



# Completion Report

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Project Number: 31304  
Loan Number: 1952  
September 2010

## Bangladesh: Rural Infrastructure Improvement Project

Asian Development Bank

## CURRENCY EQUIVALENTS

Currency Unit      –      taka (Tk)

		<b>At Appraisal</b>	<b>At Project Completion</b>
		November 2002	June 2009
Tk1.00	=	\$0.0174	\$0.0145
\$1.00	=	Tk57.60	Tk69.09

## ABBREVIATIONS

AADT	–	annual average daily traffic
ADB	–	Asian Development Bank
D&S	–	design and supervision
EIRR	–	economic internal rate of return
GCM	–	growth center market
GDP	–	gross domestic product
IGA	–	income generating activities
IST	–	institutional support and training
km	–	kilometer
LCB	–	local competitive bidding
LCS	–	labor contracting societies
LGD	–	Local Government Division
LGED	–	Local Government Engineering Department
LGI	–	local government institute
m	–	Meter
MMC	–	market management committee
NGO	–	nongovernment organization
PMO	–	project management office
RHD	–	Roads and Highways Department
RRP	–	report and recommendation of the President
RUC	–	road user costs
SAR	–	subproject appraisal report
SDR	–	special drawing rights
UNR	–	union road
UP	–	union <i>parishad</i>
UPC	–	union <i>parishad</i> complex
UZR	–	<i>upazila</i> road
VOC	–	vehicle operating cost
WMS	–	women's market section

## GLOSSARY

growth center market	–	a rural market identified by the government as a focal point for area development
union <i>parishad</i> (council)	–	the next level of local government below <i>upazila</i>
union road	–	a road connecting a union headquarters to an <i>upazila</i> road or the nearest all-weather road; previously called rural road type R-1
<i>upazila</i> (subdistrict)	–	the third level of administration of local government after divisions and districts ( <i>zila</i> )
<i>upazila</i> road	–	a road connecting a designated growth center market to the <i>upazila</i> headquarters or the nearest all-weather road; previously called type-B feeder roads

## NOTES

- (i) The fiscal year (FY) of the Government of Bangladesh and its agencies ends on 30 June. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2009 ends on 30 June 2009.
- (ii) In this report, "\$" refers to US dollars.

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## BASIC DATA

### A. Loan Identification

1.	Country	Bangladesh
2.	Loan Number	1952-BAN(SF)
3.	Project Title	Rural Infrastructure Improvement Project
4.	Borrower	People's Republic of Bangladesh
5.	Executing Agency	Local Government Engineering Department
6.	Amount of Loan	SDR45,461,000
7.	Project Completion Report Number	PCR:BAN 1175

### B. Loan Data

1.	Appraisal	
	– Date Started	24 August 2002
	– Date Completed	05 September 2002
2.	Loan Negotiations	
	– Date Started	23 October 2002
	– Date Completed	24 October 2002
3.	Date of Board Approval	02 December 2002
4.	Date of Loan Agreement	03 February 2003
5.	Date of Loan Effectiveness	
	– In Loan Agreement	04 May 2003
	– Actual	07 September 2003
	– Number of Extensions	2
6.	Closing Date	
	– In Loan Agreement	30 June 2009
	– Actual	12 August 2009
	– Number of Extensions	-
7.	Terms of Loan	
	– Interest Rate	1% per annum during grace period and 1.5% per annum thereafter
	– Maturity (number of years)	32
	– Grace Period (number of years)	8
8.	Terms of Relending (if any)	
	– Interest Rate	No relending
	– Maturity (number of years)	
	– Grace Period (number of years)	
	– Second-Step Borrower	
9.	Disbursements	
a.	Dates	
	<b>Initial Disbursement</b>	<b>Final Disbursement</b>
	26 November 2003	12 August 2009
	<b>Effective Date</b>	<b>Original Closing Date</b>
	07 September 2003	30 June 2009
		<b>Time Interval</b>
		68 months
		<b>Time Interval</b>
		70 months
b.	Amount	SDR38,501,122
		\$58,369,333

Amount (\$'000)

Category	Original Allocation	Last Revised Allocation	Amount Canceled	Net Amount Available	Amount Disbursed	Undisbursed Balance
1A	29,789	36,320		36,320	37,347	-1,027
1B	13,400	14,111		14,111	11,569	2,542
2A	2,234	906		906	886	20
2B	2,570	3,131		3,131	3,158	-27
2C	516	287		287	280	7
3	2,720	2,380		2,380	2,505	-125
4	440	327		327	312	15
5	1,462	1,517		1,517	1,156	361
6	1,800	2,095		2,095	1,156	939
7	5,069	137		137	0	137
<b>Total</b>	60,000	61,211 <sup>a</sup>		61,211	58,369	2,842 <sup>b</sup>

<sup>a</sup> After cancellation of \$8.01 million in two installments.<sup>b</sup> Cancelled on loan closing.

10.	Local Costs (Financed)	
-	Amount (\$)	29,940,609
-	Percent of Local Costs	33.0
-	Percent of Total Costs	24.3

**C. Project Data**

## 1. Project Cost (\$ million)

Cost	Appraisal Estimate	Actual
Foreign Exchange Cost	30.1	32.5
Local Currency Cost	82.3	90.8
<b>Total</b>	<b>112.4</b>	<b>123.3</b>

## 2. Financing Plan (\$ million)

Cost	Appraisal Estimate	Actual
Implementation Costs		
Borrower Financed	34.0	34.0
ADB Financed	58.2	57.3
KfW	11.9	19.8
GTZ	5.0	10.2
Local Government Bodies	1.5	0.9
<b>Total</b>	<b>110.6</b>	<b>122.2</b>
IDC Costs		
ADB Financed	1.8	1.1
<b>Total</b>	<b>112.4</b>	<b>123.3</b>

ADB = Asian Development Bank, IDC = interest during construction.

Note: for KfW: €15.12 million = \$19.8 million and for GTZ: €8.5 million = \$10.2 million.

## 3. Cost Breakdown by Project Component (\$ million)

Component	Appraisal Estimate	Actual
<b>A. Base Cost</b> <sup>a</sup>		
1. Rural Roads	65.5	78.7
2. Rural Infrastructure	10.5	20.0
3. Infrastructure Maintenance	1.2	0.0 <sup>d</sup>
4. LGED Capacity Building and Local Governance	4.5	6.1
5. Project Management Support	12.8	17.4
<b>Subtotal (A)</b>	<b>94.5</b>	<b>122.2</b>
<b>B. Contingencies</b>		
1. Physical Contingencies <sup>b</sup>	8.6	0.0
2. Price Contingencies <sup>c</sup>	7.5	0.0
<b>Subtotal (B)</b>	<b>16.1</b>	<b>0.0</b>
<b>C. Interest During Construction</b>	<b>1.8</b>	<b>1.1</b>
<b>Total</b>	<b>112.4</b>	<b>123.3</b>

<sup>a</sup> In mid-2002 prices<sup>b</sup> Physical contingency is 10% for civil works, equipment, and vehicles; and 5% for incremental staff salaries, training and surveys.<sup>c</sup> Estimated at 2.4% for foreign and local costs<sup>d</sup> Not required.

## 4. Project Schedule

Item	Appraisal Estimate	Actual
Project Implementation Office		
Date Established	April 2003	01 July 2003
Date Closed	30 June 2009	30 June 2010
Design and Supervision Consultants		
Date of Contract	April 2003	31 December 2003
Date of Completion	December 2008	30 June 2009
Institutional Support and Training Consultants		
Date of Contract	July 2003	12 December 2003
Date of Completion	December 2008	30 April 2010
Engineering Surveys and Designs		
Date Started	July 2003	February 2004
Date Completed	December 2008	June 2008
Preparation of Subproject Appraisal Reports		
Date Started	June 2003	April 2004
Date Completed	March 2005	December 2006
Civil Works Contract		
Upgrading of <i>upazila</i> and union roads		
Date Started	July 2003	08 June 2004
Date Completed	December 2008	30 June 2009
Road Structures		
Date Started	July 2003	15 June 2005
Date Completed	December 2008	30 June 2009
Growth Centers		
Date Started	January 2004	09 April 2005
Date Completed	December 2008	30 June 2009
Union <i>Parishad</i> Complexes		
Date Started	January 2004	25 April 2005
Date Completed	June 2008	30 June 2009
Boat Landings		
Date Started	January 2004	09 April 2005

Date Completed	December 2008	30 June 2009
Ferries		
Date Started	January 2004	11 March 2007
Date Completed	December 2006	30 April 2009
Equipment and Vehicles, and Spares		
Date of First Procurement	July 2003	12 May 2004
Date of Last Procurement	December 2004	15 February 2007
Training Programs		
Date Started	July 2003	January 2004
Date Completed	December 2008	March 2009

#### 5. Project Performance Report Ratings

Implementation Period	Ratings	
	Development Objectives	Implementation Progress
From 02 December 2002 to 31 December 2003	S	S
From 01 January 2004 to 31 December 2004	S	S
From 01 January 2005 to 31 December 2005	S	HS
From 01 January 2006 to 31 March 2006	S	HS
From 01 April 2006 to 31 December 2006	S	S
From 01 January 2007 to 31 March 2007	S	S
From 01 April 2007 to December 2007	S	HS
From 01 January 2008 to 31 March 2008	S	HS
From 01 April 2008 to 31 December 2008	HS	HS
From 01 January 2009 to 31 March 2009	HS	HS
From 01 April 2009 to 30 September 2009	S	HS

Reference letters in table: HS = highly satisfactory, S = satisfactory.

#### D. Data on Asian Development Bank Missions

Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization of Members
Fact-finding	24 Jun–12 Jul 2002	5	32	a, d, d, d, h
Appraisal	25 Aug–5 Sept. 2002	5	30	a, d, d, d, h
Inception	5–8 May 2003	2	8	a, d
Review 1	9–24 June 2004	1	10	d
Review 2	20 Nov–13 Dec 2004	3	20	g, h, k
Review 3	25 Jul–10 Aug 2005	4	24	g, h, j, k
Review 4	29 Nov–14 Dec 2005	5	24	a, g, h, j, k
Review 5	5–8 June 2006	2	6	a, d
Review 6	23 Nov–7 Dec 2006	2	20	d, k
Review 7	11–21 June 2007	2	16	d, k
Review 8	2–13 December 2007	2	18	d, h
Review 9	20–30 November 2008	2	18	d, k
Project completion review	17–26 May 2010	2	20	d, h

Reference letters in table: a = engineer, b = financial analyst, c = counsel, d = economist, e = procurement consultant or specialist, f = control officer, g = programs officer, h = social development and gender officer, j = governance specialist, k = project analyst.



## I. PROJECT DESCRIPTION

### A. Rationale and Background

1. In 1984 the Government of Bangladesh adopted a strategy for rural development, which emphasized the critical aspects of the rural development process—agricultural development, improved physical infrastructure, and income generation for the poor. The strategy recognized that transport infrastructure plays a crucial role in Bangladesh's social and economic development. The strategy has been implemented through a series of rural development projects, each of which focused on one or more areas of development, e.g., rural roads, growth center markets, irrigated agriculture, drainage and flood control works, and production and employment programs for the rural poor. Using the experience gained through implementation of three similar projects,<sup>1</sup> the Rural Infrastructure Improvement Project<sup>2</sup> was formulated to accelerate economic growth through the provision of basic rural infrastructure in the south and southwestern regions of Bangladesh. The project was in line with the country operational program and country assistance plan of the Asian Development Bank (ADB).

### B. Objective

2. The goals of the project were to (i) reduce rural poverty through economic growth, rural development, and improved infrastructure; and (ii) increase economic opportunities for the rural poor through participatory improvement of sustainable rural infrastructure, social and gender development, and improved local governance in the project area. Improvement of the communication network would facilitate production and marketing of agricultural products and foster socioeconomic development. Women would be encouraged to participate in all aspects of the development process, and short- and long-term employment opportunities would be created. In addition, the institutional capacity of the Local Government Engineering Department (LGED) and other local government institutions would be strengthened and thereby enable them to improve, operate, and maintain rural infrastructure such as roads, growth centers, and boat landings.

### C. Project Area

3. The project area comprised 16 districts, 10 in Khulna Division (Bagerhat, Chuadanga, Jessore, Jhenaidah, Khulna, Kushtia, Magura, Meherpur, Narail, and Shatkhira) and 6 in Barisal Division (Barguna, Barisal, Bhola, Jhalokhati, Patuakhali, and Pirojpur), which cover 24.1% of the total area of Bangladesh with a population of 22.6 million representing 18.4% of the population. The project area was chosen because of the extensive poverty and low level of development in the region. Over 11 million people in the project area were poor; in 2005, 54.1% of people in Barisal Division and 46.5% in Khulna Division were below the poverty line against a national figure of 43.8%.<sup>3</sup> At the time of project appraisal in 2002, only 39% of the *upazila* roads (UZRs) and 30% of the growth center markets (GCMs) in the project area had been improved to

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<sup>1</sup> ADB. 1988. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of Bangladesh for the Rural Infrastructure Development Project*. Manila; ADB. 1992. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of Bangladesh for the Second Rural Infrastructure Development Project*. Manila; ADB. 1997. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of Bangladesh for the Third Rural Infrastructure Development Project*. Manila.

<sup>2</sup> ADB. 2002. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of Bangladesh for the Rural Infrastructure Improvement Project*. Manila.

<sup>3</sup> Bangladesh Bureau of Statistics. 2005. *Household Income and Expenditure Survey 2005*. Dhaka.

an all-weather standard, so there was considerable potential for further investment in rural infrastructure to alleviate poverty.

#### **D. Project Components and Outputs**

4. The project consisted of five components: (i) improvement of rural roads; (ii) improvement of rural infrastructure, such as GCMs, boat landings, ferries, and union *parishad* complexes (UPCs); (iii) improvement of infrastructure maintenance; (iv) strengthening of LGED capacity and improvement of local governance; and (v) support to LGED in project management.

##### **1. Rural Roads**

5. The project aimed to upgrade about 1,030 km of UZR to a bitumen-surfaced standard to provide all-weather access to rural GCMs. Bridges and culverts with a total length of 3,000 m were to be constructed along the project UZR. After meeting the requirements for these roads, bridges and culverts totaling a further 2,000 m were to be built on other *upazila* roads and union roads (UNRs). About 50 km of UNRs would also be constructed. Project roads would be selected by local stakeholders through a participatory process.

##### **2. Rural Infrastructure**

6. From a list prepared by LGED, local stakeholders would select 60 GCMs and 50 boat landings for improvement. GCMs would include sections for women. Management committees would be elected at public meetings and be responsible for ensuring that the GCMs were properly managed, both financially and physically. A few small ferries would be procured for 5 river locations, and management committees for the boat landings and ferries would be formed. Ninety-nine UPCs would be constructed to support efforts to improve local governance (para. 18, RRP).

##### **3. Infrastructure Maintenance**

7. Road maintenance would be improved under the project through central level reform, improved district operations, and assignment of increased responsibilities to the union *parishads* (UPs) for maintenance of village roads. The project required the government to close the gap in funding for maintenance by providing sufficient funds to LGED. Maintenance units of LGED at the central and district levels would be supported to improve their maintenance management systems and procedures. The project would continue previous and current efforts in LGED and the Roads and Highways Department (RHD) to promote the coordinated development of performance-based maintenance using contractors.

##### **4. LGED Capacity Building and Local Governance**

8. **Capacity building.** LGED staff capacity would be strengthened through training in topics such as decentralized and privatized maintenance, procurement, financial management, and particularly the use of participatory approaches to infrastructure planning, development, and maintenance. LGED would be supported in introducing organizational reforms to strengthen its capacity to undertake environmental and social assessments, and project performance management and impact monitoring.

