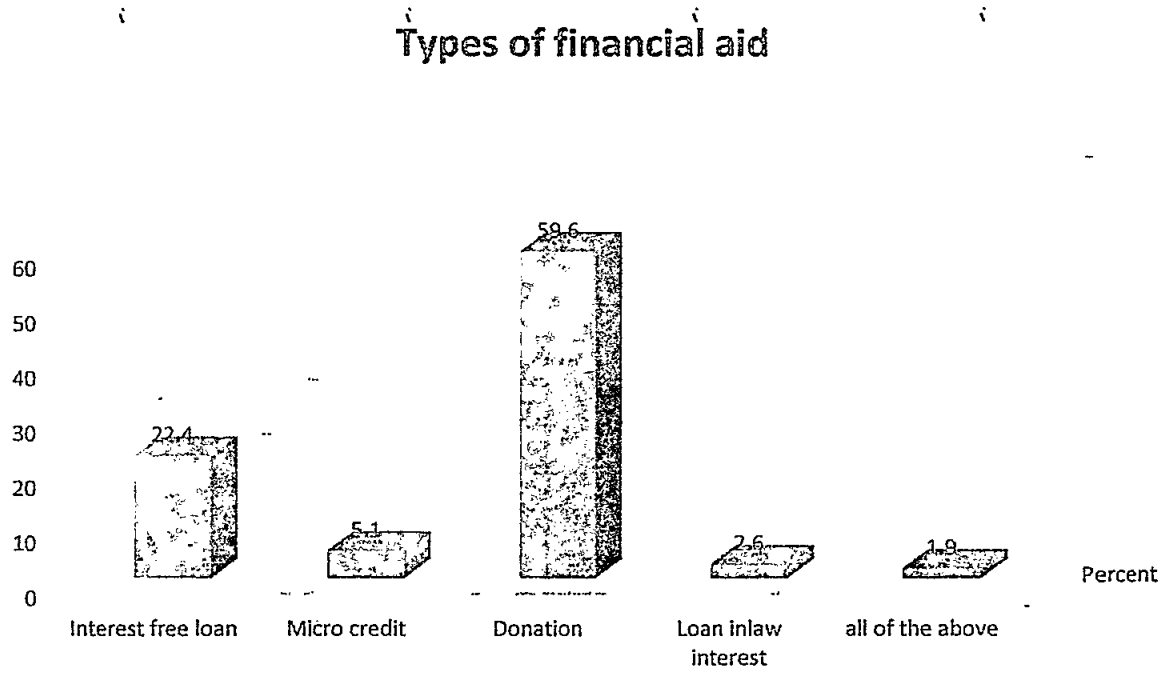
3.3 PERCEPTION ON TOURISM

This section provides information on the perception of the community people on tourism. Figure 10 summarizes the responses of the question of the number of tourists.

Types of Financial Aid

The respondents indicated different types of financial aid they need. Their responses are summarized in Figure 9 in next page.

Number of tourists	Frequency	Percent
Increase numbers	128	82.1
Decrease numbers	3	1.9
Stay the same	17	10.9



According to Figure no. 9, 22.4% of the respondents expressed their need for interest-free loan. This suggests that a significant portion of the respondents are looking for financial assistance that does not incur any interest charges. They likely prefer a loan option that does not involve additional costs associated with interest payments. 5.1% of the respondents indicated a need for microcredit. Microcredit typically refers to small loans provided to individuals with limited access to traditional banking services. This suggests that a smaller percentage of respondents require access to small loans for entrepreneurial or business activities. The largest category, with 59.6% of the

respondents, expressed a need for donations. This indicates that a substantial proportion of respondents are seeking financial aid in the form of charitable contributions or grants rather than loans. They require financial support that does not need to be repaid. Only 2.6% of the respondents mentioned a need for a loan with low interest. This suggests that a small percentage of respondents are open to borrowing money with a relatively low interest rate, indicating a preference for a loan option with lower overall costs. 1.9% of the respondents indicated that they require all of the aforementioned types of financial aid. This implies that a very small percentage of respondents have diverse financial needs and would benefit from a combination of different forms of financial support.

The analysis of Figure 9 highlights the varying types of financial aid that respondents require. Donations emerge as the most sought-after form of assistance, followed by interest-free loans and microcredit. The demand for loans with low interest and the need for multiple types of financial aid are relatively lower. Understanding these preferences can help organizations and institutions align their financial support programs with the specific needs and preferences of the respondents.

FIGURE 9.1: NUMBER OF TOURISTS

Figure 9.2: ***participation of host community in tourism development***

I can participate in tourism development in this community if I want to	*Frequency*	*Percent*
Strongly disagree	6	3.8
Disagree	8	5.1
Neutral	16	10.3
Agree	20	12.8
Strongly agree	100	64.1

According to Figure 10, 128 respondents, representing 82.1% of the total, indicated a preference for increasing the number of tourists. This suggests that a significant majority of the respondents believe that attracting more tourists would be beneficial for the area. They likely perceive potential economic, cultural, or social advantages in increasing tourist numbers. Only 3 respondents,

accounting for 1.9% of the total, expressed a desire to decrease the number of tourists. This indicates a small minority of respondents who believe that a reduction in tourist numbers would be more beneficial. Their reasons for wanting a decrease could include concerns about overcrowding, environmental impact, or preserving the area's natural or cultural resources. 17 respondents, representing 10.9% of the total, expressed a preference for the number of tourists to remain the same. This suggests that a portion of respondents are content with the current level of tourism and may believe that maintaining the status quo is desirable for various reasons, such as sustainability or maintaining the area's character.

The analysis of Figure 10 reveals that the majority of respondents are in favor of increasing the number of tourists, while a small percentage prefers a decrease or maintaining the current level. Understanding these perspectives is essential for policymakers and stakeholders involved in tourism development, as it can inform decisions regarding infrastructure, marketing strategies, and management practices to align with the preferences and goals of the local community.

The respondents replied differently to a number of statements through which their perception on tourism development can be understood to some extent.

9.3: Influence of Local People in Tourism Development

I feel local people have an influence in decision making about tourism development in this community	*Frequency*	*Percent*
Strongly disagree	9	5.8
Neutral	7	4.5
Agree	40	25.6
Strongly agree	94	60.3

Based on the data provided in Figure 9.3, 9 respondents, representing 5.8% of the total, strongly disagreed with the statement. This suggests that a small portion of the respondents feel that local

people do not have any influence or say in decision making regarding tourism development in the community. They may perceive decision-making processes as being controlled by external entities or feel excluded from the decision-making process. 7 respondents, accounting for 4.5% of the total, expressed a neutral stance regarding local people's influence in decision making. This indicates a small minority who neither agree nor disagree with the statement, possibly indicating a lack of strong opinion or uncertainty about the level of influence local people possess. 40 respondents, representing 25.6% of the total, agreed with the statement. This suggests that a significant portion of the respondents believe that local people have some level of influence in decision making about tourism development in the community.

They likely perceive that local input is considered and taken into account when making decisions related to tourism. The largest category, with 94 respondents representing 60.3% of the total, strongly agreed with the statement. This indicates a substantial majority who strongly believe that local people have a significant influence in decision making about tourism development. They likely perceive the local voices are heard, respected, and play a crucial role in shaping tourism-related decisions. The analysis of the second statement in Figure 9.3 reveals that a majority of the respondents feel that local people have influence in decision making about tourism development in the community. However, a smaller percentage either strongly disagree or hold a neutral stance. This suggests the need to ensure inclusive decision-making processes, enhance local participation, and address any concerns or perceptions of limited influence among community members.

Figure 9.4: ***whether the Tourism activities disturb local way of life***

Tourism activities in this community have disturbed our local way of life	*Frequency*	*Percent*
Strongly disagree	84	53.8
Disagree	12	7.7
Neutral	10	6.4
Agree	16	10.3
Strongly agree	28	17.9

Based on the data according to the third statement provided in Figure 9.4, 84 respondents, representing 53.8% of the total, strongly disagreed with the statement. This suggests that a significant majority of the respondents do not perceive tourism activities as disturbing their local way of life. They likely feel that tourism has had minimal or no negative impact on their community's traditional lifestyle and cultural practices. 12 respondents, accounting for 7.7% of the total, disagreed with the statement. This indicates a small minority who do not believe that tourism activities have disrupted their local way of life. They may have observed some changes but consider them to be acceptable or minor in nature. 10 respondents, representing 6.4% of the total, expressed a neutral stance regarding the impact of tourism activities on their local way of life. This suggests a small portion of respondents who neither agree nor disagree with the statement, possibly indicating a lack of strong opinion or limited observation of any significant disruptions.

Moreover, 16 respondents, accounting for 10.3% of the total, agreed with the statement. This indicates a minority who perceive that tourism activities have had some level of disturbance on their local way of life. They may have experienced changes in their cultural practices, livelihoods, or social dynamics due to tourism development. 28 respondents, representing 17.9% of the total, strongly agreed with the statement. This suggests a notable portion of the respondents who strongly believe that tourism activities have significantly disturbed their local way of life. They likely observe substantial changes or disruptions that they perceive as negatively impacting their community's traditions and daily routines. The analysis Figure 9.4 indicates a diverse range of perspectives regarding the impact of tourism activities on the local way of life. While the majority of respondents either strongly disagree or disagree with the statement, there is a notable minority who hold neutral, agree, or strongly agree views. Understanding these varying opinions can help identify specific concerns or areas where mitigation measures can be implemented to address any perceived negative impacts on the local community's way of life.

Figure 9.5: whether the *Tourism generates more economic benefits than costs*

Tourism generates more economic benefits than costs for my community	*Frequency*	*Percent*
Strongly disagree	10	6.4
Disagree	10	6.4
Neutral	16	10.3
Agree	22	14.1
Strongly agree	92	59

Based on the data provided in Figure 9.5, 10 respondents, representing 6.4% of the total, strongly disagreed with the statement. This suggests that a small minority of respondents perceive tourism as generating more costs than economic benefits for their community. They likely believe that the negative consequences or expenses associated with tourism outweigh the economic gains. 10 respondents, accounting for 6.4% of the total, disagreed with the statement. This indicates another small minority who do not see tourism as generating a net positive economic impact. They may recognize some economic benefits but believe that the costs incurred by the community outweigh these gains. 16 respondents, representing 10.3% of the total, expressed a neutral stance regarding the economic benefits and costs of tourism for their community. This suggests a portion of respondents who neither agree nor disagree with the statement, possibly indicating a lack of strong opinion or uncertainty about the overall economic impact of tourism.

22 respondents, accounting for 14.1% of the total, agreed with the statement. This indicates a minority who believe that tourism generates more economic benefits than costs for their community. They likely perceive tourism as contributing positively to the local economy, creating employment opportunities, and driving income growth. The largest category, with 92 respondents representing 59% of the total, strongly agreed with the statement. This indicates a significant majority who strongly believe that tourism brings more economic benefits than costs to their community. They likely observe tangible economic advantages such as increased business opportunities, improved infrastructure, and enhanced livelihoods due to tourism activities. The

analysis of the fourth item in Figure 9.5 reveals a varied range of perspectives regarding the economic impact of tourism on the community. While a majority of respondents either agree or strongly agree with the statement, there are notable minorities who hold neutral, disagree, or strongly disagree views. Understanding these diverse opinions is crucial for identifying areas where economic benefits can be maximized and addressing any perceived costs or negative consequences associated with tourism development.

3.4 PROBLEMS AND PROSPECTS OF THE HOST COMMUNITY:

Figure 10:

Problem and prospects of host community	**Frequency**	**Percent**
Lack of Tourism Awareness among the Domestic People		
Yes	118	75.6
No	32	20.5
Negative Brand Image		
Yes	52	33.3
No	98	62.8
Environmental pollution and Unplanned Development		
Yes	77	49.4
No	73	46.8
Absence of Association of the Coordinating Agencies		
Yes	76	48.7
No	74	47.4
Sufficient Infrastructure		
Yes	31	19.9
No	119	76.3

Sufficient Tourism Awareness among the Local People		
Yes	48	30.8
No	102	65.4
Properly Trained Manpower		
Yes	50	32.1
No	99	63.5
Shortage of Budgetary Allocation for the Development		
Yes	105	67.3
No	44	28.2

According to the item 1 provided in Figure 12, 118 respondents, accounting for 75.6% of the total, acknowledged a lack of tourism awareness within the host community. On the other hand, 32 respondents, representing 20.5% of the total, indicated that there is sufficient awareness about tourism among the local community. The majority of respondents recognize the need for improving tourism awareness within the host community, indicating a potential gap in knowledge and understanding of tourism's significance and potential benefits.

Based on the data according to the item 2 provided in Figure 12, 52 respondents, accounting for 33.3% of the total, acknowledged the presence of a negative brand image associated with the community. On the other hand, 98 respondents, representing 62.8% of the total, believe that the community does not have a negative brand image. A significant proportion of respondents perceive the existence of a negative brand image, which could be detrimental to attracting tourists and fostering tourism development in the community.

Based on the data according to the item 3 provided in Figure 12, 77 respondents, accounting for 49.4% of the total, identified environmental pollution and unplanned development as issues in the community. On the other hand, 73 respondents, representing 46.8% of the total, did not perceive environmental

pollution and unplanned development as significant concerns. The analysis suggests that a considerable number of respondents recognize the negative impacts of environmental pollution and unplanned development on the community's tourism potential.

Based on the data according to the item 4 provided in Figure 12, 76 respondents, accounting for 48.7% of the total, acknowledged the absence of an association of coordinated agencies involved in tourism development. 74 respondents, representing 47.4% of the total, indicated the presence of such an association. The analysis indicates that a significant proportion of respondents perceive the need for better coordination among various agencies involved in tourism development to enhance the effectiveness of their efforts.

Based on the data according to the item 5 provided in Figure 12, 31 respondents, accounting for 19.9% of the total, identified a lack of sufficient infrastructure for tourism in the community. On the other hand, 119 respondents, representing 76.3% of the total, did not perceive a shortage of infrastructure. The analysis suggests that a minority of respondents believe that the community lacks sufficient infrastructure to support tourism activities.

Based on the data according to the item 6 provided in Figure 12, 48 respondents, accounting for 30.8% of the total, acknowledged a lack of sufficient tourism awareness among the local population. On the other hand, 102 respondents, representing 65.4% of the total, believe that there is sufficient tourism awareness among the local people. The analysis highlights the importance of improving tourism awareness among the local population to foster community involvement and engagement in tourism development.

Based on the data according to the item 7 provided in Figure 12, 51 respondents, accounting for 32.1% of the total, acknowledged a lack of properly trained manpower in the tourism sector. On the other hand, 99 respondents, representing 63.5% of the total, believe that there is an adequate supply of trained manpower. The analysis indicates the need for enhancing training and skill

development programs to meet the manpower requirements of the tourism industry in the community.

According to the item 8 provided in Figure 12, 105 respondents, accounting for 67.3% of the total, identified a shortage of budgetary allocation for tourism development. On the other hand, 45 respondents, representing 28.2% of the total, believe that there is sufficient budgetary allocation. The analysis suggests that a significant majority of respondents perceive a lack of adequate budgetary allocation, indicating the need for increased financial support to facilitate tourism development in the community.

Overall, the analysis of Figure 12 indicates several areas that require attention and improvement for successful tourism development in the host community. These include raising tourism awareness among the local population, addressing negative brand image issues, mitigating environmental pollution, improving coordination among agencies, enhancing infrastructure, providing proper training to manpower, and allocating sufficient budgetary resources for tourism development. By addressing these factors, the community can work towards creating a favorable environment for sustainable and inclusive tourism growth.

3.5 OPINIONS AND SUGGESTIONS OF THE RESPONDENTS FOR PRESERVING AND DEVELOPING THE TOURISM INDUSTRY

The respondents provided a number of suggestions with a view to preserving and developing the tourism industry in Ukhiya, Cox's Bazar. Their responses are summarized below....

FIGURE 11: SUGGESTIONS

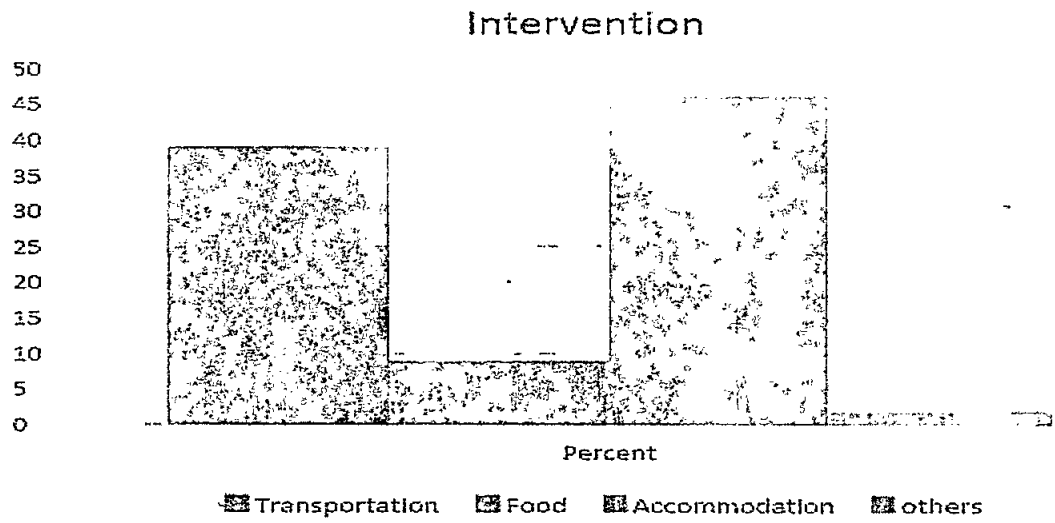
Kind of Development Needed to Ensure Community Involvement	N	%

Increase of permanent employment opportunity	**47**	**30.5**
Increase of Income generating activities	**4**	**3.3**
Enhancement of site beautification	**12**	**8.7**
Security system development	**15**	**9.6**
Infrastructure development	**63**	**40.9**
Development of Socioeconomic conditions in this area	**6**	**3.8**
Preservation of environment	**3**	**2.9**
Total	**150**	**100**

In Figure 11, 47 respondents (30.5%), suggested the need for increasing permanent employment opportunities. Overall, the analysis of Figure 11 reflects various suggestions put forward by respondents for tourism development. These suggestions encompass aspects such as employment, income generation, beautification, security, infrastructure, socioeconomic conditions, and environmental preservation.

Figure:12 Type of Intervention to Attract Low- and Mid-Income Tourists: The respondents responded to the question of type of intervention that can be taken to attract low- and mid-income tourists to Ukhiya, Cox's Bazar.

Their responses are summarized below in Figure 14 below.



Here is the summary of the data regarding the interventions suggested by respondents for tourism development:

- **Accommodation**: Suggested by the majority of respondents at 49%, indicating that improving hotels, resorts, guesthouses, or homestays is considered essential for tourism growth, attracting visitors, and creating hospitality jobs.
- **Transportation**: Suggested by 39% of respondents, highlighting that improving roads, public transit, and connectivity is a crucial factor for destination accessibility and overall travel experience.
- **Food**: Suggested by 9% of respondents, emphasizing that enhancing the availability, quality, and variety of food options can promote local culinary culture and improve the tourist experience.
- **Others**: Accounted for 3% of the respondents, representing various unlisted interventions that require further clarification.

3.6 REFLECTIONS OF THE TOURISM BOARD ON THE TOURISM SECTOR AND COMMUNITY INVOLVEMENT

Tourism brings socio-economic and environmental benefits for any country, albeit mass tourism is associated with negative effects on the social environment. Bangladesh has a huge prospective to improve tourism due to its natural scenery and enriched heritage. Attracted by the natural beauty

of the country, a significant number of domestic and overseas tourists visit its different tourist sites. As an economic, social, and cultural activity, tourism shapes the relationship between visitors and local communities in tourist destinations. Moreover, tourism generates economic growth and employment opportunities for local communities. In this regard, this section will highlight the reflections of the tourism board on the tourism sector and community involvement, based on data collected from KIIs with employees of the board.

3.6.1 DEVELOPMENT ACTIVITIES IN THE TOURISM SECTOR

When asked about the development activities performed by the Tourism Board, the respondents mentioned a number of sectors in which they are working continuously to develop the tourism sector. The mentioned sectors are marketing and promotion, infrastructure development, stakeholder collaboration, capacity building and training, sustainable tourism practices etc. According to the respondents, marketing and promotion of the traditional tourist sites as well as new growing tourist sites is necessary for the development of the tourism sector.

The respondents mentioned about infrastructural development which is one of the sectors they are focusing on to attract more domestic and foreign tourists to the tourist sites of the country. Stakeholder collaboration is another sector in which they are working to develop the tourism industry of the country.

3.6.2 CURRENT CONDITION OF THE TOURIST SPOTS

When asked about the current condition of the tourist spots, the responses were neutral. A number of respondents mentioned about the impressiveness of the tourist spots, while a significant number indicated the need for more improvement

The involvement and hospitality of the local community is highly praised by the respondents. When asked about government initiatives and the contribution of the private sector, one of the respondents mentioned,

> "Government initiatives and private sector investments have played a crucial role in improving the tourist spots. More attention is being given to the preservation of historical sites, such as the ancient ruins of Paharpur and the Mosque City of Bagerhat. These initiatives aim to showcase the rich heritage and historical significance of Bangladesh."

3.6.3 IMPORTANCE OF COMMUNITY INVOLVEMENT IN THE TOURISM SECTOR

When asked about the importance of community involvement in the tourism sector, the respondents mentioned that community involvement is necessary for sustainable tourism. One of the respondents mentioned,

> "Community involvement is crucial for the sustainable development of the tourism sector. When local communities actively participate in tourism activities, it creates a sense of ownership and pride in their cultural heritage."

3.6.4 NECESSITY AND IMPORTANCE OF ECONOMIC COOPERATION

When asked about the need for economic cooperation, the respondents mentioned that if not provided systematically, the funds can go in vein.

One of the respondents mentioned,

"If we provide them with money as loans or donations, they will not utilize the money in proper ways. Hence, a systematic planning is required in this regard. Besides, we have arranged for trainings for them so that they can learn the use of money for business purposes. In this way, economic development will be possible by collective action."

Despite so, the Tourism Board is working on getting them loans from the Bangladesh Bank with low interests so that their socioeconomic development can take place and their living standards rise. One of the respondents mentioned,

"Economic cooperation is crucial for the development of their living standards. We are working on this. Little amount of money can be given by the government so that they can start a small or medium business through which they can make some money." When asked about whether improving the nearby roads and homesteads of the recognized tourist spots can generate income of the host communities and attract low- and mid-income tourists to tourism, a respondent mentioned,

"This work must be done carefully and systematically. If it is not done so, a lot of money will go in vein. However, if done perfectly, it will generate income of the host community and attract low- and mid-income tourists to tourism. By doing so, their socioeconomic condition can be raised. Local community can engage directly with the tourism sector if it works."

4.0 Discussion

- **Research Focus and Demographics**: The assessment study was conducted in Ukhiya, Cox's Bazar, to examine how improving nearby roads and homesteads can generate income and attract low- and mid-income tourists. The majority of respondents were male (61.5%), Muslim (94.2%), had a primary education level (72.4%), owned their residence (87.8%) and land (61.5%), with Jalia Palong having the highest representation (42.3%).
- **Tourism Knowledge and Participation**: While respondents showed familiarity with popular tourist sites like Cox's Bazar Sea Beach, Himchori, Inani Sea Beach, and Mermaid Beach, most were not personally engaged in tourism activities. Those who were involved participated in providing accommodation, transportation, local products, guide or porter services, and cultural shows.
- **Community Needs and Financial Support**: A strong demand for financial support emerged, with 83.3% of respondents expressing interest and favoring donations (59.6%) or interest-free loans (22.4%), while monetary support overall was cited as the most prominent need (61.90%). Furthermore, 82.1% of respondents favored increasing the number of tourists in the area.
- **Community Perceptions and Impacts**: While most respondents believe tourism brings more economic benefits than costs, assists in cultural conservation, and does not disturb their local way of life, a majority also disagree with the fair and equitable distribution of these tourism benefits. Additionally, most feel that local people have influence in community tourism decision-making and possess potential for participation.
- **Key Community Issues** : Major concerns identified include a widespread lack of tourism awareness, a negative brand image for a minority, environmental pollution and unplanned development, a lack of coordinated tourism agencies, and a perceived shortage of budgetary allocation for tourism development.

5.0 RECOMMENDATIONS AND CONCLUSION

5.1 RECOMMENDATIONS

Based on the findings and interpretations, this research suggests a number of recommendations as follow:

5.1.1 INFRASTRUCTURAL DEVELOPMENT:

- Improve nearby roads and transportation facilities to enhance accessibility for the tourist spots.
- Develop basic amenities such as clean public restrooms, drinking water facilities, and waste management systems.
- Focus on beautification and maintenance of tourist spot

5.1.2 COMMUNITY INVOLVEMENT AND EMPOWERMENT:

- Facilitate the establishment of a local association or agency involving the community in tourism development decisions.
- Provide training and skill development programs to enhance the capabilities of community members in engaging with the tourism industry.
- Increase awareness and knowledge about tourism among the local population through educational campaigns and workshops.

5.1.3 FINANCIAL AND REGULATORY SUPPORT:

- Provide financial assistance, including grants, interest-free loans, and microcredit, to support tourism initiatives by community members.
- Simplify and streamline the process for obtaining government and local government permissions for tourism-related projects.

- Encourage community leaders to play an active role in facilitating and supporting tourism activities.

5.1.4 SUSTAINABLE AND INCLUSIVE TOURISM:

- Develop and enforce regulations to address environmental pollution and promote sustainable tourism practices.
- Ensure fair and equitable distribution of tourism benefits among the host communities, considering the concerns raised by respondents.
- Promote cultural conservation and heritage preservation as integral parts of tourism development plans.

5.1.5 MARKETING AND BRANDING:

- Address the negative brand image associated with the community through strategic marketing campaigns that highlight positive aspects and unique attractions.
- Improve tourism awareness within the host community through targeted promotional activities and educational initiatives.

5.1.6 BUDGET ALLOCATION:

Increase budgetary allocation for tourism development to address the perceived shortage and support the implementation of necessary infrastructure and programs.

5.1.7 RESEARCH AND MONITORING:

- Conduct regular research and assessments to monitor the socioeconomic impact of tourism on host communities and identify areas for improvement.
- Foster collaboration between research institutions, government agencies, and local communities to generate data-driven insights for informed decision-making.

These policy recommendations aim to enhance the socioeconomic conditions of host communities, attract low- and mid-income tourists, and promote sustainable tourism practices, and foster community engagement and participation in tourism development efforts.

5.1.8 FINDINGS

- **Awareness and Familiarity:** Respondents demonstrated strong baseline recognition of popular local tourist sites.
- **Development Activities:** Key attraction drivers include beautification, transport upgrades, basic amenities, security, affordable food/lodging, scenic views, greenery, lighting, cleanliness, and internet connectivity.
- **Gap in Participation:** Despite strong support for tourism growth, actual personal or family involvement remains low.
- **Need for Financial Support:** High demand exists for monetary aid, including donations, interest-free loans, and microcredit.
- **Preference for Increasing Tourism:** The majority favor boosting visitor numbers, emphasizing the need to align strategies with community preferences.

5.1.9: POLICY RECOMMENDATION

- **Increase Tourism Awareness:** Focus on boosting local tourism knowledge and awareness.
- **Enhance Training and Skill Development:** Implement programs to meet industry manpower needs and upskill community members.
- **Establish a Local Association:** Create a coordinated agency or association to oversee tourism development activities.
- **Improve Infrastructure:** Address the perceived shortage of community tourism infrastructure.

Allocate Adequate Budgets: Increase budgetary allocations for tourism development initiatives.

5.2 CONCLUSION:

Based on the findings, discussions, and recommendations, the research concludes that there is a significant potential for tourism development in the Ukhiya region of Cox's Bazar, Bangladesh. The study highlighted several key insights regarding the socio-economic conditions of the host communities, their preferences and expectations, their level of participation in tourism activities, and their perspectives on tourism development. The research identified the need for infrastructure improvements, including road and transportation facilities, as well as the development of basic amenities and beautification of tourist spots. It emphasized the importance of community involvement and empowerment, with recommendations to establish a local association or agency, provide training and skill development programs, and increase tourism awareness among the local population.

Financial and regulatory support were deemed essential, with a focus on providing financial assistance, simplifying permission processes, and involving community leaders. The research also emphasized the significance of sustainable and inclusive tourism practices, addressing concerns related to environmental pollution, benefit distribution, and cultural conservation. Marketing and branding strategies were recommended to address the negative brand image associated with the community and increase tourism awareness. Additionally, increasing budgetary allocation for tourism development and conducting research and monitoring activities were highlighted as important for effective planning and decision-making.

In conclusion, the research findings indicate that by implementing the policy recommendations outlined, the Ukhiya region can unlock its tourism potential, generate income for the host communities, attract low- and mid-income tourists, and promote sustainable and inclusive tourism practices. The study emphasizes the importance of collaborative efforts among various stakeholders, including the government, local communities, and research institutions, to ensure the successful implementation of these recommendations and the long-term development of a smart, easy, affordable, and participatory tourism industry in Bangladesh.

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RESEARCH PAPER

On

Electric Vehicle (EV) Adoption in Bangladesh: Opportunities, Barriers and Policy Challenges

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Abstract

The Bangladesh government has implemented a set of policy tools, regarding the Automobile Industry, Vehicle Charging, EV Registration, EV Industry Development, aiming at promoting EV adoption in place of conventional vehicles powered by fossil fuels. Even with these measures, formal adoption of EVs is not significant compared to over 6.7 million registered conventional vehicles throughout the country. There is also widespread presence of informal electric three-wheeler which operate outside the formal domain. This research examines the discrepancy between Bangladesh's ambitious goals regarding EV adoption and the modest rate of formal EV adoption. In this qualitative analysis, secondary sources collected from various governmental departments and offices and combined with primary data collected through interviews with key informants consisting of EV sellers, EV owners, and EV users. Research findings are structured around five intertwined themes: technology-related, infrastructure-related, financial, legal-institutional, and behavioural factors. The study highlights significant areas where there are opportunities in terms of fiscal incentives, reduction of import taxes and EV brands. At the same time, barriers to EV adoption persist and are identified as including the dependence on obsolete lead-acid batteries in electric three-wheelers, poor charging and service infrastructure focused primarily on Dhaka city, lack of sufficient power supply grid, large residual tax for four-wheeled EVs, division of policy instruments across four ministries, lack of regulation in the case of informal three-wheelers, and lack of awareness of the general public. Whatever it is inevitable to go with the futuristic technology like electric vehicle in the era of global green movement.

KeyWords: Electric Vehicle (EV) Adoption; Bangladesh; EV Policy; Charging Infrastructure; BRTA Registration; Electric Three-Wheelers; Policy Fragmentation; Fiscal Incentives

I. Introduction

1.1 Background

A profound structural revolution in transportation sector is taking place worldwide. There is an immediate global need to reduce greenhouse gas (GHG) emissions, decrease urban air pollution, and break the link between fossil fuel usage and economic growth, which is contributing to a vigorous push for the transition to electric vehicles (EVs) led by governments across the globe. The sales of EVs are record-breaking and gaining weight in new vehicle registrations in key markets worldwide (LightCastle Partners, 2025). The road transport sector is one of the rapidly growing sectors of energy use and GHG emissions in developing economy such as Bangladesh. The nation has more than 6.7 million registered motor vehicles, among which almost 5 million are motorcycles (The Daily Star, 2026, June 27) and the dependence of the motor vehicle transport sector on imported fossil fuel continues to put significant pressure on the country's foreign exchange reserves and urban air pollution, especially in Dhaka and other major cities.

