Bangladesh Water Development Board (BWDB)

Coastal Embankment Improvement Project, Phase-I (CEIP-I)

Bi-annual Environment Monitoring Report
for
January – June 2021

CEIP-1 PMU
with the assistance of
DDCS&PMS Consultants and M&E Consultants

August 2021

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Acronyms and Abbreviations

BOD	Biochemical Oxygen Demand
BWDB	Bangladesh Water Development Board
CEIP-1	Coastal Embankment Improvement Projet,Phase-1
CIF	Climate Investment Fund
COD	Chemical Oxygen Demand
Covid-19	Causal agent for corona virus disease
DDCS&PMSC	Detailed Design, Construction Supervision and Project Management Support Consultant
DO	Dissolved Oxygen
DoE	Department of Environment
DOF	Department of Forest
DPP	Development Project Pro-forma
EAP	Environmental Action Plan
ECC	Environment Clearance Certificate
ECR	Environment Conservation Rules
EIA	Environmnental Impact Assessment
EHS	Environment and Health Safety
EMF	Environment Management Framework
ESMP	Environment and Social Management Plan
EMP	Environmental Management Plan
GoB	Government of Bangladesh
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
ISM	Implementation Support Mission
KUET	Khulna University of Engineeing& Technology
LPG	LiquifiedPetrolium Gas
M&E	Monitoring and Evaluation
OHS	Occupational Health Safety
PAD	Project Appraisal Document
pH	Acidity/alkalinity
PMU	Project Management Unit
PPCR	Pilot Program for Climate Resilience
PPE	Personal Protective Equipment
RAP	Resettlement Action Plan
R/S	River Side
TDS	Total Dissolved Solids
WB	World Bank

Executive Summary

Introduction: This Bi-annual Environmental Monitoring Report for Coastal Embankment Improvement Project (CEIP-1) has been prepared during the period January to June, 2021 to fulfill the safeguard policy requirement of GOB and the WB. The Government of Bangladesh (GOB) has undertaken the implementation of the Coastal Embankment Improvement Project, Phase-1 (CEIP-1) with loan assistance of the World Bank (WB) and grant assistance of the Climate Investment Fund's Pilot Program for Climate Resilience (PPCR). The Project includes crehabilitation and improvement of 17 polders, to be implemented in three packages. Two packages covering 10 Polders are currently underway. The present Phase-1 activities belong to part of the total of 139 polders of Bangladesh Water Development Board (BWDB) having nearly 5,700 km embankment along with various water management structures. During the sixties, polderization started in the coastal areas to mainly protect land and people from diurnal tidal flooding and control salinity. Lack of proper maintenance, damage by the recent cyclones/storm surges (mainly Sidr and Aila which took place in 2007 and 2009 respectively) and siltation of the peripheral rivers have necessitated the adoption of CEIP, which will not only rehabilitate the embankment, but also raise the embankment height to combat high tides and storm surges which have been intensified by global warming and sea level rise due to climate change effect. CEIP-1 includes 17 number of coastal polders located in the districts of Khulna, Bagerhat, Satkhira, Pirojpur, Barguna and Patuakhali. But due to resource constraint 10 nos. of Polders in the district of Khulna, Bagerhat, Pirojpur, Barguna and Patuakhali have been taken up for rehabilitation under 2 nos. of Packages. At present decision has been taken to improve the remaining 7 numbers of Polders in the next phase of CEIP. CEIP has also emphasized on improvement of the environment and that environmental, social and economic issues be addressed during its pre-construction, construction and operation and maintenance phases. Due to outbrake of Covid-19 from December 2019 all over the world, it was essential to take emergency precautionary measures for minimsing spead of corona infection. The contractor of the two packages developed the Emergency Preparedness Plan (EPP) following OHS protocol for Covid-19. The translated version in Bangla and Chinese of the EPP for Covid-19 measures are preserved in all camp sites for better understanding of the local and Chinese people working at sites. The contractors are complying the recommendations of the EPP in all it's construction sites to ensure the health and safety of the project workers which is being monitored by the Environmental team of the Project.

Project Objectives: The project development objective as approved and agreed upon by the World Bank and the Government of Bangladesh is to increase the resilience of coastal population to natural disasters and climate change. More specifically, the project aims at

- reducing the loss of assets, crops and livestock during natural disasters;
- reducing the time of recovery after natural disaster such as cyclone;
- improving agricultural production by reducing saline water intrusion which is expected to worsen due climate change; and
- Improving the Government of Bangladesh's capacity to respond promptly and effectively to an eligible crisis or emergency. This objective will be achieved by rehabilitating and improving the Polder system in the coastal area.

Project Components: The Project has five components; four components are related to polder improvement and a fifth component (with a provisional zero amount) has been included to allow for rapid reallocation of loan proceeds during an emergency, under streamlined procurement and disbursement procedures:

Component A	-	Rehabilitation and Improvement of Polders.
Component B	-	Implementation of Social Action and Environment Management Plans.

Component C	-	Construction Supervision, Monitoring & Evaluation of Project Impact, Supervision of Social and Environment Plans, and Delta Monitoring
Component D	-	Project Management, Technical Assistance, Training and Strategic Studies.
Component E	-	Contingent Emergency Response Component

Environmental Category of the Project: According to Environmental Conservation Rules (ECR) 1997 of DoE, the project is categorized as "Red" requiring that EIA and RAP have to be submitted for obtaining and Environmental Clearance Certificate (ECC). According to WB safeguard policy, the project is classified as Category "A" involving significant environmental adverse impact. An Environmental Management Framework (EMF) has been formulated which includes various steps for protection of physical, ecological, socio-cultural resources along with economic development and protection of occupation health and safety (OHS). These steps were followed during the reporting period to address environmental considerations.

Project Location: Out of total 139 Polders in the country, CEIP-1 includes 10 Polders in 2 Packages. Their locations are given in table below along with the area of each Polder that will be protected by the embankment works.

Location and Gross Protected Area (ha) of CEIP-1 polders

Sl. No.	Polder No.	Location		Gross protected Area (ha)
		Upazila	District	
Package-1				
1	32	Dacope	Khulna	8,097
2	33	Dacope	Khuna	8,600
3	35/1	Sharankhola and Morelganj	Bagerhat	13,058
4	35/3	Bagerhat	Bagerhat	6,790
			Total=	**36,545**
Package-2				
5	39/2C	Bhandaria and Motbaria	Pirojpur	10,748
6	40/2	Patharghata	Barguna	4,453
7	41/1	BargunaSadar	Barguna	4,048
8	43/2C	Golachipa	Patuakhali	2,753
9	47/2	Kolapara	Patuakhali	2,065
10	48	Kolapara	Patuakhali	5,400
			Total=	**29,467**
			CEIP-1 Total	**66012**

Environmental Management Team Organization: An environmental management team exists in CEIP-1 which involves the Contractors, the Construction Supervision and Project Management Support Consultants and other GoB agencies as implementers and the CEIP-1 PMU headed by the Project Director provides coordination and oversight. Third Party M&E Consultants spot check compliance, evaluate impacts and report to the Project Director.

Environmental documents prepared: Environmental Impact Assessment (EIA) have been prepared for each polder of both the packages. EHS risk assessment have been done for each polder and based on these assessments Environmental Action Plan (EAP) for work Package W-01 and Contractor's Environmental and Social Management Plan (C-ESMP) have been prepared which have been concurred from the World Bank. The Emergency Preparedness Plans (EPP) for Covid-19 measures for both W01 and W02 have been prepared and being implemented following

OHS protocols of the WB. These are live documents which are continuously being updating considering the need of the project.

Improvement in management EHS: There have been subtaintial achievement in EHS management of the Project during the reporting period which is depicted as follows

- Improvement in supply and use of Personal Protective Equipment (PPE) in all sites.
- Regular toolbox talks were held before start of work.
- Establishment of separate lane for forklift movement and for the pedestrians in CC block manufacturing plant site
- Introduced incident reporting in Accident register following the World Bank's Environment & Social Incident Response Tool-kit (ESIRT)
- Implementing Covid-19 measures in work sites and camp sites.
- Implemention of turfing work on the slopes of the Embankment
- Implemention of Emergency precautionary works in Polder-32 and Polder 35/1

EMP Implementation Status: Various key EHS measures have been complied as per EAP and C-ESMP prepared for Package-1 and 2 respectively based on EHS risk assessment of the respective package. The measures taken as per EAP and C-ESMP of Package-1 and Package-2 respectively for the month of June 2021 are shown in the following 2 nos. of tables.

Measures taken on EHS Risk Management and EAP for Package-01

Sl. No.	Location, Polder No. Work site	Type of work	No of workers involved during 01.06.2021 to 30.06.2021		Expected date of work completion	Comments
			Local	Expatriate		
1	Dacope Polder-32	Office work	1	04	30.06. 2021	Used mask, hand gloves and made temperature screening
2	KM40+000-KM42+200 Polder-32	Embankment	08	00	20.06. 2021	Used mask, hand gloves and made temperature screening
3	KM47+500-KM48+100 Polder-32	Embankment	17	00	25.06 2021	Used mask, hand gloves and made temperature screening
5	Closure Dam Polder-32	Embankment	00	00	21.06. 2021	Used mask, hand gloves and made temperature screening
7	KM0+000-1+500 Polder-33	Back filling Embankment	05	02	28.06. 2021	Used mask, hand gloves and made temperature screening
8	KM48+152-49+300	Back filing and slope cutting	10	00	26.06. 2021	Used mask, hand gloves and made temperature screening

	Polder-33					
9	KM47+870-48+170 Polder-33	Slope protection	10	00	22.06.2021	Used mask, hand gloves and made temperature screening
10	Reyanda Polder-35/1	Embankment earth filling	55	12	30.06.2021	Used mask, hand gloves and made temperature screening
11	Tafalbari Polder-35/1	C.C Block carrying to other locations	33	00	24.6.2021	Used mask, hand gloves and made temperature screening
12	Pollimongal Polder-35/1	Sluice work & embankment earth filling	18	00	26.06.2021	Used mask, hand gloves and made temperature screening
13	Khuriakhali Polder-35/1	Embankment earth filling	8	00	28.06.2021	Used mask, hand gloves and made temperature screening
14	Tafalbari Polder-35/1	Office work	04	00	2021.06.29	Used mask, hand gloves and made temperature screening
15	Bhadhaghat Polder-35/3	Embankment earth filling	15	01	2021.06.29	Used mask, hand gloves and made temperature screening
16	Khulna	Office work	12	9		Used mask, hand gloves and made temperature screening
17	Dhaka	Office work	02	01		Used mask, hand gloves and made temperature screening
Total workers			**198**	**29**		

Measures taken on EHS Risk Management and C-ESMP for Package-02

Sl. No.	Location, Polder No. Work site	Type of work	No of workers involved during 01.06.2021 to 30.06.2021		Expected date of work completion	Comments
			Local	Expatriate		
1	39/2C	CC Block Manufactured work Steel Bar binding work for Ds-2 Steel Bar binding work for	312	18	30 December 2021	Used mask, hand gloves and made temperature screening

		Ds-6				
2	40/2	CC Block Manufactured work Form work for ds-10 Sand filling work for DS-1 Slop protection work for KM13+184-13+577 Steel Bar binding work for FS-16	155	8	30 December 2021	Used mask, hand gloves and made temperature screening
3	41/1	Construction work for F/S -25	99	7	30 June 2021	Used mask, hand gloves and made temperature screening
4	43/2C	CC Block Manufactured work	94	4	CC Block Manufacturing work always continue	Used mask, hand gloves and made temperature screening
5	47/2		0	0	Work complete	
6	48	CC Block manufactured; Slope Protection work For KM 30+800-31+450	121	5	30 June 2021	Used mask, hand gloves and made temperature screening
7.	Dhaka office	Administration and Supervisory works	8	6		Used mask, hand gloves and made temperature screening
8.	Patuakhali office	Administration and Supervisory works	6	6		Used mask, hand gloves and made temperature screening
Total workers			795	54		

Afforestation: Afforestation in the project area is being implemented by Bangladesh Forest Department (BFD) after signing 6 nos. of MoU between BWDB and BFD. Pilot planting of selected mangrove and other salt tolerant species are planted on BWDB owned land to demonstrate the critical role of a protective belt on the tidal inundation zone on the riverside of the embankment (Foreshore) as well as in the embankment slopes. The progress of plantation till June 2021 is shown in the following table.

Afforestaion Status till June 2021

Sl No.	Polder No	Seedlings planted (Nos.)				Total seedlings planted (Nos.)	Total area in ha
		Embankment	Area in ha	Mangrove	Area in ha		
1	47/2	83500	33.4	74000	29.6	157500	63
2	40/2	50000	20	0	0	50000	20
3	41/1	30000	12	21000	8.4	51000	20.4
4	43/2C	28000	11.2	0	0	28000	11.2
5	48	20000	8	0	0	20000	8
Total		211500	84.6	95000	38	306500	122.6
1	32	185500	74.2	0	0	185500	74.2
2	33	170000	68	0	0	170000	68
3	35/1	198500	79.4	0	0	198500	79.4
4	35/3	166000	66.4	0	0	166000	66.4
5	39/2C	15000	6	0	0	15000	6
Total		735000	294	0	0	735000	294
Grand Total		**946500**	**302.6**	**95000**	**38**	**1041500**	**416.6**

Testing of Environmental Parameter: Testing of various parameters like Water quality (Surface and drinking), Soil quality and Air quality are measured once a year. The Contractors of Package-1 and Package-2 of CEIP-1 had been asked to carry out tests for 2020 during the month of March, 2020. But they could not start their activities due to outbreak and continuation of COVID-19 pandemic. However, both Contractors of Package-1 and Package-2 have carried out the sample collection and testing at later period and submitted the testing results by January, 2021. Samples were collected under supervision of Consultancy Research & Testing Services (CRTS) of Khulna University of Engineering and Technology (KUET) and tests were performed in their laboratory.

Drinking water quality: The test results of all the samples have been found acceptable to reference on Bangladesh Standard for Drinking Water (ECR 97) having the contents of all the parameters within permissible limit and all have zero contents of Arsenic.

Surface and ground water quality: According to the test results, out of total 26 samples 17 samples have all parameters within normal range of Bangladesh Standard for inland Surface Water (ECR 97). 9 samples contain sltghtly less Dissolved Oxygen.

Air quality: Out of total 18 samples, 10 nos. of samples have Air quality Index (AQI) ratings good to moderate, having no health concern. 4 samples have higher contents of $PM_{2.5}$, 2 have higher contents of PM10 and NO_x and 2 have higher contents of $PM_{2.5}$,PM_{10} and NO_x, which have pollution concern to different degrees.

Grievance Regress Mechanism: There are 15 Grievance Redress Committees (GRC) at local level for Package-1 since this packages covers 15 unions. All cases have been tried to reach resolution within the four-week time from the dates of receiving the complaints and trying to resolve locally. A total number of 178 complaints/grievances have been received up to June 2021 by GRC in package-1. Among those, 43 cases have been resolved at the entry level and 134 cases have been resolved through investigation & formal hearing by GRC and 1 case is lying with GRC. Similarly, there are 21 Grievance Redress Committees (GRC) at local level for

Package-2 since this package covers 21 unions. A total number of 51 complaints/grievances have been received up to June 2021 by GRC. Among those, all cases have been resolved by the GRC. No grievance has been registered specific to environmental issues till now. A number of grievance collection box have been installed in each camp site and also relocated to less visible area as per suggestion of the World Bank. It is a general practice by the local community not to register complain against environmental hazards caused by civil construction. The environmental hazards caused during construction are being minimized and are localized which local people generally tolerate as they consider that the project will provide many benefits to them. Consultant has instructed the Contractor to avoid and/or mitigate even the minor and localized pollution. However motivation work among the workers by the DDCS&PMS consultants for complaining is continuing

Training: CEIP-1 always ensured the protection of the environment and the health of staff at worksites, where the contribution of EHS training is of great importance.The Contractor for both the packages have conducted a number of program of monthly environmental training during the January-June, 2021 period. Around 561 participants (staff and workers) in Package-1 and 4714 persons were trained in Package-2, allowing for multiple-counting wherein one person may have been trained more than once as would be the case for refresher training or training in additional topics. Training includes safety measures against Covid-19, use of PPE, procedure of equipment operation, electrical safety and traffic safety and working in high work places, driver's safety, use of first aid facilities and fire extinguishers, accident management. The above training are related to safety of working in automated CC plant, sluice construction/rehabilitation, embankment se-sectioning, re-excavation work and CC block dumping works. Trainers include the Contractors' Environmental officer in Charge for overall responsibility and Chinese and local EHS Officers of the concerned Polder. The Environmental Specialists of PMU, DDCS&PMSC and Third party M&E also provide training during their combined/together visits at work sites.

Programme for the next term: Major environment-related activities will be carried out during the period from July to December , 2021 are i) Conduct regular monthly EHS committee meeting and sharing the meeing minutes wih the World Bank; ii) Ensure sufficient arrangements to combat Covid-19 pandemic iii) Finalize Submit and the 11th Bi-annual Environmental Monitoring Report; iv)Finalize 5th Annual Environmental audit report; v) Re-construction of industrial wastage storage area at Polder no. 40/2, 43/2C and 48 vi)Conduct yearly Environmental monitoring (Air, Soil & Water)for 2021 vii) Conduct Bi-monthly noise level measurement for Package W-02; viii) Narishment of threatened fish fingerlings released in water bodies of four polders in Package W-01; xi) Reporting on accident accordingly ESIRT and immediate reporting to the PMU and also to the Bank; xii) Proper placement of grievance collection box in Package-02 xiii) Arrange useful training program for WMGs. xiv) Monitoring of nourishment of afforestation planted on Embankment and xv) Establishing good house keeping and industrial waste management facilities in Polder 40/2, 43/2C and 40 and improvement of any other EHS deviation to be observed within the period.

Conclusion and Recommendations: The quality of compliance with the environmental conditions are gradually improving with the improvement of the perception of its importance through regular monitoring and awareness of the contractor and the employees concerned by PMU, DDSC & PMSC, Field Offices and third party M&E Consultants. Due to pandemic situation prevailing all over the country the physical monitoring has been restricted but virtual meeting and monitoring has been intensified. The following recommendations are made to address by the both Contractors to improve the EHS quality i) Assure strict compliance of EPP of OHS protocols prepared for measures against spreading of Covid-19 at working sites and camps. ii) Assure the use of required PPE by the workers iii)Monitor the incidents as per ESIRT of the World Bank iv) Both Contractors to implement the action plan prepared on the basis of 5th

Environmental Audit report and routinely report on its implementation v) Adequate toilet facilities should be provided in all working sites, special care should be taken for cleanness of toilets vi) Ensure regular toolbox talk at all sites including awareness of measures against Covid-19. vii) Follow the safety procedure of the equipment at all sites viii) Aware the workers about the existence of grievance box and register their demand/complain. ix) Fisheries related activities should be started for Package-2 and the remaining work of fisheries should be completed in Package-1 x) Decommissioning work for Package-1 should be completed xi) Both the contractors should follow the test result of drinking water, surface water, soil quality, air quality and noise quality carried out January 2021 and take necessary action accordingly xii) Regular exchange visit of EHS team of Package-1 and 2 to be ensured for adopting good practices, which is limited at present due to on-going COVID-19 situation.

1. Introduction

The Government of Bangladesh (GOB) has undertaken the implementation of the Coastal Embankment Improvement Project, Phase-1 (CEIP-1) with the loan assistance of World Bank (WB) and grant assistance of the Climate Investment Fund's Pilot Program for Climate Resilience (PPCR). The 1st phase of this Project (CEIP-1) includes rehabilitation and improvement of ten (10) polders, to be implemented in two packages.The present Phase-1 activities belong to part of the total of 139 polders of Bangladesh Water Development Board (BWDB) having nearly 5,700 km embankment along with various water management structures.

Polderization started in Bangladesh by BWDB in the early sixties for protection of land and other human resources from diurnal tidal flooding. It also provided control of salinity intrusion and sedimentation. Lack of proper maintenance, damage by the devastating cyclones/storm surges (Sidr and Aila which took place in 2007 and 2009, respectively) and siltation of the peripheral rivers have necessitated the adoption of CEIP, which will not only rehabilitate the embankment, but also raise the embankment height to combat high tides and storm surges which have been intensified by global warming and sea level rise. Cyclone Amphan (2020) and YAAS (2021) has also confirmed the need for CEIP-1 implementation in the coastal areas of Bangladesh.

CEIP has also emphasized improvement of the environment and that environmental, social and economic issues be addressed during its pre-construction, construction. Due to outbrake of COVID-19 since December 2019 the Project is adopting emergency management to minimize spread of Corona infection following the COVID-19 OHS Protocols for Construction Sites as a guidlines and incorporated to the project Emergency Preparedness Plan (EPP) to ensure the health and safety of the project workers.

1.1 Project Development Objective

The project development objective as approved and agreed upon by the World Bank and the Government of Bangladesh is to increase the resilience of coastal population to natural disasters and climate change. More specifically, the project aims at

(a) reducing the loss of assets, crops and livestock during natural disasters;

(b) reducing the time of recovery after natural disaster such as cyclone;

(c) improving agricultural production by reducing saline water intrusion which is expected to worsen due climate change; and

(d) improving the Government of Bangladesh's capacity to respond promptly and effectively to an eligible crisis or emergency. This objective will be achieved by rehabilitating and improving the Polder system in the coastal area.

1.2 Project Components

The Project has **five components**; four components are related to polder improvement and a fifth component (with a provisional zero amount) has been included to allow for rapid reallocation of loan proceeds during an emergency, under streamlined procurement and disbursement procedures:

Component A – Rehabilitation and Improvement of Polders.

A1: Rehabilitation and Improvement of Polders.

A2: Afforestation.

Component B– Implementation of Social Action and Environment Management Plans.

B1: Implementation of Social Action Plan.

B2: Implementation of Social Management and Resettlement Policy Framework (SMRPF) and Resettlement Action Plans (RAPs).

B3: Implementation of Environmental Management Framework (EMF) and Environmental Management Plans (EMPs).

Component C– Construction Supervision, Monitoring & Evaluation of Project Impact, Supervision of Social and Environment Plans, and Delta Monitoring

C1: Detailed Design and Construction Supervision

C2: Third Party Monitoring and Evaluation of Project.

C3: Long Term Monitoring, Research and Analysis of Bangladesh Coastal Zone.

Component D – Project Management, Technical Assistance, Training and Strategic Studies.

Component E – Contingent Emergency Response Component

The scope and scale of the project can be understood from the targets that have been agreed for the key performance indicators as shown in Table 1 below:

Table 1: Targets for Key Performance Indicators per PAD/DPP and their Status

Sl. No.	PDO Indicators per PAD/DPP	Indicator Type	Total Project Target	Cumulative Value as of 31 December 2020	Cumulative Value as of 30 June 2021
1	Gross area protected	outcome	66,012 ha	33,680 ha	40,815 ha
2	Direct beneficiaries from increased resilience to climate change (number) and % women (PPCR core indic. A1.3)	outcome - core	724,000 (50% women)	348,750	392,305
3	Cropping intensity	outcome	180%	144% in Pkg01 130% in Pkg02	144% in Pkg01 130% in Pkg02
4	Contingent Emergency Appropriation	input	No target	No target	No target
5	Length of embankment construction/resectioning	output	408.643 km	197.114 kms done; 40.866 in progress	244.04 kms done
6	Drainage structures replaced and upgraded	output	97 no	40 nos. completed; 40 in progress	58 nos. completed; 27 in progress

Sl. No.	PDO Indicators per PAD/DPP	Indicator Type	Total Project Target	Cumulative Value as of 31 December 2020	Cumulative Value as of 30 June 2021
7	Regulators upgraded	output	134 no	0	0
8	Flushing inlets replaced and upgraded	output	126 no	43 nos. completed, 33 nos. in progress	56 nos. completed, 29 nos. in progress
9	Length of drainage channels excavation	output	304.857 km	158.203 kms completed	215.46 kms completed
10	Area Afforested (PPCR core indic. B3)	output - core	600 ha	208 ha (519,200 seedlings planted)	416.6 has (1,041,500 seedlings planted)
11	Water Management Organizations functioning (meeting regularly, operations, no. of disputes)	outcome	10 nos.	7 nos.	8 nos.
12	Water Management Organization (WMO) formed	output	10 nos,	7 nos.	8 nos. formed and 6 nos. registered
13	Improved coastal monitoring - studies undertaken (as related to PPCR core indicator on the use of climate information in decision-making)	output	2 no	Ongoing	Ongoing
14	BWDB days of training provided (total person-days) (women person-days)	output - core	160 days	496	536
15	Grievance Redress Committees (GRC) established	output	10 no of polders	10 polders (Pkg-01: 15 GRC, formed; Pkg-02: 21 GRC formed)	10 polders (Pkg-01: 15 GRC, formed; Pkg-02: 21 GRC formed)

The main information of the Project's Works Package 01 including project executing agency, funding agency, consultant, contractor, project location, project components, project cost, etc. are furnished below:

Table 2: Salient Features of the Project under Package-1

Sl. No.	Name of the Project	:	Coastal Embankment Improvement Project, Phase-1 (CEIP-I)
1.	Project Executor	:	Bangladesh Water Development Board under Ministry of Water Resources
2.	Funding Agency		World Bank IDA Credit 52800 & TF 14713 and PPCR of Climate Investment Fund Grant
3.	Name of the DSC Consultant	:	Royal HaskoningDHV (the Netherlands) in association with DevConsultants Ltd., Develops Project Management, CEGIS, Institute of Water Modeling and DHI

Sl. No.	Name of the Project	:	Coastal Embankment Improvement Project, Phase-1 (CEIP-I)
4.	Name of Contractor for Works Package 01	:	First Engineering Bureau of Henan Water Conservancy (China)
5.	Project Location	:	Coastal Polders of Khulna and Bagerhat, Bangladesh
6.	Total re-sectioning of embankment;	:	159.174 kms
7.	Construction of retired embankment		41.443 kms
8.	Construction of forward embankment	:	0.00 kms
9.	Construction of total drainage sluices	:	38 drainage sluices
10.	Construction of drainage sluices under AILA	:	7 sluices
11.	Repairing of drainage sluices	:	2 sluices
12.	Construction of total flushing inlets	:	29 flushing inlets
13.	Re-excavation of drainage channels	:	150.299 km
14.	Total bank protection works	:	4.25 km
15.	Total slope protection of embankment	:	19.766 km
16.	Construction of cross dam	:	1
17.	Contract Duration (month)	:	36 Months (if no time extension) extended up to 30.06.2021
18.	Project Cost	:	Original contract amount: BDT 6,969,113,205 Revised Contract Amount: BDT 7,243,662,887.49
19.	Date of Contract Signing	:	01 November 2015
20.	Commencement Date	:	26 January 2016
21.	Physical Construction Period	:	26 January 2016 – 30 June 2021
22.	Land Acquisition	:	131.36 ha (*Source: Land Acquision Plan of CEIP-I)*
23	Land Requisition	:	Nil

The main information of the Project's Works Package 02 including project executor, funding agency, consultant, contractor, project location, project components, project cost, etc. are furnished below:

Table 3: Salient Features of the Project under Package-2

Sl no.	Name of the Project	:	Coastal Embankment Improvement Project, Phase-1 (CEIP-I)
1.	Project Executor	:	Bangladesh Water Development Board under Ministry of Water Resources
2.	Funding Agency		World Bank IDA Credit 52800 & TF 14713 and PPCR of Climate Investment Fund Grant
3.	Name of the DSC Consultant	:	Royal HaskoningDHV (the Netherlands) in association with DevConsultants Ltd., Develops Project Management, CEGIS, Institutes of Water Modeling and DHI.
4.	Name of Contractor for Works Package 01	:	Chongqing International Construction Corporation (China)
5.	Project Location	:	Coastal Polders of Pirojpur, Jhalakhati, Patuakhali and Borguna Districts of Bangladesh
6.	Total Re-sectioning of embankment;	:	144.463 kms
7.	Total Construction of retired embankment		3.96 kms

Sl no.	Name of the Project	:	Coastal Embankment Improvement Project, Phase-1 (CEIP-I)
8.	New Embankment	:	59.250 Kms
9.	Construction of total drainage sluices	:	50 drainage sluices
10.	Repairing of drainage sluices	:	6 sluices
11.	Construction of flushing inlets	:	51 nos.
12.	Repairing of flushing inlets	:	32 nos.
13.	Re-excavation of drainage channels	:	154.558 km
14.	Total bank protection works	:	5.120 km
15.	Total slope protection of embankment	:	9.476 km
16.	Construction of Clossure		8 nos.
17.	Dismantling of drainage sluice	:	37 nos.
18.	Dismantling of flushing inlets	:	56 nos.
19.	Dismantling of HBB road		46.40 kms
20.	Paved road		50.29 kms
21.	Construction of flood wall	:	17.40 kms
22.	Contract Duration (month)	:	42 Months
23.	Project Cost	:	Original Contract Amount: BDT 10,899,564,634.65 Revised Contract Amount: BDT 11,487,869,276.99
24.	Date of Contract Signing (NTP)	:	08 March 2017
25.	Commencement Date	:	12 July 2017
26.	Physical Construction	:	12 July 2017 – 11 January 2021
27.	Land Acquisition	:	172.62 ha (*Source: Land Acquision Plan of CEIP-I)*
28.	Land Requisition	:	Nil

In Package-2 progress is less with Construction of Embankment of 36.106 kms done and another 21.124 km in progress, Construction work of 42 Drainage Sluices & 31 Flushing sluices have been completed and 39 Drainage Sluices & 22 Flushing Sluices are in progress. and Embankment Slope Protection of 1.40 km have been completed and 8.076 km is in progress by end of June, 2021.

1.3 Project Location

Out of total 139 Polders in the country, CEIP-1 includes 10 Polders in 2 Packages. Their locations with area are given in Table 4 along with the area of each Polder that will be protected by the embankment works.

Table 4: Location and Gross Protected Area (ha) of CEIP-1 polders

Sl. No.	Polder No.	Location		Gross protected Area (ha)
		Upazila	District	
Package-1				
1	32	Dacope	Khulna	8,097
2	33	Dacope	Khuna	8,600
3	35/1	Sharankhola and Morelganj	Bagerhat	13,058
4	35/3	Bagerhat	Bagerhat	6,790
				36,545

Sl. No.	Polder No.	Location		Gross protected Area (ha)
		Upazila	District	
Package-2				
5	39/2C	Bhandaria and Motbaria	Pirojpur	10,748
6	40/2	Patharghata	Barguna	4,453
7	41/1	BargunaSadar	Barguna	4,048
8	43/2C	Golachipa	Patuakhali	2,753
9	47/2	Kolapara	Patuakhali	2,065
10	48	Kolapara	Patuakhali	5,400
				29,467
CEIP-1 Overall				**66,012**

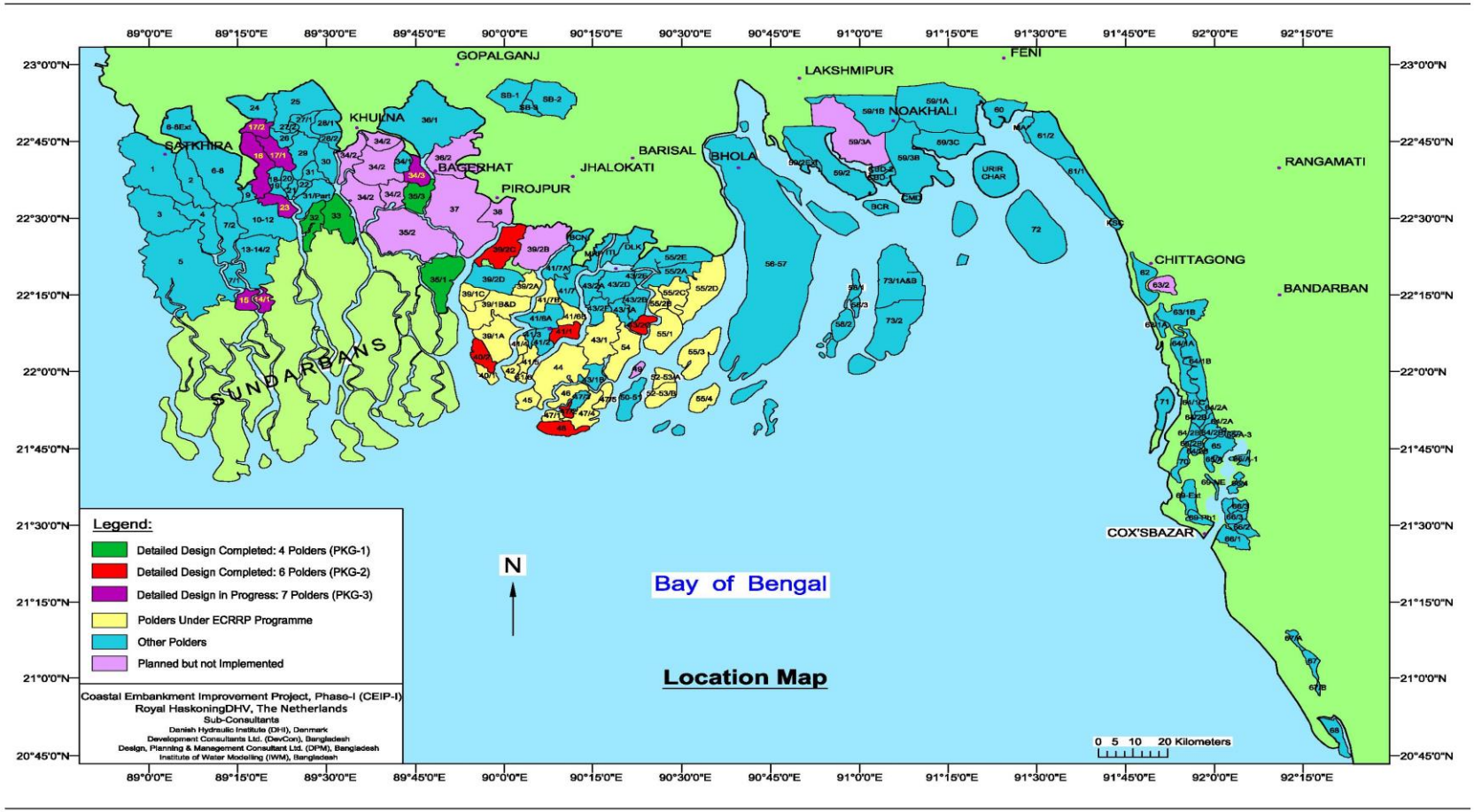

Figure 1: Location Map of CEIP-1 Polders

2. The Background of this Report

Implementation of the Environmental Management Plan (EMP) during the construction and post-construction stages is necessary for sustainable development as well as to ensure protection of the environment as the embankment construction project is implemented. Moreover outbreak of Covid-19 all over the world has necessitated the emergency of implementation the Covid-19 OHS measures in camp as well as construction sites.

From 12-16 June 2016, the World Bank undertook an Implementation Support Mission (ISM) to assess CEIP-1's progress, issues, safeguards compliance, etc. On 12 June 2016, a joint meeting was held with participation of WB, PMU of BWDB, Safeguards Consultants of BWDB and M&E Consultants. In the meeting, it was decided that the implementing agency with the support of the DDCS&PMS Consultants and M&E Consultants will prepare a separate Bi-annual Environmental Monitoring Report covering the implementation of EMPs, EAPs and compliance with Environmental Safeguards and identifying any pertinent issues. It is from that perspective, this Environmental Monitoring Report has been prepared. This eleventh Bi-annual Environmental Monitoring Report focuses on the period 01 January to 30 June 2021.

This report has been prepared through a collaboration between PMU, the M&E Consultants and the DDCS&PMS Consultants. It is important to note that the team has attempted to address the comments in this report that were made by the World Bank on the 10th Bi-annual Environmental Monitoring Report.

3. Environmental Safeguards and EMF

According to the classification of Environment Conservation Rules (1997) of Department of Environment, GOB, the construction, reconstruction, expansion of polders and flood control embankment is categorized as "Red". For the Red category project/industries, Environmental Impact Assessment (EIA) report along with Environmental Management Plan (EMP) and Resettlement Action Plan (RAP) have to be prepared for submission to the Department of Environment (DoE) in order to obtain environmental clearance of the GoB. Moreover, according to World Bank environmental operational directives, the project is classified as a Category "A" type project because the project is likely to involve significant adverse environmental impacts that are sensitive, diverse, or unprecedented, which may affect an area broader than the facilities subject to physical works.

All required safeguard measures are to be adopted to avoid/reduce/mitigate the environmental and social impacts for environmental sustainability of CEIP-1. The major issues of consideration include protection of (a) physical and ecological resources (b) protection of socio-cultural resources (c) protection of economic development (d) protection of occupational health and safety (OHS). A participatory approach will be followed to enhance sustainability of the CEIP-1 investment.

CEIP-1 implementers will follow the guidelines of EMF during pre-construction, construction and operation and maintenance of all polders to ensure satisfactory environmental management. The EMF has spelled out a set of steps, procedures and mechanisms to ensure an adequate level of attention is given to environmental considerations at every stage of the project cycle along with the related GoB regulatory and WB safeguard requirements.

4. Staffing and Organization

4.1 Environmental Management Team Organization

An environmental management team exists in CEIP-1 which involves the Contractors, the Construction Supervision and Project Management Unit (PMU) Consultants headed by the Project Director provides coordination and oversight. Third Party M&E Consultants spot check compliance evaluate impacts and report to the Project Steering Committee.

