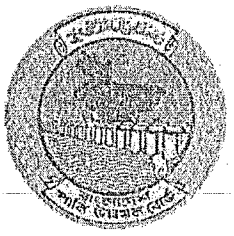
2019-20

PROJECT COMPLETION REPORT (PCR)

IMED 04/2003 (Revised)

Name of the Project : Feasibility Study for Providing Irrigation Facilities through Construction of Hydraulic Elevator Dam (HED) across Maeinee River at Dighinala, Khagrachari; Shrimai Khal at Patiya, Chattogram & Kasalang River at Sajek Valley, Rangamati.



Directorate of Planning-2

BANGLADESH WATER DEVELOPMENT BOARD

MINISTRY OF WATER RESOURCES

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

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**	:Feasibility Study for Providing Irrigation Facilities through Construction of Hydraulic Elevator Dam (HED) across Maeinee River at Dighinala, Khagrachari; Shrimai Khal at Patiya, Chattogram & Kasalang River at Sajek Valley, Rangamati.
02.	**Administrative Ministry/Division**	: Ministry of Water Resources
03.	**Executing Agency**	: Bangladesh Water Development Board (BWDB)
04.	**Location of the Project**	:

Division	**District**
Chattogram	Chattogram, Rangamati, Khagrachari.

05. Objective of the Project :

The main objective of the study is to conduct a limited feasibility study of Hydraulic Elevator Dams in three proposed locations namely (i) Maeinee river at Digheenala upazila of Khagrachhari district, (ii) Shrimae khal at Patiya upazila of Chattogram district and (iii) Kasalang river in Sajek valley under Rangamati district for conservation of dry season flow. The conserved water is planned to be used for irrigation development, environmental improvement and recreational purpose and other uses by local initiatives as is presently practiced.

The specific objectives are mentioned below but not limited to:

- Selection of suitable sites of HEDs in the respective project area considering public demand, land topography, land-use and optimizing water storage;
- Assess the feasibility of irrigation/tourism development (irrigation for Maeinee & Shrimae and Kasalang for tourism) in the area through construction of the proposed HEDs;
- Quantification and availability of water in the river/khal for irrigation and other uses by using mathematical model tools at the proposed location of HEDs';
- Assessment of hydraulic design parameters (water level, discharge, length of the dam, scouring depth, reservoir extent etc.) of the proposed interventions;
- ESIA study of the three sub-projects;
- Cost estimate and economic analysis of the individual sub projects.

06. Estimated Cost :

(In lakh Taka)

	Original	Latest Revised
(a) Total	469.55	-
(b) Taka	469.55	-
(c) Foreign Currency	-	-
(d) Project Aid	-	-
(e) RPA	-	-

07. Date of Approval	**:**	**PCP/PFS**	**TPP**
(a) Original	**:**	22 May 2019	-
(b) Latest Revised	**:**	19 August 2019**	-

(** The PFS of the project was not revised but a no cost time extention has been ordered for the project)

08. Implementation Period :

	Date of Commencement	Date of Completion
(a) Original	May 2019	August 2019
(b) Latest Revised	May 2019 **	December 2019**
(c) Actual	May 2019	December 2019

** The PFS of the project was not revised but a no cost time extention has been ordered for the project

09. Financing Arrangement (Source-wise):

9.1 Status of Loan/Grant

a) Foreign Financing : Not Applicable

Source (s)	Currency as per Agreement	Amount in USD (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
Not Applicable							

b) GOB :

(In lakh Taka)

Total amount	Loan	Grant	Cash Foreign Exchange
1	2	3	4
469.55	-	469.55	-

9.2 Utilization of Project Aid: Not Applicable

Source (s)	Total Amount	Actual Expenditure	Unutilized Amount
1	2	3	4
Not Applicable for this project			

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
Not Applicable for this project.					

B. IMPLEMENTATION POSITION

01. Implementation Period:

Implementation Period as per PP		Actual Implementation period	Time Over-run (% of original implementation period)	Remarks
Original	Latest Revised			
1	2	3	4	5
May 2019 to August 2019	May 2019 to December 2019 (No cost time extension)	May 2019 to December 2019	100%	The admistrative order of the project was issued on 22/05/2019 and PD was appointed on 17/07/2019.As project activities can not be started before appointment of the PD, all project activities has been shifted accordingly.