9. **Local governance.** The project would support the improvement of local governance by giving training in local government issues, planning, financial management, administration, and participatory methodologies to all members of the 899 UPs in the project area, so that they can provide efficient and effective local governance to their constituents. The members and staff of the management committees of GCMs, boat landings and ferries, and market traders' associations would be trained to operate and maintain the infrastructure. *Upazila* and UPs are responsible for managing and maintaining village roads, boat landings, and ferries. Training materials and experience from the Third Rural Infrastructure Development Project would be used to train the UP members, community organizers, and the members of the union market management and boat landing committees. In 32 pilot UPs, funds generated from market leases would be retained for local union operations and maintenance, and this was expected to enhance the UPs' sense of ownership and sustainability. The project would also implement new guidelines for the award and management of market leases, and introduce reforms to devolve additional authority to UPs to increase revenue mobilization.

## **5. Project Management Support**

10. The project would provide additional staff for project management, including supervision of implementation at the field level. A combination of international (134 person-months) and domestic (1,238 person-months) consultants was provided to support project implementation management and capacity building.

11. In addition, technical cooperation assistance was to be provided through grant financing by Germany to strengthen the capacity of LGED staff and contractors, improve the maintenance management of roads and other infrastructure, improve local governance, strengthen women's participation at all levels, and develop and apply appropriate tools for benefit monitoring and evaluation. This assistance would be performed by a set of international (48 person-months) and domestic (606 person-months) consultants.

## **II. EVALUATION OF DESIGN AND IMPLEMENTATION**

### **A. Relevance of Design and Formulation**

12. The economy of Bangladesh is predominantly based on agriculture, which employs the majority of the labor force. Efficient rural transport and supporting infrastructure, in particular improved access, are essential for poverty reduction, increased agricultural production and economic development in Bangladesh. The Poverty Reduction Strategy Paper (1996) and other plans of the government identified rural physical infrastructure development as one of the key strategies for the reduction of poverty. More specifically, rural transport infrastructure was considered the most important factor to enhance economic growth and poverty reduction through providing better access to agricultural inputs, markets, and other relevant services (para. 5, RRP). The project was implemented in an area where the poverty level is relatively high compared to other parts of the country. Government policy has also attached importance to creating efficient and effective local government institutions for decentralized decision-making within a participatory framework. Thus, at the time of appraisal the project design was highly relevant and consistent with the rural development objectives, approach, and strategy of the government.

13. The design and formulation of the project were also relevant with the country operational program and country assistance plan of ADB, which sought to accelerate economic growth through the provision of basic rural infrastructure. The improved infrastructure would stimulate

growth in rural areas by increasing farmer access to inputs and technologies, improving access to urban markets, and enhancing improved services and investment in rural areas. Improving physical infrastructure like roads, markets, and ferry crossings has a direct positive impact on the income of all categories of households. Evaluation of previous ADB-assisted rural infrastructure development projects had shown that these interventions were highly effective in reducing poverty.

14. The government prepared a feasibility study for a proposed Rural Development Project (later renamed Rural Infrastructure Improvement Project) based on the experience gained through three similar projects with ADB assistance (footnote 1) and on the government's and ADB's country strategies. However, the feasibility study was limited to identifying and selecting roads and markets based on the assessment of economic returns. While the study provided a good starting point and demonstrated the strong commitment of the executing agency, a further study was necessary to improve the social, environmental, and economic analyses and to evaluate the proposed investment in the context of ADB's overarching concern for poverty reduction. Therefore, project preparatory technical assistance<sup>4</sup> was approved by ADB in September 2001, through which the project was prepared for Board consideration in November 2002.

## **B. Project Outputs**

### **1. Improvement of Rural Road Network**

15. **Improvement of *upazila* roads.** The project improved 98 UZR with a total length of 1,226 km as against 94 UZR with a length of 1,030 km at appraisal. The number of *upazilas* in the project area increased because some *upazilas* had split into two, and a length of 1,206 km was identified during preparation of subproject appraisal reports (SAR). With the approval of ADB and KfW, a further 20 km was added during implementation to complete the missing links of the road networks. Improvements included widening and/or raising embankments, minor changes in road alignments, paving roads with water-bound macadam, seal, and bitumen surfacing. Drainage structures including large bridges were provided as detailed in para. 17. The physical progress of construction of UZR exceeded the initial target by 19% with no extension of the project period (Appendix 1). Cyclone *Sidr* swept through the project area in November 2007, partially damaging some road works as a result of the tidal surge that came over the river embankments. However, most of the repairs were accomplished within the contract amounts. Another cyclone, named *Aila*, hit the project area in May 2009. The tidal surge broke away some river embankments, and the project roads built either on the embankments or immediately behind them were significantly damaged. Most of the damage was repaired through either existing contracts or LGED maintenance programs. Total damage to project infrastructure was estimated at about Tk28 million.

16. **Improvement of union roads.** The project upgraded 19 UNR with a total length of 99 km as against 50 km at appraisal. The additional length was identified during the preparation of the SARs and approved by the development partners. Improvements included widening and/or raising embankments, minor changes in road alignments, and paving roads with water-bound macadam, seal, and bitumen surfacing. Drainage structures including large bridges were provided as detailed in para. 17. Construction of UNR was 198% of the appraised target with no additional time being required for completion (Appendix 1).

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<sup>4</sup> ADB. 2001. *Technical Assistance to the People's Republic of Bangladesh for Preparing the Rural Infrastructure Improvement Project*. Manila.

17. **Construction of structures on *upazila* and union roads.** The project constructed 2,275 drainage structures, comprising 62 bridges of more than 20 m, 155 bridges of less than 20 m, and 2,058 culverts of shorter length. The total structure length of 7,623 m exceeded the initial target of 5,000 m by 2,623 m or 52%. The additional length of the structures had been identified during preparation of the SARs and approved by ADB and KfW. Before the project, the rural roads in the southern part of Khulna Division and the entire Barisal Division lacked connectivity because of insufficient bridges and culverts (Appendix 1).

18. **Tree planting on *upazila* and union roads.** The project employed labor contracting societies (LCS) to plant and maintain roadside trees, and also to perform off-pavement road maintenance. The length of the tree planting was 720 km on 1,226 km of road. Tree planting was not required for the entire length, mainly because homesteads and existing trees already lined parts of the roads, and because tree planting was also carried out through other sources. The completed length was 10% below the original target of 800 km (Appendix 1).

19. **Construction and installation of small ferries.** Small ferries and associated loading facilities (including pontoons and ramps) were initially proposed at five sites to connect UZR across rivers that were too wide for the construction of bridges. The sites were identified during preparation of the SARs; however, during implementation, one site was supplied with ferries by RHD and another site was provided access via a link road to an RHD road. Consequently, the initial target was reduced to three sites—a reduction of 40% (Appendix 1).

20. **Infrastructure maintenance.** Responsibility for infrastructure maintenance has been realigned among the players that construct and maintain various types of roads. LGED, the executing agency, is responsible for maintaining *upazila* and union roads, while the UPs maintain minor rural roads. Given the importance of infrastructure maintenance, the government has been allocating funds to LGED since FY1993 for road maintenance throughout the country. Since the project sought to ensure the sustainability of infrastructure maintenance, several related indicators were included in the project framework and monitored. Good progress has been made towards putting in place a sustainable maintenance management system and routine and periodic maintenance of the infrastructure has improved. On the other hand, there has been no significant progress in establishing a national road maintenance fund; however, the present mechanism for funding road maintenance has been functioning well throughout the country. Pilot projects on performance-based contracts for routine off-pavement maintenance were planned, designed, and implemented in two districts for 3 years, and are still ongoing. The work has been carried out by rural disadvantaged women through LCS under intensive supervision. Maintenance of project roads did not suffer from a shortage of government funds.

21. **Environmental impact, land acquisition, and resettlement.** All the SARs and tender documents contained environmental plans that set out the necessary measures to minimize any negative environmental impacts. The ecologically sensitive areas like the Sundarbans were not included for any development works. Some roadside trees had to be cut for road widening or to improve visibility on curves, but this was more than offset by tree planting on both sides of the improved roads. Adequate structures on the roads have been provided to avoid drainage problems. During implementation, it was found that land acquisition and resettlement were not required even to the small extent envisaged in the SARs. Road improvements were carried out almost entirely on existing alignments to avoid land acquisition and resettlement. Nevertheless, a very small amount of land of about 23 hectares was acquired, mainly for bridge approaches, straightening of curves, and avoiding market places. At LGED headquarters, a unit comprising an executive engineer and an assistant engineer under the Superintending Engineer, Planning

and Development has been established to look after environmental and social aspects. A sociologist at district level, and a senior assistant engineer and a community organizer at *upazila* level have been deployed recently to address environmental and social aspects.

## **2. Improvement of Growth Center Markets and Boat Landings**

22. **Development of growth center markets.** The project improved 68 GCMs against the appraisal target of 60 (target exceeded by 13%). In each GCM, common public facilities like pavement and drainage in the market area, internal roads, multipurpose sheds, fish sheds, meat sheds, tube wells, sanitary latrines, garbage pits, market offices, and a women's market section (WMS) were established. In particular, a pilot water supply system was installed at *Haibatpur* Growth Center, *Jessore Sadar Upazilla* (Appendix 1).

23. **Construction of boat landings.** The project constructed 85 boat landings, including paved areas, to facilitate the safe mooring of boats and easy access for passengers and goods to GCMs. The initial target was for 50 landings. During preparation of the SARs, 55 boat landings were identified and constructed. The landings completed in the early stages of the project proved so effective and popular that the number was increased to 85 with the approval of ADB and KfW, thereby exceeding the original target by 70% (Appendix 1).

## **3. Construction of Union *Parishad* Complex**

24. The project constructed 100 new UPCs, meeting the initial target of 99. Of the 100 UPCs, 11 were cyclone shelter buildings constructed in cyclone prone areas (Appendix 1). These were constructed to support government efforts to pass on authority to UPs and to encourage community participation in local government. Different government agencies have been housed within the UPCs to be able to offer union-level services.

## **4. Training**

25. The local training programs included under the project were mostly on field supervision and contract management, quality control, contract administration, audit and financial management, maintenance management, and a computer-based road maintenance management system related to infrastructure. By April 2010, 1,794 courses had been conducted, covering 42,843 participants for a total of 174,826 trainee-days. These courses included:

- (i) 243 formal courses for 5,631 LGED staff and contractors for 17,725 trainee-days;
- (ii) training in local resource mobilization, budget preparation, rural infrastructure maintenance management, growth center management, and boat landing management for UP chairpersons, members, and secretaries, as well as for market management committee (MMC) members, for a total of 19,518 trainee-days;
- (iii) training for LCS members and female shop owners in basic awareness raising, entrepreneurship development, income-generating activities, and maintenance; and
- (iv) courses for motorized vehicle drivers on awareness of road safety issues.

26. Moreover, about 82,000 school students were covered by road safety awareness campaigns. A summary of training programs is in Appendix 2. Overseas training was arranged for 38 LGED and Local Government Division (LGD) officials through six different courses, resulting in 500 trainee-days. However, frequent transfers of trained *upazila* and district staff

prevented the project from reaping the full benefits of this comprehensive training program, although trained LGED staffs have been continuing to work within LGED. Some training and resource materials have been prepared under the project, a list of which is in Appendix 3.

## **5. Gender and Development**

27. The project implemented a comprehensive gender action plan aimed at improving women's participation in all aspects of planning, improvement, use, and maintenance of rural infrastructure. Specific target groups for capacity building and training were contractors, UP chairpersons and members, female shop owners in WMSs, and female LCS members performing roadside maintenance and tree planting. The disadvantaged women attended a series of training courses aimed at making them economically self-sufficient at the end of their contract period. By June 2009, 759 courses for LCS members and female shop owners had been conducted, covering 12,478 participants and 96,971 trainee-days. Participation of women in local development, administration, and management was emphasized, and this contributed to effective women empowerment. By September 2008, the ratio of female workers reached 21% (19% in Barisal Division and 25% in Khulna Division versus 0% in Barisal Division and 14% in Khulna Division in 2004). Over the entire project period, around 22% of all laborers were female. The wage differences between men and women for the same type of work came down to 17.8% in Barisal Division and 25.1% in Khulna Division. More details of gender activities have been summarized in Appendix 4.

## **6. Incentive Programs, IGA Support and Activities of Pilot UPs**

28. Each pilot UP received a small grant of Tk300,000 (about \$4,400) from the project for a period of 4 years, and used it for physical, socioeconomic, agricultural, and welfare activities targeted towards poor and destitute people. Welfare schemes included education and old age allowances. The amounts disbursed to individuals under income-generating activities (IGA) varied from Tk1,000 (\$15) to Tk5,000 (\$75). The amounts disbursed under IGA schemes were returned to the pilot UP concerned in 12 installments along with a service charge of 11%, while expenditures made under welfare schemes were one-time payments. Over the years, a good number poor people benefited from such support through which the UPs also earned the appreciation of the common people. The refunded funds were recycled by the UPs to support more poor people through additional small projects on IGA support. The intensive training given to the UP officials raised the standard of the pilot UPs. Some important activities of the pilot UPs have been: open discussion of the yearly budgets and expenditures; receiving and attending to complaints; achievement of 100% sanitation; and provision of an income-expenditure statement to the citizen forum.

## **C. Project Costs**

29. At appraisal, the project cost was estimated at \$112.4 million equivalent, which was shared by a loan of \$60.0 million (equivalent of SDR45.461million), grants from German development cooperation through KfW (\$11.9 million) and GTZ (\$5.0 million), a contribution of \$34.0 million from the government, and a contribution of \$1.5 million from local government bodies. The funds from KfW and GTZ were provided on a parallel basis. Of the estimated project cost, \$30.1 million equivalent (26.8%) was in foreign currency and \$82.3 million equivalent (73.2%) was in local currency. The project was completed at a cost of \$123.38 million equivalent, with a foreign currency cost of \$32.49 million (26.3%) and local currency cost of \$90.89 million (73.7%). This total cost was shared among ADB (a loan of \$58.37 million), KfW

(a grant of \$19.8 million), GTZ (a grant of \$10.20 million), and the government (\$35.01 million including the local government bodies' share of \$0.94 million).

30. During project implementation, SDRs appreciated from \$1.320 to \$1.530; the US dollar appreciated from Tk58 to Tk69; and the euro appreciated from Tk58 to Tk90. Additional funds thus generated from appreciation of exchange rates were fruitfully used with the approval of ADB for additional works, such as 200 km of *upazila* roads, 49 km of union roads, 35 boat landings, and a bridge to establish connected road networks in the project area. Additional funds also took care of the price hikes of construction materials in 2007 and 2008. GTZ expanded its training and awareness programs to a further 73 unions on top of the 32 pilot unions, and also extended its project period for conducting training up to 30 April 2010. For the reasons stated above, the overall project cost was higher than the appraised cost.

31. ADB identified savings of \$8.0 million (\$5 million cancelled in July 2007 and \$3 million in July 2008), mainly from currency appreciation and the unallocated category, to provide funding for other development projects in Bangladesh. Subsequently, a further \$2.84 million was cancelled at loan closing as the undisbursed/unutilized balance. However, the value of the ADB loan remained at about \$60.0 million. The grant through GTZ was increased from €6.00 million to €8.50 million and the grant through KfW was increased from €11.6 million to €15.12 million, of which €0.12 million was taken from the leftover funds of the Tangail Infrastructure Development Project.<sup>5</sup>

#### **D. Disbursements**

32. Of the ADB loan of \$60.00 million, \$58.37 million equivalent was disbursed by the loan closing date (Appendix 5). KfW disbursed \$19.80 million including foreign currency expenditure of \$2.02 million for consultants, and GTZ spent \$10.2 million for technical support. The government contributed \$34.07 million and the local government bodies \$0.94 million. The yearly disbursements from the ADB loan exceeded the yearly projections throughout the project. However, during the first year of the project, 2003, there was no replenishment (disbursement) other than the initial advance of \$4.5 million to the imprest account. Disbursement was slow for the first 2 years because of start-up delays, but picked up from 2005. The highest disbursement of about \$15.0 million took place in 2007. Annual disbursement ranged from about \$3.0 million to about \$15.0 million, with an average of \$8.3 million. A statement-of-expenditure procedure was followed for small contracts, and this proved helpful for expediting disbursements and ensuring smooth project implementation. The government and local government institutions contributed their respective shares towards infrastructure development and operational costs as agreed at appraisal.