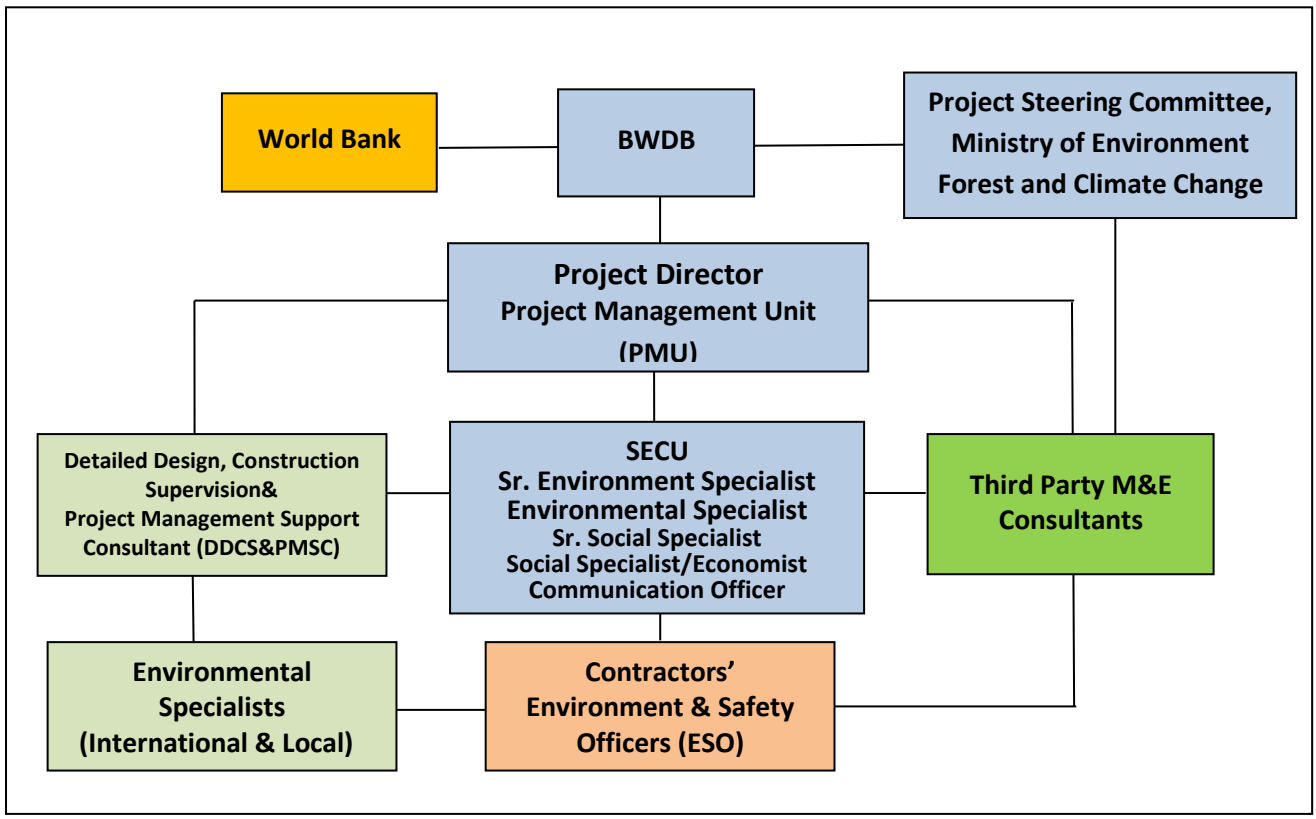

Figure 2: Organizational Chart for Environmental Management and Monitoring

A directory of PMU, DDCS&PMS Consultant, M&E Consultant and Contractor staff that are concerned with environment is presented in Table-5.

Table 5: Concerned Environmental, Health and Safety Personnel in CEIP-1

Sl.	Name	Designation	Place of posting	Mobile No.	E-mail Address
Project Management Unit (PMU), BWDB					
01	Syed Hasan Imam PEng.	Project Director	Dhaka	+8802989937 3	pdpmuceip@gmail.com
02	Md. Abu Baker Siddique Bhuyan	Deputy Project Director/ Superintending Engineer	Dhaka	01712218500	sohel0059@gmail.com
03	Mohammad Samiul Hoque	Executive Engineer	Dhaka	01726233262	ee2pmuceip1@gmail.com
04	Md. Asraful Alam	Executive Engineer	Khulna	01318235115	xen.ceip1.khulna@gmail.com
05	Md. Amir Faisal	Sr. Environmental Specialist	Dhaka	01715315227	faisal.mdamir@gmail.com
06	Dr. Md. Towhidul Islam	Environmental Specialist	Khulna	01911493918	towhidenvs@gmail.com
07	Mr. Akbar Hossain	Sr. Forestry Specialist	Dhaka	01711543475	ahossain56.bd@gmail.com
08	Kamal Najmus Salehin,	Communication Officer	Dhaka	01716408919	s.kamal17@gmail.com
09	Zahiruddin Md. Babar	Social Specialist/ Economist	Khulna	01711005885	zahir_babar@yahoo.com
Royal Haskoning DHV, DDCS&PMS Consultant					
10	Jean Henry (Harrie) Laboyrie	Team Leader	Dhaka	01935146720	harrie.laboyrie@rhdhv.com
11	Md. Habibur Rahman	Deputy Team Leader	Dhaka	01755627386	habibceip@yahoo.com
12	GM. Akram Hossain	Resident Engineer	Khulna	01713040037	gmakram68@gmail.com
13	A.K.M. Sayeed Uddin	Deputy Resident Engineer-1	Khulna	01919432163	akmsayeed1951@gmail.com
14	Mohammad Ali	Deputy Resident Engineer-2	Patuakhali	01711320432	ceip1patuakhali@gmail.com
15	Abu Bakr Siddique	Environmental Specialist	Dhaka	01795095607	abs_1949@yahoo.com
16	Md. Delwar Hossain	Quality Control Specialist	Khulna	01712614024	delwarhossain03@yahoo.com
17	Md. Saiful Islam	Construction Supervision Engineer (CSE)	Khulna	01727332986	saifulkhulna@gmail.com
18	Mr. Harunur Rashid	Construction Supervision Engineer (CSE)	Patuakhali	01720043618	engharun7@gmail@com
19	A.K.M.Mazibur Rahman	CSE	Patuakhali	01712540050	akmmr1955@gmail.com
20	Sadequl Islam	CSE	Pirojpur	01822213320	sadequl477@gmail.com
21	Md. Ghiasuddin	CSE	Barguna	01711171011	ghiasbd@gmail.com

Sl.	Name	Designation	Place of posting	Mobile No.	E-mail Address
Third Party M&E Consultant					
22	Jan T. Twarowski	Team Leader	Dhaka	01745573470	tl.me.ceip1@gmail.com
23	Mr. Mahidur Rahman	Deputy Team Leader	Dhaka	01711173629	dtl.me.ceip1@gmail.com
24	A.K.M.Rezaul Haque Khan	Environmental Specialist	Dhaka	01712142502	env.me.ceip1.sheladia@gmail.com
First Engineering Bureau of Henan Water Conservancy (China), Package W-01					
25	Mr. Sun Huaxin	Project Manager	Khulna	01991996805	chwe_ceip1_bd@hotmai.com
26	Mr.Ren Gaofei	EHS in-charge	Khulna	01761931689	18738153286@163.com
27	Mr. Babu Sarker	EHS Officer,	Khulna	01716717871	-
28	Xing Pengling	Polder Manager	Polder 32	01753353897	-
29	Mr. Aporup Roy	Local EHS officer		01751630797	-
30	Mr. Goushi	Polder Manager	Polder 35/1	01646737474	-
31	Mr. Tahmidur Rahman	Local EHS officer		01737817466	-
Chongqing International Construction Corporation (China), Package W-02					
32	Mr. Wu Weiwen	Acting Project Manager	Dhaka	-	cicobangladesh@gmail.com
33	Madainyong	EHS in-Charge	Patuakhali	01617776707	madianyong1218@gmai.com
34	MA ZE MOU	Polder Manager	Polder 39/2C	01887707644	1303535200@qq.com
35	WANG JIAN	EHS Manager		01887707650	281196254@qq.com
36	Mr. Taher	Local EHS Officer		01712003561	-
37	Dai Jinping	Polder Manager	Polder 40/2	01858859721	102600333@qq.com
38	Cheng Guangyong	EHS Manager		01621654962	981444742@qq.com
39	Tapon Jathy mondal	Local EHS Officer		01705265603	toponmondol22@gmail.com
40	Yang dong	Polder Manager	Polder 41/1	01644783390	471215409@qq.com
41	Luo tao	EHS Manager		01645649518	1498290447@qq.com
42	Mr. Azahar	Local EHS Officer		01797181079	sajaldavid92@gmail.com
43	Wang Taofu	Polder Manager	Polder 43/2C	01762563982	362933938@qq.com
44	Guo linyang	EHS Manager		01648201676	5233489@qq.com
45	Hemayet Uddin	Local EHS Officer		01719459671	hemayetuddin91@gmail.com
46	Li Xiang	Polder Manager	Polder 48	01870509678	273893947@qq.com
47	Tian Jiezhong	EHS Manager		01760921187	38722575@qq.com
48	Md. Bellal	Local EHS Officer		01715760537	bellal25@gmail.com

4.2 PMU Staffing

The Social, Environmental and Communication Unit (SECU), planned to be comprised of five specialists, has been established under the Project Management Unit (PMU). This unit closely monitors the compliance with all safeguards requirements during the implementation of the CEIP-I. Now all five SECU Specialists are in place – the Senior Environmental Specialist, the

field-based Environmental Specialist, Senior Forestry Specialist, field-based Social/Economist and Communications Officer are working continuously in a coordinated way to support the project.

Specifically, SECU's environmental team is responsible to:

- Implementation of Covid-19 OHS manual
- Obtaining approval on working site and EIA from the Department of Environment (DoE) of Bangladesh;
- Obtaining Environmental Clearance Certificate (ECC) and its annual basis renewal from the Department of Environment (DoE) of Bangladesh;
- Implementation of the key actions of aide memoire related to environmental safeguard issues;
- Participate in working meetings related to projects;
- Ensure project's compliance with the Environmental Legislation of Bangladesh as well as with the rules and requirements of donor, the World Bank and others;
- Ensure coordinating among involved parties during project implementation period;
- Participate in environmental component monitoring in respect of approved EAP and C-ESMP;
- Review and analysis of existing documentation;
- Monitor environmental risk and protection issues;
- Review reports in compliance with the requirements of the donors as well as in accordance with the Bangladesh Environmental Legislation;
- Review comments and complaints; elaborate recommendations;
- Prepare official letters to projects Implementation Agency and/or consultant ;
- Review documents submitted by consultants; and
- Establish and maintain working relations with other organizations of Bangladesh, International organizations for the purpose of implementation of the objectives, tasks and functions specified under this Bi-Annual report.

4.3 Consulting Services for Engineering Design, Construction Supervision and Project Management Support

The Contract for these Consulting Services was signed between BWDB and the Royal Haskoning DHV (Netherlands)/Devcon/DPM/IWM/DHI on 30 December, 2014 and became effective on 21 January 2015. Consultants hold office in Dhaka, Khulna and Patuakahli. The TOR for supervision consultant requires (The Engineer) to ensure EMP implementation. The consultant's site staff is supported by national environmental specialist to ensure environmental compliance of the project as it progresses

The DDCS&PMS consultant is responsible to:

- Implementation of Covid-19 OHS manual
- Review and approve environmental documentation submitted by the Contractor;
- Review and approve the Contractor's Environmental Action Plan (EAP)/C-ESMP in line with requirement of the EMP;
- Supervise construction works and monitor the implementation of mitigation measures under the EMP and EAP/C-ESMP;
- Preparation and review of EIA reports of Package-3
- Maintain working relationship with the Contractor and the Employer (PMU BWDB);

- Provide support to PMU in obtaining environmental clearance certificates;
- Undertake correspondence with the Employer, the Contractor as prescribed by the Contract for execution of the civil works on site.

4.4 Civil Works Construction Contractors

The Contract for civil works construction under Package W-01 was signed between the BWDB (The Employer) and the First Engineering Bureau of Henan Water Conservancy (The Contractor) on 01 November 2015. On the other hand, the Contract for civil works construction under Package W-02 was signed between the BWDB (The Employer) and the Chongqing International Construction Corporation (The Contractor) on 08 March 2017. The Contractor of Package W-01 is assigned for rehabilitation/reconstruction and upgrading of four Polders, namely Polder 32, Polder 33, Polder 35/1 & Polder 35/3 ; whereas the Contractor of Package W-02 for six Polders, namely Polder 39/2C, Polder 40/2, Polder 41/1, Polder 43/2C, Polder 47/2 & Polder 48, respectively under CEIP-I. The above Polders are wide-spread in their geographical locations. The Contractor holds site office in each Polder and has appointed Environment, Health & Safety (EHS) Managers (Chinese) & Officers (Local) as presented in the table 5 above.

The CRTS (CIVIL) of KUET, Khulna has also undertaken the laboratory analysis of Water, Soil, and measure Air and Noise qualities of the Polders that compose important part of EAP/EMP of the Polders under CEIP-1.

The expatriate EHS Manager as well as Local EHS Officer of the Contractors is responsible for implementation of the EMP as follows:

- Formulation & implementation of Covid-19 OHS manual
- To prepare environmental documentation, mentioned in Contract, EAP, EIA and EMP;
- To ensure that physical monitoring is undertaken properly;
- To review works schedules;
- To participate in progress meetings;
- Help identify practical solutions to actual and potential problems;
- Use trends in monitoring data to predict/identify possible future problems;
- To provide frequent environmental field supervision;
- To notify noncompliance and take relevant actions;
- To keep records: maintain site diary and checklists, complete files; and
- Communicate with local community regarding works progress.

4.5 Third Party M&E Consultants

The contract for the Third Party M&E Consultancy was signed between BWDB and Sheladia Associates, Inc. (USA) in association with BETS Consulting Services, Ltd. (Bangladesh) on 01 October 2015. The contract became effective on 23 October and Sheladia mobilized its team on 01 November, 2015.

The M&E Consultants are responsible for monitoring and evaluation of implementation progress of all project works and activities and its impacts as well the implementation of the EMP and the SAP/RAP. The M&E reports are to evaluate the success in project implementation in terms of meeting the project's objectives, and assess its physical, hydrological, environmental, social, and economic impacts. The M&E team is to provide continuous feedback to the GoB, the PSC and development partners on the project's performance, and on mitigation of negative impact under various components, so that corrective actions can be undertaken in a timely manner if necessary. In the area of environment, the M&E Consultants have one intermittent international

environmental expert and one intermittent national environmental expert over the contract period.

5. EMP Budget

An amount of BDT 6 core (approximately) have been earmarked for the implementation of EMP against each package W-01 and W-02 of CEIP-1. This provisions have been kept in the contractor's contract agreement under BoQ item as specified provisional sum. Under the provision of EMP budget the contractors for Packages 1 & 2 of CEIP-1 shall take all precautions for safeguarding environment during the course of the construction of the works. The contractors shall fully comply with the environmental protection mitigation measures specified in the related EIA guidelines and agreed in EAP/C-ESMP & EHS risk Assessment Reports. A provisional has been kept in the BOQ for Packages 1 & 2 for implementation of the of the mitigation works as illustrated herewith:

- Crop compensation to the direct loser, land owner/share croppers of construction site/ damaged due to dredge spoils;
- Monitoring of Environmental & Mitigation works;
- Surface & ground Water quality monitoring;
- Air and Noise quality monitoring analysis;
- Water quality monitoring cost;
- Waste disposal arrangement;
- Soil & water salinity monitoring cost;
- Waste disposal arrangement at construction site;
- Updating of EMP (EAP/C-ESMP and EHS risk Assessment Reports);
- Management of soil health by replacing back in agricultural land;
- Reducing erosion through proper compaction, turning;
- Afforestation along the dyke side to reduce erosion and threat of climatic events.
- Awareness campaigning on plant and wild life conservation;
- Habitat observation (biotic information) in wet & dry season;
- Conservation and stocking of threatened fish species;
- Movement of Aquatic mammal;
- Catch assessment survey in wet & dry season;
- Farm survey in wet & dry season;
- Training to the farmers on Eco-friend pest management practices;
- Awareness building among locality for conservation of threatened/red listed species,
- WMOs (Water Management Organizations) monitoring cost in respect of safeguard policies;
- Training on improved technology and
- Emergency works for closing breach points of embankment and repairing the damaged structures;

For Package 01, a maximum budget of Tk. 60,200,000 have been provisioned for EMP under the specified provisional sum of BoQ item. No payment was made during the reporing period. The total expenditure for EMP cost so far paid remains Tk. 5,57,91,359. This included cost of works consists of emergency breach closing, minor earthworks, compaction and positioning of geo-bags (175 kg) and other items of EMP components in various stages of utilization.

For Package 02 an amount of Tk. 6,43,64,491 have been allocated under the specified provisional sum of BoQ item for Environmental Mitigation works. No payment was made during the reporing period. The total expenditure for EMP cost so far paid up to December, 2020 is Tk. 22,19,772

Chapter 6: Status of Works Progress as of June, 2021

In order to provide context for understanding the status of the project activities as of end of June, 2021 and the intensity of activity during the reporting period, a brief description of the works undertaken is presented in this section. During the period continuation of Corona pandemic has affected the progress of the works in many related issues, although the contractors have adopted various steps in order to avoid the possibility of spreading Corona infection among themselves and the workers as a whole. The status of works of the Contractor for Package 01 as of end of June, 2021 are:

- Excavation/ re-excavation of 136.799 km (87.98%) of Drainage Channels have been achieved by end of June, 2021 out of total 150.299 km and progress of 4.978 km has been achieved during January to June, 2021
- Construction/re-sectioning of embankment has been completed in 181.659 km (98.63%) and it has part progress in 0.955 km by June, 2021 indicating 20.651 km progress achieved during January to June, 2021 (out of total of 200.617 km).
- Repair works of all 14 flushing inlets have been completed by end of June, 2021 and repair of 1 no flushing inlet completed during January-June, 2021.
- Embankment slope protection work of 16.806 km (94.25%) completed by end of June, 2021, out of total 19.766 km as compared to 14.366 km (71.67%) completed by end of December, 2020.

The item-wise/Polder-wise progress status of Package-1 upto June, 2021 have been furnished as follows.

New emergency work has been carried out in Polder 32 during January to June, 2021, as given in the following table:

Table 6: Length (km) of Emergency work in Package-1

Locations/ Polders	Length (km) of emergency work upto December, 2020	Length (km) of emergency work upto June, 2021	Length (km) of emergency work during Jan to Jun-2021
32	9.805	9.910	0.105
33	3.125	3.125	0
35/1	4.157	4.157	0
35/3	3.959	3.959	0
Total	**21.046**	**21.151**	**0.105**

Source: MPRs, DDCS&PMS Consultants, December, 2020 and June, 2021

Precautonary Emergency Dumping Works have been carried out in Polder-32 and Polder 35/1 by placing of geobag at the vulnerable locations to check potential erosion of rivers. The works were started from April, 2021 and continued. The related information and progress are furnished in the following tables:

Table 7: Precautionary Emergency Dumping status (as on 18 July 2021) in Polder 32

Precautionary Emergency Dumping Status for most vulnerable RBPW in Polder-32 (as on 18 July 2021)								
Sl No	Chainage		Length (m)	Dumping/ meter nos.	Total Requirement	Dumped up to 18.07.2021 nos.	Progress of work (%)	Remarks
	From	To						
1	km 18+930	19+000	70	96	6,720	6,720	100	250 kg geo-bag
2	km 44+500	44+540	40	120	4,800	4,800	100	250 kg geo-bag
3	km 45+945	46+110	165	90	14,850	14,850	100	250 kg geo-bag
4	km 17+050	17+100	50	102	5,100	5,100	100	250 kg geo-bag
5	km 14+685	14+715	30	120	3,600	3,600	100	250 kg geo-bag
6	km 43+005	km 43+110	105	126	13,259	13,259	100	175 kg geo-bags
	Total		**460**		**48,329**	**48,329**	**100**	
	Additional Dumping of 250 kg Geo-bags							
6 A	km 43+005	43+055	50		2,500	2,500	100	Additional 250 kg Geobags
6B	km 43+990	43+005	15		1,400	1,400	100	Additional 250 kg Geobags

Table 8: Precautionary Emergency Dumping status (as on 18 July 2021) in Polder 35/1

Sl No	Chainage (km)		Length (m)	Average Dumping / meter (nos.)	Total Requirement (nos.)	Cumulative Dumped (as on 18072021)	Dumping Progress (%)	Remarks
	From	To						
1	02+000	02+300	300	126	37,845	8,452	22.33	250 kg geo-bag
	Subtotal				**3,7845**	**8,452**	**22.33**	**250 kg geo-bag**
2	04+500	04+650	150	138	20,700	1,313	6.34	250 kg geo-bag
	Subtotal				**20,700**		**6.34**	
3	**Total**				**58,545**			**250 kg geo-bag**

Progress in construction/ Re-sectioning of Embankment has taken place in Package-1 during the period from January to June, 2021 and its status by June, 2021 is given in the following Table:

Table 9: Progress of construction/ Re-sectioning of Embankment (Permanent Sites) in Package-1

Sl. No.	Location	Total Number of work sites	Total length (km)	Type of Works	Progress as on June, 2021
1	Polder 32	42	49.666	Embankment re-sectioning and retired embankment; some turfing of slopes	49.322 km completed and additional 0.345 kms in progress.
2	Polder 33	28	49.154	Embankment re-sectioning and retired embankment;	43.600 km completed

Sl. No.	Location	Total Number of work sites	Total length (km)	Type of Works	Progress as on June, 2021
				some turfing of slopes	
3	Polder 35/1	37	61.972	Embankment re-sectioning and retired embankment; some turfing of slopes	50.922 km completed and additional 0.500 kms is in progress
4	Polder 35/3	30	39.825	Embankment re-sectioning and retired embankment; some turfing of slopes	37.815 km completed and additional 0.110 kms is in progress
	Total	**137**	**200.617**		**181.659 kms completed and 0.955 kms is in progress**

Source : MPR DDCS&PMS Consultants, June, 2021

Progress of production of CC block manufacturing in Package-1

Total number of CC blocks manufactured till June, 2021 is presented in the following table:

Table 10: Nos. of CC block manufactured upto end of June, 2021

Sl. No.	Polder No.	No. of total CC block manufactured by end of December, 2020	No. of total CC block manufactured by end of June, 2021	Comments
1.	32	1,886,840	1943,321	
2.	33	1,285,083	1293,736	
3.	35/1	2,919,991	2710,312	
4.	35/3	220,567	226,122	
Total		**6,312,481**	**6,175,482**	

Source: MPR, DDCS&PMS Consultants, December, 2020 and June, 2021

Polder-wise Progress of other construction activities upto June, 2021 are provided as follows

Table 11: Polder-wise Progress of various work components of Package No.01 up to June, 2021

Polder 32	Unit	Target	Completed	Ongoing	Progress
Construction/ Re-sectioning of Embankment	Km	49.666	49.322	0.345	98.85%
Excavation/ Re-excavation of Drainage Channel	Km	17.003	17.003	0.000	100.00%
Construction of Drainage Sluices	No	8	8	0	100.00%
Repairing of Drainage Sluices	No	0	0	0	NA
Construction of flushing Inlets	No	1	1	0	100.00%
Repairing of Flushing Inlets	No	6	6	0	100.00%
Embankment Slope Protection Work	Km	3.300	3.300	0.000	100.00%
River Bank Protection Work	Km	2.000	2.000	0.000	100.00%
Construction of Closure Dam	No	1	100.00%	0.000	100.00%

Source: MPR, DDCS&PMS Consultants, June, 2021

Polder 33	Unit	Target	Completed	Ongoing	Progress
Construction/ Re-sectioning of Embankment	Km	49.154	43.600	0.000	88.62%
Excavation/ Re-excavation of Drainage Channel	Km	62.830	62.830	0.000	100.00%
Construction of Drainage Sluices	No	12	12	0	100.00%
Repairing of Drainage Sluices	No	0	0	0	NA
Construction of flushing Inlets	No	6	6	0	100.00%
Repairing of Flushing Inlets	No	3	3	0	100.00%
Embankment Slope Protection Work	Km	4.016	4.016	0.000	100.00%
River Bank Protection Work	Km	1.300	1.300	0.000	100.00%

Source: MPR, DDCS&PMS Consultants, June, 2021

Polder 35/1	Unit	Target	Completed	Ongoing	Progress
Construction/ Re-sectioning of Embankment	Km	61.972	50.922	0.500	82.20%
Excavation/ Re-excavation of Drainage Channel	Km	70.466	56.966	0.000	80.84%
Construction of Drainage Sluices	No	14	14	0	100.00%
Repairing of Drainage Sluices	No	2	2	0	99.03%
Construction of flushing Inlets	No	12	12	0	100.00%
Repairing of Flushing Inlets	No	3	3	0	100.00%
Embankment Slope Protection Work	Km	11.750	8.787	0.000	74.78%
River Bank Protection Work	Km	0.800	0.800	0.000	100.00%

Source: MPR, DDCS&PMS Consultants, June, 2021

Polder 35/3	Unit	Target	Completed	Ongoing	Progress
Construction/ Re-sectioning of Embankment	Km	39.825	37.815	0.110	94.88%
Excavation/ Re-excavation of Drainage Channel	Km	0.000	0.000	0.000	NA

Construction of Drainage Sluices	No	4	4	0	100.00%
Repairing of Drainage Sluices	No	0	0	0	NA
Construction of flushing Inlets	No	10	10	0	100.00%
Repairing of Flushing Inlets	No	2	2	0	100.00%
Embankment Slope Protection Work	Km	0.700	0.700	0.000	100.00%
River Bank Protection Work	Km	0.150	0.150	0.000	100.00%

Source: MPR, DDCS&PMS Consultants, June, 2021

Package-2

Work of Package-2 is also in progress since the contract that was awarded on 15 December 2016, signed on 08 March 2017 and notice to commence issued on 12 July 2017. Mobilization and ancillary works along with inception and progress of physical works in 6 Polders under Package 02 have commenced, although progress in Polder 43/2C has been delayed due to land acquisition issues mainly (where physical work started from January 1, 2019).

The key activities and accomplishments of works of Package 02 during January- June, 2021 were construction/ re-sectioning of embankment, construction/repair of drainage sluice, construction/repair of flushing inlets, excavation/re-excavation of drainage channel, embankment slope protection and River bank protection works.

Work progress achieved during/ up to the reporting period has been mentioned below:

- Construction/re-sectioning of embankment completed in 62.379 kms and it is ongoing in 18.447 kms with an overall progress of 40.29% of total length of 208.101 kms
- Excavation of drainage channel has been completed in 78.658 kms with overall progress of 50.77% of total length of 154.931 kms.
- Construction of drainage sluice of 18 nos. completed and ongoing in 25 nos.as against total numbers of 51 with an overall progress of 78.96%.
- Construction number of flushing inlets is 12 nos. completed and ongoing in 12 nos. as against total numbers of 51 with an overall progress of 49.02%.
- Repair of Drainage Sluices ongoing in 2 nos. against total 6 nos. with an overall progress 58.19%.
- Repair of Flushing inlets completed 1 no. and ongoing in 17 nos. against total 32 nos. with an overall progress 61.09%.
- Slope Protection works have been carried out in 1.700 kms out of total 9.476 kms with an overall progress of 57.67%
- River bank protection works have been carried out in 4.425 kms out of total 5.691 kms with an overall progress of 82.15%
- Manufacturing of CC blocks is in progress in all Polders and 667,402 numbers have been produced during the reporting period totalling to 6,054,052 numbers by June, 2021.

Work progress achieved during/ upto the reporting period has been mentioned below.

The Polder-wise and item-wise progress status of Package-2 upto June, 2021 has been furnished in the following Tables:

Table 12: Length of Emergency work in Package-2

Locations	Length (km) of emergency work upto December, 2021	Length (km) of emergency work upto June, 2021	Length of emergency work during Jan-Jun, 2021
39/2C	0.556	0.556	0.00
40/2	0. 350	0. 350	0.00
41/1	0.051	0.151	0.100
43/2C	0.185	0.365	0.180
47/2	1.556	1.556	0.00
48	0.508	0.508	0.00
Total	**3.206**	**3.486**	**0.280**

Source: MPR, DDCS&PMS Consultants, December, 2020 & June, 2021

Table 13: Progress in production of CC block manufacturing in Package-2 Polders

Sl. No.	Polder No.	No. of total CC block manufactured by end December, 2021	No. of total CC block manufactured by end June, 2021	Number of CC block manufactured during Jan to Jun, 2021
1.	39/2C	4,206,573	4,315,120	108,547
2.	40/2	184,474	273,160	88,686
3.	41/1	325,713	448,519	122,806
4.	43/2C	76,251	223,301	147,050
5.	47/2	343,704	436,327	92,623
6.	48	249,935	357,625	107,690
Total		**5,386,650**	**6,054,052**	**667,402**

Source: MPR, DDCS&PMS Consultants, December, 2020 and June, 2021

Table 14: Polder-wise Progress of various work components of Package 02 up to June, 2021

Polder 39/2C	Unit	Target	Completed	Ongoing	Progress
Construction/ Re-sectioning of Embankment	Km	59.250	6.440	1.920	11.32%
Excavation/ Re-excavation of Drainage Channel	Km	57.230	23.450	0.000	40.98%
Construction of Drainage Sluices	No	13	2	7	63.39%
Repairing of Drainage Sluices	No	0	0	0	NA
Construction of flushing Inlets	No	21	0	1	3.97%
Repairing of Flushing Inlets	No	0	0	0	NA
Embankment Slope Protection Work	Km	4.000	0.000	0.000	0.00%
River Bank Protection Work	Km	3.787	3.380	0.000	89.25%
Construction of Closure Dam	No	8	0.00%	12.50%	0.00%

Polder 40/2	Unit	Target	Completed	Ongoing	Progress
Construction/ Re-sectioning of Embankment	Km	34.200	12.150	7.560	46.33%
Excavation/ Re-excavation of Drainage Channel	Km	4.229	1.829	0.000	43.25%
Construction of Drainage Sluices	No	10	2	6	75.36%
Repairing of Drainage Sluices	No	3	0	1	29.92%
Construction of flushing Inlets	No	6	2	2	61.29%
Repairing of Flushing Inlets	No	11	0	4	31.52%
Embankment Slope Protection Work	Km	1.137	0.400	0.000	35.18%
River Bank Protection Work	Km	0.000	0.000	0.000	NA

Polder 41/1	Unit	Target	Completed	Ongoing	Progress
Construction/ Re-sectioning of Embankment	Km	33.571	12.893	2.507	37.70%
Excavation/ Re-excavation of Drainage Channel	Km	23.133	4.161	0.000	17.99%
Construction of Drainage Sluices	No	10	3	6	88.50%
Repairing of Drainage Sluices	No	0	0	0	NA
Construction of flushing Inlets	No	11	4	5	78.79%
Repairing of Flushing Inlets	No	12	1	6	53.33%
Embankment Slope Protection Work	Km	0.000	0.000	0.000	NA
River Bank Protection Work	Km	0.674	0.410	0.000	60.83%

Polder 43/2C	Unit	Target	Completed	Ongoing	Progress
Construction/ Re-sectioning of Embankment	Km	25.513	8.205	2.620	37.88%
Excavation/ Re-excavation of Drainage Channel	Km	28.261	14.140	0.000	50.03%
Construction of Drainage Sluices	No	8	4	3	84.23%
Repairing of Drainage Sluices	No	0	0	0	NA
Construction of flushing Inlets	No	7	2	2	56.53%
Repairing of Flushing Inlets	No	7	0	5	65.00%
Embankment Slope Protection Work	Km	0.261	0.000	0.000	0.00%
River Bank Protection Work	Km	0.540	0.090	0.000	16.67%

Polder 47/2	Unit	Target	Completed	Ongoing	Progress
Construction/ Re-sectioning of Embankment	Km	17.567	17.130	0.437	96.58%
Excavation/ Re-excavation of Drainage Channel	Km	9.167	9.167	0.000	100.00%
Construction of Drainage Sluices	No	4	2	2	99.63%

Repairing of Drainage Sluices	No	0	0	0	NA
Construction of flushing Inlets	No	3	2	1	99.50%
Repairing of Flushing Inlets	No	2	0	2	92.50%
Embankment Slope Protection Work	Km	0.000	0.000	0.000	NA
River Bank Protection Work	Km	0.690	0.545	0.000	78.99%

Polder 48	Unit	Target	Completed	Ongoing	Progress
Construction/ Re-sectioning of Embankment	Km	38.000	5.561	3.403	20.67%
Excavation/ Re-excavation of Drainage Channel	Km	32.911	25.911	0.000	78.73%
Construction of Drainage Sluices	No	6	5	1	99.95%
Repairing of Drainage Sluices	No	3	0	1	29.58%
Construction of flushing Inlets	No	3	2	1	99.50%
Repairing of Flushing Inlets	No	0	0	0	NA
Embankment Slope Protection Work	Km	4.078	1.300	0.000	31.88%
River Bank Protection Work	Km	0.000	0.000	0.000	NA

Source: MPR, DDCS&PMS Consultants, June, 2021

Package-3

As for work progress of Pakcage-3, the tender has not yet been floated, although finalization of EIA of 7 Polders of Package-3 along with EMP has been completed and shared with WB and preparation of Design are in progress during the reporting period.

Improvement in Management of Environment, Health and Safety (EHS)

The outbreak of COVID-19 affected the work progress along with EHS quality of the worksites. However, the major issues of maintaining and improving the EHS management in Packages W-01 and W-02 of CEIP-1 till June, 2021 are as follows:

- The Contractors and workers followed Covid-19 OHS protocols in work sites of Packages 1 & 2
- There is improved supply and use of Personal Protective Equipment (PPE)
- Recording of noise level at CC block plant sites and other susceptible noisy sites are carried out and submitted on monthly basis
- Establishing noise barriers to reduce the noise of high noisy work sites and rotational facility for workers of high noise areas is in practice
- Signboard erected at high noise work site to adopt measure against health hazard issue
- Proper code of waste management followed and records of waste disposal are maintained along with proper management of organic waste
- Covering of conveyer belts to protect dust emission and improved mask use of workers are done
- Frequent spraying of water for dust management at work sites
- Tool box talks are held regularly before the start of works
- Proper materials storage at designated site during and after work

- Maintain height of the construction materials stacks to avoid potential accidental falling
- Erection of 'No entry' signboards for improved safety of the CC plant sites and other required locations
- Established increased numbers of grievance collection boxes for workers at suitable (invisible) sites for submission of workers' grievance
- Establishment of separate lane for forklift movement and for the pedestrians in CC block manufacturing plant site
- Maintaining register for workers' personal information along with history of workers' health problems and name and address of next of kin in case of emergency uses
- Fencing of materials mixing hopper site for controlled entry for maintaining safety
- Continued erection of signboards and signage with procedures for turning off the switch of electricity and the CC block casting machine along with alerting against potential mistakes
- Established increased numbers of improve/hygienic toilet facilities for workers' use along with improved management practices
- Provision of adequate fire extinguishers at camp sites and work sites along with the provision of their protection facilities from rain and sunshine
- Continued training of workers on operation of fire extinguishers and demonstration of firefighting practices by them (workers)
- Paving of the base of secondary fuel containers to check soil and ground water pollution through fuel spillage/leakage
- Proper management of residual cement sludge pool at susceptible locations
- Construction of waste collection and disposal facilities of CC block manufacturing plants and other working locations
- Provision of life jacket to Barge workers and cautionary marking near edge for workers' safety measure
- Appointment of suitable EHS Managers (local and expatriate) at Polder level
- Appointing flagman at required location for traffic management and avoiding accident
- Erection of electrical cable on overhead instead of placing on the ground to avoid potential accidents
- Continuation of provision of safe drinking water to workers (laboratory tests of water done periodically)
- Fuel delivery site has impervious surface with collection ditch and absorbent facility to check pollution of soil and ground water through seepage
- The welding work sites have been installed on impervious surface with proper shed on them
- Periodic training of the Contractor's Environment Officers along with regular training of workers continued for improved EHS
- Established temporary storage facility for industrial wastes in all automated CC block manufacturing plant sites and erected ' No entry' signboards to avoid potential accident
- Established alternative road for community transportation (at sluices sites) with suitable bamboo/fencing of work site along with erection of required signboard

- Erection of Material Safety Data Sheet (MSDS) at hazardous (fuel and chemical) location along with Bangla translation
- Provision of proper drainage systems in worksites to avoid pollution to surrounding water bodies and land by direct disposal of waste water
- Erection of safety signboards and implementation of safety procedure at work sites
- Introduced incident reporting in Accident register following the World Bank's Environment & Social Incident Response Tool-kit (ESIRT)
- Maintaining register at worksites for documentation of EHS compliance/non-compliance by the site visitors, specially by the project Environmental Specialists

The Contractors have adopted various safety measures for checking of infection of COVID-19 pandemic among the staffs and workers as mentioned below:

Novel coronavirus response

The Contractors, Package-1 and Package-2 of CEIP-1 carried out the following drives for infection and non-proliferation of COVID-19 pandemic

i) Checking of temperature of all personnel is carried out every day by experienced personnel including personnel working at office, camp, local construction areas, sluice and slope protection areas

ii) It was made mandatory that all personnel wear surgical masks during working and has been provided masks before going to work every day

iii) Arrangement made to keep workers' hands clean with hand sanitizer and disinfectant to avoid spreading of the virus, which is followed strictly

iv) Thorough disinfection drive was conducted every Friday, including office areas, camps, pre-fabrication plants, construction vehicles and motor vehicles

v) Supplied PPE like surgical masks, medical gloves, eye mask to supporting staff (such as gate guard, police)

vi) Conducted training of workers for awareness on prevention and safety issues related to Corona virus infection during tool box talking.

vii) Staffs and workers are not allowed any leave during work and leaving work site is restricted.

viii) Access to work sites and camp site by the local people is restricted

ix) Conduct of COVID-19 tests among the workforce of Package-1 and Package-2, whenever it is felt required by the Contractor's personnel and whenever someone feel/obsrve any symptom of COVID-19 and adopt required measures as stated in Covid-19 OHS protocols in case it is found positive

7. EIA/EMP Preparation and Reporting

7.1 Overview

The major environment-related activities undertaken during the period January-June, 2021 are:

- The Package-1 Contractor has conducted a robust program of monthly environmental training giving emphasis on combating Covid-19 pandemic during the period of January-June, 2021, where enough participants (staff and workers) were trained on different topics.
- The Package-2 Contractor has also conducted a robust program of monthly environmental training exclusively including combating Covid-19 pandemic during the period of January-June, 2021, where enough participants (staff and workers) were trained on different topics.
- On jobs trainings were provided to the Management and EHS Managers of Package-1 and Package-2 areas by Sr. Environmental Specialist of PMU (Md. Amir Faisal), Environmental Specialists of PMU (Dr. Md. Towhidul Islam), Environmental Specilaist of DDCS&PMS Consultant (Mr. Abu Bakr Siddique) and Environmental Specialist of 3rd Party M&E Consultants (Mr. Rezaul Haque Khan).
- Conducted Consultation Meeting with project affected persons/beneficiaries on Environmental & Social Safeguard Management in Package-1 and Package-2 areas.
- Updated the Bi- Annual Environmental Monitoring Report (July-December, 2020) of CEIP-1 and shared with The World Bank.
- Shared the Current Status of Environmental Safeguard High Priority Actions with The World Bank as agreed during WB Environmental Safeguard Mission of February 22 to March 08, 2021.
- Reporting systems are improved as per guide line of safeguard mission of the World Bank during February 22 to March 08, 2021.
- Grievance redress system (GRS): The contractors provided enough Grievance collection boxes at different locations of the work sites
- Worker histories are maintaining in respect of age, gender, medical history, contact details and next of kin to notify in case of accidents/emergency
- Implementation of IPM at farmers field

7.2 Status of EIA/EMP Preparation

According to Environmental Conservation Rules (ECR) 1997 of DoE, the project is categorized as "Red", requiring that EIA and RAP have to be submitted for obtaining and Environmental Clearance Certificate (ECC). The ECC was obtained up to 4 November 2021 and thus the Project has complied with the regulatory requirement. According to The World Bank (WB) safeguard policy, the Project is classified as Category "A" involving significant environmental adverse impact. To satisfy compliance of GoB and WB, CEIP-1 has already prepared EIAs for each of the four polders of Package 01 and six polders of Package 02 and these contain polder-specific EMPs. These EIAs have been approved by WB and DoE. After incorporating comments from the World Bank and obtaining clearance from IPoE, the EIAs for the 7 Polders of Package 03(for polders 14/1, 15, 16, 17/1, 17/2, 23 and 34/3) have been finalized which are shared with the World Bank. The world Bank cleared all the EIAs with a reservation of updating the EIAs when the next phase will start.