In this context, EVs have been getting more attention in policies as a way to decarbonize transport, provide policy leverage for fossil fuel reduction and establish an in-country manufacturing base for green technologies. Over the last few years, the Government of Bangladesh has taken several steps: the Automobile Industry Development Policy 2021, the Electric Vehicle Charging Guideline 2022, the Electric Motor Vehicle Registration and Operation Policy 2023, reduction in customs duty for various EV components and chargers, and recently the draft Electric Vehicle Industry Development Policy 2026, which proposes 30 percent of government and autonomous-sector vehicles to be electric by 2030 (The Financial Express, 2025, October 8). Supportive fiscal policies have consisted of lowering the supplementary duty on e-bikes or lithium/ graphene batteries to as low as 1 percent (BSS News, 2025, June 10); income-tax exemptions for electric vehicle producers; and registration-fee reductions of up to 50 percent (BSS News, 2026 April 21).

In spite of such interventions, the registered EV numbers still remain small. According to data from the National Board of Revenue (NBR), only 178 EVs were imported during FY25, and another 82 EVs since the first half of FY26 (TBS News, 2026, April 7). Bangladesh Road Transport Authority (BRTA) registers as of 27 June, 2026 only 669 units of EV but at the same time, it's estimated that 6 million electric three-wheelers run in the transport sector. There are

approximately 90 percent electric three wheelers (e-rikshaw), mostly off the formal registration net, already in use around the country, and manufactured locally (The Daily Star, 2026, June 27). This mismatch between the policy goal and practicing uptake is presented as an empirical foundation for this study.

1.2 Problem Statement

Bangladesh has an initial policy framework in place to promote the use of electric vehicles but needs robust financial incentives, investment in infrastructure, and a national EV roadmap to quickly scale up the market. The public charging network is still fragmented and located in limited urban areas. However, whether the national grid can withstand the high EV charging loads from a massive deployment of EVs, the cost of the vehicles and the small income remain to be seen, and a significant number of the vehicles currently on the road are three-wheelers which are not formally registered and thus do not fall under regulation. Empirical observation and recent consultations with industry stakeholders reveal major systemic flaws, including an inadequate number of public and semi-public charging stations, widespread vulnerability of the grid (with load-shedding and fluctuations in voltage), the high upfront cost of vehicle and battery replacements, a lack of standardization of battery recycling ecosystems, and the absence of a long-term national roadmap (Hasan & Khan, 2021; Rahman et al., 2025; DCCI, 2026). These gaps raise the question of whether present policy documents are calibrated to the scale of transformation required.

1.3 Rationale of the Study / Significance of the Research

- The study is relevant because of the following three main reasons. Bangladesh is a highly vulnerable country on climate change, and transport is a rapidly expanding sector in Bangladesh's which directly impedes the country's national commitments to climate change. Second, the government is currently finalising the Electric Vehicle Industry Development Policy 2026, and empirical-based evidence of market conditions and barriers to adoption can be useful to this on-going policy development process. Third, the existing literature on EV adoption in Bangladesh is relatively limited in scope and mainly based on small scale consumer surveys. The present study aims to contribute to the existing body of literature by triangulating the evidence with primary sources with official secondary sources from Bangladesh Road Transport Authority (BRTA), Ministry of Road Transport and Bridges, Power Division, Ministry of Power, Energy and Mineral Resources. the

ministry of industries and National Board of Revenue (NBR) to provide an institutionally-backed view point that can be relevant for policy makers, regulators, EV manufacturers and potential investors.

1.4 Research Objectives

The objectives of the study include the following:

a. To review and evaluate the existing market share of electric vehicles in Bangladesh.

b. To explore the opportunities for adoption and expansion of the use of electric vehicles.

c. To examine the barriers against fostering the electric vehicles adoption and expansion in Bangladesh.

Research Questions

Depending on the research objectives the following research questions were formulated:

a. Is the present market share of electric vehicles adequate in Bangladesh?

b. To what extent opportunities prevail for adoption and expansion of electric vehicles?

c. What are the barriers against fostering the electric vehicles adoption and expansion in Bangladesh?

II. Literature Review

The global academic and institutional discourse on electric vehicle (EV) adoption centres heavily on the 'socio-technical transition' framework, which posits that shifting from an entrenched fossil-fuel-based transport regime to sustainable mobility. We need "innovation at multiple levels; technology, infrastructure, user practices and regulatory regimes need to be synchronised" (Geels, 2002; Kemp et al., 1998). In the international EV adoption literature, consumer-side barriers including high purchase cost, range anxiety, battery life and charging convenience have been highlighted as key factors influencing EV adoption actions. These are recurring in the literature that is beginning to develop specifically for Bangladesh but have

slightly different local variations that reflect the constraints of the grid, local income levels and informal vehicle markets (Ahmed & Karmaker, 2019).

A national survey of 111 EV educated respondents in Bangladesh conducted by Hasan et al (2024) revealed that the key challenges to EV adoption were battery range, charging infrastructure and charging time and cost. The authors insisted that these obstacles are interconnected in such a way that they need a solution from a multi-faceted policy approach and not a singular approach.

This is corroborated by Rahman et al. (2025), who used a partial least squares structural equation modelling (PLS-SEM) method and came up with the same findings of insufficient charging infrastructure and affordability being the most statistically significant factors for EV consumers in Bangladesh. Comparatively weaker effects were observed with here after-sales service concerns. Aside from that, the study observed that major car producers are reluctant to expand into EV manufacturing due high infrastructural cost as well as expectations of buyers on the resale value of the vehicles.

LightCastle Partners (2025) has identified a segmented pattern of adoption: the two-wheeler EV market has increased roughly fivefold over six to seven years following BRTA's 2020 registration of e-bikes, driven by low per-kilometre running costs. On the contrary, the adoption of four-wheeler as EVs is also growing, though at a more modest level, and is limited by charging rate requirements that exceed the current grid feasibility. Public discourse reported in the national press further identifies the ongoing energy crisis, limited charging depots, uncertainty over battery replacement economics, and gaps in the domestic battery ecosystem as key structural constraints alongside the observation that a large informal fleet of electric three-wheelers already operates nationally, largely outside formal registration (The Daily Star, 2026, June 27).

Another line of engineering-oriented research has been directed towards implications of EV charging load growth for Bangladesh's power grid. In this SWOT analysis, Ahmed and Karmaker (2019) warned about unmanaged EV charging potentially pulling distribution networks down and highlighted some major challenges, such as low consumer awareness, weak after-sales performance and poor charging infrastructure. Karmaker et al. (2018) investigated the possibility of solar-photovoltaic-integrated hybrid renewable energy EV charging station in Bangladesh. Such setups may be more "grid compatible" than just a traditional technology and may present a potential transitional pathway.

The literature reviewed together indicates that only a few sets of interacting supply-side constraints, namely, the grid capacity, charging infrastructure, maturity of the battery ecosystem, and the design of fiscal policy, play a role in the EV adoption trajectory in Bangladesh, and consumer preference is not the most significant factor (Ahmed & Karmaker, 2019; Hasan et al., 2024; Rahman et al., 2025). These have not yet been studied together by policy-institutional analysis using primary sources of evidence from sellers, owners and regulators.

III. Methodology

To address the research questions comprehensively and achieve the stated objectives, the researcher adopted interpretive approach. This study gathered thoughts, views and real-life experiences of sellers, owners and users of EV. Though EV industry and market is not matured enough in our country, purposive sampling employed. Thus, macroeconomic regulatory landscape regarding EV and the micro-level operational realities of EV stakeholders in Bangladesh assessed.

3.1 Primary Data

Primary data acquired through Key Informant Interviews (KIIs) with three categories of stakeholders: (i) EV sellers and authorised dealers, to understand supply-side constraints, import procedures and consumer demand patterns; (ii) EV owners, to capture ownership experience, cost economics, and satisfaction with charging access; and (iii) EV users more broadly, including operators of electric three-wheelers, to understand day-to-day operational challenges.

3.2 Secondary Data

Secondary data collected from the concerned ministries and authorities such as, Ministry of Road Transport and Bridges, Bangladesh Road Transport Authority (BRTA), Ministry of Industries and National Board of Revenue (NBR), Dhaka. These sources informed the official EV registration statistics, vehicle-class-wise import data, applicable customs and supplementary duty structures, and details of the relevant policy instruments like the Electric Vehicle Charging Guideline 2022, Electric Motor Vehicle Registration and Operation Policy 2023 and draft Electric Vehicle Industry Development Policy 2026. Other documentary

secondary sources such as published government policy documents, budget speeches and relevant Statutory Regulatory orders (SROs) also considered.

3.3 Data Analysis

Qualitative interview data are thematically analysed and coded to the barrier and opportunity categories of the study (technological, financial, infrastructural, institutional and behavioural). Secondary quantitative data also analysed descriptively to establish trends in EV registration and EV import duty structure over time. The results of both streams compared and contrasted to determine the effectiveness of the current policy framework and to inform the study's recommendations.

3.4 Scope and Limitations

The study is limited to on-road electric vehicles (two, three and four-wheelers, and buses) within Bangladesh and does not extend to marine or rail electrification. Given resource and time constraints, the KII samples are purposive rather than statistically representative, and findings should therefore be read as indicative of stakeholder perceptions rather than as a nationally representative survey.

IV. Data Analysis and Findings

4.1 Collection of Data

This chapter presents the data collected for the study and analyses it under five themes: technological, infrastructural, financial, institutional/legal and behavioural, covering three stakeholder groups from the methodology: (i) EV sellers and authorised dealers, (ii) EV owners, and (iii) EV users, including three-wheeler drivers and operators. Two data streams were used: secondary and primary.

4.1.1 Secondary Data

Secondary data came from official policy documents, administrative records, and reputable print/online media. Main sources included:

- Automobile Industry Development Policy 2021, Ministry of Industries.
- Electric Vehicle Industry Development Policy 2026 (draft), Ministry of Industries.

- Electric Motor Vehicle Registration and Operation Policy 2023, gazetted on 18 April 2023 by the Road Transport and Highways Division and therefore enforced by BRTA.
- Electric Vehicle Charging Guideline 2022, Power Division, Ministry of Power, Energy and Mineral Resources.
- Tax and duty proposals for the transport sector in the FY 2026-27 national budget, setting out changed tax incidence on EVs, plug-in hybrids and EV chargers.
- BRTA's year- and class-wise EV registration report, 2021 to 10 August 2026.
- Prothom Alo news reports (11 June and 26 July 2026), citing the finance minister and the Secretary of the Ministry of Industries.

These sources gave reliable data on the present policy framework, tax structure, actual EV registration numbers, and the economic and environmental context behind the push toward EVs.

4.1.2 Primary Data

Data captured during field visits and brief guided discussions via the study's Key Informant Interview (KII) instrument at three locations in Dhaka city: at Build Your Dream (BYD) showroom to see the seller/dealer side of the market, at the National Board of Revenue (NBR) to know about the classification of imported EVs under customs duty and tariff and at BRTA to grasp vehicle registration and to gather official statistics. This data collection was purposive and interpretive, not a representative survey. The visits have not been used as survey statistics below bút to explain and support patterns that have been identified in the secondary data. The researcher also communicated with few EV buyers to get the thoughts and views. Operators of electric three-wheelers of Dhaka city also shared their day-to-day operational obstacles.

4.2 Data Analysis

The results of both data streams are analysed below in five themes and where relevant, with regard to the three stakeholder groups as outlined earlier.

4.2.1 Technological Dimension

The EV Charging Guideline 2022 establishes specific technical requirements of charging equipment: 4-wheelers must have one 50 kW DC (CCS or CHAdeMO) * charger; 2- and 3-wheelers must have one 1.0-1.9 kW AC charger. The standards provide a common

technical standard that manufacturers and dealers should follow. KII information revealed that the BYD showroom showcased four-wheelers and SUVs, with home/workplace charging typically recommended to prospective car buyers rather than public facility for fast charging. The key technical issues that the KII was intended to raise for EV owners are battery range, battery life and ultimate replacement costs, which are addressed in government policy as well, which calls for research & development, testing laboratories and technical standards for batteries and charging equipment. The technology used by the majority of three-wheelers is largely obsolete lead acid and not lithium-ion. There is no formal 'three-wheeler' or 'auto-rickshaw' class of vehicle in BRTA's 15 formal classes. Most of the three-wheeler's technology is not part of the formal monitored fleet. Press data reveal that the technology base of the formal sector is expanding: since BYD formally entered Bangladesh in 2024, new brands and models are coming in, such as Deepal (S07, L07), BYD (Seal5, 6), GAC (Aion V, Aion Y) - all four-wheelers - and Rivo, Yadea, Aima and Haihai - all two-wheelers/scooters (Prothom Alo, 26 July 2026). KII data revealed that now the buyers can choose and buy from a wider model range as technological opportunities arrived.

4.2.2 Infrastructural Dimension

The technology of the vehicles and chargers is not the only part of the EV ecosystem and it is immature. Secondary data suggested that the Electric Vehicle Charging Guideline 2022 introduces two types of charging infrastructure, private and public, with a phased roll-out of public stations beginning in the divisional cities and along the highways and gradually expanding to a nationwide coverage of roughly 100-km intervals; at present, public charging coverage is limited. Most of the charging is still done at home or at the workplace, as seen at the BYD showroom where the customers were mainly referred to private charging than to public charging stations. A related infrastructure issue is grid capacity, because EV charging requires complete reliance on the national power grid, whereas fossil fuels vehicles are not dependent on it (*Table I*). The EV service and spare parts network is also still emerging. KII information informed that, comprehensive and established network of mechanics and spare parts are available across the country for conventional vehicles, but the service capacity and availability of the spare parts for EV's are limited and mostly concentrated in Dhaka. A comparable concentration of dealer infrastructure is seen as well. The BRTA data shows that EVs registration are concentrated in the capital of Bangladesh. There is effectively no charging infrastructure for three wheelers, no network of dedicated charging facilities exists, only the normal household or roadside electricity plug. On the manufacturing side, the draft Electric

Vehicle Industry Development Policy 2026 provides generous incentives for local assembly of Completely Knocked-Down (CKD) sets. However, local manufacturing capabilities are limited with only a few such as BYD starting to build a manufacturing footprint.

4.2.3 Financial Dimension

In Bangladesh national budget speech of FY 2026-2027, on June 11, 2026 tax-exemption proposal shows a clear fiscal direction:

- Total tax incidence (TTI) on imported EVs price up to USD 25,000 proposed to fall from 93% to 64%.
- TTI on EVs priced USD 25,000-50,000 to fall from 93% to 80%.
- TTI on plug-in hybrids (PHEVs) up to 1800 cc to fall from 93.16% to 73.437%, and up to 2000 cc from 132.36% to 96.10%.
- TTI on EV chargers and charging stations to fall from 39.75% to zero, supporting charging-infrastructure growth.
- TTI on conventional (ICE) vehicles of 1200-1600 cc to rise from 132.36% to 155.88%, discouraging fossil-fuel vehicles.

The draft Electric Vehicle Industry Development Policy 2026 of Bangladesh sets a lower duty for EVs imported as Completely Built-Up (CBU) units, about 31% TTI for motorcycles, microbuses, buses and trucks, and about 37% for cars, valid to 2030; for Completely Knocked-Down (CKD) kits, duty falls further to about 15.25% up to 2035. Local manufacturers get 1% customs duty concession on raw materials/parts, VAT exemption, and income-tax exemption to 2040; charging-station investors are offered a ten-year income-tax holiday. Even with these concessions, a CBU four-wheeler EV still carries 64-96% tax, depending on price and type, high for an average-income buyer, though lower than for comparable large ICE vehicles.

For EV owners, the KII framework's main financial concern is purchase-price affordability, financing access, and resale value; for sellers/dealers, it is the duty/tax structure and customers' financing access. For three-wheeler users the picture differs: vehicles are already cheap to buy and run, the main driver of their fast, informal growth. So owners have little financial incentive to shift to safer, certified batteries or vehicles without a subsidy or affordable financing.

Press reports add context: before the FY 2026-27 budget proposal, a four-wheeler EV carried about 89% total import tax, of which 20% was supplementary duty (Prothom Alo, 26

July 2026), confirming the tax cut analysed here is real and recent. Bangladesh Bank has raised the vehicle-loan ceiling for EVs/hybrids to BDT 80 lac (against BDT 60 lac for conventional vehicles) and eased the debt-equity ratio to 80:20, lowering the down-payment burden (Prothom Alo, 2026, July 26). On the macro side, Bangladesh's crude-oil import bill rose about 93% in FY 2025-26 to nearly USD 1.13 billion, and fuel/lubricant imports rose about 84% to about USD 7.89 billion (Prothom Alo, 26 July 2026), explaining the government's financial motivation for EV adoption alongside these fiscal concessions.

4.2.4 Institutional/Legal Dimension

EV-related policy in Bangladesh is spread across several separate instruments made by different ministries and divisions, not one unified law:

- The Ministry of Industries administers the Automobile Industry Development Policy 2021 and the draft EV Industry Development Policy 2026, each with its own council and vision.
- The Road Transport and Highways Division/BRTA administer the Electric Motor Vehicle Registration and Operation Policy 2023 (registration, fitness, route permits).
- The Power Division administers the Electric Vehicle Charging Guideline 2022 (charging infrastructure, electricity tariffs).
- The customs duty and tax are determined by NBR by Statutory Regulatory Orders (SROs) and budget for a year.

KII information revealed that this spread implies that one EV buyer/seller has to interact with multiple agencies for import, registration, tax & charging approval. It was observed during visitations to NBR and BRTA that customs classification of the vehicles (such as separating vehicle body from imported battery) and vehicle-type approval is a process requiring cross-agency coordination which delays the process for importers and dealers. Another gap is the informal three-wheeler fleet. The 2023 Registration and Operation Policy define a 'slow-speed vehicle' (30 km/h or below) and will prohibit their use on national/regional highways, but establishes no simple and inexpensive process for the millions of informal three-wheelers already using the roads. This is reflected in the BRTA data: There are currently 912 EVs registered nationally (as of 10 August 2026) of which none are registered under a separate three-wheeler class, the largest segment is remaining outside of formal regulation. As a positive partial step, a pilot project was taken by Bangladesh University of Engineering and Technology (BUET) to set the design criteria for e-rikshaw, speed limits and training of drivers (Prothom Alo, 26 July 2026). KII data revealed that there is no formal class-wise 3-wheeler registration

in BRTA, despite policy announcement and implementation being ongoing at different speeds. The study also identified that EV policy is implemented on two parallel tracks, with the Ministry of Finance/NBR determining the general import tax rate for EVs through the annual budget (reduction of EV TTI from 93% to 64-80%), and the Ministry of Industries determining its own draft EV policy with a lower TTI for CBU EVs of about 31-37%. Two tax-setting tracks for the same product are the other evidence of institutional fragmentation.

4.2.5 Behavioural Dimension

Secondary data suggested that, there is a lack of public awareness, as reflected in several policy documents - the Electric Vehicle Charging Guideline 2022 and the Automobile Industry Development Policy 2021 both include a call for public-awareness campaigns on the benefits of EVs. The BYD showroom revealed that the typical concerns of buyers were in line with our themes developed in the KII guide for sellers and owners, such as resale value, safety and lack of familiarity with EV technology, with some buyers requiring reassurance about running-cost savings where they had previous ICE vehicle experience.

News reports point to a wider behavioural driver: a nationwide fuel crisis in April-May 2026 forced the government to raise fuel prices, which the public accepted as preferable to long fuel queues (Prothom Alo, 2026, July 26), a lived experience shifting consumer sentiment toward EVs faster than awareness campaigns alone. The same report cites the UN estimate that Bangladesh loses over 235,000 lives annually to air-pollution complications, with transport responsible for about 9% of national GHG emissions, figures increasingly used in public messaging alongside the running-cost argument (UNICEF Bangladesh, 2024, June 20)

KII informed us that, for three-wheeler operators, behaviour is shaped mainly by habit and low cost, not formal safety or environmental standards. Continued use of lead-acid batteries and informal, sometimes unmetered charging is common, unlikely to change without a similarly low-cost formal alternative.

4.2.6 Comparative Overview: EV versus Fossil-Fuel Vehicle

Table 1 sums up the benefits and problems of electric vehicles compared with conventional fossil-fuel (ICE) vehicles in the present Bangladesh context, based on the secondary data and field observations discussed above.

Table I

Aspect	Electric Vehicle (EV)	Fossil-Fuel (ICE) Vehicle
Import tax burden	High but falling: ~64-96% TTI for CBU cars under the 2026 budget proposal; ~31-37% under the draft EV Industry Policy 2026.	Higher and rising for large/luxury engines (up to 155.88% for 1200-1600cc); wide range for small cars.
Running/fuel cost	Low; electricity cost per km far below petrol/diesel.	High and exposed to global oil price and forex pressure.
Maintenance	Fewer moving parts, low routine upkeep; specialised service/parts still scarce.	Widespread mechanic and spare-parts network nationwide.
Environmental impact	Zero tailpipe emission; supports national climate (NDC) commitments.	Major source of GHG and urban air pollution; leading carbon-emitting sub-sector.
Charging/fuelling access	Very few public charging stations; roll-out only in early, phased stage; mostly home/private charging.	Dense, long-established, nationwide fuel-station network.
Range and charging time	Range anxiety; 50 kW DC fast charging still slower than fuelling; standard not fully rolled out.	Full tank takes minutes; long, proven driving range.
Grid/energy dependence	Depends on national power grid; mass, unmanaged charging could strain peak hours.	Independent of electricity grid; depends on imported fuel supply.
Battery/engine life-cycle	High battery-replacement cost; recycling system not yet developed.	No comparable large-battery disposal problem; engine-parts recycling well established.
Regulatory clarity	Several new, still-evolving, overlapping policies (2021, 2022, 2023, 2026 draft); informal three-wheeler segment largely unregulated.	Long-established, matured registration and taxation regime.
Government incentive	Duty concession, tax holiday, reduced registration fee, target of ≥30% EVs in government purchases by 2030.	No incentive; duty being raised to discourage further use.
Local manufacturing/jobs	Nascent; CKD/SKD incentives new, a few brands (e.g., BYD) entering.	Mature local assembly and service sector with established job base.

Table 1: Comparative benefits and problems of EV and fossil-fuel (ICE) vehicles in Bangladesh

Source: Compiled by the author from the Electric Vehicle Industry Development Policy 2026, the national budget tax exemption proposal, the Electric Vehicle Charging Guideline 2022, and KII observations, 2026.

Table 1 shows EVs already have a clear advantage in running cost and environmental impact, but still face disadvantages in import tax, charging access, and regulatory maturity compared

with the long-established ICE regime, the same balance found in the field visits and KII framework.

4.2.7 Registration Trend: Evidence from BRTA Data

Table II presents the class-wise distribution of the 912 EVs registered with BRTA as of 10 August 2026, confirming the formal market is still small and dominated by two classes.

Table II

Vehicle Class	Registered Units	Share of Total (%)
Motor Cycle (Small)	413	45.3
Private Passenger (Jeep/Station Wagon)	322	35.3
Motor Car (Extra Large)	67	7.3
Motor Car (Large)	37	4.1
Motor Cycle (Medium)	35	3.8
Light Private Goods	18	2.0
Motor Cycle (Large)	5	0.5
Motor Car (Small)	4	0.4
Motor Car (Medium)	3	0.3
Delivery Van	2	0.2
Private Service Microbus	2	0.2
Baby Taxi (3 Seat)	1	0.1
Dual Purpose Vehicle	1	0.1
Private Passenger Microbus	1	0.1
Prime Minister's Office	1	0.1
Total	912	100.0

Table II: Class-wise EV registration in Bangladesh, as of 10 August 2026

Source: Year and Class-wise EV Registration Report provided by BRTA officials while KII was done on 10 August, 2026.

Small electric motorcycles and private passenger cars/jeeps together make up over 80% of registered EVs. Three-wheelers, buses and heavier commercial EVs are almost absent from the formal register, though secondary literature suggests several million electric three-wheelers already run informally, confirming the institutional/legal gap discussed above.

Table III shows the year-wise trend for the eleven vehicle classes with a consistent year-wise breakdown, about 98% of all registered EVs.

Table III

Year	Units Registered	Remark
2021	6	Registration activity just beginning.
2022	9	Still very limited; charging guideline issued this year.
2023	59	Growth begins after the 2023 registration and operation policy.
2024	267	Sharp jump in yearly registration.
2025	237	Growth continues at a similar level.
2026 (to 10 Aug)	312	Already above the full-year 2025 total within 7 months.

Table III: shows the year-on-year growth of EV registration from 2021 to 10 August 2026.
Data from: BRTA (Year wise and Class wise EV Registration Report, 2026). There are 11 of 15 vehicle classes (approx. 98% of the total number of registered EVs) data has been provided for; these are not represented by year because the small number of remaining classes have not been represented.

Trend is very weak towards 2022 and then a definite upward move starting from 2023, the year the Registration and Operation Policy was implemented. The above-mentioned figure of 2026 is for a partial year, but has eclipsed the full-year 2025 result, implying that formal adoption is gaining momentum - in part due to the fiscal incentives outlined above. This trend is shown graphically in figure 1. *Figure 1*

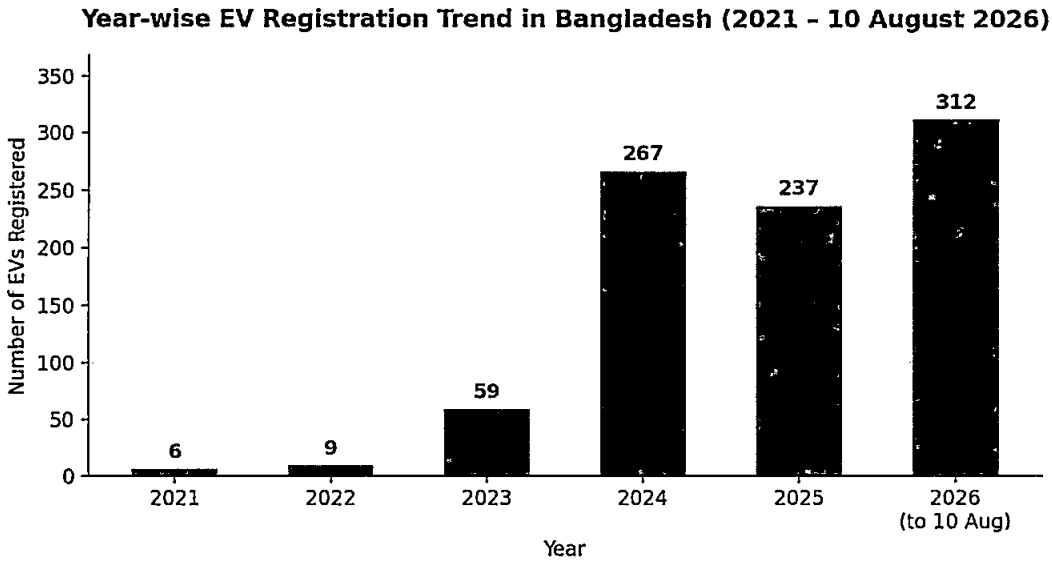

Figure 1: Year-wise EV registration trend in Bangladesh (2021 to 10 August 2026)
Source: Plotted by the author from BRTA, Year and Class-wise EV Registration Report, 2026 (Table III).

4.3 Findings and Discussion

Findings are brought together against the study's three research objectives. The first objective was to assess the present market share of EVs. Interestingly the researcher observed that the present formal EV market share is very small: only 912 units on BRTA's record as of 10 August 2026, against over 6.7 million registered conventional vehicles nationwide. The formal fleet is dominated by small motorcycles and passenger cars; three-wheelers, buses and heavy commercial EVs are almost missing, despite millions believed to run informally. The market share is therefore not yet adequate, though growth since 2023 shows a clear upward trend.

To address the second objective the researcher, find real opportunities exist regarding Opportunities for adoption and expansion of EVs in Bangladesh. Government has cut import duty on EVs, PHEVs and chargers, proposed full duty exemption for chargers, and is raising duty on ICE vehicles simultaneously. It has proposed a ten-year tax holiday for charging-station investment and a target of at least 30% EVs in government vehicle purchases by 2030. The ceiling of the EV auto-loan and the debt-equity ratio are also increased by Bangladesh Bank. International brands are coming in (BYD, Deepal, GAC) and draft EV Industry Policy 2026 will allow assembly/manufacturing of EVs locally with generous incentives. While this is a short-term measure for tax relief, the government has expressed its desire to be an EV-manufacturing nation, rather than an importer, in the longer-term through its commitment to institutional measures (Prothom Alo, 26 July 2026).

The most important feature for both formal and informal three-wheeler operators is low operating cost, which means that once financing and charging access is enhanced there is a large potential market. This extends beyond individual EV buyers to the national economies and public health issues.

To identify the barriers of adoption and expansion the study finds multi-dimensional barriers in all five themes. Battery range, life and replacement cost continue to be issues for owners, and most three-wheelers continue to be powered by a lead-acid battery not lithium-ion. Public charging networks are still at an early, staged phase, charging grid capacity is still in its early stages, EV dealer, service and spares parts infrastructure is mainly limited to Dhaka and there is no dedicated charging infrastructure for three-wheel users. High tax on imported 4-wheeler EVs, even after duty reduction (64-96%) keeps EVs mostly in the reach of high income/corporate buyers and consumer financing is still limited.

No single law for EV policy, but at least four separate instruments in 4 ministries, and lack of an unifying law; lack of a simple, low-cost pathway into the formal system for the large informal three-wheeler segment. Public awareness is low (acknowledged in government policy documents); purchasers frequently consider resale value, safety and unfamiliarity; three-wheeler operators are more concerned with habit and low upfront costs than with safety and environmental issues.

These findings collectively demonstrate that the EV policy framework in Bangladesh is progressing towards a positive direction but still lacks some gaps. The problem statement of the study is supported by the fact that the number of vehicles registered is very small compared to the ambitious policy goals.

V. Conclusion and Recommendations

5.1 Conclusion

At the conclusion of the lesson this research paper aimed to analyse the market share of EV in Bangladesh, its future growth opportunities and the hurdles in the way. Chapter Four's data and analysis lead the following conclusions:

- The formal EV market remains very small, 912 registered units as of 10 August 2026, mostly small motorcycles and passenger cars, not yet adequate to meaningfully cut fossil-fuel dependence or emissions, though the year-wise trend since 2023 shows fast growth.
- Real opportunities exist in duty/tax concessions, a proposed charger-duty exemption, government procurement targets, entry of international brands, and a large potential demand base among private buyers and the millions of informal three-wheeler operators who already value low running cost.
- Barriers exist across all five themes, technological (battery limits), infrastructural (limited and Dhaka-centred charging, service and grid capacity), financial (high residual tax burden, limited financing), institutional/legal (fragmented policy, unregulated three-wheeler segment), and behavioural (low public awareness and trust).

In short, Bangladesh has built an initial policy foundation for EV adoption, but it is not yet strong or joined-up enough to support the scale of change needed. The country is at an early stage of the EV transition, with clear potential but also clear, connected gaps that must be closed together.

5.2 Recommendations

Based on the findings, the following recommendations are made for policymakers, regulators, sellers/dealers and other stakeholders.

5.2.1 Technological Recommendations

- Set a national standard and a safe, formal replacement scheme for three-wheeler batteries, shifting users from lead-acid toward safer lithium-ion or standardised options.
- Build testing laboratories and battery-safety certification capacity, as planned in the draft EV Industry Development Policy, so imported and locally made EVs meet consistent standards.

