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L10 2010-11

Government of the People's Republic of Bangladesh
Ministry of Planning
Implementation Monitoring and Evaluation Division

PROJECT COMPLETION REPORT: IMED 04/2003 (Revised)

A. PROJECT DESCRIPTION

01.	**Name of the Project**	:	**Developing Innovative Approaches to Management of Major Irrigation Systems (DIAMMIS)**
02.	**Administrative Ministry/Division**	:	Ministry of Water Resources (MoWR)
03.	**Executing Agency**	:	Bangladesh Water Development Board (BWDB)
04.	**Location of the Project**	:	Dhaka, Chittagong & Sylhet Division

05. Objective of the Project

The main objective of the TA is to search out Innovative Approaches for efficient system Management and improved Operation and Maintenance of the major Irrigation Schemes in BWDB.

06. Estimated Cost :

(In lakh Taka)

	Original	Latest Revised
(a) Total	607.38	607.38
(b) Taka	89.73	89.73
(c) Foreign Currency	517.65	517.65
(d) Project Aid	517.65	517.65
(e) RPA	-	-

07. Approval:

Date of Approval	PCP	PP
(a) Original	-	21-10-2009
(b) Latest Revised	-	December 2010

08. Implementation Period :

	Date of Commencement	Date of Completion
(a) Original	November, 2009	May, 2010
(b) Latest Revised	November, 2009	February, 2011
(c) Actual	April, 2010	February, 2011

09. Financing Arrangement (Source-wise):

9.1 Status of Loan/Grant

a) Foreign Financing :

Source (s)	Currency as per Agreement	Amount in US $ (Million)	Nature (Loan/Grant/ supplier's/ credit)	Date of Agreement	Date of Effective-ness	Date of Closing	
						Original	Revised
1	2	3	4	5	6	7	8
ADB	US Dollar	0.75	TA Grant	-	-	-	February, 2011

b) GOB:

(In lakh Taka)

Total amount	Loan	Grant	Cash Foreign Exchange
1	2	3	4
89.73	-	-	89.73

9.2 Utilization of Project Aid: (Source wise)

(In million)

Source (s)	Total Amount		Actual Expenditure		Unutilized Amount	
	In US $	In Local Currency (BDT)	In US $	In Local Currency(BDT)	In US $	In Local Currency (BDT)
1	2	3	4	5	6	7
ADB	0.75	51.765	0.7313	50.471	0.0187	1.294

9.3 Re-imbursible Project Aid (RPA): *Not applicable*

(In lakh Taka)

RPA Amount		Amount Spent	Amount Claimed	Amount Re-imbursed	Remarks
As per PP	As per Agreement				
1	2	3	4	5	6

B. IMPLEMENTATION POSITION

01. Implementation Period:

Implementation Period as per PP		
Original	**Latest Revised**	**Actual**
1	2	3
Nov 2009 to May 2010	Nov 2009 to Feb 2011	April 2010 to Feb 2011

02. Cost of the Project:

(In lakh Taka)

Description	Estimated Cost		Actual expenditure	Cost over-run (% of original cost)	Remarks
	Original	Latest revised			
1	2	3	4	5	6
TOTAL	607.38	607.38	507.30	-16.48	
TAKA	89.73	89.73	2.59	-97.10	
PA	517.65	517.65	504.71	-2.50	

03. Project Personnel: *Not applicable* (Manpower of the existing Planning-III office was deployed for)

Sanctioned strength as per PP	Manpower employed during execution	Status of the existing manpower			Manpower Employed	
		Manpower requirement for O&M as per pp	Employed	Others		
1	2	3	4	5	Male	Female
Officer (s)						
Staff(s)						
Total :						

04. Training of Project Personnel (Foreign/Local): *Not applicable*

Field of Training / Study tour/ workshop/ Seminar etc.	Provision as per PP		Actual		Remarks
	Number of person	Man -months	Number of person	Man -months	
1	2	3	4	5	6
a. Foreign					
b. Local					

05. Component-wise Progress (As per latest approved TPP):

(In lakh Taka)