7.3 Afforestation (January-June, 2021)

Afforestation is important to the security of embankments and the lives and livelihoods of communities by providing green belts of protection from tidal flooding and storm surge. Pilot planting of selected mangrove and other salt tolerant species are planned on BWDB owned land to demonstrate the critical role of a protective belt on the tidal inundation zone on the riverside of the embankment as well as in the embankment slopes. The afforestation component will engage community participation in pro-poor approaches to encourage ownership and benefit sharing in an attempt to achieve social, environmental and economic sustainability.

It was originally planned that NGOs will implement the afforestation work under CEIP-1 along with WMO formation, but considering the sustainability of the afforestation the authority decided that afforestation part will be cut from the NGOs scope and will be implemented by Bangladesh Forest Department (BFD). Accordingly a proposal was sent to World Bank with the concurrence of BFD and World Bank agreed the proposal. After observing other formalities a MOU has been signed between BFD and BWDB.

In accordance with the MOU, all contract agreements have been signed between the respective Executive Engineer, BWDB and Divisional Forest Officer, BFD as follows:

- Polder 47/2 & 48 under Package-2 signed on August 12, 2018
- Polder 35/1 & 35/3 under Package-1 signed on October 8, 2018
- Polder 32 & 33, under Package-1 signed on 10 October 2018
- Polder 39/2C under package-2 signed on 04 February 2019
- Polder 40/2 & 41/1 under package-2 signed on 25 February 2019
- Polder 43/2C under package-2 signed on 18 April 2019

The afforestation so far achieved till June 2021 is shown in Table 15.

Table 15: Afforestaion Status till June 2021

Sl No.	Polder No	Seedlings planted (Nos.)				Total seedlings planted (Nos.)	Total area in ha
		Embankment	Area in ha	Mangrove	Area in ha		
1	47/2	83500	33.4	74000	29.6	157500	63
2	40/2	50000	20	0	0	50000	20
3	41/1	30000	12	21000	8.4	51000	20.4
4	43/2C	28000	11.2	0	0	28000	11.2
5	48	20000	8	0	0	20000	8
Total		211500	84.6	95000	38	306500	122.6
1	32	185500	74.2	0	0	185500	74.2
2	33	170000	68	0	0	170000	68
3	35/1	198500	79.4	0	0	198500	79.4
4	35/3	166000	66.4	0	0	166000	66.4
5	39/2C	15000	6	0	0	15000	6
Total		735000	294	0	0	735000	294
Grand Total		**946500**	**302.6**	**95000**	**38**	**1041500**	**416.6**

Plan of Afforestation for 2020-21

PMU has prepared the afforestation program in the embankments for 2020-21 discussing with DDCS and PMS consultants that the area will be available for afforestation during month of May-June 2020. However, the afforestation program in the foreshore areas will be determined later on. The tentative afforestation program as follows:

Tentative afforestation program in the embankments during 2020-21 under CEIP-1

District	Polder no.	Length of polder	Length planted 2018-19	Length planted 2019-20	Length left in the polder	Actual length available for afforestation during 2020-21	Tentative seedlings planted during 2020-21 in thousand	Area in ha during 2021
Khulna	32	49.5	23	7	19.5	10	45	18
Khulna	33	49.5	20	14	15.5	5	20	8
Bagerhat	35/1	62.5	23	4	35.5	15	70	28
Bagerhat	35/3	40	20	9	11	6	25	10
Pirojpur	39/2C	59.25	0	0	59.25	6	30	12
Total		260.75	86	34	140.75	42	190	76
Barguna	40/2	33.75	2.5	4.5	26.75	8	35	14
Barguna	41/1	33.64	0	2	31.64	3	20	8
Patuakhali	43/2C	37.36	0	7	30.36	4	20	8
Patuakhali	47/2	17	14	1.5	1.5	1.5	6	2.4
Patuakhali	48	37.36	0	2	35.36	4	25	10
		159.11	16.5	17	125.61	20.5	106	42.4
		419.86	102.5	51	266.36	62.5	296	118.4

Total embankment slope plantation in ha	118.4
Total foreshore plantation in ha	0
Total plantation in ha	118.4
Total seedlings to be planted in thousand	296.0

The Divisional Forest officers will follow the time schedule for maintenance of 2018-19 & 2019-20 plantation as well as raising of nurseries and plantation of 2020-21 as given below:

Item of works/activities	**Time Schedule for the given task**			
	Nypa plantation	**Kewra/Baen plantation in seed bed**	**Gewa/Passur/Sundri/Kankra in polybags**	**Embankment slope plantation-non-mangrove in polybags**
a) Nursery raising				
Selection of plant species				
Site selection	February	June-July	June	November
Site preparation including bed preparation and enclosure of nursery/earthen embankment	Mid February	Mid June-July	Mid June-mid July	November
Seed collection	Mid February-	August-September	August	November-February

Item of works/activities	Time Schedule for the given task			
	Nypa plantation	**Kewra/Baen plantation in seed bed**	**Gewa/Passur/Sundri/Kankra in polybags**	**Embankment slope plantation-non-mangrove in polybags**
	April			
Polybag collection	Not applicable	Not applicable	Before June	Before December
Soil collection	Not applicable	Not applicable	Before April	November-mid December
Cowdung/compost and Fertilizer collection	Not applicable	Not applicable	Before April	November-mid December
Mixing of cowdung and fertilizer with soil and filling of bags	Not applicable	Not applicable	Before April. Atleast 15 days before filling the bags	Till mid January
Seed sowing	Mid February -April	Mid August-September	Mid June- July	December-February
Seedling maintenance	Mid February-May	Mid August-next June	Up to May-June next year	February-May
b) Planting				
Selection of site, survey the site and prepare plantation site map.	March	November-February	May – June	January-February
Preparation of mounds/dykes	Not applicable	Not applicable	Not applicable	Not applicable
Cleaning of unwanted growths by cutting them off.	Within May	7-10 days before the plantation	Mid May. 7-10 days before the plantation	End of April. 7-10 days before the plantation
Pit making	Not applicable	Not applicable	May	2nd-3rd week of April.
Application of cowdung/composts	Not applicable	Not applicable	7-10 days before planting of seedlings	7-10 days before planting of seedlings (May-June)
Staking	2-3 days before the planting	Not applicable	2-3 days before the planting	2-3 days before the planting
Transportation of seedlings to the planting sites	May-June	Next mid November-February	4th week April-June	May-June
Planting of seedlings with subsequent vacancy fillings	Just immediate after transportation of seedlings to the sites	Just immediate after transportation to the sites	Just immediate after transportation to the sites	Just immediate after transportation to the sites (May-June)
Fixing of red flags indicating planting sites to avoid fishing.	One week before the plantation	Not applicable	Not applicable	Not applicable
Application of fertilizer	Not applicable	Not applicable	Minimum 2 weeks after planting	Minimum 2 weeks after planting (mid May-June)
Weeding 1st year means planting of the	3 weedings in 1st year, 2 weedings in 2nd	3 weedings in 1st year, 2 weedings in 2nd year	3 weedings in 1st year, 2 weedings in 2nd year	3 weedings in 1st year, 2 weedings in 2nd year

Item of works/activities	Time Schedule for the given task			
	Nypa plantation	**Kewra/Baen plantation in seed bed**	**Gewa/Passur/Sundri/Kankra in polybags**	**Embankment slope plantation-non-mangrove in polybags**
following year	year			
Vacancy fillings with staking	1st year 20%	1st year 30% and 2nd year required number	1st year 20% and 2nd year required number	1st year 20% and 2nd year required number
Pruning and climber cutting	Not applicable	Not applicable	Not applicable	By Watchers
Watching	2.0 years i.e., 24 months after planting the seedlings.	2.0 years i.e., 24 months after planting the seedlings by the same watcher of embankment slope plantation.	2.0 years i.e., 24 months after planting the seedlings.	2.0 years i.e., 24 months after planting the seedlings.

7.4 Efforts for Conservation and Stocking of Threatened Fish Species

According to the Contract agreement a financial provision (Tk. 3,500,000) has been allotted in BoQ as cost of EMP for conservation and stocking of threatened fish species in Polders of Package-1. Accordingly, the Contractor, Package-1 has conducted to carry out various efforts in this regard.

For the purpose, the Contractor employed an Fishery Specialist (Md. Moniruzzaman) since June, 2019. He has started working in Polders 32, 33, 35/1 and 35/3 and followings are the progress for his activities for conservation and stocking of threatened fish species.

According to Fishery expert, fisheries resources of the Polder areas are diversified with different fresh and brackish water fish habitats. Open water/ capture fish habitats of Polder 32 include various rivers and khals such as Nalian River, Kamargola khal, Golbunia khal, Jalia khal, Pacherdoani khal, Katakhali khal, Uluruar khal, Nadaken khal, Goler khal, Thakurbari khal, Kahsiar khal, Parar khal, Chotkatola khal, Hatkhola khal etc. which also act as major arteries for open water fishery migration; whereas for Polder 35/1 such Rivers and khals include Bhola and Baleshwar Rivers, Kumarkhali Khal, Madda Barishal khal, Rajor khal, Khontakata khal, Koyer khal, Rayenda khal, Tafalbari khal, Gabtola khal, Bogi khal, Chalitagonia khal, Rasulpur khal, Uttar Rajapur khal, Bandakata khal etc. The aquaculture fishery resources are mainly developing in suitable ponds located in highland areas within the Polder, which are classified in 4 categories, e.g. prawn ponds (Galda gher), shrimp pond (Bagda gher), homestead ponds and commercial ponds.

At present fish biodiversity has a decreasing trend because of:

- Morphological change of fish habitats
- Obstruction to spawning migration
- Natural and anthropogenic drying up of wild fish habitats
- Indiscriminate fishing
- Loss of river-khal connectivity
- Construction of water regulatory structures on khals/rivers

In CEIP-1 Polders, formation of Water Management Organization (WMO) have been completed among the project stakeholders for participatory sustainable water management, who will be made aware of conservation of threatened fish species through training and motivation. For this purpose, several meetings with the WMGs and NGOs (who responsible for formation of WMGs)

and village elites were consulted for collection of primary information/data on threatened fish species along with means of their development. The findings are as follows:

According to the discussions, the threatened fish species include, Mola (mola carplet), Shol (snakehead mural), Koi (climbing perch), Shing (stinging catfish), Magur (Walking catfish), Royna mainly. According to the WMO/NGO personnel the reasons of threatening of capture fishery are (in addition to causes cited above):

- Intrusion of saline water
- Occurrence of cyclone and flooding
- Siltation of water bodies
- Application of poison for catching fish
- Lack of knowledge/awareness of the community for fish production.

According to the findings, various suggestions have been forwarded for Conservation and stocking of threatened fish species as cited below:

- Enhance people's awareness to stop damage/destruction of captive fishery and adoption of measures for increased production
- Development/dissemination of technical knowledge for improvement of productivity of threatened fish species
- Establishing sanctuary in suitable canal/ beel/pond sites
- Government's step to restrict use of narrow meshed net during catching fish in bil/khal areas
- WMG members to make aware of the threatened fish species and empower them to stop damage of threatened fish species.

The Contractor is taking various steps to improve the status of conserving and stocking of threatened fisheries. They include

- Conduct of field based meeting with WMO members for identifying the existing status of threatened fishery resources
- Survey of water bodies including khals and ponds in the Polders
- Survey of threatened fish and its conservation mechanism
- Working out means of development of the threatened fishery in the Polder areas
- Training and awareness of the WMO (WMG and WMA) members and non-members (who are interested for fishery development) for awareness and improving the status of indigenous fish species due to polderization and other reasons

The Contractor, Package-1 has arranged training at suitable location of all the 4 Polders between 6.10.2020 and 24.12 2020, where in total 149 WMO members and non-WMO members participated. For awareness program various leaflets were prepared and festoons and signboards were erected containing the message of existing fishery situation and means of development in the Polder areas.

The Contractor also planned to release threatened fish fingerlings to the suitable water bodies to supplement the growth and production of threatened species in the Polder areas, which will be implemented soon.

In the latest development the Contractor Package-1 has released total 20,000 fish fingerlings in suitable water bodies (Khals and Ponds) of 4 Polders under the guidance of Fishery Specialist during the month of February, 2021. The fingerlings species include Koi (Climbing perch), Shing (stinging catfish) and Kali baus (Calbasu). The fish fingerlings were released in suitable water bodies, which will be taken care of by the local WMO

representatives for their growth and propagation. In addition, there is a proposal for release of further 100,000 fingerlings in other suitable water bodies of 4 Polders of Package-1, CEIP-1, which is delayed due to the present COVID-19 situation.

The Contractor, Package-2 also has various activities related to firm survey and improvement of aquatic resources (mainly fish) within the Polder areas, according to the contract document. They have been instructed to take the necessary step to carry out the works, which they agreed to start, but the work is getting delayed due to the present lockdown situation all over the country.

8. EMP Implementation Status

The basic objectives of the EMP implementation in CEIP-1 are the management, prevention and mitigation of possible adverse risks of project interventions in the polder areas according to approved/proposed EHS risk assessment, EAP and C-ESMP documents for CEIP-1. The environmental and social team of PMU, DDCS & PMS consultants, third party M&E consultants and contractors are responsible for the sound implementation of EMP in CC yards, sluice area, embankment re-sectioning and other work locations under contract packages W-01 & W-02 of CEIP-1.

In CEIP-1 the EMP implementation level is being monitored under the following line items, illustrated in the below table No. 16.

Table 16: Elements for monitoring the level of EMP implementation in CEIP-1

Sl No.	Elements	Sub-elements
1	**Management of Covid-19 in work places**	The contractors of both Packages (W-01 & W-02) have aleady prepared Covid-19 EPP (Emergency Preparedness Plan), translated into Bangla & Chinese, kept in site and being followed to mitigate Covid-19 pandemic. The Envirnmental Specialists of PMU, DDCS&PMSC and third pary M&E consultant monitored the compliance level in regard to Covid-19 management strategy virtually and also during their field visit at work sites of CEIP-1.
2	**Construction Camps**	Obtaining approval
		Erection of signboard in Bangla and English with project details
		Install accommodation facilities for workers
		Drainage channels installation
		Supply of safe drinking water
		Supply of adequate sanitation
		Fire-fighting arrangement
		Solid and visible fencing
3	Precast CC block yard	Implementaion of Covid-19 OHS mannual
		Safe pedestrian
		Solid and visible fencing

Sl No.	Elements	Sub-elements
		Establish and practice the safe operation procedure
		Established separate storage
		Established Industrial Waste storage area
		Confined chemical storage area
		Installation of proper drainage system
		Confined the CC block production area
		Regular checking of automatic/mixture machine
		Suitable environment for operator
		Regular checking of noise level
		Provided noise control devices and barrier
		Provide cautionary signboard
		Regular checkinf of the switch board and weir system
		Provision for workers' retiring room
		All materials stacks are covered or wetted
		Following dust suppression procedures
		Deployed signal man to control vehicle movement
		Fire-fighting arrangement
		Manufacturing will not take place at night
4	**Access road construction**	Obtaining approval
		Construction of culverts if needed
		Construction of temporary road/by pass road
		Install speed limit signs
		Install entry & exit signs
5	**Temporary Facilities Decommissioning**	Agreeing with local authorities on demolition
		Review of Environmental liabilities

Sl No.	Elements	Sub-elements
		Waste removal
6	**Fuel storage area**	Install hardstand and secondary containment
		Firefighting equipment installation
		Sand and shovel close-by
		Keep Spill kit/absorbent mat to catch any spilled fuels at the location where potential spillage may occur
		Sufficient hydrants to address potential fire
		Fire fighting arrangement
		The Material Safety Data Sheet (MSDS) from supplier to be placed besides containers/storage
		Regular checks on physical condition
7	**Welding area**	Paved welding area,
		Enough safety procedure for different type of works,
		Fire fighting arrangement
		Provide the gas mask properly during welding
		Provide special cloth for welding
		Provide the eye protective welding glass
		Maintain a minimum distance (6.1 m) from the fuel gas cylinder
		Check the hose pipe system regularly
8	**Construction/repairing of drainage sluices (DS) and flushing sluices (FS)**	Demolishing debris will be disposed of at a site approved by the Engineer.
		Drainage sluices ring bundh and diversion channel will be installed in order to work in dry conditions.
		No waste water from concrete mixing will be disposed of directly to the surface water.
		Steel sheet pile driving will not be done at night.
		The work area will be demarcated clearly.

Sl No.	Elements	Sub-elements
		Periodic cleaning the water pathway
9	**Embankment construction and re-sectioning**	Pavement(if present)will be removed and disposed of at the premises of BWDB
		All works will be demarcated clearly.
		Signals will be installed to indicate the entry and exits of vehicles and movement of construction
		The contractor shall manage the top soil(15)cm during earth work activities
10	**Borrow Material**	Agreeing on borrow area
		Document borrow area
		Perform soil analyses on borrow materials when contamination is expected
		Prevention of erosion/dust forming
		Borrow area excavation complying with distance from the embankment as per the technical specification
		No-Tress pass line fixed with bamboo poles
11	**Khal excavation**	Spoil plan is developed for approval by Engineer.
		Unnecessary re-suspension will be avoided
		Temporarily deposition of excavated material is kept away from the channel edge
		Return water will be conveyed through siltation chambers to avoid high loads of water.
		Geo textile may be used to help stabilize the material.
		Smothering of important flora and habitats will be avoided.
12	**The bank and slope protection works**	Implementaion of Covid-19 OHS mannual
		Spilling of earth material in surface water will be avoided.
		Turfing is done applied to prevent erosion
		Proper drainage provision will be kept to avoid formation of

Sl No.	Elements	Sub-elements
		rain cuts due to surface run off.
13	**River closure work**	The area will be separated by demarcation.
		Erection of proper cautionary signboard & signage.
		Provide and uses of required PPE,
		Especially use of life-jacket on barge.
		Provide safe drinking water for staff & workers
		Assure FAF in site
		Installed hygienic toilet facilities in site.
		Make available the required Fire extinguisher
		Assure proper signal to control community access
		Development of smart waste management system
		EHS training & Tool-box talk before work start
14	**Safety on barge**	Using mask and maintaining social distance
		Proper anchorage done
		Balanced loading done
		Use of PPE especially life jacket
		Maintain speed limit of forklift
		Regular toolbox talk
		Separate lane for pedestrian and forklift
		Prepared a forklift safety procedure
		Regular check and maintenance of the scraper
		Developed waste management system
		Provided the facilities for potable water & FAB
15	**Occupational Health and Safety**	Implementaion of Covid-19 OHS measures
		Development of Health and Safety plan including emergency procedures

Sl No.	Elements	Sub-elements
		Train all staff in health and safety
		Provision of PPE and ensuring their use
		Provision and use of life jacket during visiting campsite/worksite by boat
		Installation of first aid facilities with adequate stock
		Provide sanitation facilities where needed
		Provision of safe drinking water to work force (tube-well water, bottled water or pond water)
		Proper signaling of work areas
16	**Public Health and Safety**	Notification of the public adjacent at construction areas
		Installation of secured pathways for pedestrians
		Proper signaling of work areas
		Limited vehicles at public roads during peak hours.
		The temporary traffic detours in settlement areas will be kept free of dust by frequent application of water
17	**Water Supply**	Providing potable water or supplying safe bottled water.
		Maintaining the distance of a tube well / surface water resource from a soak pit at minimum 15m.
		Providing separate tube wells for the use of women.
18	**FAB facilities**	The contractor will ensure the periodic health check-up and provided required medicine facilities
		Hearing test for workers engaged in high noise area
		Assuring the life insurance for staff and workers
19	**Sanitation**	Providing suitable sanitation facilities for the workforce
		Ensuring the location plan of the latrine at least 50 m away from the accommodation facility
		Providing separate latrines for the use of women
		Installing treatment for the sewerage

Sl No.	Elements	Sub-elements
		Arranging disposal of wastewater from washrooms, kitchens, s, etc. via the camp area's drainage system
20	**Solid Waste Management**	Ensuring collection and disposal of solid wastes within the construction camps and work areas
		Collect and store inorganic wastes in a safe place
		Establish measures for Waste collection, transportation and disposal systems at approved disposal sites.
		Disposal of construction and demolition waste.
21	**Industrial Waste Management**	Make temporary Industrial Waste storage area
		The area should be paved, defined with shade
		Categorized the waste
		Proper storage and disposal
		Record keeping
22	**Chemical storage area management**	Make temporary Chemical storage area
		The area should be paved, defined with shade
		Install the required Sign-board
		Kept in closed condition
		Provide floor to protect from rain
		Tray as well as spill kit/absorbent mat should be provided in chemical storage area.
		Material Safety data sheet (MSDS) provided at sites
		Necessary numbers of fire extinguisher provided
23	**Waste water**	Installation of decanter boxes for cement mixers done
		Installation of proper filtering elements done
		Condicted periodic checks and clean-ups for the decanter box.
		Prioritized reuse of aggregates and water
		Ensure safe disposal of liquid wastes generated

Sl No.	Elements	Sub-elements
24	**Environmental monitoring**	
	Monitoring of Air Quality	Performance of air quality tests (SPM 2.5/10, SOx, NOx and CO during working hours)
	Monitoring of Noise Quality	Monitoring of noise level (dB) at selected sensitive sites during working hours
	Monitoring of Soil Quality	Performance of soil quality tests (organic matter, N, P, K, pH, Salinity, S and Zn).
	Monitoring of Surface Water Quality	Performance of analyses on surface water for: pH, TDS, DO, BOD, EC/Salinity and Turbidity.
	Monitoring of Drinking Water Quality	Performance of analyses on drinking water for: arsenic, iron, chloride and total faecal coliform bacteria.
25	**Noise management**	Notify prior to any typical noise events
		Ensure construction activities do not generate unacceptably high level of noise
		Restrict working to daylight hours
		Provide noise barriers, if required
		Provide ear plugs and muffs at high noise area
26	Water and Hydrology	Preventing of water system by waste collection; re-vegetation and dust suppression etc.
		Insured proper drainage in working areas
27	Flora and Fauna	Agreed with local authorities on tree felling.
		Documented trees / area of trees.
		Avoided un necessary vegetation cutting and clearing.
		Re-vegetation at suitable sites
		Prevented disturbance of animals
		Ensuring sufficient free flow in the construction work for fish migration
28	**Deployment of EHS Supervisor**	Employed one full-time Environment and Safety Supervisor for compliance monitoring of EMP

Sl No.	Elements	Sub-elements
29	**Reporting and Documentation**	The following records has been kept at site: Covid-19 EPP/manual EIA report; Updated C-ESMP/EAP; EHS risk assessment Report; EHS registers (Compliance and Non-Compliance registers); Accident register; Waste management/disposal register; Noise level measurement register; Toolbox/training register; Complaints Register; Monitoring Checklist and Monitoring of environmental quality (Air/Soil/Water)
30	**Public Disclosure and consultation**	Discussion meetings amongst stakeholders have been organized by the contractor before commencement of major physical works of the project Conduct public consultation as necessary during project implementation Disclose the relevant project documents to local community Establish rapport with community to liaise with community Avoid religious conflict
31	**Tool-box talk/safety training**	Environmental training on EMP will be arranged for Construction Field supervisors and Environment & Safety Supervisors.
32	**Complaints on health safety, Environmental hazards and GRM**	Provide COMPLAIN BOX in CC block casting yard
		Grievance Redress Mechanism will be established.
		Complaints received from the public
		All environmental incidents will be recorded and be brought

Sl No.	Elements	Sub-elements
		to the attention of the Site Engineer accordingly ESIRT
		Action will be taken within 7 working days.
33	**Keeping worker history**	Record keeping on various information of the individual workers which will be useful to face emergency situation during any accident. Workers' history including name and address, gender, age, medical history and name of next of kin are recorded by the Contractors to face emergent situations, which is supervised by the Environmental Specialists during field visits found that the contractor is keeping the records of worker's information fairly as instructed.

8.1 Package-1 Polders

With the help of PMU, DDSC & PMSC, Field Office of Khulna and Third Party M&E Consultants, the contractor has addressed the findings of several WB Safeguard mission and they have implemented the environmental items of agreed actions of the mission. The EHS committee, which has been established previously, sits in meetings to monitor the implementation qualities of EHS issues. The EHS committee holding the monthly EHS meeting virtually and/or physically due to outbaeak of Covid-19. The contractor was requested to assess the EHS qualities of all active work locations and camp sites up to the mark of satisfaction.

In general, the contractor has improved the implementation of the EMP though the nubmer of workers and volume of works have been reduced to a great extent due to evolving of pandemic situation all over the world. The Contractor of Package-1 has implemented Covid-19 OHS measures in all sites following OHS protocals. The contractor took measures like providing of PPE, face mask, hand gloves, hand sanitizer, checking of worker's body temperature, disinfecting camp and work sites and imposing restrictions including social/personal distancing and preparation of isolation area. Fencing of work locations with the placing of warning signs / signs and signboards made at crucial locations, first aid kits with required medication and contract information from doctors are also ensured.The provision of workers rest room and hygienic latrines have been installed. Safety issues for fuel storage, fire extinguishing, life jackets during boat navigation, speed limits for vehicle movements in the workplace etc. have also been established. An impermeable surface such as concrete pavement, collection tray and a leak set / absorbent mat have ensured for the collection of oil leaks in the refueling area. The safety data sheet from the fuel supplier has been placed for improved EHS quality. In addition, general housekeeping has improved over the reporting period, as evidenced by waste separation and disposal at workplace and construction camps. Establish household waste management system by digging a ditch to dispose of household waste on daily basis which is fenced and provided with signboard and a roof over the ditch location. A second ditch is dug for the purpose, when a ditch gets filled up. A site has been set up for the temporary collection of industrial waste and for proper disposal and management in all CC plants, but now the plants are closed due to the manufacturing required number of CC blocks according to the contact feature. Regular Toolbox is in practice for increasing employee awareness for

improved health and safety. Noise level is being monitored, recorded and included in the monthly progress report (MPR). The contractor of package W-01 also implementing the recommendation of 5th annual environmental audit report, proposed by third party M&E consultant, prepared after the carrying out of the audit activities in January 2020.

Overall the quality of compliance with the environmental conditions gradually improves with the improvement of the perception of its importance through regular monitoring and awareness of the contractor and the employees concerned by PMU, DDSC & PMSC, Field Office of Khulna and third party M&E Consultants. However, there is further scope for improvement of environmental management practices by imposing frequent and effective practices learned from over past four years. Regular monitoring and on-the-job training by PMU, DDSC & PMSC, Field Office of Khulna and external M&E Consultants must be continued and is expected. Some images of EMP compliance are shown in Annexure 3. The physical work is only implemented in dyke re-sectioning at Polders 32 & 35/1 during the reporting period. All types of work at Polders 33 & 35/3 were completed on June 2020. The EMP compliance for Package-1 during reporting period has been summarized in Table 17.

Legend:

Compliance ratings:

Very good	:	The term used here means that the level of compliance is significant - that is, the item in question is in compliance an estimated 90-100% of the time (or locations).
Good	:	This describes that the level of compliance is satisfactory, but there is room for improvement - that is, the item in question is in compliance an estimate 75-90% of the time (or locations).
Fair		This means the level of compliance is satisfactory in many instances, but there is a need to improve the level of compliance - that is, compliance estimated at 50-75% of the time (or locations.)
Poor	:	This means the level of compliance is not satisfactory, and has not reached to a minimum level - 49%
Fully Non-compliant	:	This means that level compliance is zero
Trend ratings	:	Improving, steady, deteriorating.

Table 17: General Level of EHS Risk Assessment and EAP Compliance in the Package 01 Polders

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
Polder 32, Package 1, Khulna				
1	Erection of Covid-19 related signboard/ poster	The contractor has erected Covid-19 related signboard and practiced in camp and work sites	Good compliance Improving	Continuation is required
2	Implementation of	Covid-19 OHS measures are being	Good compliance	Continuation is required following the aproved Covid19

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
	Covid-19 OHS measures	practiced in work sites. Translated to loval language for easy understanding.	Improving	OHS protocols
3	Erection of cautionary Signboards/ signage	Required signboard/signage are erected in right locations	Good compliance; Steady	Some signage needs to be changed
4	First aid	There are enough collections & storage	Good compliance; Steady	Needs to continue
5	PPE	Staff and workers are being practiced frequently	Good compliance; Steady	Needs to continue
6	Toilet and water supply	Cleanliness of toilet maintained through training and motivation of workers	Good compliance; Improving	Keeps to be cleaned and motivated the workers for using enough water
7	Fire extinguishers	Training of the workers on fire safety provided by the Contractor and the workers, and staff are awared	Good compliance; Steady	Continuation is requireds
8	Traffic management	Centralized due to limited activities	Good compliance; Steady	Continuation is urgent
9	Waste collection and	The practice of waste disposal has been	Good compliance;	Waste disposal has to be

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
	disposal	improved through number of good practices (e.g. separate bin, selling plastic wastes to local scarp shops)	Improving	monitored.
10	Dust control	Minor chance due to limited works	Good compliance; steady	Needs to control, if required
11	Safe pedestrian	Contractor complied where necessary	Good compliance; steady	Monitoring to be continued
12	Conduct of tool box talk	Contractor complied when necessary	Very good compliance; steady	PMU can monitor physically and virtually
13	Establishing temporary storage for industrial waste	Followed	Good compliance; steady	Monitoring to be continued
14	Turfing	Almost completed	Good compliance; Improving	Needs to complete within current rainy season
15	Safety in barge	Followed for precautionary bank protection works	Good compliance; steady	Need to monitor physically
16	Environmental monitoring	Done for the year of 2020	Done	Needs to monitor in 2021

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
17	Chinese EHS manager	Chinese EHS manager is working with satisfaction	Good compliance; Improving	Continuation is required
18	Deployment of EHS officer	The deployed EHS officer is working with satisfaction	Good compliance; Improving	Continuation is required
19	Public disclosure and consultation	Public disclosure and consultations were carried out by PMU Environmental Specialist in the reporting period	Very Good compliance; Improving	Continuation is urgent
20	Provided Grievances collection box	Required Grievances collection boxes are erected in right location & regularly reported in MPR	Very Good compliance; Improving	Needs to continous monitoring
21	Keeping worker history	Records keeping of the individual employed workers are maintaining to tackle emergency situation during any accident.	Very good compliance; Improving	Needs to be updated
22	Reporting on incident	The new reporting system as per ESIRT is being adopted	Good compliance; Improving	Needs to be reported in MPR
23	Reporting and documentation	The required EHS documents are kept in site, which are also being followed	Very good compliance;	Continuation is required

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
			Improving	
24	Conservation and stocking of threatened fish species	Already released some threatened fish species in open water bodies, where WMO members are holding their right	Good compliance; Improving	Need further arrangements for releasing more fish fingerlings
25	Decommissioning	On-going process	Good compliance; Improving	Needs to finish
Polder 35/1, Package 1, Bagerhat				
1	Erection of Covid-19 related signbpard/ Poster	The contractor has erected Covid-19 related signboard and practiced in camp and work sites	Good compliance Improving	Continuation is required
2	Implementation of Covid-19 OHS measures	Covid-19 OHS measures are being practiced in work sites. Translated to local language for easy understanding.	Good compliance Improving	Continuation is required following the aproved Covid19 OHS protocols
3	Erection of cautionary Signboards/ signage	Required signboard/signage are erected in right locations	Good compliance; Steady	Some signage is required in new sites
4	First aid	There are enough collections & storage	Good compliance; Steady	Needs to continue

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
5	PPE	Staff and workers are being practiced frequently	Good compliance; Steady	Needs to continue
6	Toilet and water supply	Cleanliness of toilet maintained through training and motivation of workers	Good compliance; Improving	To be cleaned and motivate the workers for using enough water
7	Fire extinguishers	Training of the workers on fire safety provided by the Contractor and the workers, and staff are awared	Good compliance; Steady	Continuation is requireds
8	Traffic management	Centralized due to limited activities	Good compliance; Steady	Continuation is urgent
9	Waste collection and disposal	The practice of waste disposal has been improved through number of good practices (e.g. separate bin, selling plastic wastes to local scarp shops)	Good compliance; Improving	Waste disposal has to be monitored.
10	Dust control	Minor chance due to limited works	Good compliance; steady	Needs to control, if required
11	Safe pedestrian	Contractor complied where necessary	Good compliance; steady	Monitoring to be continued

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
12	Conduct of tool box talk	Regular practice	Very good compliance; steady	PMU can monitor physically and virtually
13	Establishing temporary storage for industrial waste	Followed	Good compliance; steady	Monitoring to be continued
14	Turfing	Almost completed	Good compliance; Improving	Needs to complete within current rainy season
15	Safety in barge	Followed for precautionary bank protection works	Good compliance; steady	Need to monitor physically
16	Environmental monitoring	Done for the year of 2020	Done	Needs to monitor in 2021
17	Chinese EHS manager	Chinese EHS manager is working with satisfaction	Good compliance; Improving	Continuation is required
18	Deployment of EHS officer	The deployed EHS officer is working with satisfaction	Good compliance; Improving	Continuation is required
19	Public disclosure and consultation	Public disclosure and consultations were carried out by PMU Environmental	Very Good compliance;	Continuation is urgent

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
		Specialist in the reporting period	Improving	
20	Provided Grievances collection box	Required Grievances collection boxes are erected in right location & regularly reported in MPR	Good compliance; Improving	Needs to continous monitoring
21	Keeping worker history	Records keeping of the individual employed workers are maintaining to tackle emergency situation during any accident.	Very good compliance; Improving	Needs to be updated
22	Reporting on incident	The new reporting system as per ESIRT is being adopted	Good compliance; Improving	Needs to be reported in MPR
23	Reporting and documentation	The required EHS documents are kept in site, which are also being followed	Very good compliance; Improving	Continuation is required
24	Conservation and stocking of threatened fish species	Already released some threatened fish species in open water bodies, where WMO members are establishing their right	Very good compliance; Improving	Need further arrangements for releasing more fish fingerling
25	Decommissioning	On-going process	Good compliance; Improving	Needs to finish

8.2 Package-2 Polders

The EHS qualities in package 2 have been improved through regular site visits and virtual monitoring by the environmental specialist (PMU/Field) and DDCS & PMS environmental specialist during the reporting period. The staff of the contractor are motivated to provide support in achieving improved quality in EHS issues. The contractor provides regular training to his employees to improve the quality of environmental management on a monthly basis as a routine program maintaing Covid-19 mannual strictly. During each field visit, the weaknesses of environmental compliance issues are identified, recorded in EHS registers and discussed with the contractor to address those problems within a specified timeframe as agreed by the contractor. The EHS committee, which has been established previously, sat in a meetings to monitor the implementation qualities of EHS issues in March 2021.

In general, the contractor has improved the implementation of the EMP and Covid-19 OHS measures in all sites following OHS protocals. The contractor took measures like providing PPE, face mask, hand gloves, hand sanitizer, checking of worker's body temperature, disinfecting camp and work sites and imposing restrictions including social/personal distancing and preparation of isolation area. PPE has been provided and is being used by workers on a much larger scale than before, although there is a small gap to ensure all required PPE at all work locations. The erection of warning signs/signals at crucial locations, first aid kits with required medicine and contract information from doctors are guaranteed in work sites and CC block yards. The accommodation, clean wash room, kitchen and dining are installed. Safety issues for fuel storage, arranging fire extinguishing, supply and use of life jackets during boat movement, speed limit for vehicle movements in the workplace etc. have also been established. The general housekeeping of camps has improved during the reporting period, as evidenced by waste separation, cleanliness of the workplace and construction camps, storage of goods, etc in Polder no. 39/2C, 41/1 & 43/2C and targeted to be completed in Polder no. 40/2, and 48 by July, 2021. Established household waste management system by digging a ditch to dispose of household waste on daily basis which is fenced and provided with signboard and a roof over the roof location. A second ditch is dug for the purpose, when a ditch gets filled up. There are regular discussions in Toolbox. Temporary storage sites for industrial waste and hazardous substances have been installed and maintained at CC yards and also at other important work locations. Noise levels are monitored monthly and results are reported in the consultants monthly progress report (MPR). The CC block casting was stopped during the reporting period, so no hazards was observed from the creating noise within the work sites of Package W-02. Noise levels in few locations where it exceeds 60 dBa (pemisible for mixed area); the Contractor has established noise barrier and shifting facility of workers which have been checked by the Environmental Specialist of PMU, DDCS&PMS Consultants and Third Party M&E Consultants during their field visits. The contractor has also set up enough complaints collection box to submit workers' complaints. It was found that contractors are fairly keeping the records of workers information as instructed. Some images of EMP implementation and compliance are provided in Annexure-3. All types of work at Polder 47/2 were completed on June 2019. The EMP compliance for Package-2 during reporting period has been summarized in Table 18.

Legend:

Compliance ratings:

Very good	:	The term used here means that the level of compliance is significant - that is, the item in question is in compliance an estimated 90-100% of the time (or locations).
Good	:	This describes that the level of compliance is satisfactory, but there is room for improvement - that is, the item in question is in compliance an estimate 75-90% of the time (or locations).
Fair		This means the level of compliance is satisfactory in many instances, but there is a need to improve the level of compliance - that is, compliance estimated at 50-75% of the time (or locations.)
Poor	:	This means the level of compliance is not satisfactory, and has not reached to a minimum level - 49%
Fully Non-compliant	:	This means that level compliance is zero
Trend ratings	:	Improving, steady, deteriorating.