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	469.55	-	444.11		
TAKA	469.55	-	444.11	(-5.41%)	
PA	-	-	-		

03. Project Personnel: The project have been implemented by existing manpower of Directorate of Palnning-2, BWDB, Dhaka.

Sanctioned strength as per PP	Manpower employed during execution	Status of the existing manpower			Manpower Enployed	
		Manpower requirement for O&M as per pp	Existing manpower for O & M	Oth ers		
1	2	3	4	5	Male	Female
-	Officer- 08 Staff-02	-	-	-	Officer- 03 Staff-02	Officer- 05
-	-	-	-	-	-	-
Total	10	-		-	05	05

04. Training of Project Personnel (Foreign/Local):

a. Foreign:

Field of Training / Study tour/ workshop/ Seminer etc.	Provision as per PP		Actual		Remarks
	Number of person	Duration	Number of person	Duration	
1	2	3	4	5	6
Training on Hydraulic Elevator Dam in China	05	07	05	07	16/12/2019 - 22/12/2019

b. Local: Not Applicable

Field of Training / Study tour/ workshop/ Seminer etc.	Provision as per PP		Actual		Remarks
	Number of person	Duration	Number of person	Duration	
1	2	3	4	5	6

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

(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:						
Honorarium	L.S	1.50	100.00%	0.759	51%	
Transport hiring (Hiring of microbus)	Vehicle-months	3.50	100.00%	0.00	0.00	
Domestic Travel Expenses	L.S	1.00	100.00%	0.508	50%	
Petrol & Lubricant	L.S	0.50	100.00%	0.00	0.00	
Printing & Binding	L.S	0.50	100.00%	0.198	40%	
Consultancy (including IT & VAT)	L.S	459.55	100.00%	440.50	99.5%	
Repair, Maintenance and Rehabilitation:						
Computers	L.S	0.50	100.00%	0.248	50%	
Machineries and Equipment	L.S	0.50	100.00%	0.3985	80%	
Sub-Total (a)		467.55				
(b)Capital Component						
Computers and Accessories (2 nos of Desktop Computer with other accessories, 1no of printer)	Computer-2 nos Printer-1 nos	2.00	Computer-2 nos Printer-1 nos	1.498	75%	
Sub-Total (b)		2.00				
Total (a+b)		**469.55**	**100%**	**444.11**	**99.5%**	

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
AKM Tahmidul Islam Director/ Superintending Engineer Planning-II, BWDB, Dhaka & Project Director. Pay Scale: 50000-71200	-	Yes	Yes	17.07.2019	-	

07. **Procurement of Transport (in Nos.):** No transport was either purchased or hired under this project.

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
Not Applicable						

08. Procurement of Goods, Works and Consultancy Services:

8.1 Goods and works of the project costing above Tk. 200.00 lakh. And Consultancy above Tk. 100.00 lakh: Goods procured under this project is less than Tk. 200.00 lakh. Cost of details of procurement of Consultancy Services is given as follows:

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
consultancy services of Feasibility Study for Providing Irrigation Facilities through Construction of Hydraulic ElevatorDam (HED) across Maeinee River at Dighinala, Khagrachari; Shrimai Khal at Patiya, Chattogram & Kasalang River at Sajek Valley, Rangamati.	459.55	459.00	6.08.2019	5.09.2019	31.12.2019	31.12.2019

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	-	-	-	
(b) Local	66	66	65.5	

09. Construction/Erection/Installation Tools & Equipment:

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
Desktop Computer	2	2 (24/12/2019)	01/01/2020	-	2	-

C. FINANCIAL AND PHYSICAL PROGRAMME:

01. (a) Original and revised schedule as per PP : Not applicable.

(In lakh Taka)

Financial Year	Financial provision & physical target as per original PP				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
2019-20	469.55	469.55	-	100%	-	-	-	100%
Total	**469.55**	**469.55**	-	**100%**	-	-	-	**100%**

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
2019-2020	469.00	469.00	-	100%	350.58	348.27	348.27	-	99.5%

* The consultant claimed total BDT 440.505 lakh as the bill of consultancy services in which they were paid BDT 344.66 lakh from the released fund of 1st -3rd installment. The fund under 4th installment could not be released. So the rest amount (440.505-344.66=95.84 lac Taka) is paid from the O&M budget as directed by the Ministry of Water Resources.