#### **E. Project Schedule**

33. The project was implemented over a 6-year period as designed, beginning in July 2003 and ending on 30 June 2009. The loan was made effective on 7 September 2003 after two extensions. Appendix 6 shows the actual implementation schedule compared with the appraisal estimate. Physical progress was slow during the first 2 years because of delays in fielding the consultants, which delayed preparation of the SARs for which procurement of civil works could not be started. However, implementation accelerated from the third year and eventually all the appraised works, including the additional works taken up during implementation of the project, were completed without extension of the loan closing date. However, 51 contracts had to be

<sup>5</sup> Financed and implemented by German development cooperation through GTZ from FY1992 to FY2004.



cancelled because some contractors stopped working on the project. This resulted from the declaration of a state of emergency in the country in 2007, damage caused by cyclone *Sidr*, and a sharp increase in the price of construction materials. Nonetheless, new contracts for the unfinished works were awarded and completed by the loan closing date, except for 11 contracts as explained below.

34. Civil works under 11 contracts in Barisal Division remained incomplete at loan closing (30 June 2009) for several reasons, such as the contractors' inability, site difficulties, and the late award of the contract because of cancellation and re-tendering. A list of the unfinished works is in Appendix 7. ADB paid about \$0.61 million of its share of the contracted amount of \$2.20 million for the 11 contracts, based on the progress of work up to 30 June 2009. As the government assured ADB that it would pay the balance after full completion of the 11 contracts, ADB did not extend the loan closing date. The government extended the completion date of its project document by 1 year and LGED completed the remaining works under the 11 contracts by 30 June 2010. These civil works helped the project to fully reach its targets and thus achieve the desired outcome and impacts.

## **F. Implementation Arrangements**

35. No changes were made to the implementation arrangements envisaged at appraisal. LGED was the executing agency under the LGD of the Ministry of Local Government, Rural Development and Cooperatives. An appropriately staffed project management office (PMO), established at LGED headquarters in Dhaka, implemented the project. The PMO established two zonal offices in LGED's Jessore and Barisal district offices, each headed by a deputy project director. The staff of LGED's district and *upazila* offices worked closely with unions, and market and boat landing management committees to implement the project activities. A project steering committee headed by the LGD secretary oversaw the project. Nongovernment organizations (NGOs) mobilized poor and landless men and women for road construction and maintenance as well as for planting and caring for roadside trees. The implementation arrangements worked well at all levels. The continuous assignment of a competent and experienced project director from project preparation onwards was an important factor for the successful implementation of the project on time.

## **G. Conditions and Covenants**

36. Most of the loan covenants were generally complied with, either by the specified date or within a reasonable time thereafter. A good number of positive actions have been carried out to comply with the covenants, including (i) signing of agreements between LGED and UPs for routine and periodic maintenance of market facilities, boat landings, and UPCs; (ii) publishing the National Land Transport Policy in April 2004; (iii) approving the Road Master Plan in 2009; (iv) realigning management responsibility for improvement and maintenance among RHD, LGED, *upazila*, and UPs; and (v) issuing the Model Tax Schedule for local resource mobilization by UPs. No covenant was modified. The midterm review was waived with the approval of the Country Director, Bangladesh Resident Mission, as there was no major issue to resolve. The government delayed the loan effectiveness because of the late approval of the development project proposal. Audit observations up to FY2008 were settled by loan closing. The audit report for FY2009, which was received by ADB on 5 April 2010, made few observations that materially affected the financial statement. LGED, as the executing agency, has replied to the audit observations for FY2009 and expects to address them during FY2011. The maintenance budget of the government is inadequate to meet the growing demand and needs more funds in the coming days. No project facilities were insured to cover risks as this is not the existing practice

in Bangladesh for rural infrastructure projects. The detailed status of compliance with loan covenants is in Appendix 8.

## **H. Consultant Recruitment and Procurement**

37. Two consulting services groups were engaged, one for design and supervision (D&S) and the other for institutional support and training (IST) for capacity building and improvement of local governance. A summary of appraisal provisions and actual utilization of consulting services is in Appendix 9. As stipulated in the loan agreement, the selection and engagement of the D&S consultants followed ADB's *Guidelines on the Use of Consultants*. However, their recruitment and fielding were delayed by 11 months because of procedural complications. Utilization of international person-months of D&S consultants was well within the appraisal provision while the domestic person-months exceeded the appraisal provision by 42 person-months to meet actual requirements. GTZ followed its own procedures in recruiting the IST consultants under parallel financing. Actual utilization exceeded the appraised international and domestic provisions by a large margin as GTZ recognized that the additional support and training would be essential in delivering the required outputs.

38. Procurement of goods was subject to the provisions of ADB's *Procurement Guidelines*. No significant problem was encountered in packaging the contracts, preparing tender documents, and evaluating bids for equipment and vehicles. Procurement cost did not exceed the appraisal estimate for any of the items. A list of vehicles and equipment is in Appendix 10. Local competitive bidding (LCB) procedures, as acceptable to ADB, were followed for procurement of all civil works, and LGED did not encounter any problem.

## **I. Performance of Consultants, Contractors, and Suppliers**

39. The D&S consultants performed well, particularly in preparing the SAR reports, designing rural infrastructure, and more importantly, providing on-site supervision and quality control. The consultant services were instrumental in ensuring a cost-effective design, timely construction to a generally high standard, and certification of the bill of quantity. LGED highly appreciated the contributions of the D&S consultants. The IST consultants performed equally well, especially with regard to strengthening the UPs, establishing an efficient project monitoring system, assisting LGED in piloting the improvement of road maintenance at district and *upazila* levels, assisting MMCs in selecting and training female shop owners, implementing road safety campaigns, and implementing a comprehensive capacity building program for LGED staff. Project benefit monitoring and evaluation was also conducted satisfactorily under this component.

40. The project awarded approximately 527 small and medium-sized civil works contracts, of which 51 contracts were cancelled for various reasons as explained in para. 33. The capability of the contractors was enhanced through training conducted by the field staff of LGED with support from the consultants on the gender action plan, quality control, contract management, and environmental issues. Except for the 51 contracts, the performance of the civil works contractors was satisfactory. The performance of the suppliers of construction equipment, vehicles, and office equipment was also satisfactory, and no major problems or disputes were encountered. However, procurement of small ferries was delayed because the PMO was unable to persuade government approval of ferry operating guidelines

## **J. Performance of the Borrower and the Executing Agency**

41. The overall performance of the borrower and LGED has been satisfactory in implementing the project. The borrower assumed responsibility and interest in fulfilling its obligations, and helped LGED to implement the project on time. It ensured timely approval and adequate yearly allocations to cover all counterpart funding required for the project. It also ensured that the local government bodies contributed at least 10%, in cash, of the construction cost of relevant items. The borrower was also very supportive in adopting necessary policy changes in local government resource mobilization policies. The maintenance budget was inconsistent with LGED's growing requirements, and the gap between the demand for funds for road maintenance and the actual allocation was widening. The government therefore realigned the management and maintenance responsibility for the road network among different government agencies and local bodies. Within LGED, there was adequate implementation capacity, experience gained through executing a number of similar projects, and commitment to implement the project. LGED acted promptly on the requests and recommendations of the review missions. Close cooperation between ADB and LGED resulted in a very successful outcome, as recognized by ADB in presenting the project team with annual awards for outstanding performance in project implementation for 2005, 2007, and 2008.

## **K. Performance of the Asian Development Bank**

42. ADB responded promptly to the request of the government to prepare the project under a TA grant. ADB fielded 13 missions, including 9 review missions, at regular intervals as needed to closely monitor implementation, assess progress, and identify problems and constraints through field visits and discussions with the government, LGED, project consultants, and other stakeholders including beneficiaries. ADB monitored closely and acted promptly on requests for approval, disbursement, and modifications as needed from time to time. LGED highly appreciated the support and assistance provided by ADB and the other cofinanciers during implementation. ADB coordinated and resolved implementation matters through discussion with the other cofinanciers. Representatives of the cofinanciers joined most of the review missions. During implementation, ADB paid special attention to anticorruption measures and did not agree, in one instance, to award a contract to a sanctioned contractor even though he was the lowest responsive bidder. There was no significant problem with ADB procedures.

# **III. EVALUATION OF PERFORMANCE**

## **A. Relevance**

43. The project was designed to match with the development priorities set by the government and its objectives were highly relevant for accelerating agricultural, economic, and social development in the project area. The project was a well-conceived program to combat rural poverty in the project areas. The project design was sound and needs-based, as reflected in the SARs. The project benefited the farmers, traders, and road users in various ways along the zone of influence of the roads. About 76% of the country's population lives in the rural areas and 43.8% below the poverty line. The project helped to (i) create employment opportunities for the rural people, specifically for downtrodden and disadvantaged women; (ii) increase agricultural production; and (iii) reduce travel time and vehicle operating costs. The project scope was expanded to ensure that the *upazila* and union roads provided an unbroken network of roads that met the needs of rural communities. The project brought immense benefit to the people of the project area, particularly in Barisal Division where this was the first project of its kind.

## **B. Effectiveness in Achieving Outcome**

44. The aim to promote rural development through improvement of physical infrastructure was achieved through successful implementation of the project components. The effect of road improvement was reflected quickly in the increase in the flow of traffic. The improvement of existing roads to all-weather roads has increased the volume of motorized traffic by 140% and nonmotorized traffic by 50%, from baseline survey to terminal survey, and encouraged farmers to produce high-value crops and cash crops. The project increased economic and employment opportunities within the project area, particularly around the newly built facilities. Of the total population of about 23 million people in the project area, 9.8 million (slightly below the target of 10 million) received all-weather roads to access economic and market opportunities, and the income of 95,200 poor households increased by 25% in constant terms. The improvements to the GCMs have led to an average increase of 200% in the lease values, the activation of MMCs, and the creation of a good and hygienic environment. The soft components of the project were implemented successfully as intended and achieved the objectives of institutional strengthening and local governance. The intensive training and awareness programs in 105 unions have opened a new horizon of knowledge for the UP officials relating to their responsibilities, tasks, and how to make the union *parishads* more vibrant and sustainable. UPCs constructed under the project provided office space for various government departments and thereby served as one-stop service centers for the people of the area. The project is therefore considered highly effective in achieving the outcome.

## **C. Efficiency in Achieving Outcome and Outputs**

45. The outputs intended at appraisal have been achieved, and in many cases overachieved. The overall percentage of achievement of the various components varies from 90% (tree planting) to 198% (union roads). The 60% achievement rate for the small ferry subcomponent is the exception, and the reasons are explained in para. 19. LGED's commitment was firm and thus it was possible to exceed the appraised targets and construct an additional 200 km of UZR and 49 km of UNR. Resource mobilization was adequate and timely, and thus all civil works were completed within the timeframe. As observed during the project completion review (PCR) survey, annual average daily traffic (AADT) has increased by 24% for motorized traffic and 14% for nonmotorized traffic, from terminal survey to PCR survey (Appendix 11, Table A11.4). The PCR mission reevaluated the economic internal rate of return (EIRR) of the project (Appendix 11) and the overall EIRR is 38.1%, higher than the appraised value of 22.8%, indicating the high level of benefits associated with providing all-weather access in a rural environment. The level of efficiency in executing the project components is satisfactory and so are the outcome and outputs.

## **D. Preliminary Assessment of Sustainability**

46. The government is gradually and steadily increasing the budget for maintenance of the completed facilities, which is essential to ensure the sustainability of the investments. The annual allocation of funds to LGED for maintenance grew from Tk300 million to Tk5,085 million from FY1993 through FY2010 (Appendix 12). The allocation for maintenance for the southwestern area (the project area) also grew, from Tk450 million to Tk1,060 million between FY2004 and FY2010. This reflects the government's intention to maintain the project facilities and achieve sustainability. The allocation was initially considered adequate, but the gap between the required funds and the allocation widened because LGED had improved more road networks, resulting in an increase in maintenance costs to about Tk10,000 million per year.

47. Proper maintenance arrangements exist for all infrastructure. The Rural Infrastructure Maintenance Management Unit of LGED is responsible for monitoring the maintenance of rural roads and bridges. Maintenance arrangements also rely on local field level staff and local resources. Project measures contributed to a higher availability of funds for management, maintenance, and development. Since the lease values of improved GCMs have increased by approximately 200% over the past 5 years, the 25% share of this amount that can be claimed by the MMCs has also increased. The project support given to the pilot UPs has helped to double the amount of resources generated through their own collection. At this stage, no major risk can be identified that could threaten the sustainability of project benefits during the designed life of the infrastructure improved under the project. However, climate-resilient designs for future rural infrastructure projects should be adopted to tackle risks associated with climate changes. The guidelines for management of the infrastructure are being revised from time to time, as needed, to improve this aspect. Training of local level officers of LGED, officials of local government institutions (LGIs), contractors, LCS members, MMC members, and other committee members has added to the project's sustainability. The project is likely to be sustainable.

## **E. Impact**

48. About 10 million rural people of the project area are using all-weather roads to access economic and market opportunities (Appendix 13). General economic opportunities, especially employment opportunities, have increased through bringing surplus farm labor into the non-farm sector and making families less dependent on their land holding size. The income of 95,000 poor households has increased by 25%. A total of 82,000 person-years of employment has been generated from infrastructure improvement and maintenance. Among direct changes, the traffic volume and modal shift are most important. A switch from non-motorized to motorized vehicles has taken place. The impact of road improvement has been quickly reflected in the flow of traffic. Travel time was reduced by 27% for trucks and 69% for motorcycles. Travel time for passengers was also considerably reduced. The number of shops along the roadside increased by 276% from 3.13 to 11.79 shops per kilometer of project road. Roadside markets also increased, from 49 to 61 along 14 project roads. Student enrolment in roadside educational institutions increased by 28.4% per kilometer from the baseline survey to the terminal survey. Average roadside land value along the project roads went up by 88%, from about Tk5,000 to Tk9,500 per *decimal* (one-hundredth of an acre).

## **IV. OVERALL ASSESSMENT AND RECOMMENDATIONS**

### **A. Overall Assessment**

49. The project was very much in line with the government's rural development strategy as well as ADB's country strategy. The design of the project was highly relevant, highly effective in accomplishing its outcome, efficient in attaining its outcome and outputs, and sustainable. The project was implemented within the timeframe as envisaged without any major difficulties. The project has directly and indirectly addressed the problems of unemployment, poor road access, and poverty in the project area. An additional 136,000 jobs have been created along the project roads, and 39,000 jobs in the transport sector alone (Appendix 13). Agricultural production has been stimulated through upgraded road access to rural markets, which has resulted in better output prices that have benefited the producers and farmers, thereby increasing their income. The project achieved its economic development and poverty reduction goals. Upgrading of *upazila* and union roads helped increase the traffic volume of motorized traffic by 140% and save considerable transportation time. The overall quality of civil works is satisfactory. The

capacity of LGED and the local government institutions was strengthened through training in various aspects of participatory planning and maintenance, management, accounting, revenue collection, and quality control. Based on the achievement of targets and attainment of goals, the project is considered *successful* by the PCR mission (Appendix 14).

## **B. Lessons**

### **1. Advanced Procurement Action**

50. Early procurement for contract packages is absolutely essential to enable projects to meet their implementation schedule. In this case, the major civil works contract packages for year 1 were prepared by LGED during the feasibility study before the project consultants were mobilized and the SARs were prepared. Early recruitment of the consultants would have improved the performance of the project in the early stages. The recruitment process should be simplified to avoid delays.

### **2. Subproject Appraisal Reports**

51. Since SARs were prepared for each *upazila*, 96 SARs were produced. This was a huge and time consuming task that took almost two years to complete. It is recommended that future projects should produce SARs on the basis of districts or regions rather than *upazila*. This concept would have reduced the number of reports to 16 if prepared on a district basis or 2 if prepared on a regional basis.

