

**PROGRAM-FOR-RESULTS INFORMATION DOCUMENT (PID)
APPRAISAL STAGE**

Report No.: 126185

Program Name	Operation for Supporting Rural Bridges (SupRB)
Region	South Asia
Country	Bangladesh
Sector	Transport and Digital Development
Financing Instrument	PforR and IPF
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Borrower(s)	Bangladesh
Implementing Agency	Local Government Engineering Department
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I. Country Context

1. **Bangladesh is one of the world's most populous country with an estimated 165 million people in a geographical area of about 144,415 sq.-km and per capita income of US\$1,480 in 2017, well above the lower middle-income country category threshold which it crossed in FY14.** During recent years, economic conditions improved in the country. However, headline inflation increased to 5.8 percent in FY18, from 5.4 percent in FY17, reflecting increases in food prices due to supply shocks. Fiscal deficit was contained at around 4 percent of Gross Domestic Product (GDP) in FY17. The FY18 budget targets 5 percent deficit with 26.2 percent growth in expenditures. The current account balance turned into a deficit equivalent to 0.6 percent of GDP in FY17. The GDP grew well above the average for developing countries in recent years, averaging 6.5 percent since 2010, with an officially projected growth of 7.65 percent in FY18, driven by manufacturing and services. Progress on reducing extreme poverty and boosting shared prosperity through human development and employment generation has continued with the poverty incidence based on the international \$1.90 per capita per day poverty line (measured on the basis of the Purchasing Power Parity exchange rate) declining from 44.2 percent in 1991 to a 13.8 percent in 2016 (latest available poverty data). Bangladesh's performance against the Millennium Development Goals (MDG) goals was impressive against the South Asia Region average for most of the indicators. Such progress notwithstanding, the pace of poverty reduction and the rate of job creation has slowed since 2010. Bangladesh needs more effort in improving its growth rate to meet its target of moving up the middle-income rankings by 2021 and eliminating poverty by 2030. For accelerating private sector-led growth with improved investment climate, the key challenges are the need for increased infrastructure and power, with much improved quality in spending public resources, better regulations and enhanced skills of its vast and rapidly increasing labor force.

2. **Inland connectivity and logistics is one of the key focus areas that might have transformative impact on accelerating the creation of more jobs and thereby reducing poverty.** There is a significant body of empirical evidence that confirms the role of inland connectivity, in particular, rural connectivity, on economic development and social wellbeing. For instance, empirical evidence shows that the rural road investments have significant impact on poverty reduction through higher agriculture production, higher wages, lower input and transportation costs, higher output prices. Also, such improvements have led to higher schooling rates for both boys and girls. Therefore, developing and maintaining the rural road network and integrating it with higher level of road network and with other transport network continues to be the public policy priority. However, there is a need to limit connectivity expansion to

areas where it is crucial for providing much needed access to unconnected rural communities, which are generally poorer than their connected counterparts.

II. Sectoral (or multi-sectoral) and Institutional Context

3. **Rural populations in Bangladesh have high all-weather road access.** The country tops among eight countries in Asia and Africa where a recent World Bank study has calculated the Rural Access Index (RAI). RAI provides the proportion of people who have access to all-weather roads within an approximate walking distance of 2 km. The RAI figure for Bangladesh has been found to be approximately 87%. Kenya and Nepal are distant second and third ranked countries among these countries with RAI values of 56% and 54% respectively.

4. **Bangladesh started the systematic development rural road network in the mid-80s.** The government's Rural Development Strategy, unveiled in a policy paper in 1984, was the main driver for the development of rural roads.

5. **Bangladesh has extensive network of rural roads. The total road network size of the country is roughly 375,000 km.** This is equivalent to a road density of approximately 250 km per 100 sq. km. This road density is substantially higher than the density of other South Asian countries including India (160 km per 100 sq. km), Nepal (54 km per 100 sq. km) and Sri Lanka (150 per 100 sq. km.). The total rural road network comprises just over 350,000 km (94% of the network). Upazila Roads (UZRs) and union Roads (UNRs) composed of respectively 11% and 12% of the rural road network. Over a quarter (27%) of the rural road network is paved, with 82% and 57% of the UZRs and UNRs are paved. The majority of the paved rural roads in Bangladesh are in good to fair condition. 2014-15 survey results show that 55% and 54% of paved UZRs and UNRs are in good and fair condition respectively. However, the comparable figure for village roads is lower.