D. ACHIEVEMENT OF OBJECTIVES OF THE PROJECT

Objectives as per TPP	Actual achievement	Reasons for shortfall, if any
• Selection of suitable sites of HEDs in the respective project area considering public demand, land topography, land-use and optimizing water storage; • Assess the feasibility of irrigation/tourism development (irrigation for Maeinee & Shrimae and Kasalang for tourism) in the area through construction of the proposed HEDs; • Quantification and availability of water in the river/khal for irrigation and other uses by using mathematical model tools at the proposed location of HEDs'; • Assessment of hydraulic design parameters (water level, discharge, length of the dam, scouring depth, reservoir extent etc.) of the proposed interventions; • ESIA study of the three sub-projects; • Cost estimate and economic analysis of the individual sub projects;	• After thorough investigation, the consultant determined exact location for construction of HED at shrimae khal and Maeinee river. But instead of Kasalang river, Schichok chara has been proposed as the feasible site for construction of HED at Sajek Valley, Rangamati; • Determination of design parameter; • Mathematical modelling; • Design of anciliary structures of HED; • Stakeholder consultation; • ESIA • Cost Estimate	

E. BENEFIT ANALYSIS

01. Annual Out-put: Not applicable for study project.

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 for study project.

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:
Not Applicable.

F. MONITORING AND AUDITING

0.1 **Monitoring:** As this is a study project, hence there is no scope of field work inspection in this project.

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

(a) Ministry / Agency:
(b) IMED:
(c) Others:

0.2. Auditing during and after Implementation:

2.1. Internal Audit: No internal Audit conducted.

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: Yet to be conducted.

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

Bangladesh Water Development Board is the mandated organization to administer Flood Control, Drainage improvement and Irrigation (FCDI) of the country. Food security is a vital issue for Bangladesh. To enhance food production for the huge population of the country, it is required to explore new technologies in irrigation sector to bring more lands under irrigable area. BWDB has already implemented several major and minor irrigation projects in South East and Eastern Hilly region to store water for irrigation development. Some of the projects are- Muhuri Irrigation Project, Muhuri Kahua FCDI Project, Mohamaya Chhara Irrigation Project, Laxmichhara Irrigation Project, Hinguli Chhara Irrigation Project, etc. There are some local initiatives of earthen dam construction in small extent to feed local house hold consumption and irrigation water to the adjacent area. Eastern hilly region is facing a lot due to the scarcity of water in dry season. There is opportunity to utilize the huge quantity of rain water which passes away through rivers by constructing dams and reservoirs.

BWDB has constructed a number of rubber dams to facilitate Irrigation. China BIC has invented a new technology titled Hydraulic Elevator Dam (HED) which can be used for water retention, flow control, riverway landscape, storage of irrigation water, expansion of river capacity and other water conservancy & hydropower, water echological civilization and urbanization construction projects. It has obvious advantages over rubber dam. BWDB intends to construct HED to utilize the rain water which eventually flows down to the sea. In this connection, a Memorandum of Understanding (MoU) has been signed between Bangladesh Water Development Board (BWDB) under the Ministry of Water Resources and China Institute of Water Resources and Hydropower Research (IHWR) represented by Beijing IHWR Corporation (BIC) in connection with the development of water management infrastructure by incorporating the use of suitable and advanced technology. Following the MoU, a technical committee was formed by the Ministry of Water Resources to visit the location of the constructed elevated hydraulic dam in China. Members of the technical committee submitted a technical report recommending construction of at least two hydraulic elevated dam (HED) on pilot basis after visiting different HED locations in China from 3 - 9 May 2013. Later on, an expert team of Beijing IHWR Corporation (BIC) was invited to visit potential locations for HED in Chattogram, Bangladesh. The Chinese team visited Bangladesh from 22 - 29 June

2015. The team visited several locations such as the Shrimai khal of Patiya upazila, the Mandakini river of Hathazari & Fatikchhari upazila of Chattogram and the Maeinee river of Dighinala upazila of Khagrachari, etc for the preliminary identification of suitable location to construct the HED in Bangladesh,. An appraisal report was submitted later on by the team with recommendation to construct hydraulic elevated dam over the Shrimai khal of Patiya upazila of Chattogram and the Maeinee river of Dighinala upazila of Khagrachari. Chief Planning of BWDB formed a technical committee on 29th January 2016 to visit the proposed locations of elevated hydraulic dam for technical study to prepare a DPP. According to the letter issued by Ministry of Water Resources (MOWR) vide memo no 42.00.0000.043.014.010.2017-136 dated 25 June 2018, a feasibility study is suggested prior to take up the project as HED is a new concept. Accordingly, PFS of the project titled "Feasibility Study for Providing Irrigation Facilities through Construction of Hydraulic Elevator Dam (HED) across Maeinee River at Dighinala, Khagrachari and Shrimai Khal at Patiya, Chattogram" was submitted to MoWR in December 2018. A rationalization/ review meeting on the PFS was held in MoWR on 31 January 2019. In the meeting, Sajek valley under Rangamati District is suggested as a site to construct another HED and revise the PFS accordingly. As per decision of the meeting, the PFS is revised proposing Mainee River at Digheenala upazila of Khagrachhari district, Shrimai khal at Patiya upazila of Chattogram district and Sajek Valley at Baghaichori upazila of Rangamati District as three potential sites for construct of HED.