### **3. Drinking Water in Market Developments**

52. The project has installed on a pilot basis a low-cost piped water supply system for drinking purposes at Haibatpur Growth Center in Jessore district, which is an arsenic-affected area. A water management committee within the MMC is managing the operation and maintenance of the system, and collects user fees. This approach to the supply of low-cost water in a GCM has proven to be feasible and may be replicated in future projects, while taking its shortcomings into account. For example, house connections could make it more viable.

### **4. Women's Market Section**

53. The project made an effort to include WMSs in all market developments to bring women more into the mainstream of the rural economy. However, women in some areas are conservative and not willing to run shops side-by-side with men. WMSs should only be included in market developments where project appraisal indicates that women are interested and available to participate in running the facilities; otherwise, the resources can be used elsewhere.

## **C. Recommendations**

### **1. Project Related**

54. **Future monitoring.** The PMO established under the project was closed on 30 June 2010 and the responsibility for operational monitoring has been transferred to LGED's central maintenance wing. Although the allocation of funds for rural road maintenance has grown significantly during the last 2 decades, it is still considered inadequate to meet the actual requirements, given the ongoing growth in road networks (currently about 400 km/year) under

LGED. The government is required to allocate adequate funds for maintenance of infrastructure (para. 46).

55. **Additional assistance.** No additional assistance is required for the project itself. However, further assistance is required for the area to consolidate the initiatives for poverty reduction through further development of rural infrastructure and improvement in governance.

56. **Timing of the project performance evaluation report.** As the project is fully completed, the project performance audit report may be undertaken in 2012, which will give a sufficient gestation period to assess the impact of the facilities in particular and poverty reduction in general.

## 2. General

57. The design and monitoring framework, along with the targets set for the project, was comprehensive and provided clear direction for implementing the project. The cost estimate of the project was satisfactory to accomplish the appraised quantities and even more. Future projects should maintain a certain flexibility regarding additional works identified during implementation.

58. Adequate provisions for boat landings may be considered for future projects, particularly in riverine areas (para. 23).

59. No project facilities were insured to cover risks as this is not the practice in Bangladesh for rural infrastructure projects. The inclusion of such covenants in future projects should be reassessed (para. 36).

60. Climate-resilient designs for future rural infrastructure projects should be considered to tackle risks associated with climate change (para. 47).

61. Advance action for recruitment of consultants could be considered in future projects (para. 50).

62. As few core subprojects are normally identified during feasibility and appraisal, the principles that prohibit the awarding of contracts before the preparation of SARs and the early fielding of consultants could be relaxed in future projects so as to improve implementation of projects during the first year (para. 51).

63. The low-cost water supply scheme at Haibatpur growth center is considered feasible. Where appropriate, this model could be replicated in the growth centers to be developed under future projects (para. 52).

# PHYSICAL PROGRESS – TARGET versus ACTUAL

## Table A1.1: Summary of Physical Progress

Component	Unit	Quantity			Achievement (%)
		Appraised	Revised	Actual	
1 Upazila roads (FRB)	km	1,030	1,226	1,226	119
2 Union roads (R1)	km	50	99	99	198
3 Structures on upazila/union roads	m	5,000	7,623	7,623	152
4 Tree planting on upazila/union roads	km	800	800	720	90
5 Development of growth centers	no.	60	68	68	113
6 Construction of union council complexes	no.	99	100	100	101
7 Construction of boat landings	no.	50	89	85	170
8 Construction and installation of small ferries	no.	5	3	3	60

FRB = feeder road type B (now called upazila road); R1 = rural road type 1 (now called union road).

Source: Local Government Engineering Department.

## Table A1.2: Detailed Physical Progress – By Development Partners

Component	Unit	Quantity			Achievement (%)
		Appraised	Revised	Actual	
ADB-Funded					
1 Upazila roads (FRB)	km	818	963	963	118
2 Union roads (R1)	km	0	0	0	0
3 Structures on upazila/union roads	m	4,440	6,573	6,573	148
4 Tree planting on upazila/union roads	m	624	640	551	88
5 Development of growth centers	no.	50	55	55	110
6 Construction of union council complexes	no.	80	80	80	100
7 Construction of boat landings	no.	49	88	84	171
8 Construction and installation of small ferries	no.	5	3	3	60
KfW-Funded					
1 Upazila roads (FRB)	km	212	263	263	124
2 Union roads (R1)	km	88	99	99	112
3 Structures on upazila/union roads	m	560	1,050	1,050	188
4 Tree planting on upazila/union roads	km	176	160	169	96
5 Development of growth centers	no.	10	13	13	130
6 Construction of union council complexes	no.	19	20	20	105
7 Construction of boat landings	no.	1	1	1	100
8 Construction and installation of small ferries	no.	-	-	-	-

FRB = feeder road type B (now called upazila road); R1 = rural road type 1 (now called union road).

Source: Local Government Engineering Department.



## SUMMARY OF TRAINING ACTIVITIES

Target Group	Topics	No. of Courses	No. of Trainees	Trainee-Days
LGED staff (including project staff)	Procurement management; quality control; supervision; maintenance management; performance-based roadside maintenance; annual maintenance planning; computer-based road maintenance management system; management of off-pavement maintenance; maintenance of equipment and service vehicles; mechanical training; training of technical operators; orientation on participatory planning; local governance; GAD and role of LGED in the union; audit and financial management; environmental assessment; foundation training; basic computer courses.	243	5,631	17,725
Contractors	Role of LGED contractors on gender action plan; quality control and environmental issues in rural infrastructure			
UP chairpersons, members, secretaries	Orientation training; local resource mobilization and budget preparation; participatory rural infrastructure maintenance management; gender, human rights and family laws	339	10,286	19,518
Market management committees	Growth center management, development and maintenance; boat landing management and maintenance			
LCS members	Technical and basic awareness training; fundamental training; entrepreneurship training; training on income-generating activities	759	12,478	96,971
Female shop owners	Entrepreneurship training; maintenance and awareness training			
UP members/residents, MMCs	Gender training/gender meetings	353	10,098	35,571
Motorized vehicle drivers, rickshaw/van operators, school teachers	Awareness raising on road safety issues	100	4,350	5,041
<b>Total</b>		<b>1,794</b>	<b>42,843</b>	<b>174,826</b>

GAD = gender action plan, LCS = labor contracting societies, LGED = Local Government Engineering Department, MMC = market management committee, UP = union *parishad*.

Note: In addition, approximately 82,000 school students were covered by road safety awareness campaigns.

Source: Local Government Engineering Department.

### TRAINING AND RESOURCE MATERIALS PREPARED

- 1 Orientation Course on Participatory Planning, Local Governance, Gender and Development, and Role of LGED in the Union
- 2 Growth Center Management, Development, and Maintenance Training Course
- 3 Implementation of Infrastructure Maintenance
- 4 Role of LGED Contractor in RIIP Gender Action Plan
- 5 Training Course on Gender, Human Rights, and Family Laws for the Members of Union *Parishad*
- 6 Orientation Training Course for Elected Representatives and Secretaries of Union *Parishad*
- 7 Training Course on Local Resource Mobilization and Budget Preparation
- 8 Participatory Approach to Rural Infrastructure Maintenance and Management (PRIMM), Course for UP Members, Secretaries, and LGED Community Organizers
- 9 Off-Pavement Maintenance and Training Course for Supervisors
- 10 LCS Training Course under Performance Based Contract (PBC), October 2005
- 11 On-Pavement Routine Maintenance Training Course, April 2007
- 12 Motorized Drivers' Awareness and Road Safety
- 13 Trainers' Guide on Motorized Drivers' Awareness and Road Safety
- 14 Course on Maintenance of Rural Infrastructure (MRI), RIIP, LGED, February 2006
- 15 One-day Training Course for Growth Center Management, Development, and Maintenance, March 2005
- 16 GC Management, Development, and Maintenance Follow-up, and Boat Landing (*Ghat*) Management and Maintenance Training Course, July 2008 (Third Edition)
- 17 Handouts for Operating System of Road and Structure Database Management System (RSDMS) – V Software 2006-07
- 18 Yearly Updating of the Road Maintenance Guidelines in association with the Rural Infrastructure Maintenance Management Unit (RIMMU) of LGED for *Implementation of Rural Roads and Culverts Maintenance Program* throughout the country under GOB Revenue Budget
- 19 “*Training Manual on Road Maintenance Management, Section-1*” (Section on Road and Bridge Condition Survey), published by RIMMU
- 20 “*Training Manual on Road Maintenance Management, Section-3*” {User's Manual for operating customized software introduced by RIMMU – RSDMS, Rate Schedule and Estimate Preparation System (RSEPS) and Earth Volume Calculation System (EVCS)}, published by RIMMU
- 21 Selection, Agreement and Maintenance Related Orientation of Female Shop Keepers as per GOB regulations
- 22 Technical and Fundamental Awareness Related Orientation Course for Workers Engaged in Maintenance of Roads and Tree Plantation
- 23 Gender Related Issues in Basic Computer Training Course
- 24 “Work Management and Self Development of LCS Female Workers” for Community Organizers
- 25 Training of Trainers' Course to Enhance Technical and Basic Awareness of LCS Female Workers' Course
- 26 Financial Account Management and Audit Training Course, August 2004
- 27 Foreign Aided Project Financial Management Training Manual, LGED, June 2005
- 28 Supervision of Infrastructure Construction Course (SIC), November 2005
- 29 Technical Training Course for Transport and Machine Operators, August 2004

- 30 Mechanical Training on Maintenance of Equipment and Service Vehicles, January 2006
- 31 Orientation Course for Public Representatives and Secretaries of Union *Parishad*
- 32 Field Maintenance Training Course for Mechanical Foremen and Mechanics, December 2004
- 33 Training Course on Quality Control and Environmental (QCE) Issues in Rural Infrastructure Development, September 2006
- 34 Course on Maintenance of Rural Infrastructure (MRI), February 2006
- 35 Training Workshop on Annual Maintenance Planning for FY 2006, 2007, 2008, 2009
- 36 Entrepreneurship Training for Women Engaged in GC Shops and Roadside Tree Plantation Maintenance, 2007
- 37 Guidelines for Use of Rural Roads and Road Safety, 2007, Road Safety Unit, LGED
- 38 Guidelines for Training the Trainers of Road Safety for Rickshaw and Van Pullers, 2007, Road Safety Unit, LGED
- 39 Road Safety for Rickshaw and Van Pullers, 2007, Road Safety Unit, LGED
- 40 Guidelines for Training the Trainers of Road Safety for Drivers of Motorized Vehicles, 2007, Road Safety Unit, LGED
- 41 Road Safety for Drivers of Motorized Vehicles, 2007, Road Safety Unit, LGED
- 42 Auction Mechanism, Management, Income-expenditure Policies for Mechanized Ferries and their Establishment, prepared by LGED and handed over to Upazila Parishad
- 43 Off-Pavement Road Maintenance Training Course under Performance Based Contract (PBC), October 2008
- 44 Basic Training Course for LCS Women (Trainee Handout), July 2008, Institutional Support and Training Component, RIIP, LGED

### **List of Reports Prepared Under the Project**

- 1 Report on Planning Workshops held in Barisal (28–29 April 2004) and Jessore (5–6 May 2004), May 2004
- 2 Feasibility Study on Increased Private Sector Participation in Road Construction and Periodic Maintenance, September 2004
- 3 Results of Baseline Surveys Carried out Under RIIP in 2004, February 2005
- 4 Report on Short-term Assignment on Road Safety, April 2005
- 5 Report on Short-term Assignment on Gender/Women Development, July 2005
- 6 Environmental Assessment Guidelines for LGED Projects, Draft Final Report, August 2005
- 7 Results of Midterm Surveys on Benefit Monitoring and Evaluation, October 2006
- 8 Results of Terminal Surveys on Benefit Monitoring and Evaluation, August 2009
- 9 Road User Cost Study for LGED Roads, Final Report, August 2009

GC = growth center, GOB = Government of Bangladesh, LCS = labor contracting societies, LGED = Local Government Engineering Department, RIMMU = rural infrastructure maintenance management unit, RIIP = rural infrastructure improvement project, UP = union *parishad*.

Source: Local Government Engineering Department.

## GENDER-RELATED ACHIEVEMENTS

1. The project successfully implemented a comprehensive gender action plan covering all project components. The components included rural infrastructure (roads and specific infrastructure including growth centers and union *parishad* complexes; road maintenance; and tree planting), institutional strengthening, local government capacity development, and project monitoring.
2. The project constructed 488 shops for women in 60 rural market sections. The shops were allocated to poor women entrepreneurs engaged in a variety of trading activities including both traditional and non-traditional trades. The project facilitated the selection of the women traders by the market management committees (MMCs), provided 2,411 trainee-days of entrepreneurship, maintenance, and awareness training to female shop owners, and ensured that women traders were included as members in the traders' associations. Women shop owners are maintaining group savings to take care of maintenance of shops and exclusive facilities. Customers of the shops comprise both women and men, and it was observed that the presence of female shop owners encourages other women to come to the markets. Some other women have established shops at the private level in some of the markets.
3. The project provided a series of training courses and created employment opportunities for more than 2,800 landless poor women in off-pavement maintenance of the roads. One batch of women was employed for a cycle of 3 years. They were offered training on maintenance and tree planting and nursing. Towards the end of their cycle, they were trained in different income generating skills as support for the investment of their savings generated through the project.
4. The project established exclusive facilities for women in public places like markets and union *parishad* complexes. In union *parishads* (UPs), separate office rooms with an attached toilet have been provided for the female ward members. In growth center markets, separate toilet facilities were provided for female market visitors, and shop owners. This has encouraged women to come to the markets and stay longer.
5. Under the project, 15% of the open shade in the growth center markets has been set aside for women vendors where they can sell agricultural products.
6. Participation of women in local development, administration, and management was emphasized and facilitated under the project to contribute to effective women empowerment. Female members of all 900 union *parishads* participated in one or more training courses. Women were encouraged to take a more prominent role in monthly, public, and citizen forum meetings, and to chair project implementation committees. Female members of pilot UPs are more aware of their roles and responsibilities and play a vital role in running the affairs of the UPs. More than 3,000 UP members were sensitized on gender issues.
7. Civil works contractors were encouraged, through 20 one-day workshops, to employ women, pay them equal wages for work of equal value, ensure the availability of facilities like water and sanitation, and allow them adequate rest as per the labor laws. The average share of female workers reached 22%, and the wage differences for the same work came down to 17%–25% (from 39%). MMC training focused on the importance of the active participation of female shop owners and day traders.
8. The project sensitized about 1,200 LGED officials on the concept of gender mainstreaming for addressing gender issues in their personal life and at work. It also developed and used a gender-disaggregated database for reporting.

## ANNUAL DISBURSEMENT OF THE ADB LOAN PROCEEDS

Table A5.1: Annual Disbursement  
(\$ '000)

Category	Disbursement							Total
	2003	2004	2005	2006	2007	2008	2009	
01A	2,961	1,052	3,608	9,814	9,709	4,834	5,370	37,347
01B	0	0	108	2,094	3,597	2,750	3,019	11,569
02A	442	259	175	0	10	0	0	886
02B	14	1,299	578	91	769	354	53	3,158
02C	153	57	65	5	0	0	0	280
03	677	215	388	355	379	202	290	2,505
04	0	0	0	242	70	0	0	312
05	253	65	100	221	198	165	153	1,156
06	0	31	74	128	257	430	236	1,156
07	-	-	-	-	-	-	-	-
<b>Total</b>	<b>4,500</b>	<b>2,978</b>	<b>5,096</b>	<b>12,950</b>	<b>14,989</b>	<b>8,735</b>	<b>9,121</b>	<b>58,369</b>

Source(s): Asian Development Bank.