6. **In 2013 the Government of Bangladesh has adopted a “The Rural Roads and Bridges Maintenance Policy”.** The objective of the policy is to develop a sustainable rural transport system through appropriate maintenance management to provide safe operation of vehicles and to ensure necessary funding for their maintenance. The policy document, in particular, has provided guidance on the prioritization of rural roads and bridges under budget constraints. Maintenance of bridges and culverts on UZRs and UNRs will get urgent attention, as per the Government's policy guidance.

7. **Bridges play an important part in Bangladesh's land transport system.** This is inevitable given the country's geography, a large flat piece of land, crisscrossed by many rivers and their tributaries. The current available inventory suggests that a bridge is required for every 4.5km of UZRs and UNRs. Over four-fifths of these gaps now have structures, leaving a fifth of them to be bridged. A back-of-the-envelope calculation suggests that total resource requirements for bridging only these gaps will require in excess of US\$ 2.0 billion. There are approximately 15,000 existing rural bridges (over 6-meter span) on *upazila* roads (UZRs) and *union* roads (UNRs) in Bangladesh

8. **Total replacement value of Bangladesh's rural bridges and culverts is roughly US\$ 6.5 billion.** This figure is approximately 2.6% of the Bangladesh's 2017 Gross Domestic Product. (Table 1). An analysis of the currently available UZR and UNR data suggest the following: (a) A majority (63%) of rural bridges have short-span (below 20m); (b) The majority of the bridges were built after mid-1990s (average age of 19 years); (c) While just over two-fifths of the rural bridges are between 10 and 20 years old (which potentially need major maintenance), a quarter of the bridges are over 25 years old (they either need major rehabilitation or need to be replaced); (d) There exist many narrow bridges (less than 5.5m width) and many would require to be widened or replaced to cope with the increased traffic volumes; and (e) Approximately two thirds (69%) of the bridges have conventional traditional T-beam Reinforced Cement Concrete structures.

Table 1: Upazila and Union Roads Bridge Summary (above 6m span) Information

Road Type	Total bridged plus non-bridged gaps		Existing Bridges		Existing Gaps	
	Number	Average span (m)	Number	Average span (m)	Number	Average length (m)
<i>Upazila</i> road (UZR)	8,790	40	7,573	32	1,217	88
<i>Union</i> road (UNR)	8,994	30	7,094	24	1,900	54
UZR plus UNR	17,784	35	14,667	28	3,117	67

8. **The proposed operation is designed as a “hybrid” one.** The operation will have two parts: a Program-for-Results (PforR) part and an Investment Project Finance (IPF) part. The PforR part will support capital investments in upazila road (UZR) and union road (UNR) bridges: maintenance, rehabilitation, widening, replacement and new construction. Conversely, the IPF part will complement the PforR part by supporting the institutional development and capacity building to improve LGED’s institutional capacity for planning, design, implementation and management of rural bridges.

III. Program Scope

A. PforR Program Scope

9. **The Bank will support Government of Bangladesh’s (GoB) rural bridge related activities (hereinafter referred as the “Program for Supporting Rural Bridges” or “SupRB” or simply “Program”).** The Program is a subset of Local Government Engineering Department’s (LGED) overall program of capital investment for the construction and maintenance of rural bridges. The Program will comprise two elements: GoB’s bridge maintenance portion of the “Rural Roads and Culvert Maintenance Program” and a new government program for the capacity expansion, replacement and new construction of rural bridges. The proposed Program under LGED will encompass following several primary activities: (a) planning, technical design, quality control and management of rural bridges; (b) maintenance (major and minor) and rehabilitation rural bridges; (c) capacity expansion (widening) and replacement of bridges; and (d) construction of short to medium-span new bridges, a proportion of which will built with climate resilient features.

