Local Government
Engineering Department (LGED)
The People's Republic of Bangladesh

JICA Special Assistance for Project Formation (SAPROF) For South-Western Bangladesh Rural Development Project (SWBRDP)

Final Report

March 2009

JAPAN INTERNATIONAL COOPERATION AGENCY

IC Net. LTD.

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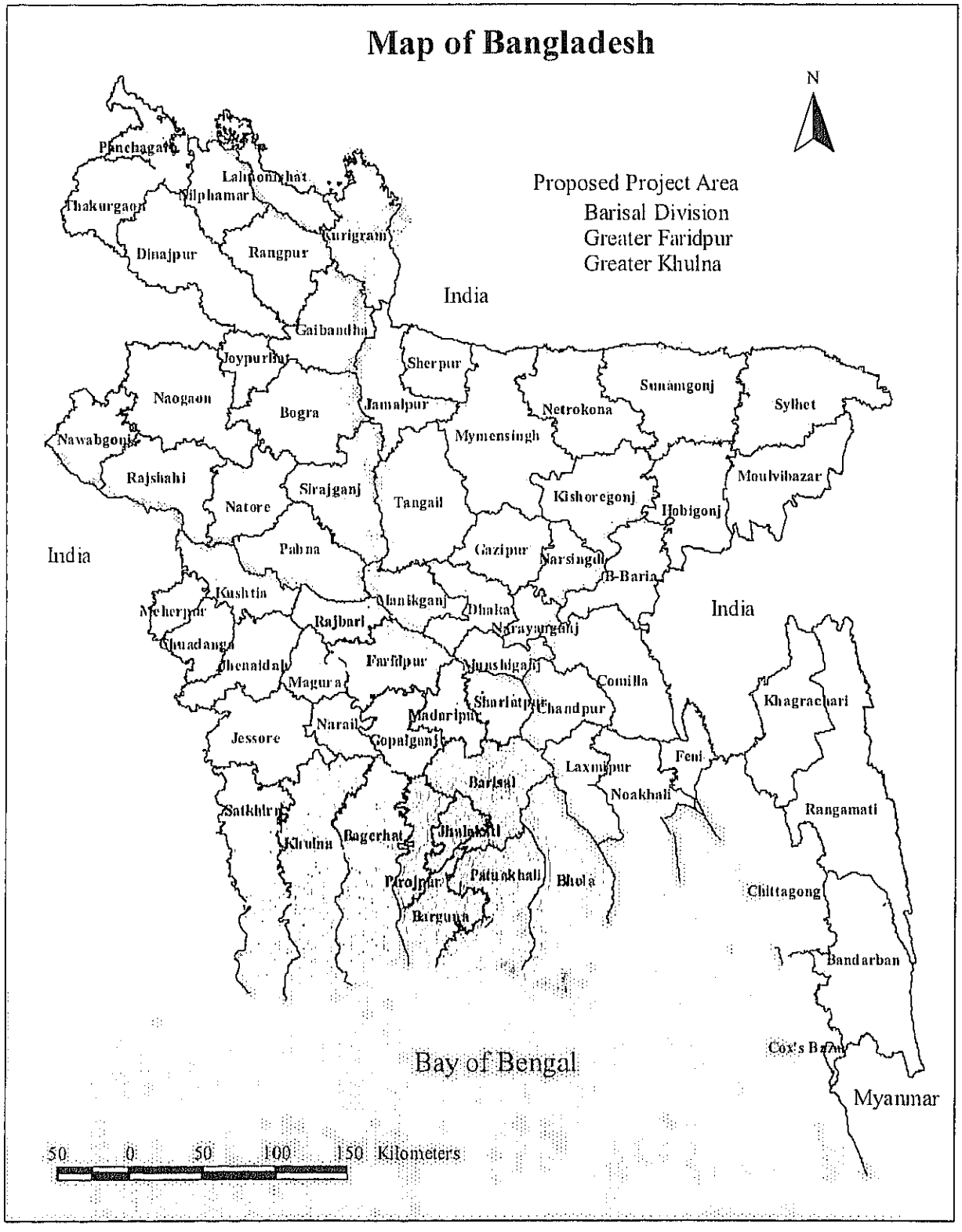

Location map of the proposed Project Area

Abstract

The proposed project objectives are to increase economic opportunities for the rural poor, improve their access to social services, and promote recovery from damage by natural disasters. The Project will improve Upazila and Union roads and growth center and rural market facilities. To secure the benefits derived from infrastructure development, it will also provide employment opportunities for the poor and capacity development services to stakeholders, such as officials of the Local Government Engineering Department (LGED), local government officials, contractors, members of Market Management Committees (MMCs) and Labor Contracting Societies (LCS's), shopkeepers, and leaseholders.

The 14 Districts selected as the Project area are characterized by high poverty levels, slow progress of rural road development, absence of major rural infrastructure development projects supported by development partners, and susceptibility to cyclones and floods. The policy framework, legal and administrative instruments, and financial means are well-established as bases for project implementation. LGED will be the main implementation agency and is a well-functioning organization. However, timeliness of implementation, adequacy of quality control, and supervision of subprojects still need improvement. The capacity development of LGED officials, contractors, and construction workers will be conducted to address this situation. To enhance the effects of upgrading works, capacity development of local institutions and stakeholders, namely users committees and beneficiary groups, will also be implemented. Cyclone-resistant multipurpose market sheds, and retaining walls, vegetation cover, and concrete revetments on slopes of Upazila and Union roads will be introduced as mitigation measures against cyclones and floods.

Upazila roads, Union roads, growth centers, and rural markets were ranked according to a set of criteria. As a result, 88 Upazila roads, 19 Union roads, 58 growth centers, and 18 rural markets in the Project area were proposed for upgrading. In addition, 18 Upazila roads are selected for upgrading by the government budget. The total cost of the Project is estimated at tk. 9,100 million, which is equivalent to 14,041 million Japanese yen. Upgrading of Upazila roads, Union roads, growth centers and rural markets account for 53 %, 3 %, and 4 % of the total budget, respectively. Poverty reduction interventions promote the direct transfer of money (4 % of the budget) to the rural poor through the employment of LCS's for 759 km of roadside tree-planting and 1,400 km of village road maintenance. Approximately 1 % of the total budget and 91,000 trainee-days are to be allocated to the capacity development component. The rest of the budget will be allocated to consultancy services and various recurrent expenditures.

The Project is recommended to commence in July 2009 and will last for five years. The proposed contract packaging schedule distributes the annual requirement of funds for the first, second, third, forth, and fifth years at 4 %, 34 %, 37 %, 18%, and 7 % of the total project cost, respectively. The development impacts of rural infrastructure are expected to be significant, and the overall economic internal rate of return (EIRR) of the project is estimated at 25 %, which is significantly higher than the assumed opportunity cost of capital (12 %) in Bangladesh.

The progress of the project should be monitored according to the rules of the Government of Bangladesh (GOB) and the requirements of JICA. Effect monitoring and evaluation should follow the LGED guidelines, JICA procedures, and the methodology employed by a similar project. A baseline survey, mid-term assessment, and terminal assessment will be conducted to evaluate the effects of the infrastructure developed. The Initial Environmental Examination (IEE) concludes that if appropriate mitigation measures are taken, the project will have no significant adverse environmental and social impacts during the period of project implementation.

Acronyms and abbreviations

ADB	Asian Development Bank
ADP	Annual Development Program
ADRA	Adventist Development and Relief Agency
ASPS	Agriculture Sector Program Support
BARD	Bangladesh Academy of Rural Development
BBS	Bangladesh Bureau of Statistics
BC	Bituminous Carpeting
BFS	Brick flat soling
BRDB	Bangladesh Rural Development Board
BRTA	Bangladesh Road Transport Authority
BWDB	Bangladesh Water Development Board
CBO	community-based organization
CBR	California Bearing Ratio
CIDA	Canadian International Development Agency
CUPCDP	Construction of Union Parishad Complex Building Project
DAE	Department of Agricultural Extension
DANIDA	Danish International Development Agency
DC	Deputy Commissioner
DDCC	District Development Coordination Committee
DFID	Department For International Development
DMB	Disaster Management Bureau
DOC	Department of Cooperatives
DOE	Department of Environment
DPHE	Department of Public Health Engineering
DRGA	Debt Relief Grant Assistance
DRSC	District Road Safety Committee
DRUC	District Road Users Committee
EBRIDP	Eastern Bangladesh Rural Infrastructure Development Project
ECC	Environmental Clearance Certificate
EDDRP	Emergency Disaster Damage Rehabilitation Project
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
EMMP	Environmental Management and Mitigation Plan
EMP	Environmental Management Plan
ERD	Economic Relations Division
F/S	Feasibility Study
FIRR	Financial Internal Rate of Return
FM	Fineness Modulus
FY	Fiscal Year
GDP	Gross Domestic Product
GFRIDP	Greater Faridpur Rural Infrastructure Development Project

GO	governmental organization
GOB	Government of Bangladesh
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (The German Organization for Technical Cooperation)
HBB	Herring Bone Bond
HIV	Human Immunodeficiency Virus
HWL	High Water Level
ICB	International Competitive Bidding
IDA	International Development Association
IDB	Islamic Development Bank
IEE	Initial Environmental Examination
IFAD	International Fund for Agricultural Development
IFSP	Integrated Food Security Program
IMED	Implementation Monitoring and Evaluation Division
IMR	Infant Mortality Rate
IRR	Internal Rate of Return
IRWP	Intensive Rural Works Program
IWRMU	Integrated Water Resource Management Unit
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
JPY	Japanese yen
KfW	Kreditanstalt für Wiederaufbau (German Reconstruction Credit Institute)
LCS	Labor Contracting Society
LDCP	Local Development Coordination Program
LGD	Local Government Division
LGED	Local Government Engineering Department
LGI	local government institution
LGSP	Local Government Support Project
LIC	Learning and Innovation Component
MDCV	Maximum Daily Commercial Vehicles
MIDPCR	Market Infrastructure Development Project in Char Land Regions
MLGRD&C	Ministry of Local Government, Rural Development and Cooperatives
MMC	Market Management Committee
MMR	Maternal Mortality Ratio
MP	Member of Parliament
NASP	National AIDS and STD Programme
NCB	National Competitive Bidding
NGO	non-governmental organization
NORAD	Norwegian Agency for International Development
O&M	Operation and Maintenance
PAPs	Project Affected Persons
PCU	Passenger Car Unit

PIC	Project Implementation Committee
PIO	Project Implementation Office
PKSF	Palli Karma-Sahayak Foundation
PM	Person month
PMO	Project Management Office
PPR	Public Procurement Regulations
PRDP	Participatory Rural Development Project
PRS	Poverty Reduction Strategy
PRSP	Poverty Reduction Strategy Paper
PSC	Project Steering Committee
RCC	Reinforced Cement Concrete
RDEC	Rural Development Engineering Center
RDP	Rural Development Project
RDS	Road Design Standards
RESP	Rural Employment Sector Program
RHD	Roads and Highways Department
RIIP	Rural Infrastructure Improvement Project
RPDM	Road Pavement Design Manual
RRMIMP	Rural Road Markets Improvement and Maintenance Project
RTC	Regional Training Center
RTIP	Rural Transport Improvement Project
SAAO	Sub Assistant Agriculture Officer
SAPROF	Special Assistance for Project Formation
SIDA	Swedish International Development Cooperation Agency
SLGDP	Sirajganj Local Governance Development Project
SSWRDSP	Small Scale Water Resources Development Sector Project
SWBRDP	South-Western Bangladesh Rural Development Project
TA	Technical Assistance
TOT	Training of trainers
UCO	Union Coordination Officer
UDCC	Upazila Development Coordination Committee
UMMC	Upazila Market Management Committee
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
UNO	Upazila Nirbahi Officer
UP	Union Parishad
UPC	Union Parishad Complex
UPS	Uninterruptible power system
URSC	Upazila Road Safety Committee
URUC	Upazila Road Users Committee
VGD	Vulnerable Group Development
VGF	Vulnerable Group Feeding

VOCs	Vehicle Operation Costs
WFP	United Nations World Food Programme
WMS	Women's Market Section
WPW	Works Program Wing

List of local terms

aman	a type of rice grown in the monsoon season
aus	a type of rice grown in the pre-monsoon season
baor	oxbow lake
beel	floodplain lake, which may hold water permanently or temporarily during the dry season
bigha	a unit of area equal to approximately 0.13 hectares
boro	a type of rice grown in the dry season
char	islets in the rivers
ghat	boat landing stage, ram
khal	natural channel
khash	government-owned, communal
nirbahi	executive
parishad	council
Pourashava	municipality
Tahshildar	Union land officer
Thana	a former name of Upazila
Upazila	Sub-district
Zila	District

Currency equivalents

(as of September 30, 2008)

1US$	=	105.93 Japanese Yen
1US$	=	tk. 68.65
tk.1.0	=	1.543 Japanese Yen

tk. = Bangladesh taka

Merger of JBIC and JICA

JBIC and JICA merged to become a new JICA on October 1, 2008, and all the ODA related responsibilities under JBIC were transferred to the new JICA. In this report "JBIC" is used to indicate its states or actions reported or observed before the date of this merger.

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CHAPTER 1 Introduction

1.1 Background of the study

The Government of Bangladesh (GOB) requested the Government of Japan for a Japanese Official Development Assistance Loan for the South-Western Bangladesh Rural Development Project (hereinafter referred to as SWBRDP or the Project), and submitted a feasibility study report in November 2007. In response to this request, the Japan Bank for International Cooperation[1] (JBIC) proposed the provision of the Special Assistance for Project Formation (SAPROF) to review the contents of the feasibility study and to enhance effectiveness of rural infrastructure investment. In March 2008, the Local Government Engineering Department (LGED) under the Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Co-operatives (MLGRD&C) and JBIC agreed to conduct SAPROF.

Under the latest National Rural Development Policy (2001) and the Poverty Reduction Strategy (PRS) (2005), LGED developed SWBRDP in order to address the issues of 1) widening gaps in living standards between the cities and rural areas; 2) high poverty ratio and needs for rural infrastructure; and 3) vulnerable livelihoods due to frequent natural calamities such as floods and cyclones in South-Western Bangladesh.

The objectives of proposed SWBRDP, which will be implemented by LGED, are to increase economic opportunities and to improve accessibility of social services to the poor in rural areas in the southwestern part of Bangladesh through the construction and rehabilitation of basic rural infrastructure. SWBRDP is also expected to contribute to reducing social disparities and poverty and to recovering from damage caused by natural disasters.

The initial proposal of SWBRDP consisted of three major components, as summarized below.

(1) Civil work

1) Rural roads upgrading, extension, and rehabilitation (Upazila, Union, Village categories)
2) Bridges/culverts upgrading and rehabilitation
3) Boat landing stage (*ghat*) upgrading and rehabilitation
4) Growth centers/rural markets/women's market section upgrading and rehabilitation
5) Union Parishad Complex (UPC) construction and rehabilitation

(2) Equipments

1) Construction equipment and vehicles
2) Office equipment

[1] JBIC and JICA merged to become new JICA on October 1, 2008.

(3) Technical assistance

1) Training programs on planning and implementation, operation and maintenance, institutional development, awareness building, etc.
2) Detailed design
3) Procurement support
4) Construction management
5) Environmental and social considerations monitoring support, etc.

1.2 Objectives of the study

The objectives of SAPROF are to verify the *Feasibility Study Report on South-Western Bangladesh Rural Infrastructure Development Project* (F/S) (LGED, 2007a) and to recommend measures to enhance the effectiveness of rural infrastructure development.

1.3 Terms of reference of the study

The terms of reference of SAPROF agreed between the GOB and JBIC are: 1) to review and confirm the necessity of the Project; 2) to review and confirm subprojects; 3) to review and confirm the contents of the Project; and 4) to review and confirm environmental and social considerations. Detailed terms of reference of SAPROF are shown in Table 1-1.

The work schedule of the study and the study team, which consists of five international experts and ten local consultants, are shown in Table 1-2 and Table 1-3, respectively.

Table 1-1 Terms of reference of the study

Terms of reference	Detailed terms of reference
TOR-1: To review and confirm the necessity of the Project	1-1: To review and analyze the existing documents and information on rural development in the south-western areas in Bangladesh (development status of regions in the south-western part of Bangladesh, including poverty situations, compared to the other parts of the country); 1-2: To identify the lessons learned in implementing other rural infrastructure projects including their O&M mechanism and social considerations, based on the interviews with executing agencies and sampling studies of past rural infrastructure projects whose contents are similar to those of the proposed Project; 1-3: To assess the needs of growth centers/rural markets/women's market corners and UPC proposed to be constructed and upgraded in the F/S through sampling studies; 1-4: To review the needs assessment on the 2007 floods and cyclones, organize information on rehabilitation activities and identify candidates of additional subprojects in the region; and 1-5: Based on information attained in TOR 1-1 through 1-4, to review and confirm the necessity and relevance of the target areas, beneficiaries, major components, approach of the proposed Project.
TOR-2: To review and confirm subprojects	2-1: To list the candidate subprojects in consideration of TOR-1; 2-2: To review and confirm the selection criteria of subprojects based on the discussion with the executing agency; and 2-3: To select subprojects based on TOR 2-1 and 2-2.
TOR-3: To review and confirm the contents of the Project	3-1: To review and recommend the project scope; 3-1-1: To review the standard project concept and design standard of subprojects of each infrastructure component in the proposed Project considering, but not limited to, mitigation measures against flood impact; 3-1-2: To recommend the total scope of the Project, including the outline of required technical assistance and capacity development component; 3-2: To review and analyze the cost of the proposed Project; 3-3: To review and analyze the implementation schedule of the proposed Project; 3-4: To recommend the procurement methods and packages; 3-5: To recommend organizational framework for the implementation, operation and management of the proposed Project, while paying attention to 1) the cooperation and coordination of other related programs, 2) participatory approach, 3) inclusion of the socially weak population, such as the poor, minorities, women, etc., and 4) collaboration with NGOs; 3-6: To review and confirm the Operation and Effect Indicators (both baseline and target); and 3-7: To calculate IRR (EIRR and/or FIRR) of the proposed Project.
TOR-4: To review and confirm environmental and social considerations	4-1: To confirm the procedures of land acquisition and resettlement, 4-2: To prepare an environmental checklist as per JBIC Guidelines for Confirmation of Environmental and Social Considerations (JBIC Environmental Guidelines) 4-3: To assist the preparation of IEE reports, and 4-4: To review and recommend the implementing and monitoring mechanism of the Project.

Table 1-2 Work schedule of SAPROF

First Field Survey: Early July - Mid-August, 2008

Inception Report

(1) Preparation

(2) Consultation with stakeholders to establish common ground on SAPROF

(3) Review on the necessity of the Project (TOR 1)

(4) Selection of subprojects (TOR 2)

(5) Preparatory discussion on the project scope and institutional arrangement

Second Field Survey: Mid-September - Late October, 2008

Interim Report

(6) Consultation with stakeholders on the Interim Report

(7) Proposal of the project scope and institutional arrangement (TOR 3)

(8) Development of the project implementation plan (TOR 3)

(9) Examination of environmental and social impacts (TOR 4)

Third Field Survey: Late November, 2008

Draft Final Report

(10) Consultation with stakeholders on the Draft Final Report

Final Report: January 2009

Table 1-3 List of SAPROF team members

Name	Position/specialized field
International Consultant	
Dr. Toshifumi Serizawa	Team Leader/Rural Development
Mr. Hirofumi Ishizaka	Regional Development
Mr. Tomoo Fukazawa	Rural Infrastructure
Ms. Toshiko Shimada	Participatory Development and Community Organization
Mr. Kenzo Ikeda	Environmental and Social Considerations
Local Consultant	
Dr. Quazi Rezaul Islam	Rural Development (Team Leader)
Dr. A. R. M. Momtajuddin	Rural Development
Mr. Shahabuddin Farooqi	Regional Development 1
Mr. Mohammad Hossain	Regional Development 2
Mr. Ahmed Ali Biswas	Rural Infrastructure Consultant (Rural Road)
Mr. Mahadeb Kumar Kundu	Rural Infrastructure Consultant (Bridge)
Mr. Bimal Chakraborty	Participatory Development and Community Organization 1
Mr. Md. Mohibur Rahman	Participatory Development and Community Organization 2
Dr. Nurul Islam	Environmental and Social Considerations 1
Mr. Akhtaruzzaman	Environmental and Social Considerations 2
Mr. Asrar Q. Siddiqui	Economic and Financial Analysis Consultant

CHAPTER 2 Institutions for rural infrastructure development

2.1 Key policies[1]

(1) Strategy for Rural Development Projects (1984)

GOB formulated and adopted the Strategy for Rural Development Projects as a sectoral policy paper of the Planning Commission in January 1984, with the aim of reducing poverty. It guides how rural development projects should be formed, financed, and implemented. In the same year, the Works Program Wing (WPW) of the Ministry of Local Government, Rural Development and Cooperatives (MLGRD&C) became the Local Government Engineering Bureau, which is the predecessor of LGED.

The Strategy contains the following three components: 1) the development of physical infrastructure, including roads, storage, and rural markets (growth centers); 2) the development of irrigated agriculture, minor drainage, and flood control works; and 3) the promotion of production and employment programs for the rural poor. The Strategy stipulates that rural development projects with one of the above components or with a combination of more than one component may be taken up. Such projects shall cover a minimum of one full administrative District and duplication of projects is to be avoided.

(2) Bangladesh Rural Infrastructure Strategy (1996)

GOB and the World Bank jointly conducted the Bangladesh Rural Infrastructure Strategy Study in 1996. This study examined the outcomes of the Strategy for Rural Development Project. The study found that the 1984 Strategy was still valid and only a partial readjustment was required. For example, the growth center approach which aimed at boosting local economic development by targeting public investments to existing rural markets with high potential was found to be effective. The 1996 Strategy increased the target number of growth centers from 1,400 to 2,100 in accordance with changes in the spatial distribution of agricultural production and marketing potential, and in order to meet the expected population and regional growth.