Table A5.2: Annual and Cumulative Disbursement  
(\$ '000)

Year	Disbursement	Cumulative Disbursement
2003	4,500	4,500
2004	2,978	7,478
2005	5,096	12,574
2006	12,950	25,524
2007	14,989	40,513
2008	8,735	49,248
2009	9,121	58,369
<b>Total</b>	<b>58,369</b>	

Source(s): Asian Development Bank.

# IMPLEMENTATION SCHEDULE

Work Description	Quantity	2002		2003				2004				2005				2006				2007				2008				2009	
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Rural Roads																													
Civil Works																													
Upgrading feeder roads	1,030 km	Plan																											
	1,226 km	Actual																											
Road Structures	5,000 m	Plan																											
	7,623 m	Actual																											
Tree Planting and caring	800 km	Plan																											
	720 km	Actual																											
Land acquisition		Plan																											
		Actual																											
Rural Infrastructure																													
Civil Works																													
Growth centers (numbers)	60	Plan																											
	68	Actual																											
Boat landings (numbers)	50	Plan																											
	85	Actual																											
Ferries (numbers)	5	Plan																											
	3	Actual																											
UP complex (numbers)	99	Plan																											
	100	Actual																											
Land acquisition		Plan																											
		Actual																											
Infrastructure Maintenance																													
UP incentive fund		Plan																											
		Actual																											
LGED Capacity Building and Local Governance																													
Capacity-building consultants		Plan																											
		Actual																											
Training		Plan																											
		Actual																											
Surveys and studies		Plan																											
		Actual																											
Project Management Support																													
Implementation consultants		Plan																											
		Actual																											
Incremental staff salaries		Plan																											
		Actual																											

LGED = Local Government Engineering Department, km = kilometer, m = meter, UP = union parishad.

**LEFTOVER WORKS COMPLETED FROM JULY 2009 TO JUNE 2010 AFTER LOAN  
CLOSING WITH GOB FINANCING**

Sl.	District	Name of Work	Unit	Quantity	Contract Amount (Tk million)	Completed in
1	Barisal	UPC at Sarikole	no.	1	8.78	June 2010
2	Barisal	UPC at Guabaria	no.	1	5.51	June 2010
3	Barisal	UPC at Korapur	no.	1	8.30	March 2010
4	Barguna	UPC at Buramajumder	no.	1	5.61	March 2010
5	Barguna	RCC Bridge on Amua - Pipulia Bazar Road	m	90	27.82	March 2010
6	Barguna	Amua - Pipulia Bazar Road	km	1.50	3.10	May 2010
7	Patuakhali	Chapali Bazar Ghat - Gangamoti Sea Beach Road	km	3.00	15.67	May 2010
8	Patuakhali	RCC Bridge on Boga R&H Road – Baherchar GCM	m	126	35.29	June 2010
9	Pirojpur	Nazipur – Batiaghata Road	km	5.08	27.63	March 2010
10	Jhalokathi	Remaining works on Nalchiti-Patuakhali R&H Jurkati Road – Khayaghat upazila Road	km	4.00	6.94	January 2010
11	Jhalokathi	Remaining works on Nalchiti-Patuakhali R&H Jurkati Road – Khayaghat upazila Road	km	3.00	6.61	May 2010
<b>Total</b>					<b>151.26</b>	
<b>Equivalent (\$ million)</b>					<b>2.20</b>	

GCM = growth center market, GOB = Government of Bangladesh, RCC = reinforced cement concrete, R&H = roads and highways, UPC = union *parishad* complex.

Source: Local Government Engineering Department.

**STATUS OF COMPLIANCE WITH LOAN COVENANTS**

<b>Covenant</b>	<b>Reference in LA</b>	<b>Status of Compliance</b>
The Borrower shall cause the Project to be carried out with diligence and efficiency and in conformity with sound administrative, financial, engineering, environmental, participation and governance practices.	Section 4.01(a)	Complied with.
In the carrying out of the Project and operation of the Project facilities, the Borrower shall perform, or cause to be performed all obligations set forth in Schedule 6 to this Loan Agreement.	Section 4.01(b)	Status of compliance with Schedule 6 is provided below.
The Borrower shall make available, promptly as needed, the funds, facilities, services, land and other resources which are required, in addition to the proceeds of the Loan, for carrying out of the Project and for the operation and maintenance of the Project facilities.	Section 4.02	Complied with.
In the carrying out of the Project, the Borrower shall cause competent and qualified consultants and contractors, acceptable to the Borrower and the Bank, to be employed to an extent and upon terms and conditions satisfactory to be Borrower and the Bank.	Section 4.03 (a)	Complied with.
The Borrower shall cause the Project to be carried out in accordance with plans, design standards, specification, work schedules and construction methods acceptable to be Borrower and the Bank. The Borrower shall furnish, or cause to be furnished, to the Bank, promptly after their preparation, such plans, design standards, specifications and work schedules, any material modifications subsequently made therein, in such detail as the Bank shall reasonably request.	Section 4.03 (b)	Complied with.
The Borrower shall ensure that the activities of its departments and agencies with respect to the carrying out of the Project and operation of the Project facilities are conducted and coordinated in accordance with sound administrative policies and procedures.	Section 4.04	Complied with.
The Borrower shall make arrangements satisfactory to the Bank for insurance of the Project facilities to such extent and against such risks and in such amounts as shall be consistent with sound practice.	Section 4.05 (a)	Insurance for such project facilities is not the practice in Bangladesh.
Without limiting the generally of the foregoing, the Borrower undertakes to insure, or cause to be insured, the goods to be imported for the Project and to be financed out of the proceeds of the Loan against hazards incident to the acquisition, transportation and delivery thereof to the place of use or installation, and for such insurance any indemnity shall be payable in a currency freely usable to replace or repair such goods.	Section 4.05 (b)	Complied with.



Covenant	Reference in LA	Status of Compliance
The Borrower shall maintain, or cause to be maintained, records and accounts adequate to identify the goods and services and other items of expenditure financed out of the proceeds of the Loan, to disclose the use thereof in the Project, to record the progress of the Project (including the cost thereof) and to reflect, in accordance with consistently maintained sound accounting principles, the operations and financial condition of the agencies of the Borrower responsible for the carrying out of the Project and operation of the Project facilities, or any part thereof.	Section 4.06(a)	Complied with.
The Borrower shall (i) maintain, or cause to be maintained, separate accounts for the Project; (ii) have such accounts and related financial statements audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience and terms of reference are acceptable to the Bank; (iii) furnish to the Bank, as soon as available but in any event not later than nine months after the end of each related fiscal year, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto (including the auditor's opinion on the use of the Loan proceeds and compliance with the covenants of this Loan Agreement as well as on the use of the procedures for imprest account/statement of expenditures), all in the English language; and (iv) furnish to the Bank such other information concerning such accounts and financial statement and the audit thereof as the Bank shall from time to time reasonably request.	Section 4.06 (b)	Complied with. Audited project accounts of each financial year received. The reply to the audit observations for FY2009 has been sent to the audit department and the observations are expected to be addressed during FY2011.
The Borrower shall furnish, or cause to be furnished, to be Bank all such reports and information as the Bank shall reasonably request concerning (i) the Loan, and the expenditure of the proceeds and maintenance of the service thereof; (ii) the goods and services and other items of expenditure financed out of the proceeds of the Loan; (iii) the Project; (iv) the administration, operations and financial condition of the agencies of the Borrower responsible for the carrying out of the Project and operation of the Project facilities, or any part thereof; (v) financial and economic condition in the territory of the Borrower and the international balance-of-payment position of the borrower; and (vi) any other matters relating to the purposes of the Loan.	Section 4.07 (a)	Complied with.
Without limiting the generality of the foregoing, the Borrower shall furnish, or cause to be furnished, to the Bank quarterly reports on the carrying out of the Project and on the operation and management of the Project facilities. Such reports shall be submitted in such form	Section 4.07 (b)	Complied with. Sixteen quarterly reports and 5 annual reports have been submitted to ADB and other agencies

Covenant	Reference in LA	Status of Compliance
and in such detail and within such a period as the Bank shall reasonably request, and shall indicate, among other things, progress made and problems encountered during the quarter under review, steps taken or proposed to be taken to remedy these problems, and proposed program of activities and expected progress during the following quarter.		concerned.
Promptly after physical completion of the Project, but in any event not later than three (3) months thereafter or such later date as may be agreed for this purpose between the Borrower and the Bank, the Borrower shall prepare and furnish to the Bank a report, in such form and in such detail as the Bank shall reasonably request, on the execution and initial operation of the Project, including its cost, the performance by the Borrower of its obligations under this Loan Agreement and the accomplishment of the purposes of the Loan.	Section 4.07 (c)	Complied with. Project completion report submitted to ADB.
The Borrower shall enable the Bank's representatives to inspect the Project, the goods financed out of the proceeds of the Loan and any relevant records and documents.	Section 4.08	Complied with.
The Borrower shall ensure that the Project facilities are operated, maintained and repaired in accordance with sound administrative, financial, engineering, environmental, and maintenance and operational practices.	Section 4.09	Complied with.
<b>SCHEDULE – 6</b>		
The Steering Committee established under the third Rural Infrastructure Development Project (Loan No. 1581-BAN(SF)), which is chaired by the Secretary of the LGD and includes representatives from LGD, LGED, the Planning Commission of the Ministry of Planning, Economic Relation Division of the Ministry of Finance, the Implementation Monitoring and Evaluation Division of the Ministry of Planning, the National Institute of Local Government, the Ministry of Women and Children Affairs, RHD, Local Government Bodies, NGOs, and private sector shall serve as the PSC. The PSC shall meet as necessary by not less than once a year to (i) review Project progress; (ii) provide overall policy and operational guidance for the implementation of the Project and decide on corrective action if needed; (iii) resolve issues and conflict that may emerge during the implementations; and (iv) facilitate coordination of Project activities with other externally financed Projects and programs.	Schedule-6, Para. 2	Complied with. A steering committee was established on 20 September 2004. The PSC met in December 2004, August 2005, November 2006, and February 2009.
The PMO, established in LGED and headed by a full-time Project Director, shall (i) prepare the overall Project implementation plan and consolidated annual work	Schedule-6, Para. 3	Complied with.

Covenant	Reference in LA	Status of Compliance
plans; (ii) monitor Project progress in each sub-district; (iii) prepare detailed subproject designs and appraisal report; (iv) monitor and supervise all Project management activities; (v) organize Project performance management activities; (vi) ensure satisfactory implementation of the gender action plan and other activities under the summary poverty reduction and social strategy; and (vii) prepare necessary progress report as well as the Project completion report.		
The Project Director shall be at the level of senior executive engineer. (S)he shall report to the Chief Engineer of LGED, shall coordinate all Project activities, and shall be directly responsible for overall Project implementation, monitoring and supervision. Other than the Project Director, key-staff of the PMO shall comprise an executive engineer, a senior mechanical advisor, a junior design engineer, a transport economist, an environment specialist, four assistant engineers of which two in GIS, an economist, a sociologist with extensive experience in gender and resettlement, a training officer, an assistant programmer, two sub-assistant engineers and an accounts officer, all on a full-time basis.	Schedule-6, Para. 4	Complied with.
With 1 month of the Effective Date, the PMO shall establish one Zonal office in LGED's Khulna district office and one in LGED's Barisal district office. Each zonal office shall be headed by a Deputy Project Director who shall have day-to-day responsibilities for Project implementation activities in his/her respective zone and supervise Project-related work. (S)he shall report directly to the Project Director. Other key-staff in the zonal offices shall include two assistant engineers, two sub-assistant engineers, two administrative officers and two accountants. The zonal offices shall be responsible for overseeing the daily implementation of Project activities.	Schedule-6, Para. 5	Complied with.
If co-financing by either or both KfW and GTZ has not been obtained by 30 September 2003, the scope of Components A and B of the Project, and of those Components only, shall be reduced accordingly.	Schedule-6, Para. 6	Complied with. Cofinancing agreements signed on 18 May 2004 with KfW and on 26 September 2004 with GTZ.
Selection of subprojects shall be in accordance with criteria agreed upon by the Borrower and the Bank. The implementation of each subproject shall be subject to prior approval of both LGED and the Bank. A SAR shall be prepared by the PMO and the Project implementation consultant and shall be attached to the request for approval. Each SAR shall set out the technical financial and economic viability of the subproject and each of its components, as well as its social and environment examination, an initial social assessment and a	Schedule-6, Para. 7	Complied with. Ninety-six SARs approved by ADB.

Covenant	Reference in LA	Status of Compliance
resettlement plan if necessary.		
Following the approval of a SAR by the Bank, the union council concerned shall enter into an agreement with LGED, which shall set out conditions and assurances that must be satisfied by the union council prior to and during Project implementation. The agreement shall include the delegation of responsibility for routine and periodic maintenance of market facilities, boat landings, and union council complexes to local government bodies.	Schedule-6, Para. 8	Complied with. Ninety-nine agreements signed for subprojects with respective union parishads.
The Borrower shall ensure that the approved annual development program allocations for the Project shall be sufficient to cover all counterpart funding required for the Project, in accordance with the financing plan. This includes, but not limited to, the cost of land acquisition and other resettlement compensation, implementation and monitoring activities under the land acquisition and resettlement plans, utility relocation, and general Project management expenses.	Schedule-6, Para. 9	Complied with.
The Borrower shall ensure that local government bodies contribute at least ten percent, in cash, of the construction cost of bridges and culverts on RR-2s and RR-3s, improvements to growth center markets and boat landings, and construction of union council complexes.	Schedule-6, Para. 10	RR-2s and RR-3s were not included in the Project. Complied with for GCMs, boat landings, and UPCs.
The Borrower shall finalize the National Land Transport Policy prior to mid-term review. In so doing, it shall take into account the views of the donor community. As of the beginning of year four of Project Implementation, the Borrower shall take all necessary and appropriate measures to implement the recommendations of the Policy.	Schedule-6, Para.11	Complied with. The Government of Bangladesh approved the policy and Gazette notification was published in April 2004.
At the latest by 31 December 2003, the Borrower shall have issued and order realigning management and responsibility for the roads network as follows: (a) the national and regional roads, and those alone, shall be under the authority of the RHD; (b) all FRs and RR-1s shall be under the authority of LGED; and (c) RR-2s and RR-3s shall be under the authority of subdistricts and union councils.	Schedule-6, Para. 12	Complied with. The Planning Commission approved realignment of management and responsibility for the roads network in May 2003. Gazette notification for RHD published in June 2004 and that for LGED in July 2006.
Prior to mid-term review, the Borrower shall review the need for a Road Transport and Traffic Bill. A thorough assessment of such need shall be included in the mid-term review report	Schedule-6, Para. 13	The bill was approved in April 2004. As the midterm review was waived, assessment was not done.
Within one month of the Effective Date, the Borrower shall have approve the recommendations of the LGED	Schedule-6, Para. 14	Complied with. LGD issued a new model tax

Covenant	Reference in LA	Status of Compliance
study on local resource mobilization and shall commence to implement the strategies for increasing funds allocation to union councils, and union council resource mobilization authority.		schedule on 6 December 2003.
LGED shall ensure to continue the full implementation of the Recommendations of the LGED Management Capability Strengthening Report, and shall prepare an update to this report by 30 September 2003, with a particular focus on strengthening LGED's performance management and impact evaluation capacity.	Schedule-6, Para. 15	Complied with. As recommended in the report, additional positions for LGED headquarters and district offices were created under the revenue budget. Positions for regional offices were also created. In addition, 140 positions have been created in LGED headquarters and at field level covering a variety of disciplines.
At the latest by 31 March 2003, the Borrower shall finalize the revised policy on leasing of market places, and market management committee membership and take all measures needed to implement such policy. With a view to increasing the resources available to union councils for infrastructure development and maintenance, the Borrower will review and amend the regulations for sharing market lease revenue, and introduce more transparent procedures and greater competition in market leasing in the Project Area.	Schedule-6, Para. 16	Complied with. LGD approved management guidelines on the leasing of markets and market management committee.
The Borrower shall ensure that civil works contractors comply with all applicable labor legislation. Bidding documents shall include a clause on the prohibition of child labor, as defined in national legislation, for construction and maintenance activities as well as a clause regarding the respect of equal pay for men and women for work of equal value. Compliance with these provisions shall be strictly monitored during Project implementation	Schedule-6, Para. 17	Complied with. Bidding documents covered all the required provisions.
Within one month of the Effective Date, the Borrower shall issue a directive, setting employment targets for poor and vulnerable people, in particular women, for road construction and maintenance and other infrastructure construction activities. The Borrower shall take all necessary and appropriate measures to reach those targets, including ensuring the provision of appropriate facilities for women and children in construction campsites.	Schedule-6, Para. 18	Complied with. The directive was issued in November 2005 and a condition to this effect was incorporated in the bid documents.
Before 30 June of each year during Project implementation, LGED and the Bank shall agree on the annual maintenance program for feeder and rural roads	Schedule-6, Para.19	Complied with.