10. **The estimated funding envelope for the proposed Program over the 5-year Program period is approximately US\$540 million.** The Government of Bangladesh (GoB) and the Association will share 26% percent (US\$140 million) and 74% percent (US\$400 million) of the total Program costs (Table 2). The Association’s funding includes US\$362 million for PforR component and US\$38 million under IPF component to support the institutional development and capacity building activities. GoB will continue to fund bridge maintenance and rehabilitation activities with its existing non-development (recurrent) budget provision. However, to facilitate the Program’s expenditure tracking a separate economic code will be created for supporting bridge maintenance and rehabilitation activities. Another budget provision, with an economic code, under development (capital) budget, will be required for accommodating other capital expenditures (replacement, capacity expansion and new construction of bridges) of the Program. Furthermore, GoB will make a budget provision (development; recurrent) to support Program’s complementary activities linked to the institutional development component.

Table 2: Program Financing (US\$ in million)

Source	PforR Component	IPF Component	Total	% of Total
Government of Bangladesh	113.00	27.00	140.00	26%
IBRD/IDA	362.00	38.00	400.00	74%
Total Program Financing	475.00	65.00	540.00	100%

11. The proposed Program for Supporting Rural Bridges will cover 61 districts of Bangladesh. Three hill districts are excluded as these districts have different administrative arrangements as stipulated in three different legislations that created them. The Program will support:

- a. Bridges on *upazila* roads (UZRs) and *union* roads (UNRs) only;
- b. Minor and major maintenance, rehabilitation, capacity expansion (of narrow bridges that have been constraining the smooth functioning of the UZR and UNR networks including the safe vehicle operations), and replacement bridges (that surpassed their service lives or have been assessed to be unsafe for vehicle operations); and
- c. New construction of short to medium-span new bridges, which are vital for improving rural connectivity but are not financed by LGED's existing projects.

12. There will be several exclusions applicable to the Program. They are: (a) new construction of bridges with a span of 100m or above; (b) any new construction, replacement, rehabilitation, maintenance, capacity expansion activities of bridges that are judged to be like to have significant and irreversible social and environmental consequences; (c) construction of bridges in environmentally sensitive areas, such as government-listed national parks and conservation areas; and (d) any contracts in excess of US\$75 million that would constitute "high value" contracts according to the Bank's Operational Procurement Review Committee threshold. World Bank's PforR financing policy (November 2017) also suggested such exclusions, barring (a). Bridges with total span of 100m or over will be excluded from the Program as a precautionary measure as these bridges are likely to have significant and irreversible social and environmental impacts.

B. IPF Component – Institutional Strengthening and Capacity Building

13. The institutional development and capacity building component will be funded from the Investment Project Financing (IPF) instrument. This component will complement the capital expenditures that will be made using the Program-for-Results (PforR) financing instrument. The use of IPF instrument is necessary for achieving the Program's objectives and in making the Program results sustainable. The following strategies have been adopted in designing this component: (a) further deepening the efforts made under the Association funded Second Rural Transport Improvement Project (RTIP II); (b) focusing on the bridge related capacity building and institutional strengthening aspects so that they are planned, designed, implemented and managed sustainably; (c) complementing LGED's efforts in the dissemination of its successes and achievements in order to bring more transparency in its operation; (d) supporting LGED in developing new rural transport related operations including any analytical support needed for the formulation of these operations; and (e) enhancement of LGED's procurement and contract management performance through preparation and implementation of procurement strategy based on data analytics, and providing necessary trainings. For instance, the component may fund developing a specific policy that might help in the preparation and implementation of a specific rural transport/bridge project.

