

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

Report No.:PIDC0104003

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Program Name	<i>Program for Supporting Rural Bridges (SUPRB)</i>
Region	<i>South Asia</i>
Country	<i>Bangladesh</i>
Sector	<i>Roads & Highways (Rural Roads)</i>
Lending Instrument	<i>PforR and IPF</i>
Program ID	<i>P161928</i>
Borrower(s)	<i>Economic Relations Division, Ministry of Finance</i>
Implementing Agency	<i>Local Government Engineering Department</i>
Date PID Prepared	<i>May 4, 2017</i>
Estimated Date of Appraisal Completion	<i>August 24, 2017</i>
Estimated Date of Board Approval	<i>End March, 2018</i>
Concept Review Decision	Following the review of the concept, the decision was taken to proceed with the preparation of the operation.

I. Introduction and Context

A. Country Context

1. **Bangladesh is one of the world’s most populous countries with an estimated 160 million people living in a geographical area of about 144,415 sq.-km.** With per capita income of US\$1,409 in 2016, it is well above the lower middle income country category threshold which it crossed in FY14. During recent years, economic conditions improved in the country with headline inflation declining to 5.9 percent in FY16 from 7.3 percent in FY14, while the fiscal deficit was contained at around 3.1 percent of Gross Domestic Product (GDP) in FY16. The FY17 budget targets 5 percent deficit with 28.7 percent growth in expenditures. The current account surplus rose to 1.7 percent of GDP in FY16. The GDP grew well above the average for developing countries in recent years, averaging 6.5 percent since 2010, with an officially reported growth of 7.1 percent in in FY16, 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 18.5 percent in 2010 (latest available poverty data) and a projected 14.9 percent in 2016. Bangladesh’s performance against the Millennium Development Goals (MDG) is impressive against the South Asia Region average for most of the indicators. Such progress notwithstanding, the country needs more effort in improving its growth rate to meet its goal of achieving the middle income status by 2021.

2. **Bangladesh’s future poverty reduction progress is expected to be slower, unless some innovative approaches are undertaken.** Although Bangladesh’s achievement in the reduction of the extreme poverty, and the inequality, is praiseworthy, it is forecasted that poverty rate of the country will fall only to 15-20 percent by 2030. This proportion is still far short of eradicating poverty. The influential weekly magazine “The Economist¹” has lauded Bangladesh’s progress against poverty in one of its recent

¹ “The war on poverty: Fewer, but still with us”, The Economist, April 1st-7th, 2017

issues. However, the magazine also warned that the future progress would, possibly, be slower. Poverty in Bangladesh persists all over the country. Nonetheless, it is more prevalent in areas with poor infrastructure and population with low human capital and skills.

3. **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, Bangladesh needs to move away from widespread expansion of connectivity through the construction of rural roads to consolidation of the connectivity gains already made through huge investments since the 1980s. 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.

B. Sectoral and Institutional Context of the Program

4. **Rural populations in Bangladesh have high all-weather access to roads.** In fact the country tops among eight countries in Asia and Africa where a recent study² 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.

5. **Bangladesh started the systematic development of rural road network in the mid-80s.** The Government's Rural Development Strategy, unveiled in a policy paper in 1984³ was the main driver for the development of rural roads. As part of the strategy the Government initially identified over 1,400 major markets or Growth Centers (GCs). Another approximately 700 GCs were added to the list in early-90s. Subsequently these GCs and roads connecting them with the higher level network were constructed. These GC connecting roads are currently named as the Upazila Roads (UZRs).

6. **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.

7. **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. Condition data on the unpaved roads are not available. It is widely believed that only a small minority of them are in good or fair condition.

8. **In 2013 the Government of Bangladesh has adopted "The Rural Roads and Bridges Maintenance Policy".** The objective of the policy is to develop a sustainable rural transport system

² "New Rural Access Index: Main Determinants and Correlation to Poverty (Policy Research Working Paper 7876); World Bank, November 2016

³ "Strategy for Rural Development Projects: A Sectoral Policy Paper"; Bangladesh Planning Commission, 1984

through appropriate maintenance management in order to provide safe operation of vehicles and to ensure necessary funding for their maintenance. The policy document, in particular, provided guidance on the prioritization of rural roads and bridges under budget constraints. The guidance includes: (i) Routine maintenance will get priority over periodic maintenance; (ii) Maintenance of bridges and culverts on Upazila and Union roads will get urgent attention; and (iii) Upazila and Union roads will get priority over village roads. The policy also emphasized the importance of road safety, citizen participation, gender and implementation management linked to the maintenance of rural roads and bridges.

9. **Bridges play an important part in Bangladesh’s land transport system.** This is inevitable given the country’s geography, a large flat land, crisscrossed by many rivers and their tributaries. More often than not, a bridge connects two separate road sections to provide full connectivity to isolated rural communities. Requirements for bridges in Bangladesh are huge. The current available inventory suggests that a bridge is required for every 4.5km of Upazila and Union roads. Two-thirds of these gaps now have structures, leaving a third of them to be bridged (Table 1). 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.