1.2 Justification/Adequacy

Irrigation of our country mostly depends on surface water. But the surface water is insufficient to fulfill the demand for irrigation in dry season. Therefore, it is pragmatic to utilize the significant quantity of rain water in the hilly regions which is is flowing down to the Bay of Bengal. Irrigation demand in dry season can be managed by retaining rain water of hilly region through construction of dam and reservoirs without compromising the environmental demand. In this sense, Hydraulic Elevator Dam is a perfect option because of its easy installation and management technique.

According to Goal# 6 of SDG, it is essential to ensure availability and sustainable management of water. Implementation of this project will make available irrigation water in the project area especially in dry season which will ultimately help to move a step ahead towards achievement the SDG goal.

1.3 Objectives

The main objective of the study is to conduct a limited feasibility study of Hydraulic Elevator Dams in three proposed locations namely (i) Maeinee river at Digheenala upazila of Khagrachhari district, (ii) Shrimae khal at Patiya upazila of Chattogram district and (iii) Kasalang river in Sajek valley under Rangamati district for conservation of dry season flow. The conserved water is planned to be used for irrigation development, environmental improvement and recreational purpose and other uses by local initiatives as is presently practiced.

The specific objectives are mentioned below but not limited to:

- Selection of suitable sites of HEDs in the respective project area considering public demand, land topography, land-use and optimizing water storage;
- Assess the feasibility of irrigation/tourism development (irrigation for Maeinee & Shrimae and Kasalang for tourism) in the area through construction of the proposed HEDs;
- Quantification and availability of water in the river/khal for irrigation and other uses by using mathematical model tools at the proposed location of HEDs';
- Assessment of hydraulic design parameters (water level, discharge, length of the dam, scouring depth, reservoir extent etc.) of the proposed interventions;
- ESIA study of the three sub-projects;
- Cost estimate and economic analysis of the individual sub projects;

1.4. Project revision with reasons:

The Administrative Order (A.O.) regarding project approval was issued on 22 May 2019 and Project Director (PD) was appointed on 17 July 2019 by the Ministry of Water Resources. As project works can not be started before appointment of the PD and the remaining time of the project period,was not enough to complete the study. So the project period was extended for 4 months (Upto December 2019) by the Ministry of Water Resources.

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

In this project Hydraulic Elevator Dam (HED) had been introduced in Bangladesh which is a recent developed technique in the field of water conservation in natural river system. It is widely used in irrigation, navigation, agriculture, small hydropower plants etc. It has

conquered all the shortcomings of the traditional moveable dam because of its easy construction, low construction, operation and maintenance cost, scope of extensive application, capacity of high flood control etc. It is anticipated that HED would be a better replacement of traditional dams for small and medium rivers in terms of cost, time and sustainability.

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

- Project Identification

A Memorandum of Understanding (MoU) had been signed between Bangladesh Water Development Board (BWDB) under the Ministry of Water Resources and China Institute of Water Resources and Hydropower Research (IHWR) represented by Beijing IHWR Corporation (BIC) in connection with the development of water management infrastructure by incorporating the use of suitable and advanced technology. Following the MoU, a technical committee was formed by the Ministry of Water Resources to visit the location of the constructed elevated hydraulic dam in China. Members of the technical committee submitted a technical report recommending construction of at least two hydraulic elevated dam (HED) on pilot basis after visiting different HED locations in China from 3 - 9 May 2013. Later on, an expert team of Beijing IHWR Corporation (BIC) was invited to visit potential locations for HED in Chattogram, Bangladesh. The Chinese team visited Bangladesh from 22 - 29 June 2015. The team visited several locations such as the Shrimai khal of Patiya upazila, the Mandakini river of Hathazari & Fatikchhari upazila of Chattogram and the Maeinee river of Dighinala upazila of Khagrachari etc for the preliminary identification of suitable location to construct the HED in Bangladesh,. An appraisal report was submitted later on by the team with recommendation to construct hydraulic elevated dam over the Shrimai khal of Patiya upazila of Chattogram and the Maeinee river of Dighinala upazila of Khagrachari. Chief Planning, BWDB formed a technical committee on 29th January 2016 to visit the proposed locations of elevated hydraulic dam for technical study to prepare a DPP. According to the letter issued by Ministry of Water Resources (MOWR) vide memo no 42.00.0000.043.014.010.2017-136 dated 25 June 2018, a feasibility study as suggested prior to take up the project as HED is a new concept.