14. The Program plans to provide further support for several information technology (IT) initiatives undertaken by the LGED and to support additional activities for capacity building: the Program will indeed require LGED to create an additional rural bridge related 20 positions at its headquarters, including the position of an additional chief engineer. The Program will support an LGED-wide Training Needs Assessment. However, the Program plans to support LGED only in carrying out bridge related training activities, based on the need assessment. Additionally the Program will support: (a) Quality management and quality (control related activities linked to rural bridges including procurement and operationalization of associated equipment and quality related implementation support; (b) procurement of relevant software/tools and associated trainings to enhance Bridge Design/Planning/Maintenance works of LGED; (c) climate-risk focused bridge related research and development activities including Hydro-morphological assessment of potential risky bridges and the

identification of storm-surge hotspots; and (e) incremental operating costs to be incurred in the Program’s operations.

15. **The Program plans to develop and implement a comprehensive communication and dissemination plan.** An assessment for the Program’s information dissemination requirements has identified establishing a unified “LGED Brand” to increase impact of the various outreach activities under different projects/programs. The Program shall support establishment of LGED’s Brand and Outreach Strategy along with LGED logo, tagline, paper documentation templates, public communication templates and branding protocols.

16. **The institutional strengthening and capacity building component will also support the costs of involvement of a third-party.** The third-party is expected to play the following roles: (a) helping building LGED’s capacity on Occupational Health and Safety (OHS), labor rights and gender issues, and decent work perspectives; (b) monitoring work sites and providing hands-on support to LGED in managing OHS, labor camp management and labor influx issues; (c) supporting the government in the formulation of OHS policies, guidelines, awareness materials etc.; (d) supporting LGED in the dissemination activities, especially linked to the OHS related achievements. The summary costs under this component are shown in Table 3 below.

Table 3: IPF component Financing (US\$ million)

Items	Total Costs	Contribution	
		GoB	Association
Support for Program Implementation	58.00	34.50	23.50
Institutional Strengthening & Capacity Building	7.00	3.50	3.50
Grand Total	65.00	38.00	27.00

IV. Program Development Objective(s)

17. **The PDO is to enhance rural connectivity, climate resilience and institutional management of bridges in the target area.** This will be achieved through the maintenance, capacity expansion, or replacement of existing rural bridges; the construction of rural bridges on existing gaps; and taking of measures for enhancing capacities for planning, implementation, and management of rural bridge activities.

18. **The Program outputs include the improvement of business processes (technical, fiduciary, procurement, social and environmental delivery, and risk management) and physical outputs.** Improved connectivity, condition of rural bridge assets and institutional capacity for managing rural bridges are the expected outcomes as a result of achievement of the outputs. The following four indicators will serve to measure the PDO’s achievement:

Table 4: PDO-level Results and Indicators

PDO-level Result	PDO-level Indicator
Preservation of rural bridges	PDO 1: <i>Upazila</i> or union road bridges that are in good and fair condition
Improved climate resiliency	PDO 2: <i>Upazila</i> or union road new bridges built or replaced with climate resilient features in 19 coastal districts
Improved rural connectivity	PDO 3: Length of severed or constrained <i>upazila</i> or union road links made fully operational
Institutional capacity strengthening and gender	PDO 4: New bridge related technical positions created and staffed

V. Environmental and Social Effects

19. **The Bank Team has carried out an Environmental and Social Systems Assessment (ESSA) for the proposed Program for Supporting Rural Bridges.** The ESSA provides a comprehensive review of relevant systems and procedures of the Government of Bangladesh and the LGED those address environmental and social issues associated with the Program. The ESSA reviewed the proposed Program activities to evaluate its effects on the environment and potentially affected people. Risks identified through the ESSA are manageable under the existing Environmental and Social Management Framework (ESMF) of LGED's rural bridges maintenance national program. The ESSA however, has identified options to improve systemic implementation and strengthening institutional capacity of LGED in their overall bridges maintenance program. LGED will establish a separate Environmental and Social Management Unit (ESMU) with appropriate staff resources and allocate resources for capacity building of its staff for implementing, monitoring and evaluation of safeguard measures as well as occupational health and safety training. LGED will establish and mobilize an electronic Grievance Redressal Mechanism (GRM); and include ESMF compliance within verification activities.