5.2.2 Infrastructural Recommendations

- Speed up the phased roll-out of public charging stations under the Electric Vehicle Charging Guideline 2022, prioritising major highways and city centres beyond Dhaka.
- Improve the grid capacity and implement smart or managed charging solutions to mitigate the impact on the grid during peak hours when EV levels increase.
- Facilitate the establishment of number of authorised service centres and spare parts supply centres outside Dhaka and support local CKD/SKD assembly facilities.

5.2.3 Financial Recommendations

- Further reduce overall tax burden on low-to-mid income electric vehicles, and ensure that they are not restricted to high dollar, corporate buyers.
- Expand affordable bank and non-bank financing for EV buyers, including three-wheeler operators, alongside the duty cuts already proposed.
- Continue to exclude EV chargers from duty and make the tax holiday for charging-station investors permanent, even though they offer a cost-effective opportunity for private investment which the government cannot finance.

5.2.4 Institutional/Legal Recommendations

- Coordinated national EV roadmap under a single lead coordinating body with four policies - Automobile Industry Development Policy, EV Industry Development Policy, Registration and Operation Policy, Charging Guideline.
- Design a straightforward, affordable registration and safety checkup process for the millions of informal electric three-wheelers already in use.

- Increase the coordination between NBR, BRTA and other relevant ministries and departments like the Ministry of Industries and the Power Division regarding classification, registration and charging approval, so as to minimize delay in dealing with sellers/importers.

5.2.5 Behavioural Recommendations

- Conduct ongoing public awareness campaigns for EV Running Cost Savings, Safety and Environmental Benefits separately targeting private customers, commercial fleet customers and three wheelers.
- Encourage dealers to offer clear after-sales service and resale or buy-back assurance, reducing buyer worry about resale value.
- Involve three-wheeler operator associations directly in designing any formalisation scheme, so change is seen as practical, not imposed.

Addressing these technology, infrastructure, financial, institutional or legal and behavioural gaps simultaneously will make it possible for Bangladesh to increase its current small base of EVs to a significant portion of the country's vehicle fleet, as outlined in its own policy documents. Bangladesh's road to a green future is not blocked by the absence of vision, but paved and waiting - one charge, one policy, one united push away from turning its electric ambition into the nation's cleanest revolution.

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Name: Md. Ahsan Habib
Roll No: 122

A Seminar Paper on

A Review on the Relationship between the Public Accounts Committee (PAC) and the Office of the Comptroller and Auditor General (OCAG) in Public Financial Accountability in Bangladesh

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3rd August 2026

TITLE: "A Review on the Relationship between the Public Accounts Committee (PAC) and the Office of the Comptroller and Auditor General (OCAG) in Public Financial Accountability in Bangladesh"

Abstract

Public financial accountability in Bangladesh depends on a constitutional chain linking the Office of the Comptroller and Auditor General (OCAG) which audits government receipts and expenditure and accordingly, the Public Accounts Committee (PAC) of Parliament which scrutinises the resulting reports and directs corrective action. This seminar paper prepares on an earlier research proposal to empirically evaluate how effectively these two institutions cooperate. Key Informant Interviews (KIIs) with eighteen OCAG officials and six PAC officials, official OCAG statistics on 1,580 cumulative reports submitted since independence and a documentary review of four randomly sampled PAC meeting-minute records are used here for evaluation. The study finds that the relationship functions but remains only moderately effective while 83 percent of cumulative total audit and accounts reports (1580 reports from 1973-2026) have been discussed in PAC sittings. Only about 40 percent of the audit paragraphs from the reports contained are actually discussed and more than half of those discussed remain unresolved because of non-compliance with PAC's decisions. A compliance enforcement gap is found in documentary evidence of paragraphs still open sixteen years after first being raised. Both institutions further agree that reports are rarely finalised within twelve months. Besides it, the absence of a formal and jointly understood follow-up mechanism is a central constraint. A notable finding is a sharp disagreement between OCAG and PAC officials over whether a formal Treasury-Minute style enforcement mechanism currently exists. It indicates an institutional perception gap rather than a purely legal deficiency. The paper concludes with eight practical recommendations, centred on a codified follow-up and compliance-enforcement mechanism, a fixed ministerial response timeline, a case-ageing protocol for long-pending paragraphs, strengthened PAC secretariat capacity, shared digital information systems, intended to inform policymakers, parliamentarians and development partners strengthening public financial accountability in Bangladesh.

Keywords: Public Accounts Committee, Office of the Comptroller and Auditor General, public financial accountability, legislative oversight, Bangladesh, Supreme Audit Institution.

1.0 Background and Rationale

1.1 Background

The owner of public funds are the citizens of a state. A government should expend these funds by following financial laws and in an honest manner. In Bangladesh, there are two key separate entities work to check how government offices use public money. The first one is the Office of the Comptroller and Auditor General (OCAG), which audits government accounts on receipts as well as payments and prepares audit reports. Then the second one is the Public Accounts Committee (PAC) of parliament, a parliamentary body that scrutinizes these audit reports and gives directives government offices to correct any faults found and also gives decision to recover the loss of government resources. Together, the OCAG and the PAC form the core bodies for ensuring public financial accountability in Bangladesh.

Supreme Audit Institutions are the external auditors of public sector and are recognized internationally as guardians of public finance integrity. The International Organization of Supreme Audit Institutions (INTOSAI) through the Lima Declaration of Guidelines on Auditing Precepts (1977) and the Mexico Declaration on SAI Independence (2007) articulates the foundational principles of SAI independence, mandate, and professional standards. Later INTOSAI has consolidated these declarations into the International Standards of Supreme Audit Institutions (ISSAI) framework, Vienna (2019) through International Framework for Professional Pronouncements (IFPP), INTOSAI. Public Accounts Committees have evolved as the key parliamentary tool for examining the audit findings into corrective action. PACs are typically chaired by an opposition member. It operates on a norm of non-partisanship and confine their mandate to matters of financial propriety rather than policy merit.

Financial accountability is a one of the most important pillars in democratic governance system and a milestone for the legitimate practice of public offices. Government collects revenue and expends public funds for the people of a country. It is performed only through sophisticated mechanisms of oversight, audit, and legislative examining. In this process people can be assured that public fund has been used economically, efficiently, effectively, and in accordance with the law. Within the domain of public financial management (PFM), two entities belong a special strategic position. The Supreme Audit Institution (SAI) independently examines whether the public funds have been utilized with complying laws, propriety and value for money. And the parliamentary oversight committee is commonly known as the Public Accounts Committee (PAC) which scrutinizes accounts of the state and reviews audit findings on behalf of Parliament. PAC ensures the accountability of executive to parliament.

In Bangladesh, the Office of the Comptroller and Auditor General (OCAG) is mandated and established under articles 127 to 132 of the Constitution of the People's Republic of Bangladesh and Comptroller and Auditor General (Additional Functions) Act, 1974 (Bangladesh). These articles also give authority to Comptroller and Auditor General (CAG) to audit the accounts of the

Republic and report its findings to the President for onward transmission to Parliament. The Public Accounts Committee.(PAC) is established under the article 76 of the Constitution of the People's Republic of Bangladesh and the Rules of Procedure of Parliament. It is the highest and biggest parliamentary committee which is responsible for examining and scrutinizing the audit reports and accounts of the republic. In principle, these two institutions form a single accountability chain. The system of financial accountability in Bangladesh links three institutions as in other Westminster models. The executive, which spends public money under approved budget from Parliament. The OCAG of Bangladesh is a constitutional body which conducts an independent audit of receipts and expenditures. Then the audit reports of findings as well as Appropriation Accounts and Finance Accounts on receipts and payments are submitted to the honorable President of Bangladesh to be laid before Parliament. Finally, the Public Accounts Committee (PAC) which examines those audit reports on behalf of Parliament. PAC inquire and question the concerned responsible Principal Accounting Officers (PAO) in meetings and give their decisions on the basis of their replies and proofs. The committee also prepares reports on their recommendations for corrective actions and conclusions to the full House. If it raises any weakness at any point, it undermines the entire mechanism of accountability. This Committee (PAC) is also a key parliamentary oversight body responsible for scrutinizing the statements of accounts of government receipts and payments against approved budget by parliament. In spite of constitutional provisions and procedural mandates, the PAC's impact in ensuring financial accountability remains constrained by delays in audit report review, weak follow-up mechanisms, limited technical capacity, and political influence. This study examines these gaps to propose reforms strengthening financial accountability through the legislative oversight function.

1.2 Relationship between PAC and OCAG

The relationship between PAC and OCAG can be considered as a principal-agent like partnership (Lupia and McCubbins, 2000) in which OCAG supplies audit reports on which PAC uses to exercise its oversight function. In practice, however, the relationship between OCAG and PAC in Bangladesh has long been characterized by structural, procedural, and political constraints that limit the overall effectiveness of the financial accountability system. The good governance framework advanced by UNDP (1997) and the World Bank (Kaufmann, Kraay & Mastruzzi, 2010). It identifies accountability, transparency, rule of law and participation as core governance dimensions for effective relations between SAI and legislature as a central mechanism. The quality of this relationship mechanism depends on timely submission of audit report, the technical quality and comprehensibility of audit findings, information sharing arrangements and joint follow up mechanisms that can be determinant of financial accountability outcomes in Bangladesh. Studies specific to Bangladesh (Rahman, 2018; Khan and Hossain, 2015; World Bank, 2019 PEFA Assessment; Transparency International Bangladesh, 2017) publish documents on substantial backlog of unexamined audit paragraphs, limited PAC secretariat capacity and infrequent committee sittings. It is also identified that the volume of unsettled audit objections and inconsistently weak compliance by ministries with PAC directives.

1.3 Rationale of the Study

In spite of the centrality of the OCAG and PAC relationship in Bangladesh's accountability architecture, empirical research finds the institutional dynamics between these two bodies remains significantly less. This proposal outlines a study that will evaluate how well these two institutions work together and whether their joint activity truly reduces corruption, prevents waste of public moneys, controls the violation of following financial laws and strengthens financial discipline among government offices. Existing literature tends to assess OCAG's audit function or PAC's parliamentary function in isolation without sufficiently addressing the interface between them. This study is therefore tried to identify the need to bring about contextual evidence on how the OCAG and PAC relationship functions in practice. This can enable or restrict its effectiveness and that reform might strengthen Bangladesh's financial accountability system.

2.0 Problem Statement and Knowledge Gap

The OCAG has to examine and identify the non-compliances of concerned laws and misappropriation in the use of allocated budget and public funds and the PAC is to be expected to resolve them through parliamentary oversight as well as directives on audit observations in sittings. In practice this process frequently breaks down. Audit reports are backlogged without being discussed in committee meetings. PAC meetings are held infrequently and move slowly. Directives and recommendations are issued by PAC but rarely enforced by government and concerned organizations. Public sector offices very often fail to respond to committee directions within a determined or reasonable time.

Existing specific assessments describe the symptoms (backlogs of audit reports, weak implementation of PAC directives and lack of enforcement power of PAC) without adequately forming the coordination mechanisms or their absence. This study intends to close that gap by producing focused and evidence-based knowledge about this specific relationship, an area that has so far received little in-depth research attention.

The abuse and misappropriation of allocated budget and public funds which are identified by OCAG often continues without rectification because of these continuous breakdowns. This study addresses the central problem that has not clearly measured the strengths or weaknesses of the PAC and OCAG relationship. Current literature describes the symptoms of a broken accountability system in connection with delays and unsettled audit objections. It is not described in a structured and evidence-based way why the system breaks or how it can be repaired and improved. This knowledge gap generates problems for policymakers, parliamentarians, and development partners to design the targeted reforms. This study has addressed that gap straightforwardly.

3.0 Research Objectives

The overall objective of this proposal is to evaluate how effectively the PAC and the OCAG act together to ensure public financial accountability in Bangladesh.

The particular objectives of the study are:

1. To assess the main causes that weaken the cooperation between the OCAG and the PAC.
2. Examining the challenges in implementing PAC recommendations.
3. To check the timely submission of audit reports as per existing system.
4. To recommend practical actions that can strengthen this relationship and increase financial accountability.

4.0Research Questions

1. How effective is the current relationship between the PAC and the OCAG?
2. What factors support or restrict smooth cooperation between the two bodies?
3. To what extent are PAC directives and recommendations implemented by ministries and organizations?
4. What actions can improve coordination between the two institutions and strengthen public financial accountability?

5.0 Literature Review

There are several key areas in the research on the SAI audit and parliamentary oversight system in Bangladesh.

The first area focuses on the Office of the Comptroller and Auditor General (OCAG), detailing its legal status, workforce, and the processes it follows in conducting audits. Several of them mean that the OCAG lacks full financial and administrative independence from the executive branch. These may limit its ability to act independently (BRAC Institute of Governance and Development, 2023; Supreme Audit Institution of Bangladesh, n.d.).

The second category includes studies and commentary focused on the PAC itself. These works emphasize that the committee often functions with limited staff, weak research support, and infrequent meeting schedule. All of these decrease its capacity to scrutinize audit reports immediately (Dhaka Tribune, 2020; The Financial Express, 2020).

The third category encompasses thorough assessments of public finance, including the Public Expenditure and Financial Accountability (PEFA) framework. These evaluations reveal the public financial management procedures in Bangladesh, highlighting audit and oversight functions while identifying ongoing issues related to timeliness and follow-up actions.

A recent study by Rahman and Islam (2025) specifically examines the impact of parliamentary

oversight on the handling of audit reports in Bangladesh. While this research approaches the current proposal's subject matter, it does not provide a comprehensive and structured analysis of the working relationship between the Office of the Comptroller and Auditor General (OCAG) and the Public Accounts Committee (PAC) as a cohesive system.

Comparative evidence from the United Kingdom demonstrates that the Public Accounts Committee (PAC) is effectively supported by the National Audit Office (NAO), which operates a well-resourced secretariat system. This has led to the institutionalization of the 'Treasury Minute' process, mandating government responses to all PAC recommendations within a specified timeframe (McGee, 2002). Similarly, India's PAC operates under a Westminster-derived model (Jagannathan, 2016). In Australia and Canada, there is strong coordination between the PAC and the Auditor General, bolstered by statutory follow-up audits. However, these countries typically regard the Office of the Comptroller and Auditor General (OCAG) and the PAC as distinct subjects, with limited research exploring the relationship between the two. Few studies have directly addressed this connection, and even fewer have utilized structured, primary data collected specifically for this purpose. This proposal aims to build on the existing literature while shifting its focus to the relationship between the PAC and the OCAG, an area that has not received adequate dedicated or evidence-based research.

6.0 Methodology

6.1 Research Approach

A mixed-method approach was adopted, integrating qualitative data from key informant interviews with quantitative descriptive analysis of secondary records (e.g., number of audit reports including paragraphs submitted, examined, and resolved over a defined period). Combining these two approaches has given a fuller and more balanced picture of the PAC and OCAG relationship than either approach could provide alone. It allows for an in-depth contextual examination of institutional relationships that would not be feasible through a purely large quantitative design. The study is based in Dhaka, focusing on the Bangladesh Jatiya Sangsad (Parliament) Secretariat, the PAC secretariat and the OCAG.

6.2 Data Sources

Both primary and secondary data sources have been used. Primary data has been collected through key informant interviews (KIIs) with PAC secretariat officials, OCAG officials. Secondary data has been drawn from OCAG annual audit reports, PAC proceedings and reports, Constitution of Bangladesh, Rules of Procedure of Parliament, relevant legislation, PEFA assessment reports INTOSAI and Transparency International Bangladesh.

6.3 Data Collection and Analysis

- Key Informant Interviews (KIIs) using a semi-structured interview guide.
- Total 24 respondents gave their feedbacks and opinions in KIIs, of them OCAG respondents 18 and PAC respondents 6.
- 20 questions are closed-ended and 1question is open-ended in the questionnaire and oral interviews were also done with the top-level officials in both institutions (Annex-I and II).
- 3 tables and 4 bar charts are used here to analyze the data collected through KIIs.
- Document review of audit reports, PAC minutes, and legislative records.

Thematic analysis approach of interview transcripts and descriptive approach for statistics has been taken to summarize audit paragraph backlogs, examination rates, and implementation rates.

7.0 Significance of the Study

This study contributes to a new subject which is evidence-based knowledge. It has not yet been studied in depth. It may help the government policymakers to understand exactly where and why the PAC and OCAG relationship breaks down and improves. The findings can guide to reform in making the follow-up on audit findings faster and more effective. Besides these, the results of this study can be useful to civil society organizations, researchers and development partners who work on strengthening governance and financial accountability in Bangladesh.

8.0 Limitations

This study focused mainly on the national level relationship between the PAC and the OCAG. So it has not fully covered the conditions at unit level audit bodies. Limitation of time and resources has also restricted the total number of respondents who might be interviewed. In addition, very few officials were reluctant to share confidential and sensitive information. To some extent time constraint was the cause of failure to go through the depth of certain findings.

9.0 Presentation and Analysis of Empirical Findings

9.1 Profile of Key Informants

Primary data were collected through Key Informant Interviews (KIIs) with two respondent groups, using t8he semi-structured guides anticipated in Section 7.3 of the proposal. Eighteen OCAG officials took part, of whom seventeen completed the structured items and the Comptroller and Auditor General (CAG) responded verbally to selected questions. The OCAG sample was dominated by Deputy Directors of Audit (ten respondents) and included two Additional Director Generals, two Directors, one Deputy Comptroller and Auditor General, one liaison officer and one Assistant Audit Officer, eleven of whom had more than five years of audit-related experience. On

the PAC side, six informants participated, including three Committee Officers, one PAC Secretariat Official and one Committee Support Staff, together with the Additional Secretary of the Committee Wing, who responded verbally; three of the five completing the scale had more than five years of PAC related experience. Table 1 summarises both samples.

Table 1: Composition of Key Informant Interview Respondents

Category	OCAG officials	PAC officials
Total informants (including verbal respondents)	18	6
Respondents completing the structured scale (Q1–Q20)	17	5
Respondents with more than 5 years' relevant experience	11 of 17	3 of 5
Senior office holders (DCAG/ADG/Director or equivalent)	5 of 17	1 of 5

The Parliament was in session during part of the fieldwork period, and the assembly was subsequently closed pending the next session; this limited direct access to sitting PAC Members (MPs), so the PAC sample is weighted toward secretariat officials rather than elected members. This pattern is consistent with the limitation already anticipated in Section 8.0 of the proposal and is discussed further in Section 12.0.

9.2 Effectiveness of the OCAG and PAC Working Relationship

In response to the overall effectiveness question (Q3), OCAG officials rated the relationship somewhat more favourably than PAC officials. Among OCAG respondents, ten of seventeen (59 percent) described the relationship as 'very effective' or 'effective', six regarded it as 'somewhat effective' and only one respondent as 'ineffective'. PAC respondents were more cautious. Three of five characterised the relationship as merely 'somewhat effective' and none selected 'very effective' (Figure- 1). This pattern, in which the auditing institution perceives the relationship more positively than the scrutinising committee, recurs across several subsequent items and suggests an asymmetry of expectations between the two institutions rather than outright conflict.

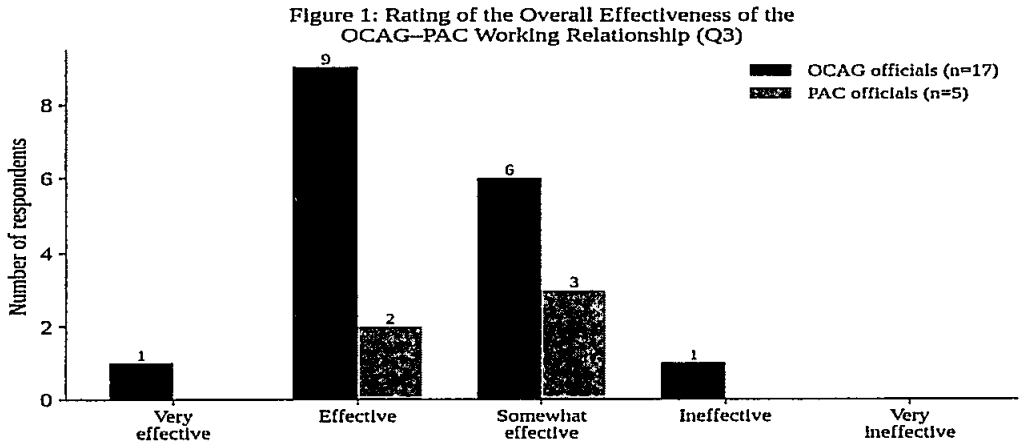

Figure 1: Rating of the overall effectiveness of the OCAG and PAC working relationship (Q3), by respondent group.

9.3 Timeliness and Quality of Audit Reporting

On the statutory timeliness of audit report submission (Q4), most OCAG respondents believed reports are "usually" (8 of 17) or "always" (3 of 17) submitted within the prescribed period, while PAC respondents were split between 'usually' (4 of 5) and 'never' (1 of 5). Asked how long finalisation actually takes (Q5), the OCAG sample divided almost evenly between six to twelve and twelve to twenty four months (eight responses each), with one citing over twenty four months and none under six. PAC respondents likewise reported delays clustering around twelve to twenty four months. So both institutions converge on an important point irrespective of the legal deadline. Finalisation commonly extends well beyond twelve months.

Asked to identify the main causes of delay (Q6, multiple response permitted), OCAG officials most frequently cited delayed responses from auditee offices (10 of 17), technology and system limitations (10 of 17), internal review and approval processes (8 of 17) and staff or resource constraints (7 of 17). Three respondents specifically mentioned delays at the Government (BG) Press in printing finalised reports. On the technical quality dimension, OCAG respondents rated PAC secretariat's capacity to review audit reports as mostly 'good' (7 of 17) or 'fair' (5 of 17), whereas all five PAC respondents who answered the equivalent question rated OCAG's report clarity as only 'fair'. Most OCAG respondents (10 of 17) reported that OCAG 'always' provides additional briefings when PAC requests clarification, a pattern corroborated, though less strongly, by PAC respondents (2 of 5 'always' and 2 of 5 'often').

9.4 Institutional Capacity, Independence and Coordination Mechanisms

From what I gathered, both OCAG and PAC see similar limitations in teamwork. While different viewpoints highlighted various issues, they mostly focused on procedural hurdles instead of legal ones. Fourteen of seventeen OCAG respondents pointed to infrequent PAC sittings as the leading constraint, followed by limited PAC technical capacity and weak coordination mechanisms (8 respondents each) and poor information-sharing systems (6 respondents). PAC respondents, by contrast, most often cited insufficient staff and technical capacity within their own secretariat (5 of 5) and a perceived lack of institutional independence of OCAG (4 of 5) (Figure 4). Only a minority of respondents in either group pointed to overt political interference, suggesting that the accountability gap identified in the proposal's problem statement is driven more by capacity and process constraints than by deliberate obstruction.

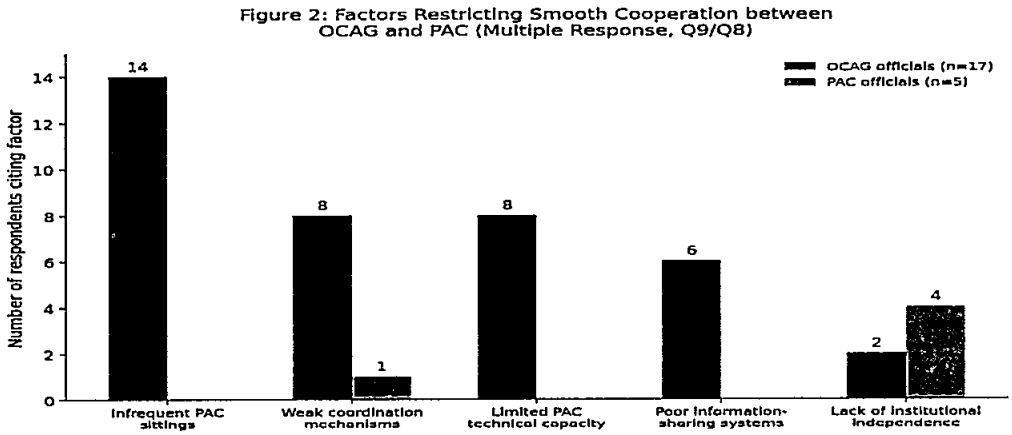

Figure 2: Factors restricting smooth cooperation between OCAG and PAC (multiple response, Q9/Q8).

On the existence of a formal, institutionalised coordination mechanism (Q10), OCAG respondents were almost evenly divided among 'formal and regular' (5), 'informal/ad hoc' (7) and 'no' (5), while four of five PAC respondents reported a formal mechanism exists. On OCAG's institutional and financial independence from the executive (Q11), OCAG opinion itself was split. Six each selecting 'adequate' and 'inadequate' and five 'somewhat adequate' that show no settled internal view on the sufficiency of its own independence.

A particularly striking discrepancy emerged on the question of a formal enforcement mechanism resembling the United Kingdom's 'Treasury Minute' procedure under which government departments must respond to PAC directives within an agreed period (Q16). Ten of seventeen OCAG respondents said no such mechanism exists in Bangladesh and only three said it does whereas all five PAC respondents who answered stated that such a mechanism does exist. There's a noticeable gap in how two institutions understand the rules that hold ministries accountable to Public Accounts Committee (PAC) directives. This difference is the most significant in the whole dataset. It directly impacts the proposal's fourth research question about how to enhance coordination between them.

9.5 Implementation and Follow-up of PAC Directives

Both institutions agree that implementation of PAC directives is, at best, partial. Twelve of seventeen OCAG respondents rated implementation as only 'partially implemented', two 'rarely implemented' and three 'mostly implemented'; none selected 'fully implemented'. PAC respondents were slightly more optimistic (four of five "mostly implemented"), but neither institution reported systematic full compliance. The overwhelming majority of OCAG respondents (16 of 17) identified the absence of a formal follow-up or monitoring system as the principal challenge, ahead of non-cooperation from ministries (9 of 17) and lack of PAC enforcement power (7 of 17); PAC respondents most cited their own lack of enforcement power and resource

constraints (3 of 5 each). On formal tracking of directive implementation (Q13), a majority in both groups reported tracking is ad hoc or entirely absent, nine of seventeen OCAG respondents called it 'ad hoc' and four said none exists, while four of five PAC respondents reported no formal tracking at all.

9.6 Perceived Impact on Corruption Control and Reform Consensus

When OCAG officials were asked if their current partnership helps cut down on corruption and misuse of public funds, most responded with "moderately," which was nine out of 17. Four officials thought the impact was "significant," while another four said "minimal." The responses from the PAC were similar. This mixed feedback suggests that the partnership's potential to tackle misuse of public funds isn't fully realized yet. Regarding priority reforms, 14 out of 17 OCAG officials supported having a formal follow-up process, and 12 wanted to boost the PAC secretariat's capabilities. The PAC members, on the other hand, mainly focused on strengthening their own secretariat. (5 of 5). Encouragingly, both groups showed near unanimous consensus that reform is urgently needed (Q20). Thirteen of seventeen OCAG respondents 'strongly agreed' and four 'agreed'. On the other hand, four of five PAC respondents 'strongly agreed' and one 'agreed', with no disagreement in either group.

9.7 Qualitative Insights from Open-Ended Responses

The open-ended item (Q21) reinforced the quantitative pattern while adding institutional nuance. Several senior OCAG respondents, including the CAG himself, emphasised that the relationship is 'improving day by day', noting that the current PAC had already held an introductory meeting with OCAG leadership even though a substantive sitting on audit reports had not yet occurred at the time of the interview. Other OCAG respondents called for a fixed statutory response period for ministries (one proposed sixty days), comprehensive digitalisation and AI-assisted tracking of audit findings, and stronger institutional and financial independence for OCAG from the Finance Division. PAC side respondents converged on the need for professionally trained secretariat personnel and an integrated digital database shared between the two institutions. It echoes the capacity and information sharing constraints reported in Sections 9.4 and 9.5.

10.0 Triangulation with Secondary Documentary Evidence

10.1 Aggregate PAC Examination and Compliance Statistics

The proposal's methodology (Section 6.3) anticipated using descriptive statistics on audit paragraph backlogs and examination rates to complement the KII findings. Since independence (1973-2026), OCAG's official statistics shows that a cumulative total of 1,580 audit and financial statement reports have been submitted to the Honorable President for onward transmission to be laid before Parliament. The reports are categorized as 1,114 Compliance Audit Reports, 194

Statements of Appropriation Accounts, 159 Special Audit Reports, 52 Statements of Finance Accounts, 34 Performance Audit Reports, 22 Issue-specific Audit Reports and a small remainder of other types (Table 2). Compliance audit Reports constitute over 70 percent of all reports produced. These confirm that the backlog concerns raised throughout the KIIs relate predominantly to this single high-volume category.

Table 2: Composition of Audit and Financial Statement Reports Submitted to Parliament since Independence (N = 1,580)

Category	Count	Percentage
Compliance Audit	1,114	70.5%
Appropriation Accounts	194	12.3%
Special Audit	159	10.1%
Finance Accounts	52	3.3%
Performance Audit	34	2.2%
Issue-specific Audit	22	1.4%
Others	7	0.4%
Total	**1,580**	**100%**

Source: Office of the Comptroller and Auditor General of Bangladesh, updated statistics.

Of the cumulative total, 1,312 reports (about 83 percent) have already been placed before PAC sittings for scrutiny and examination and 268 remain entirely unexamined. Meanwhile thirty-eight compliance audit reports have already had to be escalated to the Honorable Prime Minister and sixty eight compliance audit reports remain pending at OCAG level (Figure 3) for submission. This 83 percent report level examination rate appears more favourable than the perception of many KII respondents who described thirty to seventy percent of audit paragraphs as unexamined (Q12); official figures obtained after fieldwork resolve the gap by showing that the pessimistic perception was, in fact, closer to reality once the unit of analysis shifts from the report to the individual paragraph. Although 83 percent of reports have been taken up in sittings, only about 40 percent of the paragraphs they contain are actually discussed, and of those discussed, more than half remain unresolved because ministries fail to comply with PAC's own decisions (Figure 4). Combining these two filters, no more than about one-fifth of all audit paragraphs raised since independence have both been discussed and satisfactorily complied with. A far more severe backlogs than the report-level statistics alone suggest shifting the diagnosis from an examination bottleneck toward a compliance-enforcement bottleneck.

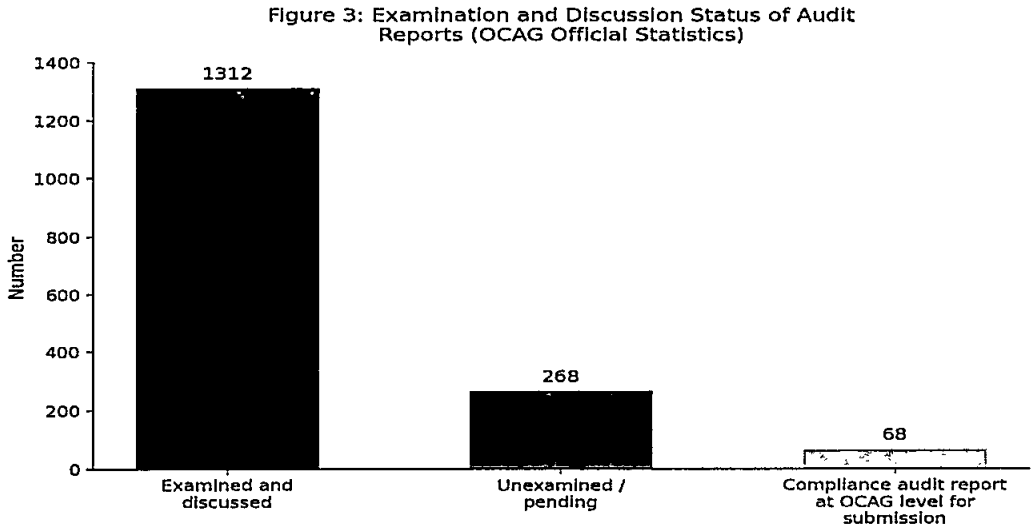

Figure 3: Examination and Discussion status of audit reports in PAC sittings (OCAG official statistics).