The study also recommended the following: 1) greater emphasis on user and community participation in planning, implementation, and monitoring; 2) improvements in the use of local resources, such as local materials; 3) continuing the use of labor-intensive techniques with appropriate equipment; 4) coordinating the use of waterways; and 5) building and funding a sustainable maintenance system. In addition, the 1996 Strategy recognizes and supports an expansion in the role of the private sector and reinforcement of the capacity of local contractors who are expected to provide cost-effective and labor-intensive skills.

(3) National Rural Development Policy (2001)

The National Rural Development Policy was prepared by the Rural Development and Cooperatives Division of the MLGRD&C, and was adopted in 2001. The Policy emphasizes a bottom-up approach

[1] This section is based on LGED (2007a) and JBIC (2008).

to planning through local government institutions (LGIs) and de-concentrated government planning mechanisms. According to the Policy, a needs assessment of rural infrastructure is to be conducted throughout the rural areas of Bangladesh. Planning should be carried out based on the needs assessment. The Village Plan Book, the Union Plan Book, and the Upazila Plan Book are to be published and updated from time to time.

The Policy emphasizes the development of growth centers and roads that connect growth centers with Upazila headquarters and villages with growth centers, as well as the provision of drainage structures such as bridges and culverts on rural roads. Enhancing the sustainability of maintenance work for roads and other infrastructure is also emphasized.

The Policy also points out the need to integrate all activities in rural development. It calls for strengthening inter-ministerial and inter-institutional coordination among agencies involved in rural development.

(4) Poverty Reduction Strategy Paper (2005)

The Poverty Reduction Strategy Paper (PRSP) was finalized in 2005. It aims to reduce poverty by 30%, extreme poverty by 5%, and child mortality to 31 per 1,000 live births, and to increase the literacy rate to 90% by 2015 in order to meet the Millennium Development Goals.

PRSP also recognizes the significant roles of infrastructure in poverty reduction. Road development projects emphasize improvements to the quality of existing rural roads rather than the expansion of the network. The strategy is to put "more emphasis on quality construction using labor-based technologies, maintaining and upgrading the existing network, and undertaking selective expansion to ensure balanced rural-urban linkages" (GOB, 2005, p113). Growth centers, roads connecting to growth centers, feeder roads, and drainage structures on rural roads are given priority in the same way as in the National Rural Development Policy of 2001.

2.2 Sector development plan[2]

The Rural Road Master Plan developed in 2005 is the long-term plan for developing rural roads, growth centers, and Union Parishad Complexes (UPCs) for the period between 2005 and 2025. The overall objectives of the Plan are to:

1) Identify and prioritize the most useful and effective rural road networks throughout the country;
2) Provide all-weather access to all growth centers, all Union Parishads (UPs), rural markets, and other service delivery centers;
3) Improve rural accessibility to facilitate agricultural production and marketing products;
4) Reduce poverty through employment generation and accelerating economic activities; and
5) Strengthen LGIs and promote local governance.

[2] This section is based on LGED (2007a) and JBIC (2008).

According to the Plan, the roads for development are selected under the following principles.

- Routes shall be selected to enhance the road network; road links should not be dispersed.
- The basic rural road network should consist of roads connecting 1) a growth center with Upazila headquarters, 2) a growth center with another growth center, and 3) a growth center with a higher road system.
- All these road links should be the shortest route and are not necessarily limited to areas within the Upazila or District boundary, and should maximize community benefits.
- Road links connecting Union headquarters to Upazila headquarters, Union headquarters to a growth center, Union headquarters to a rural market, and Union headquarters to Union headquarters shall be included.
- The road links connecting the maximum number of rural markets, villages and other socioeconomic infrastructure such as schools and hospitals are preferred.
- The route which is already partially developed is preferred over a completely new route so as to achieve immediate benefits.

The road network classification is given in Table 2-1. LGED is responsible for development and maintenance of Upazila roads, Union roads, and village roads. As shown in Table 2-2, the Rural Road Master Plan aims to develop 18,277 km of Upazila roads at an estimated cost of tk. 104,482 million by 2015. Similarly, development of 33,818 km of Union roads at the cost of tk. 200,174 million is planned for completion by 2020. In addition, over 450,000 m of bridges and culverts associated with Upazila, Union, and village roads are planned to be developed.

Table 2-1 Road network classification in Bangladesh

Type	Definition	Ownership and responsibility
National Highway	Highways connecting the national capital with Divisional headquarters, seaports, land ports or Asian Highway	RHD[1]
Regional Highway	Highways connecting District headquarters, main rivers, land ports or with each other, which are not connected by the National Highways	RHD
Zila Road	Roads connecting District headquarters with Upazila headquarters or connecting one Upazila headquarters to another by a single main connection with National/Regional Highway through the shortest distance/route	RHD
Upazila Road	Roads connecting Upazila headquarters with a growth center or one growth center with another by a single main connection as well as roads connecting a growth center to a higher road system through the shortest distance/route (former Feeder Road Type-B)	LGED/LGIs
Union Road	Roads connecting Union headquarters with Upazila headquarters, growth centers or rural markets or with each other (former Rural Road Class-1 (R1))	LGED/LGIs
Village Road	A) Roads connecting villages with Union headquarters, rural markets, farms and river ghats or with each other (former Rural Road Class-2 [R2]) B) Roads within a village (former Rural Road Class-3 (R3))	LGED/LGIs

Note: 1) Roads and Highways Department
Source: LGED (2005)

Table 2-2 Summary of the Rural Road Master Plan

Component	Target year (duration)	Total length/number of rural infrastructure	Total length/number improved by 2004/05		Target		
			Improved length/ number	% to total length/ number	Total length/number to be improved by target year	Requirement of Fund (Million Tk.)	Expected average annual length/number to be improved[*1]
	a	b	c	d=c/b	e	f	g=e/a
Upazila Road						**153,893**	
Road (km)	2014/15 (10 years)	36,166	17,889	49%	18,277	104,482	1,828
Bridge/Culvert (m)	2014/15 (10 years)	382,293	270,060	71%	112,233	49,411	11,223
Union Road						**245,476**	
Road (km)	2019/20 (15 years)	42,331	8,513	20%	33,818	200,174	2,255
Bridge/Culvert (m)	2019/20 (15 years)	330,409	205,142	62%	125,267	45,302	8,351
Village Road						**120,678**	
Road[*2] (km)		171,335	7,583	4%	0	0	0
Bridge/Culvert (m)	2024/25 (20 years)	696,325	323,142	46%	216,957	120,678	10,848
Growth Center (no.)	**2009/10 (5 years)**	**2,100**	**1,059**	**50%**	**1,041**	**4,146**	**208**
Rural Market (no.)	**2024/25 (20 years)**	**15,263**	**956**	**6%**	**14,307**	**69,314**	**715**
Union Parishad Complex (no.)	**2009/10 (5 years)**	**4,489**	**1,510**	**34%**	**2,979**	**12,358**	**596**
Total						605,865	

Note: 1) Expected annual length/number to be improved is calculated by the SAPROF Team. 2) Village road is not included for improvement.

Source: Rural Infrastructure Maintenance Management Unit, LGED

The Plan also states that 1,041 growth centers, 14,307 rural markets, and 2,979 UPCs are to be developed by 2025. The plan is in line with the 2004 government resolution which decided to establish a UPC in every Union and 2,100 growth centers by 2010. The growth centers were initially designated by the Planning Commission in 1982. The selection criteria include revenue potential, trading volume, area and population served, and minimum distance between neighboring growth centers. Each Upazila has a minimum of three and a maximum of seven growth centers.

As shown in Table 3-23 and Table 3-24, the total lengths of Upazila and Union roads improved by July 2007 are 21,598 km (60% to the total length) and 11,924 km (28% to the total length), respectively. Since 49% of Upazila road and 20% of Union road were improved by 2004/05 (Table 2-2), 11% of the total length of Upazila road and 8% of the total length of Union road had been improved during this two-year period.

As of July 2005, the cumulative number of growth centers developed is 1,059 and the corresponding number for UPCs is 1,510 (Table 2-2). The cumulative number of growth centers and UPCs developed as of May 2008 are 1,302 and 2,142, respectively. Therefore, during this three-year period, 243 growth centers and 632 UPCs were developed. The pace of development is slower than expected in the Master Plan, which anticipates that 208 and 596 growth centers and UPCs, respectively, will be developed (Table 2-2).

2.3 Legal framework[3]

(1) Mandate of LGED

LGED is under the administrative control of the Local Government Division (LGD) of MLGRD&C, which operates in the rural development sector. LGED's experience in rural development dates back to the early 1960s, when the Works Program began to be implemented in Bangladesh. The Program developed rural infrastructure engaging the rural poor in civil works using labor-intensive technology. The Program was comprised of the Rural Works Program, Thana Irrigation Program, and Thana Training and Development Centre. These activities were implemented with the establishment of a "cell" in the 1970s and later with the creation of the Works Program Wing (WPW) in 1982. In 1984, WPW was reorganized as the Local Government Engineering Bureau, which was upgraded into LGED in 1992 by the Expectative Order of President.

LGED is responsible constructing and maintaining the following three components: 1) rural infrastructure; 2) urban infrastructure; and 3) water resources. Activities in the rural infrastructure sector include the development of Upazila roads, Union roads and village roads, rural market infrastructure, ghats or river ports, UPCs, cyclone shelters, and primary schools. The water resource sector includes planning and implementation of small-scale agricultural water resource schemes which cover areas up to 1,000 ha. Other areas which LGED is responsible for are provision of technical support to both urban and rural LGIs, and planning and implementation of urban infrastructure development projects. Major policies, laws and regulations, and guidelines concerning LGED and LGIs are given in Table 2-3.

(2) Public Procurement Regulations

In 2003, the Public Procurement Regulations (PPR 2003) was developed as a legal framework for procurement in an effort to increase transparency and accountability. Prior to the introduction of the PPR 2003, public procurement was conducted in accordance with several sets of guidelines, procedures, and manuals of the government. However, these procurement guidelines and procedures were not consistent with each other, and not complete enough to meet the procurement requirements of various organizations and departments using public funds. Furthermore, donor agencies used their own procurement guidelines and procedures. The PPR 2003 introduced uniform procurement regulations and standard bidding documents for all public sector entities using public funds, in line with the international standard for improved procurement principles and practices. In 2006, the Public Procurement Act was approved by the Parliament, and in March 2008 revised Public Procurement Regulations (PPR 2008) became effective. In rural infrastructure development, the PPR 2008 serves as the fundamental regulations applicable to all work and goods financed by public funds and for which the government employs consultants.

[3] This section is based on LGED (2007a) and JBIC (2008).

Table 2-3 Legal and policy frameworks concerning LGED and LGIs

Policies, laws, and guidelines	Concerned institutions	
	LGED	LGIs[1]
Organic laws		
Local Government Ordinance (1976, 1982 and 1983)		X
Zila Parishad Act (1988 and 2000)		X
Gram Sarkar Act (2003)		X
Executive Order of President on 24 August 1992	X	
Crosscutting national policies and plans		
National Environmental Policy (1992)	X	X
Bangladesh Rural Infrastructure Strategy (1996)	X	X
National Policy for Safe Water Supply and Sanitation (1998)	X	X
National Water Policy (1998)	X	X
National Rural Development Policy (2001)	X	X
National Water Management Plan (2004)	X	X
Poverty Reduction Strategy Paper (2005)	X	X
National Sanitation Strategy (2005)		X
Crosscutting laws and regulations		
Acquisition and Requisition of Immovable Property Ordinance (1982, 1993, and 1994)	X	X
Environmental Conservation Act (1995)	X	X
Environmental Conservation Rules (1997)	X	X
Environment Impact Assessment Guidelines (1997)	X	X
Public Procurement Regulations (2003)	X	X
Public Procurement Regulations (2008)	X	X
National Water Code	X	X
Manuals and guidelines		
Guidelines for Participatory Water Management	X	X
Manual of leasing procedures, management of government owned markets and methods for distribution of incomes amongst UP/Municipality/City Corporation	X	X
Standard Guidelines for Maintenance (for rural roads and bridges)	X	
LCS Management Guidelines	X	
Tree Plantation Guidelines	X	
Gender Development Guidelines	X	

Note: 1) LGIs include District, Upazila, Union, and Ward.
Source: JBIC (2008) and SAPROF team

(3) Resettlement policy framework

The current legislation governing land acquisition for public purposes is the Acquisition and Requisition of Immovable Property Ordinance (Ordinance II of 1982) and its subsequent amendments in 1993 and 1994. As per this Ordinance, GOB can acquire any land, buildings, and crops for any public purpose or in the public interest upon payment of compensation. However, the Ordinance does not cover those people affected by the project but who lack legal title or ownership records such as informal settlers, squatters, tenants, sharecroppers, and agricultural laborers. Furthermore, the Ordinance does not address resettlement issues. In most cases, compensation does not constitute market or replacement value of the property acquired. Under donor-assisted projects, on the other hand, project-specific resettlement policy framework and resettlement procedure guidelines are adopted as

per the policy and guidelines of each donor agency. In such cases, rehabilitation programs are also carried out for those persons affected by the project.

(4) Leasing procedures of government-owned markets

The *Manual on Leasing Procedures, Management of Government Owned Markets and Methods for Distribution of Incomes Amongst Union Parishad/Municipality/City Cooperation* (LGD, 2008) mandates the way in which Upazila Nirbahi Officers (UNOs) should manage government-owned markets. It stipulates the lease procedures and the rule for distributing the lease revenue. According to the Manual, 15 to 25% of the lease revenue is to be allocated for the maintenance of the market in question[4].

(5) Environmental policy framework

The Environmental Conservation Act (1995) provides for the conservation, improvement of the environmental standard, and control and mitigation of environmental pollution. The Environmental Conservation Rules (1997) stipulate the procedure for granting environmental clearance.

2.4 Local Government Engineering Department

2.4.1 Functions and structure[5]

(1) Functions of LGED

The principal function of LGED is to provide technical and institutional support to LGIs, including the District, Upazila, Union and Pourashava, in developing infrastructure mainly to improve communication and transport networks, generate employment, and reduce poverty in the country. LGED fulfills this responsibility through its District and Upazila offices. It ensures that the following are carried out: proper engineering design of local projects, physical works adhering to relevant standards, and technological transfer from the national level to Upazilas and Unions. The activities of LGED cover the development of rural infrastructure, urban infrastructure, and small-scale water resources. The major activities of LGED concerning rural infrastructure development are listed below.

1) Construction, reconstruction, and rehabilitation of roads
2) Construction and reconstruction of bridges and culverts
3) Development of growth centers and markets
4) Construction of UPCs
5) Construction and rehabilitation of cyclone and flood shelters
6) Tree planting
7) Micro-credit programs
8) Agriculture, fisheries, and livestock development
9) Maintenance of infrastructure

[4] Detailed information on market management is given later in this report.
[5] Organizations relevant to LGED are briefly explained in Annex 6.

(2) Organization structure

LGED is managed by a Chief Engineer, four Additional Chief Engineers, and seven Superintending Engineers at the central level. The headquarters is primarily responsible for administration, finance, planning, and design, while construction and maintenance are the responsibilities of the field offices. There are 10 circles in the field, each headed by a Superintending Engineer, 64 District offices each headed by an Executive Engineer, and 481 Upazila offices each headed by an Upazila Engineer. Thus, the organization has a total of 557 field offices throughout the country. An organizational diagram is provided in Annex 5.

LGED has about 10,287 positions for sanctioned staff whereas the actual number of total employees in 2007/08 was 10,245. Of them, about 3,250 are engineers, 3,200 are other professionals, and the remaining are mostly non-technical staff.

LGED is a field-oriented organization. Of the total manpower under the revenue budget, about 87.7% of the staff members are at Upazila offices, 8.3% at District offices, 2.0% at Zila Parishads, 0.7% at Circles, and 1.4% at Headquarters. In addition to these, LGED has 5,869 positions in development projects. The officers and staff in these positions provide support to the planning and implementation of projects.

2.4.2 Project implementation capacity

(1) Project implementation structure

LGED currently runs more than 50 rural infrastructure development projects, covering all 64 Districts of Bangladesh. LGED's own professionals, along with professionals assigned to specific individual projects, facilitate the implementation of activities related to the development, operation, and maintenance of rural infrastructure. LGED implements the projects through institutions at different administrative levels.

A Project Steering Committee (PSC) is established for each project at MLGRD&C. The Secretary of LGD chairs the Committee, with the Chief Engineer of LGED as Member-Secretary. The PSC consists of representatives of other concerned ministries and agencies. The ministries and agencies include the Planning Division and the Economic Relation Division of the Ministry of Planning and Finance, Monitoring, the Inspection and Evaluation Wing of LGD and the Rural Development and Cooperative Division. Representatives from development partners participate in the PSC meetings as observers. The meeting is held annually or semiannually to promote coordination among concerned parties. The meeting is also convened whenever an urgent issue requiring inter-ministerial coordination arises.

A Project Implementation Office or Project Management Office (PIO or PMO), headed by a Project Director, is established for each project at LGED headquarters, which is the center responsible for coordinating and directing activities associated with project implementation. LGED's permanent staff within the PIO/PMO consists of the Project Director, Executive Engineers, and Assistant Engineers. Technical and management skills are considered in appointing the Project Director. The PIO/PMO organizes the project activities in cooperation with a consultant team. The responsibilities of the PMO

are as follows:

- Preparation of detailed implementation plans and annual project budgets
- Implementation of projects through the District offices
- Supervision of LGED District offices in preparing tender documents, evaluating bids, and awarding contracts for equipment, civil works and project activities
- Provision of instruction to Upazila Engineers
- Coordination with other agencies
- Monitoring of progress on all aspects of the projects
- Financial accounts maintenance
- Monitoring of environmental impacts and project benefits
- Preparation of periodic reports on project implementation progress to LGED, development partners, relevant ministries, divisions, the Planning Commission, the Implementation Monitoring and Evaluation Division, and other agencies.

The circle offices mainly undertake supervision at sub-project sites. The District offices are generally responsible for directing and monitoring the work of the Upazila Engineers and their staff, procuring contractors, maintaining sub-project accounts, and supervising and quality control of the construction activities.

The Upazila Engineers at Upazila offices act as representatives of LGED vis-à-vis local stakeholders in all matters related to rural infrastructure development. The Upazila offices supervise and manage the construction process and establish the institutional frameworks within which the investments can be made. To support the process of establishing functional institutions for the management and maintenance of the infrastructure to be provided, field workers are appointed through NGOs. They are responsible for working directly with the local stakeholders. As a general rule, those with the skills required to undertake assignments that meet specific requirements of the project are recruited as field workers for the District and Upazila offices.

(2) Financial control

LGED follows the "cash basis" system of accounting with the transaction accounting system as required by the government. The reimbursement and disbursement process of project funds adheres to the requirements of the government and development partners. The management and recording of expenditures are maintained through standard accounting practices. Basic accounting records, including cash books, stock registers, and ledgers, are maintained for each project separately. Periodical financial statements are prepared to ensure that all transactions comply with the requirements.

The basic accounting unit is the LGED District office headed by the Executive Engineer under whom accounting records showing the disbursement of District funds. The Executive Engineers have the authority to pay contractors' and suppliers' invoices. The District accountants record transactions and transmit periodic statements to LGED headquarters, where they are consolidated into LGED's central accounts.

In practice, after the supply of goods and the completion of works and services, invoices (bills) are submitted to the District LGED office. The following procedures are then followed by the District offices:

- The bills, along with supporting documents (a work order, measurement book, receipts register, etc.), are examined by the designated officials: Accountant, Sub-assistant Engineer, Assistant Engineer and the Executive Engineer.
- After detailed scrutiny, the bills are approved for payment, and the Executive Engineer signs bank checks to the suppliers, contractors, and service providers from the relevant project operational accounts at the District level.

Following the payment of bills from a particular project account, the Executive Engineer at the LGED District office requests the remittance of additional funds from the respective Project Director at the headquarters. The District office supports its application for funding with a statement of expenditure in the prescribed format accompanied by receipts and bank statements.

The Project Director is responsible for financial management of the project, including the drawing and disbursing of project funds. Generally, the Project Director, Accounts Officer, and Accounts Assistants run the financial section of the PIO/PMO.

LGED has developed a project-based financial management system, using United Financial Management Software on a pilot basis. The software is gradually being introduced to all projects, particularly to those that are supported by external parties.

LGED's Training Unit provides training on project management to Upazila, District, and project staff. The training courses cover financial management systems and include the preparation of accounting records, maintenance of cash books and ledgers, accounts reconciliation, preparation of withdrawal applications, and maintenance of bank records, asset registers, and value-added tax records.

LGED's Internal Audit Cell has been strengthened by the formation of 15 audit teams in fiscal year (FY) 2005/06. Their responsibilities include conducting internal audits of LGED projects. This ensures that financial records are maintained as required by GOB and development partners. Moreover, follow-ups on external audits of LGED, carried out by the Foreign Aided Project Audit Directorate, have significantly improved. Audit comments are now addressed satisfactorily.

LGED strictly follows the Bangladesh Public Procurement Regulations, which were issued by GOB in 2003 and are to be applied to all procurement processes. It established the Procurement Unit in 2004 to oversee the implementation of the Regulations. The Unit recommends annual procurement plans of LGED District offices and resolves complaints reported by contractors. LGED also revised and updated the schedule of rates in May 2008 for the construction of cost-effective rural infrastructure. These ensure transparency and accountability in the expenditure of public funds.

2.5 Users' committees and beneficiary groups

2.5.1 Road Users Committee

The circular/instruction letter issued by LGD in 2000 establishes the District Road Users Committee (DRUC) and the Upazila Road Users Committee (URUC) with members shown in Table 2-4 and Table 2-5, respectively. DRUC and URUC were formed with the objective of ensuring proper utilization and maintenance of all Upazila, Union, and Village roads in the Districts and Upazilas concerned.