20. **LGED's own ESMF for their rural bridges maintenance national program provides a comprehensive framework for the assessment of different risks, development of safeguards instruments, and overall management of impacts.** This ESMF consists of national legal framework and sector guidelines that are broadly consistent with Policy and Procedures for Program for Results Financing of the World Bank (Nov 2017). However, some gaps do exist compared to the basic principles of PforR financing policy. LGED has bridged these gaps and provided specific guidance in these lacking areas for its bridges program through developing ESMF for the overall bridge program. The ESMF outlines environmental and social safeguard activities necessary specific to the activities under the Program. The ESMF describes detailed procedures and formats for environmental and social screening, assessment of environmental and social impacts and preparing site-specific Environmental Management Plans (EMP), Social Management Plans (SMP) and where required Resettlement Action Plans (RAP) and/or Tribal Peoples Development Plan (TPDP). The ESMF provides a clear institutional framework for monitoring safeguard activities and carrying out environmental and social due diligence and management. The ESMF will guide LGED in managing environmental and social issues, risks and impacts of the proposed Program. The ESSA however, makes specific recommendations for addressing the lapses in the ESMF of LGED with respect to the requirements of the Bank's requirements under PforR Financing.

21. **The Program's civil works may pose some potential environmental risks which are** (i) air and dust pollution (construction equipment, construction activities, construction vehicular traffic) (ii) noise pollution and vibration, (iii) surface water pollution (spills, construction waste), (iv) groundwater pollution (accidental spillage, improper sanitary systems for workers), (v) solid and liquid waste generation, (vi) drainage congestion (construction debris, encroachment of water bodies, stockpiling construction materials, diversion road over khals), (vii) road traffic congestion, (viii) disruption to boat navigation, (ix) disruption of aquatic flora and fauna including fish, etc. The Program interventions may cause a constriction of natural flow of water but its effect will mostly be localized around the bridge area. These may also cause a loss of benthic flora and fauna but expected to be temporary and reversible. New bridges over major rivers which harbors sensitive ecosystems are not going to be constructed under the Program. However, the anticipated adverse environmental effects of the Rural Bridges Program are not expected to be significant considering the adverse environmental effects of the bridge works are likely to be temporary in nature which can be addressed through well-known mitigation measures and applying appropriate environmental codes of practices.

22. **Rehabilitation and replacement of existing bridges and construction of new bridges on union and upazila roads are likely to have certain adverse social impacts** in the form of temporary and permanent, physical and economic displacement of people, temporary setback in the existing

communication system affecting all in a society including vulnerable group, tribal peoples, minor children and others using the bridge/living near the work site. However, with appropriate forward planning these impacts can be effectively minimized and mitigated. Adverse social impacts would be directly proportional to the size of the bridge and the duration of work. LGED envisages designing realigning/widening/repairing/replacing existing bridges avoiding any land acquisition that would make resettlement redundant. However, pending final selection of the subprojects and finalization of the engineering designs, it is assumed that there are potentials of social risks and impact in the following forms: (i) acquisition of private land and resume of public land from private uses resulting in involuntary displacement of people; (ii) loss of business income and sources of livelihoods and employment; (iii) access through the bridge/alternative approach road may impede safe movement of the elderly people or persons with disabilities.

23. **Risks identified through the ESSA are addressed through the results area and considered safeguards risk mitigation measures in the Program Action Plan (PAP).** LGED will establish the ESMU under the overall organogram and use the ESMF of their overall bridges program to address the safeguards requirements for the proposed Program. The ESMU will have dedicated environmental and social specialists to monitor safeguard activities of the Program. LGED will focus on social inclusion, gender mainstreaming, communications and citizen engagement and implement occupational health and safety (OHS), labor influx management involving the whole tiers of the LGED management. LGED will establish a strong monitoring system in the form of participation plan and GRM involving the upazila engineer and executive engineers at Upazila and District offices respectively. The PAP includes measures for key enhancements in the management of social and environmental risk and impacts as identified by the ESSA.