Table 18: General Level of EHS Risk Assessment and C-ESMP Compliance in the Package 02 Polders

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
Polder 39/2C, Package 2, Bhandaria, Pirojpur				
1	Erection of Covid-19 related signbpard/ Poster	The contractor has erected enough Covid-19 related signboard and practiced in camp and work sites	Very good compliance Improving	Continuation is required

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
2	Implementation of Covid-19 OHS measures	Covid-19 OHS measures are being practiced in work sites. Translated to loval language easy understand.	Very good compliance Improving	Continuation is required following the aproved Covid19 OHS protocols
3	Erection of Signboards/ signage	Required signboard/signage are erected in right locations	Good compliance; Steady	Some old signage needs to be changed
4	First aid	There are enough supply ans use	Good compliance; Steady	Needs to continue
5	PPE	Staff and workers are being practiced frequently	Good compliance; Steady	Needs to continue
6	Toilet and water supply	Cleanliness of toilet maintained through training and motivation of workers	Good compliance; Improving	Keeps to be cleaned and motivated the workers for using enough water
7	Fire extinguishers	Training provided on handling of Fire extinguishers	Good compliance; Steady	Continuation is required
8	Traffic management	It has been improved by ensuring traffic personnel in work site with proper signaling and demarcated roads in the work site	Good compliance; Steady	Continuation is urgent

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
9	Waste collection and disposal	The practice of waste disposal has been improved through number of good practices	Very good compliance; Improving	Needs to continue
10	Dust control	Contractor strictly maintained water spraying for dust control	Very good compliance; steady	Need to pay attention in coming dry season
11	Safe pedestrian	Contractor complied where necessary	Very good compliance; Improving	Monitoring to be continued
12	Conduct of tool box talk	It is being done regularly in each work sites	Very good compliance; steady	The Contractor needs to improve awareness to hold tool box talk everyday
13	Establishing temporary storage for industrial waste	This practice has been improving	Good compliance; Improving	Supervision and monitoring to be continued
14	Safety in barge	The contractor already taken enough safety measures in barge	No activity	-
15	Safety manual	The contractor is following the safety procedures while carrying out the construction work	Good compliance; Improving	Continuation is required
16	Accommodation facility	The contractor has ensured accommodation	Good compliance;	Needs to maintain

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
		facilities at camp site	Improving	
17	Environmental monitoring	Done and being continued	Good compliance	Needs to continue
18	Noise level	Monitored fortnightly and reported in MPR	Good compliance; Improving	Needs continuation
19	Chinese EHS manager	EHS manager is working with satisfaction	Good compliance; Improving	Continuation is required
20	Deployment of EHS officer	EHS officer is working with satisfaction	Good compliance; Improving	Continuation is required
21	Public disclosure and consultation	Public disclosure and consultations were carried out by PMU Environmental Specialist in the reporting period	Very Good compliance; Improving	Continuation is urgent
22	Provided Grievances collection box	Required Grievances collection boxes are erected in right location & regular reported in MPR	Good compliance; Improving	Needs to continous monitoring
23	Keeping worker history	Records keeping of the individual employed workers are maintaining to face emergency situation during any accident.	Good compliance; Improving	Needs to be updated

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
24	Reporting on incident	The new reporting system is being practiced in site	Good compliance; Improving	Needs to be reported following the provision of ESIRT
25	Reporting and documentation	The required EHS documents are kept in site, which are also being followed	Good compliance; Improving	Continuation is required
Polder 40/2, Package 2, Patharghata, Barguna				
1	Erection of Covid-19 related signbpard/ Poster	The contractor has erected Covid-19 related signboard and practiced in camp and work sites	Good compliance Improving	Continuation is required
2	Implementation of Covid-19 OHS measures	Covid-19 OHS measures are being practiced in work sites. Translated to easy understand.	Good compliance Improving	Continuation is required following the aproved Covid19 OHS protocols
3	Erection of cautionary Signboards/ signage	Required signboard/signage are erected in right locations	Good compliance; Steady	Some signage needs to be changed
4	First aid	There are enough supply and storage	Good compliance; Steady	Needs to continue
5	PPE	Staff and workers are being practiced	Good compliance;	Needs to continue

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
		frequently	Steady	
6	Toilet and water supply	Cleanliness of toilet maintained through training and motivation of workers	Good compliance; Improving	Need continued motivation of the workers for using enough water and soap/detergent
7	Fire extinguishers	Provided adequate numbers of fire extinguishers and workers provided training on handling of Fire extinguishers	Good compliance; Steady	Continuation is required
8	Traffic management	Improved by ensuring traffic personnel in work site with proper signaling and demarcated roads in the work site	Good compliance; Steady	Continuation is urgent
9	Waste collection and disposal	The practice of waste disposal has been improved through number of good practices	Fair compliance; Improving	Needs to pay more attention
10	Safe pedestrian	Contractor complied where necessary	Good compliance; steady	Monitoring to be continued
11	Safety manual	The contractor is more careful to follow the safety procedures while carrying out the construction work	Good compliance; Improving	Continuation is required
12	Accommodation facility	The contractor has ensured accommodation facilities at camp site	Good compliance;	Continuation is required

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
			Improving	
13	Conduct of tool box talk	It is being done regularly in each work sites	Very good compliance; steady	The Contractor needs to hold regular tool box talk
14	Establishing temporary storage for industrial waste	Not managed in right way	Fair compliance; Improving	Needs to pay further attention
15	Turfing	Turfing established on embankment slope	Good compliance; Improving	Needs to complete
16	Noise level	Monitored fortnightly and reported in MPR	Good compliance; Improving	Needs continuation
17	Environmental monitoring	Done for the year of 2020	Done	Needs to monitor in 2021
18	Chinese EHS manager	Chinese EHS manager is working with satisfaction	Good compliance; Improving	Continuation is required
19	Deployment of EHS officer	The deployed EHS officer is working with satisfaction	Good compliance; Improving	Continuation is required

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
20	Public disclosure and consultation	Public disclosure and consultations were carried out by PMU Environmental Specialist in the reporting period	Very Good compliance; Improving	Continuation is urgent
21	Provided Grievances collection box	Required Grievances collection boxes are erected in right location & regular reported in MPR	Good compliance; Improving	Needs to continous monitoring
22	Keeping worker history	Records keeping of the individual employed workers are maintaining to face emergency situation during any accident.	Good compliance; Improving	Needs to be updated
23	Reporting on incident	The new reporting system is being adopted as per ESIRT	Good compliance; Improving	Needs to be reported in MPR
24	Reporting and documentation	The required EHS documents are kept in site, which are also being followed	Very good compliance; Improving	Continuation is required
25	Fencing around camp with protected entrance	Fencing around camp with protected entrance was absent have been complied subsequently	Good compliance Improving	Continuation is required
Polder 41/1, Package 2, Sadar, Barguna				
1	Erection of Covid-19 related signbpard/ Poster	The contractor has erected Covid-19 related signboard and practiced in camp and work sites	Good compliance	Continuation is required

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
			Improving	
2	Implementation of Covid-19 OHS measures	Covid-19 OHS measures are being practiced in work sites. Translated to local language for easy understanding.	Good compliance Improving	Continuation is required following the aproved Covid19 OHS protocols
3	Erection of cautionary Signboards/ signage	Required signboard/signage are erected in right locations	Good compliance; Steady	Some signage needs to be changed
4	First aid	There are enough collections & stprage	Good compliance; Steady	Needs to continue
5	PPE	Staff and workers are being practiced frequently	Good compliance; Steady	Needs to continue
6	Toilet and water supply	Cleanliness of toilet maintained through training and motivation of workers	Good compliance; Improving	Keeps to be cleaned and motivated the workers for using enough water
7	Fire extinguishers	Training provided on handling of Fire extinguishers	Good compliance; Steady	Continuation is required
8	Traffic management	It has been improved by ensuring traffic	Good compliance;	Continuation is urgent

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
		personnel in work site with proper signaling and demarcated roads in the work site	Steady	
9	Waste collection and disposal	The practice of waste disposal has been improved through number of good practices	Very good compliance; Improving	Waste disposal has to be monitored.
10	Safe pedestrian	Safe pedestrian has confirmed at camp and work sites	Good compliance; Improving	Needs to be improved
11	Establishment of chemical/refueling area	Improvement of chemical and refueling area had been noticed. e.g arrangement of absorbent mats have been introduced	Good compliance; Improving	Continuation is required
12	Accommodation facility	The contractor has ensured accommodation facilities at camp site	Good compliance; Improving	Continuation is required
13	Conduct of tool box talk	It is being done regularly in each work sites	Very good compliance; steady	The Contractor needs to hold regular tool box talk
14	Establishing temporary storage for industrial waste	This practice has been improving. e.g boundary wall and roofing over the storage area have been provided	Good compliance; Improving	Supervision and monitoring to be continued
15	Safety manual	The contractor is cordial to follow the safety procedures while carrying out the construction	Good compliance;	Continuation is required

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
		work	Improved	
16	Turfing	Turfing is already established on embankment slope	Good compliance; Improving	Needs to complete
17	Noise level	Monitored fortnightly and reported in MPR	Good compliance; Improving	Needs continuation
18	Environmental monitoring	Environmental monitoring is continued since starting of construction work	Done	Needs to monitor till project completion
19	Chinese EHS manager	Chinese EHS manager is working with satisfaction	Good compliance; Improving	Continuation is required
20	Deployment of EHS officer	The deployed EHS officer is working with satisfaction	Very good compliance; Improving	Continuation is required
21	Public disclosure and consultation	Public disclosure and consultations were carried out by PMU Environmental Specialist in the reporting period	Very Good compliance; Improving	Continuation is urgent
22	Provided Grievances collection box	Required Grievances collection boxes are erected in right location & regular reported in MPR	Very Good compliance; Improving	Needs to continous monitoring

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
23	Keeping worker history	Records keeping of the individual employed workers are maintaining to face emergency situation during any accident.	Very good compliance; Improving	Needs to be updated
24	Reporting on incident	The new reporting system is being adopted as per ESIRT	Good compliance; Improving	Needs to be reported in MPR
25	Reporting and documentation	The required EHS documents are kept in site, which are also being followed	Very good compliance; Improving	Continuation is required
Polder 43/2C, Package 2, Galachipa, Patuakhali				
1	Erection of Covid-19 related signbpard/ Poster	The contractor has erected Covid-19 related signboard and practiced in camp and work sites	Good compliance Improving	Continuation is required
2	Implementation of Covid-19 OHS measures	Covid-19 OHS measures are being practiced in work sites. Translated to easy understand.	Good compliance Improving	Continuation is required following the aproved Covid19 OHS protocols
3	Erection of cautionary Signboards/ signage	Required signboard/signage are erected in right locations	Good compliance; Steady	Some signage needs to be changed
4	First aid	There are enough collections & storage	Good compliance;	Needs to continue

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
			Steady	
5	PPE	Staff and workers are being practiced frequently	Good compliance; Steady	Needs to continue
6	Toilet and water supply	Cleanliness of toilet maintained through training and motivation of workers	Good compliance; Improving	Keeps to be cleaned and motivated the workers for using enough water
7	Fire extinguishers	Training provided on handling of Fire extinguishers	Good compliance; Steady	Continuation is required
8	Traffic management	It has been improved by ensuring traffic personnel in work site with proper signaling and demarcated roads in the work site	Good compliance; Steady	Continuation is urgent
9	Waste collection and disposal	The practice of waste disposal has been improved through number of good practices	Good compliance; Improving	Waste disposal has to be monitored.
10	Safe pedestrian	Safe pedestrian has confirmed at camp and work sites	Good compliance; Improving	Needs to be improved
11	Accommodation facility	The contractor has ensured the excellent accommodation facilities at camp site	Good compliance; Improving	Continuation is required

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
12	Conduct of tool box talk	It is being done regularly in each work sites	Very good compliance; steady	The Contractor needs to hold regular tool box talk
13	Establishing temporary storage for industrial waste	This practice has been improving	Good compliance; Improving	Supervision and monitoring to be continued
14	Safety manual	The contractor is more cordial to follow the safety procedures while carrying out the construction work	Very good compliance; Improved	Continuation is required
15	Dust control	Water is being sprayed frequently to suppress dust in work sites	Good compliance; steady	Needs to control, if required
16	Turfing	Turfing is being initiated on embankment slope	good compliance; Improving	Needs to complete
17	Noise level	Monitored fortnightly and reported in MPR	Good compliance; Improving	Needs continuation
18	Environmental monitoring	Done for the year of 2020	Done	Needs to monitor in 2021
19	Chinese EHS manager	Chinese EHS manager is working with	Good compliance;	Continuation is required

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
		satisfaction	Improving	
20	Deployment of EHS officer	The deployed EHS officer is working with satisfaction	Good compliance; Improving	Continuation is required
21	Public disclosure and consultation	Public disclosure and consultations were carried out by PMU Environmental Specialist in the reporting period	Very Good compliance; Improving	Continuation is urgent
22	Provided Grievances collection box	Required Grievances collection boxes are erected in right location & regular reported in MPR	Very Good compliance; Improving	Needs to continous monitoring
23	Keeping worker history	Records keeping of the individual employed workers are maintaining to face emergency situation during any accident.	Very good compliance; Improving	Needs to be updated
24	Reporting on incident	The new reporting system as per ESIRT is being adopted	Good compliance; Improving	Needs to be reported in MPR
25	Reporting and documentation	The required EHS documents are kept in site, which are also being followed	Very good compliance; Improving	Continuation is required
Polder 48, Package 2, Kalapara, Patuakhali				

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
1	Erection of Covid-19 related signbpard/ Poster	The contractor has erected Covid-19 related signboard and practiced in camp and work sites	Good compliance Improving	Continuation is required
2	Implementation of Covid-19 OHS measures	Covid-19 OHS measures are being practiced in work sites. Translated to local language for easy understanding.	Very good compliance Improving	Continuation is required for following the aproved Covid19 OHS protocols
3	Erection of cautionary Signboards/ signage	Required signboard/signage are erected in right locations	Good compliance; Steady	Some signage needs to be changed
4	First aid	There are enough collections & storage	Good compliance; Steady	Need to continue
5	PPE	Staff and workers are using frequently	Good compliance; Steady	Need to continue
6	Toilet and water supply	Cleanliness of toilet maintained through training and motivation of workers	Good compliance; Improving	Continued to clean and motivate the workers for using enough water
7	Fire extinguishers	Training provided on handling of Fire	Good compliance;	Continuation is required

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
		extinguishers	Steady	
8	Traffic management	Improved by ensuring traffic personnel in work site with proper signaling and demarcated roads in the work site	Good compliance; Steady	Continuation is urgent
9	Waste collection and disposal	The practice of waste disposal has been improved through number of good practices	Fair compliance; Improving	Needs to pay more attention
10	Safe pedestrian	Safe pedestrian has confirmed at camp and work sites	Good compliance; Improving	Needs to be improved
11	Accommodation facility	The contractor has ensured the excellent accommodation facilities at camp site	Very good compliance; Improving	Continuation is required
12	Conduct of tool box talk	It is being done regularly in each work sites	Very good compliance; steady	The Contractor need to hold regular tool box talk
13	Establishing temporary storage for industrial waste	This practice has been improving	Good compliance; Improving	Supervision and monitoring to be continued
14	Safety manual	The contractor is more cordial to follow the safety procedures while carrying out the	Good compliance; Improved	Continuation is required

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
		construction work		
15	Dust control	Water is being sprayed frequently to suppress dust in work sites	Good compliance; steady	Need to control, if required
16	Turfing	Turfing is being initiated on embankment slope	Good compliance; Improving	Need to complete
17	Noise level	Monitored fortnightly and reported in MPR	Good compliance; Improving	Need to continue
18	Environmental monitoring	Done for the year of 2020	Done	Need to monitor in 2021
19	Chinese EHS manager	Chinese EHS manager is working with satisfaction	Good compliance; Improving	Continuation is required
20	Deployment of EHS officer	The deployed EHS officer is working with satisfaction	Good compliance; Improving	Continuation is required
21	Public disclosure and consultation	Public disclosure and consultations were carried out by PMU Environmental Specialist in the reporting period	Very Good compliance; Improving	Continuation is urgent

Sl No.	EMP Parameters	EMP status as of 30 June, 2021	Compliance rating and trend	Follow up actions by 31 December, 2021
22	Provided Grievances collection box	Required Grievances collection boxes are erected in right location & regular reported in MPR	Good compliance; Improving	Need to continous monitoring
23	Keeping worker history	Records keeping of the individual employed workers are maintaining to face emergency situation during any accident.	Good compliance; Improving	Need to be updated
24	Reporting on incident	The new reporting system as per ESIRT is being adopted	Good compliance; Improving	Need to be reported in MPR
25	Reporting and documentation	The required EHS documents are kept in site, which are also being followed	Very good compliance; Improving	Continuation is required

9. Field visits

The Environmental Specialists of CEIP-1 carried out field visits to different areas of Polder locations of Package-1 and Package-2 for conducting various activities related to monitoring of environmental issues during the reporting period (January-June, 2021). Details of the field visits of different Environmental personnel are briefed as follows:

Field visits of Mr.Md. Amir Faisal, Sr. Environmental Specialist, PMU, Mr.Abu Bakr Siddique, Environmental Specialist, DDCS&PMS Consultant CEIP-1 and Dr. Md.Towhidul Islam, during 08 February to 11 February, 2021. It needs to mentioned that during the visit Mr. Sayeed Uddin, DRE, Package-1 and Mr. S.M. Saiful Islam, CSE, Polders 32 & 33 of DDCS&PMS, Khulna also accompanied the visit on 08.2.2021. Details of the field visit are as follows:

Sl. No.	Date of Visit	Activities Performed
1.	08 February, 2021	**Release of threatened fish fingerlings in Polder 33** The team attended threatened fish fingerlings release program at Shaharabad, Ananda Melar Math, (Beside DS-9) under Polder-33. A total of 5000 threatened fish fingerlings of which 1650 nos. Singh, 1650 nos. Koi and 1700 nos. Kalibaush have been released in this pond. The management and rearing of these fingerlings will be borne by the WMA of the area named "Shadhinatar Prottoy". A meeting was held spontaneously with the WMA, WMG members and local people present at the spot. The member of the Environmental team requested the people present in the meeting to take care of these fingerlings as these are their property . The fisheries expert of the contractor was instructed to provide a rearing and management plan to the WMA for smooth rearing of the released threatened fingerlings. **Visit to camp site of Polder 32** The team also visited Polder 32 and visited camp sites of Polder 32 for EHS monitoring The team met Mr. Hu Guangyuan, Chinese EHS officer and Mr. Aporup Roy, Local EHS officer. Both the persons are newly engaged by the contractor as EHS officers. The EHS compliance level was found to be quite poor. The EHS officers were trained at site on Environment management at. After inspection in the camp site the team selected 3 nos. less visible places for locating the grievance collection boxes should be relocated. The EHS officers were suggested to improve the EHS level with immediate action, which they agreed.
2.	09 February, 2021	**Release of threatened fish fingerlings in Polder 35/1** The team attended threatened fish fingerlings release program at Burir Bazar pond, Morelganj, under Polder-35/1. It is reported a total of 5000 threatened fish fingerlings of which 1650 nos. Singh, 1650 nos. Koi and 1700 nos. Kalibaush have been released in this pond. The management and rearing of these fingerlings will be borne by the WMA of the area named "Moitry". The member of the Environmental team requested the people present in the meeting to take care of these fingerlings as these are the property of them. The fisheries expert of the contractor was instructed to provide a rearing and management plan to the WMA for smooth rearing of the released threatened fingerlings. **Visit to camp site of Polder 35/1, Tafalbari** The team visited Camp site of Polder 35/1, Tafalbari to monitor the Environmental issues. The

		EHS condition of this camp site was found to be unsatisfactory. The visiting team selected 3 numbers of less visible locations, where the grievance collection boxes should be relocated and instructed the EHS officer to relocate the grievance collection box within a week. They were also suggested to improve other EHS issues as required.
3.	10 February, 2021	Holding EHS Meeting A scheduled Environmental, Health and Safety (EHS) committee meeting for Package-1 of CEIP-1 was held in the Conference room of Executive Engineer, CEIP-1, BWDB, Khulna at 11 a.m. The meeting was presided over by Mr. Md. Asraful Alam, Executive Engineer, CEIP-1, and the Convener of the EHS committee. The members of the EHS committee, Construction Supervision Engineer of DDCS&PMS Consultants for Polder 32 & 33 and representative of concerned contractor was present in the meeting. The meeting discussed on the EHS issues as per agenda circulated earlier. The meeting also took decision on improvement of the EHS issues as per the monitoring status and suggested to follow specific timeline for implementation.
4.	11 February. 2021	Attending EHS Meeting Attended a training program on Covid-19 management at sites and other related EHS issues. EHS officer of the 4 nos. polder and Manager Environment of Package-1 was participants of the training program. Various precautionary measures against the spared od Corona as far OHS protocol of World bank was discussed by Md. Amir Faisal, Senior Environmental Specialist. Other training related EHS issues was delivered by Dr. Towhid, Environmental Specialist, CEIP-1, Khulna and Mr. Abu Bakr Siddique, Environmental Specialist, DDCS&PMS Consultants.

Field visit of Mr.Md. Amir Faisal, Sr. Environmental Specialist, PMU, Mr.Abu Bakr Siddique, Environmental Specialist, DDCS&PMS Consultant CEIP-1 and Dr. Md.Towhidul Islam, Environmental Specialist, PMU and A.K.M Rezaul Haque Khan, Environmental Specialist, Third party M&E consultants, CEIP-1 during 21.3.2021 to 25.3.2021 in Package-1 and Package-2 of CEIP-1 areas. Details of the field visit are as follows:

Sl. No.	Date of Visit	Activities Performed

1.	21 March, 2021	Meeting with EHS in charge of Package-1 An Office Order vide memo no. CEIP-1/323 was issued by the Project Director of the CEIP-1 on 14 March, 2021 that constituted a five member Committee for monitoring and smooth implementation of the work of threatened species of fish under item no. 7 of clause/sub clause 1.26 "Conservation and stocking of threatened fish species" of contract Package-1. The EHS in charge was informed of the objective of the formation of the committee and he was asked to engage a new Fisheries Expert immediately to after the fishery activities as the previously engaged Fisheries Expert left the service. Visiting Fish releasing pond of Polder 33 The committee visited threatened fish fingerlings released pond at Polder-33. The location of the pond is at Chunkuri Anondo Melar Math beside DS-9 of polder 33. The pond is owned by BWDB and the area of the pond is about 5 acres and connected to the diversion channel of DS-9. It was reported that Swadhinotar Prottoy Water Management Association (WMA) has been given responsibility to take care of the released fish fingerlings. Mr. Robert Halder, President of the WMA, along with other WMO members were present during the visit. EHS monitoring visit to Camp site of Polder-32 The Environmental team then visited camp site of Polder-32. The team met Mr. Aporup Roy, Local EHS officer of the Polder. It was observed the camp site was well organized compared to last visit on 8 February 2021. Many of the non-complied EHS items were found corrected/improved. However, the were suggested to improve few remaining EHS items. Threatened fish fingerlings release in Khal of Polder 32 The committee then visited threatened fish fingerlings released Khal area of Polder-32. The location of fingerlings released is at Parer Khal, Saharabad Village in Kamarkhola Union of Polder 32 **.** It was reported this threatened species conservation and stocked site is being taken care of by Shibsa Water Management Association. Mr. S. M. Maksud Tutul, Secretary of the WMA was present during the visit along with other interested villagers.
2.	22 March, 2021	Visiting the threatened fish fingerlings releasing borrow pit of Polder 35/3 The team visited fish fingerlings released in borrow pit at Polder-35/3. The location of the borrow pit is at Ghujihati village under polder 35/3 which is a new BWDB borrow pit area. Bhairab WMA was given the responsibility to take care of the released fish fingerlings of this borrow pit. Mr. Al-Emran, Secretary of WMA was present during the visit, who was requested to take care of the growth of fish fingerlings, which will have to be re-released in khal/rivers of the Polder area. Threatened fish fingerlings release pond at Polder 35/1 The committee then moved to visit the threatened fish fingerlings released pond at Polder 35/1. The location of the pond is at Boro Pori under Polder 35/1. Moitry Water Management Association was entrusted to take care of the released fish fingerlings. Mr. Abul Kashem, President of the WMA was present during the visit, who was requested to take care of the released fingerlings for their growth. Visiting a potential khal for release of fish fingerlings The Environmental team visited a potential khal which will be suitable for stocking of threatened fish fingerlings. The khal is connected to DS-13 of Polder-35/1 at Radha Laxmi. It was observed that the khal will be feasible for stocking and conserving threatened fish fingerlings.

		Monitoring EHS compliance level at Camp site of Polder 35/1 The Environmental team visited the camp site of Polder 35/1 (Tafalbari) and it was observed that the EHS qualities have improved to a large extent as compared with last month's visit on 9.2.2021. The team thanked the EHS Officer there and suggested to maintain the EHS quality and for improvement of few EHS issues.
3.	23rd March, 2021	Meeting with the EHS in charge of Package-1 The Fishery committee and the environmental team met with the EHS in charge of Package-1. The committee gave specific instruction for revising the report on conservation and stocking of threatened fish species wish was recently submitted by the contractor. The contractor representative was requested to submit the revised report within 10 (ten) days as it was a requirement of the WB. The EHS in charge was once again requested to engage a fisheries expert immediately. Meeting of the Committee for preparation of report The constituted committee sat on a meeting to prepare the draft report on monitoring and smooth implementation of the work tor threatened species of fish as per ToR of the committee. After threadbare discussion among the members, the committee prepared a draft report. The committee took decision for finalizing the report after review of each member.
4.	24.3.2021	Holding Monthly EHS Committee meeting A scheduled Environmental, Health and Safety (EHS) committee monthly meeting for Package-2 was held in the office room of Executive Engineer, Perojpur O&M Division, BWDB, Perojpur at 10:30 a.m. The meeting was presided over by Mr. Mahbube Moula Md. Mehedy Hasan, Executive Engineer, Perojpur O&M Division, BWDB, Perojpur and the Convener of the EHS committee. The members of the EHS committee along with Representative of concerned contractor were present in the meeting. The meeting discussed the EHS issues as per agenda circulated earlier. The meeting took decision on each issue discussed with specific timeline for implementation. The minutes of the meeting will be circulated by the Executive Engineer soon. EHS monitoring visit to work site and camp site of Polder-39/2C The environmental team visited the D/S-2,construction of embankment and camp site of Polder-39/2C. The construction work of the sluice and embankment were found ongoing, although EHS compliances were not satisfactory up to required level. The team met with the Polder Manager at the construction sites and he was asked to improve the EHS qualities the construction sites along with camp site.

5.	25.3.2021	EHS monitoring of D/S-8, D/S-9 and camp site of Polder-40/2 The environmental team visited D/S-8, D/S-9 and camp site of Polder-40/2. The construction works of the sluices were found ongoing. Most of the EHS issues were not satisfactory. Moreover, the camp site also had some inadequacy of EHS compliance. Arrangement for suitable location of GCBs were worked out by the team and asked the EHS Manager to follow. He was also suggested to improve the overall EHS qualities

Dr. Md. Towhidul Islam, Environmental Specialist, PMU made several EHS visits in Polder locations of Package-1, Package-2 and also monitored the NGO activities during the reporting period (January-June, 2021). Due to Covid-19 crises virtually monitored the EHS complacence, where situation did not allow visiting physically. Details but not limited to are as follows:

Month	Date of Visit	Package (Polder)	Activities Performed
January, 2021	Jan 5, 21; Jan 9, 21	Package-2 (Polder 48)	• EHS monitoring and suggestions provided regard to quality EHS task • Environmental monitoring/testing in Polder 48
February, 2021	Feb 8, 21	Package-1 (Polder 32 & 33)	• EHS monitoring and suggestions provided regard to quality EHSs • Released fish fingerling on open water surface
	Feb 9, 21	Package-1 (Polder 35/1)	• EHS monitoring and suggestions provided regard to quality EHS tasks • Released fish fingerling on open water surface
	Feb 10, 21	Package-1 (Polder 35/3)	• Attend in the monthly EHS committee meeting for the month of February, 2021 in CEIP-1 conference room at Khulna • Released fish fingerling on open water surface
	Feb 11, 21	Package-1	• Conducting EHS training for the local EHS officers of Contract Package W-01
March, 2021	March 10, 21	Package-1 (Polder 32)	• Assist the visit of Hon. Project Director • Attended the decision meeting with Hon. Project Director held on conference room, South-Western zone of BWDB
	March 11, 21	Package-1 (Polder 35/1)	• Assist the visit of Hon. Project Director • Monitoring the “conservation of threatened fish species” in polder areas of Pkg. W-01 • Public consultation for civil & resettlement activities • Attended the discussion meeting with Hon. Project Director held the CEIP-1 field office
	March 21, 21	Package-1 (Polder 32 & 33)	• Monitoring the stocked threatened fish species area at **Polder 32** (Parer khal) • Monitoring the stocked threatened fish species area at **Polder 33** (Anonda Khelar Math Pond, near DS-9) • Conducted interview with local fishermen to know the surveillance & growth condition of stocked fishes • Conducted meeting with WMA members regarding sustainability and conservation of threatened fish species in Polder areas

	March 22, 21	Package-1 (Polder 35/1 & 35/3)	• Monitoring the stocked threatened fish species area at **Polder 35/1** (Burir Bazar pond) • Monitoring the stocked threatened fish species area at **Polder 35/3** (Gujhihati area) • Checking the growth status of stocked threatened fish species • Conducted meeting with WMA members regarding sustainability and conservation of threatened fish species in Polder areas • Monitoring EHS tasks and advice provided regard to ensuring better safeguard policies in Tafalbari CC block casting yard
	March 24, 21	Package-2 (Polder 39/2C)	• Attend in the monthly EHS committee meeting for the month of March 2021 in the Office room of the Executive Engineer, Perojpur O&M Division, BWDB, Perojpur and facilitated the meeting accordingly. • Monitoring the Environmental Safeguard policies in Camp, CC block casting yard, DS & Embankment works • Seat with the CSE & Polder Manager to ensure the Environmental Safeguard practices
April, 2021	April 9, 15, 17, 18, 19, 20, 21, 22, 23 25 & 28 of 2021	Package-1 (Polder 32)	• Works for complying Environmental Safeguard practices • Meeting conducted with WMA members regarding sustainable water management • Monitoring the vulnerable sites of embankment Works for complying Environmental Safeguard practices • Counted geo-bags for dumping regard to implementation the emergency/precautionary protection works
	April 10 & 29 of 2021	Package-1 (Polder 35/1)	• Works for complying Environmental Safeguard practices • Meeting conducted with WMA members regarding sustainable water management • Assist for preparation the registration documents of WMA • Monitoring the vulnerable sites of embankment Works for complying Environmental Safeguard practices
	Virtual monitoring	Package 2	• Comply the Environmental Safeguard practices • Monitoring the Covid-19 combating campaign • Monitoring EHS training & tool-box talk • Monitoring waste management practices • Monitoring GRM systems
May, 2021	May 1, 4, 6, 8, 10, 11, 18, 19, 24, 29 & 31 of 2021	Package-1 (Polder 32)	• Works for complying Environmental Safeguard practices • Monitoring the Covid-19 combating campaign • Meeting conducted with WMA members regarding sustainable water management • Assist for preparation the registration documents of WMA • Monitoring the vulnerable sites of embankment Works for complying Environmental Safeguard practices • Counted geo-bags for dumping regard to implementation the emergency/precautionary protection works
	May 7, 8 & 12 of 2021	Package-1 (Polder 35/1)	• Works for complying Environmental Safeguard practices • Monitoring the Covid-19 combating campaign • Meeting conducted with WMA members regarding sustainable water management • Counted geo-bags for dumping regard to implementation the emergency/precautionary protection works

	Virtual monitoring	Package 2	• Comply the Environmental Safeguard practices • Monitoring the Covid-19 combating campaign • Monitoring EHS training & tool-box talk • Monitoring waste management practices • Monitoring GRM systems
June, 2021	June 2, 5, 8, 12, 14, 18, 20, 21, 23, 26, 28 & 30 of 2021	Package-1 (Polder 32)	• Works for complying Environmental Safeguard practices • Monitoring the Covid-19 combating campaign • Meeting conducted with WMA members regarding sustainable water management • Monitoring the vulnerable sites of embankment Works for complying Environmental Safeguard practices • Counted geo-bags for dumping regard to implementation the emergency/precautionary protection works
	June 3, 7, 22 & 29 of 2021	Package-1 (Polder 35/1)	• Works for complying Environmental Safeguard practices • Monitoring the Covid-19 combating campaign • Meeting conducted with WMA members regarding sustainable water management • Counted geo-bags for dumping regard to implementation the emergency/precautionary protection works
	Virtual monitoring	Package 2	• Monthly EHS committee meeting (**Pkg 1)** • Comply the Environmental Safeguard practices • Monitoring the Covid-19 combating campaign • Monitoring EHS training & tool-box talk • Monitoring waste management practices • Monitoring GRM systems

10. Testing

Testing of various parameters like Water quality (Surface and drinking), Soil quality and Air quality are measured once a year. The Contractors of Package-1 and Package-2 of CEIP-1 had been asked to carry out tests for 2020 during the month of March, 2020 (on 05.03.2020). But they could not start their activities due to outbreak and continuation of COVID-19 pandemic. However, both Contractors of Package-1 and Package-2 have carried out the sample collection and testing at later period and submitted the testing results by January, 2021. Samples were collected under supervision of Consultancy Research & Testing Services (CRTS) of Khulna University of Engineering and Technology (KUET) and tests were performed in their laboratory.

The testing results of different environmental parameters of Package-1 are summarized as follows:

Sl. No.	Type and nos. of Test	Parameters tested	Status on testing results	Comments
1.	Testing of Drinking water quality Total 26 samples	Content of Arsenic, Iron, Chloride, Total Coliform and Faecal Coliform were tested	According to the test results all the 26 samples have been found acceptable to reference on Bangladesh Standard for Drinking Water (ECR 97) having the contents of all the parameters within permissible limit and all have zero contents of Arsenic.	The Contractor supplies bottled water (usually 20 litre) to the workers mainly
2.	Surface water and ground water quality Out of total 26 samples 21 nos. collected from khals,3 from ponds and 2 from rivers as per specification	Tests for pH, Turbidity, Total Dissolved Solid (TDS), Chloride, Electrical Conductivity (EC), Dissolved Oxygen (DO), Biological Oxygen Demand (BOD)	According to the test results, out of total 26 samples17 samples have all parameters within normal range of Bangladesh Standard for inland Surface Water (ECR 97). 9 samples contain sltghtly less Dissolved Oxygen.	
3	Soil quality analysis Total 24 samples	Test for soil pH, Chloride, Organic Matter, Nitrogen, Phosphorous, Potassium, Zinc and Sulphur	According to the test results, all have high contents of organic matter and 5 nos. have very low contents of Nitrogen, 19 nos. have very low contents of Phosphorous and 3 nos. have very low contents of Zinc on the basis of requirement for growing wetland rice crops. Contents of other soil nutrients have higher status for growing wetland rice	For availability of Phosphorous. Nitrogen and Zinc farmers have to be dependent on application of chemical fertilizers. However, application of organic sources of Phosphorous and Nitrogen would be preferable practice by

			crops of Bangladesh (FRG 2005)	the farmers, according to recommendations of DAE. For Zinc deficiency, Zinc fertilizers need to be applied after plot wise soil testing verfication.
4.	Test of Air quality Total 18 samples	Test of air quality include contents of PM_{10}, $PM_{2.5}$, SO_2, NO_x, and CO	Out of total 18, 10 nos. of samples have Air quality Index (AQI) ratings good to moderate, having no health concern. 4 samples have higher contents of $PM_{2.5}$, 2 have higher contents of PM10 and NO_x and 2 have higher contents of $PM_{2.5}$,PM_{10} and NO_x, which have pollution concern to different degrees	The higher values of $PM_{2.5}$, PM_{10} and NO_x in the air contribute to air pollution and increased values of Air quality index affecting human health. But there is no evidence that these are caused by activities of CEIP-1. In Bangladeshi perspective air pollution due to higher value of $PM_{2.5}$ is a common occurrence. However, care is being taken, so that air pollution can be avoided/ minimized through the activities CEIP-1
5.	Test of Noise quality Total 18 samples	Noise measures in dBA with noise meter CEM DT-8820	In Polder 32 noise level of all the 4 noise measurement levels are within permissible limit (60 dBA) of mixed area. In Polder 33 noise measurement levels of 3 locations out of total 4 are within permissible limit (60 dBA) and 1 has noise level of 61 dBA In Polder 35/1 noise level of 5 locations out of total 6 are within permissible limit (60 dBA) and 1 has noise level of 66 dBA In Polder 35/3 all the 4 noise measurement levels are within permissible limit (60	The Contractor has arranged various safety measures for the workers in locations having higher noise values. In addition, workers have been made aware to be careful of working in high noise level areas.

			dBA) of mixed area.	