Table 2-4 Composition of DRUC

1. Chairperson	-	Deputy Commissioner (DC)
2. Member Secretary	-	LGED Executive Engineer
3. Member	-	RHD Executive Engineer
4. Member	-	Police Superintendent
5. Member	-	Civil Surgeon
6. Member	-	Assistant Director, Bangladesh Road Transportation Association
7. Member	-	Chairperson, District Truck Owner's Association
8. Member	-	Chairperson, District Bus Owner's Association
9. Member	-	Chairperson, Bus and Truck Driver's Association
10. Member	-	Chairperson, Rickshaw/Van Owner's Association
11. Member	-	Chairperson, Rickshaw/Van Driver's Association
12. Member	-	Chairperson, Auto-rickshaw Owner's Association
13. Member	-	Chairperson, Auto-rickshaw Driver's Association
14. Member	-	Chairperson, District Merchant's Association

Source: LGD (2000)

Table 2-5 Composition of URUC

1. Chairperson	-	UNO
2. Member Secretary	-	LGED Upazila Engineer
3. Member	-	Officer in charge, Police
4. Member	-	Concerned UP Chairperson
5. Member	-	Upazila representative from the Association of Industries and traders
6. Member	-	Upazila representative from the Association of Bus/Truck Owners
7. Member	-	Upazila representative from the Association of Bus/Truck Drivers
8. Member	-	Upazila representative from the Association of Rickshaw/Van Owners
9. Member	-	Upazila representative from the Association of Rickshaw/Van Drivers
10. Member	-	Upazila representative from the Association of Drivers
11. Member	-	Representative from a local NGO

Source: LGD (2000)

The 2000 circular requests that DRUC hold meetings at least twice a year to discuss District-specific issues related to road safety, traffic movement and management, and road development and maintenance. LGED's roles as defined in the circular are to consider the recommendations made by DRUC and to execute follow-up activities, if LGED deems the recommendations appropriate under its

jurisdiction. URUC is also requested to hold meetings to share and discuss Upazila- and Union-specific road-related issues in order for LGED to consider follow-up activities.

However, according to field observations, DRUC and URUC are not functioning as expected. In most cases, the issues which should be considered by DRUC and URUC are instead discussed in the Upazila Development Coordination Committee (UDCC) meetings where UP Chairpersons, UNO, and line department officials are present.

2.5.2 Road Safety Committee

One committee each is to be formed at the District and Upazila levels: the District Road Safety Committee (DRSC) and the Upazila Road Safety Committee (URSC). The composition of each committee defined by the 2003 circular of the Bangladesh Road Transport Authority (BRTA) Division, Ministry of Information, is shown in Table 2-6 and Table 2-7. The committees are represented by the government, the private sector, and local communities.

URSC is responsible for dealing with the unidentified dead bodies of traffic accident victims as per prevailing law and rules, taking care of the injured, including first-aid treatment, reporting on accident-prone areas to DRSC, and raising awareness on road safety issues and measures. The only difference between the roles and responsibilities of URSC and DRSC is that URSC is additionally charged with coordinating road safety activities at the District level, reporting on these activities, and making recommendations to the National Road Safety Committee (BRTA, 2003a) (BRTA, 2003b).

Table 2-6 Composition of DRSC

1. Chairperson	-	DC
2. Member Secretary	-	Officer from Bangladesh Road Transport Authority (nominated by the Chairperson, Bangladesh Road Transport Authority)
3. Member	-	All members of Regional Transport Committee
4. Member	-	Chairperson of Upazila Road Safety Committee
5. Member	-	Information Officer
6. Member	-	Civil Surgeon
7. Member	-	RHD Executive Engineer
8. Member	-	LGED Executive Engineer
9. Member		One representative from Chamber and Commerce
10. Member	-	Four representatives (1 from each) from school, college, university, polytechnic institute (nominated by DC)
11. Member	-	One representative from the organization named "Want Safe Road"

Source: BRTA Division (2003a)

However, these committees do not yet function as stipulated in the circular 2003. Field observations reveal that road safety issues and management are discussed at the monthly UDCC meetings in which most URSC members participate. When undertaking road safety management activities, the LGED Upazila offices collaborate with the LGED Central Road Safety Unit, the Regional Road Safety Unit,

and UDCC rather than URSC. LGED's activities include the following: collection of information and analysis of road accidents that occur on roads developed by LGED, identification of accident-prone sites, and implementation of road safety measures and mass awareness programs in collaboration with local governments, line departments, and the private sector.

Table 2-7 Composition of URSC

1. Chairperson	-	UNO
2. Member Secretary	-	LGED Upazila Engineer
3. Member	-	Upazila Health and Family Planning Officer
4. Member	-	Officer in charge, Police
5. Member[1]	-	Head of Trauma Care Center
6. Member	-	Representative of RHD Executive Engineer
7. Member	-	UP Chairperson is from unions where national highways, regional highways, and other accident-prone roads exist (nominated by UNO)
8. Member	-	One representative from roadside schools/colleges/vocational institutes (nominated by UNO)
9. Member	-	One representative from transport organizations
10. Member	-	One representative from NGOs is working in the road safety sector
11. Member	-	(nominated by UNO) Officer from Bangladesh Road Transport Authority

Note: 1) The member is chosen only when applicable.
Source: BRTA (2003b)

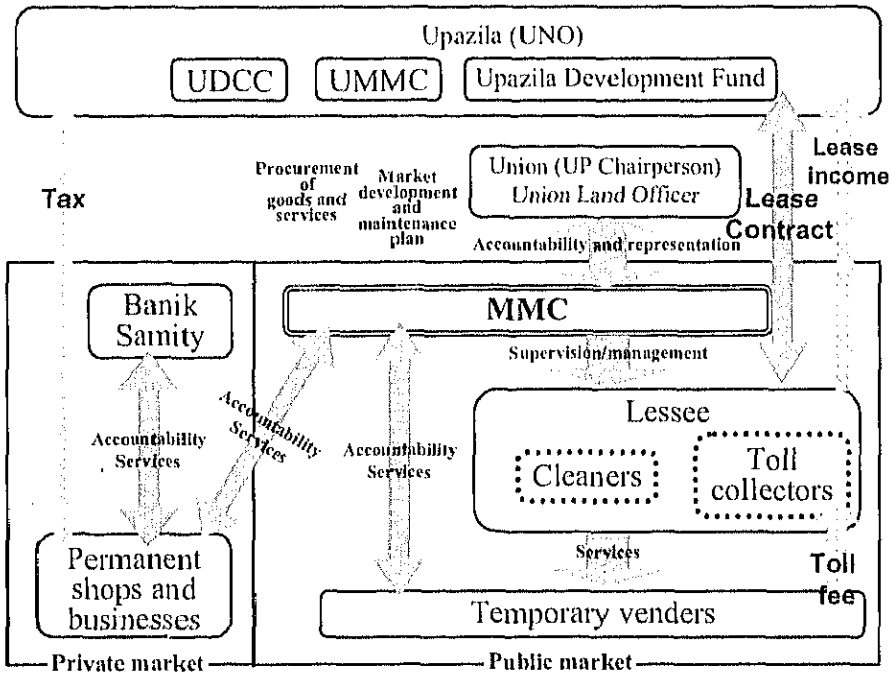
2.5.3 Road Operation and Maintenance Committee

Road Operation and Maintenance Committees are voluntarily formed following the construction of a road and are composed of eight to 10 beneficiaries, including the UP Chairperson. There is no official instruction to form Road Operation and Management Committees. Since the maintenance of Upazila and Union roads is the responsibility of LGED, the functions of the committees are limited to reporting on the damage and repair of roads to UPs and Upazila Engineers when necessary.

2.5.4 Market Management Committee

Major stakeholders with regard to operation and maintenance of growth centers/rural markets are the UNO, lessees, the Upazila Market Management Committee (UMMC) and MMCs at the market level. The UNO is responsible for leasing all rural markets within the jurisdiction of the Upazila, as stipulated in the 2002 market leasing policy[6]. This arrangement is still valid in the latest 2008 market leasing policy (LGD, 2008). The markets are leased every year through an open tendering process. Lessees are responsible for cleaning the leased market area, displaying the approved toll rates in the market, and collecting tolls from permanent shopkeepers and vendors. To oversee market management, UMMC and MMC are formed at the Upazila level and the market level. The relationships among market stakeholders are shown in Figure 2-1.

[6] Prior to 2002, UPs were responsible for leasing smaller markets, with a lease value up to tk. 100,000. However, it was reported that UPs often failed to lease out markets due to mismanagement.



Source: SAPROF team

Figure 2-1 Relationship of stakeholders of growth centers/rural markets

Table 2-8 Composition of UMMC

1.Chairperson	-	UNO
2. Member	-	LGED Upazila Engineer
3. Member	-	Concerned Chairpersons of UPs
4. Member	-	One "respectable person" of the Upazila nominated by the DC
5. Member	-	One Upazila level government official nominated by the DC
6. Member	-	Two representatives from the Chairpersons of all MMC under the Upazila nominated by the UNO
7.Member Secretary	-	Assistant Commissioner (Land)

Source: LGD (2008)

According to the market leasing policy, a UMMC is formed by the Deputy Commissioner (DC) with seven members who supervise and advise the MMC at the market level. The members of UMMC are presented in Table 2-8.

The responsibilities of UMMC as defined in the 2008 market leasing policy are as follows:

- Meet at least once a month
- Ensure proper management, operation, and maintenance of all markets under the Upazila
- Review and approve the development and maintenance plans prepared by MMC
- Ensure regular meetings of all MMCs
- Ensure that the responsibilities assigned to MMC are being performed properly

- Keep DC informed of committee activities at the market and Upazila levels, and carry out actions following suggestions made by DC
- Ensure the collection of tolls at the approved rates
- Ensure maintenance of peace in the market
- Prevent unauthorized possession of land in the market

The policy also requests that the MMC at each market be made up of the respective UNO in order to ensure daily routine administration, collection of tolls by toll collectors, and maintenance and development of markets. The composition of MMCs at each market is listed in Table 2-9.

Table 2-9 Composition of MMC at each market

1.Chairperson	- Concerned UP Chairperson
2. Member	- One representative elected from the permanent shopkeepers
3. Member	- UP member of the respective Ward
4. Member	- UP female member of the respective Ward
5. Member	- Union Land Officer/Assistant Land Officer
6. Member[1]	- One elected/nominated representative from female shopkeepers
7. Member	- Community Organizer of Upazila Engineer Office
8. Member	- One representative elected/nominated from the temporary traders with at least six months of business experience
9. Member	- One representative elected/nominated from van/rickshaw pullers
10. Member[1]	- One representative nominated from the bus/truck owners Association
11.Member Secretary	- One representative elected from the permanent shopkeepers of the concerned market

Note: 1) The member is chosen only when applicable.
Source: LGD (2008)

The revision of the market leasing policy in 2008 aimed to improve the functions of MMC. According to the previous 2002 market leasing policy, the MMC Chairperson was to be elected from permanent and temporary shopkeepers in the concerned market. The MMC Chairperson had no administrative links with local government bodies such as the UNO, UP Chairperson, and UP Members. In fact, this arrangement had often hindered the execution of expected MMC functions. For example, MMCs were neither active nor effective in carrying out such activities as consulting with UNOs regarding the maintenance of markets and the supervision of lessees to oversee whether they were meeting their obligations. In 2008, the market leasing policy was revised to introduce a provision appointing the UP Chairperson to serve concurrently as the Chairperson of MMC. This latest policy also stipulates that the Union land officer, called *tahshilar*, be included as a committee member. None of the lessees are MMC Members.

To ensure that MMC operations are accountable and transparent, the policy designates that the UP Chairperson will serve concurrently as the MMC Chairperson. Since UP Chairpersons are accountable to higher authorities and their constituencies, they have the legitimate responsibility of maintaining the proper operation of public markets. In order to increase the transparency of toll collection, the policy requests MMCs, for example, to ensure that lessees display the list of toll rates set by the government at the market.

The specific functions of MMC are presented below:

- Prepare annual development plans for overall development and maintenance of the respective market based on the funds generated from the lease money, i.e. 15%-25% of the total lease revenue
- Ensure that the toll rates are displayed by a lessee on market walls
- Supervise all activities related to market toll collection
- Prevent illegal toll collection, including the collection of tolls for commodities/goods exempted from toll collection
- Protect buyers and sellers from any illegal or coercive collection of money and harassment with the exception of the collection of tolls as per approved toll rate
- Maintain clean and hygienic market environments
- Hold a monthly meeting and discuss issues including the operation, toll collection, and maintenance and development of the market, and send the details of discussion to UMMC
- Provide facilities to female buyers and sellers

Preparing for the formulation of development plans for routine and periodic maintenance and improvement of relevant markets is the most important responsibility of MMCs. Therefore, 15% of the lease revenue is allocated to this purpose through UDCC, and this allocation can be increased up to 25% if the concerned market is upgraded by LGED projects. However, it is reported that the maintenance funds from the lease money are not allocated on time from UNO to concerned markets, or only a portion of the stipulated lease income (15 to 25% of the total lease income) is disbursed to concerned markets (Ashraf, 2004; Mallorie and Ashraf, 2005). The implementation of the 2008 market leasing policy is expected to enhance accountability and transparency of market operations and to lead to the proper allocation of lease incomes.

The 2008 market leasing policy specifies the distribution of the market lease income as follows:

- 5% is to be deposited as government revenue.
- 20% is to be allocated to pay the salaries of the UP Secretary, security guards, and village police.
- 15% is to be spent on the maintenance and development of the market through UDCC. If the market is developed by LGED as per agreement between the government and development partners, this proportion may be raised up to 25%.
- 10% is to be deposited in the Upazila Development Fund specifically for the maintenance and improvement of the markets within the Upazila. This amount is reduced if the amount allocated to market maintenance is increased to 25% due to LGED involvement.
- 5% is allocated to the UP in which the market is located.
- 4% is to be spent on welfare for freedom fighters.
- The remaining 41% goes to the Upazila Development Fund.

2.5.5 Banik Samity

Banik Samitys are informal traders' associations that are formed by local permanent shopkeepers. The Chairperson and Member Secretary of Banik Samitys are elected by the permanent shopkeepers of a market. Members of Banik Samitys pay the membership fee as per the rules and regulations. The number of members in each Banik Samity ranges from 20 to 500, depending on the size of the market. The objectives of Banik Samitys are to improve the business of their members and to mitigate disputes and security problems in the concerned market.

2.5.6 Women's Market Sections and their shopkeepers

The establishment of Women's Market Sections (WMS's), in which 5-12 shops are constructed exclusively for women shopkeepers in growth centers, is a special component of market infrastructure development in rural development projects (RDPs) undertaken by LGED. A WMS was built for the first time in Khalipur Growth Center in Faridpur on a pilot basis under the Rural Employment Sector Program (RESP) in 1992. This pilot scheme proved to be effective not only in ensuring women's access to economic activities but also in bringing about positive changes in traditional attitudes, which restrict the participation of women in rural markets. As a result, the construction of WMS's has been incorporated into the growth center/rural market development component of almost every RDP. The "Guidelines on shop allotment and women traders' selection and guidelines on lease agreement and maintenance for existing or to-be-constructed WMS in government growth centers/rural markets," issued by LGD in 2001, lay out the rules and procedures for WMS's operation.

The women shopkeepers are selected by a committee consisting of the UP Chairperson, UP Members, and MMC members in collaboration with the Upazila Engineer, based on the criteria set by the guidelines. Initially, destitute women were given allotments on a lottery basis in many RDPs. The arrangement has changed so that interested women with at least some capital are given allotments in WMS's to increase the success rate of their businesses. The shops are leased out for five years with a rental rate of tk. 120-150 per month. The selected women shopkeepers are given training on business skills such as shop management and accounting. Toilet and water facilities for women shopkeepers are also built in WMS's by a number of RDPs.

WMS initiatives result in the improvement of the social and economic status of women shopkeepers. Increased access to economic activities, increased income, and the improvement of social status are observed among women shopkeepers. However, there is considerable variation in the performance of shops in WMS's under the competitive business environment. For example, a common problem reported by women shopkeepers is their lack of capacity to obtain and mobilize capital.

2.5.7 Labor Contracting Society

A Labor Contracting Society (LCS) is made up of destitute landless and asset-less people, particularly disadvantaged women, and is involved in undertaking unskilled or semi-skilled construction tasks. The LCS scheme was introduced as a new mechanism to carry out earthworks by the SIDA- and NORAD-

assisted RESP implemented by the Local Government Engineering Bureau in the early 1980s. Previously, poor laborers involved in the earthworks were often exploited by PIC, which was composed of seven to nine local elites, UP Members and UP Chairperson as the head. PIC contracted out the earthwork to local laborer groups.

Since the LCS scheme is able to provide scarce employment opportunities to disadvantaged people in rural areas through direct contracting, the scheme is widely adopted in rural infrastructure development projects in Bangladesh. LGED has developed "LCS Management Guidelines" (LGED, 2004a) to be applied in all rural infrastructure development projects. The Guidelines allow individual projects to develop their own manuals on LCS's to meet the specific needs of the projects. LCS's have been involved not only in earthworks but also routine maintenance, tree-planting and caretaking, pipe casting, and culvert installation.

A work plan and estimates for LCS contracts are prepared by an Upazila Engineer in consultation with the LGED District office. The Upazila Engineer then informs the UDCCs and UPs at their meetings of the approval of the plan and estimates by LGED, and explains the details of the plan and the number of LCS groups to be hired. LCS members are selected and proposed for approval by the Upazila Engineer and relevant project staff based on the criteria defined in the Guidelines. For earthen road maintenance and tree-planting and caretaking, only female LCS members can be assigned. For selection of the female members, destitute women and widows are given first priority. Typical relationships between types of work and required sizes of LCS group are shown in Table 2-10. The size of the group is dependent on the characteristics of each project and could be larger or smaller than the sizes shown in the Table. For example, in water resource projects, the LCS for earthwork in rivers and canal beds could be comprised of 45 members.

Table 2-10 Number of LCS members

LCS work		Number of LCS group members
• Earthwork in road embankments, small-scale canal re-excavation, and market development	-	30-50 people
• Pipe casting and culvert installation	-	10-15 people
• Processing of materials for pavement	-	30-50 people
• Laying and spreading of materials for pavement	-	30-35 people
• Tree-planting, caretaking, and nursery operation	-	20-30 people
• Rehabilitation and maintenance of roads	-	30-35 people
• Rehabilitation and maintenance of small-scale canal	-	30-35 people

Note: This information is based on the construction management manual of RDP-16.
Source: Interviews with LGED officials

LCS group members are engaged by a contract without competitive bidding. Their wages are fixed in accordance with the volume of works involved. The total cost of a contract with an LCS shall not exceed tk. 0.1 million for a normal LCS and tk. 0.5 million for a pre-qualified LCS (LGED, 2004a). Large schemes which exceed the aforementioned cost need to be divided into several portions, with separate contracts devised. A contract agreement is signed among an Upazila Engineer of LGED, the LCS Chairperson, and LCS secretary. LCS is required to open a joint bank account with the

Chairperson and secretary to sign the contract. LCS receives full payment after the work has been completed in line with the specifications and quality levels stipulated in the agreement. Payment is usually made in three to five installments. The first installment is to be in the form of an advance payment for the start of work; i.e., purchasing and carrying materials to the construction site. The remaining installments are to be paid upon progress and completion of the work. The payment schedule for a common earthwork scheme is shown in Table 2-11.

Table 2-11 Payment schedule for a common earthwork scheme for LCS

Installment	Progress of work	Payment	Total payment
1st/Advance	0%	10%	10%
2nd	30%	20%	30%
3rd	50%	20%	50%
4th	80%	20%	70%
5th/Final	100%	30%	100%

Source: Interviews with LGED officials

In the case of earthen road maintenance and caretaking of trees, the mode of payment is different from the above: advance payments are not made. The fixed wages, defined by the rate schedule issued by LGED, are paid fortnightly or monthly to LCS members based on their attendance.

Prior to the commencement of the work, LCS group members are given training which covers awareness-raising and technical issues regarding group formation and execution of work. During the implementation of the work, on-the-job training is also provided. They are encouraged to accumulate savings for the purpose of improving their living conditions. While some savings are made voluntarily by LCS members, others are imposed by LGED projects. In the latter case, LCS members jointly deposit tk. 10-20 per person per day from their wages. In several donor-financed projects, socio-economists and/or local NGOs promote saving activities of LCS members and provide training on income generation, entrepreneurship, and marketing.

Table 2-12 Profit-sharing arrangement for roadside trees

Category	Fruit	Full-grown tree	Dead branch and Leaves
LCS caretaker	60%	40%	60%
Land owner	40%	30%	40%
UP	0%	30%	0%

Source: (LGED, 2003)

The profit-sharing forestry scheme is commonly adopted by LCS caretakers, UP, and roadside land owners. The tree-planting manuals issued by LGED describe the benefits of LCS caretakers and profit sharing arrangement shown in Table 2-12. Although the scheme should benefit LCS tree-caretakers under LGED projects, it is usually difficult to protect their rights to the benefits accrued from tree harvests, since trees take a long time--often up to 15 years--to mature. In addition, because LCS members do not always have sufficient bargaining power to claim their rights against local elites such as UNO and UP Chairperson, LCS caretakers sometimes fail to receive the benefits of the scheme.

2.6 National budget and donor assistance

The development budget of LGED during the past ten fiscal years is shown in Table 2-13. The figures for FY 1999/00 to 2006/07 and FY 2007/08 to 2008/09 represent the actual expenditures and the allocated budget at the beginning of the fiscal year, respectively. The development expenditures have increased over the years to almost double in eight years. The budget from GOB sources in FY 2006/07 was roughly two and half times of that in FY 1999/00. Aid dependency has gradually declined from 49% in FY 1999/00 to 33% in FY 2006/07. For FY 2008/09, the total allocation of the budget to LGED stood at tk. 32,616 million or roughly US$ 473 million. This represents 12.7% of the total national development budget. LGED demonstrates good performance in achieving its targets. For example, LGED achieved 96% of its physical targets and 93% of its financial targets in 2006/07.