VI. Financing

Table 5: Program Financing (US\$ millions)

Source	PforR Component	IPF Component	Total	% of Total
GoB	113.00	27.00	140.00	26
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VII. Program Institutional and Implementation Arrangements

24. **The Local Government Engineering Department (LGED) will implement the Program.** The department is the premier public-sector organization of Bangladesh under the Local Government Division of the Ministry of Local Government, Rural Development and Cooperatives. The department's main mandate is the development of rural infrastructure, including transport infrastructure, in Bangladesh. LGED has a long track record of working with the development partners.

25. **Other 11 government entities will play noteworthy/complementary roles in supporting the Program.** Table 6 summarizes their roles.

Table 6: Summary Roles Other Institutions Supporting the Program

INSTITUTION	MAIN ROLE
1. Local Government Division, Ministry of Local Government Rural Development & Cooperative	• Program oversight being LGED's parent ministry
2. Planning Commission	• Program appraisal and approval
3. IMED	• DLI Verification
4. Central Procurement Technical Unit	• Oversight function of application of procurement legislations and management of e-GP Portal

5. Ministry of Finance	• Program budget allocations and fund release
6. Economic Relations Division	• Liaison with the World Bank
7. Comptroller & Auditor General	• Program Compliance audit
8. Controller General of Accounts (Civil)	• Processing of payments through pre-audits
9. Director General for Works Audit	• Financial audits for Program Eligible Expenditures
10. Director General for Foreign Aided Projects Audit Directorate (FAPAD)	• Financial statement preparation plus the IPF component audit
11. Anti-Corruption Commission	• Corruption prevention & investigation and prosecution

25. **The Program will be led by a Program Coordinator. The Additional Chief Engineer (Maintenance, Asset Management and Road Safety) will be the Program Coordinator.** The Chief Engineer will be responsible for Program oversight and providing overall guidance. District executive engineer offices (61 numbers) will be mainly responsible for the field level implementation of the Program activities including the procurement of contracts (See Figure 1 and Table 7). These offices will be supported by upazila engineer offices (466 numbers). The upzila engineers will act as Project Managers for contracts under their jurisdiction. Several other headquarters units/entities will provide support to the Program.