The testing results of different Environmental parameters of Package-2 are summarized as follows:

Sl.No.	Type and nos. of Test	Parameters tested	Status on testing results	Comments
1.	Testing of Drinking water quality 25 nos. of test	Content of Arsenic, Iron, Chloride, Total Coliform and Faecal Coliform were tested	According to the test results, all the 25 samples have been found acceptable based on Bangladesh Standard for Drinking Water ECR 97) having the contents of all the parameters within permissible limit and have zero contents of Arsenic.	The Contractor supplies bottled water (usually 20 litre) to the workers
2.	Surface water and ground water quality 38 nos.of tests (35 of surface water and 3 Hand tube wells)	Tests for pH, Turbidity, Total Dissolved Solid (TDS), Chloride, Electrical Conductivity (EC), Dissolved Oxygen (DO), Biological Oxygen Demand (BOD)	According to the test results all the 38 samples are within normal range of Bangladesh Standard for inland Surface Water (ECR 97)	Of the total 38 samples 28 are khal water, 7 are rivers water and 3 belong to HTWs (ground water) sources
3.	Soil quality analysis; 24 soil samples were collected for testing	Test for soil pH, Chloride, Organic Matter, Nitrogen, Phosphorous, Potassium, Zinc and Sulphur	According to the test results 23 samples of soils have very low contents of available Phosphorous and 3 samples have very low contents of available Nitrogen on the basis of their requirement for growing of wetland rice crops. Contents of other soil nutrients indicate better availability for growing wetland rice crops of Bangladesh (FRG 2005)	For availability of Phosphorous and Nitrogen, farmers have to be dependent on application of chemical fertilizers. However, application of organic sources of Phosphorous and Nitrogen should be practiced by the farmers, according to recommendations of DAE.
4.	Test of Air quality 23 air samples were collected for testing	Test of air quality include contents of PM_{10}, $PM_{2.5}$, SO_2, NO_x, and CO	According to the test results out of 23 locations Air quality Index (AQI) 12 locations have ratings from good to moderate, having no health concern. 10 locations	The higher values of $PM_{2.5}$ and NO_x in the air contribute to air pollution and rise of Air quality index affecting human health. But there is no evidence that these are

			have higher $PM_{2.5}$ contents and 1 location has higher value of NO_x according to Bangladesh ambient air quality standard (DOE 2005), that cause health hazard to some people	caused by activities of CEIP-1. In Bangladeshi perspective air pollution due to higher value of $PM_{2.5}$ is a common occurrence. However, care should be taken, so that air pollution can be avoided/ minimized through activities of CEIP-1
5.	Test for Noise quality in dB Total 60 samples for noise measurement	Noise levels of different working locations of 6 Polders have been measured against approved noise value for mixed which is 60 dB, the results have been shown in graphical presentation	For Polder 39/2C, Generator areas, Stacking area, Workshop area have higher values of noise, whereas living area has noise value. Within permissible limit For Polder 40/1, Mixture machine has higher noise value, whereas Living area, Curing area, Stacking areas have less noise values within permissible limit. For Polder 41/1, Mixture machine area has higher noise value, whereas Living area, Workshop area, most of Curing areas have noise values within permissible limit For Polder 43/2C, Stacking area, Curing area and Mixture machine area have higher noise value, whereas Living area and most of workshop areas have noise within permissible limit For Polder 47/2, Only Mixture machine has higher value, whereas Stacking area, Living area, Curing area and Workshop areas have noise values within permissible limit. For Polder 48, Mixture machine and Stacking area have higher values of noise, whereas Living area, Workshop area and most of	The Contractor has arranged various safety measures for the workers in locations having higher noise values. In addition, workers have been made aware to be careful of working in high noise level areas.

			Curing areas have noise values within permissible limit	

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11. Status of Contractor Environment Management Plan (EMP)

Management as well as Mitigation measures related to Environment Management Plan during pre-construction, construction and operation phases of the project have been strictly followed by the both of the Contractors of W01 and W02.

Environmental Action Plans (EAPs) are Contractor's living documents and are subject to revision as per requirements, which have been revised (Version 4) and submitted to DDSC & PMS Consultants. After reviewing Environmental Action Plan (EAP) for Package-1 and Contractor's Environment, Social Management Plan (C-ESMP) for Package-2 are synonyms and are prepared by the Contractors to work as tool has been followed by them for implementation of EMP and according to which various agencies of the project (like PMU, DDCS&PMS Consultants, the Third Party M&E Consultants and the World Bank) have been monitoring the compliance level of EMP those are being implemented by the Contractor during all phases of project completion.

11.1 Contractor Environmental Action Plan (EAP) for Package 1

According to the contract agreement and as per Aid Memoire of The World Bank during October 21 to 25, 2018, the Contractor of Package 1 has prepared and submitted the Environmental Action Plans (EAP) as well as EHS risk Assessment for 4 polders: 32, 33, 35/1 & 35/3 of Package-1 based on the guidelines of EIA including EMP. The submitted documents ensured the right compliance of Environment, Health and Safety from the Consultants' side, these were submitted to PMU for sharing with The World Bank. The World Bank re-reviewed the Version 4 of EAPs and cleared the document. The EAPs have also been translated in Bangla and Chinese and available in the existing CC plant sides and important construction sites to be followed properly.

Like EAPs, EHS Risk Assessment reports are also living documents and are subject to revision as per requirements. The draft EHS Risk Assessments (4 nos. for 4 Polders) submitted by the contractor of Package 01 were updated by incorporation of the World Bank comments and those were submitted to World Bank. The submitted assessment reports have been approved by World Bank. The finalized EHS Risk Assessments have been also translated to Bangla and Chinese by the Contractor, Package-1 for general understanding and proper follow up accordingly.

However, an Emergency Preparedness Plan considering the COVID19 management was prepared by the contractor based on the GoB/WHO/WB guidelines, that was submitted to WB and cleared by the WB. During the reporting period the plan has been translated in Bengali and Chinese languages by the contractor. This plan has been implemented by the Contractor stringently. Contractor of Package 01 has updated the EAPs by addressing the findings (make the monitoring frequency consistent as per EMP) Annual Environmental Audit.

11.2 Contractor Environmental and Social Management Plan (C-ESMP) for Package 2

The contractor of Package 2 was obliged to submit comprehensive Environmental and Social Management Action Plan (C-ESMP) as per their contract agreement. According to the contract agreement and as per Aide Memoire of The World Bank during October 21 to 25, 2018, the Contractor of Package 2 also prepared the C-ESMP and EHS risk Assessment for 6 Polders: 39/2C, 40/2, 41/1, 43/2C, 47/2 & 48 based on the guidelines of EIA and comments received from the World Bank.

Draft Contractor Environmental and Social Management Action Plans (C-ESMPs) were prepared by a team of consultants hired by Contractor of Package 2. The C-ESMPs were submitted to DDSC&PMS Consultants and also reviewed by DDSC&PMS Consultants, PMU and 3rd Party M&E Consultants. In the present context, the Contractor has prepared the responses of the comments of the World Bank comments, which have been reviewed by the Environmental

Specialists of PMU and DDCS&PMSC for updating of C-ESMP of Polder 40/2. The reports were shared with the World Bank for approval, following which the updating of the rest 5 C-ESMPs were carried out. Based on the comments of World Bank the revised C-ESMPs were submitted to World Bank and those were approved by the World Bank.

As per demand of Aide Memoire of The World Bank during October 21 to 25, 2018 the contractors of Package 02 prepared the draft EHS Risk Assessment for sharing with The World Bank for review. The World Bank, after reviewing the draft EHS Risk Assessment made comments on them for updating. The comments of World Bank were addressed and the assessment report was submitted to World Bank. The submitted report was approved by World Bank on 23 October 2019.

However, an Emergency Preparedness Plan considering the COVID19 management was also prepared by the contractor of Package 02 based on the GoB/WHO/WB guidelines, that was submitted to WB and cleared by the WB. The EPP has been translated in Bengali and Chinese languages by the contractor during the reporting period. Contractor of Package 02 is implementing the plan. Contractor of Package 02 has also updated the EAPs by addressing the findings (make the monitoring frequency consistent as per EMP) Annual Environmental Audit.

12 Grievance Redress Mechanism

12.1. Overview

Several social and environmental issues may arise during implementation stages of the Project. Following are some of the environmental issues that could be subjected to grievances from the affected people, concerned public, construction workers and civil society members:

- Soil, water, dust, noise and air pollution from construction related activities;
- Traffic movement and congestion;
- Lack of adequate safety at the construction areas and approach roads;
- Lack of water and sanitation facilities at the construction sites/camps;
- Waste disposal;
- Conflicts among construction workers and with local community;
- Disturbances to flora and fauna;
- Failure to comply with standards or contractual obligations.

Of course, the GRM will also entertain concerns about matters of resettlement and land acquisition including livelihood restoration.

In order to facilitate the resolution of affected people's concerns, complaints, and grievances about the social and environmental performance of the project, a Grievance Redress Mechanism (GRM) has been established which aims to provide a time bound and transparent mechanism to voice and resolve social and environmental concerns. The CEIP-1 has designed the GRM and the PMU with assistance of the DDSC&PMSC's team has been putting it in place. The grievance mechanism has been scaled to the risks and adverse impacts of the project. It has addressed affected people's concerns and complaints promptly, using an understandable and transparent process that is gender responsive, culturally appropriate, and readily accessible to all segments of the affected people at no cost and without retribution. The mechanism does not impede access to the country's judicial or administrative remedies. The affected people were appropriately informed about the detailed mechanism by a Bengali-language brochure. The GRM Process is depicted in Figure 3.

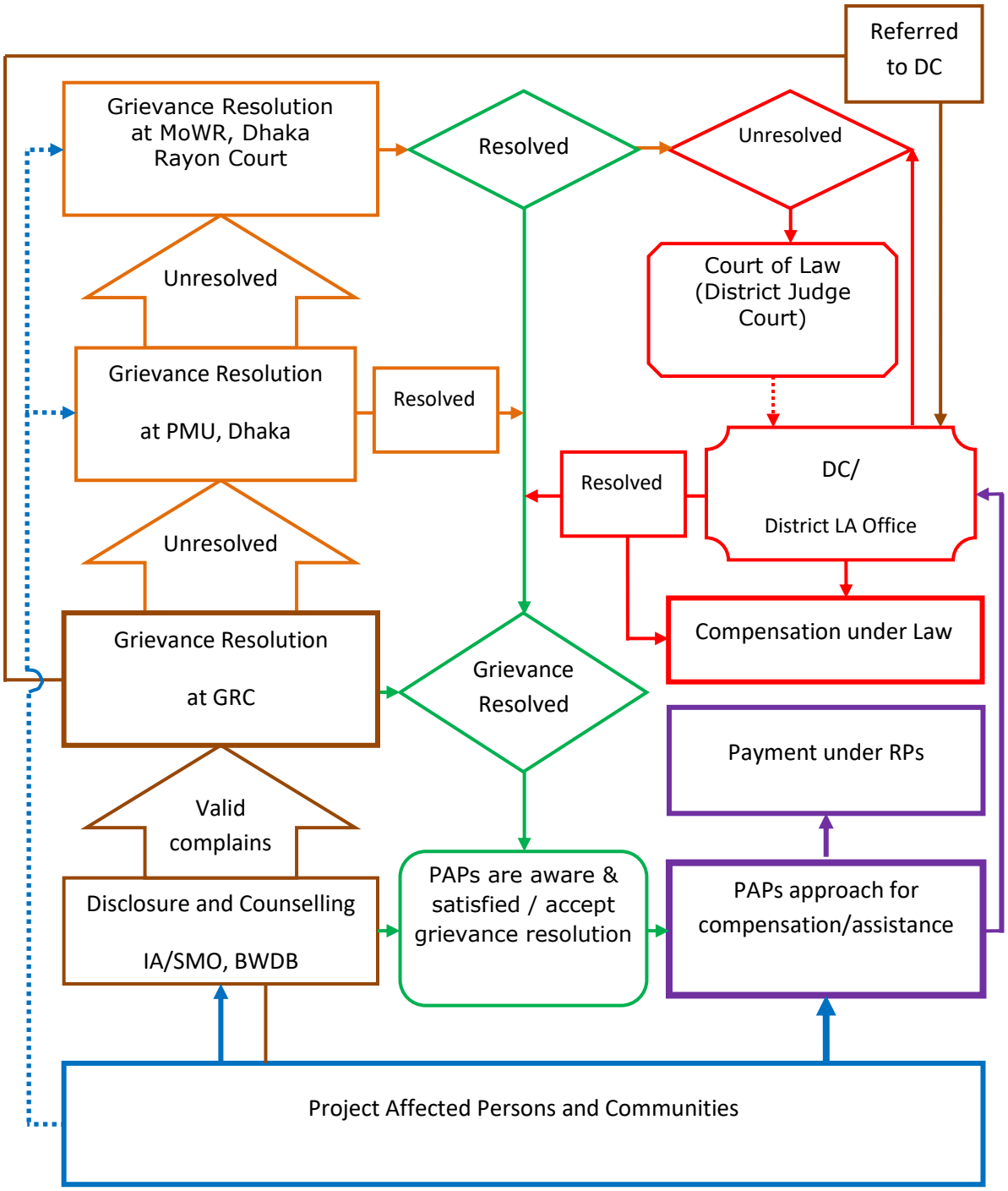

Figure 3: GRM Process Flow Chart

The Project Management Unit (PMU) and Project Implementing Offices (PIOs) are making the public aware of the GRM through public awareness campaigns by its Resettlement Action Plan (RAP) implementing Team. The contact phone number of the respective PIOs and the PMU is serving as a hotline for complaints and have been publicized through the media and placed on notice boards outside their offices and at construction sites. The project information brochure included information on the GRM are being widely disseminated throughout the embankment by the RAP implementing team and PIOs. Grievances can be filed in writing to any member of the Committee.

One GRC has beenformed for each Union with union level representation to ensure easy accessibility by the project affected persons and communities as comprised below:

Membership of GRC

1. Executive Engineer (BWDB Division Office) : Convener
2. Representative of the RAP Implementing NGO : Member -Secretary
3. Local UP Member / Ward Councillor : Member
4. Teacher from Local Educational Institution (nominated by Upazila Administration) : Member
5. Representative from Local Women's Group : Member
6. Representative from the PAP Group : Member

12.2. Grievance Redress Mechanism (GRM) for Package-1

There are 15 Grievance Redress Committees (GRC) at local level for Package-1 since this package coves 15 unions. A Grievance Redress Committees (GRC) have been formed earlier at each Union of all Polders under Package-1 with the representatives of BWDB, Union Parishad, educational institute, PAPs and DDCS&PMS Consultants. All cases have been tried to reach resolution within the four-week time from the dates of receiving the complaints and trying to resolve locally.

A total number of 178 complaints/grievances have been received up to June 2021 by GRC in Package-01. Table 19 shows the types of complaints received up to June, 2021 period in Package 01.

Table 19: Type of complaints received in Package 01 up to June, 2021

SL	Nature of Grievances	Polder Number				Total
		P-32	P-33	P-35/1	P-35/3	
1	Application for shifting the Proposed Alignment	-	3	1	3	7
2	Application for Crops Compensation	-	1	-	-	1
3	Application for Fish Gher Compensation	1	1	-	41	43
4	Application for Land Compensation	-	1	-	-	1
5	Application for replacement of EP ID Name	5	1	3	-	9
6	Application for the land acquisition	-	-	-	2	2
7	Application for Re-Compensation for dissatisfaction	20	3	-	1	24
8	Request for Proper Solution for damaging the land for soil collection by the contractor	1	1	-	-	2
9	Application for compensation for dismantling the brick soling road	-	-	-	1	1
10	Application for Structure Compensation	31	5	22	24	82
11	Application for Trees Compensation	-	1	2	1	4
12	Application for structure compensation on own land	-	-	2	-	2
Grand Total		**58**	**17**	**30**	**73**	**178**

Source: MPR of Social Safeguards Management, June 2021, DDCS&PMS Consultant

Among the 178 complaints, 43 cases have been resolved at the entry level,134 cases have been resolved through investigation and formal hearing by GRC and 1 is pending. Table-20 shows the status of complaints/cases received and resolved so far by GRC.

Table 20: Summary of Disposition of Grievances in Package 01

Sl. No.	District	Polder no	Total Complaints/ cases	Resolved by field level investigation	Resolved by GRC	Pending with GRC
1	Khulna	32	58	19	39	00
2	Khulna	33	17	8	9	00
3	Bagerhat	35/1	30	8	22	00
4	Bagerhat	35/3	73	8	64	1
Total			**178**	**43**	**134**	**1**

Source: MPR of Social Safeguards Management, June 2021, DDCS&PMS Consultant

Though awareness raising of the GRM covers both social and environmental concerns, no grievance has been registered specific to environmental issues till now. The environmental hazards caused during construction are being minimized and are localized which local people generally tolerate as they consider that the project will provide many benefits to them. Consultant has instructed the Contractor to avoid and/or mitigate even the minor and localized pollution.

12.3. Grievance Redress Mechanism (GRM) for Package-2

There are 21 Grievance Redress Committees (GRC) at local level for Package-2 since this package coves 21 unions. A Grievance Redress Committees (GRC) have been formed earlier at each Union of all Polders under Package-2 with the representatives of BWDB, Union Parishad, educational institute, PAPs and DDCSPMS Consultants. All cases have been tried to reach resolution within the four-week time from the dates of receiving the complaints and trying to resolve locally.

A total number of 51 complaints/grievances have been received up to June, 2021 by GRC in Package 02. Table 21 shows the types of complaints received up to June 2021 in Package 02.

Table 21: Type of complaints received in Package 02 up to June, 2021

SL	Nature of Grievances	Polder Number			Total
		P-40/2	P-41/1	P-43/2C	
1	Application for Re-Compensation for dissatisfaction	10	16	17	43
2	Application for Structure Compensation	8	-		8
Grand Total		**18**	**16**	**17**	**51**

Source: MPR of Social Safeguards Management, June 2021, DDCS&PMS Consultant

Among 51 complaints received, 51 cases have been resolved at the entry level and there is no pending grievance in Package-02. Table-22 shows the status of complaints/cases received and resolved so far by GRC.

Table 22: Summary of Disposition of Grievances in Package 02

Sl. No.	District	Polder no	Total Complaints/ cases	Resolved by field level investigation	Resolved by GRC	Pending with GRC
1	Pirojpur	39/2C	0	0	0	0
2	Barguna	40/2	18	18	0	0
3	Barguna	41/1	16	16	0	0
4	Patuakhali	43/2C	17	17	0	0
5	Patuakhali	47/2	0	0	0	0
6	Patuakhali	48	0	0	0	0
Total			**51**	**51**	**0**	**0**

Source: MPR of Social Safeguards Management, June 2021, DDCS&PMS Consultant

No grievance has been registered specific to environmental issues till now. The environmental hazards caused during construction are being minimized and are localized which local people generally tolerate as they consider that the project will provide many benefits to them. Consultant has instructed the Contractor to avoid and/or mitigate even the minor and localized pollution. Moreover, CEIP-1 has introduced grievance collection boxes for the workers in all active sites of Package 01 and Package 02 areas. No grievances in respect to environment have been yet to receive. To enhance the system, CEIP-1 is motivating the workers aware about the grievance system and it is expected that the system will work effectively soon.

13. Training

CEIP-1 always wants to ensure the protection of the environment and the health of staff at workplaces special attention is being paid on management of Covid-19 pandemic, where the contribution of EHS training is of great importance.

The Package-1 Contractor has conducted the environment and safety training. Around 561 participants (staff and workers) were trained, allowing for multiple-counting wherein one person may have been trained more than once as would be the case for refresher training or training in additional topics. Covid-19 protocol was maintained strictly while conducting the training in worksites of Package W-01. The civil construction works are almost completed in four polders of Package W-01 during the last year (FY: 2019-2020) and very limited works are on-going only in Polder no. 32 & 35/1, where training session was conducted under the proper guidance of PMU and DDCS&PMS's Environmental Specialists. Table 23 presented the breakdown of environmental training.

Table 23: Number of Participants (staff and workers) those received Environmental Training during January-June, 2021 in Package 01

Polder	Jan	Feb	Mar	Apr	May	Jun	6-month Total
32	19	20	19	19	20	80	**177**
35/1	60	60	58	52	68	86	**384**
Total	**79**	**80**	**77**	**71**	**88**	**166**	**561**

The Contractor of Package 02 conducted a very good training program. About 4714 participants (Staff and workers) were trained during the January-June, 2021, period. The contractor of Package W-02 also maintained the Covid-19 protocol was maintained strictly while conducting the training program in worksites. Among the six polders the civil construction works are almost completed in Polder no. 47/2 during the last year (FY: 2019-2020). Hence constructions works are on-going in five polders and training was provided as instructed & recommended by the Environmental Specialists team of PMU and DDCS&PMS consultant. The summary of the training of Package-2 is provided in table below.

Table 24: Number of participants (staff and workers) that received Environmental Training during January-June, 2021 in Package 02

Polder	Jan	Feb	Mar	Apr	May	Jun	6-month Total
39/2C	70	79	80	150	258	289	**926**
40/2	150	184	200	215	206	135	**1090**
41/1	180	195	190	190	156	75	**986**
43/2C	130	166	185	200	166	82	**929**
48	60	118	165	165	163	112	**783**
Total	**590**	**742**	**820**	**920**	**949**	**693**	**4714**

The details of trainings including topics, trainers and trainees are shown in Table-25 on this page.

Table 25: List of Training including topics, trainers and Trainees

Training topics	Trainers	Trainees	Remarks
The training of various EHS topics include education on environmental protection, safety knowledge and precaution against contagious diseases (like AIDS and STD) etc. In order to describe broadly, the major issues include • Safety measures to combat Covid-19 pandemic; • Personal safety against Covid-19 pandemic; • Put complain in GCB; • Training for use of PPE; • Training for procedure of equipment operation; • Training for electrical safety and traffic safety and working in high work places; • Training for driver's safety; • Training for use of first aid facilities and fire extinguishers; • Training for CC block dumping; • Training for embankment work and • Training on incident reporting. The above training are related to safety of working in automated CC plant, sluice construction/rehabilitation, embankment se-sectioning, re-excavation work and CC block dumping works	Trainers include the Contractors' Environmental officer in Charge, Chinese and local EHS Officers of the concerned Polder. For training on equipment operation, Technician/Engineers were also engaged	The trainees include Local labours, Chinese staffs, Drivers, Equipment operators, Electricians, Mechanics, welders etc.	The Environmental Specialists of PMU, DDCS&PMSC and Third party M&E also provided training during their combined/together visits at work sites.

14. Programme for the next term (July-December, 2021)

The tasks that will be carried from July-December, 2021 are as follows:

1. Conducting regular monthly EHS committee meeting and sharing the meeting announcement & minutes with the World Bank
2. Ensuring sufficient arrangements to combat Covid-19 pandemic
3. Preparing an 'incident notification and reporting' document as per recommendation of the WB Senior Environmental Specialist during the Mission meeting of the Environment Safeguard held on February 24, 2021
4. Immediate reporting on ESIRT to the PMU and World Bank
5. Implementation the recommendation of the COVID Emergency plan and the follow the guidance and clauses for contractors
6. An update report on the conservation and stocking of the threatened fish species in Package-1
7. Proper raring of released fish fingerlings
8. Finalizing the 5th Annual Environmental Audit report and its action plan
9. Re-located the grievance collection box in less visible area in Package-2 so that workers can submit their grievances without fear
10. Assuring potable water and FAF for embankment and slope protection works
11. Re-construction of industrial wastage storage area at Polder no. 40/2, 43/2C and 48
12. Good house-hold waste keeping at Polder no. 40/2, 43/2C and 48
13. Noise level monitoring and reporting in MPR
14. The number of toilets and shower rooms should be increased, especially with the anticipated increase in the number of workers when work resumes in full swing.
15. The contractors also need to maintaining of standardization of the records of their workers, specifically in terms of age, gender, medical history, contact details and next of kin to notify in case of accidents/emergency.
16. Arrangement of in-house training for CEIP-1 personnel (PMU, DDCS&PMS consultant and third party M&E team)
17. EHS training for Contractor's management, Chinese EHS manager and local EHS officers

18. Exchange EHS visits between Packages-1 & 2
19. Monitoring tool-box talking in Packages-1 & 2
20. Ensuring sustainable water management activities in Polders through the engagement of WMO (WMA/WMG) members
21. Proper nourishment of afforestation planted on Embankment
22. Foreshore plantation in the adjacent areas of the embankment
23. Follow-up the IPM/IPSNM activities in Polders
24. Following safety procedure of the equipment at all sites

15. Conclusion and Recommendations

The quality of compliance with the environmental conditions are gradually improving with the improvement of the perception of its importance through regular monitoring and awareness of the contractor and the employees concerned by PMU, DDSC & PMSC, Field Offices and third party M&E Consultants. A matrix of the recommendations suggested in the last report against the actions that was targeted between July-Dec 2020 is also included as Annexure-10. Implemention of Covid-19 measures should be strictly followed as per prepared Covid-19 OHS protocals for Project Contruction Sites. Fisheries related activites should be started in Package-2 and that of should be completed in Pavkage-1. Decimmissioning work as per Environmental code of practice should be complrted in Package-1. However, there is further scope for improvement of environmental management practices by imposing frequent and effective practices learned from over past five years. Regular monitoring and on-the-job training by PMU, DDSC & PMSC, Field Office of Khulna and third party M&E Consultants must be continued and is expected. The following recommendations are made to address by the both Contractors to improve the EHS quality:

- Assure strict compliance of EPP of OHS protocols prepared for measures against spreading of Covid-19 at working sites and camps.
- Fisheries related activities should be started for Package-2 and the remaining work of fisheries should be completed in Package-1
- Decommission work for Package-1 should be completed
- Monitor the incidents as per ESIRT of the World Bank.
- Assure the use of PPE by the workers.
- Adequate toilet facilities should be provided in all working sites. Special care should be taken for cleanness of toilets.
- Both the contractors should follow the test result of drinking water, surface water, soil quality, air quality and noise quality carried out in December 2020 and take necessary action accordingly.
- Ensure regular toolbox talk at all sites including awareness of measures against Covid-19.
- Both Contractors to implement the action plan prepared on the basis of 5th Environmental Audit report and routinely report on its implementation
- Follow the safety procedure of the equipment at all sites.
- Aware the workers about the existence of grievance box and register their demand/complain.
- Regular exchange visit of EHS team of Package-1 and 2 to be ensured for adopting good practices. (exchange visit cannot be carried out during COVID-19 situation).

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Annexure-1: Environmental Clearance Certificate of CEIP-1

Government of the People's Republic of Bangladesh
Department of Environment
Head Office, Paribesh Bhaban
E-16 Agargaon, Dhaka-1207
www.doe.gov.bd

Memo No: DoE/Clearance/5196/2013/45 Date: 28/02/2021

Subject: Renewal of Environmental Clearance for Polders-32, 33, 35/1 & 35/3 at Khulna Division under Package-1 and Polders-39/2C, 40/2, 41/1, 43/2C, 47/2 & 48 at Barishal Division Under Package-2 of Coastal Embankment Improvement Project Phase-1 (CEIP-1), Bangladesh Water Development Board.

Ref : Your application dated 24.01.2021

With reference to your above application, the Department of Environment hereby renews the Environmental Clearance Certificate in favor of Polders-32, 33, 35/1 & 35/3 at Khulna Division under Package-1 and Polders-39/2C, 40/2, 41/1, 43/2C, 47/2 & 48 at Barishal Division Under Package-2 of Coastal Embankment Improvement Project Phase-1 (CEIP-1). The terms and conditions stated in the Environmental Clearance Certificate of the above project issued on 05.11.2018 vide memo no. DoE/Clearance/5196/2013/1035 shall remain valid for the renewed period.

2. This renewal is valid upto 04 November, 2021. An application for further renewal along with a) the renewal fees (as per the ECR, 1997) b) VAT on renewal fees (in separate Treasury Chalan) and c) all associated documents shall be submitted to the Head Office of DoE with a copy to Concerned Divisional Offices at least 30 days ahead of expiry date.

28.02.2021

(Masud Iqbal Md. Shameem)
Director (Environmental Clearance)
Phone # 02-8181673

Project Director
Coastal Embankment Improvement Project Phase-1 (CEIP-1)
Bangladesh Water Development Board
House-15, Road-24
Gulshan-2, Dhaka.

Copy Forwarded to :

1. PS to the Hon'ble Secretary, Ministry of Environment, Forest and Climate Change, Bangladesh Secretariat, Dhaka.
2. Director, Department of Environment, Khulna/Barishal Divisional Office, Khulna/Barishal.
3. Assistant Director, Office of the Director General, Department of Environment, Head Office, Dhaka.

Annexure-2: Labor Influx Report

Report on Labour Influx in CEIP-1

The labour influx for the month of June, 2021 for Package-1 and Package-2, CEIP-1 are provided as follows

Labour Influx of Package-1

Information on labour influx risks, requirements and implication for work package W-01 under CEIP-1

	1. PROJECT DATA	
1.1	Name of Project	Coastal Embankment Improvement Project - Phase I (P128276)
1.2	Contract Package	Package-1
1.3	Date of Commencement	January 2016
1.4	Date of Completion	January 2023
1.5	Location	Polder-32 and Polder-33 under Khulna district; & Polder-35/1; Polder-35/3 under Bagerhat District
1.6	Name and Contact Information (email/phone) of Contractor	CHWE, mainland China
1.7	Name and Contact Information (email/phone) of all sub-Contractors	Project Manager Mr. Sun Huaxin; No sub-contractors; about 56 Chinese and skilled workers influx; 01 Indian worker; local labour and foremen about 610 persons;
1.8	Type of Works (single site, linear, clustered and construction duration)	Civil engineering/hydraulic works: earthen embankment; water control sluices; river bank protection works; embankment slope protection works; closure dam; offices and site buildings; excavation of sediment internal channels (khals); social re-afforestation; single and localized sites, stand-alone site for construction of one structure or one stretch of embankment etc.; These are the standard engineering interventions in a typical coastal polder in Bangladesh, since 'time immemorial'; no rocket science; a lot of manual labour work activities, for men and women both;
	2. INITIAL SCREENING LABOR INFLUX REQUIREMENTS AND IMPLICATIONS	
2.1	Will the project potentially involve an influx of migrant workers? If yes, are there also foreign labourers mobilized on site?	Yes, there are Migrant workers influx at Project area, relatively small numbers and scattered all over the many construction sites; foreign labourers yes, Chinese around 32 persons including middle technicians and Master of Science level engineers; The mobilization of foreign worker started in November 2015 and on ward.
2.2	Is the influx of non-local workforce significant for the local community?	Not significant because there are many stand-alone construction sites and the number of Chinese/foreign workers per stand-alone site is about 3 to 5 Chinese men; this is not disruptive for the social cohesion of the local site; local stand-alone construction sites are mostly far away from community centres (rural setting, remote sites; sluices are not located inside a community); In the camp site, there have a separate place for their living, dining. Also police from local Thana/authority provide the security for the safety

		of Chinese workers. There have two or three local translator; if any problem arises they will arrange communication with local people. Even now there is no complain from local people, mentioned that in camp site also have a register to note down to take proper action within appropriate time. At least certain percentage of local people would have been mobilized in civil work that would be beneficial for the local people.
2.3	What are the opportunities for local labourers?	Of course there were opportunities for local worker in civil work. Local residents are poor people with virtually no mobility or transport facilities and are employed in agriculture, aquaculture and civil construction works such as road, buildings etc. in 'urban' areas, mostly intermittent job contracts. There is some small business such as small shops, chicken and duck breeding/farm, aquaculture, and motorbike repair workshops etc. which do not employ many people; e.g. Polder-35/1 is located 100 km away from the city of Khulna, hence not much influx from Khulna to Polder-35/1; due to few numbers of small rudimentary road tracks, there is hardly any economic traffic to the 4 Polders; one needs to cross many rivers with (small) ferries; labour market is non-existent for local labourers; Recently for polder-32, 20 local workers engaged for construction workers; P-33, 27 local workers; P-35/1, 130 local workers; P-35/3, 58 local workers. There is very few women because, for heavy civil work women are not suitable. By negotiating we fixed the salary, so there is no unsatisfactory and no complain.
2.4	Frequency of outsider's visit	Chinese labourers are generally permanently stationed and working; they live together inside a fenced compound, with professional security guards; Non-local labours are regular, but they have the seasonal vacation during rainy season.
2.5	Environmental sensitivity of the project site	Refer to the four approved EIA Reports of the 4 Polders; in general, the close location of the border lines of the Sundarbans mangrove forest prompt the Chinese Contractor to take care/be alerted of the possible negative impacts on the water, noise, environment, biodiversity of the Sundarbans;
2.6	Community experience with similar projects?	Much community experience yes as all 139 coastal polders were built back in the 1970s and 1980s and had undergone many subsequent small and big interventions, emergency works, repair and recovery after huge flood disaster events etc.; local labourers are fully familiar with similar types of civil engineering works; And also familiar with the similar movement of non-local labour because in coast region in different time different improvement work have done throughout the specific period.
3. SOCIO-ECONOMIC CONSIDERATIONS		
3.1	How similar are local and migrant labour backgrounds? (cultural, religious and demographic considerations)	The background particularly cultural, religious and demographic point of view is dissimilar in many ways and similar in some ways. They have different language, ethnicity, belief system even political system but it does not create any problem to perform the job or pose any risk for the project. The migrant is few in number that does not make any imbalance in local social coherence. The main similarities imply that both groups come from same profession;

		There is no issue at all, because the non-local workers are busy in day time for work. Also the work site is located in different place from their residence. No negative impact on job market because this project makes the more opportunity of job for local people. Group means not like two separate parts. Both local and non-local workers are working as a part of the project as like a team work.
3.2	Are there increased competitions for resources (e.g. accommodation, water, food, fuel) with the local community?	Absolutely not;
3.3	Given local community characteristics any specific adverse impacts anticipated?	No adverse impact is anticipated at the moment;

4. LOCAL COMMUNITY (Please provide Polder wise description of Facilities)				
4.1	Size of Local Population	Bangladesh is highly densely populated country but the project area has lesser density. It is found from the RAP document that inside the Polder-32, 33, 35/1 and 35/3 the total population amounts to 38397, 62305, 99182 and 33075 respectively.		
4.2	Working age population and capacity (education, skills, experience)	The labour force (age between 15 and 59 year), the actual number of people available for work is 61%. The labour force includes both the employed and the unemployed. According to BBS, 30% of the people fall in the age group 1-15 year. The literacy rate in the project area roams around 58% whereas the national figure is 51.8%. The livelihood of 66.1% of people depends on agriculture activities;		
4.3	Working age population capacity	*Education*	*Skill*	*Experience*
		No information is available	No information	No information
4.4	Local capacity for infrastructure, services, utilities, health (please provide a short brief)	Inside the 4 Polders, both earthen and pucca roads are available and there are waterways also. There are academic institution, market, religious institution, local government offices, providing necessary public services to the local people. Motor bikes play important role to communicate in project areas. Auto rickshaw is main transportation vehicle; No there is no impact of these facility due to the inflow of chines people.		
4.5	Availability of accommodation, food, water (please provide a short brief)	Contractor provides adequate accommodation, water and food, protective sheds etc to their workers; Yes these facilities are easily available for rent and consumption		
4.6	Are there any security considerations?	Not from the local governments; Contractor is now paying for the security force mainly in work site cum residential sites.		
4.7	Are there any marginalized, vulnerable, ethnic, indigenous-communities?	Some marginalized and vulnerable people are in the project side like other places of the country but there are no ethnic and indigenous groups.		