Items of work (as per TPP)	Unit	Target (as per TPP)		Actual Progress		Reasons for deviation (±)
		Financial	Physical (Quantity)	Financial	Physical (Quantity)	
1	2	3	4	5	6	7
(a) Revenue Component :						
Supplies and Services:						
Consultants (int.14mm and national 28mm)	mm	445.87	42	434.28	42	
Surveys	1 item	17.26	-	17.25	1 item	
Training, Seminars, Conferences, contract Negotiation	1 item	6.90	-	6.90	1 item	
Reports & Communication	1 item	3.45	-	3.45	1 item	
Office Accommodation and Transport (in-kind -38.41)	1 item	41.41	-	1.31	1 item	In-kind money is not spent
Miscellaneous Administrative and Support cost	1 item	6.90	-	6.80	1 item	
Contingencies	1 item	30.37	-	30.37	1 item	
Others (in-kind -20.61)	1 item	27.61	-	1.28	1 item	In-kind money is not spent
Counter Part Staff (in-kind -20.71)	mm	20.71	84	0.00	84	In-kind money is not spent and Staff was involved from standard setup of BWDB
Sub-total (Revenue Component)		**600.48**		**501.74**		
(b) Capital Component :						
Equipment (computers and Others)	1 item	6.90	-	5.56	1 item	
Sub-total (Capital Component)		**6.90**		**5.56**		
TOTAL		**607.38**		**507.30**		

06. Information regarding Project Director (s) :

Nanme & Designation with pay scale	Full time	Part time	Responsible for more than one project	Date of		Remarks
				Joining	Transfer	
1	2	3	4	5	6	7
A.T.M Habibullah Diector, Planning-III, BWDB 15,000-600x8-19,000 and 25,750-1000x8-33,750	Yes	-	Yes	04/09/2008	18/05/2010	

Nanme & Designation with pay scale	Full time	Part time	Responsible for more than one project	Date of		Remarks
				Joining	Transfer	
1	2	3	4	5	6	7
Md. Abdul Latif Miah Diector, Planning-III, BWDB 25,750-1000x8-33,750	Yes	-	Yes	17/05/2010	11/04/2011	
Md. Masud Ahmed Diector, Planning-III, BWDB 25,750-1000x8-33,750	Yes	-	Yes	11/04/2011	-	

07. Procurement of Transport (in Nos.): *Not applicable*

Type of transport	Number as per P.P.	Procured with date	Transferred to Transport Pool with date	Transferred to O & M with date	Condemned/ damaged with date	Remarks
1	2	3	4	5	6	7
Car						
Jeep						
Microbus						
Minibus						
Bus						
Pick-up						
Truck						
Motor Cycle						
By-cycle						
Speed Boat						
Launch						
Others with name						

08. Procurement of Goods, Works and Consultancy Services: *Not applicable*

08.1 Goods & Works of the Project costing above Tk. 200.00 lakh. and Consultancy above Tk. 100.00 lakh

Description of procurement (goods/works /consultancy) as per bid document	Tender/Bid/Proposal Cost (in crore Taka)		Tender/Bid/Proposal		Date of completion of works/services and supply of goods	
	As per PP	Contracted value	Invitation date	Contract signing/ L.C opening date	As per contract	Actual
1	2	3	4	5	6	7
No such procurement done						

8.2 Use of Project Consultant (s) (Foreign/Local):

Name of the Field	Approved man month		Actual man month utilized	Remarks
	As per PP	As per contract		
Foreign	14		14	
Local	28		28	

09. Construction/Erection/Installation Tools & Equipment: *Not applicable*

Description of items	Quantity (as per PP)	Quantity procured with date	Transferred to O & M with date	Disposed off as per rule with date	Balance	Remarks
1	2	3	4	5	6	7

C. FINANCIAL AND PHYSICAL PROGRAMME

01. (a) Original and revised schedule as per PP : (In lakh Taka)

Financial Year	Financial provision & physical target as per original PP				Financial provision & physical target as per latest revised PP			
	Total	Taka	P.A.	Physical %	Total	Taka	P.A.	Physical %
1	2	3	4	5	6	7	8	9
2009-10	607.38	89.73	517.65		607.38	89.73	517.65	

*** Subsequent Time Extension up to February 2011 without increasing of expenditure*

01. (b) Revised ADP allocation and progress :

(In lakh Taka)

