

**PROJECT COMPLETION REPORT: IMED 04/2003 (Revised)**

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

MINISTRY OF WATER RESOURCES

**Name of the Project** : Preparing Irrigation Management Improvement  
Investment Program (PPTA-IMIIP) in Muhuri  
Irrigation Project (MIP).

**Executing Agency** : Bangladesh Water Development Board (BWDB)

Office of the Director  
Planning –III  
&  
Project Director, PPTA-IMIIP  
Bangladesh Water Development Board  
Hasan Court (7<sup>th</sup> & 8<sup>th</sup> Floor)  
23/1, Motijheel C/A, Dhaka-1000

**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** : Preparing Irrigation Management Improvement Investment Program (PPTA-IMIIP) in Muhuri Irrigation Project (MIP).  
**02. Administrative Ministry/Division** : Ministry of Water Resources (MoWR)  
**03. Executing Agency** : Bangladesh Water Development Board (BWDB)  
**04. Location of the Project** :

Division	District	Upazila
Chittagong	Feni	Purshuram, Phulgazi, Chhagyal Naiyyia, Feni Sadar and Sonagazi
Chittagong	Chittagong	Mirsarai

**05. Objective of the Project :**

With a view to improving irrigation management and investment programme in MIP, the *specific* objectives are as follows:

- To review study outputs of Command Area Development Project-II (CAD-II) and Developing Innovative Approach to Management of Major Irrigation Systems (DIAMMIS) of ADB
- To address ADB's Multi-Tranche Financing Facility (MFF) due diligence and subsequent changes
- To perform & revise MIP feasibility study consisting detailed engineering and program designs
- To review and update economic analysis based on latest cost estimates for project.
- To finalize improved management system with Specialized Management Unit (SMU) and Irrigation Service Charge (ISC) rate for MIP
- To prepare draft DPP and terms of reference for initial procurement packages.

**06. Estimated Cost :**

(In lakh Taka)

	Original	Latest Revised
(a) Total	698.16	-
(b) Taka	43.60	-
(c) Foreign Currency	654.56	-
(d) Project Aid	654.56	-
(e) RPA	-	-

07. Date of Approval	:	PCP	TPP
(a) Original	:		29 November, 2012
Time Extention	:		04 February, 2014
(b) Latest Revised	:		-



**08. Implementation Period :**

	Date of Commencement	Date of Completion
(a) Original	October, 2012	October, 2013
Time Extension	October, 2012	June, 2014
(b) Latest Revised	-	-
(c) Actual	November, 2012	June, 2014

**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 Effectiveness	Date of Closing	
						Original	Revised
1	2	3	4	5	6	7	8
ADB	US Dollar	0.80	TA Grant	11.10.2012	31.10.2012	June, 2014	-

**b) GOB :**

(In lakh Taka)

Total amount	Loan	Grant	Cash Foreign Exchange
1	2	3	4
43.60		43.60	

**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	0.80	65.456	0.799	65.40	0.0007	0.056

\* Exchange rate with date: 1 Dollar = TK. 81.82 (as of 05 July 2012)

**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 TPP		Actual Implementation period	Time Over-run (% of original implementation period)	Remarks
Original	Latest Revised			
1	2	3	4	5
October, 2012 to October, 2013 (Time extension: October, 2012 to June, 2014)	-	October, 2012 to June, 2014	62.50%	

### 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
<b>TOTAL</b>	698.16	-	659.65	-	
<b>TAKA</b>	43.60	-	5.65	-	In kind: 36.45 In cash: 7.15
<b>PA</b>	654.56	-	654.00	-	

03. Project Personnel: Not applicable (Manpower of the Planning-III office, BWDB 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	Existing manpower for O & M	Others		
1	2	3	4	5	Male	Female
Officer (s)						
Staff(s)						
Total :						

*CSH*



**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
<b>(a) Revenue Component</b>						
<b>Supplies and Services:</b>						
Petrol and Lubricant for DP-III	1 item	1.50	-	1.4949	1 item	
Gas and Fuel for DP-III	1 item	1.50	-	1.3716	1 item	
Consultants	mm	458.19	40	458.19	40	
International and local travel	1 item	61.37	-	61.37	1 item	
Reports and communications	1 item	4.91	-	4.91	1 item	
Workshop, training, seminar and Conferences	1 item	13.09	-	13.09	1 item	
Surveys	1 item	36.82	-	36.82	1 item	
Repair & Maintenance of Vehicles	1 item	1.50	-	1.4837	1 item	
Hiring Charges (Vehicle)	1 item	16.36	-	16.36	1 item	
Repair of Computer and Office Equipments	1 item	0.65	-	0.644	1 item	