	5. MAINTENANCE OF OTHER LABOR RECORDS						
5.1	Is a copy of photo ID of each labourer kept with the Contractor/ Sub-contractor?	Yes. NID for local workers and visa copy for chinese workers; no sub-contractors;					
5.2	Is contact information of labour's next-of-kin kept for each labourer?	Yes. Family members are mostly close-by. Chinese contractor recruits mainly from the locality;					
6. LABOR PROFILE (Please provide Polder wise information) *This data is to be collected for each Polder where civil works has commenced, and cover the regular labour, temporary labour, labour hired through sub-contractors or labour contractors / groups.*							
6.1	Number of labourers by sex	*Male*		*Female*		*Total*	
		225		2		227	
6.2	Number of labourers by skill	*Skilled*	*Semi-skilled*	*Unskilled*		*Total*	
		182	35	10		227	
6.3	Number of labourers by origin	*Local (same or adjoining district)*	*Other districts*	*Other Country*		*Total* 227	
		180	30	17			
6.4	Number of labourers by age	*18-25*		*25-50*	*Above 50*	*Total*	
		187		32	08	227	
6.5	Source of labour	*Contractor*	*Subcontractor*	*Independent*	*Other*	*Total* 227	
		227	0	0	0		
	7. FACILITIES (Please provide Polder wise description of Facilities)						
7.1	Details of labour camps	Number	Permanent/Temp.	Location	Distance from nearest village/habitation		
		2	*Permanent*	Every CC blocks yard and every work site	Almost within 100m		
		4	*Temporary*				
7.2	Type of housing in labour camp on leased land (temporary shelters / kachha /pakka)	Work site have temporary shelter but cc block yard has pakka house					
7.3	Is there any housing on public land like roadsides, open fields and other spaces?	No. Only housing exist inside the constructional premises.					
7.4	Is there any housing in rented accommodation in residential areas? If so, who is it rented by?	Yes, for the Chinese and Bangladeshi senior staff. Contractor rents the buildings themselves					
7.5	How many labourers have families on/near worksite?	The migrant workers do not live with their family. Sometime their family member visit here for very short time. The					

		local worker mostly live with their family
7.6	Likelihood of family members accompanying (visiting)	They hardly visit the project side. Labourers have family homes close by; daily transport is done by motorbikes or by vehicles of Contractor
7.7	Is drinking water available on site and at the campsite?	Yes
7.8	Are latrines and urinals provided on site and at the campsite?	Yes
7.9	Are First Aid facilities provided on site?	Yes
7.10	Does a doctor visit the worksite / campsite regularly?	Yes
7.11	Is there a tie-up with a hospital or dispensary near the worksite / campsite	Yes
7.12	Is there a facility for cooking / canteen facility for all labour?	Yes
7.13	Are leisure activities / facilities available for all labour	Yes
7.14	Is transport to and from the worksite provided to labour?	Yes for migrant labourer but no provision for unskilled local labourer.
	8. SUPERVISION BY LABOR OFFICIALS	
8.1	Has the worksite / campsite been inspected by a labour official?	In 20-22 November, 2017 and 04-06 February, 2018 WB team visited the work area of CEIP-1,
8.2	How many times has the worksite / campsite been inspected by a labour official since commencement of work?	Six times since commencement from WB. From the part of PMU and BEDB, visited the woks site frequently, as per the need basis.
8.3	What documents were inspected by labour officials?	Accident /injury register, salary sheet/record
8.4	What documents were maintained and which ones were not?	Safety training record, accident register, safety guideline document, compliance register, GRM system notice. Nothing missing, if anything required please give us the valuables suggestion. We will ensure it in work site.
8.5	What directions were given by labour officials?	About personal health and safety
8.6	What is the mode of compliance with such directions?	Action taken in field level as soon as possible
8.7	Are you facing any legal proceedings on labour issues in Labour Court/ Other?	None;

	9. ACCIDENTS, EMERGENCIES AND INCIDENTS (Please provide Polder wise description of Facilities)	
9.1	What is the nature of accidents / emergencies usually occurring at a worksite like yours?	No accident so far has been taken place
9.2	Is a functioning First Aid available at the campsite / worksite?	Yes
9.3	Is functioning fire-fighting equipment available at the	Yes

	9. ACCIDENTS, EMERGENCIES AND INCIDENTS (Please provide Polder wise description of Facilities)	
	campsite / worksite?	
9.4	Which is the nearest doctor / clinic / dispensary?	Within some kilometres, alert by mobile phone of which the number is known to all Chinese people (Chinese medical doctor available); doctor covers the four Polders
9.5	Which is the nearest hospital?	The nearest hospital is situated at Upazilla head quarter. But there some clinic or satellite clinic inside the polder. If any worker required critical services then he/she refer to Khulna or Dhaka. The contractor have own car for every camp site and CC block manufacturing site to transport he/she to Khulna or Dhaka.
9.6	Which is the nearest Police Station?	In any Polder, there is Police office close-by, within 10 km range. On the other hand a team of 2-3 nos. police available in work camp site and cc block manufacturing site cum residential site. If required they will help us. But even no situations arise to do this.
9.7	Are details of nearest doctor / clinic / dispensary / hospital / Police station available and prominently displayed at worksite / campsite?	Yes
9.8	What is the system of informing next of kin?	For the migrant worker, there is focal person to deal with the issue. The contact numbers of all workers are well documented. For the local worker, the system is same. Bengali senior staff employed by the Chinese contractor.
9.9	What is your familiarity with accident reporting procedures?	Chinese Contractor holds regular drills on procedures and protocols to enact in case of accidents
9.10	What is your familiarity with police reporting procedures?	We are well familiar to local police reporting system and we have their contact number and relation. So far, no such incident whereby Police is to be called upon. It is worthy to mention that Contractor site camps are secured by police protection permanently.
9.11	Is there any mechanism to address the work place Sexual Harassment of Women at the project sites?	Yes (sanctions are known to Chinese workers and their bosses). Mechanism is there. We have gender policy. There is complaint system to mitigate sexual harassment. Finally, legal step can be applied where necessary;

Package W-02 under CEIP-1

Information on labour influx risks, requirements and implication for work package W-02 under CEIP-1

	10. PROJECT DATA	
1.1	Name of Project	Coastal Embankment Improvement Project - Phase I (CEIP-1)
1.2	Contract Package	Package-2

1.3	Date of Commencement	12th July, 2017
1.4	Date of Completion	11th January, 2021
1.5	Location	Polder-39/2C, Polder-40/2, Polder-41/1, Polder-43/2C, Polder-47/2 & Polder-48
1.6	Name and Contact Information (email/phone) of Contractor	Chongqing International Construction Corporation cicobangladesh@gmail.com/+8801917264485
1.7	Name and Contact Information (email/phone) of all sub-Contractors	None
1.8	Type of Works (single site, linear, clustered and construction duration)	1. Upgrading via new construction and re-sectioning of embankments with a length of about 209km; 2. Excavation and re-excavation of drainage channels in the Polders with a total length of about 188km; 3. Construction of 50 drainage sluices; 4. Repairing of 6 drainage sluices; 5. Construction of 73 flushing sluices; 6. Repairing of 8 flushing sluices; 7. Construction of embankment slope protection works with a total length of some 9.5km; 8. Construction of river bank protection works with a total length of 5.4 km; 9. Construction of 8 Khal Closing Closures with varying widths between 35m to 60m; 10. Dismantling of 36 drainage sluices, 70 flushing sluices and road pavement for about 50 km; 11. Construction of RCC Flood wall with a length of about 17km; 12. Construction of Road Pavement with a length of about 51km. Construction duration: 42 months

11. INITIAL SCREENING LABOR INFLUX REQUIREMENTS AND IMPLICATIONS		
2.1	Will the project potentially involves an influx of migrant workers? If yes, are there also foreign laborers mobilized on site?	Yes, scattering all over the construction sites. There are no foreign labours mobilized onsite.
2.2	Is the influx of non-local workforce significant for the local community?	Yes, these benefits are typically related to economic opportunities through employment and/or training by the project, or through selling goods and services. Other benefits include the provision of local infrastructure (e.g., access roads, power or water connection) which is developed for the project and which serves the community beyond the project duration.
2.3	What are the opportunities for local laborers?	It will bring more employment opportunities to the local labours. It will improve the education status because of workers' training.
2.4	Frequency of outsider's visit	Normal
2.5	Environmental sensitivity of the project site	Fuel supply for cooking and heating, fuel storage area, by-pass road construction, sanitation, water supply and construction work.
2.6	Community experience with similar projects?	Embankment construction, Bridge construction and road pavement construction

12. SOCIO-ECONOMIC CONSIDERATIONS		
3.1	How similar are local and migrant labour backgrounds? (cultural, religious and demographic	The labour no matter where they from are Bangladesh citizen. They almost have the same cultural and religious background. The demographics are shifted just from one region to

	considerations)	another and there is no change on total demographics of Bangladesh.
3.2	Are there increased competitions for resources (e.g. accommodation, water, food, fuel) with the local community?	More water, electricity, medical services, transport, education and social services will be required with the execution of works.
3.3	Given local community characteristics any specific adverse impacts anticipated?	It will bring more influx of additional population and Increased pressure on accommodations and rents, Increase in traffic and related accidents

13. LOCAL COMMUNITY (Please provide Polder wise description of Facilities)				
4.1	Size of Local Population	Polder-39/2C: 84853, Polder-40/2: 41317, Polder 41/1: 41051, Polder-43/2C: 14851, Polder-47/2: 5411, Polder-48: 26260		
4.2	Working age population and capacity (education, skills, experience)	No information		
4.3	Working age population capacity	*Education*	*Skill*	*Experience*
		No information	No information	No information
4.4	Local capacity for infrastructure, services, utilities, health (please provide a short brief)	the health centre and hospital are available in local place.		
4.5	Availability of accommodation, food, water (please provide a short brief)	Accommodation, water and food is available to the local community.		
4.6	Are there any security considerations?	Yes		
4.7	Are there any marginalized, vulnerable, ethnic, indigenous- communities?	No		

	14. MAINTENANCE OF OTHER LABOR RECORDS	
5.1	Is a copy of photo ID of each labourer kept with the Contractor/ Sub-contractor?	Yes
5.2	Is contact information of labour's next-of-kin kept for each labourer?	No

15. LABOR PROFILE (Please provide Polder wise information) *This data is to be collected for each Polder where civil works has commenced, and cover the regular labour, temporary labour, labour hired through sub-contractors or labour contractors / groups.*						
6.1	Number of laborers by sex	*Male*		*Female*		*Total*
		788		5		793
6.2	Number of laborers by skill	*Skilled*	*Semi-skilled*	*Unskilled*		*Total*
		359	158	222		793
6.3	Number of laborers by origin	*Local (same or adjoining district)*	*Other districts*	*Other Country*		*Total*
		721	72	0		*793*
6.4	Number of laborers by age	*18-25*		*25-50*	*Above 50*	*Total*
		300		485	8	947
6.5	Source of labour	*Contractor*	*Subcontractor*	*Independent*	*Other*	*Total*
		793			0	*793*

	16. FACILITIES (Please provide Polder wise description of Facilities)				
7.1	Details of labour camps	Number	Permanent/Temp.	Location	Distance from nearest village/habitation
		6	*Temporary*	Near the project site	Within 1 km
7.2	Type of housing in labour camp on leased land (temporary shelters / kuchha /pukka)	Temporary shelter			
7.3	Is there any housing on public land like roadsides, open fields and other spaces?	Yes, there are housings on open field.			

7.4	Is there any housing in rented accommodation in residential areas? If so, who is it rented by?	Yes, it is rented by the Chinese Contractor as temporary shelter.
7.5	How many laborers have families on/near worksite?	No information
7.6	Likelihood of family members accompanying (visiting)	Not allowed
7.7	Is drinking water available on site and at the campsite?	Yes
7.8	Are latrines and urinals provided on site and at the campsite?	Yes
7.9	Are First Aid facilities provided on site?	Yes
7.10	Does a doctor visit the worksite / campsite regularly?	No, sometimes.
7.11	Is there a tie-up with a hospital or dispensary near the worksite / campsite	Yes
7.12	Is there a facility for cooking / canteen facility for all labour?	No
7.13	Are leisure activities / facilities available for all labour	Yes
7.14	Is transport to and from the worksite provided to labour?	Yes

	17. SUPERVISION BY LABOR OFFICIALS	
8.1	Has the worksite / campsite been inspected by a labour official?	No
8.2	How many times has the worksite / campsite been inspected by a labour official since commencement of work?	None

8.3	What documents were inspected by labour officials?	None
8.4	What documents were maintained and which ones were not?	None
8.5	What directions were given by labour officials?	None
8.6	What is the mode of compliance with such directions?	None
8.7	Are you facing any legal proceedings on labour issues in Labour Court/ Other?	No

	18. ACCIDENTS, EMERGENCIES AND INCIDENTS (Please provide Polder wise description of Facilities)	
9.1	What is the nature of accidents / emergencies usually occurring at a worksite like yours?	Drowning, Injury from machine
9.2	Is a functioning First Aid available at the campsite / worksite?	Yes
9.3	Is functioning fire-fighting equipment available at the campsite / worksite?	Yes
9.4	Which is the nearest doctor / clinic / dispensary?	Polder-39/2C: Digital X-ray Clinic, 5 minutes by car away from the campsite, 01717-997-914, Kamrunnasar Polder-41/1: DR.Abudus salam M.B.B.S Ex-medical officer of Barguna general hospital, clinic-sharif x-ray clinic, Dispensary mouir medical hall. Polder-47/2: 1 km from our working site to the nearest dispensary Polder-48: 100 m from our temporary camps to the nearest dispensary but the doctor and clinic are 1 km away.
9.5	Which is the nearest hospital?	Polder-39/2C: Upazila Health Complex, 5 minutes by car away from the campsite, 01735-950-462, Fakrel Islam. Polder-41/1: Barguna sader hospital

		Polder-47/2: 10 km from our working site to the nearest hospital. Polder-48: the nearest hospital is 3 km towards the seaside.
9.6	Which is the nearest Police Station?	Polder-39/2C: Bandarie Police staion, 5 minutes by car away from the campsite, 01713-374-337, Kamruzzaman. Polder-41/1: Barguna sader police station. Polder-47/2: 8 km from our working site to the nearest police station. Polder-48: the nearest police station is 3 km approximately around the third bridge.
9.7	Are details of nearest doctor / clinic / dispensary / hospital / Police station available and prominently displayed at worksite / campsite?	Polder-39/2C: Yes, such information shall be printed on paper and displayed at the site office. Polder-41/1: DR.Abudus salam M.B.B.S Ex-medical officer of Barguna general hospital, clinic-sharif x-ray clinic, Disppensary mouir medical hall, Barguna sader hospital, Barguna sader police station, above mentioned details information is true and they are able to respond within short period and mentioned location is very nearest to our worksite. Polder-47/2: Yes. such information shall be printed on paper and displayed at the site office. Polder-48: Yes, such information shall be printed on paper and displayed at the site office.
9.8	What is the system of informing next of kin?	A phone number chat including all the Chinese people has been distributed to all working site/ campsite, anything happening at site will be reported immediately to the person who is in charge of corresponding issue.
9.9	What is your familiarity with accident reporting procedures?	For any accident happened at site, the foreman shall report to the site office and site manager immediately, and site office shall write on the accident log book for records. Then site office shall report to the corresponded local government office.
9.10	What is your familiarity with police reporting procedures?	So far, no such incident whereby Police is to be called upon. The Contractor camps are secured by police.
9.11	Is there any mechanism to address the work place Sexual Harassment of Women at the project sites?	No, because all male workers at the project working at sites and the working place for female staff are limited in the camp and office .

Annexure-3: Images of EMP Compliances

Image-1: Frequent use of PPE in CEIP-1

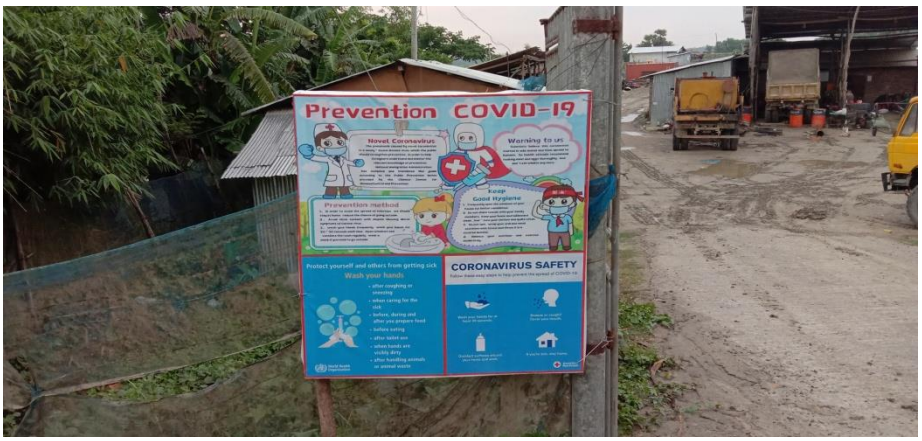

Image-2: Erection of cautionary signboard related to Covid-19 pandemic in P-43/2C, Package-2

Image-3: Activities to combat Covid-19 pandemic in P-39/2C, Package-2

Image-4: Covid-19 combating arrangement in P-32, Package-1

Image-5: Erected cautionary signboard in P-35/1, Package-1

Image-6: Relocated GCB in P-35/1, Package-1

Image-7: Paved surface under Generator to check oil leakage in P-39/2C, Package-2

Image-8: Improving drainage system for avoiding water logging in P-39/2C, Package-2

Image-9: Green vegetation in P-39/2C, Package-2

Image-10:Engagement of Signal man during embankment construction works in P-39/2C, Package-2

Image-11: Noise management in P-41/1, Package-2

Image-12: Proper storing of industrial wastes in P-41/1, Package-2

Image-13: Disposal of industrial wastes for recycling in P-39/2C, Package-2

Image-14: Conducting regular tool-box talking in P-39/2C, Package-2

Image-15: EHS training provided by local EHS officer in P-43/2C, Package-2

Image-16: Monthly EHS committee meeting held in Package-1

Image-17: Threatened fish species stocking area in P-32, Package-1

Image-18: Threatened fish Fingerlings releasing in P-33, Package-1

Image-19: Interview conducted with fishermen in P-33, Package-1

Image-20: Motoring the activities regard to conservation of threatened fishes in P-35/1, Package-1

Image-21: Searching suitable open water bodies in P-35/1, Package-1

Image-22: Meeting regard to conservation of threatened fish species in Package-1

Image-23:Planting seedling on embankment in P-32, Package-1

Image-24: Foreshore plantation in P-47/2, Package-2

Image-25: Afforestation in P-32, Package-1

Image-26: Afforestation in P-47/2, Package-2

FORM-R1

TEMPORARY ACQUISITION OF LAND

(Reporting by Contractor to Environmental Management Officer of DDSC&PMSC, XEN (Environmental), PMU)

Construction Stage: Monthly/Quarterly Report: Date ……. Month …….. Year……

(Site Layout Plan of all locations to be attached with format)

(Attach Photograph of the Site)

Sl. No	Item	Target Date for Establishment	Date of Establishment	Location		Present Landuse	Size (mxm)	Existing Trees	Distance from Nearest Settlement	Distance from Nearest Riverbank	Remarks by Environmental Management Officer,XEN (Environ-mental), PMO, if any
1		Work force Camps (WC)									
	WC 1										
2		Stock Yard Cement for fine and coarse aggregate (SY)									
	SY 1										
3		Site Store (SS)									
	SS 1										
4		Site Office (SO)									

Certified that the furnished information is correct and the quality of work is as per good practice

Environmental Management Officer, DDCD&PMSC	Executive Engineer (Environmental), PMO	Contractor or his representative

FORM-R2

SITE IDENTIFICATION AND SETTING UP OF WORKFORCE CAMP

(Reporting by Contractor to Environmental Management Officer of DDSC&PMSC, XEN (Environmental), PMU

Construction Stage Report: Date …….. Month …… Year……..

(Attach Photograph of the Camp Site)

Format to be submitted before target date of establishing camps as

Camp no.WC

Location of Camp: km_____ Package _____

Sl. No	Item	Unit	Details	Remarks by Environmental Management Officer,XEN (Environmental), PMO, if any
1	Detail of item camp	mxm		
a	Size of Camp	Mxm		
b	Area of Camp	Sqm		
c	Distance from Nearest Settlement	M		
d	Distance from Nearest Water Source/Riverbank	M		
e	Date of camp becoming operational	dd/mm/ yy		
f	Present land use			
g	No of trees with the Camp site			
2	Details of top soil stacking			
a	Quantity of top soil removed	Sq.m		
b	Detail of storage of topsoil	Cu.m		
3	Details of workforce	Nos.		
a	Total No of Labourers at work site	Nos		
b	Total no of Male Workers at work site	Nos		
c	No of Male Workers below 18 years of	Nos		

Sl. No	Item	Unit	Details	Remarks by Environmental Management Officer,XEN (Environmental), PMO, if any
	age			
d	Total no of Female workers at work site	Nos		
e	No of Female workers below 18 years of age	Nos		
f	No of children	Nos		
4	*Details of dwelling units*			
a	No of dwellings	Nos		
b	Minimum size of dwelling	mxm		
c	Walls	Specifications		
d	Roofing	Specifications		
e	Flooring	Specifications		
f	Total no of Bathrooms	Nos		
5	Details of facilities			
a	Availability of security guard 24 hrs a day	Yes/ No		
b	First Aid Facility	Yes/ No		

Certified that the furnished information is correct and the quality of work is as per good practice

Environmental Management Officer, DDCD&PMSC	Executive Engineer (Environmental), PMO	Contractor or his representative

FORM-R3

RESTORATION OF CONSTRUCTION SITES

(Reporting by Contractor to Environmental Management Officer of DDSC&PMSC, XEN (Environmental), PMU)

Construction stage: Monthly Report – Date …….. Month ……. Year……

Sl. No	Item	Location	Unit (cum)	Volume of Topsoil Restored (cum)	Remarks by Environmental Management Officer,XEN (Environ-mental), PMO, if any
3	Restoring of topsoil at Workers Camp				
A					
B					
C					
D					
4	Restoring of topsoil at Construction/ stock yard and disposal of spoil				
A					
B					
C					
D					

Certified that the mitigation/enhancement works have been completed as specified and as per prevalent good construction practices

Environmental Management Officer, DDCD&PMSC	Executive Engineer (Environmental), PMO	Contractor or his representative

FORM-R4

SUMMARY MITIGATION AND ENHANCEMENT

(Reporting by Contractor to Environmental Management OfficerofDDSC&PMSC, XEN (Environmental), PMU)

Construction Stage: Monthly Report – Date …… Month …… Year……..

S.No	Item	Physical Target				Completion Target		
		Target		Target Achieved	% of task completed	Target Date	Date of Completion if task completed	Reason for delay if any
1	Protection of Cultural Properties	Unit						
2	Water Bodies	Nos						
3	Barrier to prevent garbage dumping	Nos						
4	Spill of oil lubricant control	Nos						
5	Washing Platform	Nos						
6	Trees planted and cared	Nos						
7	Turf area	m^3						
8	Top soil covers	m^3						
9								
10								

Completed as specified and as per prevalent good construction practices

Environmental Management Officer, DDCD&PMSC	Executive Engineer (Environmental), PMO	Contractor or his representative

Monitoring of Water Quality

Water Quality

In order to provide a clear view of the existing water quality inside the polder area, a number of water quality parameters – including salinity, Dissolved Oxygen (DO), temperature, electrical conductivity (EC), pH, Total Dissolved Solids (TDS), chlorides (Cl), suspended solids (SS), and arsenic (As), among others - were selected for monitoring.

The surface water and ground water was analyzed during the field level survey conducted in two different periods of the year. The surface water quality was measured at a number of locations (monitoring sites) of a Polder (shown in the Map included in the EIA Report of Polder under CEIP-1) in the month of December and the ground water quality was tested in the month of May. The results obtained in the two field surveys provided an understanding of the water quality in the polder, and these constitute the base data and can be compared with for impact evaluation of successive water quality analysis.

Sample Collection of Surface Water for Aquaculture and Agriculture Uses

a) Establish sampling sites (Location) with GPS referencing

b) Collect water sample from sampling site: Place sufficient water in bottles (leaving no empty space in the bottle) for the monitoring parameters –

c) **Bottle 1**: For analysis of pH, Total suspended solids (TSS), Total dissolved solids (TDS), Dissolved oxygen (DO), Biological oxygen demand (BOD), Chemical oxygen demand (COD)

d) **Bottle 2**: For analysis of Nitrate-N (NO_3-N), Salinity

e) **Bottle 3:** For analysis of Total and Fecal Coliform bacteria (Note: Coliform bacteria must be analyzed within 24 hours of sampling)

Sample Collection of Tubewell Water and other Supply Water for Drinking Use

a) Establish sampling sites (Location) with GPS referencing

b) Collect water sample from sampling site: Place sufficient water in bottles (leaving no empty space in the bottle) for the monitoring parameters –

c) **Bottle 1**: For analysis of pH, Total suspended solids (TSS), Total dissolved solids (TDS), Dissolved oxygen (DO), Arsenic (As), Iron (Fe), Chloride (Cl)

d) **Bottle 2:** For analysis of Nitrate-N (NO3-N), Salinity

e) **Bottle 3:** For analysis of Total and Fecal Coliform bacteria (Note: Coliform bacteria must be analyzed within 24 hours of sampling)

Label bottles with location, sampling depth, date & time of sampling

Water Quality Monitoring Plan (For Tubewell Water and other Supply Water for Drinking Use)	
Monitoring Parameters	*standard items:*pH, Temperature, Total suspended solids (TSS), Total dissolved solids (TDS), Dissolved oxygen (DO), Arsenic (As), Iron (Fe), Chloride (Cl), Conductivity, nitrate-N (NO_3-N, fecal and total coliform
Analysis Methods	Field measurements for pH, dissolved oxygen, conductivity, temperature; Standards Methods of Analysis for laboratory analysis.
Sampling Sites (Location) with GIS reference	Select monitoring sites of given Polder(with GIS referencing). At each site, 2 samples (Duplicate samples)
Monitoring frequency and periods	- Quarterly, during construction phase; - Half yearly, during operation phase
Responsible Agency	Contractor through a nationally recognized laboratory (BUET, KUET, Dhaka University, DPHE & DoE)
Supervised by	DDCS&PMS Consultant's Environmental Team, BWDB field staff

Water Quality Monitoring Plan (For Surface Water for Aquaculture and Agriculture Uses)	
Monitoring Parameters	*standard items:*pH, Total suspended solids (TSS), Total dissolved solids (TDS), Dissolved oxygen (DO), Biological oxygen demand (BOD), Chemical oxygen demand (COD), Nitrate-N (NO_3-N), Salinity, Electrical conductivity (EC),Total Coliform bacteria
Analysis Methods	Field measurements for pH, dissolved oxygen, conductivity, temperature; Standards Methods of Analysis for laboratory analysis.
Sampling Sites (Location) with GIS reference	Select monitoring sites of given Polder(with GIS referencing). At each site, 2 samples (Duplicate samples)
Monitoring frequency and periods	- Quarterly, during construction phase; - Half yearly, during operation phase
Responsible Agency	Contractor through a nationally recognized laboratory (BUET, KUET, Dhaka University, DPHE& DoE)
Supervised by	DDCS&PMS Consultant's Environmental Team, BWDB field staff

Noise Quality Monitoring Plan (Vehicular Traffic on the road is the key source of noise in the Polder)	
Monitoring Parameters	Noise Level (dB) in selected busy areas inside the Polder (under Normal Condition and with Traffic)
Analysis Methods	Field Noise Meter Calibrated to monitor dB for 40-90 dB
Sampling Sites (Location) with GIS reference	Select monitoring sites of given Polder(with GIS referencing). At each site, 2 samples (normal condition & with traffic)
Monitoring frequency and periods	- Noise level for 1 hour at 0700, 1200 & 2000 hrs on three consecutive days each week
Responsible Agency	Contractor through a nationally recognized laboratory (BUET, KUET, Dhaka University, DPHE & DoE)
Supervised by	DDCS&PMS Consultant's Environmental Team, BWDB field staff

Air Quality Monitoring Plan	
Monitoring Parameters	*standard items:*Suspended Particulate Matter (SPM 2.5/10), Sox, NOx, CO
Analysis Methods	Field standard Air Analyser
Sampling Sites (Location) with GIS reference	Select monitoring sites of given Polder (with GIS referencing).
Monitoring frequency and	- At selected sites, once in 6 months, or as required.

periods	
Responsible Agency	Contractor through a nationally recognized laboratory (BUET, KUET, Dhaka University, DPHE &DoE)
Supervised by	DDCS&PMS Consultant's Environmental Team, BWDB field staff

Soil Quality Monitoring Plan	
Monitoring Parameters	*standard items:* Organic matter, pH, N, P, K, Salinity, Fe, Mn, Mo, Pb
Analysis Methods	Field standard Soil Analyzer Kit
Sampling Sites (Location) with GIS reference	Select monitoring sites of given Polder (with GIS referencing).
Monitoring frequency and periods	- At selected sites, once in 3 months
Responsible Agency	Contractor through a nationally recognized laboratory (BUET, KUET, Dhaka University, DPHE &DoE)
Supervised by	DDCS&PMS Consultant's Environmental Team, BWDB field staff

Template for-A. Surface Water Quality in Project Area (Fishing and Irrigation uses)

Sample Location	GIS Reference	Water Quality Monitoring Parameters									
		Temp (°C)	pH	TSS mg/l	TDS mg/l	DO mg/l	Salinity ppt	NO_3-N mg/l	Cl Mg/l	EC µs/cm	Total Coliform
SL-1	GIS-1										
SL-2	GIS-2										
SL-3	GIS-3										
Bangladesh Standard Value	Irrigation	20 - 30	7.0-8.5			5.0				400-1000	
	Fishing	20 - 30	6.7-9.5			4.0-6.0					

Template for-B.Tubewell and supply Bottle Water Quality (Drinking Uses)

Sample Location	GIS Reference	Water Quality Monitoring Parameters										
		Temp (°C)	pH	TSS mg/l	TDS mg/l	DO mg/l	Salinity ppt	NO_3-N mg/l	Cl Mg/l	Fe Mg/l	EC µs/cm	Total Coliform
SL-1	GIS-1											
SL-2	GIS-2											
SL-3	GIS-3											
Bangladesh Standard Value			6.5-8.5						150-600	0.3-1.0	400-1000	

Environmental Monitoring Plan during Construction and Operation of Rehabilitation and Improvement of Polders System

(Source: EIA Report CEIP-1, Polder 35/1)

Parameter	Location	Means of Monitoring	Frequency	Responsible Agency	
				Implemented by	Supervised by
During Construction					
Sources of Material	Work Site	Possession of official approval or valid operating license of suppliers materials (Cement, soil).	Before an agreement for the supply of material is finalized.	Contractor	CS, M&E Consultant, BWDB
Operation of borrow site	Borrow pit/site	Visual inspection of borrow site and ensuring operational health and safety	monthly	Contractor	CS, M&E Consultant, BWDB
Top Soil	Storage area	Top soil of 0.15 m depth will be excavated and stored properly	Beginning of earthwork	Contractor	CS, BWDB
	do	The stored top soils will be used as cladding material over the filled lands	Immediately after filling and compaction of dredge materials	Contractor	CS, BWDB
	Work Site	Some of the top soil are placed on top and berm of embankment for turfing and plantation	At the end of filling activity	Contractor	CS, BWDB
Erosion	Side slopes of the embankments and material storage sites	Visual inspection of erosion prevention measures and occurrence of erosion	At the end of filling activity	Contractor	CS, M&E Consultant, BWDB
Hydrocarbon and chemical storage	Construction camps	Visual Inspection of storage facilities	Monthly	Contractor	CS, BWDB
Traffic safety	Construction area	Visual inspection to see whether proper traffic signs are placed and flagmen for traffic management are	Monthly	Contractor	CS, BWDB

Parameter	Location	Means of Monitoring	Frequency	Responsible Agency	
				Implemented by	Supervised by
		engaged			
Air quality (dust)	Construction site	Visual inspection to ensure good standard equipment is in use and dust suppression measures (spraying of waters) are in place.	Daily	Contractor	CS, BWDBgs/
	Material storage sites	Visual inspection to ensure dust suppression work plan is being implemented	Monthly	Contractor	CS
Air Quality (PM_{10}, $PM_{2.5}$)	Close to School/ Madrasha, Hospital &Villages	Air quality monitoring	Half Yearly	Contractor through a nationally recognized laboratory	CS, M&E Consultant, BWDB
Noise	Construction sites	Visual inspection to ensure good standard equipment are in use	Weekly	Contractor	CS, M&E Consultant, BWDB
	Construction sites	Ensure work restriction between 09:00 pm-6:00 am close to School/ Madrasha, Hospital & Villages	Weekly	Contractor	CS, M&E Consultant, BWDB
Surface Water Quality (TDS, Turbidity, pH, DO, BOD, COD etc)	Water sample at each of river for each polder	Sampling and analysis of surface water quality	Half Yearly	Contractor through a nationally recognized laboratory	CS, M&E Consultant, BWDB
Drinking Water Quality(TDS, Turbidity, pH, FC, as if groundwater etc)	Sources of drinking water at construction camp/site	Sampling and analysis of water quality	yearly	Contractor through a nationally recognized laboratory	CS, M&E Consultant, BWDB
Sanitation	Construction camp/site	Visual Inspection	Weekly	Contractor	CS, M&E Consultant, BWDB
Waste Management	Construction camp and	Visual inspection of collection,	Weekly	Contractor	CS, M&E Consultant,

Parameter	Location	Means of Monitoring	Frequency	Responsible Agency	
				Implemented by	Supervised by
	construction site	transportation and disposal of solid waste and solid waste is deposited at designated site			BWDB
Flora and Fauna	Project area	Survey and comparison with baseline environment	Yearly	Contractor through nationally recognized institute	CS, M&E Consultant, BWDB
Cultural and archeological Sites	At all work sties	Visual observation for chance finding	Daily	Contractor	CS, M&E Consultant, BWDB
Reinstatement of Work Sites	All Work Sites	Visual Inspection	After completion of all works	Contractor	CS, M&E Consultant, BWDB
Safety of workers Monitoring and reporting accidents	At work sites	Usage of Personal Protective equipment	Monthly	Contractor	CS, M&E Consultant, BWDB
During Operation and Maintenance					
Surface Water Quality (TDS, Turbidity, pH, DO, BOD, COD etc)	Water sample at each of river for each polder	Sampling and analysis of surface water quality	Yearly	BWDB through a nationally recognized laboratory	M&E Consultant
Air Quality (Dust PM_{10}, $PM_{2.5}$)	At the baseline monitoring site	24 hours Air quality monitoring	Yearly	BWDB through a nationally recognized laboratory	M&E Consultant
Flora and Fauna specially fisheries	In the project area	Detail species assessment and compare with baseline	Yearly	BWDB through a nationally recognized institution	M&E Consultant
Agriculture	In the project area	Compare the production with the baseline	Yearly	BWDB through a nationally recognized institution	M&E Consultant
Operation of hydraulic structure	In the project area	Visual inspection and public feedback	Yearly	BWDB	M&E Consultant

Environmental Monitoring Plan during Construction and Operation of Afforestation

Parameter	Location	Means of Monitoring	Frequency	Responsible Agency	
				Implemented by	Supervised by
During Implementation					
Plant Selection	Nursery	Visual inspection. Type and variety of plant species to be planted for turfing on the top of embankment and foreshore	Before plantation	Contractor	CS, BWDB, M&E Consultant
Water Quality	Water bodies near nursery	Odor and chemical testing	Half yearly	Contractor through nationally recognized laboratory	CS, BWDB, M&E Consultant
Waste Management	Work site and Nursery	Visual inspection of collection, transportation and disposal of grasses, debris and is deposited at designated site	Weekly	Contractor	CS, BWDB, M&E Consultant
	Work site and Nursery	Visual inspection of Water bars & cut-offs .sediment traps to prevent water pollution caused by run-off from harvesting areas	Beginning of work	Contractor	CS, BWDB, M&E Consultant
Nursery Embankment Management	Nursery	Visual inspection of height of embankment, possibility of water logging and connection to the waterbodies	Beginning of each nursery	Contractor	CS, BWDB, M&E Consultant
During Operation and Management					
Multilevel belt of trees	Polder top and along the polder	Visual inspection	yearly	BWDB through nationally recognized institution	M&E Consultant
Flora and Fauna	In the project area	Detail species assessment and compare with baseline	Yearly	BWDB through a nationally recognized institution	M&E Consultant
Erosion	Along Alignment	Visual Inspection presence of gullies or erosion	Yearly	BWDB	M&E Consultant

Annexure 5: Environmental Management Plan–Chapter 10 of EIA for Typical Polder (Polder no. 47/2)

10. Environmental Management Plan

673. This chapter presents the Environmental Management Plan (EMP) for the rehabilitation activities in the Polder- 47/2. The EMP essentially provides the implementation mechanism for the environmental and social mitigation measures discussed in Chapter .

6.10.1 Objectives of EMP

674. The basic objective of the EMP is to manage, prevent, and mitigate potentially adverse impacts of Project interventions. The specific objectives of the EMP are to:

- Facilitate the implementation of the environmental and social mitigation measures identified during the present EIA and discussed in Chapter 6.
- Indicate the responsibilities for project proponent, contractors, consultants, and other members of the Project team for the environmental and social management of the Project;
- Define a monitoring mechanism and identify monitoring parameters to ensure effective implementation of the mitigation measures; and
- Assess environmental training requirements for different stakeholders at various levels. Describe communication and documentation requirements.

10.2 EMP Components

675. The EMP components are listed below:

- Institutional Arrangement
- Mitigation Measures and Plan
- Monitoring Plan
- Documentation and reporting
- Contractual arrangements for EMP implementation
- EMP implementation cost
- Capacity building
- Grievance redress mechanism

676. These components are discussed in Sections below.

103 Institutional Arrangement

677. Clearly defined and functional institutional arrangements are essential for ensuring effective and sustainable implementation of the EMP, particularly the mitigation measures identified in the EIA. An Organogram showing the institutional setup of CEIP-1 including organisation for implementation and monitoring of the EMP is shown in Figure 10.1.

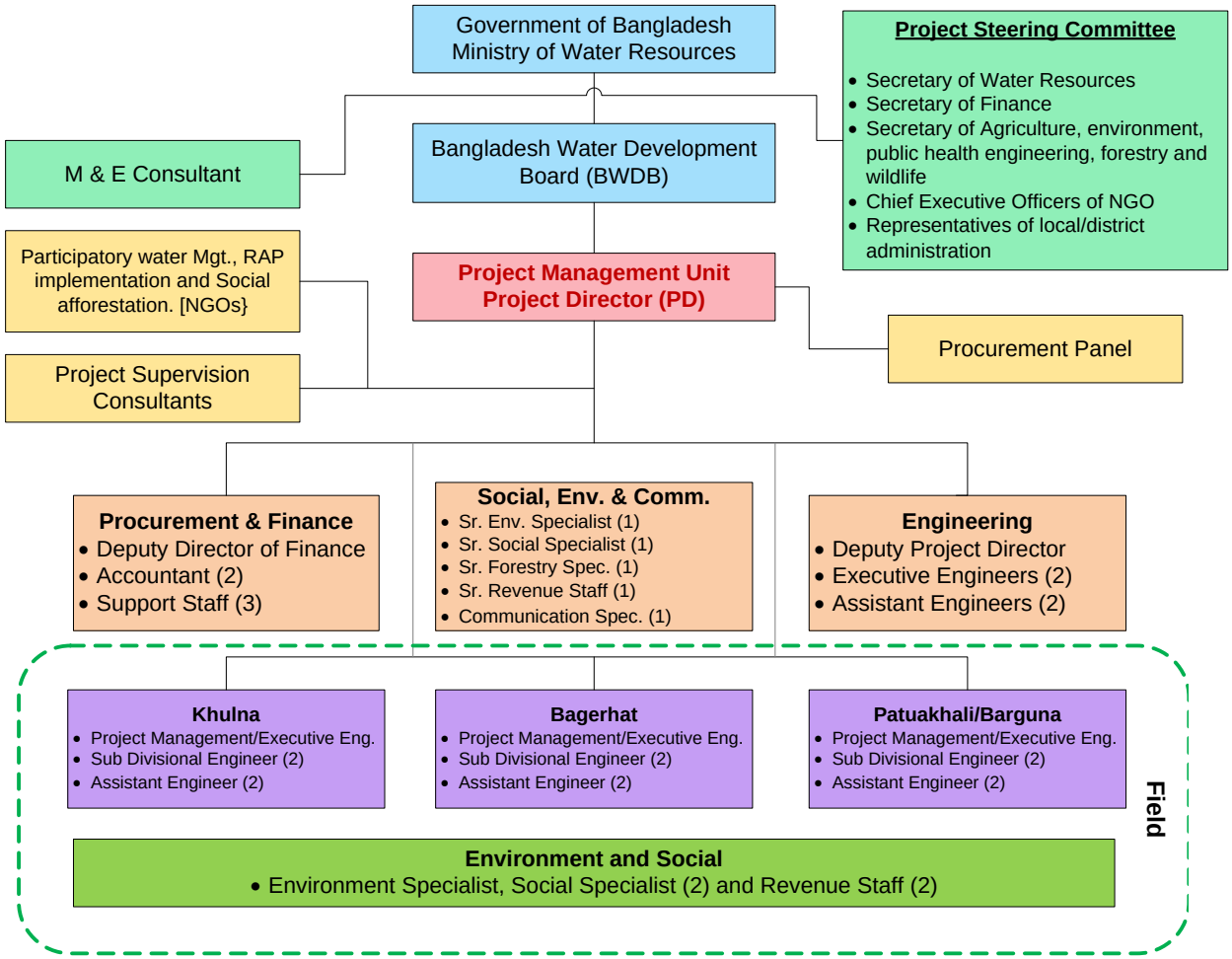

Figure 10.1: Organogram showing the institutional setup for CEIP-I

678. The institutional arrangements proposed to implement the EMP of Polder 48 are described in detail below.

10.3.1 Overall Responsibility

679. The overall responsibility of EMP implementation and fulfilling other environmental obligations during the Project rests with the Project Director (PD). For this purpose, the PD will be supported by Environmental and Social staff of the PMU, DCSC and Contractors.