Financial Year	Revised Allocation & Target				Taka Released	Expenditure & Physical Progress			
	Total	Taka	P.A.	Physical %		Total	Taka	P.A.	Physical %
1	2	3	4	5	6	7	8	9	10
2009-10	254.75	2.75	252.00		-	152.56	0.85	151.71	
2010-11	357.00	4.00	353.00		2.00	354.74	1.74	353.00	

D. ACHIEVEMENT OF OBJECTIVES OF THE PROJECT:

Objectives as per PP	Actual achievement	Reasons for shortfall, if any
(a) Assess the existing O&M planning and financing procedures, institutional set up and capacities.	Assessment done	
(b) Propose alternative service delivery agreements and management arrangements, including full participation of beneficiaries, Public-Private Partnership (PPPs) and independent entities that will manage and operate the systems (e.g., private sector operators, autonomous authorities, NGOs, civil contractors, and joint management by local government institutions);	Facilitating entity with Specialized Management Unit (SMU) proposed**.	
(c) Propose alternative and transparent O&M financing arrangements to make up the difference between the actual O&M requirements the currently available funding;	Proposed	
(d) Propose new arrangements for O&M planning, implementation, and participatory performance monitoring, taking account of the legal implications and contractual and financial risks;	It has been assumed future operation and maintenance requirements will be split between annual and periodic maintenance.	
(e) assess the financial and economic impacts of the proposed management and O&M models at farm, project and national level;	Assessment done	
(f) Propose systems for performance benchmarking of the irrigation service providers, and a participatory system for monitoring and evaluation;	Indicators proposed for monitoring and evaluation.	
(g) Develop an exit strategy that will be implemented after the completion of the loan project;	From year 4 onward, support will be decreased by 20% per year. By year 8, SMU will be operating independently.	
(h) Propose a high-level project supervisory body that will include key stakeholders (e.g., water users, water management organizations, local government institutions, civil society, and the private sector).	A project Steering Committee and two levels of Management Committees have been proposed to deal with coordination and operational issues.	

** A brief Innovative Approaches to Management of Major Irrigation System developed by TA – Management, Operation and Maintenance System is enclosed.

E. BENEFIT ANALYSIS

01. Annual Out-put: *Not applicable*

Items of out-put	Unit	Estimated quantity expected at full capacity	Actual quantity of out-put during the 1st year of operation at full capacity (or during, real production for newly completed project).
(a)			
(b)			
(c)			

02. Cost / Benefit: *Not applicable*

Item	Estimated	Actual
(1) Benefit cost ratio of the project		
(i) Financial		
(ii) Economic		
(2) Internal Rate of Return		
(i) Financial		
(ii) Economic		

03. Please give reasons for shortfall, if any, between the estimated and actual benefit: *N/A*

F. MONITORING AND AUDITING

0.1 Monitoring: *Not applicable*

Name & designation of the inspecting official	Date of Inspection	Identified Problems	Recommendations
1	2	3	4

(a) **Ministry / Agency:**

(b) **IMED :**

(c) **Others:** (Please specify)

0.2. Auditing during and after Implementation:

2.1. Internal Audit: *Not done*

Period of Audit	Date of submission of Audit Report	Major findings/ objections	Whether objections resolved or not.
1	2	3	4

2.2. External Audit:

Audit period	Date of submission of Audit Report	Major findings/ objections	Whether objections Resolved or not.
1	2	3	4
2009-10	31.03.11	01. Loss of Govt. revenue due to non-realization of VAT/IT from consultant 02. Auditable records and documents were not produced to audit	01. Resolved 02. Resolved

G. DESCRIPTIVE REPORT

1. General Observations/Remarks of the Project on:

1.1 Background

Following completion of first command area development project in 2003, the government of Bangladesh requested the Asian Development Bank to provide a project preparatory technical assistance (PPTA) to prepare the second command area development project(CADP-II) aimed at improving the performance of large-scale flood control, drainage and irrigation (FCDI) schemes. ADB approved the PPTA for CAD-II in December 2005, and the work was carried out by the PPTA team between February 2007 and September 2008. Limited capacity of public agencies and chronic system deterioration were emerged. The present capacity development technical assistance (CDTA) was fielded to address these constraints specifically to examined institutional aspects to assess potential options for strengthening system management and improving operation and maintenance.