Table 2-13 Development budget of LGED

(million Taka)

		Expenditure								Allocation	
Fiscal year		1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Total	Total	16,595	17,499	15,320	16,221	21,755	24,436	30,259	31,258	32,701	32,616
	GOB	8,386	10,322	9,431	11,009	16,275	18,853	19,345	20,761	21,534	24,249
	Donor	8,209	7,177	5,889	5,212	5,480	5,583	10,914	10,497	11,167	8,366
Rural Development & Institution	Total	15,320	15,821	12,994	14,421	19,882	21,980	25,106	26,380	28,848	24,927
	GOB	8,061	9,874	8,846	10,434	15,406	17,598	17,254	18,546	19,166	19,239
	Donor	7,259	5,947	4,148	3,987	4,476	4,382	7,852	7,835	9,682	5,688
Physical Planning, Water Supply & Housing	Total	995	1,609	2,151	1,483	1,284	1,617	3,615	3,024	2,253	4,971
	GOB	253	378	469	415	564	884	991	927	1,288	2,933
	Donor	742	1,231	1,683	1,069	720	733	2,624	2,097	965	2,039
Agriculture	Total							530	784	800	1,544
	GOB							140	219	280	905
	Donor							390	565	520	639
Water Resources	Total	280		75	227	359	560	48	1,069		
	GOB	72		16	70	75	91		1,069		
	Donor	208		59	157	284	468	48			
Transport	Total		70	100	90	230	280	960		800	1,174
	GOB		70	100	90	230	280	960		800	1,174
	Donor										

Source: ADP 1999/00 to 20008/09 and Monitoring and Evaluation Unit, LGED, August 2008

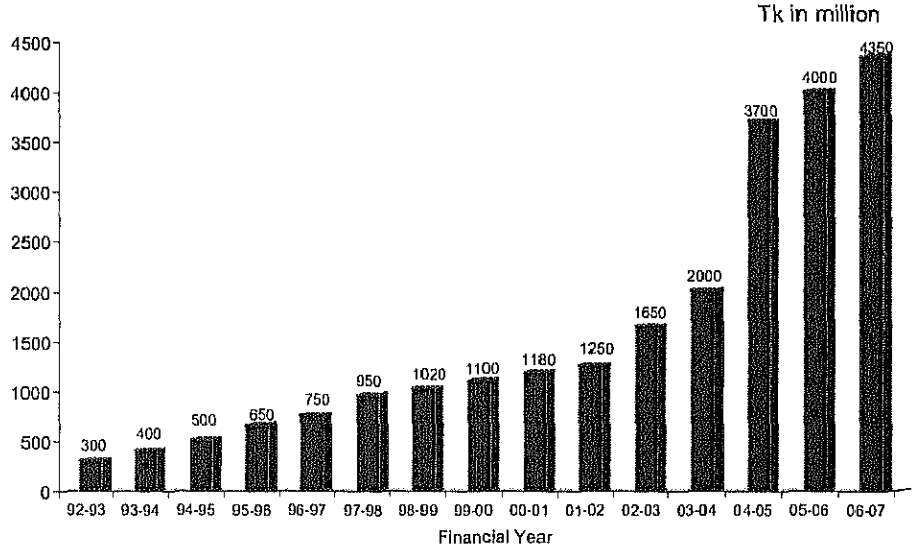
The Rural Development and Institution Sector has been allocated the largest portion of the LGED budget. For example, in FY 2008/09, 76% of the budget was allocated to this sector. The budget for this sector is mainly for development of rural roads, growth centers and rural markets, and UPCs.

The list of development projects currently implemented by LGED in the Rural Development and Institutions Sector is given in Table 2-14. In FY 2008/09, 47 projects are listed, of which 17 are assisted by donors. Aid sources include multilateral agencies such as the Asian Development Bank (ADB), World Bank (IDA), Islamic Development Bank (IDB), International Fund for Agricultural Development (IFAD), and World Food Programme (WFP), and bilateral aid from Canada (CIDA),

Demark (DANIDA), Germany (KfW and GTZ), Japan (JBIC[7], JICA, and the Government of Japan), the Netherlands, and the United Kingdom (DFID).

The largest ongoing donor-assisted project is 1) Rural Development Project, Infrastructure Development: 26; supported by IDA at a cost of tk. 24,462 million or US$ 355 million. Other major donor-assisted projects include 2) Second Rural Infrastructure Improvement Project; 3) Rural Infrastructure Improvement Project: 25; 4) Eastern Bangladesh Rural Infrastructure Development Project; and the 5) Rural Development Project-24; respectively supported by ADB and DFID; ADB, KfW, and GTZ; JBIC; and JBIC. All these projects combine development of rural infrastructure, such as rural roads, and growth centers and rural markets, with capacity development components. The Districts covered by the above five projects are illustrated in Figure 2-3. The proposed target area of SWBRDP overlaps with the target areas of Projects 3) and 5). However, both projects are expected to terminate in FY 2008/09.

GOB started allocating funds for road maintenance to LGED from its revenue budget from FY 1992/93. The initial allocation was tk. 300 million. This has been increased substantially in recent years. The amount stood at tk. 4,350 million by FY 2006/07 and is expected to reach tk. 4,900 million in FY 2008/09. Figure 2-2 shows the historical trends of the road maintenance fund.



Source: Monitoring and Evaluation Unit, LGED, July 2007; Adopted from JBIC (2008)

Figure 2-2 Trends in road maintenance fund from GOB revenue budget

[7] JBIC and JICA merged to become new JICA on October 1, 2008.

Table 2-14 Projects included in ADP 2008/09: Rural Development and Institution Sector

No	Project Title	Duration	Project Cost tk. thousand	ADP Allocation tk. thousand	Source of Aid	Project area
1	Construction of UPC Building.	1998/99 to 2008/09	7,556,800	500,000	GOB	All over Bangladesh.
2	Rural Development Project-24: Greater Faridpur Infrastructure Development (Rural Infrastructure Development Through Participation and Employment Generation).	1998/99 to 2008/09	5,009,200	280,000	JBIC[T], DRGA & GOB	Faridpur, Madaripur, Gopalganj, Shariatpur and Rajbari Districts.
3	Greater Jessore District Infrastructure Development Project.	1998/99 to 2008/09	1,815,000	150,000	GOB	Jessore, Jhenaidah, Magura and Narail Districts.
4	Construction of Bridge on Upazila & Union Road (Formal Construction of Portable Steel Bailey Bridges under Netherlands Assistance ORET Programme).	1998/99 to 2008/09	1,705,600	400,000	GOB	All over Bangladesh.
5	Greater Khulna District Infrastructure Development Project.	2000/01 to 2008/09	1,374,500	150,000	GOB	Khulna, Bagerhat & Satkhira Districts.
6	Rural Development Project: (Development of Road, Bridges/Culverts, GC/Bazars, etc.).	2000/01 to 2007/08	5,000,000	500,000	GOB	All over Bangladesh.
7	Construction and Reconstruction of Roads, Bridges & Culverts in Rural Areas on Priority Basis (Part-III).	2001/02 to 2009/10	5,750,000	504,500	GOB	All over Bangladesh.
8	Rural Development Project: Greater Mymensingh Districts.	2001/02 to 2008/09	2,750,000	257,500	GOB	Mymensingh, Kishoregonj, Netrokona, Sherpur, Jamalpur & Tangail Districts.
9	Cyclone Rehabilitation Project: Entire Coastal Areas (Phase-II).	2001/02 to 2008/09	1,900,000	427,500	DRGA CF	15 Districts: Cox's Bazar, Chittagong, Noakhali, Feni, Laxmipur, Chandpur, Bhola, Barguna, Patuakhali, Barisal, Jhalakati, Pirojpur, Bagerhat, Khulna & Satkhira Districts.
10	Rural Infrastructure Development (Public Priority Rural Communication and Hat-Bazar Development & Rehabilitation).	2001/02 to 2010/11	21,281,600	500,000	GOB	All over Bangladesh.
11	Rural Infrastructure Development Project (2nd Phase).	2002/03 to 2008/09	4,000,000	550,000	GOB	All over Bangladesh.
12	Greater Dhaka District Infrastructure Development Project.	2002/03 to 2008/09	2,250,000	204,400	GOB	Dhaka, Gazipur, Narsingdi, Narayangonj, Munshigonj & Manikgonj Districts.
13	Rural Development Project: Greater Noakhali & Chittagong Districts.	2002/03 to 2008/09	2,868,804	262,000	IDB/GOB	Chittagong, Laksmipur, Feni, Noakhali & Cox's Bazaar Districts.
14	Greater Bogra, Rajshahi & Pabna Districts Infrastructure Development Project.	2002/03 to 2008/09	2,300,000	486,200	GOB	Bogra, Joypurhat, Rajshahi, Naogaon, Natore, Nawabgonj, Pabna & Sirajganj Districts.
15	Greater Rangpur & Dinajpur Districts Rural Infrastructure Development Project.	2002/03 to 2008/09	1,450,000	157,500	GOB	Rangpur, Gaibandha, Kurigram, Nilphamari, Lalmonirhat, Dinajpur,

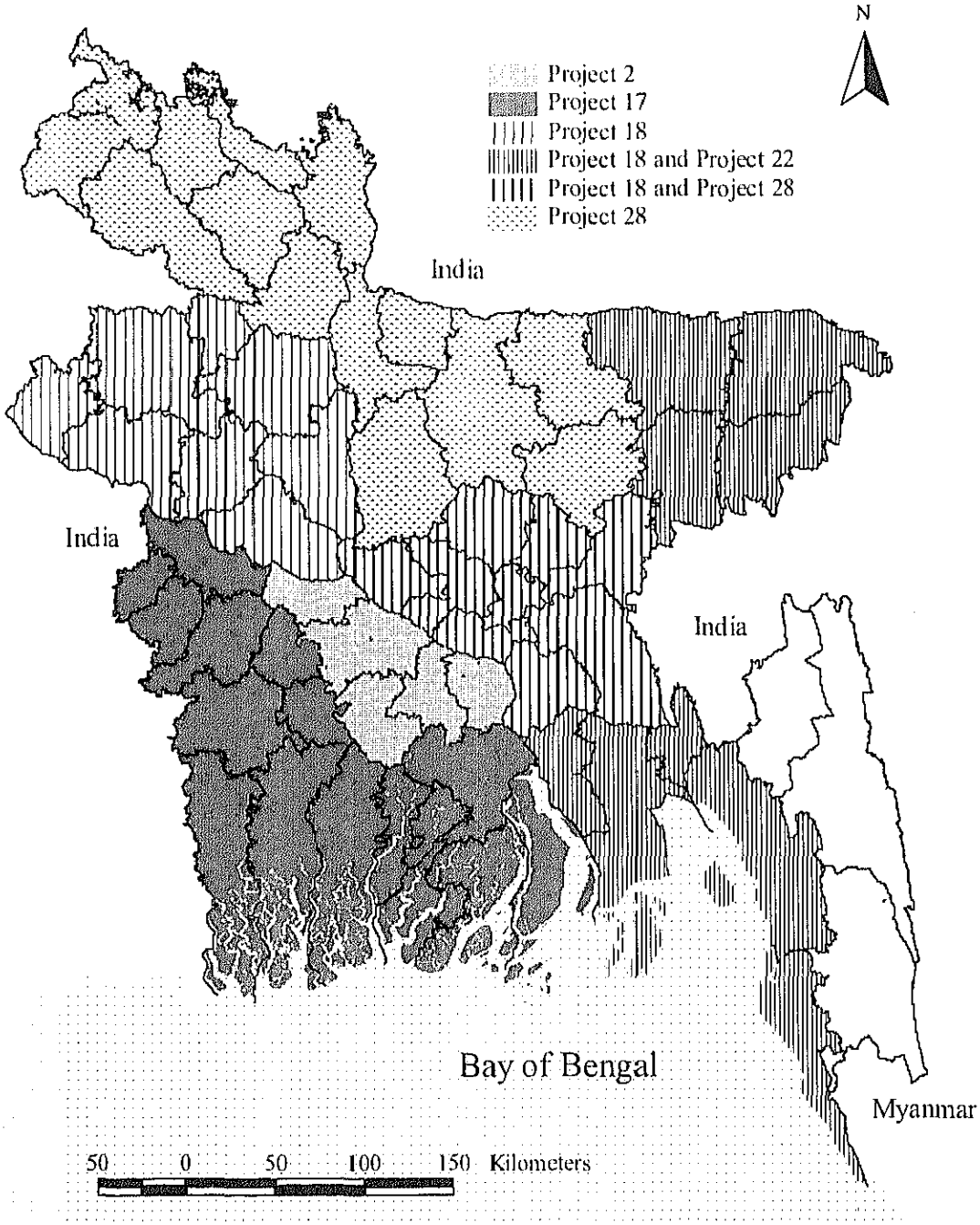
No	Project Title	Duration	Project Cost tk. thousand	ADP Allocation tk. thousand	Source of Aid	Project area
						Thakurgaon &Panchagarh Districts.
16	Community Based Resource Management Project.	2002/03 to 2013/14	2,004,663	351,700	IFAD	Sunamgonj District.
17	Rural Infrastructure Improvement Project: 25 Greater Kushtia, Jessore, Khulna, Barisal & Patuakhali Districts.	2003/04 to 2008/09	8,481,700	415,700	ADB, KfW, GTZ	16 Districts: Kushtia. Chuadanga, Meherpur, Jessore, Jhinaidah, Narail, Magura, Khulna, Bagerhat, Satkhira, Barisal, Jhalakati, Bhola, Pirojpur, Patuakhali & Barguna Districts.
18	Rural Development Project, Infrastructure Development : 26	2003/04 to 2009/10	24,462,458	3,505,400	IDA	26 Districts: Dhaka, Gazipur, Munshigonj, Narayangonj, Narsingdi, Manikgonj, Rajshahi, Pabna, Bogra, Naogaon, Sirajganj, Natore, Nawabgonj, Joypurhat, Comilla, B-Baria, Chandpur, Sylhet, Hobigonj, Sunamgonj, Moulvibazar, Noakhali, Laxmipur, Feni, Chittagong and Cox's Bazaar Districts.
19	Rural Infrastructure Development Project: Greater Comilla District.	2003/04 to 2008/09	1,200,000	203,300	GOB	Greater Comilla District.
20	Sylhet Division Rural Infrastructure Development Project: Phase-II	2004/05 to 2008/09	1,650,000	538,200	IDB	Sylhet, Sunamgonj, Hobigonj & Moulvibazar Districts.
21	Construction of Light Traffic Bridge on Rural Roads Project.	2004/05 to 2007/08	3,000,000	500,000	GOB	All over Bangladesh.
22	Eastern Bangladesh Rural Infrastructure Development Project (EBRIDP): Greater Chittagong, Noakhali & Sylhet Districts.	2004/05 to 2008/09	8,271,200	3,288,800	JBIC[1] & GOB	Chittagong, Cox's bazar, Noakhali, Feni, Laxmipur, Sylhet, Sunamgonj, Hobigonj & Moulvibazar Districts.
23	Project for the Provision of Portable Steel Bridges on Upazila & Union Roads.	2005/06 to 2008/09	3,700,000	711,000	Japan	All over Bangladesh.
24	Rural Infrastructure Development (Public Priority Rural Communication & Rural Market Development & Rehabilitation) Project: Part-II.	2005/06 to 2010/11	9,950,000	757,800	GOB	All over Bangladesh.
25	Construction of Newly Created & River Eroded Upazila Bhaban Project.	2005/06 to 2008/09	731,100	281,100	GOB	Lahajang of Munshogonj, Haimchar of Chandpur, Sondip of Chittagong, Titas, Monohargonj & Sadar dakkhin of Comilla, Juri of Moulvibazar, Dkkhin Surma of Sylhet and Sonaimuri & Subarnachar Upazila of Noakhali District.
26	Market Infrastructure Development Project in Charland Regions.	2005/06 to	2,943,700	400,000	IFAD &	Noakhali, Laxmipur, Bhola, Barisal &

No	Project Title	Duration	Project Cost tk. thousand	ADP Allocation tk. thousand	Source of Aid	Project area
		2012/13			Nether-lands	Patuakhali Districts.
27	Construction of Steel Baily Bridge Project (3rd Phase).	2005/06 to 2009/10	1,981,375	105,200	DFID	All over Bangladesh.
28	Second Rural Infrastructure Improvement Project (RIIP-2).	2006/07 to 2010/11	17,375,000	2,961,400	ADB, DFID	23 Districts: Jamalpur, Sherpur, Mymensingh, Netrokona, Kishoreganj, Tangail, Manikganj, Gazipur, Dhaka, Narsingdi, Narayanganj, Munshiganj, Panchagarh, Thakurgaon, Dinajpur, Nilphamari, Rangpur, Lalmonirhat, Kurigram, Gaibandha, B-Baria, Comilla & Chandpur.
29	Integrated Village Infrastructure Development Project.	2006/07 to 2010/11	959,200	400,000	IDB	20Districts: Bogra, Sirajganj, Nilphamari, Gaibandha, Lalmonirhat, Kurigram, Jamalpur, Mymensingh, Kishoreganj, Netrokona, Narail, Kushtia, Narsingdi, Faridpur, Moulvibazar, Sylhet, Comilla, Laxmipur, Barguna, Barisal & Khulna Districts.
30	Agriculture Sector Programme Support-II (ASPS-II): Rural Road & Market Access Component-3 (RRMA-3).	2006/07 to 2010/11	3,000,000	600,000	DANI-DA	Patuakhali, Barguna Noakhali & Laxmipur Districts.
31	Greater Rajshahi District Infrastructure Development Project.	2006/07 to 2008/09	1,162,400	300,000	IDB	Rajshahi, Nawabganj, Notre & Naogaon Districts.
32	Emergency Disaster Damage Rehabilitation (Sector) Project-2007. (Part-B, Rural Infrastructure)	2007/08 to 2009/10	3,084,479	1,179,200	ADB, JBIC*1 & CIDA	23 Districts: Barisal, Chuadanga, Faridpur, Feni, Gaibandha, Gopalganj, Jamalpur, Jhenaidah, Khulna, Kishoregonj, Kurigram, Lalmonirhat, Madaripur, Magura, Mymensingh, Netrokona, Noakhali, Nilphamari, Rajbari, Rangpur, Satkhira, Shariatpur & Sherpur.
33	Union Infrastructure Development Project (Dinajpur, Panchagarh, Thakurgaon, Rangpur, Lalmonirhat, Kurigram, Gaibandha & Nilphamari Districts).	2007/08 to 2012/13	1,398,500	109,200	GOB	Dinajpur, Panchagarh, Thakurgaon, Rangpur, Lalmonirhat, Kurigram, Gaibandha & Nilphamari Districts.
	New Projects :					
34	Village Roads & Hat/Bazar Infrastructure Development Project in Priority Basis.	2007/08 to 2011/12	5,000,000	332,300	GOB	All over Bangladesh.
35	Rural Employment and Road Maintenance Programme (RERMP).	2008/09 to 2012/13	9,430,000	1,820,000	GOB	All over Bangladesh.

No	Project Title	Duration	Project Cost tk. thousand	ADP Allocation tk. thousand	Source of Aid	Project area
36	Union Road & Other Infrastructure Development Project: Dhaka, Narayangonj, Munshigonj, Gazipur, Narshingdi & Manikgonj Districts.	2008/09 to 2012/13	2,494,500	170,000	GOB	Dhaka, Narayanganj, Munshiganj, Gazipur, Natsingdi & Manikganj District.
37	Rural Infrastructure Development Project (Khulna, Bagerhat & Satkhira District).	2008/09 to 2012/13	1,498,800	50,000	GOB	Khulna, Bagerhat & Satkhira Districts.
38	Construction of Union Road & Other Infrastructure Development Project (Greater Bogra, Rajshahi & Pbana District.	2008/09 to 2012/13	1,645,000	50,000	GOB	Bogra, Joypurhat, Rajshahi, Naogaon, Natore, Nawabgonj, Pabna & Sirajganj Districts.
39	Rural Roads & Market Infrastructure Development Project: Greater Sylhet District.	2008/09 to 2012/13	1,963,500	50,000	GOB	Sylhet, Sunamgonj, Hobigonj & Moulvibazar Districts.
40	UP Connecting Road Improvement Project (2nd Phase).	2008/09 to 2012/13	1,449,000	50,000	GOB	Patuakhali & Barguna Districts.
41	Union Road & Other Infrastructure Development Project: Rajbari, Faridpur, Gopalganj, Shariatpur & Madaripur District.	2008/09 to 2012/13	1,497,500	200,000	GOB	Rajbari, Faridpur, Gopalganj, Shariatpur & Madaripur Districts.
42	Greater Noakhali Rural Infrastructure Development Project.	2008/09 to 2012/13	1,497,500	200,000	GOB	Noakhali, Laxmipur & Feni Districts.
43	Union Connecting Road & Other Infrastructure Development Project: Greater Comilla (Comilla, Chandpur & B-Baria) District.	2008/09 to 2011/12	1,499,700	110,000	GOB	Comilla, Chandpur & B-Baria Districts.
44	Enhancing Resilience under Bangladesh Country Program 2007/2010.	2008/09 to 2010/11	1,988,500	50,000	WFP	All over Bangladesh.
	Japan Debt Cancellation Fund :					
45	Construction of Road & Bridge in Laxmipur District.	2006/07 to 2008/09	130,000	96,000	JDCF	Laxmipur District.
46	5 Nos. Upazila Road Development Project: a) Narsingdi-Karimpur UP Office via Karimpur Growth Center Bazar Road Development. b) Nandina Growth Center-Banarpar Madrasa-Dhanbari Growth Center Road Development Project. c) Improvement of (i) Boalmari-Shirgram-Alphadanga-Gopalpurhat-Bakjuri Keaghat Road Project & (ii) Sahasrail-Rupaghat-Kalinagar-Salta-Nagarkanda Road Development Project d) Goeshpur-Baaihati Road Development Project. e) Raipur Growth Center -Siamgonj Growth Center via Bonkala Boruria Road Development Project	2008/09 to 2009/10	451,400	451,400	JDCF	
	Technical Assistance Project :					
47	Strengthening of Activities in Rural Development Engineering Centre (RDEC) Project.	2007/08 to 2010/11	183,748	46,700	JICA	LGED headquarters
		Total	**193,096,427**	**25,614,000**		

Note: 1) JBIC and JICA merged to become new JICA on October 1, 2008.