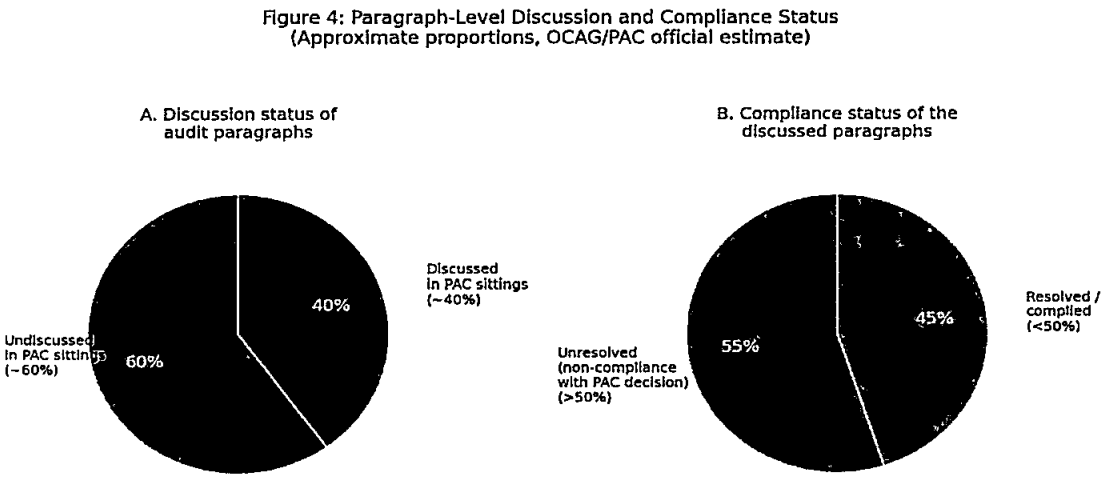

Figure 4: Paragraph level discussion and compliance status, showing the further attrition between report level examination and paragraph level resolution.

This official statistical picture is broadly consistent with the wider secondary literature reviewed in the proposal. The World Bank/PEFA (2021) assessment of Bangladesh's public financial management system, cited in Section 5.0 of the proposal, similarly identifies weak timeliness and follow-up in legislative scrutiny of audit findings as a persistent structural weakness rather than an isolated or recent problem. Comparative experience from the United Kingdom and India, discussed in Section 5.0 (McGee, 2002; Jagannathan, 2016), suggests that jurisdictions with dedicated, well-resourced audit-committee secretariats and codified response procedures tend to convert a larger share of raised findings into examined and settled outcomes within a defined period, reinforcing

the case made in Section 13.0 for procedural codification and, in particular, for a compliance-enforcement mechanism rather than for further diagnostic study alone.

10.2 Case Evidence from a Random Sample of PAC Meeting Minutes

To triangulate the KII findings and the aggregate statistics with primary documentary evidence, as anticipated by the document-review component of Section 7.3, a random sample of four official PAC meeting-minute records was reviewed: the 29th and 30th meetings of the 11th Parliament PAC (both held on 5 November 2020, concerning the Health Engineering Department (HED), Comilla and Central Medical Storage Depot (CMSD) under the Ministry of Health and Family Welfare) and two sittings of the 120th meeting (both held on 24 September 2023, concerning the Department of Public Health Engineering (DPHE), Executive Engineering Office, Comilla and the Ministry of Foreign Affairs (MoFA) together with Civil Aviation and Tourism respectively. Table 2 summarises the sample.

Table 3: Summary of Audit Paragraphs Reviewed in the Four Sampled PAC Meetings

Meeting / Date	Ministry or Agency	Paragraphs Reviewed	Predominant Outcome
29th meeting 5 Nov 2020	Health Engineering Dept. (Ex. En. Office, Comilla)	15 paragraphs, plus 2 miscellaneous items	Mixed: several settled; larger/ fraud cases given 2-3 month recovery deadlines or legal referral
30th meeting 5 Nov 2020	CMSD, Health Services Division	8 paragraphs (progress on 2nd, 7th, 16th meetings)	Nearly all settled on recommendation, incl. a USD 1.83 million fraud case
120th meeting (DPHE) 24 Sep 2023	DPHE, Comilla Compliance Audit Report 69/2021	5 paragraphs	3 referred to a 10 day joint investigation committee; 2 settled on evidence
120th meeting (MoFA) 24 Sep 2023	MoFA/ Civil Aviation and Tourism	5 paragraphs, from Audit Reports 2007-08 to 2015-16	2 not reached ('no decision taken'); others partial settled after 1-2 decades and multiple sittings

The MoFA sitting of the 120th meeting provides the clearest documentary confirmation of the multi-year backlog quantified in Section 9.1. Those paragraphs first raised in the Annual Audit Reports for 2007-08 to 2008-09, 2010-11, 2013-14 and 2015-16 remained on the Committee's agenda as late as September 2023, some individual paragraphs took up to sixteen years to reach even a provisional disposal and two of the five paragraphs listed for that sitting could not be reached and were minuted as 'no decision taken'. The same sitting also shows that a recorded PAC 'decision' does not guarantee implementation. Here an education allowance related paragraph

from the 2015-16 Audit Report had already been discussed once in the 43rd meeting, with its recovery direction reaffirmed in the 95th meeting yet still not fully closed in the 120th meeting. A concrete instance of the non-compliance of PAC decision shown in Section 10.1 to affect more than half of all discussed paragraphs.

By contrast, the health sector minutes show a more functional. Most paragraphs, once a ministry response and supporting evidence were furnished, were promptly minuted as settled on the joint recommendation of the ministry and the audit department. A smaller number of paras involving apparent fraud and falsified test reports or unresolved factual discrepancy were referred to time-bound (two to three months or ten days in the DPHE case) joint investigation committees, or forwarded for legal action against named officers. This suggests the OCAG and PAC relationship processes clear-cut cases reasonably efficiently while the backlog concentrates in contested and high-value or sensitive paras of that kind illustrated for the MoFA sitting. The MoFA minutes additionally record explicit 'one-off and non-precedential' humanitarian settlements for named officers. A discretionary practice no KII respondent mentioned and one that risks inconsistent treatment to officers implicated in the same para.

11.0 Discussion: Consistency of Findings with the Research Proposal

Overall, the empirical evidence obtained through the KIIs is broadly consistent with the proposal's background, problem statement and literature review while refining them in three respects. First, the proposal's characterisation of the OCAG and PAC relationship as constrained by 'structural, procedural, and political constraints' (Section 1.2) is substantially supported by infrequent PAC sittings, weak secretariat capacity on both sides and the absence of a formal follow-up mechanism emerged as the dominant constraints whereas overt political interference was cited comparatively rare. Suggestions of capacity and process-oriented reforms are likely to yield larger gains than reforms aimed narrowly at political neutrality, a nuance the literature review (Section 5.0) did not fully anticipate.

Second and most notably, the sharp disagreement over whether a formal Treasury-Minute-style enforcement mechanism currently exists (Section 9.4) was not explicitly anticipated in the proposal, which cited the UK Treasury Minute only as an international comparator (McGee, 2002; National Audit Office, 2020). This indicates that a lack of shared institutional understanding of existing procedural rules is itself part of the accountability gap. Strengthening the case, made in Objective 4 of Section 3.0 for a clearly codified and jointly understood follow-up procedure rather than assuming clearer rules alone would resolve the problem.

Finally, the near unanimous agreement across both respondent groups, that reform is urgently needed (Q20), validates the proposal's central rationale (Section 1.3). Despite the two institutions' shared interest in effective financial accountability, empirical research on their working relationship had previously been limited. The findings of this study drawn from eighteen OCAG and six PAC informants together with official OCAG statistics begin to close that gap. These

findings confirm the proposal's own acknowledgement (Section 8.0) that a national level focus and a modest respondent pool constrain the applicability of the conclusions.

The findings also speak to the constitutional architecture set out in Section 1.1 Articles 127–132 establish OCAG's independent audit mandate and Article 76 establishes PAC's scrutiny role, but the Constitution does not itself prescribe an operational timetable for ministerial response. The KII evidence indicates that this gap in codified procedure rather than any deficiency in the constitutional design. This is the practical source of delay and of the 'Treasury Minute' perception gap in Section 9.4, so the findings support strengthening implementing rules under the existing framework rather than constitutional amendment.

A fourth and the most consequential refinement in scale emerges from the paragraph-level statistics and documentary evidence in Section 10.0. The proposal's problem statement (Section 2.0) framed the central difficulty primarily as one of examination- reports 'backlogged without being discussed'. The evidence here shows the deeper constraint lies downstream even where a paragraph is discussed and PAC issues a decision that decision goes unimplemented more than half the time and the 120th meeting on MoFA minutes document paragraphs cycling through three or more sittings across a decade or more without closure. The problem is better characterised as a compliance enforcement gap layered on an examination gap (Section 10.0).

12.0 Concluding Remarks

Both the PAC and the OCAG together constitute the backbone of financial accountability in Bangladesh. Their functional relationship has got very little direct and scientific study until now. This research may help to decrease that gap by examining how well the two institutions cooperate with each other. This study focuses mainly on the national level relationship between the PAC and the OCAG. So, it may not fully cover the conditions at unit level audit bodies. Limitation of time and resources may also restrict the total number of respondents who can be interviewed. In addition, some officials may be reluctant to share confidential and sensitive information. Time constraint may be the cause of failure to go through the depth of certain findings. The study also offers practical suggestions for strengthening public financial accountability in Bangladesh.

This seminar paper set out to evaluate on an empirical basis how effectively the Office of the Comptroller and Auditor General and the Public Accounts Committee cooperate to secure public financial accountability in Bangladesh. It builds directly on the basis of research proposal presented. The Key Informant Interviews (KIIS) with eighteen OCAG and six PAC officials, official OCAG statistics on 1,580 cumulative reports and a documentary review of four sampled PAC meeting-minute records together confirm that the relationship functions but falls short of its full potential. Audit reports are usually produced rarely within twelve months. Both institutions agree almost unanimously that reform is urgently needed. Critically, while 83 percent of reports reach PAC sittings for discussions. Only about 40 percent of the paragraphs, the reports contain, are actually discussed and more than half of those discussed remain unimplemented for want of

ministry compliance. A finding in a documentary-evidence reinforces with paragraphs still open sixteen years after first being raised. The study has thus surfaced a compliance-enforcement gap at least as consequential as the examination backlog emphasised in the proposal's problem statement. Alongside a previously undocumented perception gap over whether a formal enforcement mechanism exists. Gathered evidence indicates that capacity and process constraints rather than political interference, are the principal barriers. The recommendations in Section 13.0 offer a practical, evidence-informed starting point for the reforms envisaged in Section 7.0 and future research could usefully extend the inquiry to unit level audit offices as well as a larger randomly sampled set of PAC members and meeting records as anticipated in the proposal's stated limitations (Section 8.0).

Overall, the evidence assembled in this paper suggests that the OCAG and PAC relationship in Bangladesh is neither dysfunctional nor fully effective. Its weaknesses are concentrated in procedure, capacity, compliance enforcement and shared understanding rather than in institutional design or overt political obstruction. Strengthening the moderate cost mechanisms identified in Section 10.0, a codified follow-up and compliance-tracking process, an agreed response timeline, a case-ageing protocol for long-pending paragraphs, adequate secretariat staffing and a shared digital information system. It offers a realistic pathway toward the fuller realisation of the constitutional accountability chain described in Section 1.1 and toward the governance objectives of transparency, rule of law and participation identified by UNDP (1997) and Kaufmann, Kraay and Mastruzzi (2010) as the foundation of an effective relationship between a Supreme Audit Institution and its legislature.

13. Recommendations

On the basis of the KII findings and their triangulation with secondary audit statistics and documentary case evidence, the following recommendations are proposed. These correspond directly to Research Objective 4 and Research Question 4 of the proposal. They are organised in descending order of priority, reflecting both the frequency with which the underlying need was raised by KII respondents. The scale of the compliance gap identified in Section 10.0, so that policymakers and development partners can sequence action where resources are limited.

i. **To establish a formal, jointly designed follow-up and compliance enforcement mechanism-** Since more than half of all discussed audit paragraphs remain unresolved because of non-compliance with PAC's own decisions (Section 10.1). The priority of reform is endorsed by fourteen of seventeen OCAG respondents and three of five PAC respondents is a structured joint mechanism. It should be formally codified with clearly defined roles, meeting frequency and reporting lines whose primary purpose is tracking compliance with decisions already taken rather than only scheduling new discussions.

ii. **To codify and publicise a Bangladesh-appropriate 'response-timeline' rule covering both discussion and compliance-** Given the OCAG and PAC disagreement over whether

an enforceable response mechanism already exists, the government should adopt and clearly communicate a fixed timeframe such as, the sixty-day period proposed by one KII respondent. Both for ministries to respond when a paragraph is first discussed and separately for implementing any resulting PAC decision which is modelled on international practice such as the UK's Treasury Minute (McGee, 2002).

iii. **Adopting a case-ageing and standardised settlement protocol for long-pending paragraphs-** The documentary case evidence in Section 10.2 shows individual paragraphs cycling through several PAC sittings over a decade or more and settlements granted as one-off, non-precedential exceptions. A published protocol that flags paragraphs above a defined age for priority disposal and that sets consistent criteria for settlement so that exceptions are not made case-by-case for individual officers, would reduce both the backlog and the risk of inconsistent treatment.

iv. **Strengthening the PAC secretariat staffing and technical expertise-** Both respondent groups converged on inadequate secretariat capacity as a binding constraint. Recruiting additional professionally trained analysts including staff with audit or accounting backgrounds would enable faster review of the roughly sixty percent of audit paragraphs that currently never reach discussion (Section 10.1).

v. **To increase the frequency and regularity of PAC sittings-** Since infrequent sittings were the most cited constraint among OCAG respondents and directly explain why some paragraphs are minuted as 'no decision taken' for lack of time (Section 10.2). Institutionalising a predictable sitting calendar, which is independent from the parliamentary session calendar, would reduce the accumulation of undiscussed audit paragraphs.

vi. **Investing in shared digital information-sharing infrastructure with automated compliance tracking-.** An integrated, secure digital database accessible to both OCAG and PAC secretariats, capable of flagging paragraph level decisions that remain unimplemented past their due date, was explicitly requested by respondents from both institutions and would directly address the discussion and compliance backlog quantified in Section 10.1.

vii. **To clarify and strengthen OCAG's institutional and financial independence where necessary-** OCAG's own respondents were internally divided on the adequacy of its independence from the Finance Division. A clear statutory or administrative clarification of OCAG's budgetary and human resource autonomy would reduce ambiguity and support the credibility of audit findings before PAC.

viii. **Enhancing mutual capacity and communication.** Periodic joint orientation sessions, exchange of liaison officers and structured briefings on audit methodology would help narrow the perception gap between the two institutions documented throughout Section 10.0.

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[Annexure -I]

Key Informant Interview (KII) Guides

Title: A Review on the Relationship between the PAC and the OCAG in Public Financial Accountability in Bangladesh

[Interview guides for Office of the Comptroller and Auditor General (OCAG) of Bangladesh officials]

Every question is explicitly linked to one or more of the study's Research Objectives, Research Questions, and Conceptual Framework Variables and separate versions are provided for PAC officials and OCAG officials to capture each institution's distinct strategic point on the same relationship.

Interviewer note: For multi-select items, record all options selected by the respondent.

Total questions: 21 and Total respondents' participation: 18

Scale for Questions 1-20 is closed- ended and Q21 is open ended.

KII Guide for OCAG Officials

Suggested respondents: Comptroller & Auditor General office holders (DCAG, ACAG, AAO) Director Generals (DGs)/ Directors/ Deputy Directors of Audit, Senior Officers involved in report finalization and PAC liaison officials. There have been 16 respondents participated in KIIs and given responses and their opinions about the title.

Respondent's Name (optional):

A. Respondent Background

Q1. What is your current position/role at OCAG?

Options: *a) Deputy Comptroller & Auditor General (DCAG) b)DG c) Additional DG(ADG) d)Director e) Deputy Director (DD) [Audit]/ ACAG f) Other Positions*

Q2. How many years of experience do you have working on OCAG's audit functions?

Options: *a) Less than 1 year b) 1- 3 years c) 3- 5 years d) More than 5 years*

B. Timeliness and Quality of Audit Reporting

Q3. How would you rate the overall effectiveness of the current working relationship between OCAG and PAC?

Options: *a) Very effective b) Effective c) Somewhat effective d) Ineffective e) Very ineffective*

Q4. Does OCAG generally submit audit reports (including Appropriation and Finance Accounts) within the legally prescribed timeframe?

Options: *a) Always b) Usually c) Sometimes d) Rarely e) Never*

Q5. On average, how many months does it currently take OCAG to finalize and submit an audit report after the end of the fiscal year audited?

Options: *a) Less than 6 months b) 6- 12 months c) 12- 24 months d) More than 24 months*

Q6. What are the main causes of delay in submitting audit reports? (please select more than one that might be applicable if you think)

Options: *a) Staff/resource constraints b) Complexity of audit scope c) Delayed response from auditee offices d) Internal review/approval processes e) Technology/system limitations f) Other (specify)*

Q7. How would you rate PAC secretariat's technical capacity to review and analyse OCAG's audit reports effectively?

Options: *a) Excellent b) Good c) Fair d) Poor e) Very poor*

Q8. Does OCAG provide additional briefings or clarifications when requested by PAC on specific audit findings?

Options: *a) Always b) Often c) Sometimes d) Rarely e) Never*

C. Institutional Capacity, Independence and Coordination

Q9. Which of the following factors, in your view, restrict smooth cooperation between OCAG and PAC? (please select more than one that might be applicable if you think)

Options: *a) Infrequent PAC sittings b) Limited PAC technical capacity c) Lack of institutional independence of OCAG d) Political interference e) Weak coordination mechanisms f) Poor information-sharing systems g) Other (specify)*

Q10. Is there a formal, institutionalized coordination mechanism (e.g., joint meetings or working groups) between OCAG and PAC?

Options: a) Yes, formal and regular b) Yes, but informal/ad hoc c) No

Q11. How adequate is OCAG's institutional and financial independence from the executive branch in carrying out audits?

Options: a) Very adequate b) Adequate c) Somewhat adequate d) Inadequate e) Very inadequate

Q12. Approximately what percentage of audit paras raised by OCAG currently remain unexamined by PAC?

Options: a) Less than 10% b) 10- 30% c) 30- 50% d) 50- 70% e) More than 70%

Q13. Does OCAG maintain a formal system to track whether PAC directives related to audit findings are implemented by government offices?

Options: a)Yes, systematic b) Yes, but ad hoc c) No

D. Implementation and Follow-up of PAC Directives

Q14. Based on OCAG's follow-up, to what extent are PAC's directives and recommendations actually implemented by concerned ministries/PAOs?

Options: a) Fully implemented b) Mostly implemented c) Partially implemented d) Rarely implemented e) Not implemented

Q15. From OCAG's perspective, what are the main challenges in ensuring implementation of PAC's recommendations? (please select more than one that might be applicable if you think)

Options: a) Lack of PAC enforcement power b) Non-cooperation from ministries c) Absence of a formal follow-up/monitoring system d) Political interference e) Resource constraints at OCAG for follow-up audits f) Other (specify)

Q16. Is there a mechanism requiring government offices to formally respond to PAC directives within a set timeframe (similar to the UK's 'Treasury Minute')?

Options: a) Yes b) No c) Partially

Q17. How would you rate the quality and accessibility of information sharing arrangements between OCAG and PAC (format, data access, digital systems)?

Options: *a) Excellent b) Good c) Fair d) Poor e) Very poor*

E. Overall Assessment and Recommendations

Q18. To what extent does the current OCAG and PAC relationship, in your view, help reduce corruption and misuse of public funds in Bangladesh?

Options: *a) Very significantly b) Significantly c) Moderately d) Minimally e) Not at all*

Q19. Which of the following actions would most strengthen OCAG and PAC coordination and financial accountability? (please select more than one that might be applicable if you think)

Options: *a) Strengthen PAC secretariat capacity b) Establish a formal joint follow-up mechanism c) Enforce report submission timelines d) Improve digital information-sharing systems e) Strengthen OCAG's institutional independence f) Other (specify)*

Q20. Overall, do you agree that reforms are urgently needed to strengthen the OCAG and PAC relationship for better public financial accountability?

Options: *a) Strongly agree b) Agree c) Neutral d)Disagree e) Strongly disagree*

Q21. In your view, what is the single most important factor that would strengthen the OCAG and PAC relationship?

Opinion:

[Annexure -II]

Key Informant Interview (KII) Guides

Title: A Review of the Relationship between the PAC and the OCAG in Public Financial Accountability in Bangladesh

[Interview guides for Public Accounts Committee (PAC) officials]

Every question is explicitly linked to one or more of the study's Research Objectives, Research Questions, and Conceptual Framework Variables and separate versions are provided for PAC officials and OCAG officials to capture each institution's distinct strategic point on the same relationship.

Interviewer note: For multi-select items, record all options selected by the respondent.

Total questions: 21 and Total respondents' participation: 6

Scale for Questions 1-20 is closed- ended and Q21 is open ended.

KII Guide for PAC Officials

Respondents are: PAC Members/MPs, PAC Secretariat officials (Additional / Joint/ Deputy Secretary, Committee Officer, Committee support staff. There have been 5 respondents participated in KIIs and given responses and their opinions about the title.

Respondent's Name (optional):

A. Respondent Background

Q1. What is your current position/role in relation to the PAC?

Options: *a) PAC Member (MP) b) PAC Secretariat Official c) Committee Officer d) Committee Support Staff e) Other (specify)*

Q2. How many years have you been associated with PAC-related work?

Options: *a) Less than 1 year b) 1–3 years c) 3–5 years d) More than 5 years*

B. Timeliness and Quality of Audit Reporting

Q3. How would you rate the overall effectiveness of the current working relationship between PAC and OCAG?

Options: *a) Very effective b) Effective c) Somewhat effective d) Ineffective e) Very ineffective*

Q4. In your experience, does OCAG submit audit reports to Parliament/PAC within the required timeframe?

Options: *a) Always b) Usually c) Sometimes d) Rarely e) Never*

Q5. On an average, how many months delay occurs between the end of the fiscal year audited and submission of the corresponding audit report?

Options: a) Less than 6 months b) 6–12 months c) 12–24 months d) More than 24 months

Q6. How would you rate the technical quality and clarity of OCAG's audit reports for PAC's review?

Options: a) Excellent b) Good c) Fair d) Poor e) Very poor

Q7. Does OCAG provide additional clarification or briefing when PAC requests more information on audit findings?

Options: a) Always b) Often c) Sometimes d) Rarely e) Never

Q8. Which of the following factors, in your view, restrict smooth cooperation between PAC and OCAG? (please select one/ more than one that might be applicable if you think)

Options: a) Insufficient staff/technical capacity at PAC secretariat b) Infrequent PAC sittings c) Limited information sharing by OCAG d) Lack of institutional independence e) Political interference f) Weak coordination mechanisms g) Other (specify)

C. Institutional Capacity, Independence and Coordination

Q9. How adequate is PAC secretariat's staffing and technical expertise for reviewing and analysing audit reports?

Options: a) Very adequate b) Adequate c) Somewhat adequate d) Inadequate e) Very inadequate

Q10. Does PAC have a formal, institutionalized coordination mechanism (e.g., joint meetings or working groups) with OCAG?

Options: a) Yes, formal and regular b) Yes, but informal/ad hoc c) No

Q11. How frequently does PAC hold sittings to examine audit reports?

Options: a) Weekly b) Monthly c) Quarterly d) Less than quarterly e) Irregular/No fixed schedule

Q12. Approximately what percentage of audit paragraphs under PAC currently remain unexamined or pending?

Options: a) Less than 10% b) 10–30% c) 30–50% d) 50–70% e) More than 70%

Q13. Does PAC have a formal system to track whether ministries/offices implement its directives and recommendations?

Options: a) Yes, systematic b) Yes, but ad hoc c) No

D. Implementation and Follow-up of PAC Directives

Q14. To what extent are PAC's directives and recommendations implemented by concerned ministries/Principal Accounting Officers (PAOs)?

Options: a) Fully implemented b) Mostly implemented c) Partially implemented d) Rarely implemented e) Not implemented

Q15. What are the main challenges PAC faces in ensuring implementation of its recommendations? (please select one/ more than one that might be applicable if you think)

Options: *a) Lack of enforcement power b) Non-cooperation from ministries c) Absence of a monitoring mechanism d) Political interference e) Resource/staff constraints f) Other (specify)*

Q16. Is there a formal mechanism requiring government offices to respond to PAC directives within a set timeframe (similar to the UK's 'Treasury Minute')?

Options: *a) Yes b) No c) Partially*

Q17. How independent do you consider PAC to be from executive or political influence in carrying out its oversight function?

Options: *a) Fully independent b) Mostly independent c) Somewhat constrained d) Significantly constrained e) Not independent*

E. Overall Assessment and Recommendations

Q18. To what extent does the current PAC-OCAG relationship, in your view, help reduce corruption and misuse of public funds?

Options: *a) Very significantly b) Significantly c) Moderately d) Minimally e) Not at all*

Q19. Which of the following actions would most strengthen PAC and OCAG coordination and financial accountability? (please select one/ more than one that might be applicable if you think)

Options: *a) Increase PAC secretariat staffing/capacity b) Establish a formal joint follow-up mechanism c) Enforce timelines for audit report submission d) Strengthen PAC's legal enforcement power e) Improve information-sharing systems/technology f) Other (specify)*

Q20. Overall, do you agree that reforms are urgently needed to strengthen the PAC and OCAG relationship for better public financial accountability?

Options: *a) Strongly agree b) Agree c) Neutral d) Disagree e) Strongly disagree*

Q21. In your view, what is the single most important factor that would strengthen the PAC and OCAG relationship?

Opinion:

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158th Advanced Course on Administration and Development

Individual Assignment ✓/Report/Exercise

Seminar Paper

NAME OF THE MODULE: Research for Governance **MODULE NO: 5 (Part-2)**

DATE: 02 September 2026

Marks Obtained

Code No.

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Individual Assignment✓/Report/Exercise

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DATE: 02 September 2026

Instructions to be followed

(Please read carefully)

1. *Please write your Name, Roll No. etc. at the specified space otherwise may cause cancellation of your answer script.*
2. *Put tick (✓) marks on Evaluation method and Institution's Name.*

Name: Nishat Jahan

Roll No. 123

Seminar Paper

On

Enhancing Monitoring and Evaluation of Public Development Projects through e-PMIS Software in Bangladesh:

Prospects, Challenges, and Way Forward

158th Advanced Course on Administration and Development (ACAD)

Bangladesh Public Administration Training Centre (BPATC)
Savar, Dhaka.
Date: 02 September 2026

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Abstract

Monitoring and evaluation (M&E) are crucial to the successful and effective implementation of public development projects in a timely, transparent and efficient manner. The Electronic Project Management Information System (e-PMIS) has been introduced in Bangladesh to streamline project monitoring, gain better access to information and facilitate evidence-based decision making. Yet, there is a lack of empirical evidence about its practical benefits, implementation difficulties and sustainability. It explores the opportunities, obstacles, and future path forward for e-PMIS in enhancing M&E of public development projects in Bangladesh. Mixed methodology research is used consisting of 55 e-PMIS users, who were surveyed using a questionnaire, and five Key Informant Interviews with senior officials and technical experts. The data analysis technique for quantitative data is descriptive statistics, and qualitative data is analyzed thematically and integrated by triangulation. Results show that e-PMIS has a significant potential for improving transparency, accountability, monitoring efficiency, access to project information and decision making. However, lack of user training proved to be the biggest challenge, followed by institutional and leadership issues, poor system integration and data quality issues. The study finds that technological development is insufficient to ensure the effective use of e-PMIS. Its sustainable use relies on continuous role-based training, increased institutionalization, better interoperability, better data quality and permanent technical capacity. With appropriate reforms, e-PMIS can evolve into an integrated national platform for more efficient and results-oriented public project management in Bangladesh.

Key Words: e-PMIS; Monitoring and Evaluation (M&E); Public Development Projects; Digital Governance; Bangladesh.

1. Background of the Study

1.1 Introduction and Contextual Background

In developing countries, public development projects perform a key role in promoting economic growth, reducing poverty, improving public service delivery (World Bank,2022; OECD, 2019). In Bangladesh, the allocation for Annual Development Programme (ADP) is about 31.98% of the total national budget in FY 2025-2026. Through ADP, development projects are being implemented across various sectors, which includes-education, health, agriculture, infrastructure as well as social protection etc. This allocation contributes extensively in socio-economic development and achieving Sustainable Development Goals (Planning Commission, 2020; Ministry of Planning, 2026). Therefore, the efficient implementation of these projects is essential to achieve national development priorities.

The success in project implementation largely depends on robust Monitoring and Evaluation (M&E) system. This system enables governments to track implementation progress, evaluating outcomes, promoting transparency and accountability as well as facilitating evidence-based, decision-making (Kusek and Rist, 2004; OECD, 2019). Although Bangladesh has made notable progresses in public finance along with project governance, it faces recurring implementation challenges, which include time overrun, cost overrun, poor coordination among agencies, as well as lack of real-time data. All of these challenges hinder project performance (World Bank, 2022).

To address these issues, the Government of Bangladesh has emphasized on digital governance for public sector reform (Government of Bangladesh, 2022). Accordingly, Electronic Project Management System (e-PMIS) was introduced by the Implementation Monitoring and Evaluation Division (IMED) under Ministry of Planning for modernizing monitoring and evaluation of projects. This system supports online monitoring of projects, electronic reporting, access to real-time data, along with integration with other systems introduced by the government, which includes e-GP, NID, as well as iBAS++. Moreover, it facilitates collective working toward improved transparency and governance, which is evidence-informed (IMED, 2024, Ministry of Planning 2024).

Despite significant investment of the government in digitizing project monitoring via e-PMIS, there is a notable gap in empirical research assessing its prospects, challenges of implementation as well as long-term sustainability. Consequently, this study sets out to assess the opportunities along with challenges tied to e-PMIS and to propose practical and evidence-based strategies for strengthening monitoring and evaluation of public development projects in Bangladesh.

1.2 Problem Statement

In Bangladesh, there is a significant advancement in socio-economic sectors over the last twenty years through growing investment in public development projects. However, a considerable number of projects are facing recurring implementation difficulties, which include delays in implementation, cost escalations, changes in scopes, and concerns in quality. These limitations decline efficient utilization of resources as well as delay the intended outcomes of these projects (World Bank, 2022).

To address these issues, e-PMIS software has been introduced for modernizing monitoring and evaluation of projects by enabling access to real-time data, enhancing coordination among stakeholders as well as promoting evidence-based decision-making. However, the efficiency of this software is influenced by several interrelated factors, which includes technological infrastructure along with institutional capability, support of leaders, competence of users, and quality of data. Moreover, its successful adoption and utilization vary according to the digital readiness of line ministries and project offices (Implementation Monitoring and Evaluation (IMED), 2024; Government of Bangladesh, 2022; Heeks, 2002).

Although, various government documents outline the operational aspects of e-PMIS, there is a gap in empirical research assessing its prospects, challenges of implementation as well as long-term sustainability. Assessing advantages and potentials, determining issues hindering the effective adoption and utilization as well as putting practical strategies certainly pave the path of sustainable adoption of the software in the project management system of Bangladesh.