1.2 Justification/Adequacy

Notwithstanding large investments in the water sector over past 35 years, the results of these investments have not always met the expectations. The benefits have generally been less than anticipated. In the first two decades, investments were primarily directed towards construction of new infrastructure for water management in FCD (I) schemes. These interventions and subsequent ones generally proved to function sub-optional, due to variety of reasons. Since about the late 1990s, more emphasis was given to strengthening the institutional framework to improve water management and O&M.

As a result of inadequate operation and maintenance of the system, investments need to rehabilitate the existing FCDI schemes in order to bring the schemes back to their design capacities or beyond their capacity. Current CDTA is an appropriate step to address the needs for a suitable option.

1.3 Objective

Objectives of TA were to:

(i) assess the existing O&M planning and financing procedures, institutional set up and capacities;

(ii) propose alternative service delivery agreements and management arrangements, including full participation of beneficiaries, Public-Private Partnership (PPPs) and independent entities that will manage and operate the systems (e.g., private sector operators, autonomous authorities, NGOs, civil contractors, and joint management by local government institutions);

(iii) propose alternative and transparent O&M financing arrangements to make up the difference between the actual O&M requirements the currently available funding;

(iv) propose new arrangements for O&M planning, implementation, and participatory performance monitoring, taking account of the legal implications and contractual and financial risks;

(v) assess the financial and economic impacts of the proposed management and O&M models at farm, project and national level;

(vi) propose systems for performance benchmarking of the irrigation service providers, and a participatory system for monitoring and evaluation;

(vii) develop an exit strategy that will be implemented after the completion of the loan project; and

(viii) propose a high-level project supervisory body that will include key stakeholders (e.g., water users, water management organizations, local government institutions, civil society, and the private sector).

1.4 Project revision with reasons

The TA study of DIAMMIS project was scheduled to be completed from November 2009 to May 2010. Time was extended without increasing of expenditure up to November 2010. Latest reschedule was from November 2009 to February 2011. Finally project started on April, 2010 and finished on February, 2011 because appointment of consultant by ADB was delayed.

2. Rationale of the project in respect of Concept, Design, Location and Timing.

As first command area development project was completed in 2003, the government of Bangladesh requested the Asian Development Bank to provide a project preparatory technical assistance (PPTA) to prepare the second command area development project(CADP-II) aimed at improving the performance of large-scale flood control, drainage and irrigation (FCDI) schemes. ADB approved the PPTA for CAD-II in December 2005, and the work was carried out by the PPTA team between February 2007 and September 2008. CAD-II project was devised to assist the Govt. of Bangladesh in rehabilitating following schemes:

- Teesta Barrage Project
- Manu River Irrigation Project(MRIP)
- Muhuri Irrigation Project(MIP)
- Ganges-Kobadak Irrigation Project

Limited capacity of public agencies and chronic system deterioration were emerged. Due to the need to develop alternative management arrangements for effective O & M, it was agreed that two smaller subprojects (MIP and MRIP) would be implemented as the first phase of the project. The present TA carried out additional analysis on MIP and MRIP.

3. Brief description on planning and financing of the project and its applicability.

- **Project Identification**
- **Appraisal**
- **Credit Negotiation**
- **Credit Agreement**
- **Credit Effectiveness**
- **Loan Disbursement**
- **Loan Conditionality**
- **Project Approval.**
- **Others (if any).**

Not applicable

4. Analysis of the Post-Implementation situation and result of the project:

Not applicable

4.1 Whether the beneficiaries of the project have clear knowledge about the Target/ Objectives of the project.

4.2 Programme for use of created-facilities of the project

4.3 O & M programme of the project.

4.4 Impact of the project -

4.4.1 Direct

4.4.2 Indirect

4.5 Transfer of Technology and Institutional Building through the project

4.6 Employment generation through the project.

4.7 Possibility of Self employment

4.8 Possibility of women-employment opportunity

4.9 Women's participation in development

4.10 Probable Impact on Socio-Economic activity.

4.11 Impact on environment

4.12 Sustainability of the project

4.13 Contribution to poverty alleviation/reduction

4.14 Opinion of the public representatives, local elite, local administration, teachers, religious leaders, and women's representatives etc

4.15 Contribution of Micro-credit programmes and Comments on overlapping with any NGO activities.

5. *Problems encountered during Implementation (with duration & steps taken to remove those): Not applicable*