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	Length (m)	No.	Length (m)	Longest length (m)	Average length (m)	No.	Length (m)
Upazila Road (UZR)	8,491	307,221	7,515	235,529	900	31	976	71,692
Union Road (UNR)	8,753	261,756	7,044	165,600	650	24	1,709	96,156
UZR+UNR	17,244	568,977	14,559	401,129	900	28	2,685	167,848

10. **The total replacement value of rural bridges and culverts is roughly US\$ 6.5 billion.** This figure is approximately just over 3% of the Bangladesh’s 2015 Gross Domestic Product (GDP). An analysis of the currently available data provides some of the main features of bridges on Upazila and Union roads: (i) Approximately two thirds (68%) of the bridges have conventional traditional T-beam Reinforced Cement Concrete (RCC) structures; (ii) A majority (60%) of rural bridges have short-span (below 20m); (iii) The majority of the bridges were built after mid-1990s (The average age of 19 years); (v) 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); and (vi) There exist many narrow bridges (<5m width) and many would require to be widened or replaced to cope with the increased traffic volumes. While Annex E provides more information of rural bridges, Annex F illustrates with photos different required intervention types.

11. **The proposed Program will be implemented by the Local Government Engineering Department (LGED).** LGED is the premiere public-sector organization of Bangladesh under the Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Cooperatives (LGRD&C). The Association’s involvement with LGED dates back over 25 years. The first Association assisted rural infrastructure project was implemented between 1989 and 1997. Subsequently, two major infrastructure improving projects – Second Rural Roads and Markets Improvement and Maintenance Project (1996-2001) and Rural Transport Improvement Project (2003-2010) - were implemented by LGED. Another Association financed transport sector project - Second Rural Transport Improvement Project (P123828) - is currently on-going and it will close in May, 2018. Currently another two Association financed projects are being implemented by LGED. They are Municipal Governance and Services Project (P133653) and Emergency Cyclone Recovery and Reconstruction Project (P111272).

C. Relationship to CAS/CPF

13. **The proposed Program directly contributes to priorities set under the Country Partnership Framework (CPF) for FY 2016-2020.** The CPF is aligned with the Government's 7th Five Year Plan and follows the same planning timescale (FY 2016-20). The framework has three focus areas—growth, social inclusion, and climate and environmental management. The CPF has identified the creation of more and better jobs as the main challenge Bangladesh has been facing as a nascent middle-income-country. Therefore, the CPF focuses on removing stubborn impediments to job creation and growth. The Systematic Country Diagnostic (SCD), which underpins the CPF preparation process, has identified five transformational priority areas where concerted efforts would produce the highest returns for achieving sustainable growth and creating jobs. One of the five transformational areas is inland connectivity. The CPF has resolved that in order to remove the stubborn impediments to job creation and growth, the Bank will shift more financing towards energy and transport infrastructure. An assessment of the previous Country Assistance Strategy (FY 2011-14) outcome has identified the inadequate preservation of assets, including the maintenance of rural roads, remained the main challenge in the road sector.

D. Rationale for Bank Engagement and Choice of Financing Instrument

12. 14. **The Program's overall risk rating is "substantial".** The Government's bridge investment is currently incoherent and lacks appropriate planning framework. The institutional mechanism that underpins its performance is unsuitable for long term sustainability of investments. Also experience from Association's support to a similar program in a South Asian country (Nepal) shows that planning, implementation, management and monitoring and evaluation of such a program are complex and external support is, often, required in streamlining different aspects of its program. These facts, as well as the Program's strategic relevance to Bangladesh's development, provide a strong case for the Association's engagement. Annex A provides details of the experience gained from Nepal operation: Bridges Improvement and Maintenance Program (P125495).

15. **The proposed operation is designed as a "hybrid" one.** It combines both a Program-for-Results (PforR) component and Investment Project Finance (IPF) component. PforR component will support bridge maintenance activities, as well as rehabilitation, capacity expansion and replacement of existing bridges. On the other hand the IPF component will support the construction of new bridges on unbridged gaps. A close list of such bridges will be drawn based on the objective criteria, before the start of the Program. These bridges may include bridges that are sensitive in nature with regard to the environment and/or affected people. The Association's policy for the PforR instrument explicitly excludes such activities under Bank Policy OPCS5.04-POL.01 and Bank Directive OPCS5.04-DIR.01. The proposed IPF component will only support Upazila and Union road bridges. Such a financing option is essential as these bridges are necessary for providing crucial rural connectivity. Furthermore, other technical and institutional development initiatives will also be a part of the IPF component. Most notably, this may include the preparations for the major projects in the Rural Transport sub-sector in Bangladesh.

II. Program Development Objective(s)

A. Program Development Objective(s)

15. The Program Development Objective is to improve the preservation of rural bridge assets and to enhance rural connectivity. This will be achieved through the maintenance, capacity expansion or replacement of existing rural bridges and the construction of rural bridges on existing gaps.