1.3 Objectives

The general objective of this study is to assess how e-PMIS software can enhance the monitoring and evaluation of public development projects in Bangladesh by examining its prospects, challenges, and the way forward. The specific objectives of this study are:

a) To assess the major advantages and potential of e-PMIS in strengthening monitoring and evaluation of development projects.

b) To determine barriers that hinder the effective adoption and use of e-PMIS in project M&E processes.

c) To put forward practical strategies as well as institutional reform measures aimed at facilitating the wider adoption and sustainable use of e-PMIS within Bangladesh's public project management system.

1.4 Significance of the Study

This study has its significance across academic, policy along with practical perspectives. Academically, it will contribute to the limited existing literature on digital system of project monitoring in the contexts of developing countries, which particularly focuses on Bangladesh context. From a policy perspective, it will offer practical evidence to IMED along with other government bodies regarding strengths and limitations of the current e-PMIS framework. These findings will contribute to evidence-based decision-making in this regard. Practically, this study will determine the operational obstacles along with gaps in institutional capacity which affects effective use of e-PMIS. The policy strategy as well as institutional reform measures will contribute to improving project performance of the projects, strengthen accountability, promote transparency along with timely and informed-decision making. Moreover, the study will directly contribute to the broader digital transformation of Bangladesh along with wider public sector modernization initiatives by offering recommendations for maximizing the benefits digital project monitoring systems.

In this context, the current study fills the gap of the existing literature by looking at the potential, obstacles, and performance of e-PMIS to improve the M&E of public development projects in Bangladesh. It delves on the capacity of the system to enhance monitoring, transparency, accountability and evidence-based decision-making, and points at technical, institutional and capacity barriers. The study draws on the viewpoints of the Project Directors, the IMED officials and implementing ministries, providing empirical evidence for sustainable adoption of e-PMIS.

2. Literature Review

2.1 Monitoring and Evaluation in Public Sector Project Management

Monitoring and evaluation (M&E) are a fundamental component of public sector project management. It helps governments to monitor implementation, evaluate performance, hold others accountable, and inform evidence-driven decisions. A well-designed M&E system should generate timely and reliable information to assist policy makers in determining why projects are not being implemented and in allocating resources for project implementation and ensuring projects continue to meet their goals. Kusek and Rist (2004) highlight that result-based M&E systems are crucial for enhancing public sector performance, accountability and organizational learning.

Project monitoring and reporting is often done manually, and the methods are usually fragmented and time consuming. Such methods could result in information being delayed and the decision-makers not being able to act quickly enough on implementation issues. The fast-growing use of digital technologies, in turn, has opened the door to more effective and efficient ways to track, monitor, and evaluate projects timely and effectively. Digital systems can help to systematically gather, store, analyze and share project information, which can contribute to better-informed managerial and policy decisions (Kusek and Rist, 2004; World, 2023).

2.2 Global Practices in Digital Monitoring and Evaluation

Digital platforms are being increasingly used by governments around the world to improve monitoring, evaluation and performance management. Digital M&E systems can help to increase transparency, coordination and access to information, and evidence-based decision-making. World Bank (2023) and OECD (2019) have noted that digital technologies can enhance the performance of the public sector by facilitating access to information and increasing coordination between government institutions and stakeholders.

By providing real-time or near real-time data, digital platforms can help project managers and policymakers catch problems as quickly as they occur. But international experience indicates that there is a need for more than technology to ensure higher performance. Organizational and institutional factors, such as technological infrastructure, data quality, institutional capacity, user competence, commitment and adaptability of organizations to technological change, impact the effectiveness of a digital system (World Bank, 2023; OECD, 2019; Karim and Hosen, 2023).

Digital transformation in the public sector is more than technology. Instead, it is an organizational change process consisting of people, institutions, administrative procedures and technological systems. Thus, the success of digital M&E is not just a function of the technology but also of the circumstances (the institutional and organizational context) within which it is deployed (Akhter, Thushanga and Hosen, 2026; Karim and Hosen,2023).

2.3 Regional Practices: Technological Integration and Public Sector Management

Regional experiences show how technology is being embedded into public sector organizations. Technology integration among Public Servants in Sri Lanka and Bangladesh is explored by Akhter, Thushanga and Hosen (2026) in order to offer a comparative South Asian lens to the public sector management and digital transformation. Their work indicates that the key to the success of technological adoption is, besides infrastructure, the readiness of the organization, public servants' capacity, and their desire to use technology in everyday administrative work.

This attitude is especially critical for the implementation of Electronic Project Management Information System (e-PMIS) in Bangladesh. The ability of e-PMIS to work effectively relies significantly on the capacities, acceptance and frequent involvement of Project Directors, IMED officials and other pertinent stakeholders. Thus, e-PMIS must be considered more than a technology intervention but rather an institutional and organizational change, which is related to technology, people and administrative processes (Akhter, Thushanga and Hosen, 2026).

2.4 Digital Transformation and ICT Implementation Challenges in Bangladesh

The Government of the People's Republic of Bangladesh has made significant strides towards digital governance by implementing efforts to modernize public administration and enhance public services delivery (Government of Bangladesh, 2022; Planning Commission, 2020). Adoption of digital platforms in various facets of government has opened up opportunities to enhance accessibility, efficiency and transparency.

But empirical studies show that there are institutional, structural and behavioural hurdles limiting the benefits of digital transformation. Karim and Hosen (2023) identified the lack of effective ICT infrastructure, poor internet connectivity, society's lack of IT skill, and the public sector's attitude and apathy as the barriers for implementing ICT-based systems successfully in the public sector of Bangladesh. They also stressed the need of continuous training, policy support, better infrastructure and technology user-friendly systems.

These findings are applicable in e-PMIS because the main goal of the system is to support project management and project monitoring, but not citizen service delivery, however, a similar issue of technological readiness, institutional capability, human resource capability and user acceptance may occur when using e-PMIS. A few other research studies on digital governance in Bangladesh have also pointed to infrastructure constraints and a lack of technical capacity and institutional readiness as ongoing challenges for digital transformation (Bukth and Khan, 2024; Islam *et al.*, 2023; Akter, 2025).

There is also research on e-Mutation which indicates that digitalization can enhance institutional efficiency and transparency, transparency in land administration, and yet highlight difficulties related to institutional capacity, digital literacy and implementation gaps (Bukth and Khan, 2024). Even more recently, some discussions have recognized the value of connected data governance, system interoperability and good use of digital information in evidence-based decision-making processes for public administration (Anupam and Mustafa, 2026). Taken together, these studies suggest that digital governance is contingent on the relationship between the technologies and their institutions.

2.5 Development and Evolution of the e-PMIS System in Bangladesh

While digital governance is progressing, manual methods for project monitoring have their drawbacks, especially in terms of project information not always being timely, consistent and readily available. To overcome these challenges, the Government of Bangladesh launched the Electronic Project Management Information System (e-PMIS) within the Implementation Monitoring and Evaluation Division (IMED) with the aim of improving the monitoring and evaluation of public development projects (IMED, 2024).

The aim of the e-PMIS system is to simplify the systematic gathering, management, and utilization of project information for monitoring, reporting and decision making. According to IMED (2024), the system aims to provide improved transparency, streamline reporting and monitoring processes, and facilitate evidence-based decision making,

The improved version of e-PMIS has been linked with crucial government digital platforms such as Electronic Government Procurement (e-GP), Integrated Budget and Accounting System (iBAS++) and National Identity (NID) system. This can enhance the flow and availability of information for the project and boost project coordination and transparency (IMED, 2024; Ministry of Planning, 2024).

In addition, many Project Directors have registered, which also reflects the government's aims of establishing e-PMIS as a component of the public development project management process. However, the presence of technological infrastructure and registered users is not a signal of effective and sustained use. Technical quality, information quality, user capacity, institutional support and stakeholders' willingness to integrate the e-PMIS into the regular management process are likely to influence the performance of e-PMIS.

2.6 System Quality and Factors Influencing the Use of e-PMIS

The DeLone and McLean (2003) information systems success model is a helpful theoretical framework with which to explore success factors that influence digital information systems. This model suggests that the quality of the system, information quality, service quality, system use, user satisfaction and organizational benefits are interrelated aspects of information system success.

System quality is the functional and technical features of an information system, such as its usability, accessibility, reliability, response time and system stability (DeLone and McLean, 2003). System quality also encompasses the ability of the system to interoperate with other Government systems for e-PMIS. The system may affect the usage if it is not easy to use or is not reliable, even when it seems to provide better project monitoring. Connecting e-PMIS with e-GP, iBAS++ and other government systems may further improve its utility by allowing exchange of relevant information to be that are dependent on the reliability and interoperability of the systems involved (IMED, 2024; Ministry of Planning, 2024).

Information quality also plays crucial role in the success of information system. Project information must be accurate, complete, timely and reliable so that e-PMIS can be used for effective monitoring and decision-making (DeLone and McLean, 2003). Wrong or incomplete data input can cause the system to be unhelpful and non-credible. So, the effective use of e-PMIS relies not just on technology, but also on the ability, willingness and commitment of users, who must be responsible for inputting and updating project data regularly (DeLone and McLean, 2003; IMED, 2024).

User capacity as well as institutional readiness are also critical. Users should have a useful technical knowledge and training to use the system well. Though many factors may foster resistance against the use of ICT-based systems, evidence from Bangladesh indicates that a lack of skilled manpower resources, poor infrastructure, and lack of interest in technology use can make implementation prohibitive at times (Karim and Hosen, 2023). Technical infrastructure, internet connectivity, administrative support and clear responsibilities are also required by organizations. Other factors that could affect users' perception of e-PMIS as a meaningful management tool or as an extra reporting requirement are leadership and management commitment.

Therefore, the use of e-PMIS is not just a technical problem, but a problem of interaction of the system quality and information quality, user competence and institutional readiness and organizational support.

2.7 Gaps in the Existing Literature

The past literature is useful in learning about digital governance and the adoption of ICTs and e-government in Bangladesh. The existing body of literature is mostly concerned with citizen-centered digital services, digital land administration, public service delivery and digital transformation in general. The following studies have shown some potential advantages in terms of transparency, efficiency and accessibility, and have highlighted barriers regarding technological change, institutional capacity and technical skills, as well as infrastructure (Bukth and Khan, 2024; Islam *et al.*, 2023; Akter, 2025; Karim and Hosen, 2023).

However, comparatively limited research has focused specifically on digital systems designed for monitoring and evaluating public development projects. Existing publications on e-PMIS largely concentrate on the system's objectives, technical features, integration and implementation progress

rather than providing a comprehensive empirical assessment of its actual performance and sustained use from the perspectives of key stakeholders (IMED, 2024; Ministry of Planning, 2024).

Furthermore, there is limited empirical evidence regarding how Project Directors, IMED officials and officials from implementing ministries and divisions perceive the usefulness, quality and challenges of e-PMIS. In particular, the relationships between system quality, information quality, user capacity, institutional readiness and the actual utilization of e-PMIS require further investigation.

The regional literature on technological integration among public servants and Bangladesh-specific evidence on ICT implementation challenges suggest that successful digital transformation depends heavily on human, organizational and institutional factors (Akhter, Thushanga and Hosen, 2026; Karim and Hosen, 2023). Nevertheless, these factors have not been sufficiently explored in relation to e-PMIS as a specialized digital platform for public development project monitoring and evaluation.

3.Theoretical and Conceptual Framework

The foundation theories of the study include the Result Based Management (RBM) framework, and the DeLone and McLean Information Systems Success Model and Technology Acceptance Model (TAM) (Kusek and Rist, 2004; DeLone and McLean, 2003; Davis, 1989). These three frameworks together provide a good conceptual foundation for discussing the efficacy of the use of e-PMIS for enhancing monitoring and evaluation (M&E) of public development projects in Bangladesh.

The Results Based Management (RBM) framework focuses on the systematic planning, monitoring, evaluating and reporting of project performance to ensure that inputs, activities, outputs, outcomes and impacts are linked to the development goals that are pursued (Kusek and Rist, 2004). As e-PMIS is designed to enable real-time monitoring, tracking and evidence-based decision-making, RBM provides a suitable lens for review of the role of e-PMIS in supporting better project performance, accountability and transparency.

One theory that has emerged is the Technology Acceptance Model (TAM) which states that the acceptance of an information system is largely dependent on the usefulness and ease of use that users perceive (Davis, 1989). This framework can be used to understand the processes of project director, IMED officials, and implementing agencies in adopting and utilizing e-PMIS in the monitoring and evaluation process.

Complementing this, the DeLone and McLean Information Systems Success Model identifies the system quality, information quality, service quality, user satisfaction and net organizational benefit as factors that shape the success of an information system (DeLone and McLean, 2003). The study takes these three theories together which makes it possible to discuss the technological and institutional aspects of the implementation of e-PMIS and how it will influence the improvement of M&E in the public development projects in Bangladesh.

CONCEPTUAL FRAMEWORK FOR E-PMIS

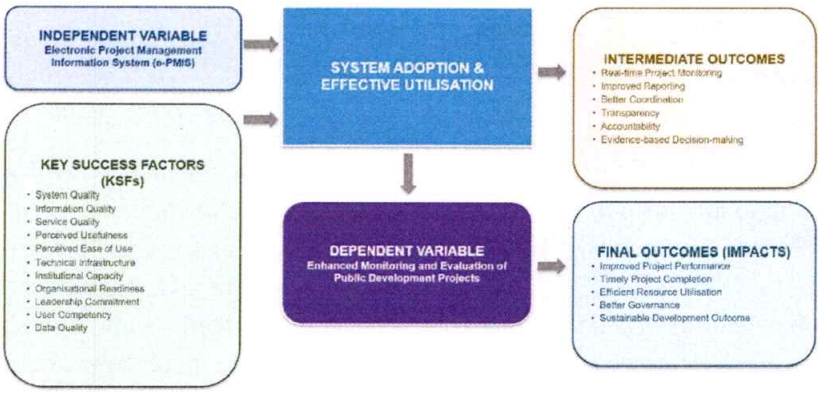

Figure-1: Conceptual Framework for e-PMIS

The conceptual framework highlights the potential of effective utilization of e-PMIS for monitoring and evaluating the public development project in Bangladesh. It brings together three complementary theory perspectives namely Results Based Management (RBM), Technology Acceptance Model (TAM), and DeLone and McLean Information Systems Success Model (DMIS). According to the framework, system quality, information quality, service quality, perceived usefulness and perceived ease of use are the factors that determine the adoption and effective use of e-PMIS. User capacity, institutional readiness, leadership support and organizational commitment, among others, further affect these factors. It is anticipated that effective use of e-PMIS will lead to better access to timely and reliable information on projects, better monitoring, transparency, accountability, coordination and evidence-based decision making. Yet, there may be some limitations due to insufficient training, data quality, system integration and institutional gaps. Thus, in order to reach more effective and results-oriented public project management, a sustainable use of e-PMIS will need technological, human, and institutional improvements.

4.Research Methodology

4.1 Research Design

This study uses **mixed methods** research technique which is a combination of qualitative and quantitative research methods in order to obtain a complete picture of the research (Creswell and Plano Clark, 2018). This enables them to gain a holistic perspective of opportunity, challenges and institutional dynamics that impact e-PMIS uptake and effective use. The data collection begins with a structured questionnaire, thereafter, qualitative data is collected using Key Informant Interviews (KIIs) to validate and elaborate the quantitative data. The qualitative and quantitative results are synthesized in the interpretation phase for a comparison and complementation of the results of the two approaches. This integration is important for the credibility as well as depth of the study (Creswell and Plano Clark, 2018; Denzin, 1978).

4.2 Study Area

The research has been conducted in Bangladesh focusing on M&E ecosystem within Implementation Monitoring and Evaluation Division (IMED) of Ministry of Planning and selected ministries/divisions.

4.3 Data Sources

The study is primarily based on primary and secondary data. Primary data has been collected using structured questionnaire using 'Google Forms' and semi-structured KIIs. Secondary data has been gathered from IMED reports, e-PMIS user manuals, government documents, project reports, and related literature (Denzin, 1978).

4.4 Population and Sampling

The population of interest is the group of stakeholders directly involved in the implementation and operation of e-PMIS. The participants are selected by purposive sampling so that they bring knowledge that is relevant to the study, such as the officials of IMED including technical staff, software developers, representatives from Ministries and Project Directors (Patton, 2015).

4.5 Sample Size and Data Collection Tools

The participants who are users of e-PMIS are 55 and a questionnaire survey has been conducted using 'Google Forms'. The people who responded are 23 IMED officers, 9 officers from implementing ministries and divisions, and 23 Project Directors (PDs) that frequently use the e-PMIS system. The main tool for collecting quantitative data pertinent to the studies objectives is a structured questionnaire.

The study has also carried out five Key Informant Interviews (KIIs) with purposively selected key stakeholders. The KIIs comprise the Secretary of IMED, the Chief of IMED, one Director General (DG) of IMED, one Programmer of IMED and one Software Engineer from Dohatec IT, who have been engaged in e-PMIS system development and maintenance and are the leader of the system development team.

These key informants were selected because of their relevant knowledge, experience and direct acquaintance with e-PMIS system. The KIIs are done with a semi-structured interview guide. The KIIs are carried out until enough information is gathered that can provide data saturation to answer the research questions (Saunders *et al.*, 2018).

To collect the secondary data, this study has reviewed related peer-reviewed journal articles, books, reports, and official documents. This relevant literature is collected from electronic databases and search platforms such as Elsevier, Google scholar, JSTOR and Spring Link and from the official website of relevant ministries and organizations. IMED, Planning Commission, World Bank, and other appropriate documents and reports are also examined.

Accordingly, this study data collection tools have used as primary ones are structured questionnaire and semi-structured interview guide. Document and literature review are used in collecting secondary data.

4.6 Data Analysis

The quantitative data is analyzed using descriptive statistics and, where appropriate, while thematic analysis is applied to the qualitative data (Braun and Clarke, 2006). Findings from both strands are brought together through triangulation (Creswell and Plano Clark, 2018).

4.7 Ethical Considerations

Ethical clearance is obtained before data collection begins and all participants have given informed consent. They are assured that their involvement is voluntary, that their identities and responses will remain confidential and anonymous. They retain the right to withdraw at any point. All data collected are stored securely and used only for academic purposes.

5.Data Analysis and Results

5.1 Overview

The purpose of the study is to present the findings of the study "Enhancing Monitoring and Evaluation of Public Development Projects through e-PMIS Software in Bangladesh-Prospects, Challenges and the Way Forward". A mixed methods design was utilized for the study. A qualitative approach using five Key Informant Interviews (KIIs) and quantitative approach using a questionnaire survey of 55 users of e-PMIS were used for the collection of the data. The findings are presented through tables, pie charts, bar charts, histogram-style distributions, descriptive statistics, thematic analysis and triangulation.

5.2 Part A: Quantitative Analysis

Table-1: Respondent Profile

Respondent Category	Frequency	Percentage
IMED Officer	23	41.8%
Officer, Implementing Ministry/Division	9	16.4%
Project Director (PD)	23	41.8%
Total	55	100.0%

The survey included respondents from three important stakeholder groups associated with project monitoring and implementation. IMED officers and Project Directors each represented 41.8% of the total respondents. Officials from implementing ministries and divisions represented 16.4%.

This distribution is useful because each group performs a different role in the project management and monitoring process. IMED officers are primarily responsible for monitoring, evaluation, and oversight. Project Directors are directly responsible for implementing projects and reporting their progress. Officials from implementing ministries and divisions play an important role in institutional coordination and supervision.

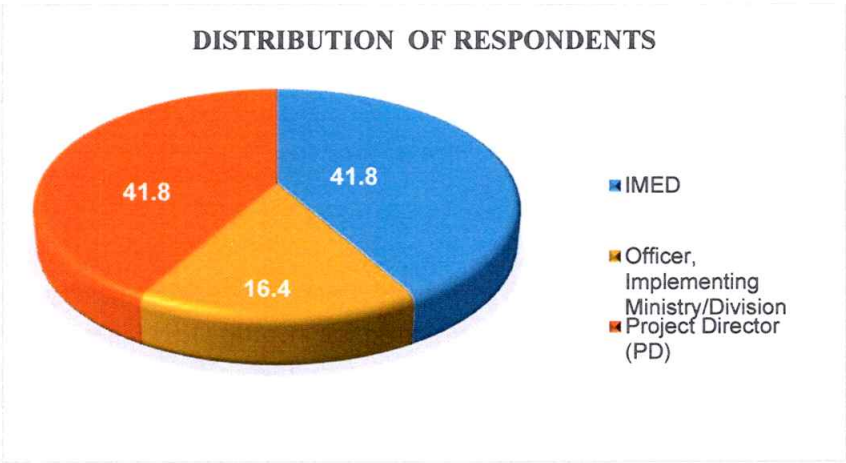

Figure 2: Distribution of Respondents

Table-2: Experience of Using e-PMIS

Duration of Use	Frequency	Percentage
Less than 6 months	11	20.0%
6 months–1 year	12	21.8%
1–3 years	27	49.1%
More than 3 years	5	9.1%
Total	55	100.0%

The results show that the largest group of respondents, 49.1%, had used e-PMIS for between one and three years. Another 21.8% had used the system for six months to one year, while 20% had less than six months of experience. The proportion of those who have been using e-PMIS for more than three years was low at 9.1%.

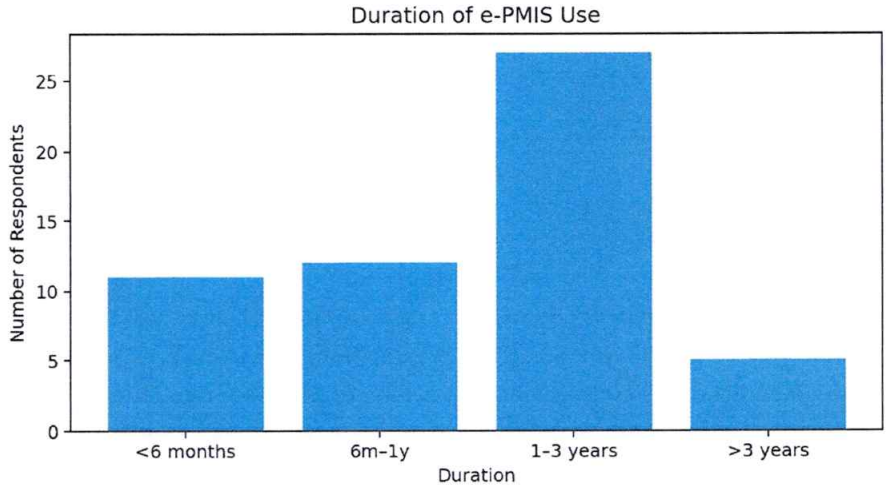

Figure-3: Histogram-style Distribution of Duration of e-PMIS Use

As indicated in the figure, the majority of the respondents had 1-3 years of experience in the use of e-PMIS. They have valuable experience to offer on the practical merits and defects in the system. But many were new users, indicating ongoing training needs. As government officers are often transferred or given new responsibilities, new users regularly join the system. Hence, it is required to conduct continuous orientation and hands-on training to enable the users to utilize all the features of e-PMIS effectively.

Table-3: Frequency of e-PMIS Use

Frequency of Use	Frequency	Percentage
Daily	12	21.8%
Weekly	12	21.8%
Monthly	29	52.7%
Rarely	2	3.6%
Total	55	100.0%

The results indicate that monthly use is the most common pattern among respondents, reported by 52.7%. Daily and weekly users each represent 21.8%, while only 3.6% of respondents reported using e-PMIS rarely.

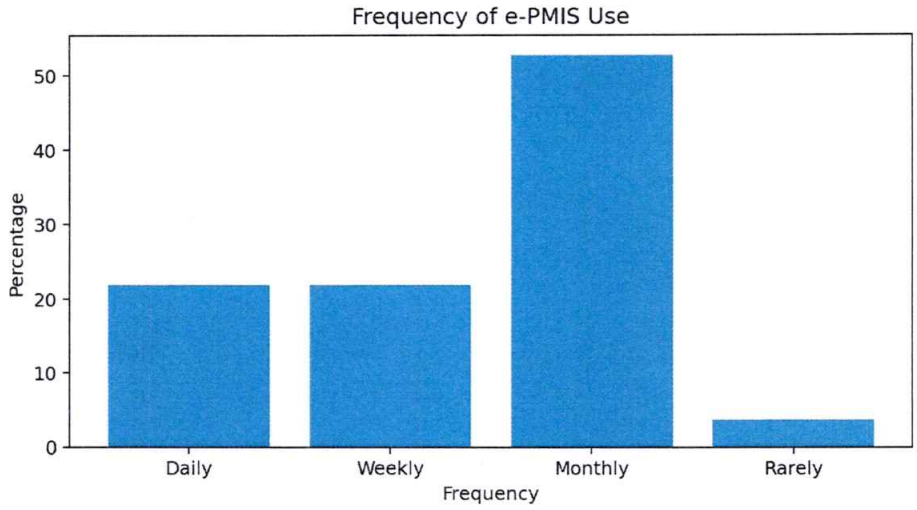

Figure-4: Frequency of e-PMIS Use

The figure indicates that the high percentage of monthly users may be related to the regular reporting cycle of public development projects, as physical and financial progress is often updated monthly. However, the considerable number of daily and weekly users shows that e-PMIS is also regularly used for monitoring and updating project information. The low number of rare users is a positive sign of its practical usefulness. However, timely and frequent data updates are essential, as updated information can help decision-makers identify project delays and problems at an early stage.

Table-4: Mean Scores of Major Indicators

Indicator	Mean Score
Easy access and navigation	4.02
Integration with other systems	2.98
Data accuracy and completeness	3.87
Real-time information	3.71
Sufficient training	2.91
Technical support	4.00
Monitoring efficiency	3.85
Decision support	3.95
Ease of learning	3.60
Daily usability	3.56
Technical infrastructure	4.00
Institutional support	3.71
Overall satisfaction	3.71
Transparency and accountability	4.04

The descriptive statistics present an overall positive perception of e-PMIS, with most indicators scoring above the neutral point. The highest mean score was for transparency and accountability (4.04), followed by easy access and navigation (4.02), and technical support had a score of 4.00, as did technical infrastructure. Positive ratings were also found in decision support (3.95), data accuracy and completeness (3.87) and monitoring efficiency (3.85) which shows that e-PMIS helps in making decision and monitoring effectively. Sufficient training (2.29) and integration with other system (2.98) have the lowest scores, indicating areas of strength and need for improvement.

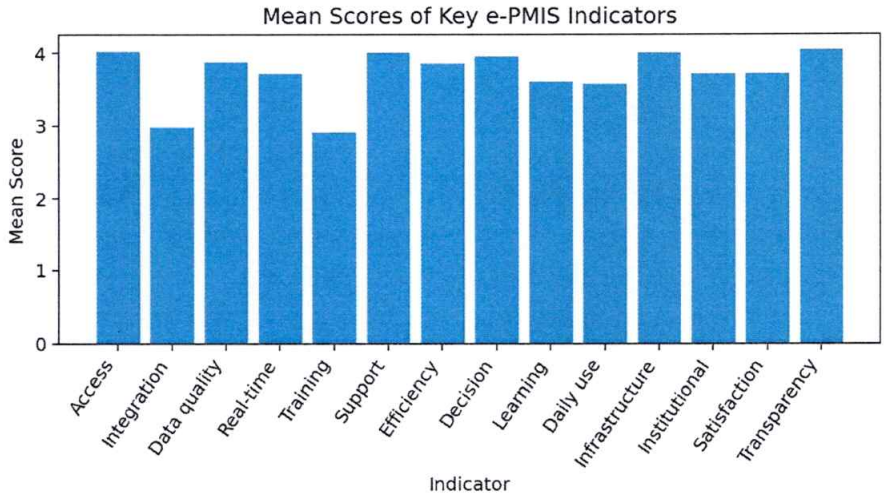

Figure-5: Key e-PMIS indicators are shown in mean scores

It is the strengths and weaknesses of e-PMIS that are evident from the differences between mean scores in the visual comparison. Training and system integration were reported as relatively weak areas, whereas transparency, access, technical support and infrastructure were said to be good. It suggests that focus needs to be placed on human capacity building and interoperability in addition to technical improvements in the future development. Ease of learning (3.60) and daily usage (3.56) scores are moderate indicating that there may be some problems with the users. Improving the overall user-friendliness and effectiveness with a more intuitive interface, clearer instructions, periodic training and technical support.

Table-5: The key dimensions of the comparative analysis

Dimension	Average Mean Score	Interpretation
System Quality	3.50	Moderately Positive
Information Quality	3.79	Positive
Service Quality	3.45	Moderately Positive
Perceived Usefulness	3.90	Positive
Ease of Use	3.58	Moderately Positive
Institutional Factors	3.85	Positive
User Satisfaction and Net Benefits	3.87	Positive

As illustrated in the table, the highest average mean score (3.90) was obtained for Perceived Usefulness. This means that the respondents have a general awareness of the usefulness of e-PMIS to enable project monitoring and management.

The User Satisfaction and Net Benefits (3.87) followed by Institutional Factors (3.85) and Information Quality (3.79). The results indicate overall positive user perceptions of value and that it has a positive impact on monitoring and project management.

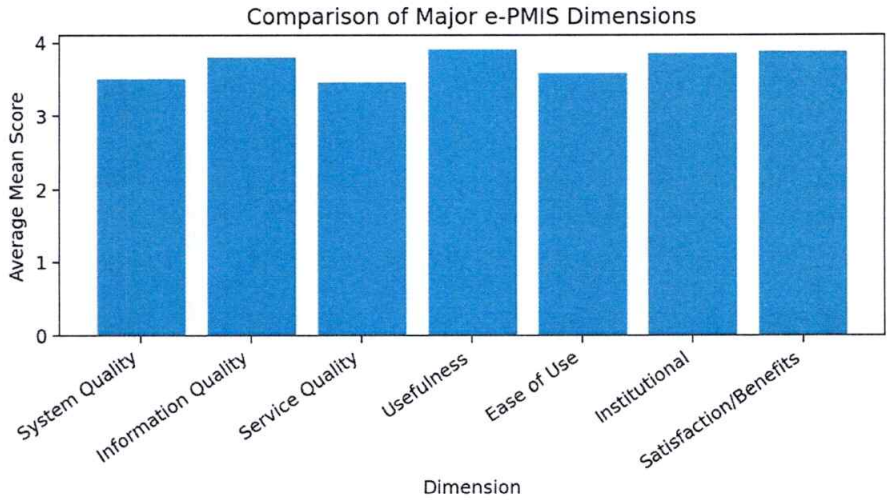

Figure-6: Major e-PMIS Dimensions Comparison

It can be seen that scores in all dimensions are at a similar level, though perceived usefulness, user satisfaction and institutional factors have comparatively high score. System Quality (3.50) and Service Quality (3.45) were not given as high a score, indicating that there is scope of further improvement areas rather than negative perceptions. Users may need quicker resolution of issues, more information and more system capabilities. Moderate usability also suggests some problems with functions. In general, e-PMIS presents a positive base, but some areas of service quality, usability and system integration may be improved to increase user satisfaction and the overall effectiveness of the system.

Table-6: Major Barriers to Effective e-PMIS Use

Barrier	Frequency	Percentage
Lack of training	22	40.0%
Leadership/institutional support gaps	12	21.8%
Data quality/reliability issues	7	12.7%
Resistance to change	6	10.9%
Other	5	9.1%
Technical infrastructure issues	3	5.5%
Total	55	100.0%

The table indicates that Lack of training is the most important barrier, identified by 40% of respondents. The second biggest obstacle was a lack of leadership and institutional support (21.8%). Only 5.5% mentioned technical infrastructure as a limiting factor, indicating that other factors such as human and institutional factors are more significant obstacles than basic infrastructure.

