

Ex-ante Evaluation

1. Name of the Project

Country: People's Republic of Bangladesh

Project Title: Eastern Bangladesh Bridge Improvement Project

Loan Agreement: March 1, 2009

Loan Amount: 7,824 million Yen

Borrower: The Government of the People's Republic of Bangladesh

2. Background and Necessity of the Project

The road network is a major means of transport in Bangladesh. Through assistance from other donors and road network improvements by the government of Bangladesh, road improvement has progressed, such as more than 90% of national routes and major regional roads paved. On the other hand, regarding bridges located in national routes and major regional roads, which form the backbone of the road network, approximately half of them require rehabilitation or replacement due to aging or structural deficiencies, and these are becoming a bottleneck for the national road network.

In Bangladesh, from the perspective of promoting economic development in western regions, improving regional disparities, reducing poverty, the World Bank, the Asian Development Bank and the UK Department for International Development have provided assistance for bridge rehabilitation and replacement in western regions. As a result, the road network in the western regions has improved and the condition of the bridges is better than in the eastern regions. On the other hand, the eastern regions are home to more than 60% of the population, and generate more than 60% of GDP, therefore take on an important role in Bangladesh's economy. However, eastern bridges have not been maintained properly, and they are becoming a bottleneck for further economic development in the region. In particular, rehabilitation and replacement of bridges on national routes and major regional roads where alternate routes do not exist are urgent issues since bridge collapses in those roads could become obstacles to reducing regional disparities and the economic growth of the eastern regions. Moreover, in terms of bridge maintenance, not only increases the further budget, but also for efficient use of limited budgets, enhancement of bridge maintenance frameworks such as preparing of long-term maintenance plan, improvement of Bridge Management and Maintenance Systems, development of bridge inspection manuals and capacity development, etc. are urgently required.

In their Road Master Plan that is scheduled for cabinet approval shortly, the

Bangladesh Government has taken up bridges as important assets within the road network that must be maintained properly. Additionally in the Poverty Reduction Strategy Paper (2005, revised in 2008), and also in the National Land Transport Policy (2004), the road sector is positioned as being very important for economic growth and reducing poverty in Bangladesh, and an emphasis is placed on appropriate maintenance and management of the road network. Therefore, this project is in line with the Bangladesh development policy's emphasis on road network maintenance since it will replace bridges that are one of the bottlenecks in the road network.

In the "Japan's Country Assistance Program for Bangladesh" prepared by the Japanese Government, "poverty reduction through economic growth" has been set down as goal, and the transport sector is a priority area. "Economic Growth" is one of the key assistance goals in Bangladesh for JICA, and accordingly, JICA has positioned the transport sector as one of the important sectors for the "Development of Economic Infrastructure", one of the development issues in the area of "Economic Growth". In particular, among transport sector, road and bridge sub-sector has been emphasized and funding and technical assistance for both new construction and rehabilitation and maintenance and management of existing bridges are regarded as important for promotion of private investment and elimination of bottlenecks in economic development. Aiming to replace and rehabilitate bridges, and also develop a management and maintenance framework, this project meets the objectives of the "Japan's Country Assistance Program for Bangladesh" and JICA's objectives and thus there is a high level of necessity and relevance for JICA to support this project.

3. Project Description

(1) Project Objectives

The object of this project is to promote reliable and efficient transportation by replacing, rehabilitating and constructing bridges in Eastern Bangladesh, thereby contributing to revitalizing local economy and improving economic and social disparities among region.

(2) Project Site / Target Area: Eastern Bangladesh

(3) Project Outline

(a) Replacement, rehabilitation and construction of 68 bridges on 12 routes

(b) Consulting service (Detailed design, tender assistance, construction supervision, development and improvement of Bridge Management and Maintenance Systems which is necessary for preparing of a long term maintenance management plan)

(4) Total Project Costs/Loan Amount

9,308 million Yen (Including 7,824 million Yen in Japanese ODA loan)

(5) Project Implementation Schedule

Planned for June 2008 ~ June 2012 (Total 49 months. As projected at time of appraisal). Project will be considered completed when civil engineering work is completed (guarantee period excepted).