Covenant	Reference in LA	Status of Compliance
in the Project Area for the following year. To that extent, LGED shall submit to the Bank for its review, the proposed maintenance budget by 31 May of every year.		
The Borrower shall ensure that for the entire Project Implementation period, sufficient budget will be allocated to fully fund all routine and periodic maintenance activities for those roads which fall under LGED's responsibility. This amount shall include budget allocations from all sources, including donor-financed Project funds and food aid allocated for maintenance works.	Schedule-6, Para. 20	Partly complied with. For FY2010, GOB allocated Tk5,085 million for maintenance against a total requirement of Tk10,000 million. Maintenance of project roads did not suffer from a shortage of funds.
The Borrower shall take all necessary and appropriate measures to ensure that construction and maintenance equipment is being well maintained and replaced when needed. Such measures shall include, but not be limited to, the following: (1) RHD and LGED shall set the charges for renting their equipment at a sufficiently high level to cover the maintenance and replacement costs of such equipment; and (2) annually, the Borrower shall make available to LGED funds at a level not less than the estimated rent collections of such equipment for the following financial year. This shall be done through budget allocations into a separate identifiable item in the budget of RHD and LGED. RHD and LGED shall ensure that the budget allocations mentioned under (2) of this paragraph shall be used exclusively to fund maintenance and replacement of the equipment.	Schedule-6, Para. 21	Complied with. LGED coordinated with the ministries concerned for allocation of adequate funds for equipment replacement and maintenance.
The union development coordination committees to be established in each of the 32 Pilot unions Component D (v) of the Project shall be chaired by the union council chairman and shall include representatives from line agencies' staff, NGOs and representatives of union market management committees, local village leaders, the private sector and community members.	Schedule-6, Para. 22	Complied with.
LGED shall assign at least 16 community organizers to coordinate with the pilot unions to expedite the implementation of Project activities and local governance improvement. LGED shall ensure that the organizers shall submit monthly progress reports to the PMO.	Schedule-6, Para.23	Complied with. Sixteen community organizers participated for local governance improvement of 32 pilot union councils.
LGD and LGED shall take all necessary and appropriate measures to test thoroughly the concept of pooling revenues from the growth center markets in each of the pilot unions. To that extent it shall delegate responsibility for the use of those funds to the concerned union councils and provide matching funds for those unions that demonstrate good performance in increasing their	Schedule-6, Para.24	Complied with. Each market management committee, <i>upazila nirbahi (executive)</i> officer and <i>upazila</i> engineers were provided with the new

Covenant	Reference in LA	Status of Compliance
resource mobilization.		market guidelines to follow properly.
At the latest by 31 December 2003, the Borrower shall have approved a time-bound action plan to increase the participation of the private sector in road construction and periodic maintenance. Such action plan shall accurately reflect the recommendations of the feasibility study on such participation, which shall be carried out by the supervision consultants.	Schedule-6, Para.25	Complied with. Based on a feasibility study on increased participation of the private sector in road construction and periodic maintenance, piloting in two <i>upazilas</i> for off-pavement maintenance by LCS started from November 2005. Meanwhile, all 16 project districts carried out performance-based off-pavement maintenance in one <i>upazila</i> each.
At the latest by 30 June 2003 the Borrower shall establish a committee consisting of representatives from private sector road construction contractors, equipment leasing companies and RHD and LGED to advise on the preparation and implementation of the action plan mentioned under paragraph 25 of this schedule.	Schedule-6, Para. 26	Complied with. The working group for pilot testing performance-based road maintenance was established in July 2004 with LGED to advise.
LGED shall ensure that all appropriate and necessary measures are taken to implement the Summary Initial Environmental Examination, the Initial Social Assessment, and the Project Resettlement Framework which is in Annex 1 of this Schedule to this Loan Agreement, of which it forms an integral part. Within six months of Loan Effectiveness, LGED shall update its 1994 environmental guidelines in conformity with current legal requirements for environmental assessments in Bangladesh.	Schedule-6, Para. 27	Complied with. The central environment unit, with the help of the environmental specialist, reviewed and revised the environmental guidelines (1994). The manual was finalized in November 2006.
On completion of the detailed design of the three core subprojects that were prepared in detail during the feasibility study, the Borrower shall update their resettlement plans and ensure that census information as well as a full inventory of losses are included. The entitlement matrix shall be revised if additional categories of affected persons are determined. Submission of an updated resettlement plan for each core subproject, consistent with provisions of the resettlement framework and in the form and substance acceptable to the Bank, shall be a condition for the award of civil works contracts for those core subprojects.	Schedule-6, Para. 28	Complied with.
The Borrower shall ensure that all people affected by land acquisition under the Project, shall be	Schedule-6, Para. 29	Complied with.

Covenant	Reference in LA	Status of Compliance
compensated prior to possession of land and assets. This shall be done on basis of replacement cost and in a manner satisfactory to the Bank.		
The Borrower shall ensure that LGED shall complete all preparatory works for land acquisition prior to the submission of the SAR. Actual land acquisition shall be completed within 365 days from the signing of the subproject agreement mentioned in paragraph 8 of this Schedule, failing which the subproject shall be removed from the Project. If involuntary resettlement, land or asset acquisition is required, a resettlement plan based on the detailed subproject design shall be included in the SAR. The resettlement plan shall be prepared in accordance with the Project Resettlement Framework and the Bank's Handbook on Resettlement and shall include a complete census and inventory of losses. The PMO shall ensure not to award any civil works contract for any subproject unless a resettlement plan for such subproject, in form and substance acceptable to the Bank, shall have been submitted to and approved by LGED and the Bank. Completion of all activities described in the resettlement plan - including compensation payments, -and shall be done prior to possession of land and other assets, in accordance with the agreed Resettlement Plan.	Schedule-6, Para. 30	Complied with. All SARs included detailed resettlement plans. Administrative approvals were given for land acquisition for the affected subprojects.
The Borrower shall take all necessary and appropriate measures to ensure full implementation of the Project Gender Action Plan, which is in Annex 2 of this Schedule to this Loan Agreement, of which it forms an integral part, and which may be amended from time to time in agreement between the Bank and LGED.	Schedule-6, Para. 31	Complied with. Targets were reviewed and revised to suit field requirements.
In addition, the Borrower shall cause LGED to implement in full all the provisions of LGED's Gender Action Plan for the entire Project duration. To this end, the PMO shall prepare field manuals for the Gender Action Plan and conduct training for PMO staff.	Schedule-6, Para. 32	Complied with. Training manuals were prepared; and training courses, motivational workshops, and visits to growth center markets for a needs assessment for women's market sections were organized. Training in gender, human rights, and family laws were completed for UP members and marriage registrars.
LGED, KfW, GTZ and the Bank shall jointly undertake at least two review missions annually. Other than routine matters, the reviews shall give particular attention to (a) the union's councils' financial performance and staffing; (b) the implementation of Loan covenants and reforms	Schedule-6, Para. 33	Complied with. Individual and joint review missions were conducted as required.



Covenant	Reference in LA	Status of Compliance
at the union level; (c) the implementation of the gender action plan; (d) the physical progress of Project implementation; and (d) the progress of capacity building activities.		
LGED, KfW, GTZ and the Bank shall jointly undertake a mid-term review (MTR) of the Project at the end of year three of Project implementation. The MTR shall review and evaluate (a) Project scope, design, implementation arrangement; (b) implementation progress against agreed indicators in the annual work plans based on the log frame; (c) procurement performance; (d) PMO effectiveness; (e) compliance with the resettlement provisions; (f) the implementation of the recommendations of the reorganization of LGED; (g) the progress of implementation of both the LGED and the Project Gender Action Plan; (h) the implementation of the realignment of management and responsibilities for the roads network between RHD, LGED and local government bodies; (i) the progress on improvement of the Component on improved local governance with particular attention to the success or otherwise of the reforms tested in the pilot unions; (j) the progress on improvements in maintenance, including increased involvement of the private sector and improved financing arrangements; and (k) any other issues agreed upon between the PMO and the Bank. At least one month prior to the MTR, the PMO will submit to the Bank a comprehensive report on each of the above mentioned issues. The MTR shall include the recommendation of changes in Project design and implementation arrangements as needed.	Schedule-6, Para. 34	The MTR was waived with the approval of the country director of the Bangladesh Resident Mission, as there was no major problem to address.
Within six months of Effective Date, the PMO shall conduct initial district level base line physical and socio-economic surveys and submit to the Bank for its review and concurrence, a detailed implementation plan for monitoring performance and for preparing benchmark information. Thereafter, the PMO shall submit annually a benefit monitoring report to the Bank.	Schedule-6, Para. 35	Complied late. The baseline survey report was prepared in February 2005, the midterm report in October 2006, and the terminal report in August 2009 covering benefits. The annual report was discontinued as it could not cover benefits.

GOB = Government of Bangladesh, LA = Loan Agreement, LGD = Local Government Division, LGED = Local Government Engineering Department, MTR = midterm review mission, NGO = nongovernment organization, PMO = project management office, PSC = project steering committee, RHD = Roads and Highways Department, SAR = subproject appraisal report.

Source: Local Government Engineering Department and project completion review mission.

## STATUS OF IMPLEMENTATION OF CONSULTING SERVICES

**Table A9.1: Design and Supervision Consultants**  
(under ADB support)

Position(s)	Appraised		Contract Provision		Actual
	No.	Person-months	No.	Person-Months	
<b>A. International Consultants</b>					
Project management adviser	1	67	1	65	60
Regional project engineering advisor	1	67	1	63	57
<b>Subtotal (A)</b>	<b>2</b>	<b>134</b>		<b>128</b>	<b>117</b>
<b>B. Domestic Consultants</b>					
Senior road engineer/deputy team leader	1	67	2	128	109
Regional project engineer	1	67	0	0	0
Senior structural engineer	1	24	1	24	24
Quality control engineer	2	120	2	127	126
Field resident engineer	16	960	16	960	956
Sociologist	0	0	1	31	31
Economist	0	0	1	20	20
Environmentalist	0	0	1	21	21
Naval architect	0	0	1	10	10
<b>Subtotal (B)</b>		<b>1,238</b>		<b>1,321</b>	<b>1,297</b>
<b>Total (A + B)</b>		<b>1,372</b>		<b>1,449</b>	<b>1,414</b>

Source(s): Asian Development Bank and Local Government Engineering Department.

**Table A9.2: Institutional Support and Training Consultants**  
(under GTZ support)

Position(s)	Appraised		Contract Provision		Actual
	No.	Person-months	No.	Person-Months	
<b>A. International Consultants</b>					
Institutional strengthening/ management specialist/ team leader	1	48	1	64.7	64.7
Project assistant	0	0	1	24.0	20.8
Short-term experts on gender, road safety, privatization, and moderation	0	0	4	9.0	3.7
<b>Subtotal (A)</b>		<b>48</b>		<b>97.7</b>	<b>89.2</b>
<b>B. Domestic Consultants</b>					
Deputy team leader	0	0	2	126.0	122.2
Maintenance specialist /maintenance engineer	3	180	3	185.5	185.5
Database / GIS specialist	1	48	2	98.5	98.4
Financial management/ fiscal decentralization specialist	2	72	1	56.0	56.0
Resettlement specialist/socioeconomist	1	48	1	24.5	24.5
Hydrologist/ environmental specialist	1	18	1	17.0	17.0
Local government strengthening specialist	0	0	2	127.2	127.2
Market development/road safety/ capacity building/community development specialist	0	0	2	127.7	126.6
Monitoring specialist	2	60	2	79.4	79.9

<b>Position(s)</b>	<b>Appraised</b>		<b>Contract Provision</b>		<b>Actual</b>
	<b>No.</b>	<b>Person-months</b>	<b>No.</b>	<b>Person-Months</b>	
Gender/ women development specialist	1	36	1	63.7	63.7
Training specialist	0	0	1	62.2	59.2
Others (including transport specialist)	0	0	1	0.0	3.0
Governance specialist	1	48	0	0	0
Community development specialist.	1	48	0	0	0
Capacity building specialist	1	48	0	0	0
<b>Subtotal (B)</b>		<b>606</b>		<b>967.7</b>	<b>963.2</b>
<b>Total (A + B)</b>		<b>654</b>		<b>1,065.4</b>	<b>1,052.4</b>

GIS = geographic information system.

Source: Local Government Engineering Department and project completion review mission.

**PROCUREMENT OF VEHICLES, CONSTRUCTION EQUIPMENT, AND OFFICE EQUIPMENT****Table A10.1: Vehicles**

<b>Vehicles</b>	<b>Unit</b>	<b>Appraised</b>	<b>Actual</b>	<b>Achievement (%)</b>
1 4-wheel drive service vehicle	no.	19	11	58
2 4-wheel drive pick-up	no.	16	16	100
3 Motorcycles (with helmet)	no.	230	230	100
4 Bicycle	no.	250	250	100

Source(s): Local Government Engineering Department.

**Table A10.2: Construction Equipment**

<b>Construction Equipment</b>	<b>Unit</b>	<b>Appraised</b>	<b>Actual</b>	<b>Achievement (%)</b>
1 Vibrator roller 6–7 tons (single drum)	no.	12	12	100
2 Vibrator roller 3.5–4 tons (tandem drum)	no.	22	22	100
3 Vibrator roller 1–2 tons (tandem drum)	no.	22	22	100
4 Bitumen distributor (2,000 liters)	no.	5	5	100
5 Bitumen heating tank (500–600 liters)	no.	32	32	100
6 Low bed trailer/universal testing machine	no.	5	0	0
7 Automatic level / total station	no.	99	56	57
8 Laboratory equipment (accessories)	set	16	16	100
9 Tools for mobile maintenance	set	99	0	0

Source(s): Local Government Engineering Department.

**Table A10.3: Office Equipment**

<b>Office Equipment</b>	<b>Unit</b>	<b>Appraised</b>	<b>Actual</b>	<b>Achievement (%)</b>
1 Computer (inc. accessories and 1 laptop)	no.	150	150	100
2 Printer	no.	130	124	95
3 UPS	no.	150	133	89
4 Photocopier	no.	130	129	99
5 Fax machine	no.	30	16	53
6 TV, VCR, OHP, and camera	no.	18	8	44
7 LCD multimedia set	no.	2	2	100

FAX = facsimile, LCD = liquid crystal display, OHP = overhead projector, TV = television, UPS = uninterrupted power supply, VCR = video cassette recorder.

Source: Local Government Engineering Department.

## ECONOMIC EVALUATION OF THE PROJECT

### A. Introduction

1. The project had a provision for regular monitoring and periodic evaluation of progress, effects observed, and impact induced. The institutional support and training (IST) consultants supported by GTZ were responsible for this evaluation. The IST consultants conducted three surveys: baseline in 2004, midterm in 2006, and terminal in 2008. The terminal survey report is quite a detailed one covering impact assessment of project interventions through improvement of rural roads, markets, union *parishads* (councils), and several capacity building activities. The project completion review (PCR) mission compared the information on benefits and impacts in the terminal survey report with its own findings to assess whether the same trends were continuing after completion of the project. In particular, because of a long time gap (about 2 years) between the terminal survey and the fielding of the PCR mission, the PCR mission collected a new set of data on recent traffic volumes on selected roads to obtain the most recent economic internal rates of return (EIRRs). The PCR mission limited its traffic surveys to the 14 roads that were included in the earlier surveys.