Source: Monitoring and Evaluation Unit, LGED, August 2008



Project 2: Rural Development Project-24 (JBIC[*1])
Project 17: Rural Infrastructure Improvement Project: 25 (ADB, KfW and GTZ)
Project 18: Rural Development Project, Infrastructure Development: 26 (IDA)
Project 22: *Eastern Bangladesh Rural Infrastructure Development Project* (JBIC)
Project 28: Second Rural Infrastructure Improvement Project (ADB and DFID)
Note: 1) JBIC and JICA merged to become new JICA on October 1, 2008.

Figure 2-3 Project Districts of the five major donor supported projects included in ADP 2008/09: Rural Development and Institution Sector

CHAPTER 3 Project area

3.1 Reselection of Project Districts[1]

Fourteen Districts have been selected for SWBRDP implementation by LGED. Initially, LGED prepared an F/S for a project covering 21 Districts in the southwestern part of Bangladesh with an estimated cost of US$ 300 million. However, JICA is expected to finance a maximum of US$ 100 million. In response to this position, during the Kick-off Meeting of SAPROF held in Dhaka on July 3, 2008 the Chief Engineer of LGED suggested that the project size would amount to approximately US$ 130 million with a GOB contribution of about US$ 30 million(Annex 2). The Chief Engineer added that the project area must be narrowed down and declared that the 14 Districts of Barisal Division, Greater Faridpur of Dhaka Division, and Greater Khulna of Khulna Division will be selected for SWBRDP (Table 3-1).

Table 3-1 Districts selected for SWBRDP

Division / Greater District	District	Number
Barisal	Barisal, Bhola, Jhalakati, Pirojpur, Barguna, Patuakhali	6
Dhaka / Greater Faridpur	Faridpur, Gopalganj Madaripur, Rajbari, Shariatpur	5
Khulna / Greater Khulna	Bagerhat, Khulna, Satkhira	3
Total		14

LGED's initial intention was to develop a new project which will cover the entire southwestern part of the country, as the two ongoing projects in that area, RDP-24[2] and RDP-25[3], were expected to terminate within one to two years. Moreover, the southwest was still lagging behind the rest of the country in terms of development, and a large-scale intervention was still required. However, when it became apparent that the budget available for the project proposed by the F/S would be around US$130 million, which accounted for only 43% of the estimated project cost, it was no longer feasible to cover the 21 Districts. This convinced LGED that the project area should be reduced.

The following principles were followed in reselecting the Districts to be included in SWBRDP.

1) Barisal Division should be included, as it is the poorest part of the country.
2) Priority should be given to coastal Districts, as the coastal area is prone to natural calamities and requires infrastructure development to reinforce their resilience.
3) Priority should be given to Districts with greater challenges, i.e., Districts with a large area where access is difficult should be addressed first.
4) Select adjacent Districts and avoid selecting Districts that are scattered across the region as this would complicate project administration.
5) Lower priority should be given to Districts that are expected to receive future assistance from ADB. Districts under RDP-24 (JBIC-assisted) should be given priority over Districts under RDP-25 (ADB and KfW-assisted).

[1] See Annex 1 and Annex 2 for more information.
[2] A project assisted by JBIC covering the five Districts of Greater Faridpur terminating in 2008.
[3] A project assisted by ADB, KfW, and GTZ covering the six Districts of Barisal Division and the 10 Districts of Khulna Division terminating in 2009.

The SAPROF team believes that the decision made by LGED is rational on the following grounds.

1) The reduction in the number of Districts to be covered is rational, as the expected budget allocation would be insufficient to cover the 21 Districts proposed in the F/S. With a budget size of US$ 130 million, even the development of one road per Upazila would not be possible.
2) The decision to prioritize and include Barisal Division is justified, as it is the poorest of the six divisions in the country. The population living below the poverty line in rural areas of Barisal Division is as high as 37%, even when the lower poverty line is applied[4]. In addition, this division lags far behind Greater Faridpur and Khulna Division in terms of progress in rural road development[5].
3) The decision to include Greater Faridpur is justified, as the District-wise Gross Domestic Product (GDP) per capita data suggest that the five Districts contained are among the poorest of the 21 Districts proposed in the F/S[6]. In Greater Faridpur no major rural infrastructure development project is planned after the closure of RDP-24. Despite the abundance of unmet needs for development, no major investments are ongoing or planned, unlike the other Districts of Bangladesh[7].
4) The decision to include the three Districts of Greater Khulna is rational, as progress of rural road development has been very slow in the Khulna and Bagerhat Districts[8].
5) The reselected Districts are prone to natural calamities and the effects of climate change[9]. Barisal Division and Greater Khulna are particularly prone to cyclones due to their coastal location, while Greater Faridpur is particularly prone to river flooding due to its low-lying location[10].
6) Making the poorest and the neediest Barisal Division the focus and selecting the adjacent areas is rational from the viewpoints of enhancing the efficiency of project management and multiplying the effects of investment.
7) The seven Districts of Khulna Division that were not reselected are relatively wealthy in terms of GDP per capita[11]. They are relatively advanced in terms of rural road improvement[12]. The natural characteristics of the seven Districts are different from the 14 reselected Districts. Their location makes them less prone to natural calamities. Such facts justify excluding them from SWBRDP.

LGED's position regarding the reselection of the Project Districts for SWBRDP was reconfirmed during the Second Stakeholder Meeting held in Dhaka on September 18, 2008[13]. In addition, LGED officials mentioned that the seven Districts not reselected for SWBRDP are likely to be taken up by

[4] More information is provided in Subsection 3.4.4.
[5] Only 39% of Upazila roads have been improved in Barisal Division, whereas the corresponding figures are 63% and 62% for Greater Faridpur and Khulna Division, respectively. See Annex 1 for more information.
[6] Average per capita GDP in the five Districts is US$ 267, whereas the corresponding figures are US$ 307 and US$ 355 for Barisal and Khulna Division, respectively. See Annex 1 for more information.
[7] Coverage areas of the five major donor-assisted projects are illustrated in Figure 2-4.
[8] Only 37% and 45% of Upazila roads have been improved in Khulna and Bagerhat Districts, respectively.
[9] See section 3.3.
[10] As illustrated in Figure 3-2, Greater Faridpur was one of the most heavily affected areas in the 2007 floods.
[11] All seven Districts fall into the wealthier half in the league of the 21 Districts. See Annex 1 for more information.
[12] Around 70% of Upazila roads have been improved. See Annex 1 for more information.
[13] See Annex 14.

the new ADB-assisted project currently under consideration.

3.2 Administration

Administratively, Bangladesh is divided into six divisions, 64 districts, 481 upazilas and 4,498 unions (BBS, 2008). There are two types of local government: urban and rural. Urban local governments are composed of six city corporations and 308 municipalities (*Pourashava*). Rural local governments have the following three tiers which were introduced by the Local Government Ordinance of 1976: 1) Zila Parishad at the District level; 2) Upazila Parishad (formerly named Thana Parishad until 1982) at the sub-District level; and 3) Union Parishad at the Union level. However, at present, only the union level possesses an elected representative local body[13]. An overview of the structure and functions of rural local government institutions (LGIs) is given in Table 3-2.

Table 3-2 Structure of rural local governance

Level	Defined functions	Political and executive structure
District (64) Average population: 2 million	Implementation of government development plan. Review and support of Upazila activities. Implementation and financing of road construction, repair of Union Parishad (UP) and school buildings, maintenance of gardens, planting of trees, provision of grants and scholarships.	No direct political representation. Deputy Commissioner (DC) holds overall coordination role. Zila Parishad consists of a secretary, accountant and, in some Districts, an LGED engineer. District Development Coordination Committee consists of DC and line department heads. Each senior line department officer is responsible for the provision of a wide range of services.
Upazila (481) Average population: 0.3 million	Coordination, monitoring, and contribution to the planning of development activities of the Upazila. Advice to UPs on scheme preparation. Coordination of schemes.	No direct political representation. Upazila Nirbahi Officer (UNO) is responsible for planning, implementation and coordination of development activities. Upazila Development Coordination Committee consists of all UP Chairpersons, UNO (as secretary), Member of Parliament (as special adviser), and line department officers (non-voting). Each line department is responsible for the provision of a range of services.
Union (4,498) Average population: 0.03 million	38 functions including planning, coordination and monitoring of Annual Development Program (ADP), construction and maintenance of small scale infrastructure, maintaining law and order, settlement of disputes, registration of births and deaths.	UP consists of a Chairperson, 12 elected members (one from each of the nine wards[1] and one woman each from three wards) and one secretary. Each line department is responsible for the provision of a range of services.

Note: 1) Each union consists of nine wards, which function as electoral units for UP.
Source: Adopted and modified from GHK (2003)

SWBRDP will cover 14 administrative Districts in the south-western part of Bangladesh: six Districts of Barisal Division, the three Districts of Greater Khulna under Khulna Division and five Districts of Greater Faridpur under Dhaka Division, as indicated in Table 3-3. The 14 Districts include 92 Upazilas and 869 unions.

[14] GOB announced in September 20, 2008 that an election will be held in December 2008 to select an Upazila Chairperson.

Table 3-3 Administrative units in the Project area

Division / District	Upazilas	Unions	Municipalities
Barisal Division			
Barisal	10	86	5
Bhola	7	62	5
Jhalakati	4	32	2
Pirojpur	7	51	3
Barguna	5	38	4
Patuakhali	7	67	3
Greater Faridpur of Dhaka Division			
Faridpur	8	79	4
Gopalganj	5	69	4
Madaripur	4	57	3
Rajbari	4	42	3
Shariatpur	6	65	5
Greater Khulna of Khulna Division			
Bagerhat	9	75	3
Khulna	9	68	2
Satkhira	7	78	2
Project area Total	**92**	**869**	**48**
Bangladesh Total	**481**	**4498**	**308**

Source: BBS (2008) and LGED (2007a)

3.3 Natural characteristics[15]

(1) Terrain and land use

The Project area covers about three-fourths of the southwest region and more than one-fifth of the country. It is bounded by India on the southwest, Garai River and Madhumati River on the northwest, the Ganges-Padma River on the northeast, Lower Meghna River on the southeast, and the Bay of Bengal on the south. The northern part of the Project area is relatively high in altitude and has a rolling topography. The coastal area on the south is characterized by networks of interconnected tidal rivers and creeks. Homesteads, roads, market places, rivers, creeks or channels (*khal*), and water bodies cover 19% of the Project area. Cultivated land make up 55%, and forests account for about 26%.

(2) Climate

The Project area has a tropical monsoon climate with hot, wet summers and cool, dry winters. For example, in Khulna, the highest and the lowest temperatures of the year are around 36°C and 12°C, respectively. In the Project area, the mean date on which the minimum temperatures start to fall below 20°C is in early November. The temperatures remain below 15°C for 50 to 70 days.

Rainfall increases southward across the Project area. The mean annual rainfall ranges from about 1,900 mm in the northeast to 2,500 mm in the extreme southeast. The rainfall is concentrated during the monsoon period. More than 60% of the annual precipitation is recorded during the four months from June to September.

[15] An extended version of "Natural characteristics" is given in Annex 7.

The coastal area is heavily affected by cyclones. Occasionally, cyclones extend into the Meghna estuary, move inland, and cause damage to the interior Districts, which include Faridpur, Jessore, Dhaka, Comilla, Sylhet, Chittagong, and Chittagong Hill Tracts. Ten cyclonic storms and cyclones occurred between 1988 and 2007, four of which moved into Faridpur.

The highest casualties occur when a cyclonic storm or cyclone is accompanied by a storm surge. Storm surges wash out embankments, roads, and other infrastructure. The highest storm surge recorded was about 45 feet (13.7 m) high, which occurred when the great Bakerganj (Barisal) Cyclone hit in 1876.

(3) Hydrology

The Project area can be broadly classified into the following four zones.

Seasonally Flooded Land: This area covers about 0.8 million ha in the northern part of the Project area. It is comprised of higher zones with river banks and ridges, and lower zones with old-river channels and basins. Most of the land is seasonally flooded by accumulated rainwater. Flooding with silty river water occurs mainly within a narrow belt close to rivers. Extensive flooding with silty river water can occur during years with high river floods. The high ridges, which stand above the normal flood levels, are submerged during extensive flooding.

Deeply Flooded Land: This low-lying land covers more than 0.2 million ha in the strip between the Ganges River and the Ganges Tidal Floodplain. The basins are bounded by riverbanks, which stand 0.5 to 2 m higher than the basins. Basin centers lie close to sea levels. The basins are deeply flooded by clear water during the rainy season, which then drain slowly during the dry season. Basin centers stay wet throughout the year. The rivers are tidal in the dry season but carry freshwater throughout the year except in one part of Khulna District. People travel mainly by boat. Travel on foot is possible on highly-elevated paths using single logs or flimsy bamboo bridges to cross the numerous small rivers and khals.

Coastal Land: The Project area encompasses an area of about 1.8 million ha of coastal land subject to tidal flooding, extending over Khulna, Barisal, and Patuakhali Districts. The tidal land extends up to 150 km from the coast. The coastal area is characterized by heavy tidal clays occupying a low-lying landscape traversed by innumerable tidal rivers and creeks. Daily water level fluctuations and the corresponding in- and out-going water flows are the driving forces behind several physical processes, such as erosion and accretion, salinity intrusion, and drainage congestion or inundations. The coastal area is periodically affected by severe cyclones. Seasonal flooding is mainly shallow. Tidal water in the rivers is saline throughout the year in the southwest (northeast of Barisal District) but is saline only during the dry season north of Khulna and south of Patuakhali Districts. River water found further inland is non-saline throughout the year. Bangladesh Water Development Board (BWDB) has constructed a series of embankments and polders to provide tidal flood protection. Roads are difficult and costly to build and maintain because there are numerous tidal rivers and creeks that need to be crossed. Boats are the main means of transportation within the zone.

Char **Land:** This land consists predominately of silty soil on an almost level landscape and covers about 0.5 million ha in the southeastern part of the Project area. The outer margins of the land areas are subject to erosion and new accretion by shifting estuarine channels. Flooding in the monsoon season is mainly by rainwater or freshwater from rivers, except on un-banked rivers in the south. This area is extremely exposed to the risk of cyclones and storm surges. The estuarine silts are not suited for road or embankment construction.

(4) Flooding

During the last 50 years, at least six serious floods occurred in the country and caused major economic losses. For example, flood damage was estimated to be US$ 6.6 billion in the recent severe flood of 2004. People living in the Project area generally experience the three following types of floods described below.

Rain-fed flood: This type of flood occurs in the moribund Gangetic deltas in the Project area, where most of the natural drainage systems have deteriorated due to a decrease in the upland inflow into the Ganges River. When intense rainfall occurs in this area, the natural drainage system cannot carry the runoff generated by the storm and causes temporary inundation in many localities.

River flood: This type of flood is common in the Project area. Normally, 20-25% of the area along the rivers is inundated during the monsoon season. In the case of severe floods, one- to two-thirds of the Project area becomes inundated, extending to areas far beyond the riverbanks. Severe floods occur due to excessive rainfall in the catchments of the Ganges. When water levels in the Ganges, the Brahmaputra and the Meghna rise simultaneously, severe floods usually occur all over the northern part of the Project area. They are most severe in late August or early September. Occasionally there are late-season floods in late September and in October.

Flood due to cyclonic storm surges: This type of flood occurs in the coastal area. The continental shelves in this part of Bay of Bengal are shallow and extend to about 20 to 25 km. For this reason, storm surges generated by any cyclonic storm are high. When a super cyclone hit the Bangladesh coast, the maximum height of a surge was more than 10 m and caused flooding in the entire coastal belt of the Project area. Apart from the effect of cyclones, coastal areas are also subject to tidal flooding from June to September when the sea is in spate due to the south-westerly monsoon. Such floods are becoming increasingly frequent. The depth of flooding is generally shallow but moderately deep in low-lying basin centers, particularly in Barisal and Bagerhat. When high floods occur in the Ganges River, the low-lying areas of Barisal, Madaripur, and Gopalganj remain flooded for a few weeks.

(5) Fauna and flora

The terrestrial ecosystems include evergreen and semi-evergreen forests in hilly areas, tidal or mangrove forests in the deltaic zone and coastal belt, deciduous forests in the level uplands, estuarine, recently accreted land in polders in the south, and small islands (*char*) in the major river beds. The aquatic ecosystems include the coastline of the Bay of Bengal, the Ganges River and their tributaries, other freshwater rivers, khals, wetlands (*beel*), oxbow lakes (*baor*), ponds, borrow-pits along roads and railways, and lakes.

The Sundarban mangrove in the southwest covers 0.4 million ha. It serves as an important means of biodiversity conservation with wildlife sanctuaries. The mangrove environment is a favorable habitat for the Bengal tiger, deer, dolphins, otters, primates, 34 species of reptiles, eight species of amphibians, and 186 species of birds. Moreover, 475 species of aquatic fauna and a wide range of living corals have been reported to be living in the mangrove.

(6) Groundwater arsenic contamination

In the Project area, surface water supplies are limited during the dry season. The shallow aquifer of the coastal region is saline. In addition to these problems, arsenic contamination of groundwater is prevalent in the Project area. The most badly affected Districts in the Project area are Satkhira, Khulna, Gopalganj, Faridpur, Bagerhat, Madaripur, and Pirojpur.

3.4 Socioeconomic characteristics

3.4.1 Demography

(1) Population

The demographic characteristics of the Project area, based on the 2001 population census, are presented in Table 3-4.

Table 3-4 Demographic characteristics of the Project area (2001)

District	Area	Population (thousand)			Household	Household	Population
	(sq. km)	Total	Male	Female		size	density
Barisal	2,775	2,348	1,196	1,152	475,680	4.94	846
Bhola	3,403	1,703	885	818	328,540	5.18	500
Jhalakati	758	693	344	349	145,700	4.75	914
Pirojpur	1,308	1,100	554	546	233,160	4.72	841
Barguna	1,831	845	435	410	180,060	4.69	462
Patuakhali	3,220	1,465	742	723	280,980	5.21	455
Barisal Division	**13,295**	**8,154**	**4,156**	**3,998**	**1,644,120**	**4.96**	**613**
Faridpur	2,073	1,743	893	850	345,340	5.05	841
Gopalganj	1,490	1,152	580	572	217,440	5.3	773
Madaripur	1,145	1,130	574	556	231,920	4.89	987
Rajbari	1,119	952	489	463	189,440	5.03	851
Shariatpur	1,182	1,081	544	537	213,240	5.07	914
Greater Faridpur	**7,009**	**6,058**	**3,080**	**2,978**	**1,197,380**	**5.06**	**864**
Bagerhat	3,959	1,517	786	731	321,640	4.72	383
Khulna	4,394	2,358	1,234	1,124	494,800	4.77	537
Satkhira	3,858	1,845	936	909	390,080	4.73	478
Greater Khulna	**12,211**	**5,720**	**2,956**	**2,764**	**1,206,520**	**4.74**	**466**
Project Districts	**32,515**	**19,932**	**10,192**	**9,740**	**4,048,020**	**4.92**	**648**
Bangladesh	**147,570**	**130,030**	-	-	**25,307,600**	**4.89**	**839**
% of Bangladesh	22.03	15.33	-	-	15.99	-	-

Source: BBS (2003a)

Roughly 20 million people live in the Project area. This represents 15% of the total population of

Bangladesh. The average household size in the Project area is 4.92, which is similar to the national average. The population grew by 1.13% per annum between 1991 and 2001 in the Project area, whereas the national growth rate for the same period was 1.54% per annum (BBS, 2003c).

The Project area is relatively sparsely populated with a lower population growth rate than the national average. It is particularly low in the three Districts of Greater Khulna, where the population density is almost half of the national average due to the existence of large inhabitable swamplands and mangrove forests. However, Greater Faridpur is relatively heavily populated, with figures similar to that of the national average.

(2) Ethnic minorities

There are about 45 ethnic minority groups in Bangladesh. According to the 2001 population census, there were 289,928 ethnic minority households, accounting for 1.15% of the total households in the country. The largest ethnic minority group in Bangladesh, collectively known as Jumma, are concentrated in the three hill Districts in the Chittagong Hill Tracts, which are outside the Project area.

Table 3-5 Ethnic minority households, population, and sex ratio by District (2001)

District	Households	Population			
		Total	%	Male	Female
Barisal	1,178	5,321	0.38	2,667	2,654
Bhola	2,073	12,949	0.92	6,721	6,228
Jhalakati	144	877	0.06	461	416
Pirojpur	594	2,354	0.16	1,284	1,070
Barguna	2,257	9,728	0.69	4,638	5,090
Patuakhali	3,355	15,203	1.08	7,804	7,399
Barisal Division	**9,601**	**46,432**	**3.29**	**23,575**	**22,857**
Faridpur	360	2,224	0.16	1,475	749
Gopalganj	283	1,804	0.13	918	886
Madaripur	481	2,243	0.16	1,098	1,145
Rajbari	295	1,352	0.09	692	660
Shariatpur	178	598	0.04	299	299
Greater Faridpur	**1,597**	**8,221**	**0.58**	**4,482**	**3,739**
Bagerhat	2,062	11,297	0.80	5,614	5,683
Khulna	3,295	16,111	1.14	8,213	7,898
Satkhira	882	4,863	0.34	2,194	2,669
Greater Khulna	**6,239**	**32,271**	**2.28**	**16,021**	**16,250**
Project Districts	**17,437**	**86,924**	**6.15**	**44,078**	**42,846**
Bangladesh	**289,928**	**1,410,169**	**100.00**	**724,398**	**685,771**
% of Bangladesh	6.01	6.16		6.08	6.25

Source: BSS (2003b)

The proportion of ethnic minority households is much lower in the Project area. As indicated in Table 3-5, a total of 17,437 ethnic minority households live in the Project area, which accounts for only 0.43% of the total households in the Project area and about 6% of the total ethnic minority households

in the country. Although there is a common perception in Bangladesh' that ethnic minorities are a deprived group, there is no clear indication regarding the status of ethnic minorities in the Project area.