(6) Project Implementation Structure

(a) Borrower: The Government of the People's Republic of Bangladesh

(b) Executing Agency: Roads and Highways Department (RHD), Ministry of Communications.

(c) Operation / Maintenance: Same as (b) above.

(7) Environmental and social consideration / poverty reduction / social development

(a) Environmental/social awareness

(i) Category: B

(ii) Reasons for categorization: This project is classified as Category B because it is not likely to have significant adverse impact on the environment under the "Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations" (established in April 2002) in terms of its sector, located area and project characteristics.

(iii) Environmental Permit: The IEE report and EIA report were submitted to the Department of Environment (DOE) of the Ministry of Environment and Forest in October 2007 and approved in August 2008.

(iv) Anti-Pollution Measures: Measure will be taken to ensure that the impact of exhaust gases, dust and noise pollution from construction meet Bangladesh domestic standards. The impact of noise pollution during operation period will meet national standards.

(v) Natural Environment: The bridges subject to this project are not located in and around any sensitive areas such as national parks, and it is likely to have a minimal adverse impact on the natural environment.

(vi) Social Environment: This project is expected to require 1.9ha of land acquisition and resettlement of 27 households, 114 people. Land acquisition and resettlement is proceeding in accordance with Bangladesh law and the basic resettlement action plan prepared by the executing agency. Further, executing agency hold consultation meetings on land acquisition and resettlement for local residents in areas currently expected to be required for bridge and approach road construction, and confirmed that there is no particular opposition to the project.

(vii) Other/Monitoring: The executing agency will monitor air quality, noise pollution, water quality, and land acquisition and resettlement during and after construction.

(b) Promotion of Poverty Reduction: None

(c) Promotion of Social Development (Gender perspective, measures for infectious diseases including HIV/AIDS, participatory development, consideration for the disabled etc.): None

(8) Cooperation with Other Donors: None

(9) Other Important Issues: None

4. Outcome Targets

(1) Evaluation Indicators (Operation and Effect Indicator)

Indicator	Reference value (Actual 2004 values)	Target value (2014) [Two years after project completion]
Motorized traffic volume (vehicles / day)	4,275	6,964
Non-motorized traffic volume (vehicles / day)	1,104	1,798
Traffic congestion ratio (Traffic volume / traffic capacity)	1.42	0.55
Travel Time Cost saving (Taka / year)	-	2,614,390

(Note) Operation and effect indicators have been set for all the bridges in this project, and one example is given here. This example is for the case where a 3.65m wide, 56m long bridge will be replaced with a 7.3m wide, 60m long bridge.

(2) Internal Rate of Return

Based on the conditions indicated below, the Economic Internal Rate of Return (EIRR) of this project is 27.5%.

[EIRR]

Cost: Project cost (excluding tax), operation and maintenance expenses

Benefit: Savings in travel time cost, vehicle operation costs and in maintenance management costs, etc.

Project life: 25 years

5. External Factors / Risk Control

- Delays in construction works due to natural disasters such as floods

- Reduction in project effect as a result of delays to or canceling of Road Sector Reform Project supported by the World Bank

6. Lessons Learned from Findings of Similar Projects Undertaken in the Past

In the ex-post evaluations of bridge rehabilitation project spread across multiple sites in a wide region, it was pointed out that implementation management closely focused on the sub projects in each region is extremely important. Accordingly, this project will place consultants to carry out implementation management and aim to ensure close-knit project implementation management. Further, it has been pointed out that for appropriate road maintenance, staff in the field must be developed. Accordingly this project will provide assistance for consulting services for capacity development of the employees of the executing agency, which is in charge of maintenance management.

7. Future Evaluation Plan

- (1) Indicators to be Used in Future Evaluations
 - (a) Motorized traffic volume (vehicles / day)
 - (b) Non-motorized traffic volume (vehicles / day)
 - (c) Traffic congestion ratio (Traffic volume / traffic capacity)
 - (d) Travel Time Cost saving (Taka / year)
 - (e) EIRR
- (2) Timing of Next Evaluations
Two years after project completion

End