5.1 Project Management

5.2 Project Director

5.3 Land Acquisition

5.4 Procurement

5.5 Consultancy

5.6 Contractor

5.7 Manpower

5.8 law & Order

5.9 Natural calamity

5.10 Project financing, allocation and release.

5.11 Design formulation/approval

5.12 Project aid disbursement and re-imbursement

5.13 Mission of the development partners.

5.14 Time & Cost Over-run

5.15 Project Supervision/Inspection

5.16 Delays in Decision

5.17 Transport

5.18 Training

5.19 Approval

5.20 Others

6. **Remarks & Recommendations of the Project Director:**

Upon approval from Ministry of Water Resources (MoWR) and Water Development Board (BWDB) to the concepts proposed by the CDTA with a Public-Private Partnership (PPP) arrangement, there is justification to take forward a new investment for future project in Muhuri Irrigation Project (MIP). Further follow-up PPTA is planned to review previous study findings and formulate the detail component of loan project- Piloting Improved Management of Muhuri Irrigation Project (PIMMIP) proposed by ADB. During October 2011 a fact finding Mission of this PPTA of ADB worked with MoWR, BWDB and Embassy of Japan in the line of finalizing the concept for the TA and the ensuing loan for PIMMIP.

13/12/11

Md. Masud Ahmed
Director
Planning-III, BWDB
Dhaka.

Date: 13/12/2011 .... **Signature and seal of the Project Director/Manager**

7. **Remarks/Comments of Agency Head**

-13/12

Date: .... **Signature and Seal**

(Md. Habibur Rahman)
Director General
Bangladesh Water Dev. Board
Dhaka.

8. **Remarks/Comments of the officer in- charge of the Ministry/Division**

Date: .... **Signature and Seal**

Enclosure (as stated on page 7): **Proposed Management, Operation, and Maintenance (MOM) System**

To improve the management, operation and maintenance of major Flood Control, Drainage, and Irrigation Systems a pilot project which encompasses the entire secondary and tertiary system of the Muhuri Irrigation Project (MIP) is to be put in place. In concept, this pilot project involves the use of a Specialized Management Unit as shown in the following figure, which in general will be tasked at the secondary and tertiary level of the system with:

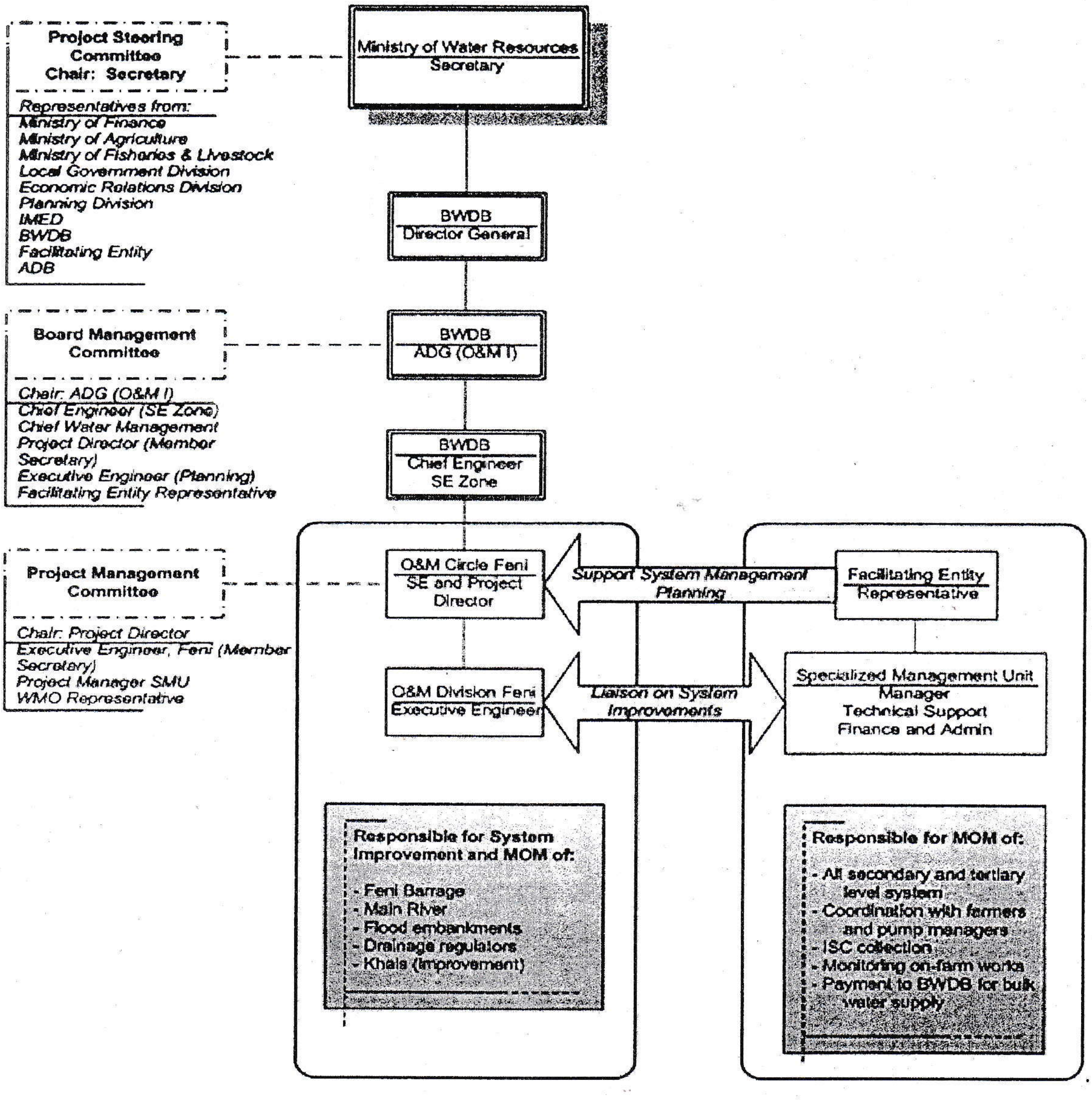
- Ensuring that farmers receive water deliveries in the amounts for which they pay
- Ensuring that water deliveries are timely
- Establishing a transparent and equitable system for recovering some proportion of the costs associated with delivering water.
- Strengthening the assessment, planning, financing, and carrying-out of O&M.

BWDB will be the Executing Agency (EA) with overall responsibility for (i) implementing all irrigation system improvements at the primary and secondary levels of the system, (ii) maintaining responsibility for the management, operation, and maintenance of the headworks and primary system, (iii) entering into a contract for the services of a facilitating entity to establish a Specialized Management Unit to manage, operate, and maintain the secondary and tertiary levels of the system, (iv) monitoring the contract between BWDB and the facilitating entity to ensure compliance, and (v) delivering bulk water to the secondary and tertiary system.

BWDB will enter into an agreement with a facilitating entity which will be contracted to establish the SMU within MIP. If the Specialized Management Unit proves to be successful, it would itself become a registered independent entity and contract directly with BWDB to continue to provide the requisite services. The facilitating entity will have two mandates. The primary mandate is to establish a Specialized Management Unit at MIP with a medium term objective of, based on successful performance, assisting the Specialized Management Unit to become an independent entity contracting directly with BWDB. The secondary mandate is to develop an asset inventory of all khals, secondary and tertiary canals, pump facilities, structures, and any other irrigation related assets and to establish a bench mark of irrigated area and institutional performance of the entity.

The Specialized Management Unit, operating under the guidance and direction of the contracted Facilitating Entity will be responsible for:

- Developing a functional working relationship with BWDB officials who are tasked with the management, operation, and maintenance of the primary system.
- Ensuring an equitable and reliable distribution of available water for irrigation, reduce irrigation losses and stop pilferage in accordance with the operational manual to be developed for MIP.
- Identifying all environmental issues and take action to rectify those, following relevant environmental rules.
- Implementing the systems devised to ensure payment for water delivery, including promoting and monitoring the system, interacting with pump operators, meeting with irrigators, and generally ensuring that the water is delivered in accordance with the payments made.
- Identifying where improvements are required and addressing these.



- Working with farmers to expand irrigation coverage.
- Identifying maintenance requirements and incorporating these into a maintenance plan.
- Assisting irrigators in obtaining extension services at Upazila level through relevant and existing line agency/department systems.

A Project Steering Committee and two levels of Management Committees will be established to deal with coordination and operational issues.