In the Project area, most of the ethnic minorities are concentrated in the Patuakhali and Khulna Districts. In Patuakhali District, the majority of the minority people are Rakhains, who are of Burmese origin and mainly live on agriculture. In some places, the Rakhain women are involved in small businesses such as weaving fabrics, making salt and molasses, and producing handicrafts. The literacy rate in the Rakhain community is very high, and some of its members are highly educated (MOHFW, 2004).

In the case of Khulna District, most of the ethnic minorities are Bagdi and Rajbongshi. Traditionally, many Bagdis make a living from fishing or working as wage laborers but are presently engaged in various occupations. Rajbongshi have become integrated with the mainstream population and are hard to identify (ibid.).

3.4.2 Economic characteristics

(1) GDP

The GDP per capita for 1999/2000, the share of industry and agriculture in GDP for 1999/2000, and the annual GDP growth rate during the period of 1996 to 2000 are shown for each Project District in Table 3-6. The 1999/2000 GDP per capita ranking among all 64 Districts in the county is also given for each District.

In the Project area, the GDP per capita is lower than the national average in all the Districts except for Khulna District, which is home to the third largest city in the country. The weighted average GDP per capita in the Project Districts is US$ 313[16], whereas the national average is US$ 363. The Districts of Greater Faridpur are particularly poor in terms of GDP per capita. Madaripur District is the poorest in the country, with a GDP per capita of US$ 249. Barisal Division is also a poor area, with three out of the six Districts recording a per capita income lower than US$ 300.

The weighted average annual GDP growth rate of the Project Districts is 5.42%. Although this is slightly above the national average, there is a regional disparity. The growth rates of the Districts in Barisal Division tend to be lower than the national average, whereas those of the Districts in Greater Khulna are higher.

The Project area is an agrarian area. The share of agriculture in GDP is higher compared to the national average in all the Districts, whereas this is the converse for the share of industry. The gap between agriculture and industry is greatest in the Districts of Barisal Division where the average shares of agriculture and industry in GDP are approximately 37% and 14%, respectively. The national average figures for the two sectors are similar, standing at around 26%.

[16] The non-weighted average for the 14 Project Districts is US$ 306.

Table 3-6 GDP per capita (1999/2000), share of industry and agriculture in GDP (1999/2000), and annual GDP growth rate (1996-2000) by district in the Project area

District	Per Capita GDP (1999/00)			Annual GDP growth rate 1996-2000 (%)	Share of industry in GDP (%)	Share of agriculture in GDP (%)
	Taka	US$	Rank among 64 Districts			
Barisal	14,377	286	41	5.40	17.61	28.36
Bhola	16,090	320	22	5.26	12.85	41.99
Jhalakati	12,883	256	52	4.17	12.50	31.22
Pirojpur	13,638	271	47	4.61	15.27	33.71
Barguna	16,901	336	13	5.64	11.95	45.55
Patuakhali	18,137	361	10	5.37	11.33	44.91
Barisal Division	**15,445**	**307**		**5.18**	**14.15**	**36.93**
Faridpur	13,933	277	48	5.11	17.38	30.64
Gopalganj	13,457	267	51	4.92	16.22	33.23
Madaripur	12,545	249	64	6.07	17.40	32.01
Rajbari	14,188	282	45	5.36	18.46	33.34
Shariatpur	12,936	257	59	5.45	17.22	35.52
Greater Faridpur	**13,446**	**267**		**5.35**	**17.30**	**32.68**
Bagerhat	16,839	335	19	6.15	13.80	39.05
Khulna	23,135	460	5	5.52	20.83	21.14
Satkhira	16,077	320	25	6.01	17.51	37.46
Greater Khulna	**19,189**	**382**		**5.85**	**17.89**	**31.15**
Project Districts	**15,912**	**313**		**5.42**	**16.18**	**33.98**
Bangladesh	**18,269**	**363**		**5.36**	**25.70**	**25.58**

Source: BBS (2006)

(2) Main economic activities

As shown in Table 3-7, in the Project area, the most significant occupation outside household work is farming. Agriculture is the main economic activity of about 20% of the population 10 years of age and above. When excluding people who do not work and those who are mainly engaged in household work, the proportion of those who are mainly engaged in farming rises to 53%. Very few people are engaged in the manufacturing or service sectors.

Table 3-7 Main economic activity of people 10 years of age and above in the Project area (2001)

Area	Do not work	Seeking job	House-hold work	Agricul-ture	Manu-factur-ing	Utility	Const-ruction	Trans-port & commu-nication	Hotel & Restau-rant	Busi-ness	Service	Others	Total
Barisal Division	29.4	1.9	33.6	19.5	0.4	0.1	0.9	1.0	0.1	5.6	0.8	6.8	100.0
Greater Faridpur	30.2	1.6	32.6	21.8	0.5	0.0	1.0	1.2	0.1	5.5	0.5	5.0	100.0
Greater Khulna	29.6	2.0	32.1	17.9	1.3	0.1	0.7	1.5	0.1	6.2	0.7	7.8	100.0
Project Districts	29.7	1.9	32.8	19.7	0.7	0.1	0.9	1.2	0.1	5.7	0.7	6.6	100.0

Source: BBS (2003c)

(3) Agriculture

In Bangladesh, households which operate cultivated areas of land totaling 0.05 acres and more are considered farm-holding households, while households operating cultivated areas up to 0.04 acres are classified as non-farm-holding households. As indicated in Table 3-8, about 54% of the total households in Bangladesh are farm-holding, while 46% households are classified as non-farm-holding.

In the Project area, farm households account for 63% of the total households, about 10 points above the national average. The majority of the farm households are, however, marginal farm households that cultivate 0.05 to 0.49 acres of land, or small farm households that cultivate 0.50 to 2.49 acres of land. Nearly 87% of the farm households within the Project area fall under these two categories. In Barisal Division and Greater Faridpur, the proportions of farm households are higher than the national average, whereas in Greater Khulna, the figure is slightly lower.

Table 3-8 Proportion of non-farm and farm households in the Project area (2005)

Area	Total (number)	Non-farm households(%)				Farm households (%)				
		Sub-total	No Operated Area	No Cultivated Area	0.01-0.04 acres	Sub-total	Marginal 0.05-0.49 acres	Small 0.50-2.49 acres	Medium .50-7.49 acres	Large 7.50+ acres
Barisal Division	**1,760,119**	**26.9**	0.6	14.5	11.8	**73.1**	34.5	28.8	8.7	1.2
Greater Faridpur	**1,279,354**	**37.2**	1.1	30.7	5.3	**62.8**	20.9	34.6	6.8	0.5
Greater Khulna	**1,328,415**	**48.6**	9.8	28.8	10.1	**51.4**	23.5	21.2	5.8	0.9
Project Districts	**4,367,889**	**36.5**	3.5	23.6	9.4	**63.5**	27.1	28.2	7.3	0.9
Bangladesh	**28,165,700**	**46.5**	6.5	34.7	5.3	**53.6**	20.7	26.7	5.5	0.6

Source: BBS (2007a)

The net cultivated area in the Project area is 13781 km^2, which accounts for approximately 43% of the total Project area (BBS, 2007a). This is equivalent to 19% of the total cultivated land in Bangladesh.

Table 3-9 shows a breakdown of crop production in the Project area. In the Project area, rice (*aus*, *aman*, and *boro*) dominates crop farming. Boro rice is grown completely under the irrigated ecosystem during the dry period from November to July, while aman, grown during July to December, and aus, grown during April to August, are grown under the rain fed ecosystem. Rice produced in the Project area accounts for roughly 15% of the total rice production in the country.

In addition, pulse is an important crop in the Project area, accounting for roughly 43% of the total national production. The Project area produces about 29% of the betel leaves, 52% of the betel nuts, 27% of jute, 24% of spices, and 20% of sweet potatoes produced in the country.

As of 2004/05, about 33% of the total cultivated area in the Project area is irrigated (BBS, 2007a). Irrigation is used to grow crops such as rice, wheat, vegetables, and potatoes. Boro rice, grown during the winter season, is the major crop in the irrigated areas. In Faridpur, the irrigation coverage is highest in the Project area, with 55% coverage. Conversely, in Patuakhali, irrigation coverage is 5%, and rain fed rice is mainly produced.

Table 3-9 Crop production in the Project area

Crop	Project area		Bangladesh
	Production (thousand tons)	Percent of total production in Bangladesh	Production (thousand tons)
Rice	3,652	14.5	25,156
Wheat	10	1.0	976
Maize, millet and others	3	0.8	384
Pulse	130	42.5	306
Oilseeds	46	3.7	1,217
Sugarcane	816	12.1	6,765
Jute	200	27.4	731
Betel leaf	27	29.1	94
Betel nut	29	52.4	55
Summer vegetables	54	7.5	716
Winter vegetables	188	16.2	1,164
Spices	235	23.5	1,000
Potato	135	2.8	4,855
Sweet potato	61	19.6	311
Fruits	557	11.8	4,734

Source: BBS (2005)

Table 3-10 Annual fish catch in the Project area by District (2004/05)

(Metric ton)

District	River	Sundar-ban	Beel	Flood land	Pond	Baor	Shrimp farm	Total
Barisal	25,510		9	7,778	16,923		51	50,271
Bhola	17,552		1	6,117	19,458		1,140	44,268
Jhalakati	149		3	2,904	7,654		8	10,718
Pirojpur	3,821		5	2,946	9,120		1,650	17,542
Barguna	6,558			3,534	10,042		110	20,244
Patuakhali	3,448			7,811	17,371		822	29,452
Barisal Division	**57,038**		**18**	**31,090**	**80,568**	**0**	**3,782**	**172,496**
Faridpur	2,102		318	4,479	8,231	241	0	15,371
Gopalganj	243		392	4,813	5,327	76	115	10,966
Madaripur	544		109	5,995	4,489	122	26	11,285
Rajbari	2,858		105	5,935	4,563	226	0	13,687
Shariatpur	1,238		32	5,439	5,604		0	12,313
Greater Faridpur	**6,985**		**956**	**26,661**	**28,214**	**665**	**143**	**63,624**
Bagerhat	2,687	12,925	11	8,535	9,457		36,800	70,415
Khulna	569	1,675	85	11,143	20,113	141	27,603	61,329
Satkhira	146	1,124	13	4,367	7,666	67	24,219	37,602
Greater Khulna	**3,402**	**15,724**	**109**	**24,045**	**37,236**	**208**	**88,622**	**169,346**
Project Districts	**67,425**	**15,724**	**1083**	**81,796**	**146,018**	**873**	**92,546**	**405,465**
Bangladesh	**139,798**	**15,724**	**74,925**	**621,443**	**756,993**	**4,388**	**120,710**	**1,733,981**
% of Bangladesh	48.2	100.0	1.4	13.2	19.3	19.9	76.7	23.4

Source: BBS (2007a)

(4) Fisheries

Fisheries production in the Project area comprises of 1) open water capture fisheries in rivers, estuaries, beels, khals, and floodplains; 2) freshwater culture fisheries in ponds and baors; 3) marine capture fisheries along the coast, and 4) brackish water shrimp farming. As shown in Table 3-10, the Project area produces 405,465 metric tons of fish, or more than 23% of the total inland fisheries, in the country. Shrimp cultivation is particularly prevalent. About 77% of the total shrimp produced in the country come from the Project area. There are many export-oriented large-scale shrimp farms. Shrimp farming is carried out extensively in Greater Khulna, including the Sundarban Mangrove.

(5) Livestock

The proportion of households owning livestock and poultry in the Project area is presented in Table 3-11. Apart from goats and sheep, the overall figures are similar to the national average. About 39% of households own at least one cow or buffalo, about 77% own fowls and/or ducks, and about 7% own pigeons. The proportion of households that own goats and/or sheep is roughly 22%, which is about one-third of the national average.

Table 3-11 Percentage (%) of households with livestock and poultry in the Project area (2005)

District	Cattle & Buffalos	Goats & Sheep	Fowls & Ducks	Pigeons
Barisal	38.2	13.2	78.0	8.7
Bhola	31.0	21.2	90.4	7.5
Jhalakati	38.8	14.0	82.4	9.2
Pirojpur	30.8	12.8	78.4	8.0
Barguna	46.4	18.7	85.6	15.3
Patuakhali	50.3	19.1	86.3	13.2
Barisal Division	**38.8**	**16.4**	**83.2**	**9.9**
Faridpur	47.8	37.0	76.8	4.0
Gopalganj	44.3	14.8	70.1	8.2
Madaripur	45.1	28.2	74.2	4.8
Rajbari	52.6	45.5	76.9	3.9
Shariatpur	39.5	26.5	85.1	3.6
Greater Faridpur	**45.9**	**30.7**	**76.6**	**4.9**
Bagerhat	31.1	14.8	75.9	8.2
Khulna	22.0	13.8	56.0	3.8
Satkhira	46.8	36.2	80.7	6.2
Greater Khulna	**32.4**	**21.3**	**69.3**	**5.8**
Project Districts	**39.0**	**22.1**	**77.1**	**7.2**
Bangladesh	**40.3**	**65.7**	**71.1**	**5.4**

Source: BBS (2007a)

In recent years, the private sector has taken up poultry and dairy farming on a commercial scale. A significant number of households raise cattle and buffalos, goats and sheep, fowls and ducks, and pigeons for commercial purposes in the Project area, accounting for 21%, 24%, 19%, and 29%, respectively, of the total households undertaking commercial livestock production in the country (BBS, 2007a).

3.4.3 Social characteristics

(1) Education

The school attendance and literacy rates in the Project area are slightly higher than the national average for most Districts. Table 3-12 shows the rates and ranking of school attendance and literacy rates by sex for each District in 2001. The school attendance rate in the Project area is 47%, which is four points above the national average. There is a four percent disparity between males and females, which is consistent with the national trend, with 49% for males and 45% for females. Of the 14 Project Districts, only Bhola has a lower-than-average school attendance rate.

Table 3-12 Rates (%) and ranking of school attendance and literacy in the Project area by division and district (2001)

District	Total				Male				Female			
	Attendance		Literacy		Attendance		Literacy		Attendance		Literacy	
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank
Barisal	52	2	57	6	54	2	59	8	50	2	55	5
Bhola	39	53	37	55	41	51	40	56	37	54	34	52
Jhalakati	55	1	65	1	58	1	67	2	52	1	63	1
Pirojpur	51	3	64	3	53	3	66	3	48	3	63	2
Barguna	46	20	55	9	49	17	58	9	43	23	53	6
Patuakhali	45	28	52	13	48	20	56	13	42	32	48	14
Barisal Division	**48**		**53**		**50**		**56**		**45**		**51**	
Faridpur	44	32	41	43	45	36	45	44	43	22	37	38
Gopalganj	50	6	51	15	52	6	55	14	47	7	47	15
Madaripur	48	12	42	35	50	12	47	34	46	11	37	35
Rajbari	46	22	40	47	46	28	44	46	45	16	36	45
Shariatpur	43	36	39	50	45	40	42	50	42	30	36	44
Greater Faridpur	**46**		**43**		**47**		**47**		**44**		**39**	
Bagerhat	45	23	59	4	48	21	61	5	43	22	56	4
Khulna	48	10	58	5	52	7	63	4	45	13	52	8
Satkhira	46	19	46	24	50	16	52	21	43	28	39	29
Greater Khulna	**47**		**54**		**50**		**59**		**44**		**49**	
Project Districts	**47**		**50**		**49**		**54**		**45**		**47**	
Bangladesh	**43**		**46**		**45**		**50**		**41**		**42**	

Note: The ranks given are the national ranking out of 64 Districts.
Source: BSS (2003b)

Roughly half the adults in the Project area are literate. A trend similar to that of school attendance prevails for literacy rates. However, the disparity between males and females is greater, both in the Project area and nationally. The female literacy rate is below 40% in six Districts, whereas the male literacy rate is 40% and above in all 14 Project Districts. Disparity among Districts is also notable. Most Districts in Greater Faridpur and Bhola District are lagging behind the other Districts.

Nevertheless, recent achievements regarding school attendance and literacy deserve attention. For example, according to an analytical report on the 2001 population census, the school attendance rate increased from 40% to 47% over the 10 years from 1991 to 2000 in the Project area (BSS, 2003b). The

literacy rate increased 14 points during this period to 51%.

(2) Health

Table 3-13 shows the infant mortality rate (IMR) in 2006 by District. Although the figures differ significantly among the Districts, overall, the performance of the Project area is below the national average with 48 deaths of infants one year of age or younger per 1,000 live births. Particularly, the IMR for males is six points above the national average, standing at 53. Disparity among the Districts is significant, with 81 for Jhalakati at the worst end and 12 for Barguna at the best end of the spectrum.

Table 3-13 Infant mortality rates (deths/1000 births) in the Project area in 2006

District	Total	Male	Female
Barisal	38	27	50
Bhola	52	42	64
Jhalakati	81	93	66
Pirojpur	65	88	44
Barguna	12	13	11
Patuakhali	71	72	69
Barisal Division	**52**	**51**	**53**
Faridpur	38	48	28
Gopalganj	57	58	56
Madaripur	22	21	22
Rajbari	73	95	49
Shariatpur	57	75	35
Greater Faridpur	**48**	**57**	**37**
Bagerhat	28	36	19
Khulna	31	39	23
Satkhira	76	83	68
Greater Khulna	**45**	**53**	**37**
Project Districts	**48**	**53**	**43**
Bangladesh	**45**	**47**	**43**

Source: BBS (2007b)

(3) Water supply and sanitation

Table 3-14 shows the sources of drinking water for households in the Project area in 2001. In the Project area, the proportion of households with access to safe drinking water is lower than the national average. Many households in the Project area use deep tubewells as a source of drinking water because the shallow aquifer of the coastal region is saline. Almost 40% of the households in Barisal Division use deep tubewells. However, because deep tubewells are relatively expensive to install, many households rely on surface water in some Districts. In the Project area, 9.4% of the total households drink pond water, whereas the national average is 3.3%. The figure is particularly high in coastal Districts such as Bagerhat and Pirojpur. Very few households have access to tap water, reflecting the rural nature of the Project area.

Table 3-14 Source of drinking water of households in the Project area (2001)

(%)

District	Tap	Tubewell	Deep tubewell	Pond	Other	Total
Barisal	3.4	40.7	46.6	5.7	3.7	100
Bhola	0.7	45.1	45.8	6.0	2.5	100
Jhalakati	0.9	38.7	47.5	9.4	3.6	100
Pirojpur	3.6	46.0	23.2	24.1	3.1	100
Barguna	0.8	61.6	22.4	14.0	1.3	100
Patuakhali	0.4	51.5	39.3	6.1	2.7	100
Barisal Division	**1.9**	**46.3**	**39.3**	**9.7**	**2.9**	**100**
Faridpur	1.2	94.2	0.4	0.6	3.6	100
Gopalganj	1.8	83.0	9.0	2.7	3.5	100
Madaripur	1.7	86.7	5.9	1.9	3.8	100
Rajbari	0.5	95.5	0.3	0.3	3.4	100
Shariatpur	0.7	81.9	9.2	3.1	5.1	100
Greater Faridpur	**1.2**	**88.7**	**4.6**	**1.6**	**3.9**	**100**
Bagerhat	5.9	44.9	13.6	33.5	2.1	100
Khulna	3.3	56.8	28.4	10.3	1.3	100
Satkhira	3.7	75.8	5.7	11.0	3.8	100
Greater Khulna	**4.1**	**59.8**	**17.1**	**16.7**	**2.3**	**100**
Project Districts	**2.3**	**63.0**	**22.3**	**9.4**	**3.0**	**100**
Bangladesh	**6.2**	**79.6**	**5.0**	**3.3**	**5.9**	**100**

Source: BBS (2003b)

Table 3-15 Toilet facilities of households in the Project area (2006)

(%)

District	Sanitary	Others	None	Total
Barisal	77.4	22.3	0.3	100
Bhola	43.0	40.9	16.2	100
Jhalakati	70.5	29.1	0.4	100
Pirojpur	77.1	22.6	0.3	100
Barguna	60.5	28.7	10.8	100
Patuakhali	52.2	40.4	7.4	100
Barisal Division	**63.6**	**30.5**	**5.9**	**100**
Faridpur	67.2	31.7	1.0	100
Gopalganj	57.5	41.0	1.5	100
Madaripur	37.4	61.7	1.0	100
Rajbari	50.3	48.8	0.9	100
Shariatpur	52.7	46.3	1.1	100
Greater Faridpur	**54.5**	**44.4**	**1.1**	**100**
Bagerhat	77.9	21.3	0.7	100
Khulna	79.1	20.5	0.4	100
Satkhira	32.9	63.8	3.4	100
Greater Khulna	**63.8**	**34.8**	**1.4**	**100**
Project Districts	**60.9**	**35.9**	**3.1**	**100**
Bangladesh	**55.0**	**36.2**	**8.9**	**100**

Source: BBS (2007b)

The sanitation coverage has improved over the years in the country since the government launched the campaign of "Sanitation for all by 2010." As shown in Table 3-15, 60.9% of the households in the Project area use sanitary latrines. This is higher than the national average of 55.0%. However, the difference among Districts is significant. While 79.1% of the households in Khulna District use sanitary latrines, the corresponding figure is only 32.9% in Satkhira District.

(4) Source of light

As shown in Table 3-16, while 44.3% of the households in the country are supplied with electricity, only 35.0% of the households have access to electricity in the Project area. Although electricity coverage is limited in the Project area, disparity among Districts is large. The coastal Districts tend to be the worse off. Particularly, in Barguna and Patuakhali Districts, only 17-18% of households have electricity.

Table 3-16 Sources of light for households in the Project area (2006)

(%)

District	Electricity	Kerosene/ Others	Total
Barisal	47.3	52.8	100
Bhola	20.2	79.8	100
Jhalakati	42.4	57.6	100
Pirojpur	33.0	67.0	100
Barguna	17.2	82.9	100
Patuakhali	17.8	82.2	100
Barisal Division	**31.0**	**69.0**	**100**
Faridpur	35.4	64.6	100
Gopalganj	51.1	48.9	100
Madaripur	37.3	62.7	100
Rajbari	24.7	75.3	100
Shariatpur	33.4	66.6	100
Greater Faridpur	**36.6**	**63.4**	**100**
Bagerhat	29.5	70.5	100
Khulna	55.3	44.7	100
Satkhira	28.3	71.7	100
Greater Khulna	**39.6**	**60.4**	**100**
Project Districts	**35.0**	**65.1**	**100**
Bangladesh	**44.3**	**55.7**	**100**

Source: BBS (2007b)

3.4.4 Poverty

Poverty indicators by District are not available in the household income and expenditure survey published by the Bangladesh Bureau of Statistics (BBS, 2005). However, the poverty headcount rates[17] of six administrative divisions are provided, as presented in Table 3-17.