- Project Preparation

In view of the above, BWDB prepared a PFS to execute the feasibility study project.

- Appraisal

DPEC meeting of the project was held in Ministry of Water Resources (MoWR) on 16 April 2019.

- Credit Negotiation
- Credit Agreement
- Credit Effectiveness
- Loan Disbursement
- Loan Conditionalities

Not Applicable

- Project Approval

  The PFS of the project was approved on 22 May 2019 by MoWR.

- Others (if any).

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

4.1 Whether the beneficiaries of the project have clear knowledge about the Target/ Objectives of the project- It is a study project. Benefits can be extracted after implementation of main project.

4.2 Programme for use of created-facilities of the project-N/A

4.3 O & M programme of the project-N/A

4.4 Impact of the project – N/A

4.4.1 Direct

4.4.2 Indirect

4.5 Transfer of Technology and Institutional Building through the project-Yes

4.6 Employment generation through the project-N/A

4.7 Possibility of Self employment-N/A

4.8 Possibility of women-employment opportunity-N/A

4.9 Women's participation in development-N/A

4.10 Probable Impact on Socio-Economic activity-Positive impact have been assessed in the study.

4.11 Impact on environment-Possitive impact have been assessed in the study.

4.12 Sustainability of the project-N/A

4.13 Contribution to poverty alleviation/reduction-N/A

4.14 Opinion of the public representatives, local elite, local administration, teachers, religious leaders, women's representatives etc-N/A

4.15 Contribution of Micro-credit programmes and Comments on overlapping with any NGO activities-N/A

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

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		
5.4	Procurement	5.13	Mission of the development partners.
5.5	Consultancy	5.14	Time & Cost Over-run
5.6	Contractor	5.15	Project Supervision/Inspection
5.7	Manpower	5.16	Delay in Decision
5.8	law & Order	5.17	Transport
5.9	Natural clamity	5.18	Training
5.10	Project financing, allocation and release	5.19	Approval
		5.20	Others.

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

The project was successfully completed in December 2019. Construction of Hydraulic Elevator Dam (HED) is a new concept in Bangladesh. It is developed by Beijing IWHR Corporation (BIC), a state-owned company subordinated by China Institute of Water Resources and Hydropower Research (IWHR) and being practiced in small and medium type of rivers to retain water especially the dry season flow for irrigation and other usage. This study project has been carried out to determine the feasibility of construction of HED in Bangladesh and identify the potential sites for its constriction. The feasible locations of Mainee river at Dighuinala, Khagrachari, Shrimai Khal at Ptiya, Chattogram and Sajek Valley, Rangamati for construction of HED have been identified through this study in which sites of Mainee river and Shrimai khal will be used for providing irrigation water and Sajek Valley site will be used for providing drinking water to promote tourism of the area. Initially Kasalang river was identified as the potential site for construction of HED at Sajek Valley, Rangamati. But after thorough investigation, Schichok Chara has been proposed as the feasible for HED construction at Sajek Valley, Rangamati.Two workshops were arranged in participation of local stakeholders and they have accepted the proposed interventions. It is anticipated that the dry season flow of the three proposed locations could be conserved successfully through construction of HED and therefore

its construction is strongly recommended. The design of ancillary structures, cost estimate and ESIA for HED construction have been prepared through this study based on which DPP of the subsequent investment project would be prepared.

02.09.2020

Date : .....

Signature and seal of the Project Director/Manager

A.K.M.Tahmidul Islam
Project Director
&
Superintending Engineer (Civil)
Directorate of Planning-2
BWDB, Dhaka.

7. Remarks/Comments of Agency Head

BWDB is going to introduce Hydraulic Elevator Dam (HED) in Bangladesh. The feasible locations for construction of HED have been identified through this study. HED on Mainee river and Shoimai khal will be used for providing irrigation water and HED on Sajek valley will be used for providing drinking water to promote tourism of that area. The design of HED ancillary structures, cost estimates and ESIA have been prepared. With the consent from MoWR, BWDB will soon furnish a DPP and process it for approval.

Date: .....

Signature and Seal
15.09.2020

(A. M. Aminul Haque)
Director General
BWDB, Dhaka.

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

Date: .....

Signature and Seal