10.3.2 Construction Phase

a. Environment and Social Staff in PMU

680. As described in Section 4.8, the BWDB will set up the PMU to manage the Project implementation. The PMU will be led by the Project Director (PD). To manage and oversee the environmental and social aspects of the Project, the PMU will have an Environment, Social, and Communication (ESCU). The Unit will supervise compliance with and implementation of the EMP. The Unit will include a Senior Environmental Specialist. One environment specialist will be posted

at the field level to support all three divisions. The ESCU will maintain liaison with WB safeguards team, regulatory agencies and other stakeholders during the Project implementation. The ESCU will also coordinate with the environmental staff of the DCSC In order to manage the EA process and EMP implementation effectively; the ESCU will be established and made operational before awarding the contract to Contractor. BWDB will update the EIA report, if necessary. The Mode of EMP implementation is shown in the Figure-10.2 as follows:

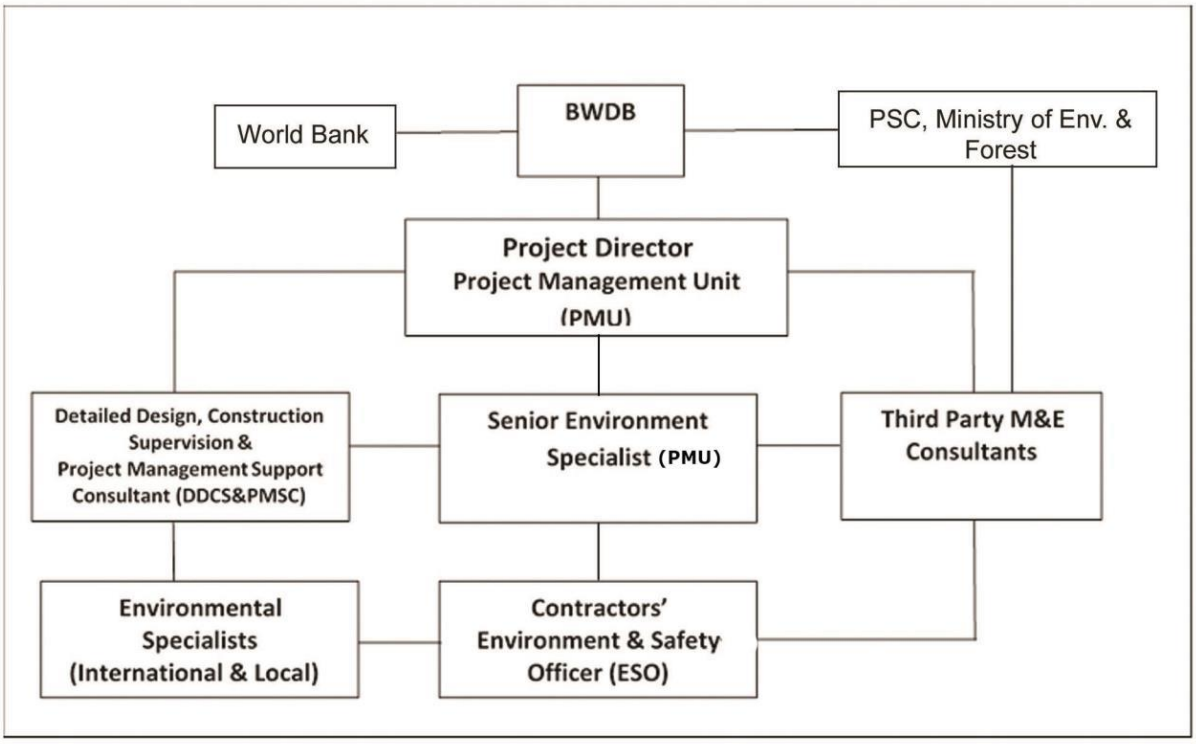

Figure 10.2: Organogram for Mode of EMP Implementation

b. Environment and Social Staff with Detail Design, Construction Supervision and Project Management Support Consultants (DDCS&PMSC)

681. The DDCS&PMSC will be responsible for overall supervision of polder rehabilitation related activities. The DDCSPMSC will ensure quality control and report to the PD. The DDCS&PMSC will also assist the ESCU for ensuring environmental compliance and monitoring of progress including EMP and/or ECoP implementation. The DDCS&PMSC will supervise the contractors, ensuring design compliance and quality of works. For supervising the EMP implementation, DDCS&PMSC will have dedicated and adequately qualified and experienced environmental staff including field-based environmental monitors (EMs). The DDCS&PMSC will supervise and monitor contractors to ensure compliance with the EMP. The DCSC consultants' environmental staff will maintain coordination with the ESCU for the effective implementation of EMP and other environmental commitments and obligations of the Project.

c. Contractor's Environment Supervisors

682. The construction contractors will have an adequate number of dedicated, properly qualified and experienced, site-based Environment Supervisors (ESs) at the construction sites. The ESs will be responsible to implement various aspects of the EMP particularly the mitigation measures to ensure that the environmental impacts of the construction works remain within acceptable limits. The EMs will maintain coordination with the DCSC at the site level. The ESs will also be responsible to conduct environmental trainings for the construction crew.

10.3.3 Post-Construction Phase

683. The BWDB monitoring unit has postings of 4 Assistant Chiefs and 2 Deputy Chiefs to oversee the overall environmental compliance of BWDB implemented projects. Under CEIP, the ESCU will provide training to the BWDB people responsible for monitoring of environmental compliance. Thus, a smooth transition to BWDB will happen to ensure environmental compliance during the O&M after the project completion. These staff will be responsible to manage the environmental aspects of the operation and maintenance of polder, its water control structures, and other relevant issues such as protection of key environmental resources of the older and maintain fish migration. Water Management Organizations (WMO) will be formed under the Bangladesh Guidelines for Participatory Water Management (Nov 2000) and involve the beneficiary communities. WMOs will be trained by BWDB to ensure environmental management during project operation. The Environmental Management Unit of BWDB will ensure and oversee the environmental management during project implementation and operation. The Water Management Organization will also be trained and involved in EMP implementation during the operation phase.

10.4 Mitigation Measures and Plan

684. Mitigation is an integral part of impact evaluation. Where mitigation is deemed appropriate, a proponent should strive to act upon effects, in the following order of priority, to:

- Eliminate or avoid adverse impacts, where reasonably achievable.
- Reduce adverse impacts to the lowest reasonably achievable level.
- Regulate adverse impacts to an acceptable level, or to an acceptable time period.
- Create other beneficial impacts to partially or fully substitute for, or counter-balance, adverse effects.

685. Project specific construction environmental management plans will be prepared by the Contractor and implemented upon approval by the DSC consultant and the PMU. These plans will specify precautions and mitigation measures for construction activities. Good Environmental Construction guidelines have been compiled in Appendix 10 of Environmental Management Framework.

686. Impacts identified severe in consequence category and or likelihood category will be further analyzed to identify additional mitigation measures that are potentially available to eliminate or reduce the predicted level of impact. Potential mitigation measures will include:

- Habitat compensation program
- Species specific management program
- Engineering design solutions

- Alternative approaches and methods to achieving an activity's objective
- Stakeholders participation in finalizing mitigation measures
- Construction practice, including labor safety and welfare measures.
- Operational control procedures
- Management systems

687. Based on the past experience, a generic Mitigation/Compensation Measures Guideline for the EMP has been developed and is presented in Table 10.1 below for reference. This has been used as a reference material for comprehending the scope of the EMP. Table 10.1 will be used in conjunction with the implementation of the polder specific mitigation measure stated in Chapter 6.

Table 10.1: Generic Mitigation/Compensation Measures/Guideline

(ECoP: Environmental Code of Practice)

Parameter/Activities	Mitigation/Compensation Measure/Guideline
ECoP 1: Soil/ Land Management	
Sources of Material for Earthwork	• During design, the segment-wise soil requirement and location of the sources of soil for earthwork for each polder construction/rehabilitation will be identified. • Selection of Borrow pit areas for earthen material collection. • No objection from land owner/Revenue authorities as applicable • Contractor shall ensure that borrowed materials used for embankment filling is free of pollutants • Disposal of excess soil will be made at site with no objection from DoE and local authority
Borrowing of Earth	**Borrow Area Selection** Borrowing of spoil from places close to the toe line on any part of the embankment is prohibited. Earth available from dredging as per design, may be used as embankment material (if necessary and applicable), subject to the approval of the Engineer, with respect to acceptability of the material. Borrowing to be avoided from the following areas: • Borrowing of soil from close to the toe line on any part of the embankment is prohibited. • No borrowing of earth to be done from irrigated agricultural lands (In case of necessity for borrowing from such lands, the topsoil shall be preserved in stockpiles), although borrowing from agricultural land need to be avoided • Borrowing of earth is prohibited from grazing land. • No borrowing of earth is permissible from near to the settlements. • Borrowing of earth is prohibited from environmentally sensitive areas such as reserve forests, protected forests, sanctuary, and wetlands. • Borrowing of earth will not be done from streams and seepage areas. • Borrowing of earth will be avoided from areas supporting rare plant/ animal species.

Parameter/Activities	Mitigation/Compensation Measure/Guideline
	Documentation of Borrow Pit The contractor must ensure that following data base is documented for each identified borrowing areas before commencing the borrowing activity that provide the basis of the redevelopment plan. • Chainage along with offset distance; • Area (Sq.m); • Photograph and plan of the borrowing area from all sides; • Type of access/width/kutcha/pucka etc. from the roadway; • Soil type, Slope/drainage characteristics; • Water table of the area identified from the nearest well, etc.; • Existing land use, for example barren / agricultural /grazing land; • Location/name/population of the nearest settlement from borrowing area; • Quantity excavated (likely and actual) and its use; • Copy of agreement with owner/government; and • Community facility in the vicinity of borrow pit. • Rehabilitation certificate from the land owner along with at least four photograph of the rehabilitated site from different angles.
Excavation operation and Management of Excavated Material	To minimize any adverse impact during excavation of material following measures are need to be undertaken: • Adequate drainage system shall be provided to the excavated area • The Contractor shall construct sediment barriers at the stockpiling locations to prevent the erosion of excavated material due to runoff. The followings precautions shall be undertaken during quarry operations. • Overburden shall be removed. • During excavation slopes shall be flatter than 20 degrees to prevent any sliding. • The Contractor shall ensure that all workers related safety measures shall be taken. • The Contractor shall ensure maintenance of crushers regularly as per manufacturer's recommendation. • During transportation of the material, measures shall be taken to minimize the generation of dust and to prevent accidents.
Handling Dredged Material from River Dredging	• Deposition of dredged material will be far away from the channel edge to limit damage to streamside habitats. This also allows a degree of flooding to occur on the floodplain, thereby creating opportunities for wet grassland, scrub/wet woodland, wetlands and seasonally grazed rough grass. • Apply biotechnical engineering where possible for example geo textiles, may be used to help in stabilizing the material and aid re-colonization. • Other possibilities include: drying and spreading the spoil over adjacent land, which can improve soil fertility in some cases, but may also smother important flora and habitats; excavating a trench and infilling it with spoil, thus minimizing disturbance to agriculture and the local environment; dumping off-site is possible but expensive, using spoil to create artificial wetlands.
ECoP 2: Water Resource & Hydrology Management	
Hazardous Waste Management	The contractor will minimize the generation of sediment, oil and grease, excess nutrients, organic matter, litter, debris and any form of waste (particularly petroleum and chemical wastes).

Parameter/Activities	Mitigation/Compensation Measure/Guideline
Ponding of water/water logging	• Do not allow ponding of water especially near the waste storage areas and construction camps • Discard all storage containers,which are capable of storing water, after use or store them in inverted position • Reinstate relief and landscape • Monitor drainage pattern after high down pouring and recession flood • Connect water pockets to the nearest drainage channels/canals
Soil Erosion and siltation	The Contractor shall • Water the material stockpiles, access roads and bare soils on an as and where required basis to minimize dust. Increase the watering frequency during periods of high risk (e.g. high winds) • All working sites (except permanently occupied by the road and supporting facilities) will be reinstated to its initial conditions (relief, topsoil, vegetation cover). • Ensure that roads used by construction vehicles are swept regularly to remove sediment
Dredging	• Disturbance can be minimized if mechanical excavators work from one bank. If the channel is too wide, the digger must work within the channel. Disruption can be minimized by diverting the river down one side of the channel and dredging the other side while it is 'dry'. Smaller plant equipment generally limits the level of impact on bank-side and in-stream habitats.
Construction activities in water bodies	• Protect water bodies from sediment loads by silt screen or bubble curtains or other barrier. • Do not discharge cement and water curing used for cement concrete directly into water courses and drainage inlets • Monitor the water quality in the runoff from the site or areas affected by dredge plumes, and improve work practices as necessary
ECoP 3: Air Management	
Construction vehicular traffic	The Contractor will • Fit vehicles with appropriate exhaust systems and emission control devices. Maintain these devices in good working condition. • Operate the vehicles in an efficient manner • Covered haul vehicles to be used carrying dusty materials (cement, borrow and quarry) moving outside the construction site • Impose speed limits on all vehicle movement at the worksite to reduce dust emissions • Control the movement of construction traffic • Water construction materials prior to loading and transport • Service all vehicles regularly to minimize emissions • Materials will be transported to site in off peak hours.
Construction activities	• Water the material stockpiles, access roads and bare soils on an as and where required basis to minimize the potential for environmental nuisance due to dust. • Increase the watering frequency during periods of high risk (e.g. high winds). • Stored materials such as excavated earth, dredged soil, gravel and sand shall be covered and confined to avoid them from wind-drift • Minimize the extent and period of exposure of the bare surfaces • Reschedule earthwork activities or vegetation clearing activities, where

Parameter/Activities	Mitigation/Compensation Measure/Guideline
	practical, if necessary to avoid during periods of high wind and if visible dust is blowing off-site • Restore disturbed areas/side of the embankment as soon as practicable by plantation/vegetation/grass-turfing • Establish adequate locations for storage, mixing and loading of construction materials, in such a way that dust dispersion is prevented because of such operations • Crushing of rocky and aggregate materials shall be wet-crushed, or performed with particle emission control systems.
Odor from Construction labor Camps	• Construction worker's camp shall be located at least500 m away from the nearest habitation. • The waste disposal and sewerage system for the camp shall be properly designed, built and operated so that no odor is generated.
ECoP 3: Agriculture Management	
Loss of Top Soil	• Soil from fallow lands/ non-agricultural lands will be used in all type of earthwork and in embankments • Collect/strip top soil before earth filling and store the same for and reusing it for final surfacing of embankment top and tree plantation/afforestation. • Strip the top soil to a depth of 15 cm and store in stock piles of height not exceeding 2m • Remove unwanted materials from top soil like grass, roots of trees and similar others • The stockpiles will be maintained a slopes of 2:1 to reduce surface runoff and enhance percolation through the mass of stored soil • Locate topsoil stockpiles in areas outside the drainage lines and protect from erosion • Spread the topsoil to maintain the physio-chemical and biological activity of the soil. • The stored topsoil will be utilized for covering all disturbed area and along the proposed plantation sites • Topsoil stockpiles will be monitored and the adverse conditions are to be identified and the following corrective actions are to be undertaken: o Anaerobic conditions-turning the stockpile or creating ventilation holes through the stockpile; o Erosion – temporary protective silt fencing will be erected;
Soil salinity	• Use of duckweed will remove soil salinity • Flushing with pre-monsoon rain water will reduce soil salinity. • Saline tolerant crops need to be cultivated. • Environmentally and socially responsive shrimp farming e.g. shrimp-rice farming system to be encouraged. • Increasing upland discharge of fresh water will push back ingress of saline water from the sea • Green manure application is to be promoted • Ground water abstraction for shrimp farming will be avoided.
ECoP 4: Noise Management	
Construction vehicular traffic	• Maintain all vehicles in order to keep it in good working condition in accordance with manufactures maintenance procedures • Organize the loading and unloading of trucks, and handling operations for

Parameter/Activities	Mitigation/Compensation Measure/Guideline
	the purpose of minimizing construction noise at the work site.
Construction machinery	• Appropriately site all noise generating activities to avoid noise pollution to local residents • Maintain all equipment in order to keep it in good working order in accordance with manufactures maintenance procedures.
Construction activity	• Notify adjacent landholders/Schools prior any typical noise events outside of daylight hours • Employ best available work practices on-site to minimize occupational noise levels • Install temporary noise control barriers where appropriate • Plan activities on site and deliveries to and from site to minimize impact • Monitor and analyze noise and vibration results and adjust construction practices as required • Avoid working during 09:00pm to 06:00 am within 500m from residences.
ECoP 5: Ecology Management	
Flora	
Vegetation Clearance	• Tree outingwill be performed upon preliminary notification to the relevant authority (District Forest Office, DoE). • Preparation of maps in GIS format, cadastral description of trees to be felled, marking, and supervision of Forest Department are necessary elements of the procedure. • Provide adequate knowledge to the workers regarding nature of protection and the need of avoid felling trees during construction • Fruit and timber trees owned by local population will be compensated at their replacement cost according to market prices
Plant Management	• Tree seedlings of local/indigenous species are planted in such a way that minimizes damage to the soil, while facilitating seedling survival. Tree seedling species are to be selected appropriately for maintaining long-term productivity. • Focus on tree species suitable for site condition • Prevent unreasonable species resulting in slow growth, less water and soil conservation and pest or disease outbreaks • Local species as planting materials, since natural selection and succession are most suitable for local climates and natural conditions • Ensure of avoiding single species or clone monoculture • Choose suitable species for berm, turfing and side
Planting	• Leave set back requirements around streams, restricted areas e.g. native vegetation, protected riparian strips, historic and heritage sites, research areas. • For nursery raising, physical and biological controls are to be practiced to control the pests and diseases in the nurseries. • Do not plant spread-prone species on sites where there is a high risk of uncontrollable wilding spread beyond the boundaries of the plantation. • Consider appropriate species, patterns and layout when planting areas with high visual values and/or with important recreational values

Parameter/Activities	Mitigation/Compensation Measure/Guideline
Polypropylene Bags Handling	• Make a borrow Pit at each site for collection of poly bags • Collect all bags at the pits after plantation • If feasible, inform private sector to collect those bag for recycling
Pest Management to Nursery	• During outbreak of any deadly plant disease develop a plan to manage pest in coordination with neighbors by identifying existing pests and diseases and the risks for the introduction of new pests and diseases.
Water Management	• Install temporary sediment basins, where appropriate, to capture sediment-laden run-off from nursery • Divert runoff from undisturbed areas around the harvesting site • Stockpile of fertilizer or agrichemical should be far away from drainage lines • Prevent all solid and liquid wastes entering waterways by collecting solid waste, oils, chemicals, fertilizer waste and transport to an approved waste disposal site
Fauna	
Construction works in the surrounding lands	• Pre-entry survey and prevention of damage to fauna prior to start up • Limit the construction works within the designated sites allocated to the contractors • To restrict any destruction of active nests or eggs of resident birds • Provide adequate knowledge to the workers regarding protection of flora and fauna, and relevant government regulations and punishments for illegal poaching.
ECoP 6: Fisheries Management	
Construction works in the rivers and on the surrounding lands	• Critical breeding areas of major fish species will be identified and declared as sanctuaries. • Creation of small lagoons and pools,which may trap the fishes should be avoided. • Creation of artificial waterfalls and other barriers for migration will be avoided. • Natural river channel will be reinstated after completion of construction works
Hydraulic Structure	• Sufficient free flow will be guaranteed in the design and construction work to ensure free passage of migrating fishes. • Hydraulic structure will be operated considering the time of fish migration and spawning time • Area specific hydraulic structure operation guideline will have to be developed
Dredging	• Ensure that the dredging activity will create minimum sediment load in the water • Avoid dredging during spawning period of fish
ECoP 7: Socio-Economic Management	
Construction Camp Management	
Location of constructionCamps (MRDI, 2011)	• The contractor shall hoist signboard/s at worksite mentioning the details of adtivities to be performed along with cost, work tenure and name and address of the firm. It will also contain the address of the supervision organization, who may be informed of any grievances of the activities. • Locate the construction camps at areas which are acceptable from

Parameter/Activities	Mitigation/Compensation Measure/Guideline
	environmental, cultural or social points of view. • Consider the location of construction camps away from communities in order to avoid social conflict in using the natural resources such as water or to avoid the possible adverse impacts of the construction camps on the surrounding communities. • BWDB will endorse detailed layout plan for the development of the construction camp submitted by the contractor. The plan will show the relative locations of all temporary buildings and facilities that are to be constructed together with the location of site roads, fuel storage areas (for use in power supply generators), solid waste management and dumping locations, and drainage facilities, prior to the development of the construction camps. • Local authorities responsible for health, religious and security shall be duly informed on the set up of camp facilities so as to maintain effective surveillance over public health, social and security matters
Construction Camp Facilities	The following facilities will have to be provided by the Contractor • Adequate housing for all workers • Safe and reliable water supply • Hygienic sanitary facilities and sewerage system. • Treatment facilities for sewerage of toilet and domestic wastes • Storm water drainage facilities • Provide in-house community/common entertainment facilities, dependence of local entertainment outlets by the construction camps to be discouraged/prohibited to the extent possible.
Solid Waste Management	• Ensure proper collection and disposal of solid wastes within the construction camps • Store inorganic wastes in a safe place within the household and clear organic wastes on daily basis to waste collector. • Establish waste collection, transportation and disposal systems with the manpower and equipment/vehicles needed. • Not to establish site specific landfill sites. All solid waste will be collected and removed from the work camps and disposed in approved disposal sites
Fuel supplies for cooking and heating purposes	• Provide fuel to the construction camps for their domestic purpose, in order to discourage them to use fuel wood or other biomass. • Conduct awareness campaigns to educate workers to protect the biodiversity and wildlife of the project area, and relevant government regulations and punishments on wildlife protection.
Health and Hygiene	• Provide adequate health care facilities within construction sites • Provide first aid facility round the clock. Maintain stock of medicines in the facility • Provide ambulance facility for the laborers during emergency for transferringto nearest hospitals. • Initial health screening of the laborers coming from outside areas • Train all construction workers on basic sanitation and health care issues and safety matters, and on the specific hazards of their work • Provide HIV awareness programming, including STI (sexually transmitted infections) • And HIV information, education and communication for all workers on regular basis

Parameter/Activities	Mitigation/Compensation Measure/Guideline
	• Provide adequate drainage facilities throughout the camps to ensure that disease vectors such as stagnant water bodies and puddles do not form. Regular mosquito repellant sprays during monsoon. • Carryout short training sessions on best hygiene practices to be mandatorily participated by all workers. • Place display boards at strategic locations within the camps containing messages on best hygienic practices
Payment of Wages	• The payment of wages will be as per the Minimum Wages Act, Department of Labor, and Government of Bangladesh for both male and female workers. • Display of the minimum wages board at camps and major construction sites will be made in local languages at the construction and labor camp sites. • Wages will be paid to the laborers only in the presence of BWDB staff; • Contractor is required to maintain register for payment of labor wages with entry of every labor working for him. Also, he has to produce it for verification if and when asked by the DDCS&PMSC, PMUand/or the concerned BWDB staff/DSC's representative • Cotractor to follow the guidelines of prevalent by-laws of Bangladesh Labour Act, 2006.
Rehabilitation of Labor and Construction Camp	At the completion of construction, all construction camp facilities shall be dismantled and removed from the site. The site shall be restored to a condition in no way inferior to the condition prior to commencement of the works. Various activities to be carried out for site rehabilitation include: • Oil and fuel contaminated soil shall be removed and transported or buried in waste disposal areas. • Soak pits, septic tanks shall be covered and effectively sealed off. • Debris (rejected material) will be disposed of suitably. • Underground water tank in a barren/non-agricultural land should be covered. However, the tank shall be removed from agricultural land. • If the construction camp site is on an agricultural land, preserve top soil and good earth can be spread back for a minimum 30cm for faster rejuvenation of the land. • Proper documentation of rehabilitation site is necessary. • This shall include the following: • Photograph of rehabilitated site; • Land owner consent letter for satisfaction in measures taken for rehabilitation of site; and • Undertaking from contractor; In cases, where the construction camps site is located on a private land holding, the contractor would still have to restore the campsite as per the guideline. The rehabilitation is mandatory and will be included in the agreement with the landowner by the contractor. Also, he would have to obtain a certificate for satisfaction from the landowner.
Damage and Loss of Cultural Properties	
Conservation of Religious Structures and Shrines	• All necessary and adequate care shall be taken to minimize impact on cultural properties which includes cultural sites and remains, places of worship including mosques, temples, churches and shrines, etc., graveyards, monuments and any other important structures as identified

Parameter/Activities	Mitigation/Compensation Measure/Guideline
	during design and all properties / sites / remains notified. No work shall spill over to these properties and premises. The design options for cultural property relocation and enhancement need to be prepared. • All conservation and protection measures will be taken up as per design. Access to such properties from the road shall be maintained clear and clean.
	• During earth excavation, if any property is unearthed and seems to be culturally significant or likely to have archaeological significance, the same shall be intimated to the Engineer. Work shall be suspended until further orders from the PD. The Archaeological Department shall be intimated of the chance find and the DDCS&PMSC shall carry out a join inspection with the department. Actions as appropriate shall be intimated to the Contractor along with the probable date for resuming the work. • All fossils, coins, articles of value of antiquity, andstructures and other remains or things of geological or archaeological interest discovered on the site shall be the property of the Government, and shall be dealt with as per provisions of the relevant legislation.
Worker's Accident Risk	
Risk from Operations	• The Contractor is required to comply with all precautions as required for the safety of the workmen as per the International Labor Organization (ILO) convention. The contractor shall supply all necessary safety appliances such as aprons, safety goggles, helmets, masks, boos, etc., to the workers and staff. The contractor has to comply with all regulation regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and outlet.
Risk from Electrical Equipment	• Adequate precautions will be taken to prevent danger from electrical equipment. No materials on any of the sites will be so stacked or placed as to cause danger or inconvenience to any person or the public. All necessary fencing and lights will be provided to protect the public. All machines to be used in the construction will conform to the relevant Bangladesh Standards (BS) codes, will be free from patent defect, will be kept in good working order, will be regularly inspected and properly maintained as per BS provisions and to the satisfaction of the DDCS&PMSC.
Risk from Hazardous Activity	• All workers employed on mixing material, cement, lime mortars, concrete etc., will be provided with protective footwear and protective goggles. Workers, who are engaged in welding works, would be provided with welder's protective eye-shields. Stone-breakers will be provided with protective goggles and clothing and will be seated at sufficiently safe intervals.
Malarial Risk	• The Contractor shall, at his own expense, conform to all anti-malarial instructions given to him by the DDCS&PMSC and the EMU, including filling up any borrow pits which may have been dug by him.
Disruption to Users	
Loss of Access	• At all times, the Contractor shall provide safe and convenient passage for vehicles, pedestrians and livestock. Work that affects the use of existing accesses shall not be undertaken without providing adequate provisions to the prior satisfaction of the DDCS&PMSC. • The works shall not interfere unnecessarily or improperly with the convenience of public or the access to, use and occupation of public or

Parameter/Activities	Mitigation/Compensation Measure/Guideline
	private roads, and any other access footpaths to or of properties whether public or private.
Traffic Management	• Special consideration shall be given in preparation of the traffic control plan for the safety of pedestrians and workers at night • The temporary traffic detours in settlement areas shall be kept free from dust by frequent application of water
Traffic Control and Safety	• The Contractor shall take all necessary measures for the safety of traffic during construction and provide, erect and maintain barricades, including signs, markings, flags, lights and flagmen as may be required by the DSC for the information and protection of traffic approaching or passing through the cross section.

10.5 Chance-Find Procedures for Physical Cultural Property

688. The Contractor will be responsible for familiarizing themselves with the following "Chance Finds Procedures" in case culturally valuable materials are uncovered during excavation or any project activities as per Antiquities Act, 1968, including:

- Stop work immediately following the discovery of any materials with possible archeological, historical, paleontological, or other cultural value, announce findings to project manager and notify relevant authorities;
- Protect artifacts as well as possible using plastic covers, and implement measures to stabilize the area, if necessary, to properly protect artifacts;
- Prevent and penalize any unauthorized access to the artifacts; and
- Restart construction works only upon the authorization of the relevant authorities (e.g. UpazilaNirbahi Officer, Deputy Commissioner and Department of Archeology).

10.6 Monitoring Plan

689. Extensive monitoring of the environmental concerns of the CEIP project will be required as per World Bank guideline. The monitoring program will help to evaluate: (i) the extent and severity of the environmental impacts against the predicted impacts and baseline; (ii) the performance of the environmental protection measures or compliance with pertinent rules and regulations; (iii) trends in impacts; and (iv) overall effectiveness of the project environmental protection measures. The monitoring plans should be included in the EMP for specific sub-projects. Moreover, for all type of monitoring, a comprehensive database of the polder specific Environmental Impact and Monitoring information should be created, which will help to evaluate the impacts easily.

690. The Monitoring activities during design/preconstruction period are:

(i) checking the contractor's bidding documents, particularly to ensure that all necessary environmental requirements have been included; and

(ii) checking that the contract documents' (Construction Environmental Action Plan) references to environmental mitigation measures requirements have been incorporated as part of contractor's assignment and making sure that any advance works are carried out in good time.

691. Construction environmental monitoring is a function of supervision, and the essential purpose is to ensure adherence to the EMP. The monitoring is a daily process, which ensures that departures from the EMP are avoided or quickly rectified, or that any unforeseen impacts are quickly discovered and remedied.

692. Post project monitoring evaluation will be carried to evaluate the impacts of the Project during first three (3) years of operation of the Project. Regular monitoring of the condition of the embankment, drainage structures and slope protection structures and afforestation are important from an environmental management point of view. In addition to this activity, information on the locations, type and consequences of flooding, erosion, flora and fauna mortality, availability of fish, occupational shift, migration is required. Recommended air, noise and water quality monitoring, greening and landscaping and community feedback are also included in the Monitoring Plan. The monitoring plan and details of monitoring locations for environmental condition indicators of the project during the construction and operation stage are presented in Table 10.2 and Table 10.3.

Table 10.2: Environmental Monitoring Plan during Construction and Operation of Rehabilitation and Improvement of Polders System

Parameter	Location	Means of Monitoring	Frequency	Responsible Agency	
				Implemented by	Supervised by
During Construction					
Sources of Material	Work Site	Possession of official approval or valid operating license of suppliers materials (Cement, soil).	Before an agreement for the supply of material is finalized.	Contractor	DDCS&PMSC and M&E Consultants, BWDB
Operation of borrow site	Borrow pit/site	Visual inspection of	monthly	Contractor	DDCS&PMSC and M&E Consultants,

Parameter	Location	Means of Monitoring	Frequency	Responsible Agency	
				Implemented by	Supervised by
		borrow site and ensuring operational health and safety			BWDB
Top Soil	Storage area	Top soil of 0.15 m depth should be excavated and stored properly	Beginning of earthwork	Contractor	DDCS&PMSC Consultant, BWDB
	do	The stored top soils should be used as cladding material over the filled lands	Immediately after filling and compaction of dredge materials	Contractor	DDCS&PMSC and BWDB
	Work Site	Some of the top soil are placed on top and berm of embankment for turfing and plantation	At the end of filling activity	Contractor	DDCS&PMSC and BWDB
Erosion	Side slopes of the embankments and material storage sites	Visual inspection of erosion prevention measures and occurrence of erosion	At the end off filling activity	Contractor	DDCS&PMSC and M&E Consultants, BWDB
Traffic safety	Construction area	Visual inspection to see whether proper traffic signs are placed and flagmen for traffic management are engaged	Monthly	Contractor	DDCS&PMSC and BWDB
Air quality (dust)	Construction site	Visual inspection to ensure good standard equipment is in use and dust suppression measures (spraying of waters) are in place.	Daily	Contractor	DDCS&PMSC and BWDB
	Material storage sites	Visual inspection to ensure dust suppression	Monthly	Contractor	DDCS&PMSC and BWDB

Parameter	Location	Means of Monitoring	Frequency	Responsible Agency	
				Implemented by	Supervised by
		work plan is being implemented			
Air Quality (PM_{10}, $PM_{2.5}$)	Close to School/ Madrasha, Hospital &Villages	Air quality monitoring	Half Yearly	Contractor through a nationally recognized laboratory	DDCS&PMSC, M&E Consultants and BWDB
Noise	Construction sites	Visual inspection to ensure good standard equipment are in use	Weekly	Contractor	DDCS&PMSC, M&E Consultants and BWDB
	Construction sites	Ensure work restriction between 09:00 pm-6:00 am close to School/ Madrasha, Hospital & Villages	Weekly	Contractor	DDCS&PMSC, M&E Consultants and BWDB
Surface Water Quality (TDS, Turbidity, pH, DO, BOD, COD etc.)	Water sample at each of river for each polder	Sampling and analysis of surface water quality	During dry season	Contractor through a nationally recognized laboratory	DDCS&PMSC, M&E Consultants and BWDB
Drinking Water Quality (TDS, Turbidity, pH, FC, as if groundwater etc.)	Sources of drinking water at construction camp/site	Sampling and analysis of water quality	yearly	Contractor through a nationally recognized laboratory	DDCS&PMSC, M&E Consultants and BWDB
Waste Management	Construction camp and construction site	Visual inspection of collection, transportation and disposal of solid waste and solid waste is deposited at designated site	Weekly	Contractor	DDCS&PMSC, M&E Consultants and BWDB
Reinstatement of Work Sites	All Work Sites	Visual Inspection	After completion of all works	Contractor	DDCS&PMSC, M&E Consultants and BWDB
Top Soil	Storage area	Top soil of 0.15 m depth should be excavated and stored properly	Beginning of earthwork	Contractor	DDCS&PMSC and BWDB
	Storage area	The stored top	Immediately	Contractor	DDCS&PMSC and

Parameter	Location	Means of Monitoring	Frequency	Responsible Agency	
				Implemented by	Supervised by
		soils should be used as cladding material over the filled lands	after filling and compaction of dredge materials		BWDB
	Work Site	Some of the top soil are placed on top and berm of embankment for turfing and plantation	At the end of filling activity	Contractor	DDCS&PMSC and BWDB
Workers' Health safety	Workers' camp site and work site	Use of PPE by the workers, provision of safe drinking water, sanitation and first aid facilities	Daily	Contractor	DDCS&PMSC and BWDB
Habitat Condition	Khals	Observation	Four (4) times of year (dry & wet season)	Consultancy farm	DoF, BFRI, DDCS&PMSC, M&E Consultants and BWDB
Fish Migration		Catch Assessment Survey	Two (2) times of year (dry & wet season)	Consultancy farm	DoF, BFRI, DSCS, M&E Consultants and BWDB
Vegetation clearance	Each of construction sites at embankment and proposed khal bank	Survey and comparison with baseline environment	Quarterly	Contractor through nationally recognized institute	DDCS&PMSC, M&E Consultants and BWDB
During Operation and Maintenance					
Surface Water Quality (TDS, Turbidity, pH, DO, BOD, COD etc)	Water sample at each of river for each polder	Sampling and analysis of surface water quality	Yearly	BWDB through a nationally recognized laboratory	M&E Consultant
Air Quality (Dust PM_{10}, $PM_{2.5}$)	At the baseline monitoring site	24 hours Air quality monitoring	Yearly	BWDB through a nationally recognized laboratory	M&E Consultant
Operation of hydraulic structure	In the project area	Visual inspection and public feedback	Yearly	BWDB	M&E Consultant
Crop production	In the polder area	Compare the production with the baseline	3 (Three) cropping season	BWDB through a nationally recognized institution	M&E Consultant
Soil quality	In the polder area	Compare the soil quality with the baseline	Two (2) times of year (dry & wet season)	SRDI	Consultant

Parameter	Location	Means of Monitoring	Frequency	Responsible Agency	
				Implemented by	Supervised by
Habitat Condition	Khals	Observation	Four (4) times of year (dry & wet season)	Consultancy farm	DoF, BFRI, DDCS&PMSC and BWDB
Fish Migration		Catch Assessment Survey	Two (2) times of year (dry & wet season)	Consultancy farm	DoF, BFRI, DDCS&PMSC, M&E Consultants and BWDB
Fishing Activities and Stock susceptibility		Catch Assessment Survey	Two (2) times of year (dry & wet season)	Consultancy farm	DoF, BFRI, DDCS&PMSC and BWDB
Bagda/Golda Gher and Fish Farm	Polder Area	Farm Survey	Four (4) times of year (dry & wet season)	Consultancy farm	DoF, BFRI, DDCS&PMSC,M&E Consultants and BWDB

(Source: MRDI, 2011, LGED, 2011)

Table 10.3: Environmental Monitoring Plan during Construction and Operation of Afforestation

Parameter	Location	Means of Monitoring	Frequency	Responsible Agency	
				Implemented by	Supervised by
During Implementation					
Water Quality	Water bodies near nursery	Odor and chemical testing	Half yearly	Contractor through nationally recognized laboratory	DDCS&PMSC, M&E Consultants and BWDB
Plant species selection	Nursery	Visual inspection. Type and variety of plant species to be planted for turfing on the top of embankment and foreshore	Before plantation	Contractor	DDCS&PMSC, M&E Consultants and BWDB
Waste Management	Afforestation sites and Nursery	Visual inspection of collection, transportation and disposal of poly bags, debris and is deposited at designated site	Weekly	Contractor through nationally recognized institute	DDCS&PMSC, M&E Consultants and BWDB
During Operation and Management					
Erosion	Along Alignment	Visual Inspection presence of gullies or erosion	Yearly	BWDB	M&E Consultant
Survival and growth of coastal afforested saplings and turfed grasses	Proposed afforestation foreshore area and re-sectioned embankment	Survey and comparison with baseline environment	Yearly	Contractor through nationally recognized institute	DDCS&PMSC, M&E Consultants and BWDB

Parameter	Location	Means of Monitoring	Frequency	Responsible Agency	
				Implemented by	Supervised by
Faunal composition	Proposed afforestation foreshore area and along the re-sectioned embankment	Survey and comparison with baseline environment	Yearly	Contractor through nationally recognized institute	DDCS&PMSC, M&E Consultants and BWDB

10.6.1 Qualitative Spot Checking Indicators

667. Moreover, a rapid environmental monitoring will be carried out as per the following checklist in terms of visual judgment during field visit as a control of the implementation of the Environmental Mitigation plan. Table 10.4 can be followed during the construction phase.

Table 10.4: Spot Checking Indicator

Parameter	Visual Judgment			
	Poor	Moderate	Satisfactory	Comments
Workers' Safety (provision of PPE, safe drinking water, sanitation facility, first aid facility etc.)				
Hoisting of signboard for work				
Camp Site Management				
Plant Site Management				
Borrow Area Management				
Top Soil Prevention				
Waste Management				
Occupational Health and Safety				
Stockpiling of construction materials				
Reporting and Documentation				

10.7 Third Party Validation

694. BWDB will engage independent consultants to conduct a third party validation (TPV) of the EMP implementation on a yearly basis during the construction phase. During the TPV, the consultants will review the implementation and effectiveness of various EMP activities including mitigation measures, environmental monitoring, trainings, and documentation. The consultants will also identify gaps and non-compliances in EMP implementation and propose actions for their remediation.