According to the 2005 data, Barisal Division, whose entire area is contained within the Project area,

[17] Indicates the proportion of the population with a standard of living below the poverty line

has the highest incidence of poverty in the country. Khulna Division, of which three Districts are included in the Project area, has the third highest incidence of poverty. In the rural areas of the two divisions, 37.2% of the total population in Barisal and 32.7% of the total population in Khulna live below the poverty line when applying the lower poverty line, and 54.1% and 46.5% in Barisal and Khulna, respectively, when the upper poverty line is used. These figures are high in absolute terms as well as in relative terms, as it is estimated that 28.6% and 43.8% of the total population in the rural areas of Bangladesh live below the poverty line measured against the lower and upper poverty lines, respectively.

Dhaka Division, home to the five Project Districts of Greater Faridpur, has a poverty ratio of 26.1% in the rural areas using the lower poverty line and 39.0% using the upper line. Although these figures are better than the national average, they are quite high in absolute terms.

In sum, the above suggests that, even in the relatively better-off parts of the Project area, more than one of four people live in poverty, even when the modest measure of poverty is employed. Thus the Project area can be considered a poor area that requires development interventions.

Table 3-17 Incidence of poverty by division (2000 and 2005)

(%)

Division	2000			2005		
	Total	Rural	Urban	Total	Rural	Urban
(1) Based on lower poverty line						
Barisal	**34.7**	**35.9**	**21.7**	**35.6**	**37.2**	**26.4**
Dhaka	**34.5**	**43.6**	**15.8**	**19.9**	**26.1**	**9.6**
Khulna	**32.3**	**34.0**	**23.0**	**31.6**	**32.7**	**27.8**
Chittagong	27.5	30.1	17.1	16.1	18.7	8.1
Rajshahi	42.7	43.9	34.5	34.5	35.6	28.4
Sylhet	26.7	26.1	35.2	20.8	22.3	11.0
Bangladesh	**34.3**	**37.9**	**20.0**	**25.1**	**28.6**	**14.6**
(2) Based on upper poverty line						
Barisal	**53.1**	**55.1**	**32.0**	**52.0**	**54.1**	**40.4**
Dhaka	**46.7**	**55.9**	**28.2**	**32.0**	**39.0**	**20.2**
Khulna	**45.1**	**46.4**	**38.5**	**45.7**	**46.5**	**43.2**
Chittagong	45.7	46.3	44.2	34.0	36.0	27.8
Rajshahi	56.7	58.5	44.5	51.2	52.3	45.2
Sylhet	42.4	41.9	49.6	33.8	36.1	18.6
Bangladesh	**48.9**	**52.3**	**35.2**	**40.0**	**43.8**	**28.4**

Note: Based on cost of basic needs method
Source: BBS (2005)

In Table 3-17, data for 2000 are also given. Nationally, the incidence of poverty in rural areas, measured using both the lower poverty line and the upper poverty line, decreased substantially between 2000 and 2005: from 37.9% in 2000 to 28.6% in 2005 and from 52.3% in 2000 to 43.8% in 2005, respectively. Although the indices of urban areas are much better than those of rural areas, the disparities between the two are narrowing.

However, in the rural areas of Khulna and Barisal Divisions, the poverty ratio remained almost unchanged. The reasons are not obvious from the statistical data, but it can be inferred that lack of past investment and the remote, disaster-prone location of the Districts in these divisions have slowed down the pace of development. This insight, coupled with statistical data indicating the slow progress of poverty reduction, should justify additional investment in the Project area.

Table 3-18 shows the poverty gap and the squared poverty gap for 2000 and 2005, using both the lower and the upper poverty lines. The former indicates the depth of poverty, and the latter measures the severity of poverty. The indices of depth and severity of poverty generally show the same trend as the poverty headcount indices in the divisions concerned with SWBRDP. Of the six divisions in the country, Barisal and Khulna are the worst and the third worst divisions, respectively, in the country. Moreover, despite improvements at the national aggregate level, no improvement can be observed in the indices measuring the depth and the severity of poverty in the two divisions between 2000 and 2005.

According to the above analyses of Table 3-17 and Table 3-18, in Barisal and Khulna Divisions, the proportion of people living in poverty remained unchanged, while the magnitude of poverty intensified for the poor between 2000 and 2005. This means that the two divisions require poverty reduction interventions specifically targeting the poor.

Table 3-18 Poverty gap and squared poverty gap by division (2000 and 2005)

(%)

Division	2000						2005					
	Poverty gap			Squared poverty gap			Poverty gap			Squared poverty gap		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
(1) Based on lower poverty line												
Barisal	**6.9**	**7.0**	**4.9**	**1.9**	**2.0**	**1.6**	**9.1**	**9.6**	**6.4**	**3.3**	**3.4**	**2.6**
Dhaka	**8.1**	**10.5**	**3.0**	**2.6**	**3.5**	**0.8**	**3.6**	**4.9**	**1.5**	**1.0**	**1.4**	**0.3**
Khulna	**5.6**	**5.7**	**4.5**	**1.4**	**1.4**	**1.3**	**6.2**	**6.3**	**5.5**	**1.7**	**1.7**	**1.7**
Chittagong	5.7	6.3	3.6	1.7	1.9	1.1	2.2	2.7	0.9	0.5	0.6	0.2
Rajshahi	10.2	10.5	7.8	3.5	3.6	2.7	6.4	6.5	5.5	1.8	1.8	1.6
Sylhet	4.4	4.4	4.5	1.1	1.1	1.2	3.4	3.7	1.9	0.8	0.8	0.5
Bangladesh	**7.5**	**8.3**	**4.1**	**2.4**	**2.6**	**1.2**	**4.6**	**5.3**	**2.6**	**1.3**	**1.5**	**0.7**
(2) Based on upper poverty line												
Barisal	**13.7**	**14.2**	**8.3**	**4.7**	**4.9**	**3.1**	**15.5**	**16.3**	**10.7**	**6.3**	**6.6**	**4.3**
Dhaka	**12.9**	**15.9**	**6.6**	**4.7**	**6.0**	**2.2**	**6.9**	**8.6**	**4.0**	**2.1**	**2.7**	**1.1**
Khulna	**10.0**	**10.0**	**10.3**	**3.0**	**2.9**	**3.7**	**10.8**	**10.4**	**12.3**	**3.5**	**3.2**	**4.6**
Chittagong	11.3	11.2	11.4	3.9	3.9	4.2	6.3	6.5	5.6	1.7	1.7	1.6
Rajshahi	16.2	16.5	13.6	6.2	6.3	5.4	11.9	12.0	11.4	3.8	3.8	3.9
Sylhet	9.2	9.0	12.5	2.8	2.7	4.1	7.2	7.6	4.5	2.1	2.2	1.5
Bangladesh	**12.8**	**13.7**	**9.1**	**4.6**	**4.9**	**3.3**	**9.0**	**9.8**	**6.5**	**2.9**	**3.1**	**2.1**

Note: Based on cost of basic needs method
Source: BBS (2005)

In Table 3-19, estimates of poverty headcount ratios and income equality at the District level in the Project area are presented. The estimates are based on the survey conducted by the International Rice Research Institute in 2000/01 (Kam, 2004). The poverty headcount rates suggest that the five Districts of Greater Faridpur, which belong to Dhaka Division, have a high incidence of poverty. The figures of Greater Faridpur are generally worse than those of the Districts of Barisal Division and Greater Khulna. It can be inferred that, although Dhaka Division as a whole recorded better poverty indices than Barisal and Khulna Divisions in 2005 (Table 3-17 and Table 3-18), Greater Faridpur is lagging behind other Districts within Dhaka Division, and that the poverty situation may not have improved up to the average level of Dhaka Division by 2005. Hence, in terms of poverty reduction interventions, Greater Faridpur may deserve more attention compared to other Districts in Dhaka Division. Moreover, the poverty rates of the Project Districts are high in terms of absolute terms, which justifies development interventions in the Project area.

Regarding income inequality in the Project area, the level is moderate in comparison to other developing countries and generally lower than the national average. The Gini coefficient[18] ranges from 20.8% to 42.0% among the Project Districts. The national average is 39.3%. While planning for project investment, the needs of the poor and poverty reduction measures should be considered so that the inequality level will not rise.

Table 3-19 Gini coefficient and poverty headcount in the Project area by district (2000/01)

(%)

District		Gini coefficient	Headcount rate
Barisal Division	Barisal	38.34	33.13
	Bhola	39.16	51.27
	Jhalakati	37.45	22.83
	Pirojpur	35.21	24.97
	Barguna	39.04	27.86
	Patuakhali	37.57	36.89
Greater Faridpur	Faridpur	39.39	45.62
	Gopalganj	37.45	40.39
	Madaripur	40.59	44.73
	Rajbari	38.29	43.54
	Shariatpur	39.12	49.62
Greater Khulna	Bagerhat	20.80	28.76
	Khulna	23.08	25.93
	Satkhira	42.00	36.54
Bangladesh		**39.30**	**42.90**

Source: Kam (2004)

[18] The Gini coefficient is a measure frequently used to indicate inequality of income distribution. The values are between 0 and 1. A low Gini coefficient indicates more equal income or wealth distribution, while a high Gini coefficient indicates more unequal distribution.

3.5 NGOs, user committees, and beneficiary groups

3.5.1 NGOs

According to the latest *Directory of NGOs* published by the Association of Development Agencies in Bangladesh (ADAB, 2003), 15 to 94 local NGOs operate in each District of the Project area. The variation in the number of NGOs among Districts is large, with a high concentration of NGOs in divisional capitals and low concentration in relatively remote Districts. The numbers of local and international NGOs working in the Project area by District are presented in Table 3-20. The presence of international NGOs is limited.

Table 3-20 Number of NGOs working in the Project area

Division/ Greater District	District	Number of NGOs[1]		
		Local	International	Total
Barisal Division	Barisal	94	1	95
	Bhola	24		24
	Jhalakati	16		16
	Pirojpur	30		30
	Barguna	25		25
	Patuakhali	57	1	58
	Average	**41.0**	**0.3**	**41.3**
Greater Faridpur	Faridpur	54		54
	Gopalganj	49		49
	Madaripur	24		24
	Rajbari	32		32
	Shariatpur	15		15
	Average	**34.8**		**34.8**
Greater Khulna	Bagerhat	47		47
	Khulna	89	5	94
	Satkhira	41		41
	Average	**59**	**1.7**	**60.7**
Project Districts	**Average**	**42.6**	**0.5**	**43.1**

Note: 1) A number of NGOs work in more than one District.
Source: ADAB (2003)

BRAC, Proshika, and ASA are the three major NGOs in the Project area and cover most of the Districts. Some NGOs work across Districts, but the majority of the NGOs operate within a District. Some areas of their activities include micro credit, income generation and employment, non-formal and formal education for children and adults, health, nutrition, family planning, environment, water supply and sanitation, disaster management, legal issues and human rights including women's rights, agriculture, poultry and livestock, social mobilization, awareness raising and advocacy, networking, and training.

In the Project area, several national and local NGOs have been working with LGED in projects such as the Greater Faridpur Infrastructure Development Project (RDP-24), Rural Infrastructure Improvement Project (RDP-25) and Market Infrastructure Development Project in Charland Region (MIDPCR).

Major roles given to NGOs include mobilization of Labor Contracting Society (LCS) members, formation of LCS groups, and training of LCS members, Market Management Committee (MMC) Members, and women shopkeepers in Women's Market Sections (WMS's). NGOs are selected through open tender based on a number of criteria set by each project. NGOs' involvement in the above-mentioned three projects is summarized in Table 3-21.

Table 3-21 Involvement of NGOs in LGED projects in the Project area

Name of NGOs	Working Areas	Activities
RDP 24		
• Racine • Mahila Samaj Unnayan Sangstha • Ankhur Palli Unnayan Kendra • Jagarani Sangstha • Shariatpur Development Society	Faridpur District Rajbari District Madaripur District Gopalganj District Shariatpur District	• Training of UP Chairperson and Members • Training of UP female Members • Group formation and mobilization of LCS members • Training of LCS members • Training of women shopkeepers • Training of growth center stakeholders
• Community Health Care Project (Coordinating NGO)	The above five Districts in Greater Faridpur	• Worksho /training for local NGOs • Training of LGED staff on PRA[1] • PRA workshop for UP Members • Development of training modules • Follow-up and monitoring of local NGOs' activities
MIDPCR		
• Padakhep Manabik Unnayan Kendra	15 Upazilas of Bhola, Patuakhabli and Barisal Districts in Barisal Division	• Group formation and mobilization of various market groups • Training of MMC • Training of market groups in entrepreneur development and income generation activities • Group formation, mobilization and provision of training and support of LCS members
RDP 25		
• AVAS • Sangkalpa Trust	Barisal, Bhola, Jalakati, Pirojpur, Barguna and Patuakhali Districts in Barisal Division	• Formation of LCS groups and mobilization of LCS members • Training of LCS members on awareness and literacy education and income-generating activities • Training of women shopkeepers in business management
• Shushilan	Khulna, Satkhira and Bagerhat Districts in Khulna Division	
• Subhashali	Kushtia, Meherpur and Chuadanga Districts in Khulna Division	
• Mukti	Kushtia, Jhenaidah, Narail and Magura Districts in Khulna Division	
• Bachte Shikha	Satkhira, Khulna and Jessore Districts in Khulna Division	
• BRAC	Barisal Division and Khulna Division	• Road safety programs, including road safety awareness campaigns for school students and drivers; publicity campaigns

Note: 1) PRA: Participatory Rural Appraisal
Source: SAPROF team

3.5.2 User committees and beneficiary groups[19]

(1) Market Management Committee

MMCs are established in most growth centers and rural markets. Currently, MMCs are in the process of replacing their Chairpersons in compliance with the 2008 market leasing policy. Some MMCs are already headed by the UP Chairperson in accordance with the new policy, while others are not.

The major role played by MMCs is dispute settlement among market stakeholders. Most of the MMC members interviewed by the SAPROF team seemed to be aware of their roles and responsibilities specified in the policy. However, MMCs are frequently criticized for not carrying out their responsibilities, e.g., the formulation of plans for market development and maintenance and the supervision of market lessees' activities. This latter problem is prominent.

The 2008 market leasing policy stipulates that lessees are to bear the cost of cleaning markets under the terms of their lease. However, the lessees often do not clean the markets; instead, members of Banik Samity clean the markets. Since the lessees are usually powerful people in the local community, members of MMC tend to hesitate in persuading the lessees to fulfill their responsibilities specified in the policy. In addition, due to the fact that lessees often sublease the lease awarded to them, which is against the policy, enforcement of obligations becomes complicated for MMCs.

The 2008 policy stipulates that between 15% and 25% of the lease revenue is to be allocated for development and maintenance of the relevant market. Such maintenance funds are usually not fully allocated to the concerned market from the UNO who is responsible for management of lease money. However, this situation could change. Prior to 2008, the Chairperson of MMC was elected from among the permanent shopkeepers who conduct businesses around the public market and usually did not have sufficient bargaining power to demand the lease income. Since the UP Chairperson is to concurrently chair the MMC as per the 2008 policy, it is expected that the Chairperson will be more capable of negotiating with the UNO to obtain a sufficient allocation of lease income for market development and maintenance.

Improving this situation to ensure the proper operation and maintenance of growth centers will require raising the commitment of UP Chairpersons and UNOs and developing the management capacities of market stakeholders, e.g., MMC Members, Banik Samitys, and lessees.

(2) Women shopkeepers in Women's Market Section

Within the Project area, there are 92 WMS's in total developed by six different donor-assisted projects and one GOB-funded project, which accounts for 22.4% of the total number of growth centers. Table 3-22 illustrates the number of WMS's developed in the Project area by District.

The most popular businesses operated by women shopkeepers in WMS are tailoring and sales of clothing materials, cosmetics, and groceries. Other types of businesses include tea stalls, cell phone

[19] This section is based on Annex 8.

shops, shoe shops, and homeopathic medicine shops.

According to field observations and interviews, the monthly income of women shopkeepers ranges from tk. 200 to tk. 3000. Women shopkeepers who have business experience or have sufficient credibility receive loans ranging from tk. 500 to tk. 200,000 from government banks and NGOs for their businesses. On the other hand, many others do not take out any loans from banking institutions due to the high interest rates charged. The monthly rent of WMS's is tk. 120 to tk. 150. Other expenses for the shopkeepers include tk. 50-250 for electricity and tk. 30-150 for night guards.

Table 3-22 Number of WMS's developed in the Project area

Division/ Greater District	District	Number of WMS's	Number of growth centers	Growth centers with WMS's (%)	Projects which developed WMS's
Barisal Division	Barisal	5	43	11.6	RDP-25
	Bhola	4	36	11.1	RDP-25
	Jhalakati	4	16	25.0	RDP-25
	Pirojpupr	3	22	13.6	RDP-25
	Barguna	5	24	20.8	RDP-16, RDP-25
	Patuakhali	20	31	64.5	RDP-16, RDP-25
	Sub-Total	**41**	**172**	**23.8**	
Greater Faridpur	Faridpur	5	35	14.3	RDP-4, RDP-24
	Gopalganj	8[2]	24	33.3	RDP-24
	Madaripur	4	21	19.0	RDP-4, RDP-24
	Rajbari	4	19	21.1	RDP-24
	Shariatpur	3	25	12.0	RDP-24
	Sub-Total	**24**	**124**	**19.4**	
Greater Khulna	Bagerhat	4	40	10.0	RDP-25
	Khulna	10	38	26.3	RDP-25, Greater Khulna, Souhada, IFSP[1] (CARE)
	Satkhira	13	37	35.1	RDP-25, Souhada
	Sub-Total	**27**	**115**	**23.5**	
Total		**92**	**411**	**22.4**	

Note: 1) IFSP: Integrated Food Security Program. 2) In addition, eight WMS's were developed in rural markets with the support of IFSP.
Source: SAPROF team

WMS's have improved the economic conditions of women shopkeepers. Positive changes identified by the women shopkeepers themselves include the following: improved income; increased knowledge regarding shop management and skills development; increased awareness about gender equality; enhanced confidence through operating shops in public spaces; and change in social perceptions about women's economic activities outside the home.

WMS's located at the center of the growth center attract many customers. On the other hand, shops in some WMS's are not performing well due to reasons such as: 1) the WMS is not in a crowded area; 2) the shopkeeper does not have sufficient seed money; 3) the shopkeeper lacks business sense; 4) there

is excessive competition among women shopkeepers in the WMS due to overlap in types of business; and 5) the purchasing power of the customers is low.

(3) Labor Contracting Society (LCS)

LCS's are commonly involved in various rural development projects in the Project area. Work done by LCS's include: 1) earthwork for embankment construction, 2) pipe casting and culvert installation, 3) earthen road maintenance, and 4) tree planting and caretaking. LCS members in charge of earthen road maintenance and tree caretaking were usually hired for three years, whereas those responsible for tree planting were hired for a maximum of three months on short-term contracts. The contract period for earthwork and pipe casting and culvert installation was three months in most cases.

LCS members are selected from economically and socially disadvantaged people, of which poor women are given top priority. The positive effect of the LCS schemes on such people includes job creation, capital formation through the compulsory saving scheme, increased knowledge regarding gender equality and family planning through the training program, increased self-confidence, and improvement in social status. In addition, there have also been reports that the LCS schemes have taught people how to install tubewells and sanitary latrines and encouraged families to send children to school.

However, there have been several problems in the implementation of the scheme. For one, wage payment is often delayed, which seriously affects the daily lives of LSC members. For another, local people are not always supportive of LCS projects. For example, people living adjacent to the road are often reluctant to supply earth necessary for the earthwork to be executed by an LCS. In other cases, they damage the trees planted by LCS members by grazing their cattle nearby. For female LCS members, the poor working environment on roadsides, where water and sanitation facilities are not available, is also a major problem.

The profit-sharing forestry program, which is applied to the tree planting and caretaking schemes, does not benefit LCS members. Although the guidelines stipulate their share of benefits, they fail to demand them, mainly because they are not fully aware of their rights. In addition, the growing period of trees is too long, i.e., their 15-year felling cycle is too long for LCS members, who generally live from hand-to-mouth, to wait and claim their benefits. Moreover, branches and fully grown trees are often harvested by local people who are relatively well-to-do before they reach maturity.

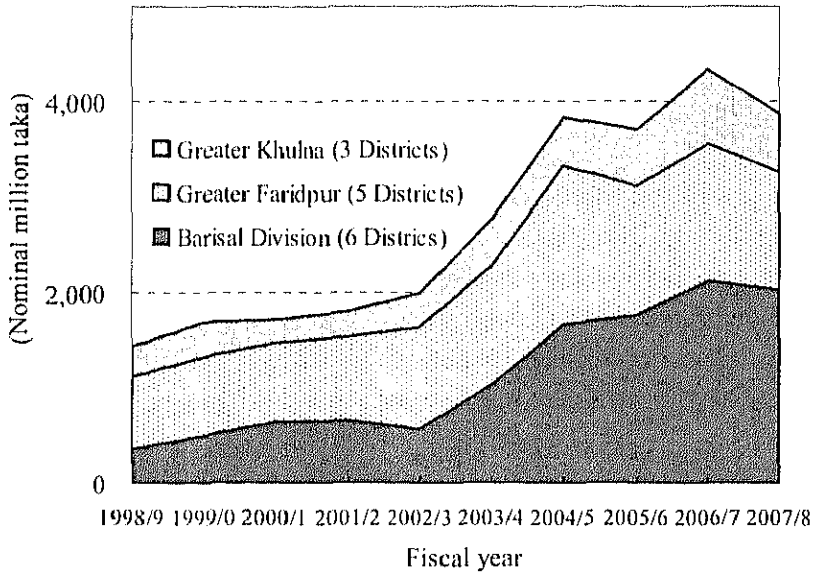
Against such a background, close coordination with locally influential people, including UP Chairpersons and UP Members, as well as with local residents, will be key to the smooth implementation of LCS projects.