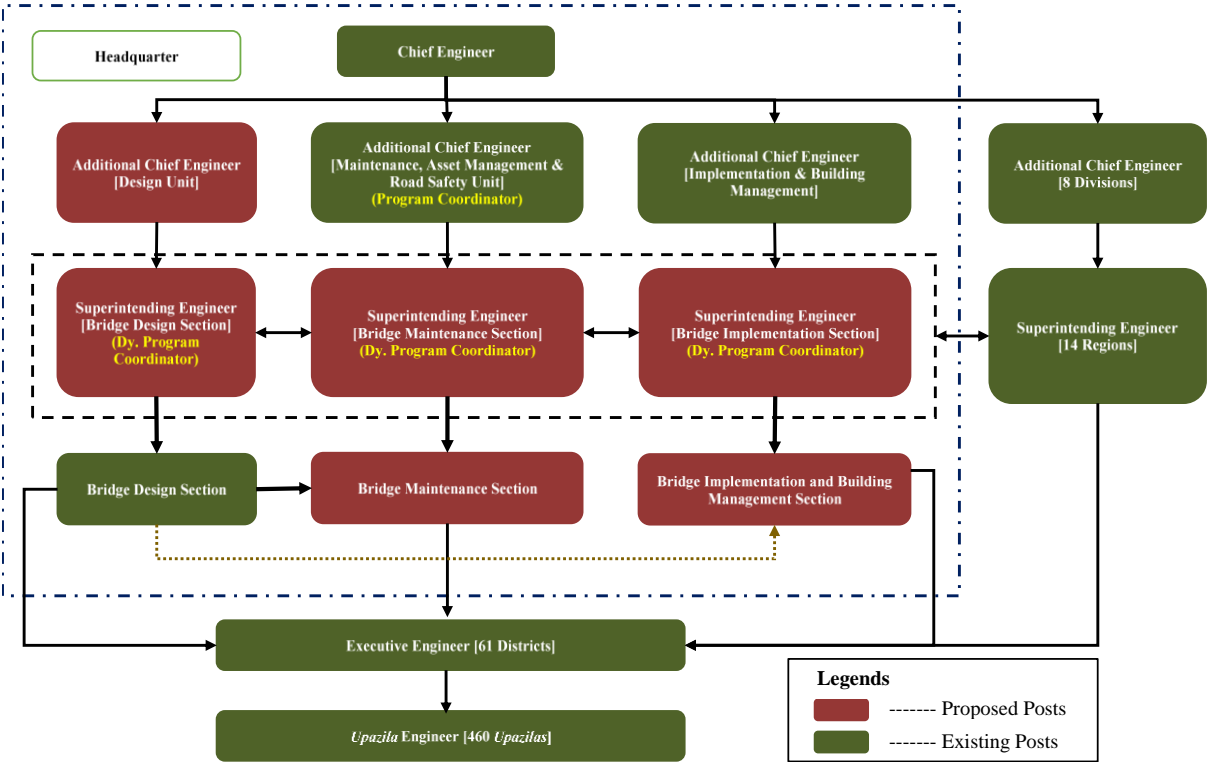


Figure 1: Institutional Arrangement for the Implementation of the Program

Table 7: Roles / Responsibilities of Internal LGED Entities

LGED's Entity and Office Location	Main Functions
The Chief Engineer at HQs	<ul style="list-style-type: none"> • Overall oversight and guidance
Additional Chief Engineer (Maintenance, Asset Management and Road Safety) at HQs	<ul style="list-style-type: none"> • Program Coordinator - overall Program management and coordination • Overall responsibility of bridge major and minor maintenance, rehabilitation works
Additional Chief Engineer (Planning Design and Procurement) at HQs	<ul style="list-style-type: none"> • Overall responsibility of technical, design, quality monitoring and RuBIMS aspects of the Program
Additional Chief Engineer (Implementation and Building Management) at HQs	<ul style="list-style-type: none"> • Overall responsibility of bridge new construction, capacity expansion and replacement of the Program
Divisional Additional Chief Engineers	<ul style="list-style-type: none"> • Program oversight at division level
REGIONAL Superintending Engineers	<ul style="list-style-type: none"> • Program oversight at regional level
Executive Engineers	<ul style="list-style-type: none"> • Overall responsibility of Program preparation, procurement, implementation, and monitoring and reporting at district level
<i>Upazila</i> Engineers	<ul style="list-style-type: none"> • Overall Program related responsibility at <i>upazila</i> level including contract administration as Project Manager.
Other units/sections at HQs	(a) Procurement Unit (prepare and update the Procurement Strategy Document, provide e-Contract Management implementation support, monitor contract management related DLI achievement); (b) Accounts Section (overall Program financial management support); (c) Audit Unit (audit support both internal and external); (d) Training Unit (training related support); (e) Project Monitoring and Evaluation Unit (monitoring and evaluation support); (f) Quality Control Unit (Quality assurance support); (g) Proposed Environment and Social Unit (overall social and environmental risk management support).

VIII. Contact points

World Bank

Contact 1: Farhad Ahmed
Title: Senior Transport Specialist
Tel: +1 202 458 1718
Email: fahmed8@worldbank.org

Contact 2: Oceane Keou
Title: Transport Specialist
Tel: +1 (202) 473 7130
Email: okeou@worldbank.org

Borrower/Client/Recipient

Contact: Kazi Shofiqul Azam
Title: Secretary, Economic Relations Division
Tel: +880-29113743
Email: secretary@erd.gov.bd

Implementing Agency

Contact: Mr. Iftekhar Ahmed
Title: Additional Chief Engineer

Tel: +88029127158
Email: ace.planning@lged.gov.bd

IX. For more information contact:

The InfoShop
The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 458-4500
Fax: (202) 522-1500
Web: <http://www.worldbank.org/infoshop>