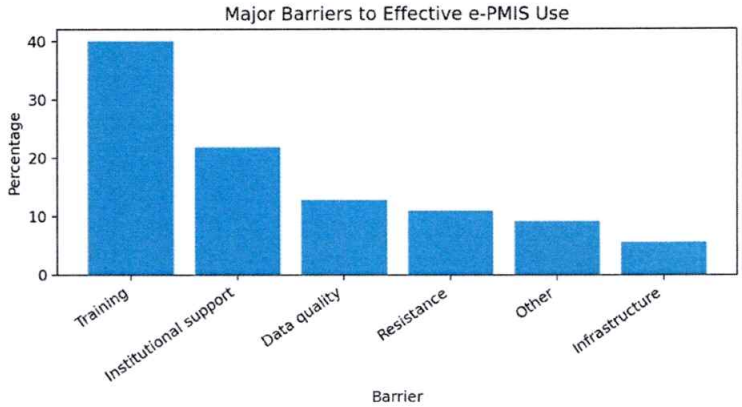

Figure-7: Barriers to Effective Use of e-PMIS

In the descriptive statistics, training is the lowest mean score and the largest item in the Figure, which aligns with the challenge identified. This means that software availability is not enough – people have to have practical skills to use the software to enter and report on data, to use dashboards and to operate the system. The second major barrier is institutional and leadership gaps as there is a need to define responsibilities for data updating and verification. Issues with data quality (12.7%) might impact decision making, and resistance to change indicate that new ways of working may be challenging. Interestingly, infrastructure problems were least cited, indicating that the problems are not predominantly technological.

5.3 Part B: Qualitative Analysis

Five KIIs were carried out with senior policy makers and management officials, and technical officials related to e-PMIS. The five main themes that emerged from the theming process were: real-time monitoring and decision-making; integration and coordination; training and human capacity; institutional and organizational challenges; and sustainability and future development.

Table-7: Key informants' profile

Code	Designation	Institution	Level
KII-1	Secretary	IMED, Ministry of Planning	Policy
KII-2	Chief	IMED, Ministry of Planning	Sectoral management
KII-3	Director General	IMED, Ministry of Planning	Operational management

Code	Designation	Institution	Level
KII-4	Programmer / Software Engineer	IMED, Ministry of Planning	Technical (in-house)
KII-5	Head of Development Team	Dohatec IT (vendor)	Technical (vendor)

5.3.1 Theme 1: Real-Time Monitoring and Improved Decision-Making

The KII results strongly confirm the survey results with regard to usefulness of the e-PMIS. Key informants generally considered the system as an important platform that could centralize project information and for enabling more timely monitoring. The interview results revealed that use of a dashboard or other digital tools can aid the monitoring officials in seeing how the project is progressing and what needs to be addressed. Tools like work breakdown structures, Gantt charts, physical progress reports, financial progress reports and geo-tagged photographs could constitute a more solid evidence-based monitoring. Yet, their effectiveness largely relies on the quality and timely input of data. A dashboard can only help if the data on which it's based is right and up-to-date.

5.3.2 Theme 2: Integration and Coordination

The KII participants noted integration with other government systems as an opportunity moving forward. If it can be integrated into other relevant systems like Electronic Government Procurement (e-GP), Project Processing, Appraisal & Management System (PPS), ADP/RADP Management System (AMS), National Identity Card (NID) and Integrated Budget and Accounting system Plus Plus (iBAS++), there will be possibilities for elimination of data entry duplication and enhance consistency between government platforms. Different examples could be that if a user inputs information in one system, it can be automatically shared with the other, or that the user doesn't have to input the same data twice. This can help to conserve time and prevent potential for inconsistencies. Incorporating it is not just a technological concern. It involves consensus on data standard, security, authentication and institutional responsibility. It would therefore be better to have a 'phased approach' to integration. The government can prioritize the most crucial data exchanges and implement interoperability on a gradual basis, learning from experience and readiness.

5.3.3 Theme 3: Training and Human Capacity

The most prevalent theme in quantitative and qualitative results is training. Key informants noted that there are varying degrees of digital knowledge/experience among e-PMIS users. Some users might be familiar with digital systems, and others may need some more help. Similarly, frequent changeovers, new appointments, shifting project responsibilities can contribute to ongoing capacity shortages. Hence, it was highlighted that there is a need for ongoing and practical training among the participants. Training should be role based, based on the actual responsibilities of different users. For instance, Project Directors might need skills in project reporting and dashboard

interpretation, while monitoring officers might need skills in data analysis and performance assessment. Continuous support could be given through short video and user manuals and through online knowledge resources and refresher trainings.

5.3.4 Theme 4: Institutional and Organizational Challenges

The KIIs revealed some of the institutional challenges that are faced with regards to effective use of e-PMIS. These include inconsistent data submission, changing Project Directors, workload, lack of dedicated staff and differential Project ownership. The findings suggest some of the reasons that gaps in institutions and leadership were found to be the second largest gap in the quantitative survey. Digital systems are incapable of creating accountability automatically. Responsibilities to ensure that information is entered, updated, reviewed and used need to be clear. It is also important that there be senior management support. Official's willingness to keep e-PMIS information accurate and current may increase when they see it is being used actively during meetings and decision making.

5.3.5 Theme 5: Sustainability and Future Development

One of the major findings from KII is the need for sustainability. Continuous maintenance, technical support, infrastructure, cybersecurity, backup arrangements and proficient human resource are required for a digital system. Key informants suggested the importance of maintaining a permanent technical and data-management capacity within IMED. The future vision may be expanding e-PMIS to a national platform that interfaces with planning, procurement, implementation, financial and physical progress, field monitoring and evaluation. Yet, this should be done in a realistic roadmap and should take into consideration the needs, readiness and resources of the users. .

5.4 Part C: Triangulation of Findings

The triangulation of quantitative and qualitative findings is presented in the table below:

Table-8: Integration of Quantitative and Qualitative Findings

Major Issue	Quantitative Findings	Qualitative Findings	Integrated Interpretation
Usefulness	Mean = 3.90	Supports real-time monitoring	Strong practical value
Transparency	Mean = 4.04	Better digital tracking	Major strength
Training	Mean = 2.91; 40% barrier	Practical training recommended	Most urgent capacity issue
Integration	Mean = 2.98	Valuable but technically difficult	Phased improvement required
Institutional factors	Mean = 3.85	Ownership and compliance concerns	Arrangements need strengthening
Sustainability	Generally positive	Permanent technical capacity needed	Long-term support essential

This triangulation shows that on the whole there is a consistency between the two types of evidence. The quantitative and qualitative results show that e-PMIS holds great potential to enhance monitoring, transparency and decision-making. In the same vein, training, institutional ownership and integration are also noted as key areas for further improvement by both sources. The qualitative results give further reasons as to why these challenges exist. For instance, the survey lists training as the biggest constraint and the KIIs indicate that frequent transfers and digital competency differences are constraints. Thus, the overall conclusions indicate that e-PMIS cannot be viewed in isolation and it needs to be understood as part of a system of technology, people, processes and institutions.

6. Discussion and Findings

6.1 Discussion

The findings highlight that e-PMIS can play an integral part in improving public development project monitoring and evaluation in Bangladesh. Positive scores on perceived usefulness, information quality, transparency and user satisfaction suggest that the general attitude of respondents towards the benefits of the system are positive. A key finding is the strong transparency and accountability indicator score. Project information can be more visible and easier to review using a centralized digital platform. This can help monitoring authorities to better monitor progress of the project and may identify when things are going wrong or are not being implemented.

The findings also point towards the need to provide accurate and timely information. Information that is put into a digital monitoring platform should be reliable for it to support better decision making. It turned out that training was the greatest difficulty. The low rating in sufficient training, and the high proportion of respondents who believe that this is a barrier, means that there is a need for more attention to be paid to user capacity. This discovery is especially significant, given that digital systems require the critical human ability. If users don't know or are not confident about how to use the technically advanced system, it won't reach its full potential. Another area for improvement is the integration of the system, as noted in the study. More interoperability can help to minimize duplication and increase information available.

However, integration is needed in both technical integration and institutional cooperation. So, a step-by-step approach is suggested. One of the other main considerations is the Institutional ownership. Roles of project Directors, implementing agencies, ministries and IMED need to be complementary. There must be responsibility for data entry, verification and review. In general, it can be concluded that, e-PMIS has gone beyond a technological project. It can be a valuable element of a contemporary and an outcome-focused public project management system.

6.2 Major Findings

a) e-PMIS has Great Potential to Strengthen Monitoring

The study illustrates the potential of using e-PMIS to facilitate access to information about projects as well as to enable structured monitoring. Digital dashboards and reports can help recognize delays, gaps, and areas that need the management's attention.

b) Transparency and Accountability Are Major Strengths

The response mean of 4.04 suggests a strong association of e-PMIS with enhanced transparency and accountability. Digital records help to make project information easier to access and enhance traceability.

c) Training Is the Most Urgent Challenge

Training got the lowest major mean score of 2.91, with 40 % stating this as the major constraint. This shows the need for Continuous Practical and Role Based Training.

d) Integration Requires Further Improvement

The integration score of 2.98 suggests that e-PMIS is not fully integrated with other relevant government systems. Increased integration could help minimize duplication and enhance consistency of data.

e) Institutional Support Is Essential

The study demonstrates the importance of the ownership of the software by the institution, leadership support, and responsibilities.

f) Data Quality Is Fundamental

Complete, accurate and timely information is crucial for the usefulness of dashboards and reports. Therefore, data quality assurance should be an important part of the monitoring process.

g) e-PMIS Can Evolve into a Broader Decision-Support Platform

The qualitative findings suggest that e-PMIS has the potential to develop gradually into an integrated platform connecting different stages of project management.

7. Recommendation and Conclusion

7.1 Recommendations

The key recommendations of this study are presented below:

a) Strengthen User Training

A structured and continuous training programme should be developed for Project Directors, IMED officers and officials of implementing ministries and agencies. Training should be practical, role-based and supported by short video tutorials and updated user manuals.

b) Improve Integration with Other Government Systems

Reliable integration with e-GP, PPS, AMS, NID and iBAS++ should be strengthened through standardized APIs and secure data-sharing arrangements.

c) Establish a Permanent Technical Unit within IMED

A dedicated technical and data management unit should support maintenance, cybersecurity, data management, user support and future system development.

d) Strengthen Data Quality and Timely Reporting

Clear responsibilities and validation mechanisms should be introduced to ensure accurate and timely data on physical and financial progress.

e) Improve Institutional Accountability

Clear guidelines should define responsibilities for ministries, agencies and Project Directors in maintaining updated project information.

f) Make the System More User-Friendly

Improvements to the system should be made on a regular basis through user feedback, and interfaces should be simplified, and dashboards and graphical presentation enhanced.

g) Strengthen Infrastructure and Cybersecurity

Long-term sustainability should be achieved by making sure that there are reliable servers, storage, backup, disaster recovery, network capacity and cybersecurity.

h) Develop e-PMIS as a National Project Management Platform

In the long term, e-PMIS should become an integrated platform to facilitate planning, procurement, implementation, physical and financial monitoring, field inspection, and identification and evaluation of risks.

Therefore, Digital transformation in public project management is not just about software development. It requires equal effort for user capacity, institutional ownership, data governance and change management. Clear rules, inter-agency coordination and strong leadership will be useful to support the national digital monitoring system. Interoperability is equally important and should be considered in future development, facilitating a secure and reliable exchange of information between government systems.

7.2 Conclusion

This study has focused on looking into the prospects, challenges and way forward that can be taken for the use of e-PMIS to strengthen monitoring and evaluation of public development projects in Bangladesh. The results reflect that e-PMIS has great potential in terms of improving monitoring through information availability, real-time reporting, transparency and accountability and evidence-based decision-making.

The quantitative results are generally positive with emphasis on transparency and accountability. There are significant flaws, however, including a lack of training and inadequate integration. The qualitative findings corroborated the foregoing and, in addition, pointed to the need for institutional ownership, punctuality in data submissions, presence of committed technical capacity and adequate infrastructure that is sustainable.

The study concludes that, in addition to the software quality, other factors will be important in deciding the success of e-PMIS. There must be trained users, reliable data, solid institutions, effective coordination, and a constant technical investment. If suitably developed, e-PMIS can be turned into a full-fledged national platform for Project Monitoring Management for more transparency, accountability, efficient and outcome-oriented public development projects in Bangladesh.

There are some limitations to this study. A limited number (55) participated in the survey and there are a small number of respondents from line ministries and implementing agencies. Mostly descriptive statistics are used, with no inferential statistical analysis due to limited span of time. Hence, the results may not be generalizable. The sample size and diversity can be expanded to include more implementing agencies and line ministries in future research. It can also apply inferential statistics to examine relationships, differences, and the overall effectiveness of e-PMIS more clearly.

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Appendix-A

Survey Questionnaire

Enhancing Monitoring and Evaluation of Public Development Projects through e-PMIS Software in Bangladesh: Prospects, Challenges, and Way Forward

The purpose of this questionnaire is to study the scenario, problems, and future prospect of the Electronic Project Management Information System (e-PMIS) in monitoring and evaluation of public development projects in Bangladesh as part of academic research. It will take about 5-7 minutes to complete. Your responses will be confidential, anonymous and for academic purposes only and you are not required to participate. Thank you for your support.

Date of Interview: .....

Respondent Category: .....

Designation/Organization: .....

Interview Location/Mode: .....

Section A: Respondent Profile

1.Designation/Role:

☐ IMED Officer ☐ Officer, Implementing Ministry/Division ☐ Project Director (PD)

2. Ministry/Division you are affiliated with:

3.How long you have been in using e-PMIS?

☐ Less than 6 months ☐ 6 months–1 year ☐ 1–3 years ☐ More than 3 years

4. What is your frequency of using e-PMIS?

☐ Daily ☐ Weekly ☐ Monthly ☐ Rarely

Section B–H: Perception Statements

Scale: 1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Section B: System Quality

No.	Statement	1	2	3	4	5
5	Easy access and user-friendly navigation to -ePMIS					
6	e-PMIS has good interoperability with other government systems (e-GP, AMS, PPS, NID, iBAS ++)					

Section C: Information Quality

No.	Statement	1	2	3	4	5

7	The data/reports produced by e-PMIS is accurate and complete.					
8	e-PMIS data is current and real time.					

Section D: Service Quality

No.	Statement	1	2	3	4	5
9	I was adequately trained on using e-PMIS.					
10	Adequate technical support is available for when I encounter problems with e-PMIS.					

Section E: Perceived Usefulness (TAM)

No.	Statement	1	2	3	4	5
11	I am more efficient with project monitoring/reporting task using e-PMIS.					
12	I can make evidence-based results more with e-PMI S.					

Section F: Perceived Comfort of Use (TAM)

No.	Statement	1	2	3	4	5
13	I was able to learn how to use e-PMIS easily.					
14	I find e-PMIS easy to use in my day-to-day work.					

Section G: Institutional and Organizational Factors

No.	Statement	1	2	3	4	5
15	My organization has sufficient technical infrastructure (Internet, hardware) to effectively use e-PMIS.					
16	Leadership support and institutional capacity are adequate to sustain e-PMIS use.					

Section H: User Satisfaction and Net Benefits

No.	Statement	1	2	3	4	5
17	The overall satisfaction about e-PMIS as monitoring and evaluation tool is					
18	My work is more transparent and accountable and project outcomes are better with e-PMIS.					

Section I: Challenges and Recommendations

19. What do you believe to be the largest obstacle to e-PMIS implementation? (Please select one)

☐ Technical infrastructure issues ☐ Lack of training ☐ Data quality/reliability issues

☐ Leadership/institutional support gaps ☐ Resistance to change ☐ Other:

20. What do you think is the most challenging aspect of working with e-PMIS and what is one thing that you feel is missing from it that would make it easier to work with?

Appendix-B

Key Informant Interview (KII) Guide

Module-A: Senior IMED Officials

Enhancing Monitoring and Evaluation of Public Development Projects through e-PMIS Software in Bangladesh: Prospects, Challenges, and Way Forward

A. Introduction Script (Read to Respondent)

This should only take about 15-20 minutes, everything you share is optional and will remain confidential, and for academic purposes only- please feel free to opt out of any question or terminate the interview at any point. Would it be alright if I take some notes as we talk?"

Date of Interview: .....

Respondent Category: .....

Designation/Organization: .....

Interview Location/Mode: .....

B. Respondent Categories

Everyone who is interested in this guide has two key questions to address, followed by a brief module depending on the perspective of the respondent: policy/leadership or technical.

Category	Respondents	Module to Use
a) Policy/Oversite	Secretary, IMED	Core +Module A
b) Sectoral Management	Chief and Director General, IMED	Core +Module A
c) In-house Technical	Programmer, IMED	Core +Module B
d) Vendor/Developer	Software Engineer, Dohatec IT	Core +Module B

Core Questions (All Respondents)

1.What are the key benefits you have experienced as a result of e-PMIS- e.g., real-time monitoring, coordination, or integration with other systems (e-GP, AMS, PPS, NID, iBAS++)?

Module-A: For Secretary/Chief/ Director General

2. What institutional or leadership level factors-political commitment, resource allocation, ministries' digital readiness has influenced e-PMIS adoption?

3. What do you think are the key challenges to the more frequent and dependable use of the system?

4. What policy or institutional changes in the next few years do you consider most important to enhance e-PMIS?

Closing Questions

5. What would be the top two or three recommendations you would make to make the adoption and sustainability of e-PMIS better?

6. Is there anything else on your mind about e-PMIS-its prospects, its challenges-that we haven't touched on?

Appendix-C

Key Informant Interview (KII) Guide

Module-B: Technical Personnel

Enhancing Monitoring and Evaluation of Public Development Projects through e-PMIS Software in Bangladesh: Prospects, Challenges, and Way Forward

A. Introduction Script (Read to Respondent)

This should only take about 15-20mins, everything you share is optional and will remain confidential, and for academic purposes only. Please feel free to opt out of any question or terminate the interview at any point. Would it be alright if I take some notes as we talk?"

Date of Interview: .....

Respondent Category: .....

Designation/Organization: .....

Interview Location/Mode: .....

B. Respondent Categories

Everyone who is interested in this guide has two key questions to address, followed by a brief module depending on the perspective of the respondent: policy/leadership or technical.

Category	Respondents	Module to Use
a) Policy/Oversite	Secretary, IMED	Core +Module A
b) Sectoral Management	Chief and Director General, IMED	Core +Module A
c) In-house Technical	Programmer, IMED	Core +Module B
d) Vendor/Developer	Software Engineer, Dohatec IT	Core +Module B

Core Questions (All Respondents)

1.What are the key benefits you have experienced as a result of e-PMIS- e.g., real-time monitoring, coordination, or integration with other systems (e-GP, AMS, PPS, NID, iBAS++)?

Module B: For Programmer (IMED) and Software Engineer (Dohatec IT)

2. Technically, what is your opinion of the technical performance and reliability of e-PMIS and what are the challenges you have encountered in developing or maintaining e-PMIS?

3. What are the largest training, technical assistance and/or documentation needs that hinder the use of the system?

4.What would be the technical changes you would take in order to make this system more sustainable in the long run?

Closing Questions

5. What would be the top two or three recommendations you would make to make the adoption and sustainability of e-PMIS better?

6. Is there anything else on your mind about e-PMIS-its prospects, its challenges-that we haven't touched on?

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NAME OF THE MODULE : Research for Governance

MODULE NO: 5
DATE: 03.09.2026

Marks Obtained

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Individual Assignment/Report/Exercise

Seal

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MODULE NO: 5
DATE: 03.09.2026

Instructions to be followed

(Please read carefully)

1. *Please write your Name, Roll No. etc. at the specified space otherwise may cause cancellation of your answer script.*
2. *Put tick (✓) marks on Evaluation method and Institution's Name.*

Name: Quazi Saleh Mustanzir

Roll No. 124

Bangladesh Public Administration Training Centre

Savar, Dhaka

www.bpatc.org.bd

Marks Obtained

Evaluation department

GA/ GE/GR *(put ✓)*

158th Advanced Course on Administration and Development

Module No. & Name	**Module 05: Research for Governance**
Assignment/ Exercise Title	Seminar paper on "Citizens' Satisfaction with Digital E-services in Old Dhaka: A Case Study of Efficiency, Inclusivity and Trust at Zone 4 of Dhaka South City Corporation"
Submitted to	Dr. Md. Zohurul Islam, MDS (Module Director)

I, hereby, declare that the work contained in this Report/Assignment is solely my own, except for reliance on material that is identified and cited according to the Module Guideline. I have read and understood the Module Guideline.

SL No	Participant's Name	Roll	Signature	Date
1.	Quazi Saleh Mustanzir	124		03.09.2026
2.				
3.				
4.				
5.				
6.				

"Citizens' Satisfaction with Digital E-services in Old Dhaka: A Case Study of Efficiency, Inclusivity and Trust at Zone 4 of Dhaka South City Corporation"

Abstract

Digitization has become an important part of public-service delivery in Bangladesh. However, there is still limited understanding of how citizens in the densely populated and infrastructurally constrained areas of Old Dhaka experience these digital services. This qualitative case study explores citizens' experiences with three digitized services- Birth and Death Registration, Holding Tax Collection, and Trade License issuance and renewal- provided by the Office of the Zonal Executive Officer, Zone 4, Dhaka South City Corporation (DSCC). The study focuses on three key aspects of service delivery- efficiency, inclusivity, and citizen trust- with the aim of understanding overall citizens' satisfaction with these digital services. Data were drawn from five Key Informant Interviews with the DSCC Chief Executive Officer, the Zonal Executive Officer, the Birth and Death Registration Assistant, and the two Taxation Officers, together with two Focus Group Discussions comprising twelve citizen-participants purposively varied by age, gender, income, literacy, occupation and physical ability. Reflexive thematic analysis of the resulting transcripts and field-observation notes shows that digitization has delivered genuine but partial and unevenly distributed efficiency gains, that inclusivity remains constrained along lines of age, gender, income, literacy and physical ability, and that citizens' trust is anchored in familiar frontline staff rather than in the digital platform itself. These findings situate Old Dhaka's socio-spatial constraints as a central, rather than incidental, factor shaping digital-service outcomes, and point to targeted, low-cost interventions- physical accessibility improvements, assisted digital help-desks, transparent fee and grievance mechanisms, and continued staff capacity-building- as necessary complements to platform-level digitization under Bangladesh's Smart Bangladesh agenda.

Keywords: Digitization. Old Dhaka, Citizens' Satisfaction, Efficiency, Inclusivity, Citizen Trust

1. Introduction:

1.1 Background of the Study

Digitization of services has been a distinct characteristic of modern public administration. Governments across the world are embracing information and communication technologies (ICTs) to redesign the ways they render services to their citizens (Chan et al., 2021). E-governance has become a popular tool for reduction of bureaucratic red tapism, improvement of transparency and enhancement of responsiveness of the state towards its citizens (Tram, 2026). To keep pace with the global trend, Bangladesh adopted 'Digital Bangladesh' and 'Smart Bangladesh' programs respectively through establishment of Union Digital Centers, Municipal Digital Centers and ward-

based City Digital Centers in city areas to stretch digital service delivery at the doorsteps of the citizens (Karim, 2015; Huque and Ferdous, 2024).

Two major city corporations in Dhaka- Dhaka South City Corporation (DSCC) and Dhaka North City Corporation (DNCC)- have been rendering some e-services namely birth and death registration, trade licensing, holding tax payment, and information services since 2013 with a view to curtailing the requirements of its citizens to travel to headquarters back and forth (Huque and Ferdous, 2024). The historic Old Dhaka comprising localities such as Kotwali, Sutrapur, Wari, Lalbagh, Chawkbazar and Gandaria under DSCC sharply differs from other parts of Dhaka city in terms of physical, socio-economic and cultural traits. The Old Dhaka is characterized by extremely high population density, narrow and congested lanes, ageing infrastructure, a large informal and small-trade economy and a lower average level of formal education among long settled residents (Karim, 2015; Huque and Ferdous, 2024).

A good number of researches tested the citizen satisfaction with digital services through service-quality and information-systems models (Aljukhadar et al., 2022; Abdulkareem and Mohd Ramli, 2022; Alkraiji and Ameen, 2022). And among those, Bangladeshi studies, in particular, examined such models at union and municipal levels applying quantitative approach (Biswas and Roy, 2020; Biswas et al., 2024; Ferdous, Islam and Das, 2022). Moreover, international literature emphatically states that digital inclusion is shaped by socio-spatial and institutional context rather than technology design alone, and this context is best understood through qualitative enquiry (Morte-Nadal and Esteban-Navarro, 2025; Djatmiko, Sinaga and Pawirosumarto, 2025).

Against this backdrop, the present study examines qualitatively the efficiency, inclusivity and institutional trust of citizens with digital e-services at Zone 4 of DSCC as a representative of Old Dhaka to explore how these dimensions shape the satisfaction of the citizen.

1.2 Problem Statement

Despite the extension of digital e-service infrastructure into Old Dhaka's wards, there is limited grounded understanding of whether these services function efficiently and inclusively for the citizens who use them. National policy narratives around Digital and Smart Bangladesh emphasize convenience, speed and transparency (Karim, 2015). Yet independent assessments of Bangladesh's e-service centers have found persistent gaps between policy design and ground-level implementation, including uneven staff capacity, infrastructural shortfalls and continued dependence on intermediaries (Huque and Ferdous, 2024). Whether these gaps are more or less

pronounced in a historically dense, infrastructurally constrained urban core such as Old Dhaka, distinct from the rural and semi-urban union and municipal settings that dominate the existing Bangladeshi literature, remains unexplored (Biswas and Roy, 2020; Biswas et al., 2024; Ferdous, Islam and Das, 2022).

A further problem lies in the predominantly quantitative orientation of this literature. Service-quality surveys are well suited to testing predefined relationships between system quality, trust and satisfaction (Abdulkareem and Mohd Ramli, 2022; Alkraiji and Ameen, 2022), but they are less able to capture the lived, situated barriers- spatial, social and institutional- that determine whether citizens can access e-services at all, and how they subjectively experience the process of being served. International research on digital inclusion has explicitly identified a shortage of qualitative studies capable of surfacing such barriers from the perspective of marginalized users (Morte-Nadal and Esteban-Navarro, 2025), and has shown that even cities well equipped with digital infrastructure can harbor persistent accessibility gaps for elderly residents, women, low-income groups and informal-sector workers (Djatmiko, Sinaga and Pawirosumarto, 2025; Acquah, 2024; Rodríguez-Hevía, Navío-Marco and Ruíz-Gómez, 2020). Old Dhaka, with its dense population, high proportion of small-trade households and older residents, is precisely the type of setting in which such gaps might be expected to emerge, yet it has not been the subject of dedicated qualitative investigation. The core problem this study addresses, therefore, is the absence of a grounded, citizen-centered account of the efficiency, inclusivity and trust that shape citizens' satisfaction within Old Dhaka's distinctive urban wards.

1.3 Rationale of the Study

This study is justified on three grounds. First, it addresses a clear gap in the literature: while Bangladeshi e-government research has generated valuable quantitative evidence from union and municipal digital centers (Biswas and Roy, 2020; Biswas et al., 2024; Ferdous, Islam and Das, 2022), it has rarely examined digital service delivery within a dense, historic urban core through in-depth qualitative methods, despite explicit calls in the international literature for precisely this kind of research (Morte-Nadal and Esteban-Navarro, 2025). Focusing on Old Dhaka, the study extends the geographic and methodological scope of existing Bangladeshi e-government scholarship.

Second, the study has practical significance for policy and administration. Understanding of findings of the qualitative studies as to the efficiency, inclusivity and trust experienced by

citizens with digital e-services will help DSCC and national digital-governance authorities allocate infrastructure, train staff and design grievance-redress mechanisms accordingly at areas with distinctive spatial and demographic constraints (Huque and Ferdous, 2024). Given that Bangladesh continues to expand its Smart Bangladesh agenda, timely, locally grounded evidence of this kind can help ensure that digitization does not inadvertently widen existing inequalities of access among elderly residents, women, low-literacy citizens and informal small traders (Djatmiko, Sinaga and Pawirosumarto, 2025; Acquah, 2024).

Third, the study contributes conceptually by foregrounding trust as a mediating factor in citizen satisfaction (Abdulkareem and Mohd Ramli, 2022; Alkraiji and Ameen, 2022), and by examining how this trust is constituted, in practice, through relationships with specific digital-center intermediaries rather than with abstract systems or institutions. This nuance, difficult to capture through structured surveys, is of value both to scholars of e-government service quality and to practitioners designing citizen-facing digital services in similarly dense, informally structured urban settings elsewhere in South Asia.

1.4 Research Objectives

The general objective of this study is to explore the citizens' satisfaction with digital e-services at Zone 4 of DSCC as a representative of Old Dhaka. This general objective is pursued through the following specific objectives:

1. To examine how citizens of Zone 4 of Old Dhaka experience the efficiency of digital e-services delivered through ward and city-corporation channels.
2. To identify the socio-spatial and institutional factors that shape the inclusivity of digital e-services for different groups of citizens, including variation by age, gender, income, literacy, occupation, physical ability.
3. To examine how citizens' trust in digital e-services is shaped by their interactions with frontline staff and institutions
4. To analyze how citizens' experiences of efficiency, inclusivity and trust relate to their overall satisfaction with digital e-governance in their locality.
5. To draw out policy and practice implications for improving the efficiency and inclusivity of digital e-service delivery in historically dense, infrastructurally constrained urban wards.

1.5 Research Questions

In line with the objectives above, the study addresses the following research questions:

1) How do residents of selected wards of Old Dhaka experience the efficiency of digital e-services provided through ward and city-corporation channels?
2) What socio-spatial and institutional factors shape the inclusivity of digital e-services for different groups of citizens in Old Dhaka?
3) How do citizens' interactions with frontline staff and institutions shape their trust in digital e-services?
4) How do citizens' experiences of efficiency, inclusivity and trust relate to their overall satisfaction with e-governance in their locality?
5) What implications do these experiences carry for improving the design and delivery of digital e-services in historically dense, infrastructurally constrained urban wards?

2. Literature Review:

2.1 Conceptualizing E-government Service Quality and Citizen Satisfaction

A substantial body of research links citizen satisfaction with e-government to measurable service-quality dimensions. Chan et al. (2021) propose a model in which core, facilitating and supporting service elements jointly shape perceived quality and satisfaction, arguing that service design- not simply the presence of a digital channel- determines outcomes; a premise central to this study, since Zone 4 of Old Dhaka shares national platforms but operates under different facilitating conditions. Aljukhadar et al. (2022) developed the EGSQUAL scale, arguing e-government quality should be assessed separately from commercial e-service quality given its mandatory, civic nature. Abdulkareem and Mohd Ramli (2022) show citizens' trust mediates the relationship between system/information quality and perceived government performance, informing this study's attention to trust in digital intermediaries. Alkraiji and Ameen (2022) similarly found quality and trust jointly predict satisfaction and continued use, framing satisfaction as an ongoing relationship- visible in residents' repeat visits for certificates and licenses. A recent bibliometric review (Tram, 2026) confirms service quality as the key determinant of satisfaction, trust and continued use, situating this strand within a broader digital-inclusion agenda rather than a purely technical one- a framing this paper adopts.