3.6 Rural infrastructure development

(1) Introduction

The progress of rural infrastructure development in the Project area has generally been slower than in

other parts of Bangladesh. It is presumed that investment in the Project area started to increase from FY 2003/04 specifically for this reason. ADP expenditures in the Project area increased rapidly in the 2002/03-2004/05 period (Figure 3-1). The increase in Barisal Division is particularly large. However, as explained below, the development gap in the Project area is still substantial, and the area clearly requires further investment.



Source: LGED

Figure 3-1 Evolution of ADP expenditures for the Project area by region

(2) Upazila road

Table 3-23 shows the progress of Upazila road development in the Project area nationally and by District. According to the Rural Road Master Plan, the national total of Upazila roads as of 2005 is 36,166 km, of which 17,889 km (49% of the total) were upgraded before July 2005. It sets the target total length to be improved between 2004/05 and 2014/15 at 18,277 km. As of July 2006 and July 2007, the cumulative lengths of improved Upazila roads from July 2005 were 2,403 km (13% of the target) and 3,709 km (20% of the target), respectively, suggesting that the pace of Upazila road upgrading is on track at the national level.

Project Districts as a whole show less Upazila road development than the national average. In 2005, upgrading was completed for 41% of the Upazila roads in the Project Districts in terms of road length, whereas the corresponding figure was 49% at the national level. In 2007, the rate increased to 54% in the Project Districts but still lagged behind the national average of 60%.

The rate of Upazila road upgrading, as of July 2007, against the Master Plan target in the Project Districts (21%) is slightly higher than the national rate of the upgrading (20%), which may indicate GOB's emphasis on investment in priority/poor areas. This tendency is clearly seen in divisional/greater District level averages. In the Project area, Barisal Division is the least developed

division in terms of Upazila road upgrading in 2005 and hence showed the highest rate of improvement (27%) during the subsequent two-year period. On the other hand, Greater Faridpur exhibited an upgrading rate of 60% in 2005, which was higher than the national average, but showed slow progress (15%) during the subsequent two-year period. In this regard, however, Greater Khulna did not follow the same pattern. On average, the three Districts in Greater Khulna showed a low Upazila road development rate of 41% in 2005, and a slow rate of road improvement (15%) during the same period. These rates are below the national averages.

The Project area is still in need of investment in order to meet the Master Plan target. Barisal Division and Greater Khulna in particular need higher investment for Upazila road development to at least catch up with the national average.

Table 3-23 Progress of Upazila road development in the Project area

District		Rural Road Master Plan				Progress of Upazila road improvement from July 2005						Remaining length to be upgraded during the period of July 2007 to July 2015 (8 years)
			Total length improved by 2004/05		Target: total length to be improved by 2014/15	Additional length improved from July 2005				Cumulative Progress as of July 2007		
						Until July 2006		Until July 2007				
		Total length	Improved length	% to total length		Improved length	% to target	Improved length	% to target	Improved length	% to total length	
		(km) a	(km) b	(%) c=b/a	(km) d=a-b	(km) e	(%) f=e/d	(km) g	(%) h=g/d	(km) i=b+g	(%) j=i/a	(km) k=a-i
National		**36,166**	**17,889**	**49%**	**18,277**	**2,403**	**13%**	**3,709**	**20%**	**21,598**	**60%**	**14,568**
Barisal	Barguna	442	130	29%	312	16	5%	26	8%	156	35%	286
	Barisal	947	188	20%	759	92	12%	214	28%	402	42%	545
	Bhola	521	219	42%	302	140	46%	184	61%	403	77%	118
	Jhalakati	266	52	20%	214	42	20%	50	23%	102	38%	164
	Patuakhali	562	225	40%	337	46	14%	54	16%	279	50%	283
	Pirojpur	519	104	20%	415	48	12%	106	26%	210	40%	309
	Sub-total	**3,257**	**918**	**28%**	**2,339**	**384**	**16%**	**634**	**27%**	**1,552**	**48%**	**1,705**
G. Faridpur	Faridpur	773	464	60%	309	2	1%	13	4%	477	62%	296
	Gopalganj	604	356	59%	248	16	6%	32	13%	388	64%	216
	Madaripur	300	172	57%	128	31	24%	35	27%	207	69%	93
	Rajbari	338	215	64%	123	20	16%	23	19%	238	70%	100
	Shariatpur	314	194	62%	120	21	18%	33	28%	227	72%	87
	Sub-total	**2,329**	**1,401**	**60%**	**928**	**90**	**10%**	**136**	**15%**	**1,537**	**66%**	**792**
G. Khulna	Bagerhat	781	293	38%	488	19	4%	31	6%	324	41%	457
	Khulna	755	254	34%	501	23	5%	86	17%	340	45%	415
	Satkhira	658	357	54%	301	45	15%	74	25%	431	66%	227
	Sub-total	**2,194**	**904**	**41%**	**1,290**	**87**	**7%**	**191**	**15%**	**1,095**	**50%**	**1,099**
Project Districts		**7,780**	**3,223**	**41%**	**4,557**	**561**	**12%**	**961**	**21%**	**4,184**	**54%**	**3,596**

Source: Rural Infrastructure Maintenance Management Unit, LGED

(3) Union road

Table 3-24 shows the progress of union road development with respect to the Rural Road Master Plan. The total lengths of union roads in the country and the Project area as of 2005 are 42,329 km and 8,273 km, respectively. In 2005, the national average rate of improved union roads was 20%, and the corresponding rate in the Project area was 17%. By 2007, the national rate increased to 28%, while the rate of the Project area increased to 24%. In both cases, the rates of improved union roads in the Project area were lower than the national average.

The trend seen in union road upgrading is similar to that of Upazila road upgrading in the Project area, although percentages of improved union roads are generally lower than those of improved Upazila roads. For example, in 2005, Barisal Division had a lower rate of improvement (12%) but had a higher rate of progress (10%) than the national average during the subsequent two years. Greater Faridpur and Greater Khulna had higher rates of improved union roads than the national average rates in 2005 but showed lower rates of improvement during the subsequent two years.

In order to achieve the Master Plan target for union road development, much investment is still required. In the Project area, 6,268 km of union roads are yet to be improved and should be upgraded by 2019/20. The gap between the target and the current level of upgrading is still large. Moreover, the Project area is lagging behind the national average. The Project area should be given priority for additional investment.

Table 3-24 Progress of union road development in the Project area

District		Rural Road Master Plan				Progress of Union road improvement from July 2005						Remaining length to be upgraded during the period of July 2007 to July 2020 (13 years)
		Total length	Total length improved by 2004/05		Target: total length to be improved by 2019/20	Additional length improved from July 2005				Cumulative Progress as of July 2007		
						Until July 2006		Until July 2007				
			Improved length	% to total length		Improved length	% to target	Improved length	% to target	Improved length	% to total length	
		(km) a	(km) b	(%) c=b/a	(km) d=a-b	(km) e	(%) f=e/d	(km) g	(%) h=g/d	(km) i=b+g	(%) j=i/a	(km) k=a-i
National		**42,329**	**8,513**	**20%**	**33,816**	**2,469**	**7%**	**3,411**	**10%**	**11,924**	**28%**	**30,405**
Barisal	Barguna	601	92	15%	509	6	1%	15	3%	107	18%	494
	Barisal	1,064	71	7%	993	15	2%	73	7%	144	14%	920
	Bhola	479	124	26%	355	94	26%	158	45%	282	59%	197
	Jhalakati	327	40	12%	287	8	3%	16	6%	56	17%	271
	Patuakhali	1,388	152	11%	1,236	78	6%	90	7%	242	17%	1,146
	Pirojpur	560	37	7%	523	13	2%	22	4%	59	11%	501
	Sub-total	**4,419**	**516**	**12%**	**3,903**	**214**	**5%**	**374**	**10%**	**890**	**20%**	**3,529**
G. Faridpur	Faridpur	601	113	19%	488	19	4%	21	4%	134	22%	467
	Gopalganj	338	69	20%	269	1	0%	1	0%	70	21%	268
	Madaripur	462	99	21%	363	23	6%	27	7%	126	27%	336
	Rajbari	436	126	29%	310	23	7%	29	9%	155	36%	281
	Shariatpur	422	98	23%	324	21	6%	42	13%	140	33%	282
	Sub-total	**2,259**	**505**	**22%**	**1,754**	**87**	**5%**	**120**	**7%**	**625**	**28%**	**1,634**
G. Khulna	Bagerhat	572	143	25%	429	12	3%	18	4%	161	28%	411
	Khulna	484	97	20%	387	12	3%	17	4%	114	24%	370
	Satkhira	539	169	31%	370	28	8%	46	12%	215	40%	324
	Sub-total	**1,595**	**409**	**26%**	**1,186**	**52**	**4%**	**81**	**7%**	**490**	**31%**	**1,105**
Project Districts		**8,273**	**1,430**	**17%**	**6,843**	**353**	**5%**	**575**	**8%**	**2,005**	**24%**	**6,268**

Source: Rural Infrastructure Maintenance Management Unit, LGED

(4) Growth center

The current status of growth center development is shown in Table 3-25. LGED aims to develop 2,100 growth centers, of which 1,302 (62%) have been developed by various LGED projects by 2008. Although the target year for the Master Plan for growth centers is 2009/10, it would be difficult to meet this deadline. As of 2008, the number of growth centers developed annually is estimated at approximately 80; 800 growth centers still remain to be upgraded.

Table 3-25 Status of growth center development in the Project area in 2008

District		Master Plan Target	Achievement by 2008		Balance to be upgraded by 2009/10
		(no.)	(no.)	(%)	(no.)
		a	c	d=c/a	e=a-c
National		**2,100**	**1,302**	**62%**	**798**
Barisal Division	Barguna	24	19	79%	5
	Barisal	43	14	33%	29
	Bhola	36	18	50%	18
	Jhalakati	16	4	25%	12
	Patuakhali	31	13	42%	18
	Pirojpur	22	8	36%	14
	Sub-total	**172**	**76**	**44%**	**96**
Greater Faridpur	Faridpur	35	28	80%	7
	Gopalganj	24	15	63%	9
	Madaripur	21	12	57%	9
	Rajbari	19	12	63%	7
	Shariatpur	25	14	56%	11
	Sub-total	**124**	**81**	**65%**	**43**
Greater Khulna	Bagerhat	40	18	45%	22
	Khulna	38	22	58%	16
	Satkhira	37	24	65%	13
	Sub-total	**115**	**64**	**56%**	**51**
Project Districts		**411**	**221**	**54%**	**190**

Source: Rural Infrastructure Maintenance Management Unit, LGED

Regarding growth center development in the Project area, of the 411 target growth centers, 221 (54% of the target) have been upgraded by 2008. Thus, the pace of the growth center development in the Project area is slower than that of the national average.

Within the Project area, Barisal Division shows the slowest pace of growth center development, with only 44% of the Master Plan target achieved, followed by Greater Khulna (56%). An exception is Greater Faridpur, whose achievement of 65% of the Master Plan target is greater than the national average of 62%. A total of 190 growth centers need to be developed by 2009/10 to achieve the target figures. The Project area clearly needs further investment, especially in Barisal Division where 96 growth centers remain to be upgraded.

(5) Union Parishad Complex

UP has been performing various local-level development activities as an LGI in Bangladesh. Currently, the government is implementing a policy of constructing a UPC in each union and envisages the establishment of effective, decentralized LGIs. There are 869 UPs in the Project area, and on average, each UP represents approximately 23,000 people. Most of the old UP buildings in the Project area were built in the 1960s and 1970s with minimum office space and poor facilities and are in dilapidated states.

Table 3-26 shows the status of UPC establishment as of July 2008. The national target specified in the 2005 Rural Road Master Plan is to establish 4,489 UPCs by FY 2009/10, with 2,929 complexes (65%

of the target) to be developed by the end of FY 2007/08. In the Project area, 70% of the UPs were expected to have a UPC by the end of FY 2007/08. However, only 56% of the UPs had UPCs at the end of FY 2007/08. The UPC establishment rates in Barisal Division (63%) and Greater Khulna (64%) are close to the national target, but the rate in Greater Faridpur (44%) is below the national target.

Table 3-26 Status of UPC establishment in the Project area as of 2008

District		Master Plan target to be achieved by 2009/10	Target to be achieved by 2007/08				
			Planned	Actual		Delay[1]	
		(no.) a	(no.) b	(no.) c	(%) c/a	(no.) d=b-c	
Barisal Division	Barguna	38	27	22	58%	5	(2)
	Barisal	86	63	52	61%	11	(4)
	Bhola	62	51	46	74%	5	(1)
	Jhalakati	32	31	29	91%	2	
	Patuakhali	67	45	38	57%	7	(3)
	Pirojpur	51	38	25	49%	13	(4)
	Sub-total	**336**	**255**	**212**	**63%**	**43**	**(14)**
Greater Faridpur	Faridpur	79	46	33	42%	13	(13)
	Gopalganj	69	42	26	38%	16	(16)
	Madaripur	57	31	21	37%	10	(10)
	Rajbari	42	27	27	64%		
	Shariatpur	65	39	29	45%	10	(10)
	Sub-total	**312**	**185**	**136**	**44%**	**49**	**(49)**
Greater Khulna	Bagerhat	75	54	50	67%	4	(1)
	Khulna	68	49	41	60%	8	
	Satkhira	78	63	50	64%	13	(3)
	Sub-total	**221**	**166**	**141**	**64%**	**25**	**(4)**
Project Districts		**869**	**606**	**489**	**56%**	**117**	**(67)**
% to Master Plan		100%	70%	56%		14%	8%

Note: 1) Figures in parentheses indicate the number of construction delays caused by disputes.
Source: Rural Infrastructure Maintenance Management Unit, LGED

According to LGED, the pace of UPC construction has slowed down due to the unavailability of land coupled with the difficulty in reaching agreement among local stakeholders. As shown in column "d" of Table 3-26, of the 117 unions that did not have a UPC established by 2007/08, 67 were involved in disputes over land for UPC construction. Moreover, donor-supported projects such as RDP-24 and RDP-25 impose on UPs a cash contribution equivalent to 10% of the UPC construction cost as a condition of UPC sub-project implementation. In this case, UPs are required to deposit the said amount of cash in a bank account prior to UPC construction. Such imposition of a contribution has also hampered the smooth establishment of UPCs.

As of July 2008, 313 UPCs still remain to be constructed[20], which is equivalent to 36% of the Master Plan target (Table 3-27). Clearly, there is need for further investment. However, there is an ongoing nationwide GOB-funded UPC development project that is systematically constructing UPCs

[20] The figure excludes unions with disputes over land for UPC construction.

throughout the country. The number of UPCs to be developed by this project in the Project area is 177, or 20% of the Master Plan target. LGED intends to develop the remainder of UPCs, which is 136, or 16% of the Master Plan target, through other projects in the Project area, including those listed in Table 3-28.

Table 3-27 UPC development forecast in the Project area

District		Master Plan target (no.) a	Yet to be developed[1] (no.) b	Planned for development by CUPCBP[2] (no.) c	Planned for development by other projects (no.) d
Barisal Division	Barguna	38	14	3	11
	Barisal	86	30	7	23
	Bhola	62	15	4	11
	Jhalakati	32	3	2	1
	Patuakhali	67	26	4	22
	Pirojpur	51	22	9	13
	Sub-total	**336**	**110**	**29**	**81**
Greater Faridpur	Faridpur	79	33	33	
	Gopalganj	69	27	27	
	Madaripur	57	26	26	
	Rajbari	42	15	15	
	Shariatpur	65	26	26	
	Sub-total	**312**	**127**	**127**	
Greater Khulna	Bagerhat	75	24	3	21
	Khulna	68	27	8	19
	Satkhira	78	25	10	15
	Sub-total	**221**	**76**	**21**	**55**
Project Districts		**869**	**313**	**177**	**136**
% to Master Plan		100%	36%	20%	16%

Notes: 1) Unions with land disputes are excluded. 2) CUPCBP: Construction of Union Parishad Complex Building Project.
Source: Rural Infrastructure Maintenance Management Unit and CUPCBP, LGED

Table 3-28 List of ongoing schemes and projects for UPC development in the Project area

No	Scheme or project name
1	Construction of UPC Building
2	Rural Infrastructure Improvement Project: 25
3	Greater Khulna District Infrastructure Development Project
4	Cyclone Rehabilitation Project: Entire Coastal Areas (Phase-II)

In sum, based on LGED's intentions and plans for UPC development, the problems regarding UPC development mentioned above, and the time-limited nature of donor-funded projects, it may not be appropriate to include the UPC development component in SWBRDP. The need for UPC development can be met by other means, and the inclusion of such a component may jeopardize the timely implementation of the SWBRDP.

3.7 Needs for flood and cyclone recovery

3.7.1 Floods in 2007

(1) Damage caused by the 2007 floods

The 2007 floods came in two waves. The first wave, which affected about 39 Districts, started around July 24 and initially hit Nilphamari, Lalmonirhat, Kurigram, Sherpur, Jamalpur, Sylhet, and Sunamgonj Districts. In the following days, Rangpur, Gaibandha, Bogra, and Sirajganj Districts were flooded, and subsequently the rest of the Districts were inundated until early August. The second wave began on September 5 and continued through September 15. A total of 46 Districts were affected in varying degrees during these two flood waves, as illustrated in Figure 3-2.

The flood inundated about 32,000 km^2 of land, including 6,000 km^2 of char areas, affecting about 16 million people, equivalent to three million households. Eighty-five thousand houses were completely swept away, while almost one million houses were partially damaged. Six hundred forty-nine persons were reported to have gone missing either as a direct consequence of the flood or through flood-related causes including bridge collapses or boat capsizing. A number of children drowned when swimming in flooded areas. The affected people also suffered from diseases caused by contaminated water and poor sanitation, which resulted in an additional death toll.

Table 3-29 shows the sector-wise damage caused by the 2007 floods. The estimated cost of total damage is tk. 72,762 million. In terms of costs, 62.3% of damage occurred in the food and agriculture sector, followed by the transport, communication, and water development sectors, which incurred 34.9% of the total estimated damage.

Food and agriculture sector: Approximately 1.12 million ha of cropland were either partially or fully damaged. The estimated cost of damage incurred from loss of the standing crops of rice, jute, vegetables, etc., is tk. 42,165 million (tk. 22,270 million from the first wave of the flood and tk. 19,895 million from the second wave). The losses in the livestock sector, i.e. damage to milk, meat, eggs, and infrastructure, total tk. 609 million. The fisheries sector's losses are tk. 1,965 million, which include the losses from fish fingerlings, fish, shrimps, and fisheries infrastructure. The estimated damage to the forestry sector is tk. 38 million, which includes damage to trees, nurseries, and other infrastructure.

Flood management infrastructure: Flood management infrastructure, which is under the authority of BWDB, includes levees, embankments, drainage channels, irrigation canals, sluice gates, regulators, bridges, culverts, and approach roads to bridges. According to BWDB, the cumulative damage of these structures amounts to tk. 5,550 million. The Brahmaputra Right Embankment was damaged in the Rangpur, Bogra, Sirajganj, and Gaibandha Districts. The town protection embankment, Rangpur and Sirajganj, Ntrokona Kalmakanda Embankment, the east side of the Gaokanda Embankment, and the Lakhar Char to Betua Bazaar Road/Embankment were also seriously damaged.

Social and economic infrastructure: Office buildings, markets, schools, roads, bridges and culverts, tubewells, latrines, health centers, and handlooms were affected. According to RHD, about 55% (2,344 km) of roads and 52 bridges (1,811 m in length) under its authority were affected by the 2007 floods. A total of 70,367 tubewells were inundated and contaminated according to DPHE. According to the Directorate of Primary Education, 8,668 primary schools were partially damaged and 205 primary schools need to be rebuilt.

Table 3-29 Estimated cost of damage by the 2007 floods

Sector	Damaged infrastructure	Damage cost (Million tk.)	(%)
Food and agriculture		**45,296**	**62.3**
Ministry of Agriculture			
Department of Agricultural Extension	Rice, jute, vegetables, etc.	42,165	**57.9**
Barind Multipurpose Development Authority	Deep and shallow tubewells, etc.	509	0.7
Bangladesh Agriculture Development Corporation	Pump house, pipeline, water pump, etc.	10	0.0
Ministry of Fisheries and Livestock			
Department of Livestock Services	Cattle, buffaloes, sheep, chicken, etc.	609	0.8
Department of Fisheries	Fisheries	1,965	2.7
Ministry of Forest and Environment			
Forest Department	Forests, nursery, roads, etc.	38	0.1
Health infrastructure		**516**	**0.7**
Ministry of Local Government and Cooperatives			
Department of Public Health Engineering	Tubewells and platforms	137	0.2
Ministry of Health and Family Planning			
Department of Health	Health centers, clinics, medicine, etc.	344	0.5
Department of Family Planning	Community clinics, etc.	34	0.0
Transport, communication, and water development		**25,406**	**34.9**
Ministry of Local Government and Cooperatives			
Local Government Engineering Department	Roads, UPCs, growth centers, etc.	11,698	16.1
Ministry of Communication			
Department of Roads and Highways	Highway, bridges, etc.	6,905	9.5
Ministry of Water Resources			
Bangladesh Water Development Board	Embankment, roads, sluice gates, etc	5,550	7.6
Other authorities			
Other authorities	Other infrastructure	1,253	1.7
Education		**1,544**	**2.1**
Ministry of Primary and Mass Education			
Directorate of Primary Education	Primary school buildings, etc.	1,114	1.5
Ministry of Education			
Education Engineering Department	School and college buildings, etc.	430	0.6
Total		**72,762**	**100.0**

Source: Disaster Management Bureau, and Project Monitoring and Evaluation Unit, LGED (2007a)