2. The appraisal mission calculated the EIRR of 20 selected roads. The baseline survey could not cover exactly the same roads as the appraisal, because most of them were not ready for civil works to start in the first year of the project. In consultation with the development partners, three roads on the appraised list (Table A8.1 of Appendix 8 of the RRP) and 11 other roads, which were programmed for implementation in the first year, were included in the baseline survey. In all subsequent surveys, data collection on the revised 14 roads was maintained and results compared. The EIRRs were calculated and sensitivity tests were carried out using data from the PCR Mission survey and then compared with those of the earlier surveys.

### B. Methodology

3. Following the terminal survey approach, traffic counts by the PCR mission were carried out on the basis of one market<sup>1</sup> and one non-market day. Later, it was converted to weekly average daily traffic and annual average daily traffic (AADT). A 12-hour traffic count was carried out after developing a correction factor for each traffic mode. This was done after considering the practical difficulty of an 18-hour traffic count. Traffic volume fluctuates from time to time and place to place depending upon a number of variables.

4. Table A11.1 provides a list of the selected 14 completed roads along with construction costs. In the economic analysis, however, the financial prices have been converted into economic prices using a standard conversion factor of 0.9. Road user costs (RUC)<sup>2</sup> consisting of vehicle operating costs (VOC), travel time costs (TTC), and accident costs (AC) have been considered.

### C. Project Benefits

5. The ultimate aim of project analysis is to determine whether the investment is economically worthwhile or not. Profitability is measured in terms of the internal rate of return or the net present value of the project. The infrastructure improvement provided a considerable range of benefits such as (i) a reduction in transport and vehicle operating costs; (ii) creation of

<sup>1</sup> Roadside or growth center markets usually sit once or twice a week. Day on which the market sits is a market day.

<sup>2</sup> 'Road User Cost Study for LGED Roads', August 2009, prepared by GITEC Consult GMBH under GTZ financing.

employment; (iii) a decrease in rural–urban migration; (iv) an increase in agricultural production, especially cash crops; (v) a reduction in the cost of basic daily commodities; (vi) better use of transport and market networks; (vii) a reduction in marketing margins because of market improvements; (viii) an increase in farm-level income; and (ix) time savings.

## D. Evaluation Process

6. The economic analysis has been carried out on the basis of total investment cost including construction, land acquisition, environment mitigation measures, and annual maintenance cost. On the benefit side, only measurable benefits have been considered. VOC savings with passenger time savings have been considered in the EIRR computation. The model assumed a time horizon of 20 years after construction of the road.

### 1. Economic Analysis

7. Calculation of the EIRR for individual roads is summarized in Table A11.1. The EIRRs of the individual roads, as calculated by the PCR mission, range from 9.5% to 56.7%, averaging 43.6% for Khulna Division and 24.3% for Barisal Division. The EIRR for both divisions combined is 38.08% (Table A11.3.2), whereas at appraisal it was 22.8%. The percentage increase in the EIRR of the individual roads over the terminal survey ranges from 6.13% to 29.5%. All roads satisfied the criteria of the standard requirement of 12% EIRR except for one in Barisal Division, which resulted in an EIRR of 9.5%. In the terminal survey, the EIRR of the same road was even lower, with the traffic on the road yet to reach its optimum level. The overall results reflect the high level of benefits associated with providing all-weather access in a rural environment. The economic evaluation demonstrates that upgrading of roads is economically justified.

**Table A11.1: Comparison of EIRR of Individual Roads**

Name of Road	Length (km)	Cost/km (Tk million)	EIRR Terminal 2008	EIRR PCR Survey 2010	% Increase over Terminal Survey
Haibatpur - Hashimpur GC	10.43	4.02	25.10	26.60	6.13
Laxmipasha - Mahajan Rd.	13.50	3.00	51.40	56.69	10.26
Paikgacha GC - Chandkhali GC	10.84	3.20	40.50	47.65	17.60
Barakpur - Chulkathi GC	11.90	2.58	45.50	50.88	11.75
Neobaki - Munshigonj-Horinagar	14.00	3.34	24.60	28.65	16.40
Sherpur - Pearpur	8.90	3.00	29.60	34.37	16.10
Meherpur Thana Ghat - Dariapur GC	16.00	3.62	29.20	33.53	14.73
Chitla - Bhagirath	11.84	2.50	17.60	21.02	19.20
Narkolbaria GC - Kaligonj GC	15.50	3.00	39.90	51.65	29.51
Simakhali - Bonagati GC	13.80	2.97	43.50	51.31	17.90
<b>Khulna Division (average)</b>	<b>13.81</b>	<b>3.01</b>	<b>37.81</b>	<b>43.60</b>	<b>15.95</b>
Gournadi Bus Stand - Sarikal GC	17.20	3.50	24.40	27.28	11.79
Ilisha Bus Stand - Pangashia	13.10	3.50	8.80	9.47	7.94
Daulatkhan GC - Udaypur	12.84	3.50	15.60	18.05	15.86
Subidkhali - Kakrabunia GC	8.53	4.67	27.50	29.98	9.15
<b>Barisal Division (average)</b>	<b>12.23</b>	<b>4.91</b>	<b>21.69</b>	<b>24.29</b>	<b>11.90</b>

GC = growth center, PCR = project completion review.

Source(s): Project completion review mission.

## 2. Sensitivity Analysis

8. The sensitivity tests carried out during the PCR mission have been compared with those of the terminal survey and are summarized in Table A11.2. It is observed that the EIRR of the PCR survey is higher than that of the terminal survey, assuming that the costs increased and the benefits decreased. From Table A11.3, it is seen that the benefit–cost ratio (BCR) increased from 2.14 (terminal survey) to 2.45 (PCR) in Khulna Division and from 1.10 (terminal survey) to 1.19 (PCR) in Barisal Division, indicating higher construction costs in Barisal Division. Net present value (NPV) grew steadily in post-project scenarios.

9. One remarkable consistency has been reflected in Tables A11.1–A11.3. The actual EIRR, NPV, and BCR achieved were higher during the PCR mission than during the terminal survey. The project was thus highly profitable for the economy of Bangladesh. The survey after 2 years of construction showed that the returns on the project would grow continuously year after year if the project roads were properly maintained.

**Table A11.2: Sensitivity Analysis**

Road	Survey	Sensitivity Tests for EIRR (%)		
		Cost (+10%)	Benefit (−10%)	Both Together <sup>a</sup>
Khulna Division				
Haibatpur - Hashimpur GC	TS	23.10	22.77	20.57
	PCR	24.49	24.25	22.04
Laxmipasha - Mahajan	TS	47.37	46.95	43.16
	PCR	52.29	51.84	47.73
Paikgacha GC - Chandkhali GC	TS	37.32	36.98	33.92
	PCR	43.95	43.57	40.09
Barakpur - Chulkathi GC	TS	41.86	41.49	38.02
	PCR	46.85	46.44	42.67
Neobaki-Munshegonj-Horinagar	TS	22.44	22.19	19.85
	PCR	26.22	25.95	23.44
Sherpur - Pearpur	TS	27.06	26.78	24.17
	PCR	31.47	31.17	28.32
Meherpur Thana Ghat - Dariapur GC	TS	26.88	26.62	24.24
	PCR	30.88	30.60	27.99
Chitla - Bhagirath	TS	15.66	15.52	13.13
	PCR	18.93	18.69	16.35
Narkolbaria GC - Kaligonj GC	TS	36.74	36.41	33.40
	PCR	47.69	47.28	43.57
Simakhali - Bonagati GC	TS	40.07	39.71	36.45
	PCR	47.32	46.92	43.19
Barisal Division				
Gournadi Bus Stand - Sarikal GC	TS	22.36	22.12	19.92
	PCR	25.06	24.80	22.48
Ilisha Bus Stand - Pangashia	TS	7.28	7.13	5.57
	PCR	7.97	7.81	6.34
Daulatkhan GC - Udaypur Road	TS	13.86	13.68	12.03
	PCR	16.23	16.04	14.30
Subidkhali - Kakrabunia GC	TS	25.11	24.86	22.65
	PCR	27.48	27.22	24.87

GC = growth center, PCR = project completion review, TS = terminal survey.

<sup>a</sup> Both Together = cost increase by 10% and benefit decrease by 10%.

Source(s): Project completion review mission.

**Table A11.3.1: Weighted Average Economic Factors**

Division	Average Length (km)	Construction Cost (Tk million)	Economic Construction Cost (Tk million)	Financial Cost/km (Tk million)
Khulna	13.81	41.37	37.23	3.01
Barisal	12.23	57.99	52.19	4.91

**Table A11.3.2: Weighted Average Economic Factors**

Division	Average Length (km)	Economic Factors			Sensitivity Tests for EIRR (%)			
		Survey	NPV (Tk m)	BCR	EIRR (%)	Cost (+10)	Benefit (−10%)	Both Together <sup>a</sup>
Khulna	13.81	TS	78.44	2.14	37.81	34.71	34.39	31.39
		PCR	90.58	2.45	43.60	40.10	39.74	36.42
Barisal	12.23	TS	64.08	1.10	21.69	19.93	19.72	17.74
		PCR	69.44	1.19	24.29	22.38	22.15	20.08
Project average (PCR)					38.08			

BCR = benefit cost ratio, EIRR = economic internal rate of return, km = kilo meter, m = million, NPV = net present value, PCR = project completion review, TS = terminal survey.

<sup>a</sup> Both Together = cost increase by 10% and benefit decrease by 10%.

Source(s): Project completion review mission.

### 3. Comparison of Annual Average Daily Traffic for Different Transport Modes

10. A switch from non-motorized to faster motorized vehicles is observed following the improvement of the roads. The largest switches in the choice of individual transport are to buses, minibuses, and auto rickshaws; and significant losers are bullocks and push carts. Table A11.4 provides details of the development of annual average daily traffic (AADT) of different types of transport. This indicates quite significant shifts from non-motorized to motorized transport. A comparison of AADT between the terminal and PCR surveys shows that the motorized modal system increased by 24% and the non-motorized by 14%. However, AADT for pedestrians decreased by about 1%.

**Table A11.4: Comparison of AADT for Different Transport Modes**

Mode of Transport	Terminal Survey	PCR Survey	Increase in % From TS to PCR
Auto rickshaw	4,125	5,220	27
Car and taxi	93	205	120
Microbus / pickup	235	365	55
Motorcycle	5,426	6,435	19
Bus / minibus	151	153	1
Truck / tractor	467	630	35
<b>Total motorized vehicle</b>	<b>10,497</b>	<b>13,008</b>	<b>24</b>
Rickshaw	4,641	5,164	11
Rickshaw van	14,700	18,303	25
Bicycle	22,566	24,138	7
Bullock cart	87	73	16
Push cart	65	69	6
<b>Total non-motorized vehicle</b>	<b>42,059</b>	<b>47,747</b>	<b>14</b>
Pedestrian with load	8,945	9,497	6
Pedestrian without load	35,287	34,129	(3)
<b>Total pedestrian</b>	<b>44,232</b>	<b>43,626</b>	<b>(1)</b>
<b>Total AADT</b>	<b>96,788</b>	<b>104,381</b>	<b>8</b>

AADT = annual average daily traffic, PCR = project completion review, TS = terminal survey.

Source: project completion review mission.



#### 4. The Distribution Analysis

11. As observed in the field survey, the transport pattern in rural Bangladesh is dominated by rickshaws, rickshaw vans, bicycles, motorcycles, and auto rickshaws. The VOC savings resulting from road improvement that flow to the operators and vehicle users depend upon the type of vehicle. A portion of this flow goes to the people below the poverty line of 43.6%.<sup>3</sup> The share of benefits that flows to the poor people is shown in Tables A11.5–A11.6. About 28.1% of the benefits in Khulna and 25.3% in Barisal, generated from VOC savings, flow to people under the poverty line. This amounted to Tk0.21 million for 10 roads in Khulna Division and Tk.0.15 million for four roads in Barisal Division per km/year of developed roads. This has helped to achieve one of the objectives of the project—poverty reduction.

**Table A11.5: Distribution Analysis of Khulna Division**

<b>Transport</b>	<b>Total Benefit (Tk/km/day)</b>	<b>Share of Poor<sup>a</sup> (%)</b>	<b>Volume of Share/Day (Tk/km/day)</b>
Auto rickshaw/ <i>tempo</i>	171.90	22	37.47
Bus/ minibus	18.08	13	2.36
Rickshaw	117.67	22	25.65
Rickshaw van	1159.99	22	252.88
Bicycle	607.39	44	264.82
<b>Total/day/km</b>	<b>2,075.02</b>		<b>583.19</b>
<b>Total/year/km</b>	<b>757,382</b>		<b>212,864</b>
<b>Benefits flow to the poor = <math>583.19 / 2,075.02 \times 100 = 28.1\%</math></b>			

<sup>a</sup> Source: Terminal Survey by institutional support and training consultants under GTZ finance.

**Table A11.6: Distribution Analysis of Barisal Division**

<b>Transport</b>	<b>Total Benefit (Tk/km/day)</b>	<b>Share of Poor<sup>a</sup> (%)</b>	<b>Volume of Share/Day (Tk/km/day)</b>
Auto rickshaw/ <i>tempo</i>	127.77	22	27.85
Bus/ minibus	28.98	13	3.79
Rickshaw	795.07	22	173.33
Rickshaw van	401.12	22	87.44
Bicycle	273.56	44	119.27
<b>Total/day/km</b>	<b>1,626.50</b>		<b>411.68</b>
<b>Total/year/km</b>	<b>593,672</b>		<b>150,265</b>
<b>Benefits flow to the poor = <math>411.68 / 1,626.50 \times 100 = 25.31\%</math></b>			

<sup>a</sup> Source: Terminal Survey by institutional support and training consultants under GTZ finance.

<sup>3</sup> Government of Bangladesh. 2006. *National Poverty Reduction Strategy Paper*. Dhaka. Planning Commission.

**LOCAL GOVERNMENT ENGINEERING DEPARTMENT  
REVENUE BUDGET FOR RURAL ROAD MAINTENANCE**

(Tk million)

Fiscal Year	National Allocation				Allocation for Project Area			
	Regular	Special Allocation	Total	% Increase	Regular	Special Allocation	Total	% Increase
FY1993	300		300	-	-	-	-	-
FY1994	400		400	33.3	-	-	-	-
FY1995	550		550	37.5	-	-	-	-
FY1996	650		650	18.2	-	-	-	-
FY1997	750		750	15.4	-	-	-	-
FY1998	950		950	26.7	-	-	-	-
FY1999	1,020		1,020	7.4	-	-	-	-
FY2000	1,100		1,100	7.8	-	-	-	-
FY2001	1,180		1,180	7.3	-	-	-	-
FY2002	1,250		1,250	5.9	-	-	-	-
FY2003	1,650		1,650	32.0	-	-	-	-
FY2004	2,000		2,000	21.2	452.3		452.3	-
FY2005	2,600	1,200	3,800	90.0	695.4	79.3	774.7	71.3
FY2006	2,800	1,200	4,000	5.3	785.0	110.0	895.0	15.5
FY2007	3,115	1,200	4,315	7.9	867.5	147.5	1,015.0	13.4
FY2008	3,500	1,200	4,700	8.9	932.5	170.0	1,102.5	8.6
FY2009	3,700	1,200	4,900	4.3	962.5	188.6	1,151.1	4.4
FY2010	3,885	1,200	5,085	3.8	1,060.5	252.3	1,312.8	14.0

Source: Local Government Engineering Department.