2.2 Digital Divide and Inclusivity in E-government

A second strand interrogates whether e-government narrows or widens existing inequalities. Rodríguez-Hevía, Navío-Marco and Ruíz-Gómez (2020) found digital skills influence e-government use more than device or connectivity access, suggesting skills-based

exclusion can persist despite adequate infrastructure. Lopez Blanco and Albertini (2025) found that although digital-engagement disparities among older adults have narrowed across Europe, age remains a stubborn predictor of exclusion. Morte-Nadal and Esteban-Navarro (2025) made eighteen recommendations on access, skills, interaction and outcomes, but their review lacks qualitative research on marginalized users- a gap this paper addresses- while their call for hybrid digital/face-to-face models aligns with the reliance on human intermediaries among older, less-literate Old Dhaka residents. Djatmiko, Sinaga and Pawirosumarto (2025), integrating Digital Divide Theory with the Technology Acceptance Model, found trust, accessibility and institutional policy jointly shape digital-inclusion outcomes, with gaps persisting for elderly, low-income and disabled residents even in well-served urban areas. Acquah (2024) found small enterprises in Ghana face distinct administrative and connectivity barriers, mirrored by the record-keeping difficulties Old Dhaka's informal traders face in document-based verification.

2.3 E-government and Citizen Satisfaction in the Bangladeshi Context

This research addresses gaps in studies testing citizen satisfaction with e-governance in Bangladesh. Karim (2015) found e-governance in Upazila Parishads reduced bureaucratic delay and strengthened monitoring of citizen-charter commitments, noting that existing research relied heavily on secondary sources rather than direct citizen engagement. Biswas and Roy (2020) found Union Digital Center users reported higher satisfaction even where service quality was moderate. Biswas et al. (2024), using the DeLone and McLean model with a two-dimensional satisfaction model, confirmed service quality and citizen participation jointly shape satisfaction, noting quantitative testing remained rare relative to qualitative work- reinforcing Morte-Nadal and Esteban-Navarro's (2025) call for qualitative research in localities such as Old Dhaka. Ferdous, Islam and Das (2022) linked satisfaction with Union Parishad e-services to responsiveness and reduced corruption. Most directly relevant, Huque and Ferdous (2024) found electronic service delivery less effective than officially claimed, citing gaps between policy and implementation, uneven staff training and continued dependence on intermediaries- conclusions this study's findings on Old Dhaka anticipate.

2.4 Synthesis and Identified Gap

Read together, these studies establish three points of consensus. First, citizen satisfaction is shaped jointly by system/service quality and trust, with trust often mediating rather than directly predicting satisfaction (Abdulkareem and Mohd Ramli, 2022; Alkraiji and Ameen, 2022). Second,

digital inclusion is multidimensional- spanning access, skills, institutional support and socio-spatial context- and continues to disadvantage older, less-literate, lower-income and small-enterprise citizens even in well-served urban environments (Rodríguez-Hevía, Navío-Marco and Ruíz-Gómez, 2020; Lopez Blanco and Albertini, 2025; Djatmiko, Sinaga and Pawirosumarto, 2025; Acquah, 2024). Third, Bangladeshi evidence remains weighted towards rural and semi-urban centers, tested mainly through quantitative surveys (Biswas and Roy, 2020; Biswas et al., 2024), while urban, ward-level e-services in a historically dense locality such as Old Dhaka remain largely unexamined qualitatively, despite calls for precisely such research (Morte-Nadal and Esteban-Navarro, 2025). This paper addresses that gap.

3. Conceptual Framework

Building on the reviewed literature and refined to the study's operational focus on Zone 4 of Dhaka South City Corporation (DSCC), citizen satisfaction with digitized e-services is conceptualized as the joint product of three interacting dimensions- efficiency, inclusivity and institutional trust- examined across the three digitized services under study- Birth and Death Registration, Holding Tax Collection and Trade License issuance and renewal. Perceived efficiency captures the speed, procedural simplicity and predictability with which a citizen can complete a transaction with the Birth and Death Registration Assistant, the Taxation Officer (Municipal) or the Taxation Officer (Miscellaneous), relative to the earlier manual process (Chan et al., 2021; Aljukhadar et al., 2022). Perceived inclusivity captures whether citizens across the eleven wards of Zone 4 – differentiated by age, gender, income, literacy, occupation and physical ability – can access and complete these services at the Office of the Zonal Executive Officer without disproportionate difficulty (Rodríguez-Hevía, Navío-Marco and Ruíz-Gómez, 2020; Morte-Nadal and Esteban-Navarro, 2025). Institutional trust captures citizens' confidence in the Zonal Executive Officer, the service-rendering staff and the underlying digital platform as competent, impartial and accountable, rather than trust in technology alone (Abdulkareem and Mohd Ramli, 2022; Djatmiko, Sinaga and Pawirosumarto, 2025). Because Zone 4 comprises the historic, densely settled core of Old Dhaka, these three dimensions are understood to interact with, and be conditioned by, the zone's narrow lanes, mixed formal-informal economy and long-standing resident-functionary relationships (Huque and Ferdous, 2024). This framework structured both the KII and FGD guides and organized the coding of the findings presented in Section 5.

4. Methodology

4.1 Research Design

The study retains the qualitative case-study design set out above, narrowing its empirical focus to a single administrative zone of DSCC so as to generate an in-depth, contextualized account of how the three digitized services are experienced by both service-renderers and citizens within one bounded urban-administrative unit.

4.2 Study Area

The case is bounded to Zone 4 of Dhaka South City Corporation, comprising eleven wards and representing the historic old part of Dhaka city. All three digitized services examined – Birth and Death Registration, Holding Tax Collection, and Trade License issuance and renewal- are rendered at the Office of the Zonal Executive Officer, Zone 4, located at Nagar Bhaban, which also served as the venue for data collection.

4.3 Participants and Data Sources

Two complementary methods were employed. Five Key Informant Interviews (KIIs) were conducted with the Chief Executive Officer (CEO) of DSCC, the Zonal Executive Officer of Zone 4, the Birth and Death Registration Assistant, who administers Birth and Death Registration, the Taxation Officer (Municipal), who administers Holding Tax Collection, and the Taxation Officer (Miscellaneous), who administers Trade License issuance and renewal. Two Focus Group Discussions (FGDs), each comprising six citizen-participants purposively selected across the eleven wards of Zone 4, were conducted at the conference room of Nagar Bhaban. FGD1 brought together an elderly man, a female service holder, a male small trader, a female student, a male day laborer and a retired woman. FGD2 brought together a male businessman, a physically challenged woman, a male social worker, a female property owner, a housewife and a male local journalist. The five KIIs and two FGDs together yielded seventeen informants, deliberately varied by age, gender, occupation, income and physical ability to capture maximum variation in citizens' encounters with the three digitized services.

4.4 Data Collection

Fieldwork was carried out over three consecutive days, from 09 to 11 August 2026. KIIs used a semi-structured guide addressing the informant's role in service delivery, perceived efficiency gains and bottlenecks of the digital platform, patterns of citizen access and exclusion observed at the counter, and mechanisms for handling grievances; each interview lasted

approximately 30–45 minutes. FGDs used a semi-structured protocol comparing participants' experience of the three services with the earlier manual process, difficulties encountered in using or reaching the digital counters, reliance on intermediaries, and overall satisfaction; each discussion lasted approximately 60–90 minutes. All sessions were conducted in Bengali and audio-recorded with consent, and were supplemented by field-observation notes on queuing patterns, the physical accessibility of the Nagar Bhaban premises, and interactions between citizens and counter staff. Recordings and field notes were transcribed and translated into English, with Bengali originals retained for verification.

4.5 Data Analysis

Data were analyzed using reflexive thematic analysis (Braun and Clarke, 2006), proceeding through familiarization with transcripts and field notes, inductive open coding, and iterative grouping of codes into candidate themes reviewed against the conceptual framework in Section 3. KII and FGD datasets were coded separately in the first instance to preserve the distinct vantage points of service-renderers and service-users, before being brought together thematically to examine convergence and divergence between official and citizen accounts. Themes were revisited against field-observation notes to guard against over-reliance on self-report.

4.6 Ethical Considerations

Trustworthiness was addressed through credibility (triangulating KII, FGD and observational data), transferability (thick description of Zone 4's socio-spatial context), dependability (a consistent, guide-based protocol across all sessions) and confirmability (retention of original transcripts and coding decisions). Permission from the CEO of DSCC to use the conference room of the Nagar Bhaban for conducting the KII and FGDs was taken in advance. Moreover, the participants who gave their full consent to take part in the audio recorded interviews and discussions were briefed about the purpose of the study. Anonymity was protected through pseudonymous codes (e.g., KII-1 to KII-5, FGD1-P1 to FGD1-P6, FGD2-P1 to FGD2-P6), with no personal identity or transaction data recorded. To ensure equal speaking opportunity for all, special attention was given to a physically challenged participant and a housewife who were less accustomed to speaking in such settings.

5. Findings and Discussion

5.1 Perceived Efficiency: Gains Alongside Persistent Bottlenecks

In the KII, both the CEO and Zonal Executive Officer claimed that digitization has reduced the service time to a great extent. Now the birth and death registration certificates are being issued within a day and payments of holding tax do not require the citizens visiting service counters. Their narratives are commensurate with that of Digital and Smart Bangladesh (Karim, 2015). In conformity with this account, the Birth and Death Registration Assistant reported that typically birth and death registration takes a single day to complete; however, the requirement of authorized signatures on printed certificates sometimes delay the process. On the other hand, the correction and duplicate-cases still require crosschecking with paper archives that are yet to be scanned into the online system. The Taxation Officer (Municipal) reported that intermittent server down during the peak collection period at the fag end of the fiscal year forced the service providers to revert to manual system creating backlogs. The Taxation Officer (Miscellaneous) stated that despite operationalized online platform, Trade License renewal process still requires a physical verification visit. Consistent with his remarks, both the small trader (FGD1) and the businessman (FGD2) admitted that digitization has curtailed a full day's queue, but it still requires their physical presence for signature and verification. The elderly man and the retired woman in FGD1 expressed their resentment over their multiple visits required at the service counter because of their unfamiliarity with the online birth registration correction system. Therefore, from the observation of the participants' accounts in both KII and FGDs, it is understandable that the digital system alone cannot guarantee a fully efficient and end-to-end transaction. This observation aligns with the findings of Huque and Ferdous (2024) and Chan et al. (2021) who argue that service design, not the channel alone, determines outcomes.

5.2 Inclusivity: Uneven Across Age, Gender, Income, Literacy, Occupation, Physical Ability

Several interesting factors shape the inclusivity gaps observed in Zone 4. The participant with physical disability marked the absence of ramp as a major barrier to reaching the service counter. This hindrance is divorced from the digital interface and cannot be captured by system quality surveys (Rodríguez-Hevía, Navío-Marco and Ruíz-Gómez, 2020).

The elderly male participant and the retired woman in FGD1 reported that they had to depend on their grandchildren or paid computer-shop operators near Nagar Bhaban to complete online forms. Their cases align with the findings of Lopez Blanco and Albertini (2025) that age

remains a persistent predictor of digital exclusion and call for hybrid models combining digital systems with human assistance (Morte-Nadal and Esteban-Navarro, 2025).

Similarly, the housewife (FGD2) and the female service holder (FGD1) respectively reported that the first faced difficulty in reconciling office hours with domestic responsibilities while the second was uncomfortable in navigating the crowded waiting area. Their experiences echo the evidence that women often encounter a disproportionate burden in accessing public services despite the presence of digital infrastructure (Djatmiko, Sinaga and Pawirosumarto, 2025).

The day laborer (FGD1) and the social worker (FGD2) pointed out that they had to travel to Nagar Bhaban for in person verification at the cost of their daily income. This loss bears testimony to the fact the fact that the inclusivity of the people earning their livelihood on daily basis within the informal and wage-dependent economy of Zone 4 is compromised by the administrative and verification barriers that Acquah (2024) also identified among small enterprises.

In contrast to this situation, the student (FGD1) and the property owner (FGD2), comparatively more literate and better resourced, reported that they could comfortably complete the same transaction. Their experience aligns with the argument that digital skills, rather than access alone, play a vital role in ascertaining the ease of the digital service users (Rodríguez-Hevía, Navío-Marco and Ruíz-Gómez, 2020).

5.3 Institutional Trust: Anchored in Staff, Not Systems

In both FGDs, the participants expressed their trust in specific staff members i.e. the Birth and Death Registration Assistant or a particular Taxation Officer rather than in online platform. This finding reinforces the argument that trust mediates, rather than automatically stems from, the system quality (Abdulkareem and Mohd Ramli, 2022). The interview with the Birth and Death Registration Assistant further confirms this pattern from service provider's perspective. He explained that many residents prefer to submit documents directly to him and obtain confirmation of correction instead of relying on the online status tracker despite the fact that both sources provide identical information.

Likewise, the journalist (FGD2) raised concerns about the absence of a conspicuous fee schedule for Trade License renewal and the non-availability of a visible and functional grievance

redressing mechanism. Their concerns reflect the observation of Huque and Ferdous (2024) with regard to continued reliance on intermediaries and persistent accountability gaps.

The Zonal Executive Officer admitted that people are still inclined to asking familiar staff for face-to face confirmation even after an online transaction is over. He referred to this habit as a form of trust developed during the pre-digital period. The CEO in the interview referred to some initiatives i.e. setting up helpdesks and projection of citizen charter in an attempt to build citizen trust. However, he acknowledged their uneven implementation across zones.

The small trader and the businessman indicated to the informal payments the service seekers make to speed up the verification process, especially for Trade License. This endorses the dependence on intermediaries that digital system failed to remove- a pattern Ferdous, Islam and Das (2022) also noticed in the e-service system at Union Parishads of Bangladesh.

5.4 Cross-Cutting Observation: Old Dhaka's Socio-Spatial Constraints

The field observation notes indicate that the narrow and congested approach lanes to Nagar Bhaban and long queues at service counters discouraged the day laborer and physically challenged participant to receive the services. This observation reinforces the premise of the conceptual framework of this study that digitization in Zone 4, instead of working independently, operates within the socio-spatial constraints of Old Dhaka (Huque and Ferdous, 2024). This fact also explains why the efficiency and inclusivity experienced by citizens differ from the more optimistic accounts given in KIIs.

5.5 Synthesizing Citizen Satisfaction: How Efficiency, Inclusivity and Trust Interact

Read collectively across FGDs and KIIs, the three dimensions- efficiency, inclusivity and trust- do not act on citizen satisfaction independently. Rather they interact with one another to produce what can be understood as conditional, and unevenly distributed satisfaction rather than a uniform or shared sense of contentment with digital services.

For citizens well-positioned to exploit the digital channel- literate, income-secure and time-flexible, as the student and property owner (FGD1, FGD2)- efficiency gains translate fairly directly into satisfaction: shorter processing times are experienced as a genuine improvement over the manual system, matching the institutional optimism of the CEO and Zonal Executive Officer.

For citizens who face inclusivity barriers, however, the same efficiency gains are diluted or reversed by the additional steps required to access them. The elderly man and retired woman's reliance on grandchildren or paid computer-shop operators, the physically challenged participant's

exclusion by Nagar Bhaban's physical infrastructure, and the day laborer's and social worker's lost wages from in-person verification visits each convert a nominally faster process into one that still carries the old transaction costs, only redistributed rather than removed. For these citizens the efficiency benefits of digitization remain only partially reaped. And the gap between promised and experienced benefits, not the technology itself, limits citizens' satisfaction.

Trust fills this gap left by the uneven efficiency and the incomplete inclusivity. Since efficiency at the platform level is unequal and inclusivity is incomplete, people rely on their relationships with specific frontline staff in order to make the system usable and predictable in real-life situations. Both the Birth and Death Registration Assistant's explanation of residents preferring his personal confirmation to the online status tracker, and the small trader and businessman's ongoing dependence on informal payments in order to speed up verification show that trust in known staff acts as an informal, human remedy against the kinds of obstacles caused by the gaps in efficiency and inclusivity.

In this sense, trust in Zone 4 is not simply another factor contributing to satisfaction alongside efficiency and inclusivity. Instead, it partly helps compensate for the weaknesses in these areas. When efficiency or inclusivity falls short, trust in individual staff members can help maintain a certain level of satisfaction.

However, the journalist's concern about the lack of a clear fee schedule and an effective grievance channel highlights the limits of this kind of trust. While personal trust in staff can make everyday interactions easier, it cannot replace proper institutional accountability. As a result, satisfaction becomes dependent on the goodwill and availability of particular individuals rather than on a system that is consistently reliable and accountable.

Overall, then, citizen satisfaction with digital e-services in Zone 4 is genuine for citizens able to complete transactions largely unaided, but for the substantial group facing inclusivity barriers, that satisfaction is conditional, staff-mediated, and only as durable as the informal relationships currently sustaining it- a pattern consistent with, and extending, Abdulkareem and Mohd Ramli's (2022) finding that trust mediates rather than directly produces satisfaction.

6. Limitations

This study is bounded to a single zone of DSCC and its findings are therefore not statistically generalizable to the corporation's other nine zones or to Dhaka North City Corporation, although transferability to similarly dense, historic wards elsewhere in Old Dhaka is

plausible. The three-day fieldwork window, from 09 to 11 August 2026, constrained the number of KIIs and FGD participants that could be engaged, and each of the three digitized services was represented by only a single service-rendering KII, limiting triangulation of any individual official's account against a second staff perspective on the same service. The seventeen informants, while purposively varied for maximum diversity, cannot capture the full heterogeneity of Zone 4's eleven wards. Reliance on self-reported experience, together with single-researcher coding only partly offset by field-observation notes, carries some risk of social-desirability bias, particularly in interviews with senior officials. Finally, translation of recordings from Bengali to English risks some loss of nuance in participants' original expressions.

7. Conclusion and Recommendations:

7.1 Conclusion

Drawing on five KIIs and two FGDs conducted at Nagar Bhaban between 09 and 11 August 2026, this study finds that citizen satisfaction with digitized e-services in Zone 4 of DSCC is neither uniform nor purely a function of the digital platform itself, but emerges from the interaction of three unevenly distributed dimensions: efficiency gains that are real but partial, inclusivity that remains constrained along lines of age, gender, income, literacy, occupation and physical ability, and institutional trust that functions less as a byproduct of system quality than as a compensatory relationship with familiar frontline staff. For citizens able to navigate the digital channel largely unaided, satisfaction is genuine; for those facing inclusivity barriers, it is conditional, staff-mediated, and dependent on informal relationships that current institutional arrangements do not yet formalize. These findings extend the Bangladeshi and international e-government literature reviewed in Section 2 into the distinctive, historically dense setting of Old Dhaka, confirming that service quality, digital inclusion and institutional trust interact with, and are conditioned by, local socio-spatial context rather than operating as purely technical variables. Targeted, comparatively low-cost interventions- physical accessibility improvements, assisted digital help-desks, transparent fee and grievance mechanisms, and continued staff capacity-building – emerge as necessary complements to platform-level digitization if the efficiency, transparency and inclusivity promised under the Smart Bangladesh agenda are to be realized for citizens of historically dense, infrastructurally constrained wards such as those of Zone 4. Future research extending this qualitative approach to DSCC's remaining zones, and comparatively to Dhaka North City Corporation, would help establish how far these patterns hold across Old Dhaka more broadly.

7.2 Recommendations:

First, Nagar Bhaban and associated ward facilitation points should be retrofitted with ramps and priority counters to close the physical-access gap raised by the physically challenged participant, an infrastructural fix distinct from any purely digital intervention (Djatmiko, Sinaga and Pawirosumarto, 2025).

Second, DSCC could formalize assisted digital help-desks staffed to complete forms for elderly and low-literacy citizens, effectively absorbing the informal computer-shop economy that currently substitutes for such support, in line with Morte-Nadal and Esteban-Navarro's (2025) call for hybrid digital/face-to-face models.

Third, introducing extended or flexible service hours, and where feasible mobile or ward-level facilitation, would ease the disproportionate burden reported by the housewife, the female service holder and the day laborer, whose participation is constrained by domestic responsibility or lost daily wages respectively.

Fourth, completing the digitization of remaining verification steps for Trade License renewal and birth/death correction requests would narrow the gap between policy intent and ground-level practice that both the Taxation Officer (Miscellaneous) and citizen participants identified.

Fifth, making the fee structure clear and standardized, along with establishing an accessible and effective grievance-redress mechanism, would directly respond to the concerns raised by both the journalist and traders about informal payments. These measures could help strengthen institutional trust, which is different from simply trusting the system itself.

Sixth, DSCC should build redundancy or backup protocols to reduce server downtime during peak tax-collection periods, so that efficiency gains are not reversed precisely when demand is highest.

Finally, since trust was shown to route through individual staff rather than the platform, continued investment in citizen-facing capacity-building for the Birth and Death Registration Assistant and the Taxation Officers would reinforce, rather than undercut, the credibility of the digital system itself.

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(Please read carefully)

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2. *Put tick (✓) marks on Evaluation method and Institution's Name.*

Name: Dr. Mohammad Moyenul Hoque Khan
Roll No: 125

A Seminar Paper on

Evaluation of Existing Promotion Rules of Health Cadre Officials of Bangladesh- A Gap analysis

Submitted by:

Dr.Mohammad Moyenul Hoque Khan
Roll-125
158th ACAD
BPATC, Savar, Dhaka

Evaluation of Existing Promotion Rules of Health Cadre Officials in Bangladesh - *A Gap Analysis*

Abstract

The present study examines the rules of promotion of officials of the Health Cadre of Bangladesh Civil Service (BCS), comparing them against Bangladesh Civil Service Recruitment Rules, 1981, BCS (Examination for Promotion) Rules, 1986, and subsequent amendments. The aim of the study is to examine the discrepancies between the rules of promotion, as enshrined in the legal framework, and their implementation. A mixed-method approach is used where an analysis of the existing legal and policy framework is integrated with a survey among the current officials of the Health Cadre. The analysis focuses on the socio-demographic and service characteristics of respondents, their knowledge of the rules of promotion, causes and consequences of promotion delay, views on the nature and extent of unfairness in the process of promotion, problems in recognition of BM&DC recognition and academic qualifications, and preferred reforms. Prolonged duration of the Departmental Promotion Committee (DPC) meetings and insufficient number of sanctioned vacancies emerge as the most popular causes of the delay, while promotion delay is significantly linked to reduced professional motivation. Limited knowledge of the processes of appeal and filing of grievances is revealed, contradictory views on whether the promotion process is based on merit or seniority is reported by respondents, as well as the problem of inconsistent recognition of scientific publications and feeder-post differences between cadres. Introducing the digital system of promotion management and holding more frequent DPC meetings are the most popular priorities for the reforms. Thus, the rules of promotion developed in 1981 and 1986 constitute a well-founded procedure, but have not been substantially adjusted to the specifics of the Health Cadre structure.

Keywords: Health Cadre; BCS promotion rules; Bangladesh Civil Service Recruitment Rules 1981; BCS Examination for Promotion Rules 1986; Departmental Promotion Committee (DPC); promotion delay; policy gap analysis

Introduction

Promotion process is an important aspect to ensure efficiency, motivation, accountability and effectiveness of any health work force. In Bangladesh, the promotion of officers in Bangladesh Civil Service (Health) Cadre is based on statutory service rules, government notifications, seniority rules, professional qualifications and decisions of the Departmental Promotion Committee (DPC). Career promotion in the health cadre has not only impacts on individual professional development but also on specialist deployment, institutional leadership and service delivery in the health sector.

In addition to having specific cadres, the officers of the Health Cadre are engaged in the clinical practice, medical education, research and health administration. As a result, promotion in the Health cadre cannot be dependent only on the length of service and sanctioned vacancies. The professional qualification, performance, merit, experience, specialist needs and institutional requirements have to be taken into account in the process of promotion in a transparent and predictable manner.

Despite the fact that the country has developed the rules and procedure for recruitment, promotion and recognition of professional achievements, some information from research questionnaires, KII and FGD suggests the lack of compliance with official policies in the promotion process. Some of the problems are related to the prolongation of career stagnation, dependency on sanctioned vacancy, ambiguous rules concerning postgraduate qualifications and their equivalence, publication requirements, DPC meetings, cadre/non-cadre issues, need-based creation of senior posts and discretionary influence.

These issues can negatively affect the professional motivation, career satisfaction and utilization of experienced physicians. The issue, however, is not only related to the existence of the promotion rules but also to the question whether the existing system provides the process of promotion which is fair, transparent, merit, predictable and meets the evolving needs of the health system.

Against this background, the present study evaluates the promotion system applicable to Bangladesh Civil Service (Health) Cadre officials through a policy gap-analysis approach. Particular attention is given to the relationship between eligibility and promotion timelines, professional qualifications, sanctioned vacancies, cadre and non-cadre pathways, transparency and institutional decision-making. The study also considers the relevance of professional recognition by the Bangladesh Medical & Dental Council (BM&DC) and the role of professional bodies in ensuring appropriate recognition of postgraduate qualifications and professional achievements.

1.1. Problem Statement

The focus of this research is the discrepancy between the formal framework of promotions for Health Cadre officials and their actual career progression path. Despite having a set of service and promotion regulations, a lot of Health Cadre officials find themselves in a position of stagnation and lack of certainty regarding their promotions. The vacancy-based framework of promotions can lead to cases when an officer satisfies all the criteria but is unable to proceed further because there is no corresponding sanctioned post. At the same time, the unevenness of post creation across different specialities can cause inequalities in career opportunities.

The results of the Research questionnaires, Key Informant Interviews (KII) and Focus Group Discussions (FGD) show an ambiguity in the process of identification and recognition of postgraduate qualifications (e.g. MCPS and Diplomas), lack of information regarding the applicability of PhD degrees in clinical promotion, and confusion in requirements for publication of scientific works. The emergence of new medical specialities and subspecialities becomes another challenge for the regulation, which may not always correspond to modern needs.

Among other operational problems, one can name irregular DPC meetings, lack of coordination between professional qualifications and sanctioned posts, as well as conflicts involving the cadre, non-cadre and ad hoc tracks. The perception of discretionary decision-making or political influences may affect the trust towards the procedure.

The above-mentioned problems can be considered from the perspective of three interrelated policy gaps: (i) rule-level gaps, where the criteria are unclear and/or insufficient; (ii) implementation gaps, where vacancies, post creation and DPC procedures limit promotions; and (iii) governance gaps, where transparency, accountability and grievance-redress mechanisms may be insufficient.

Without addressing these gaps, the existing promotion process will be a continuous source of job dissatisfaction, inefficiency in the utilization of experience of specialists, and unequal opportunities in terms of transparency, accountability, and grievance redress system. Therefore, the need of the hour is an evidence based analysis and reforms in the promotion process so that it becomes more transparent, meritorious, professionally recognized, and health system oriented career management framework.

1.2 Objectives

1.2(a) General Objective

Policy gap analysis on the promotion rules applicable for Bangladesh Civil Service (Health) Cadre officials and suggesting reforms so that the promotion rules become consistent, transparent, maintaining the seniority, merit based and in line with recognition policies of BM&DC.

1.2(b) Specific Objectives

1. Identification of policy gaps, ambiguities and implementation related issues on promotion.

2. Analysis of perception of the Health Cadre officials on transparency and fairness of the promotion process.

2. Literature Review and Policy Gap

2.1 Legal and Policy Framework

The promotion rules for Bangladesh Civil Service (Health) Cadre officials are primarily governed by two statutory rules along with other executive rules, circulars, and amendments thereto:

• Bangladesh Civil Service Recruitment Rules, 1981 – under article 133 of the Constitution, this rule states the general procedure for recruitment and promotion of all cadres of the BCS service including the criteria of length of service, DPC/SSB clearance and merit cum seniority for promotion.

• The BCS (Examination for Promotion) Rules, 1986 - that introduced a departmental promotion exam as another criterion of promotion to certain grades, with concessionary provision (like Rule 8) for certain category of officers.

• Subsequent administrative amendments and Ministry of Health and Family Welfare / Directorate General of Health Services (DGHS) circulars, which have periodically adjusted grade structures, feeder-post definitions, and the weight given to postgraduate qualifications and scientific publications in promotion consideration.

2.2 Identified Gaps in the Existing Framework

Evaluation of the overall BCS recruitment and promotion framework in context of Health Cadre specificities results in the identification of a number of repeated gaps which have been pointed out by policy analyses and related media outlets:

- Cadre neutral framework: The 1981 Rules and 1986 Promotion Rules were developed as universal, cadre-neutral instruments. They do not consider the specificities of Health Cadre feeder-post framework where officers from clinical, educational and public health branches compete for limited senior posts (grades 1st–3rd) compared to administrative and other cadres.

- Mismatch between vacancies and cadre size: Since the number of authorized senior posts (Professor, Associate Professor, Consultant, Director level posts) does not increase

proportionally to the size of Health Cadre, many officers of this cadre face extended stagnation at the stage of promotion. It is consistent with reports about officers spending more than 20 years at the same grade.

- Insufficient consideration of academic and scientific achievements: The 1981 Rules and 1986 Promotion Rules do not envisage any weighted assessment of the criteria of postgraduate qualification, BM&DC approved specialization and academic publications in the promotion scoring. Thus, this criterion can be inconsistent in use during DPC cycles.

- Lack of time limit for DPC/SSB meetings: Although Rules state that DPC/SSB clearance is necessary for promotion, they do not specify the fixed time period for DPC meetings.

- An allowance for administrative backlog and inconsistency in frequency of promotion case processing.

- Poor appeal and grievance mechanisms: The system does not provide for any clearly defined channels for filing appeals or grievances against promotion decisions, thus reducing awareness and confidence on the part of the officers.

- Lack of transparency and digitization: Processing of promotions (seniority lists, service records, DPC scheduling, and service confirmation) continues to depend on traditional methods of record keeping, as common causes of delay.

- Susceptibility to non-merit influences: Due to the combination of merit and seniority in the Rules without the implementation of a codified and weighted scoring system, there exists room for subjective influence in individual promotion decisions, an issue mentioned in professional Thus, based on the reassociations' claims regarding inter- and intra-cadre discrimination within the health sector.

view of literature and policies, it becomes apparent that despite the fact that the 1981 Rules and 1986 Promotion Rules have laid the foundation of the procedure of the BCS promotion process, no further improvements were implemented to take into account the peculiarities of the Health Cadre, specifically a limited number of senior positions, existence of dual track career system and requirement of a transparent, criteria based and timely promotion process.

3. Methodology

The original proposal utilizes a sequential mixed-method design, whereby the analysis of administrative data will be followed by qualitative research.

In the case of the seminar paper, the following sources are used:

- the research proposal,

- policy and service rule references from the proposal,

- research questionnaire, and

- key informant interviews (KII).

The Questionnaire and KII were subjected to thematic analysis without attribution of individual informants. The main themes were categorized as:

2. Qualifications;

3. Publication;

4. Merit and seniority;

5. Issues related to cadre or non-cadre;

6. DPC;

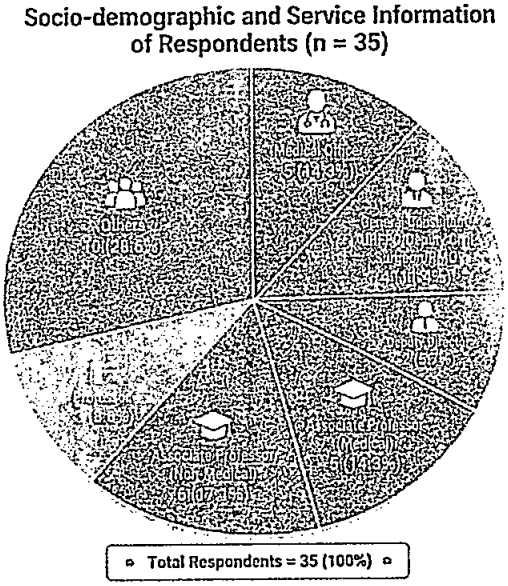
7. Political influence and transparency; and

8. Career Structure.

Because of the low sample size of the KII and the research questionnaires, the graphical representation shows the themes by their frequency in the available interviews and not in terms of representative statistics of the population.