Items of work (as per TPP)	Unit	Target (as per TPP)		Actual Progress		Reasons for deviation (±)
		Financial	Physical (Quantity)	Financial	Physical (Quantity)	
Other Expenditure(Miscellaneous Administrative and support cost & Contingencies)	1 item	63.82	-	63.26	1 item	
Others (with Steering Committee honorium)	LS	2.00	-	0.66	LS	
Salary of Officers (Counterparts) ( <i>Inkind</i> )	mm	11.22	42	-	42	Requisite manpower was engaged from the existing setup of BWDB. Expenditure for staff salary, allowances and office accommodation was borne from the establishment budget of BWDB.
Salary of Staffs (Counterparts) ( <i>Inkind</i> )	mm	4.38	42	-	42	
Allowances (Counterparts) ( <i>Inkind</i> )	LS	11.40	-	-	LS	
Office Accommodation ( <i>Inkind</i> )	1 item	9.45	-	-	1 item	
<b>Sub-total (Revenue Component)</b>		<b>698.16</b>		<b>659.65</b>		<b>36.45 paid as Inkind.</b>
<b>(b) Capital Component :</b>						
Nil		Nil		Nil		
<b>Sub-total (Capital Component)</b>		Nil		Nil		
<b>TOTAL</b>		<b>698.16</b>		<b>659.65</b>		<b>36.45 paid as Inkind.</b>

**06. Information regarding Project Director (s) :**

Name & 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. Masud Ahmed Director, Planning-III & Project Director-IMIIP, BWDB, Dhaka. 25750-1000x8-33750	Yes	-	Yes	11/04/2011 (01/10/2012 as PD, IMIIP)	-	-

**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						

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**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 utilised	Remarks
	As per PP	As per contract		
1	2	3	4	5
(a) Foreign	15	-	15	
(b) Local	25	-	25	

**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 TPP :**

(In lakh Taka)

Financial Year	Financial provision & physical target as per original TPP				Financial provision & physical target as per latest revised TPP			
	Total	Taka	P.A.	Physical %	Total	Taka	P.A.	Physical %
1	2	3	4	5	6	7	8	9
2012-13	494.53	30.88	463.65		-	-	-	
2013-14	203.63	12.72	190.91		-	-	-	

**01. (b) Revised ADP allocation and progress :**

(In lakh Taka)

Financial Year	Revised Allocation & target				Taka release	Expenditure & physical progress			
	Total	Taka	P.A.	Physical %		Total	Taka	P.A.	Physical %
1	2	3	4	5	6	7	8	9	10
2012-13	-	-	-		-				
2013-14	661.00	7.00	654.00	100	6.65	659.65	5.65	654.00	100

\*PA (DPA: 654.00) was spent directly by the consulting firm through ADB.

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#### D. ACHIEVEMENT OF OBJECTIVES OF THE PROJECT:

Objectives as per TPP	Actual achievement	Reasons for shortfall, if any
<b>Specific Objectives were -</b>		
(a) To review study outputs of Command Area Development Project-II (CAD-II) and Developing Innovative Approach to Management of Major Irrigation Systems (DIAMMIS) of ADB.	Outputs of CAD-II and DIAMMIS studies reviewed and updated.	
(b) To address ADB's Multi-Tranche Financing Facility (MFF) due diligence and subsequent changes.	In December 2013, ADB and MoWR agreed to change the modality of funding from Multi-Tranche Financing Facility (MFF) to a series of standalone projects in the irrigation sector of Bangladesh. Irrigation Management Improvement Project (IMIP) is the first standalone project for Muhuri Irrigation Project (MIP) financed by ADB. Later on Ganges-Kobadak Irrigation Project (GKIP) and Teesta Barrage Irrigation Project (TBP) will be taken up as separate standalone projects.	
(c) To perform & revise MIP feasibility study consisting detailed engineering and program designs.	Feasibility study was done and submitted on May, 2014. The report covered rehabilitation, modernization and development of management system.	
(d) To review and update economic analysis based on latest cost estimates for project.	Economic analysis was done and incorporated in the Feasibility report. The results are found to be satisfactory.	
(e) To finalize improved management system with Specialized Management Unit (SMU) and Irrigation Service Charge (ISC) rate for MIP.	The establishment of a private sector following Public Private Partnership (PPP) model named as Irrigation Management Operator (IMO) was formulated and approved in the DPP of IMIP which is in the light of Specialized Management Unit (SMU). The provision for fixing of Irrigation Service Charge (ISC) has been kept, which is to be done through consultation with the stakeholders and Implementation Coordination Committee (ICC) of the IMIP (For MIP) project.	
(f) To prepare draft DPP and terms of reference for initial procurement packages.	Draft DPP was prepared by the consultants on the basis of which final DPP was prepared by BWDB and consequently approved by the ECNEC on 17/06/2014. Plan and Terms of reference (ToR) for the initial procurement packages were also prepared.	