## PROJECT FRAMEWORK

Design Summary	Performance Targets/Indicators		Source of Data	Remarks
	Appraisal	Actual		
<b>Development Goal</b> Reduce rural poverty in 16 districts of southwest Bangladesh	Regional gross domestic product increased by 6% per year to 30 June 2012  Spatial poverty reduced to 50% of the existing rate with removal of 44,500 households from the upper poverty line	GDP growth rates (national) FY2005 6.0%, FY2006: 6.6%, FY2007: 6.4%, FY2008: 6.2%, FY2009: 5.9% and FY2010: 5.54% (provisional)  Average income of households below the upper poverty line increased by 47% in constant terms.	Bangladesh Bureau of Statistics  Executing agency's PCR	Regional data are not available  Development in Khulna Division was more favorable than in Barisal Division
<b>Objective/Purpose</b> Increased economic activities and employment opportunities in secondary and tertiary roads sectors	By 30 June 2010, more than 10 million people utilizing all-weather roads to access economic and market opportunities  By 31 December 2009, income of 89,000 poor households increased by at least 25% in constant terms	9.8 million people of the project area are utilizing all-weather roads to access economic and market opportunities.  The income of 95,200 poor households increased by 25%.	Terminal survey results on Benchmark Monitoring and Evaluation  Terminal survey results on Benchmark Monitoring and Evaluation	--  Targets overachieved
<b>Outputs</b> Component 1: Rural roads				
Feeder roads type-B (FRBs) and rural roads type 1 (RR1) upgraded to bituminous surfaced standard	By 30 June 2010, selected 1,030 kilometers of FRBs improved, connecting growth center markets and UC with higher road network  By 31 December 2008, at least 100% increase in existing transport volume, and at least 50% reduction in travel time expected  Employment totaling 54,000 person-years and seasonal work generated by road improvement and maintenance.	By June 2010, selected 1,226 km of <i>upazila</i> roads (UZR) and 99 km of union roads (UNR) improved.  140% increase in motorized transport volume and 50% increase in non-motorized; travel time reduction of 27% for trucks and 69% for motorcycles.  82,000 person-years of employment were generated from infrastructure improvement and maintenance.	Executing agency's PCR and terminal reports of consultants.  Executing agency's PCR and Terminal Surveys on Benchmark Monitoring and Evaluation  Executing agency's PCR and Terminal Surveys on Benchmark Monitoring and Evaluation.	Targets were revised  --  Indicator was revised downwards to 20,000 person-years in November 2004.

Design Summary	Performance Targets/Indicators		Source of Data	Remarks
	Appraisal	Actual		
Bridges and culverts constructed on project FRBs and other FRBs and rural roads type 1 (RR-1s), using participatory subproject selection procedures	By 31 December 2008, 3,000 meters of structures on project FRBs constructed	By June 2009, a total of 7,333 m of structures had been constructed on UZR.	Executing agency's PCR and PCR Mission's review of data.	Revised target: 7,333 m
	By 31 December 2008, 2,000 meters of structures on other FRBs and RR-1s constructed	By June 2009, a total of 291 m of structures had been constructed on UNRs.	Executing agency's PCR and PCR Mission's review of data.	Revised target: 291 m
	By 30 June 2010, all structures on rural roads completed and provide uninterrupted connections	All structures on UZR and UNRs were completed, providing uninterrupted connections.	PCR Mission's visit and reviewing of reports.	--
	10% contribution from union councils to the cost of all structures on rural roads deposited with LGED	Union <i>Parishads</i> (Councils) contributed 10% of the cost of structures on UNRs.	Executing agency's reports and PCR Mission's interaction.	--
Component 2: Rural infrastructure				
Growth center market and public facilities including women's corners and women open areas in selected growth center markets constructed and improved	By 31 December 2010, increase at least 50% of volume of commodities traded and 40% of financial transactions	By 2008, financial transactions had increased by 43% on average. Commodities traded: increased similarly.	Executing agency's PCR	--
	By 31 December 2008, 60 growth center market facilities improved including women's corners	By June 2009, 68 growth center market (GCM) facilities had been improved, including women's corners.	Executing agency's PCR Report	Revised target of 68 GCMs
	By 30 June 2010, all shops in the women's corners leased out	By June 2009, all shops (488) in the women's corners had been leased out.	Terminal Surveys on Benchmark Monitoring and Evaluation.	Regular monitoring by MMCs to check dropouts.
	By 30 June 2004, local resources mobilized to meet union councils' share of 10% of cost.	Local resources were mobilized by UPs before construction started	PCR Mission's review of documents	--

Design Summary	Performance Targets/Indicators		Source of Data	Remarks
	Appraisal	Actual		
Boat landing facilities, including waiting sheds and toilets, around growth center markets constructed and improved and ferry facilities constructed	By 31 December 2004, designs finalized through participatory meetings	Design finalized before floating of tenders	PCR Mission's review of the executing agency's reports	--
	By 30 June 2008, 50 boat landings constructed, and ferry crossings at 5 places constructed and leased out to private operators and are in operation	By June 2009, 85 boat landings and 3 ferry crossings had been completed and were being operated.	PCR Mission's review of the executing agency's reports	Targets for boat landings increased and ferry crossings decreased.
	By 30 June 2005, local resources mobilized to meet the union councils' 10% contribution to the cost of boat landings and ferries and deposited with the project fund	10% of cost contributed by UPs before starting construction	PCR Mission's interaction with the executing agency and UPs	--
Union council ( <i>parishad</i> ) office complexes constructed	By 31 December 2008, 99 union council office complexes constructed	By June 2009, 100 UP complexes had been constructed and handed over to UPs.	Executing agency's PCR and PCR Mission's review.	Revised target : 100 union <i>parishad</i> complexes.
	By 30 June 2005, local resources mobilized to meet the union councils' 10% contribution to the cost of union council office complexes, and deposited with the project fund	10% of cost contributed by UPs before starting construction	PCR Mission's interaction with the executing agency and UPs	--
Component 3: Road maintenance				
Traffic operation and road maintenance improved.	By 31 December 2010, local infrastructure resources in terms of length of improved roads increased by more than 25% in the project area	The length of improved roads was 6,159 km in 2003, 8,065 km in 2005, and 11,013 km in 2009, an increase of 79% over 2003.	Executing agency's PCR	--
	By 31 December 2010, at least 100% motorized and 50% nonmotorized traffic increased creating an additional 70,000 permanent jobs in the sector.	By the second half of 2008, motorized traffic had increased by 136% in Khulna and 160% in Barisal; nonmotorized traffic had increased by 61% in Khulna and 43% in Barisal. 136, 000 additional jobs created along 1,226 km of roads 39,000 jobs created in the transport sector alone	Executing agency's PCR	--

Design Summary	Performance Targets/Indicators		Source of Data	Remarks
	Appraisal	Actual		
	By 30 June 2005, an LGED annual road maintenance plan for the whole of its network, particularly for improved FRBs and RR-1s, showing budget allocation and funding gaps	Annual road maintenance plan for the whole LGED road network with budget was submitted to ADB annually.	Terminal Surveys on Benchmark Monitoring and Evaluation, the executing agency's PCR.	--
	Government allocating sufficient budget to fund all routine and periodic maintenance activities	Government allocations increased annually and the funding gap was gradually reduced (see Appendix 11).	Executing Agency.	More allocation emphasized
	By 30 June 2006, a guaranteed mechanism for funding road maintenance established.	Advisory Committee on Road Maintenance Fund was formed. Draft Law on Road Maintenance Fund is awaiting the approval of Parliament	--	Passing of Road Fund Legislation is unlikely shortly.
	By 30 June 2009, 20,000 person-years (7.3 million person-days) of employment created in construction and maintenance works for the poor and disadvantaged	31,500 person-years of employment created for LCS workers; 27,060 person-years generated for construction; and 4,560 person-years for off-pavement maintenance	Terminal Surveys on Benchmark Monitoring and Evaluation.	--
	By 31 December 2006, at least 2,100 poor and disadvantaged women contracted for road maintenance and 2,400 for tree planting and caretaking	4,894 disadvantaged women contracted for road maintenance, tree planting and caring	Terminal Surveys on Benchmark Monitoring and Evaluation.	--
	By 30 June 2009, 30,943 kilometers of RR-2s and RR-3s maintained by union councils.	By June 2009, more than 100,000 km of RR-2s and RR-3s maintained by UPs under the Rural Employment and Road Maintenance Program (RERMP).	Executing agency's PCR	None of these roads maintained with project funds
Growth center market operation and maintenance improved	Increased annual revenues from growth centers, and more funds available for their maintenance from earmarked (25%) allocation of revenue income	The lease value of GCMs increased by about 200%, and so the amount of the 25% share also increased.	Terminal Surveys on Benchmark Monitoring and Evaluation.	Efforts to be continued.
	Increased volumes of trade and financial transactions in the growth center markets	Covered under other indicator	Executing agency's PCR	--.
	By 31 December 2010, at least 2,000 person-years of permanent jobs created in	By mid-2008, 12,800 jobs created in roadside workshops (see other	Executing agency's PCR	--

Design Summary	Performance Targets/Indicators		Source of Data	Remarks
	Appraisal	Actual		
	drivers' training and vehicle maintenance workshops	indicator)		
	By 31 December 2010, at least 40,000 person-years of permanent jobs created in roadside enterprises based on local raw materials, agricultural processing, and handicrafts	By mid-2008, about 6,140 permanent jobs created in roadside industries, resulting in 30,000 person-years of employment by end-2012	Executing agency's PCR	Indicator was revised downwards to 25,000 person-years in Nov. 2004 by GTZ and ADB
	By 31 December 2010, at least 20,000 person-years of permanent jobs created in improved growth center markets in small trade and shop keeping	By mid-2008, an additional 49,000 jobs created in roadside growth centers and rural markets	Executing agency's PCR	Indicator was revised downwards to 6,000 person-years in Nov. 2004 by GTZ and ADB
	Income-generating activities in vehicle repairs, transport, driving, motor mechanic, high-value agricultural products increased	Income of transport operators increased by 58%; the number of transport operators increased 764%; cash crops represented 34% of cargo transported along roads.	--	--
Component 4: LGED capacity building and local governance				
LGED capacity strengthened	By 30 June 2004, functional and facility buildings extended.	By 30 June 2005, the functional and facility buildings of LGED had been extended.	Executing agency's PCR.	--
	By 31 December 2002, LGED organizational reform implemented and by 30 June 2003, 13 positions for socio-economists created.	By August 2004, LGED organizational reform had been implemented and 16 positions for sociologists created.	Executing agency's PCR.	--
	By 31 December 2003, LGED's participatory planning unit established and road maintenance unit strengthened.	By 31 December 2003, LGED's planning unit had been established and the road maintenance management unit strengthened.	Executing agency's PCR.	--
	By 31 December 2002, project performance management and impact evaluation unit established and by 30 June 2003, uniform project financial management system and improved procurement procedures introduced.	Achieved as per schedule	Executing agency's PCR	--

Design Summary	Performance Targets/Indicators		Source of Data	Remarks
	Appraisal	Actual		
	By 31 December 2008, LGED staff trained in technical aspects and key personnel trained in using participatory planning approaches and social and environmental assessments.	5,631 LGED staff trained in 243 courses (17,725 trainee-days).	Executing agency's last Quarterly Report.	--
	By 31 December 2002, LGED gender strategy adopted.	By 30 June 2003, LGED gender strategy had been adopted.	Executing agency's PCR	--
	Official approval of the revised equipment rental rates by 31 December 2002.	Achieved as per schedule	Executing agency's PCR	--
	Official approval of mechanism for LGED to retain equipment rental income by 30 June 2003.	By 30 June 2003, official approval given for the mechanism for LGED to apply for annual budget for equipment repair and maintenance	Executing agency's PCR	--
	By 30 June 2003, division of road maintenance responsibilities approved.	By 30 June 2004, division of road maintenance responsibilities had been approved.	Executing agency's PCR	--
	Time-bound action plan prepared privatizing maintenance equipment and workshops by 30 September 2004.	By 30 September 2004, the time-bound action plan had been prepared for commercialization of equipment and workshops.	Executing agency's PCR	--
Local governance improved	By 31 December 2008, members and staff of 32 union councils and members of 32 market management committees trained on pilot basis	By December 2008, all members and staff of 900 union <i>parishads</i> had been trained (operation training) while those of 105 pilot UPs had attended 1-3 courses. By December 2008, all members of 68 market management committees had been trained.	Executing agency's PCR	--
	By 30 June 2004, revised roles and responsibilities of union council members implemented in 32 union councils	By 30 September 2004, UP members in 32 union <i>parishads</i> had been made aware of their roles and responsibilities.	Consultants' reports and executing agency.	--
	By 31 December 2004, consultation mechanisms, improved coordination and	By 31 December 2005, consultation mechanisms, improved	Consultants' reports and executing	--



Design Summary	Performance Targets/Indicators		Source of Data	Remarks
	Appraisal	Actual		
	service delivery procedures being implemented in 32 pilot union councils	coordination and service delivery procedures had been implemented in 32 pilot union <i>parishads</i> .	agency	
	By 31 December 2008, fiscal resources of selected 32 union councils increased by 300%	By June 2008, own revenue collection of 32 union <i>parishads</i> had increased by 105%.	Executing agency's PCR	--
	By 30 June 2003, new guidelines for market lease procedures approved and new market management committee membership regulation implemented	By 30 June 2003, new guidelines for market lease procedures had been approved and new market management committee membership regulations implemented. By February 2008, new guidelines had again been issued and were being implemented.	Executing agency's PCR	--
	By 31 December 2003, union council incentive fund established.	By 31 December 2004, a union council incentive fund had been established.	Executing agency's PCR.	--
Component 5: Project management support				
Project management and monitoring services established	By 30 June 2003, design and supervision consultants appointed (134 person-months of expatriate and 1,238 of domestic professional inputs)	By March 2004, all design and supervision consultants had been appointed.	Executing agency's PCR.	--
	By 31 October 2003, 48 person-months of international and 606 of domestic consultants appointed for institutional and training support	By March 2004, all IST consultants had been appointed.	Executing agency's PCR.	--
	Successful agreements entered into between LGED and union councils for subproject implementation and management	By July 2005, all agreements had been finalized.	Executing agency's PCR.	--
	Resettlement framework and summary initial environmental examination implemented	By end-2005, the resettlement framework had been established; all IEEs had been completed by July 2005.	Executing agency's PCR.	--
	Project gender action plan implemented	Gender action plan being implemented since April 2004 and	Executing agency's PCR.	--

Design Summary	Performance Targets/Indicators		Source of Data	Remarks
	Appraisal	Actual		
		progress reported every 6 months		
<b>Inputs</b>				
Civil works	\$85.6 million (including contingencies)	\$98.73 million	PCR Mission	--
Land acquisition and resettlement	\$1.4 million (including contingencies)	\$0.51 million	PCR Mission	--
Vehicles and equipment	\$6.2 million (including contingencies)	\$4.06 million	PCR Mission	--
Consultants	\$7.7 million (including contingencies)	\$9.45 million	PCR Mission	--
Training	\$1.6 million ((including contingencies)	\$2.04 million	PCR Mission	--
Surveys and studies	\$0.3 million (including contingencies)	\$0.37 million	PCR Mission	--

ADB = Asian Development Bank, GCM = growth center market, IEE = initial environment examination, LCS = labor contracting society, LGED = Local Government Engineering Department, PCR = project completion review, UNR = union road, UP = union *parishad*, UZR = *upazila* road.

Source: Local Government Engineering Department and PCR mission.

## ASSESSMENT OF PROJECT OVERALL PERFORMANCE

Overall Assessment				
Criterion	Weight (%)	Assessment	Rating Value	Weighted Rating
Relevance	20	Highly relevant	3.0	0.6
Effectiveness	30	Highly effective	3.0	0.9
Efficiency	30	Efficient	2.0	0.6
Sustainability	20	Likely	2.0	0.4
<b>Overall Rating</b>		<b>Successful</b>		<b>2.5</b>

LGED = Local Government Engineering Department.

Note: Highly successful = 2.7 and above; successful = 1.6–2.7; partly successful = 0.8–1.6; unsuccessful, less than 0.8.

Source: PCR mission estimates.