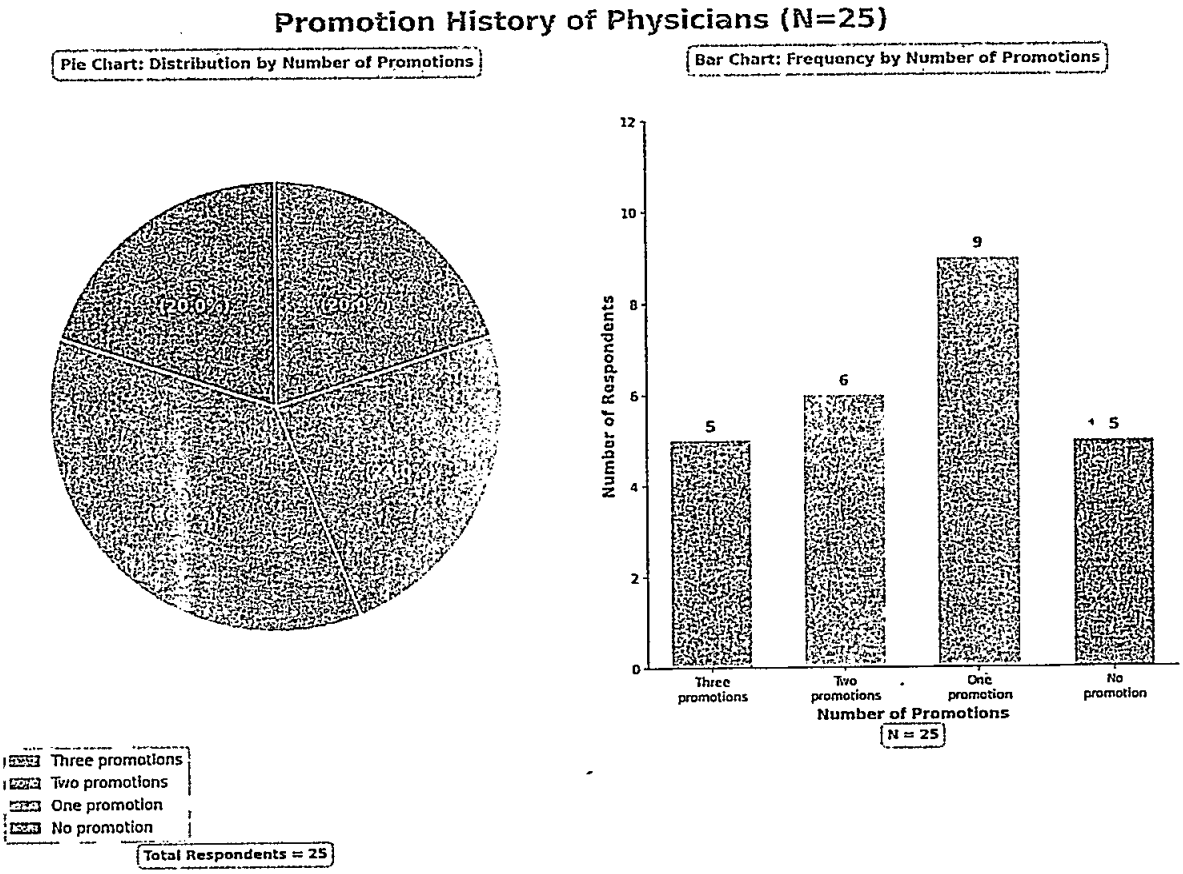
4. Data Analysis

4.1(a). Socio-demographic and service information



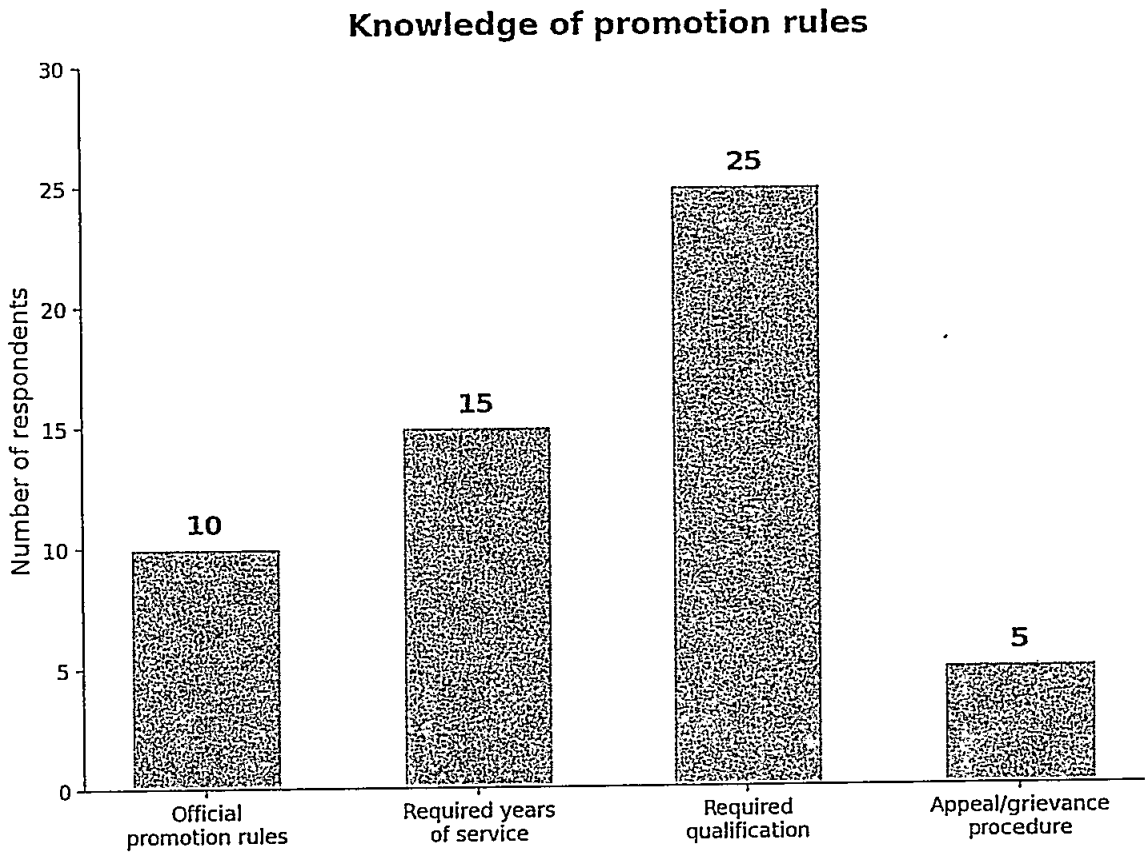
In the sample of 35 respondents, 5 were MOs and not eligible for promotion yet, 4 were UHFPOs/DCSs/RMOs/Junior Consultants, 2 were Deputy Directors, 5 were Assistant Professors, 6 were Associate Professors, 3 were Professors, and 10 were Health Ministry personnel.

4.1(b). Promotion history



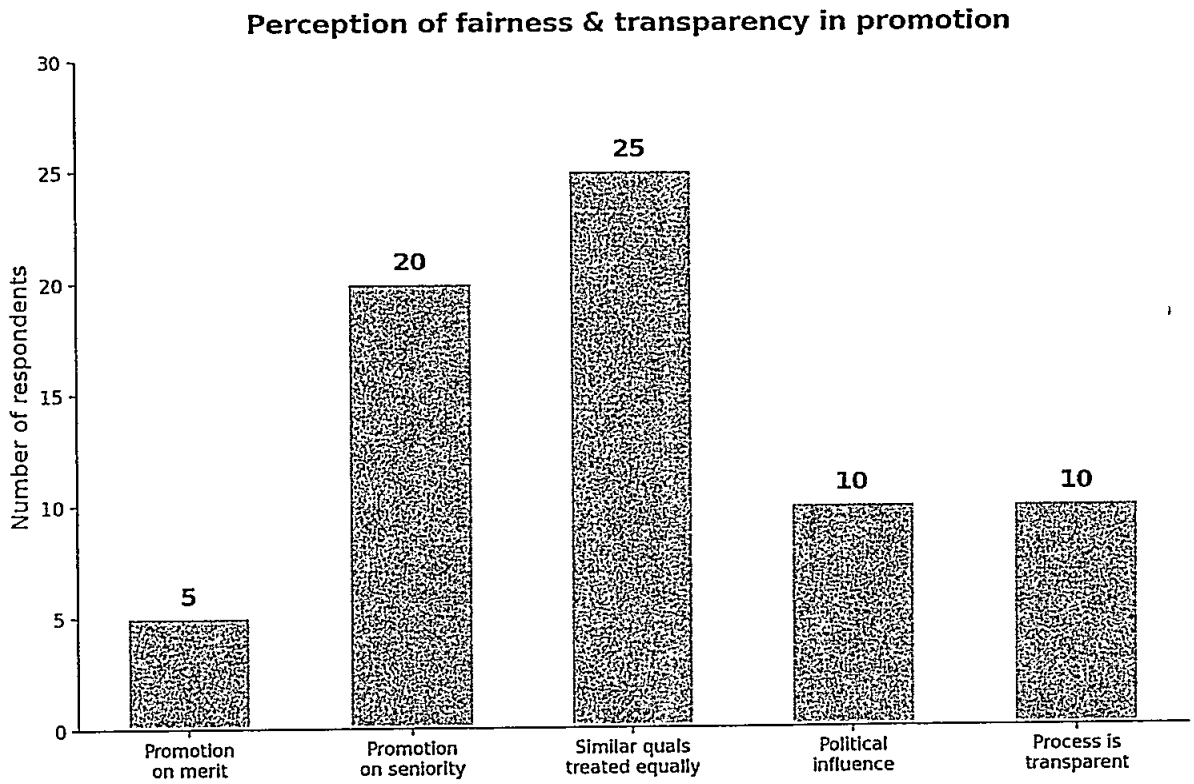
Out of 25 respondents, 5 received 3 promotions, 6 received 2 promotions, 9 received 1 promotion, and 5 did not receive any promotion yet.

4.1(c). Knowledge of the Promotion Policy



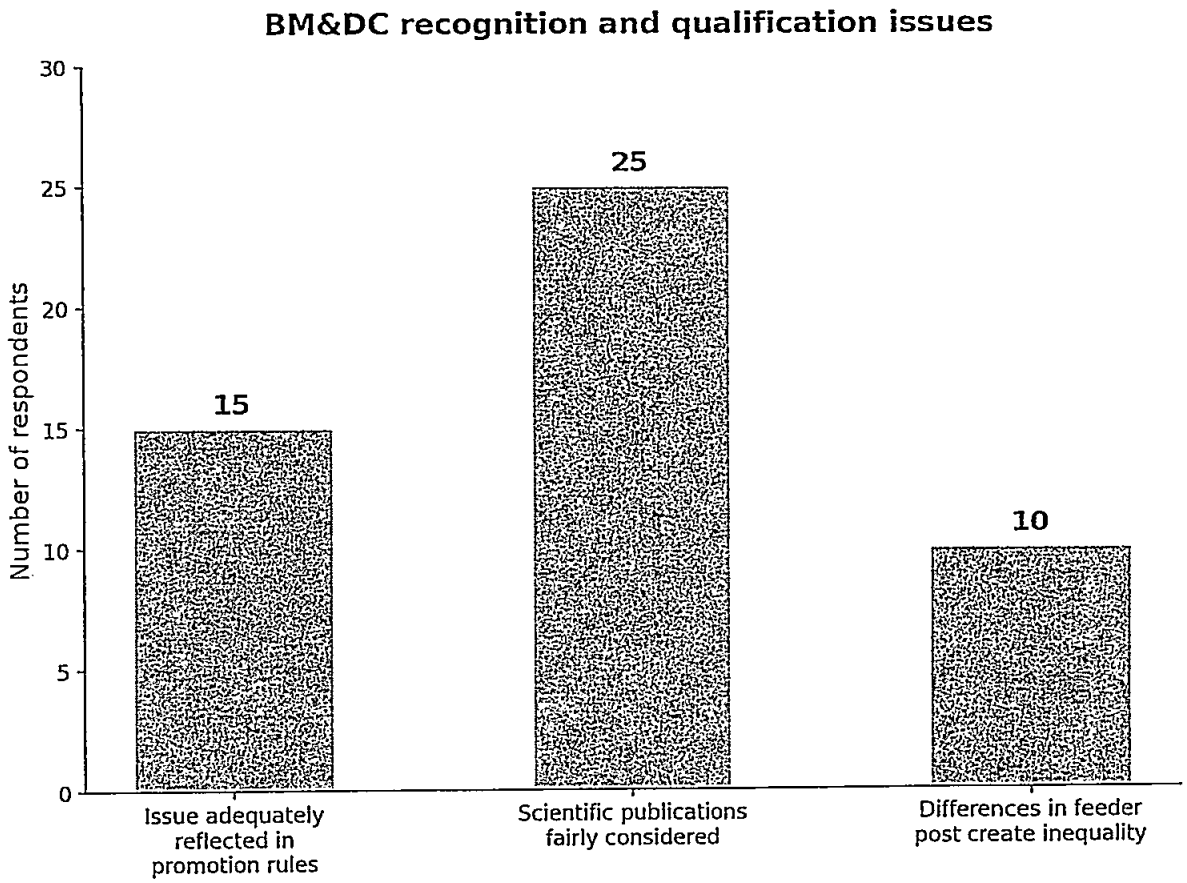
On knowledge of the promotion rules, all 25 respondents were aware of the qualifications requirement. Fifteen respondents knew the years of service, 10 respondents knew only the promotion rules, and 5 respondents knew about the appeal/grievance procedure.

4.1(d). Perceptions of Fairness and Transparency



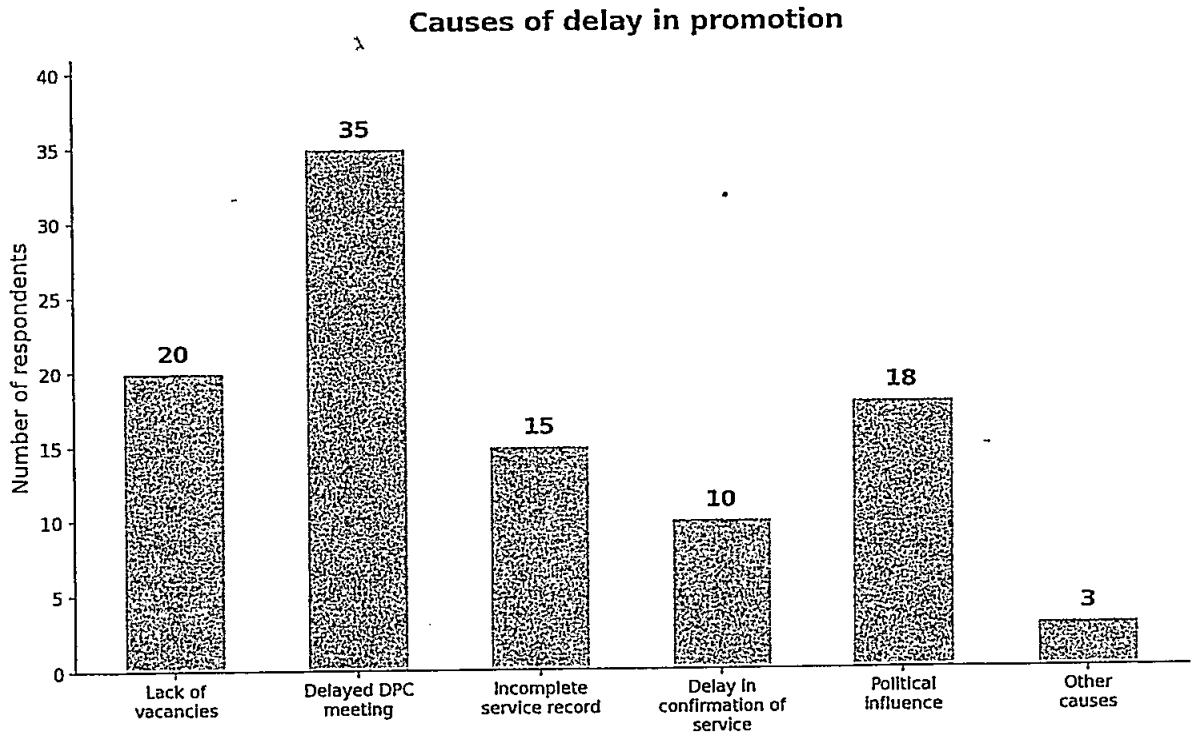
With regard to the perceptions of fairness and transparency, 25 respondents felt that people with the same qualifications should be treated equal under the promotion process; 20 felt that promotions should be according to seniority; 10 believed in political influence; 10 felt that the process should be transparent; and 5 felt that promotion should be according to merit.

4.1(e). BM&DC Recognition & Qualification Issue



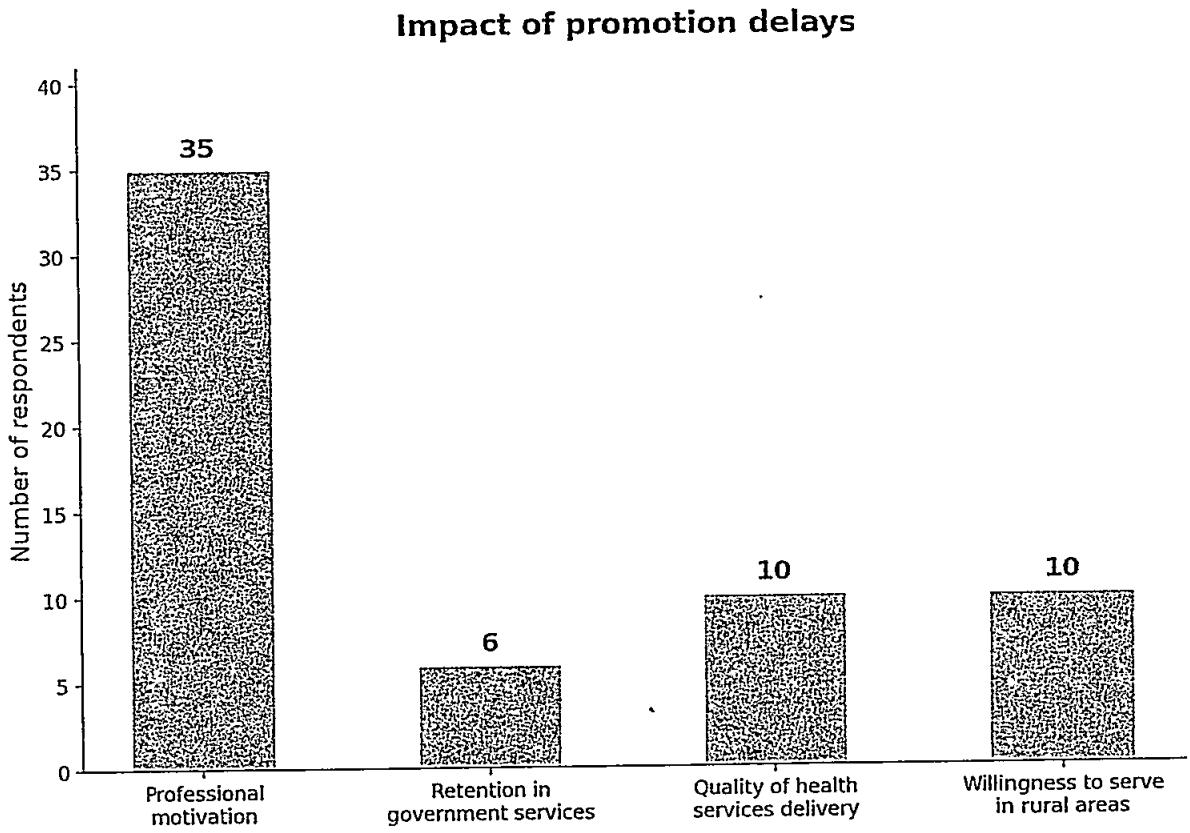
About BM&DC Recognition & Qualification issue 25 persons believed that scientific publications fairly considered in the promotion system, 15 persons believed that BM&DC recognition & qualifications issue adequately reflect in the promotion system & 10 persons perceived that difference in length of feeder post create inequalities among the candidates

4.1(f). Causes of delay in Promotion



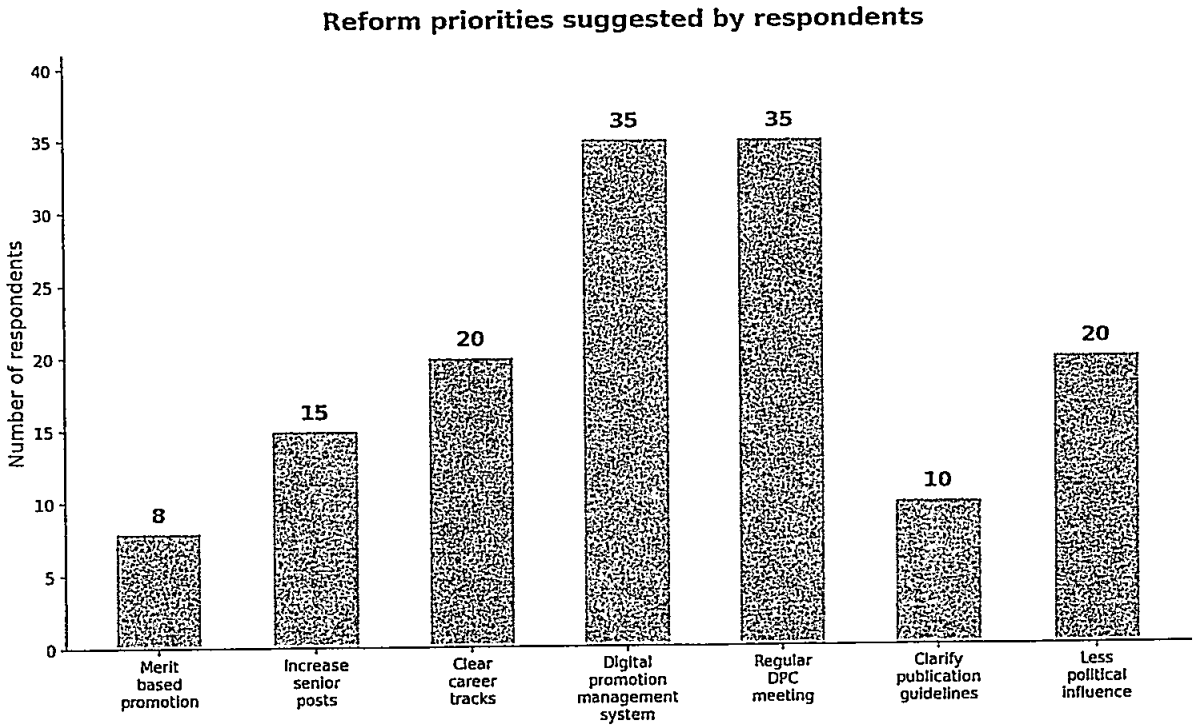
Enquiry about the delay in promotion system 35 persons believed that delayed in DPC meeting is the main causes for promotion delay, 20 persons blamed for lack of vacancies, 15 persons blamed for incomplete service records, 10 persons blamed for delayed confirmation of services & 18 persons believed that political influence is responsible for delay in promotion.

4.1(g). Impact of promotion Delay



In consequences of promotion delay among the respondents 35 persons believed that delay in promotion hampered their professional motivation, & 6 persons believed that it affects quality health service delivery, 6 persons gave opinion that it causes a negative impact in retention in government services.

4.1(h). Reform Priorities Suggesttion



In opinion about reform priorities - 35 persons suggested for regular DPC meeting & establishment of digital promotion management system, 20 persons gave opinion about clear career tracks & less political influences, 15 persons suggested for increase senior posts, 10 persons gave opinion about clarity of publication guideline & 8 persons suggested for merit base promotion system

4.2. Findings:

1. Delayed promotion is the main problem. Data provided reveal the issue of delayed meeting of the Departmental Promotion Committee (DPC) as the most often mentioned reason for delayed promotion. All 35 participants mention DPC delayed meetings as the reason for promotion delay. Other reasons reported include shortage of sanctioned vacant posts (20 respondents), political influence (18), incomplete service record (15), and delay in service confirmation (10). Therefore, it can be concluded that there are both procedural and structural reasons for the problem.

2. Lack of vacant senior posts creates a structural issue. 20 respondents indicate shortage of vacant posts as the reason for the delay. Moreover, from the review of policies it can be seen that there is a mismatch between the number of officers in the Health Cadre and sanctioned senior posts. Hence, the officer can experience structural stagnation even if he/she meets all the service and professional criteria since there is no appropriate sanctioned vacant position.

3. Political influence is a major issue of governance. Political influence is indicated by 18 out of 35 respondents as the reason for the delay. Moreover, 10 of 25 respondents indicate in perception data that political influence plays a role in promotion process. It should be stated that these results should be considered as perceptions of respondents rather than proved cases of political interference. Nevertheless, the consistent nature of the issue reveals possible problem with transparency and governance in the process which can undermine its predictability.

4. Promotion history varies a lot among respondents. Among 25 respondents indicating their promotion history, 5 received three promotions, 6 – two promotions, 9 – one promotion, and 5 respondents did not receive any promotion yet.

5. Awareness of the rules of formal promotions is inconsistent. Whereas all 25 respondents have been informed about the required qualification standards, only 15 know about required years of service, 10 know about formal promotion rules, and 5 know about appeal/grievance procedures. This considerable inconsistency demonstrates an obvious information/transparency gap.

6. Perceptions of fairness involve the tension between equal treatment, seniority, merit and transparency. 25 out of 25 respondents support equal treatment of the officers who have equal qualifications, whereas 20 support seniority-based promotions. 10 respondents support political influence on promotion, 10 respondents pay special attention to the transparency of the process, and 5 support the idea of merit-based promotion. These results clearly demonstrate different perceptions of the way in which seniority, merit and other factors must be balanced.

7. Issues related to qualifications, BM&DC recognition and scientific publication are very important. 25 respondents found scientific publications relevant for promotion considerations, whereas 15 believe that issues of BM&DC recognition and qualification have been properly reflected in the promotion system. 10 respondents noted that there is inequality due to the difference in the length of feed-post. The qualitative data also shows that there are ambiguities related to postgraduate qualifications, namely MCPS and Diploma qualifications, as well as issues related to PhD qualification and clinical promotion.

8. The delay in promotion considerably affects the professional motivation of the personnel. All 35 respondents stated that promotion delay negatively affects professional motivation. 6 respondents indicated its effects on the quality of health-service delivery, and another 6 respondents mentioned negative effects on retention in the government service.

9. Respondents prefer digitalisation and DPC meetings on a regular basis. The two main priorities for reform were regular DPC meetings and implementation of a digital promotion-management system which was supported by all 35 respondents. Other priorities were clearer career paths and lower level of political influence (20), more senior positions (15), clear

publication guidelines (10), and merit-based promotion (8). These priorities coincide with the gaps revealed in the analysis of policy and data.

10. General conclusion: the main gap is between formal rules and implementation. From the above analysis it is possible to conclude that the current promotion system offers formal procedural framework, however there are implementation and governance gaps which are identified. Delayed DPC meetings, insufficient number of vacancies, lack of record, confusion about qualifications and publications, lack of knowledge about appeal procedure and political influence altogether decrease predictability of the promotion system. Therefore, transparency, codification and digitalisation of the framework are suggested by the research findings.

4.3. KEY DATA SNAPSHOT

Indicator	Finding	Interpretation
Respondent profile	35 respondents	Includes clinical, academic, administrative and Ministry-linked respondents as described in the supplied document.
Promotion history	n=25	5 received 3 promotions; 6 received 2; 9 received 1; 5 received none.
Main delay factor	Delayed DPC meetings: 35	Strongest reported procedural bottleneck.
Second major delay factor	Shortage of vacancies: 20 Political influence 18/35	Indicates a structural/post-availability constraint.
Rule awareness	Official rules known by 10/25	Substantial gap in access to formal promotion information.
Appeal awareness	5/25 knew procedures	Weak awareness of grievance and appeal mechanisms.
Motivation impact	35/35 reported impact	Promotion delay is strongly associated with reduced professional motivation.
Top reforms	Regular DPC + digital system: 35 each	Respondents prioritize predictable processing and digitisation.

5.Recommendations & Conclusion

5.1.recommendations

1. Implement a comprehensive Digital Promotion Management System. Digitize records on services rendered, eligibility for promotion, seniority, vacancies, DPC dates, case progress and promotion decision-making process to eliminate delays due to manual procedures.

2. Ensure routine and time-bound DPC meetings. Schedule Health Cadre DPCs at specified date(s), preferably an annual/biannual cycle with defined administrative sanctions for non-participation in DPC cycles.

3. Ration sanctioned senior positions. Assess cadre work load, specialist services and officer strength to rationalize and develop senior positions according to the needs of the cadre.

4. Harmonization of recognition of qualifications. Issue a guideline consolidating the recognition and equivalence of BM&DC-recognized postgraduate qualifications such as relevant diplomates/MCPS/MRCS and other qualifications eligible for consideration for promotion.

5. Scientific publication criteria. Define the types, standard, authorship/co-authorship,originality of the article,review article,case report, subject specific research article,minimum number of scientific publications and update in BM&DC recognized medical journal to be considered in promotion decision making process.

6. Codification of criteria for Senior Officer promotion. Develop a system of promotion with weightage on criteria such as seniority,performance and merit,professional qualifications and academic/scientific contributions.

7. Feeder-post and career track. Assess the length of services in the specific feeder post before the next promotion is made, and identify a predictable clinical, academic and administrative career tracks.

8. Transparent promotion process without discretionary influence. Make available eligibility criteria, anonymized lists of seniority/eligibility and outcome reports, and restrict discretion of DPC process.

9. Formulate a clear appeal/grievance redress mechanism. Develop a formal and time bound mechanism for handling grievances/appeals on promotions and ensure that all officers belonging to the Health Cadre know how to use the same.

10. Safeguard motivation and employee retention in case of delays. Think of administrative recognition for the officers who have been undergoing prolonged delays in their promotion process, and also acknowledge their service in remote/rural areas while planning their career progression.

11. Communicate and enhance capacity building. Offer orientations regarding the promotion rules and processes, including required documents etc. to the officers through official means.

12. Make periodic review of the policies mandatory. Revise the promotion framework at fixed intervals so that any changes in the medical specialties, qualifications, and size of health workforce and other requirements of the health system are taken into consideration in the promotion rules.

6.2. Conclusion

This study attempted to analyze the promotion rules applicable to Health Cadre officials of Bangladesh in light of Bangladesh Civil Service Recruitment Rules 1981, BCS (Examination for Promotion) Rules, 1986, along with its subsequent amendments.

The gap analysis has established that while the existing legal framework is adequate in terms of procedure, it did not take into account the structural characteristics of the Health Cadre, namely the small number of positions compared to the cadre size, a dual career structure of both medical practitioners and scientists, and the lack of a formalised, weighted scoring system for qualification and scientific work recognition. These gaps have been confirmed by the results of the survey showing that people were unaware of the promotion rules and grievance process, pointing at delayed DPC meetings and vacancies as the main reasons of delays, noticing the unequal treatment of officers with identical qualification, and connecting the promotion delay with lower professional motivation, as well as to a lesser extent, rural retention rate.

The overlap between the most common priorities mentioned by the respondents and the structural gaps found in the analysis of the legal and policy documents shows that through the reform of the procedure together with a formalised and clear merit-cum-seniority scoring scheme, the sources of delays and unfair treatment will be effectively addressed. Otherwise, the authors note that without such changes, the current promotion rules will keep on causing the problems that have been noted, which can potentially affect motivation, retention and service provision of Health Cadre officers.

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