16. The following two indicators will serve to measure the PDO's achievement:

Table 2: PDO level results and indicators

<i>PDO level result</i>	<i>PDO level indicator</i>
Improved condition of rural bridges	<u>PDO 1</u> : percentage of Upazila or Union road bridges that are in good and fair condition
Improved rural connectivity	<u>PDO 2</u> : kilometers of severed or constrained Upazila or Union road links made fully operational

III. Program Description

PforR Operations

17. The Program will cover the following activities for bridges on Upazila Roads (UZRs) and Union Roads (UNRs): (i) Maintenance (both major and minor) and rehabilitation of bridges; (ii) capacity expansion of bridges that are detrimental to the efficient operation of the UZR and UNR networks and pose serious safety threats to vehicle operations; (iii) replacement of bridges that have reached the end of their functional or service lives.

IPF Operations

18. The IPF operation will only cover: (i) construction of new bridges on UZRs and UNRs; and (ii) expenditures required to prepare rural bridge investments, supervise quality, manage implementation, develop institutional capacity for managing bridge assets, support technical backstopping to improve bridge technology and to complement Government's capacity, and prepare new rural transport projects or programs..

IV. Initial Environmental and Social Screening

19. **Given that the Program is expected to use two financing instruments, requirements for managing environment and social risks of both the instruments will be adhered to.** The Investment Project Financing (IPF) instrument will complement the PforR instrument. The rationale for the use of this approach is to tackle issues of construction of medium to large bridges, some of which may have potentially significant environmental and social risks and impacts, but are crucial from connectivity view point. All other bridge related activities will follow the principles outlined in OP/BP 9.0 for environmental and social management under PforR.

20. **The number of bridges that will be following the IPF procedures is not expected to be many and their selection will follow a programmatic approach.** The Program will develop a list of potential medium to large bridges that cross a certain span threshold (potentially 90-100 meters) using pre-defined objective criteria. These bridges will first be screened in order to get a preliminary idea about the degree and extent of potential environmental/social impacts. Subsequently, bridges that are not found to have significant social and environmental issues will be left for design and construction with the introduction of adequate social and environmental risk mitigation measures these bridges might entail. However, the remainder of the bridges will then be subjected to Environmental Impact Assessment (EIA) and the necessary mitigation measures will be designed to manage environmental and social risks. These measures will be designed simultaneously with the detailed engineering design in order to mitigate against environmental and social risks, which could be adjusted through the design process.

21. **The Program is expected to have some adverse environmental and social impacts.** Typical environmental impacts of proposed Program interventions that are likely to include (i) vegetation loss and reduced slope stability along bridge approaches; (ii) degradation of river / stream water quality; (iii) impacts on river / stream hydrology; and (iv) construction period disturbances including noise, dust pollution, and spoil disposal. Proper engineering measures for bridge approaches, abutments, and river training works will be essential for impact mitigation. Some limited adverse social impacts are also expected including the land acquisition and resettlement, mainly to facilitate the construction of approach

roads in the case of large new bridges. Adverse social impacts are likely to be temporary during project works, such as temporary land leasing for the contractor operations. There could also be other issues including the issues linked to occupational health and safety, the presence of non-local labors that might stoke resentments among local residents and the management of labor camps. The Program will monitor these issues and will endeavor to address them effectively through the application of principles in the recent OPCS guidelines on labor influx.

22. **The interventions under PforR will exclude activities within natural habitat or forest area or ecologically critical area.** The Association will prepare an Environmental and Social Systems Assessment (ESSA) that will identify the environmental and social management risks for PforR supported activities and will recommend measures to reduce these risks. The risks may arise from: (i) inadequate existing process, procedures and control mechanism for managing bridge construction and maintenance environmental and social risks; (ii) weak implementation agency institutional structure for managing construction and maintenance activities from environmental and social perspectives; (iii) insufficient resources (both monetary and human) for the planning, implementation and management of environmental and social management plans; (iv) Non-existent or inappropriate mechanism for redressal of social and environmental grievances. Some of these recommended measures will be included in the Program Action Plan, which will be legally binding upon the client. Also efforts will also be made to include a recommended action as a Program Disbursement Linked Indicator. The Program will also attempt to develop or improve a LGED-wide rural transport infrastructure Environmental and Social Management Framework (ESMF) for the assessment of risks, development of instrument for managing risks and the overall management of risks. Necessary steps will be taken for the disclosure of ESSA and safeguard instrument as pre the PforR and IPF requirements.

23. Launching of safeguards related studies like ESSA including consultations for PforR and environmental and social assessment and management framework (ESMF) for IPF will commence soon after the identification is completed around 30 June, 2017 and the drafts will be ready by 30 September, 2017. The ESSA and ESMF will be finalized before decision meeting.

V. Tentative financing
{Same as in AUS}

Source:	(\$m.)
Borrower/Recipient	48
IBRD	
IDA	300
Others (specify)	
Total	348

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