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## 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)			
(d)			

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: NA.



## 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 yet.

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: Not yet.

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





## **G. DESCRIPTIVE REPORT**

### **1. General Observations/Remarks of the Project on :**

#### **1.1 Background**

In continuation to the previous Technical Assistance of Asian Development Bank (ADB), the ADB approved the Project Preparatory Technical Assistance (PPTA 4740-BAN) for Command Area Development Project (CADP-II) aiming at improving the performance of large scale Flood Control, Drainage and Irrigation (FCDI) schemes in December 2005 and the work was carried out by the PPTA team during the period of February 2007 to September 2008.

After CAD-II, the Capacity Development Technical Assistance (CDTA) (TA 7260-BAN) for Developing Innovative Approach to Management of Major Irrigation Systems (DIAMMIS) was fielded to address constraints identified in CAD-II study specifically to examine institutional aspects to assess potential options for strengthening system management and improving operation and maintenance. The main objective of the TA was to develop an innovative approach to management of major irrigation systems. It was recommended from the study that the pilot project at Muhuri Irrigation Project (MIP) shall involve the use of Specialized Management Unit (SMU) which will be tasked at the secondary and tertiary level of system whereas the primary system will be taken care by BWDB. Following the CDTA another PPTA was undertaken during October 2012 to June 2014 for doing the feasibility study of Muhuri Irrigation Project (MIP) to address the rehabilitation, modernization and development of management system.

#### **1.2 Justification/Adequacy**

Enhancing productivity is a high priority under the Government of Bangladesh's Sixth Five-Year Plan, FY2011-FY2015 (SFYP). Robust and well managed irrigation systems are central to boosting productivity and contributing to food security. There is a need to reduce reliance on groundwater by improving the management of surface water and improving the reliability and efficiency of irrigation supplies. A weakness that continues to plague investments in the water sector is the lack of long-term operation and maintenance (O&M) of water management facilities. This is due to inadequate financing, beneficiary disengagement and weak service delivery and has direct impact on productivity, rural income and poverty.

The Government has a comprehensive water policy framework. The adoption of the National Policy Framework Policy (NWP) in 1999 specifically stated that major irrigation schemes will be placed under private management following- PPP model by the implementing agency along with local government and community organizations. A subsequent capacity development TA was undertaken in 2009 to investigate potential for alternative service delivery agreements and management arrangements, including independent entities that would better manage and operate the irrigation systems. A Program was included in ADB's Country Operations Business Plan 2012-2014. It would undertake physical improvement of irrigation systems specifically rehabilitation and modernization of infrastructure for reinstating original capacity, improving efficiency and restoring lost irrigated area. Such approach was developed under CDTA 7260-BAN for Muhuri Irrigation Project (MIP) that is to be piloted under the Irrigation Management Improvement Project (IMIP) in the first instance.

#### **1.3 Objectives**

The overall objectives for this assignment were to address the due diligences requirements of ADB for an MFF program and support investment preparation to be financed through the first tranche of the MFF including the (i) physical rehabilitation & modernization of MIP and (ii) establishment of Irrigation Management Operator (IMO) in the light of Specialized Management Unit (SMU).

With a view to improving irrigation management and investment programme in MIP, the *specific* objectives were as follows:



- To review study outputs of Command Area Development Project-II (CAD-II) and Developing Innovative Approach to Management of Major Irrigation Systems (DIAMMIS) of ADB
- To address ADB's Multi-Tranche Financing Facility (MFF) due diligence and subsequent changes
- To perform & revise MIP feasibility study consisting detailed engineering and program designs
- To review and update economic analysis based on latest cost estimates for project.
- To finalize improved management system with Specialized Management Unit (SMU) and Irrigation Service Charge (ISC) rate for MIP
- To prepare draft DPP and terms of reference for initial procurement packages.

#### **1.4 Project revision with reasons**

The PPTA-IMIIP study was scheduled to be completed in between October 2012 to October 2013. Implementation time was extended up to June 2014 without increasing cost. To prepare the DPP of the investment project of Irrigation Management Improvement Project (For Muhuri Irrigation Project) and for getting its approval PPTA's time was extended. The project started on November 2012 and completed on June 2014.

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

The Command Area Development Project-II (CADP-II) prepared an investment project that organizes key Govt. policies and directives by introducing a new approach to the management and O&M of large scale irrigation systems along with physical rehabilitation. This TA also prepared EIAs, resettlement Plans as well as Indigenous Peoples resettlement frameworks for the selected subprojects. *Limited capacity of public agencies to carry out O&M of large irrigation project and also chronic system deterioration due to lack of O&M fund* were identified as the main problems in CAD-II study. After CAD-II, the Capacity Development Technical Assistance (CDTA) (TA 7260-BAN) of Developing Innovative Approach to Management of Major Irrigation Systems (DIAMMIS) was fielded to address constraints identified in CAD-II study specifically to examine institutional aspects to assess potential options for strengthening system management and improving operation and maintenance.

To plan a third party arrangement in the light of Specialized Management Unit (SMU) system developed in DIAMMIS, a loan project –Piloting Improved Management of Muhuri Irrigation Project (PIMMIP) was proposed by ADB for rehabilitation of MIP in the Chittagong division. Before going to possible investment project it was necessary to update previous work/study and preparation for draft DPP of investment project. That's why PPTA was designed and conducted. If the third party arrangement based concept becomes successful then it will be replicated in other large scale irrigation projects under BWDB like Ganges-Kobadak Irrigation Project (GKIP) and Teesta Barrage Irrigation Project (TBP) which are located in the Khulna and Rangpur divisions.

#### **3. Brief description on planning and financing of the project and its applicability: Not applicable.**

- ◆ Project Identification
- ◆ Project Preparation
- ◆ Appraisal
- ◆ Credit Negotiation
- ◆ Credit Agreement
- ◆ Credit Effectiveness
- ◆ Loan Disbursement
- ◆ Loan Conditionalities
- ◆ Project Approval.





◆ Others (if any).

**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, 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                         | 5.11 Design formulation/approval                |
| 5.2 Project Director                           | 5.12 Project aid disbursement and re-imbursment |
| 5.3 Land Acquisition                           | 5.13 Mission of the development partners.       |
| 5.4 Procurement                                | 5.14 Time & Cost Over-run                       |
| 5.5 Consultancy                                | 5.15 Project Supervision/Inspection             |
| 5.6 Contractor                                 | 5.16 Delay in Decision                          |
| 5.7 Manpower                                   | 5.17 Transport                                  |
| 5.8 law & Order                                | 5.18 Training                                   |
| 5.9 Natural calamity                           | 5.19 Approval                                   |
| 5.10 Project financing, allocation and release | 5.20 Others.                                    |

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

The Final Report of PPTA-IMIIP was submitted on May, 2014. PPTA- IMIIP was originally designed to address the due diligences requirements for a Multi- Tranche Financing Facility (MFF) program in a continuous way and support investment preparation that is to be financed for major irrigation schemes in BWDB considering Muhuri Irrigation Project in the first instance.

During discussions with ADB and MoWR in December 2013 it was agreed to change the modality of funding from MFF to a series of standalone projects in the irrigation sector. As such the title of the first project was changed from the Irrigation Management Improvement Investment Program (IMIIP) to the Irrigation Management Improvement Project (IMIP).



The design of the IMIP is largely the same as the IMIIP with the same objectives to support the road map for irrigation. The DPP of the investment project of **Irrigation Management Improvement Project (For Muhuri Irrigation Project)** with costing TK. 45735.72 lakh (GoB: Tk.8935.72 lakh, PA: Tk. 36800.00 lakh) was approved by the ECNEC on 17/06/2014.

The IMIP would support the investment to rehabilitation, modernization and development of management system for Muhuri Irrigation Project (MIP) as well as the preparation of feasibility studies for Ganges-Kobadak Irrigation Project (GKIP) and Teesta Barrage Irrigation Project (TBP) which would be financed by ADB in the future through additional financing for a new standalone loan(s) project if the result of MIP becomes satisfactory.

IMIP is a pilot project for testing improved irrigation management with Irrigation Management Operator (IMO) following PPP model and buried pipeline systems with prepaid metering and electrical/solar pumps. The system is designed for efficient use of available water in the irrigated area and effective collection of water charge for timely O & M. The success of MIP project is vital for the next phase of implementation target since the idea will be replicated in future projects like GKIP and TBP.

  
6/8/14  
**Md. Masud Ahmed**  
Director  
Planning-III, BWDB  
Dhaka

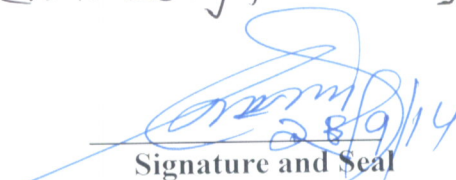
Date : 06/08/2014

Signature and seal of the Project Director/Manager

6. Remarks/Comments of Agency Head

The recommendation of the PPTA-2MIIP study will be reflected in the implementation project named Irrigation Management Improvement Project (for Muhuri Irrigation Project) which is being financed by ADB.

Date : 28-09-2014

  
28/9/14  
Signature and Seal  
(Md. Shahidur Rahman)  
Director General  
BWDB, Dhaka.

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

Date :

Signature and Seal