10.8 Documentation, Record keeping and Reporting

10.8.1 Record Keeping

695. Proper arrangements are necessary for recording, disseminating and responding to information which emerges from the various environmental monitoring and management programs. They are also necessary for rendering the environmental management system

"auditable". However, the primary focus must remain on the pragmatic control of pollution, not the creation of complex bureaucratic procedures. BWDB will maintain database of the polder specific Environmental Impact and Monitoring information for keeping all type of monitoring record. The ESCU will assist BWDB for keeping those records initially. The trained BWDB staff will take the responsibility of record keeping and monitoring during operation phase.

10.8.2 Monitoring Records

Quantitative Physical Monitoring

696. The objective of quantitative physical monitoring is to ensure that the mitigation measures designed to prevent, reduce and where possible offset any significant adverse impacts on the environment are being implemented throughout the Project lifecycle. The DDCS&PMSC will regularly monitor and provide information to ESCU for updating the database. The DDCS&PMSC will provide the following information bi-weekly to ESCU, if not urgent.

- Sampling points;
- Dates and times of sample collection;
- Test results;
- Control limits;
- "Action limits" (circa 80 percent of the control limits) at which steps must be taken to prevent the impending breach of the control limit; and
- Any breaches of the control limits, including explanations if available.

697. The monitoring data would be continually processed as it is received, so as to avoid a buildup of unprocessed data.

General Site Inspections and Monitoring

698. A Site Inspection Checklist for recording the findings of the general site condition surveys would be developed by the respective contractors, on the basis of the Environmental Mitigation Plan described in Chapter 6 and Table 6.11, during the construction phase. The Site Inspection Checklist would be supported by sketches, as necessary.

10.8.3 Information Sources

699. A complete and up-to-date file of all relevant sources of information should be maintained by the ESCU of PMU. This file would be readily accessible and include, as a minimum, copies of the following documents:

- Current environmental permits and consents;
- Action to fulfill the requirement of annual site clearance for polder area
- All relevant national regulations, international guidelines and codes of practice;
- Manufacturers' MSDSs for all hazardous substances used on the plant;
- Manufacturers' operating manuals for all the environmental monitoring equipment;
- Current calibration certificates for all the equipment that requires calibration by an external organization; and
- The latest version of this Environmental Management and Monitoring Plan.

10.8. 4 Non-Compliance Report

700. Any breaches of the acceptable standards specified, would be reported to the PMU using a standard form, i.e. a Non-Compliance Report (NCR).

701. A copy of each completed NCR would be held on file by DDCS&PMSC, to be replaced by the reply copy when it is received. A record of corrective actions would also be made and tracked to their completion.

10.8.5 Monthly Internal Reports by DDCS&PMSC

702. The DDCS&PMSC will prepare a monthly report for issue to the ESCU of PMU. These reports will summarize the following:

- Progress in implementation of EMP;
- Findings of the monitoring programs, with emphasis on any breaches of the control standards, action levels or standards of general site management;
- Any emerging issues where information or data collected is Very goodly different from the baseline data reported in the Environmental Assessment;
- Outstanding NCRs;
- Summary of any complaints by external bodies and actions taken / to be taken; and
- Relevant changes or possible changes in legislation, regulations and international practices.

10.8.6 Bi-annual Progress Report by BWDB

703. ESCU of BWDB will prepare the Bi-annual progress report on environmental management and will submit to the World Bank for review during construction phase. The progress report will summarize the information presented in Article 10.6.

10.8.6.1 EMP complianceEnvironmental Audit Report & Third Party Monitoring Report

704. It is expected that BWDB will conduct annual environmental audits. In addition, the environmental audit will be carried out before the mid-term evaluation and before project closing. All Environmental Audit Report will be shared with Bank. Environmental monitoring will be conducted during the project.

Third Party Monitoring

705. The Third Party Monitoring consultants will monitor the quality of environmental compliance and will share their findings with the World Bank.

Donor Agency/WB Monitoring

706. The Donor Agency/WB will also monitor from time to time the quality of environmental compliance as part of their regular implementation support missions.

10.9 Contractual arrangements for EMP implementation

707. A fixed Budget will be assigned for EMP implementation. The contractors may need orientation on the requirement of the EMP in the pre-bidding meeting. The contractor needs to submit a Construction Environmental Action Plan (CEAP) based on the EIA including the EMP in line with the construction schedule and guideline. The CEAP needs to be reviewed by the supervision consultant and cleared by BWDB and World Bank.

10.9.1 Guideline to Incorporate Environmental Management in Bid Document & Preparation of EAP

- Prepare cost estimates, to be incorporated in Bid Documents.
- The EMP along with the good environmental construction guidelines to be incorporated in the bid document's work requirements.
- Preparation of work requirement (addendum/corrigendum to polder & hydraulic structure construction/afforestation) and
- Corrigendum / Addendum to polder/embankment specification, if any, as special provisions to be incorporated in bid document.
- Penalty clauses for not complying with EMP requirements to be incorporated. Indicative penalty clauses proposed in the CEIP-I are presented below (Addendum to Clause 17.2 Contractor's Care of the Works of FIDIC).
- The contractor has to follow all traffic safety measures as defined in the technical specification. Damage shall be levied at the rate Tk. 3000/- per day per location for non – conformity of traffic safety measures as per the decision of the engineer.
- The contractor has to follow all environmental mitigation measures as defined in the technical specification read along with the Environmental Management Plan for the specific CEIP activities. Damage shall be levied at the rate Tk. 3000/- per day per location for nonconformity of Environmental Management Plan measures as per the decision of the BWDB Engineer.
- The contractor has to ensure that prior to every monsoon season, during the construction period; all the temporary and permanent cross drainage structures are free from debris as defined in the Technical Specifications read along with the Environmental Management Plan. Damage shall be levied at the rate of Tk.3000/- per day per location for non-conformity as per the decision of the Engineer.
- The contractor has to ensure that sufficient numbers and good quality Personnel Protective Equipment (PPE), should be provide to staff and labor all time as defined in the labor codes read along with the EMP. Damage shall be levied at the rate of Tk. 1000/- per day for non-conformity as per the decision of the Engineer.

10.9.2 Guideline for Compensation and Contingency Plan during Project Period

708. Compensation becomes necessary when project impacts cannot be mitigated satisfactorily. This can be paid in cash or kind and the emphasis should be on ensuring fairness and causing minimum inconvenience to the affected party. The most common cause of compensation payment is displacement of people and loss of productive land due to land acquisition, tree cutting, or property damage. Such impacts can rarely be fully compensated. The compensation should be given as per provision of the Resettlement Action Framework. Any disputes over the compensation should be handles by the Grievance Redress Committee.

709. In addition to the compensation, water management projects should also have a contingency plan to deal with emergencies and accidents. Such incidences encompass a whole range of situations from personal injury during operation of a machine to breaching of an embankment. Therefore, BWDB would prepare for the following emergency situations:

- Embankment failure during a flood – keep sufficient numbers of sand bags in reserve.
- Bank caving/erosion – keep sufficient numbers of concrete blocks and sand bags in reserve.
- Have an emergency evacuation plan for the people in the line of danger.

10.10 EMP Implementation Cost

710.The estimated costs for the environmental management and monitoring activities are set in Table 10.5.

Table 10.5: Tentative Cost Estimates for Environmental Management and Monitoring*

Sl. No	Description of EMP activities	BDT	In Thousand $
1.	Crop compensation to the indirect loser/ land owner/ share croppers of construction sites /damage to dredge spoils	75715.00	946.44
2.	Soil quality monitoring including N,P,K, S, Zn, salinity, organic Matter, pH etc. during preconstruction, construction and post construction period 6 samples in polder 47/2 = 6 samplesx3 times @ Tk.5,000	90000.00	1125.00
3.	Habitat Observation for four (4) times of year (dry & wet season).	50000.00	625.00
4.	Construction of fish sanctuary in perennial khals	50000.00	625.00
5.	Catch Assessment Survey for two (2) times of a year (dry & wet season).	142500.00	1781.25
6.	Farm Survey for four (4) times of year (dry & wet season).	60000.00	750.00
7.	Awareness program on plant and wild life conservation.	96000.00	1200.00
8.	Consultancy services cost for supervision and monitoring of EMP	276440.00	3455.50
9.	Training to the farmers with field demonstration regarding IPM and ICM.	80000.00	1000.00
10.	Awareness building up to local community for conservation of threatened fish species.	40000.00	500.00
11.	Training to the fisherman/pond owner with field demonstration regarding pond culture.	40000.00	500.00
12.	Release fish fry in the khals inside the Polder after completion of construction works.	37500.00	468.75
13	Air and noise quality monitoring and analysis.	200000.00	2500.00
14	Solid and liquid waste disposal arrangement.	60000.00	750.00
15	Capacity building and training to the WMOs regarding gate operation, post project monitoring	900000.00	11250.00
16	Consultancy services cost for river bank erosion monitoring	1200000.00	15000.00
17	Training to the Contractors regarding environmental management	100000.00	1250.00
18	Training of Environmental awareness of local population	80000.00	1000.00
19	Updating EMP as per requirement.	100000.00	1250.00
20	Construction of alternative or bypass channels at each construction sites.	1061053.00	13263.16
21	Materials for net pen culture (at least 25 households in each word/council of a Union).	324000.00	4050.00
22	Conservation and stocking of threatened fish species (at least 3 spots).	120000.00	1500.00
23	Conserve threatened animals	300000.00	3750.00

Sl. No	Description of EMP activities	BDT	In Thousand $
24	Campaigning and providing training on improved culture practices as well as the rice cum golda farming.	200000.00	2500.00
25	Emergency budget allocation for closing breach points of embankments and repairing the damage of structure	1200000.00	15000.00
26	Surface and ground Water quality monitoring cost (testing for Turbidity, pH, DO, BOD, Salinity etc. + test of As, e etc. for HTWs at workers' camp site) 6 samples in polder-47/2 during pre-construction, construction and post-construction periods + water quality analysis of HTWs of 10 workers' camp= (Tk.4,000x6x3) + (Tk.700X10)	79000.00	987.50
27	Additional Tree Plantation at HH and other grounds to compensate the tree cutting (planting 3 trees for cutting 1tree) @ Tk.50 each tree including the cost of sapling, gabion and nursing etc. (19,834 nos. of trees)	991700.00	12396.25
28	Water sprinkling at re-sectioned/newly constructed embankments (@ Tk.3,000 per km (of embankment 17.49 km)	51750.00	646.88
29	WMOs monitoring cost	120000.00	1500.00
Total cost of EMP		**8125658**	**101570.73**

Note: 1 $= 80 BDT

10.11 EMP Updating

711. The study infers that the EMP has been developed assessing the impacts of interventions on the basis of baseline and prediction information. But monitoring has to be carried out to collect information on the impacts at actuality resulted due to construction of interventions. Furthermore, actual information due to implementation of the EMP measures need to be collected for updating the EMP to make the development more environmental friendly as because EMP is not an one time plan rather it is a plan which needs updating continuously.

10.12 Grievance Redress Mechanism

712. BWDB will establish a Grievance Redress Mechanism (GRM) as a means to ensure social accountability and to answer to queries and address complaints and grievances about any irregularities in application of the guidelines adopted in this EMF for assessment and mitigation of social and environmental impacts. Based on consensus, the procedure will help to resolve issues/conflicts amicably and quickly, saving the aggrieved persons from having to resort to expensive, time-consuming legal action. The procedure will however not pre-empt a persons right to go to the courts of law.

10.12.1 Grievance Redress Focal Points

713. A Grievance Redress Committee (GRC) at local level will be formed for each Union with union level representation to ensure easy accessibility by the project affected persons and communities. This local GRC will be the local focal points of the project GRM. The GRM sets out the information and communications strategy to ensure that PAPs and communities are fully informed about their rights to offer suggestions and make complaints. All grievances received through the GRM process will primarily be forwarded to the GRCs. The Secretariat for each GRC will be at the office of the Executive Engineer. If any grievance is not resolved at GRC, the

aggrieved person may request the convener of GRC to forward the case to the Project Director at PMU. The GRC will officially forward the cases with their comments to the Project Director. Hearing of petitions with GRCs will be held at the Convener's office or at Union Parishad/Ward Councilor's office as agreed by the committee members. The membership of the GRCs will ensure proper presentation of complaints and grievances as well as impartial hearings and investigations, and transparent resolutions.

Membership of GRC

1. Executive Engineer (BWDB Division Office) : Convener
2. Representative of the RP Implementing NGO : Member-Secretary
3. Local UP Chairman /Ward Councillor : Member
4. Teacher from Local Educational Institution (nominated by Upazila Administration) :Member
5. Representative from Local Women's Group :Member
6. Representative from the PAP Group :Member

714. Members of the GRCs will be nominated by the Executive Engineer at division level and approved by the Project Director, PMU, BWDB, Dhaka.

10.12.2 Grievance Resolution Process

715. All complaints will be received at the GRCs facilitated by the implementing agency. The aggrieved persons may opt to make complaints directly to the Project Director or Secretary of the MoWR or even to the court of law for resolution. The Member Secretary will review and sort the cases in terms of nature of grievance, urgency of resolution, and schedule hearings in consultation with the Convener. All cases will be heard within four weeks from the date of receiving the complaints.

716. If the resolution attempt at the local level fails, the GRC will refer the complaint with the minutes of the hearings to the Project Director at PMU for further review. The Project Director will assign the ESCU at PMU for review the grievance cases and assist Project Director in making decision. The ESCU will review the case records and pay field visits for cross examining and consult the GRC members and aggrieved persons, if required. If a decision at this level is again found unacceptable by the aggrieved person(s), BWDB can refer the case to the MoWR with the minutes of the hearings at local and headquarters levels. At the ministry level, decisions on unresolved cases, if any, will be made in no more than four weeks by an official designated by the Secretary, MoWR. A decision agreed with the aggrieved person(s) at any level of hearing will be binding upon BWDB. The GRM Process is shown in Figure 10.3.

717. To ensure that grievance redress decisions are made in formal hearings and in a transparent manner, the Convener will apply the following guidelines:

- Reject a grievance redress application with any recommendations written on it by a GRC member or others such as politicians and other influential persons.
- Remove a recommendation by any person that may separately accompany the grievance redress application.
- Disqualify a GRC member who has made a recommendation on the application separately before the formal hearing:

- A GRC member when is removed, appoint another person is to be appointed in consultation with the Project Director.

The Convener will also ensure strict adherence to the impact mitigation policies and guidelines adopted in this SMRPF and the mitigation standards, such as compensation rates established through market price surveys.

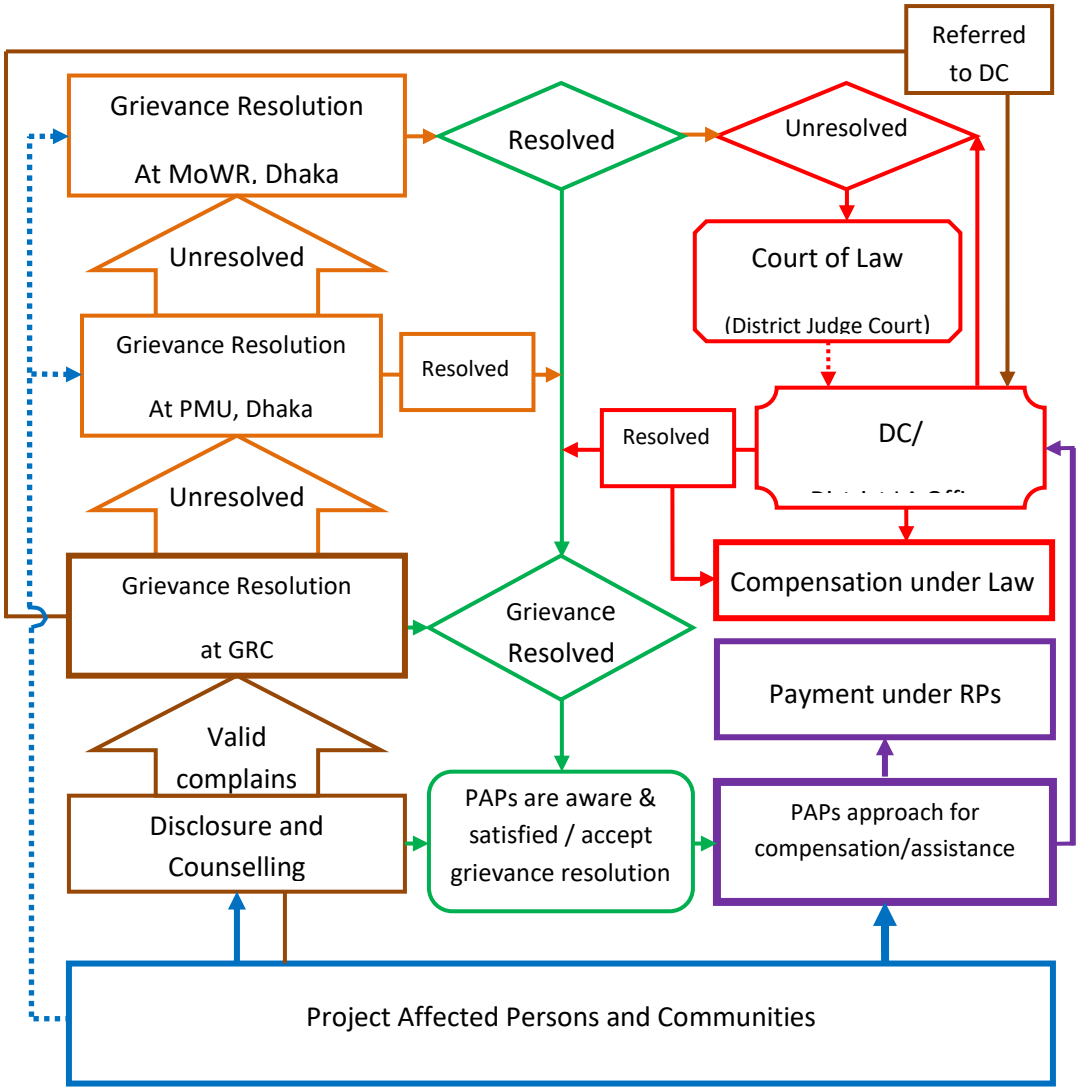

Figure 10.3: GRM Process flow Chart

10.12.3 GRM Disclosure, Documentation and Monitoring

718.The affected persons and their communities will be informed of the project's grievance redress mechanism in open meetings at important locations and in PAP group meetings. Bangla translations of the EMF and the GRM in the form of information brochures will be distributed among the project affected persons. The PAPs will also be briefed about the scope of the GRC, the procedure for lodging grievances cases and the procedure of grievance resolution at the project level.

719. To ensure impartiality and transparency, hearings on complaints will remain open to the public. The GRCs will record the details of the complaints and their resolution in a register,

including intake details, resolution process and the closing procedures. BWDB will maintain the following three Grievance Registers:

Intake Register: (1) Case number, (2) Date of receipt, (3) Name of complainant, (4) Gender, (5) Father or husband, (6) Complete address, (7) Main grievance regarding social (loss of land/property or entitlements) or environmental, (8) Complainants' story and expectation with evidence, and (8) Previous records of similar grievances.

Resolution Register: (1) Serial no., (2) Case no.,(3) Name of complainant, (4) Complainant's story and expectation, (5) Date of hearing, (6) Date of field investigation (if any), (7) Results of hearing and field investigation, (8) Decision of GRC, (9) Progress (pending, solved), and (10) Agreements or commitments.

Closing Register: (1) Serial no., (2) Case no., (3) Name of complainant, (4) Decisions and response to complainants, (5) Mode and medium of communication, (6) Date of closing, (7) Confirmation of complainants' satisfaction, and (8) Management actions to avoid recurrence.

720. Grievance resolution will be a continuous process in RP implementation. The PMU and SMOs will keep records of all resolved and unresolved complaints and grievances (one file for each case record) and make them available for review as and when asked for by WB and any other interested persons/entities. The PMU will also prepare periodic reports on the grievance resolution process and publish these on the BWDB website. The format of SMF may be used for periodic grievance reporting.

10.13 Capacity Building

721. Since the effectiveness of the Environmental Assessment & implementation depends considerably on the understanding and preparedness of their Engineers and in particular their Environmental Team (Consisting of Contracto, Environmental specialist, Consultant environmental specialist and ESCU of BWDB). It is important that the project authority makes effort to sensitize the Engineers and Environmental Team on management of environmental issues, provides guidance, and encourages them to build requisite capacities. Table 10.6 provides a summary of various aspects of the environmental and social trainings to be conducted at the construction site. PMU may revise the plan during the Project implementation as required.

722. During the O&M phase of the Project, these trainings will continue to be conducted by BWDB staff for all relevant O&M personnel and community.

Table 10.6: Environmental Training

Contents	Participants	Responsibility	Schedule
General environmental and socioeconomic awareness; Environmental and social sensitivity of the project area; Key findings of the EIA; Mitigation measures; EMP; Social and cultural values of the area.	Selected BWDB; PMU and DDCS&PMSC staff	DDCS&PMSC & ESCU	Prior to the start of the Project activities (To be repeated as needed.)
General environmental and socioeconomic awareness; Environmental and social sensitivity of the project area; Mitigation measures;	PMU; DDCS&PMSC; selected contractors' crew	DDCS&PMSC & ESCU	Prior to the start of the field activities. (To be repeated as needed.)

Contents	Participants	Responsibility	Schedule
Community issues; Awareness of transmissible diseases Social and cultural values.			
EMP; Waste disposal; HSE	Construction crew	Contractors	Prior to the start of the construction activities. (To be repeated as needed.)
Road/waterway safety; Defensive driving/sailing; Waste disposal; Cultural values and social sensitivity.	Drivers; boat/launch crew	Contractors	Before and during the field operations. (To be repeated as needed.)
Camp operation; Waste disposal; HSE Natural resource conservation; Housekeeping.	Camp staff	Contractors	Before and during the field operations. (To be repeated as needed.)
Restoration requirements; Waste disposal.	BWDB core unit, Restoration teams	Contractors	Before the start of the restoration activities.
Strengthening of water management organizations(i.e. WMGs, WMAs and WMF) and beneficiaries organizations	Member of water management organizations(i.e. WMGs, WMAs and WMF) and beneficiaries organizations	BWDB, ESCU, Contractor	Before and during construction activities

723. Capacity building training programs should be undertaken in the following area:

- Training of the management level officials of BWDB, BWDB environmental compliance personnel on the overall environmental concerns and responsibilities for implementing EMP;
- Recruitment of new professionals with background on environment, if required and provide necessary training ;
- Organizing workshop, seminar, with stakeholders on the environmental concerns of CEIP ;
- Special training program for the contractors and workers on the EMP and their responsibilities, who will actually be involved in the construction of the project interventions. The Contractors will be provided guideline for preparation of Environmental Action Plan in line with the construction work plan;
- Training of the WMOs on successful operation of hydraulic structures; and
- Training on structured format in reporting for all stages of implementation and those of relevant agencies who are involved in EMP implementation.

724.The training programs should be arranged before implementation of the interventions in the Polder area. A Detail plan can be made by the proposed ESCU of BWDB.

Annexure 6: Consultation meeting in CEIP-1

Amongst the five components of The CEIP-1; one component is related to safeguard (Component B– Implementation of Social Action and Environment Management Plans). Hence Public Disclosures/Consultation Meeting with Project Beneficiary (PB)/project affected person (PAP) is a regular practice in CEIP-1. Different Environment, Social and community rights are discussed in these consultation meeting. The beneficiaries are being directly advantaged through consultation meeting/public disclosure. They are able to come in contact with project authorities and donor agencies. They seek to get such kind of scope during implementation the polder works. Different consultation meetings Tabulated below fulfill the different demand of Project Beneficiary in different locations of CEIP-1.

Sl	Date of Consultation	NGO package/ Community	Polder	Responsible persons	Activity name	Role of activity
1	Jan 6, 21	Package E	48	PMU Environmental Specialist & NGO	Discussion meeting with the NGO authority and project support staff	Completion of all types of activity as per ToR
2	Jan 16 & 17, 21	Package A	33	PMU Environmental Specialist & NGO	Attended in the 2 day long training of WMA Executive bodies	To increase the capacity build up of WMA for sustainable water management practices (SWMP)
3	Jan 18 & 19, 21	Package A	32	PMU Environmental Specialist & NGO	Attended in the 2 day long training of WMA Executive bodies	To increase the capacity build up of WMA for sustainable water management (SWM)
4	Jan 20 & 21, 21	Package A	33	PMU Environmental Specialist & NGO	Monitor exchange visit for WMA Executive bodies	Ways for sustainability of WMO
5	Jan 23, 21	Package A	32	PMU Environmental Specialist & NGO	Monitor exchange visit for WMA Executive bodies	Ways for sustainability of WMO
6	Jan 25, 21	Package B	35/1 & 35/3	Administration, BWDM, PMU, NGO & WMO	Attended in the closing workshop for NGO consultancy	Learning sharing workshop
7	Jan 30, 21	Package A	32 & 33	Administration, BWDM,	Attended in the closing	Learning sharing

				PMU, NGO & WMO	workshop for NGO consultancy	workshop
8	Feb 1, 21	Package E	43/2C, 47/2 & 48	BWDM, PMU & NGO	Attend in the orientation program	Capacity build up of NGO staff
9	Feb 2, 21	Package E	48	PMU Environmental Specialist & NGO	Attend in training program	Capacity build up of WMO
10	Mar 7, 21	Package E	43/2C, 47/2 & 48	PMU Environmental Specialist & NGO	Discussion meeting with the NGO authority and project support staff	Completion of all types of activity as per ToR
11	Mar 7, 21	Package C	39/2C	PMU Environmental Specialist & NGO	Discussion meeting with the NGO authority and project support staff	Completion of all types of activity as per ToR
12	Mar 8, 21	Package B	35/3	PMU Environmental Specialist & NGO	Works for WMA registration	Engagement of WMA in SWMP
13	Mar 11, 21	Package B	35/1	Project Director	Disclosure with community & consultant	To make sure the sustainability of Polder work
14	Jun 1, 21	Package A	32 & 33	PMU Environmental Specialist & NGO	Works for WMA registration	Engagement of WMA in SWMP
15	Jun 28, 21	Package A	32	PMU Environmental Specialist & NGO	Disclosure with WMO	Engagement of WMO in SWMP

Some images on consultation meeting/public disclosure

Photo 1: Public disclosure for bank erosion work at Polder 35/1 with PMU Officials

Photo 2: Public disclosure for resettlement work at Polder 35/1

Photo 3: Discussion meeting with Hon. PD in Conference room of BWDB at Noornagar, Khulna

Photo 4. Meeting for Executive body of WMA at Polder 32

Photo 5. Meeting for Executive body of WMA at Polder 33

Photo 6. Final workshop for NGO consultancy service (Package B)

Photo 7. Final workshop for NGO consultancy service (Package A)

Photo 8: Effective Discussion with NGO executive body, TL, BWDN XO & CO of Pkg. E

Photo 9: Effective discussion with the Executive body of WMA at Polder 35/3

Photo 10: Consultation with local people for preparation of Cyclone YAAS

Annexure 7: Status of Implementation of the action plan of Fifth Annual Environmental Audit

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE
1	Contractors of both Packages should follow the findings and recommendations of this fifth annual environmental audit.	Contractors of Package 01 and Package 02	Continuous
2	The DDCS&PMS Consultants and PMU should consider the recommendations for the upcoming next phase of the project where applicable.	DDCS&PMS Consultants and PMU	As and when applicable
3	The audit report of fifth audit should be shared with the Contractors, Consultants, relevant sub-Consultants, and PMU staff.	PMU with relevant consultants, sub-consultants, and contractors who should address the findings	Assuming by 15 May 2021 (subject to obtain acceptance from WB)
4	As many of the findings of fourth Annual Environmental Audit and couple findings of third Annual Environmental Audit have not been implemented yet, this audit recommends implementing those findings as per the action plan of fifth audit.	As applicable	As per the deadlines mentioned below for 4th and 3rd Audits
5	The practice of using PPE should be enhanced by the contractors of Package 01 and Package 02.	Contractors of Package 01 and Package 02	20 May 2021 (to show significant improvement in use of PPE) To be continued
6	Both of the Contractors of CEIP-1 are recommended to arrange exchange visit for learning and scale up of practices for improvement environmental compliance in their packages in the current year.	Contractors of Package 01 and Package 02	Contractor of Package 01 will visit to Package 02 areas by 30 March 2021; Contractor of Package 02 will visit to Package 01 areas by 20 June 2021 (if COVID19 situation allows)
7	Both the Contractors should carry out the efforts to improve the EHS practices.	Contractors of Package 01 and Package 02	20May 2021 (to start paying more efforts) To be continued
8	As this fifth audit also found that EHS practices in Package 02 are still poor, the Contractor of Package-02 should give continuous effective efforts to	Contractor of Package 02; DDCS& PMS Consultants; and PMU	By 20 May 2021 to Show good performance; Practices to be continued and

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE
	improve the EHS practices. The DDCS& PMS Consultants and PMU also need rigorous supervision to improve the EHS practices in Package 02.		
9	It is recommended to initiate the fish conservation activities for Package 02	Contractor of Package 02	31 July 2021
10	DDCS&PMS Consultants are advised to give the Contractor of Package 01 an orientation on how to fill the monitoring checklists and prepare report for them.	DDCS&PMS Consultants	20 May 2021
11	It is recommended that Contractor of the Package 01 prepares a site- specific decommissioning plan, submits to DDCS&PMS Consultants, PMU and M&E Consultants, and implement this after getting approval from PMU.	Contractor of the Package 01	31 March 2021
12	The implementation of the decommissioning plan is recommended to be monitored by the PMU and DDCS&PMS Consultants.	DDCS&PMS Consultants; PMU	20 May2021 to end of the Package works
13	This audit also recommends fixing the gates of the completed sluices to make them functional to reduce the environmental stress and people sufferings in their agriculture.	Contractors of Package 01 and Package 02; DDCS&PMSC NGOs; PMU.	30 May 2021
14	The recommendations made for Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants during last audit are still applicable as none of them has been addressed. It is recommended that the said Consultant address the recommendations made during fourth audit as per the action plan.	Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants	As per the deadlines provided with the action plan of 4th audit below

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE
15	Considering that there are many gaps in field level EHS practices, field level Environmental Specialist of PMU will prepare a monthly site and polder specific summary findings report for the visited sites and share the report with the Project Director with a copy to Senior Environmental Specialist.	PMU	From May 2021
16	PMU with the help of DDSC &PMSC identify the issues and the relevant agencies/ stakeholders for EMP implementation and continue coordination with them as applicable.	of DDSC &PMS Consultants; PMU	Will be looking for more coordination as and when required
17	All the responsible parties implement the Corrective Action Plan following the deadlines.	Contractors of Package 01 and Package 02; of DDSC &PMS Consultants; Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants; and PMU	To be continued
18	The audit recommends that the International Environmental Specialists of DDCS&PMS Consultants and Third Party M&E Consultants are mobilized and the Project Director of CEIP-1 extends cooperation to mobilize them.	DDCS&PMS Consultants; and Third Party M&E Consultants; The Project Director to Cooperate	June to July 2021 (if RDDP budget covers)
19	Both the Contractors are advised to follow the Polder-Specific recommendations those came out from the Audit (included in conclusion and recommendation section of the report)	Contractors of Package 01 and Package 02;	Start from May 2021 and complied all the findings by June 2021
Pending items of 4th Annual Environmental Audit need to be addressed			
1	Contractors of both Packages should follow the findings and recommendations of this audit.	Contractors of Package 01 and Package 02	Continuous process as and when applicable

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE
2	The DDCS&PMS Consultants and PMU should consider the recommendations for the upcoming next phase of the project where applicable.	DDCS&PMS Consultants and PMU	To adopt as and when required
3	The audit report should be shared with the Contractors, Consultants, relevant sub-Consultants, NGOs and PMU staff and the responsible parties should address the findings.	Third Party M&E Consultants with PMU, PMU with relevant consultants, sub-consultants, NGOs and contractors who should address the findings	Complied
4	Both the Contractors recommended to revise the EAPs and C-ESMPs considering the frequencies for environmental monitoring testing suggested in EMPs in their next revision.	Contractors of Package 01 and Package 02	20 May 2021
5	The Contractors of both Package 01 and Package 02 must address the risks of air quality (e.g. emissions from plants, vehicle), and the environmental and health risk for poor drinking water and sanitation facilities with EHS Risk Assessment reports.	Contractors of Package 01 and Package 02	31 May 2021
6	Considering the smaller number of EMP implementation budget items with the contract of Package 01, it is recommended that DDCS&PMSC monitor the implementation of mitigation measures for each impact area to ensure they are properly addressed. The M&E Consultants and PMU to continue to spot-check.	DDCS&PMSC, ME& Consultants and PMU	To be continued up to closure of Package 01 works
7	PMU with the assistance of DDCS&PMS Consultants and M&E Consultants to incorporate an assessment of the environmental impacts of the completed works of Package 01 in the next Bi-Annual Environmental Monitoring Report.	PMU with assistance of DDCS&PMS Consultant M&E Consultants	Complied

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE
8	PMU with the assistance of DDCS&PMS Consultants and M&E Consultants to conduct a supervision for ongoing works to evaluate whether it is following environmental good practice and health and safety measures are in place. In case of any gap identified, the contractor needs to prepare a retrofit action plan and continue with monitoring.	PMU with DDCS&PMS Consultants, M&E Consultants and Contractors	Continuous
9	DDCS&PMS Consultants need to include how EMP compliance will be monitored and achieved with their Quality Assurance Plan.	DDCS&PMS Consultants	10 June 2021
10	As the compliance level for the Decommissioning of Temporary Facilities and Hard Rock Pavement is extremely poor, the Package 01 Contractor needs to ensure necessary efforts to improve the compliance level.	Contractor of Package 01	15 May 2021
11	To improve the unhygienic conditions of the toilets of Contracts of Package 01 and Package 02, they need to ensure soak pit/ septic tanks with all constructed toilets, regular cleanliness and maintenance of the toilets, water seal with all toilets, supply of sufficient water and soap inside the toilets. Moreover, sensitizing the workers regularly on hygienic practices should be also carried out.	Contractor of package 01 and package 02	15 May 2021
12	PMU is requested to share the ESIRT toolkit with WB for their review and both the Contractors need to follow the Environmental Social Response Tool (ESRIT) kit as it is not being followed.	PMU to Share with WB and Contractors of Package 01 and Package 02 to follow	31 May 2021

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE
13	The practice of using PPE should be enhanced.	Contractors of Package 01 and Package 02	Continuous
14	Both the Contractors need to carry out environmental monitoring testing as per the schedule every year.	Contractors of Package 01 and Package 02	Following the suggested schedule
15	Both Contractors to follow proper record keeping of EHS practices	Contractors of Package 01 and Package 02	20 May 2021
16	Both the Contractors should carry out the efforts to improve the EHS practices.	Contractors of Package 01 and Package 02	Continuous
17	EHS practices in Package 02 (other than those in Polder 39/2C) are found to be poor, the Contractor of Package-02 should give continuous effective efforts to improve the EHS practices.	Contractors of Package 02	Continuous
18	Alternative/ diversion canal should be ensured in case of construction of sluices rather stopping the water flow to reduce environmental stress and people's sufferings.	Contractors of Package 01 & Package 02 and DDCS&MPS Consultants	Continuous as and when required
19	Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants need to add section with the report by giving ideas how biodiversity/ecology and environment may be impacted in relation to the polder development activities including the baseline conditions as mentioned in section 2.8.3.	Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants	30 April 2021
20	The activity of polder development plan of Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants is suggested to include study or polder specific EIA on the areas about environmental status and the study should include the environmental base line information/	Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants	30 April 2021

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE
	impacts/constraints/ challenges may be evolved for polder development as well as the measures will be needed to be taken.		
21	The updated design and specification Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants need to consider the environmental aspects.	Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants	Continuous parallel to the design and specification works
22	Environmental Specialist of the Long Term Monitoring, Research and Analysis Bangladesh Coastal Zone Consultants needs to work by maintaining close coordination including updating about works with the Senior Environmental Specialist of PMU of CEIP-1 and also maintains good collaboration with Environmental Specialists of other Consultants (DDCS&PMS Consultants and 3rd Party M&E Consultants) of CEIP-1.	Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants	31 January 2021
23	The training module and the trainings to be carried out by the NGOs should have discussion on the use of required PPE during preparation and application of the pesticides. Management of pesticides related waste in sound manner should be also discussed. The proper weather conditions, proper time and wind direction to be followed in case of application of the pesticides should be discussed in training module and during the training. The above the EHS issues for pesticides use should be discussed in IPM and ICM module and during the training of all the NGOs of CEIP-1.	All NGOs of CEIP-1	Complied

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE
24	NGOs should involve the local level GoB DAE Officers in their IPM activities.	All NGOs of CEIP-1	Complied
25	Public awareness of the GRM mechanism must be enhanced as the number of grievances seems to have fallen to negligible levels in the one-year period covered by this audit.	DDCS&PMS Consultants	Continuous
26	It is recommended to address the polder-specific recommendations of the fourth environmental audit for the items which are applicable in the fields currently (e.g. works of many audited sites may be accomplished). For information, a polder-specific action items has been annexed with the fourth Annual Environmental Audit report.	Contractors of Package 1 and Package 2, and the NGOs of relevant polders	Continuous
Pending items of 3rd Annual Environmental Audit need to be addressed			
1	Along with other Polders, it is recommended that the Contractor of Package 02 concentrate on complying EHS issues at Polder 47/2 and 48 for which the audit found poor EHS practices.	Contractor of Package 02	20 May 2021
2	Contractor's EAPs and C-ESMPs should be improved continuously as those are living documents. The monitoring frequencies spelled out in the EAPs and C-ESMPs should be consistent with the monitoring frequencies defined with the CEIP-1's EMPs.	Contractors of Package 01 and Package 02	31 May 2021

Annexure 8: Status of Implementation of the WB Aid memoire action plan

The following key actions were mutually agreed with the CEIP-I PMU during the Implementation Support Review February 22 to March 08, 2021:

#	Sub-actions	Agreed time line (SR: February 22 to March 8, 2021)	Updated status
38	Prepare Emergency Preparedness Plan (EPP) by taking the suggested COVID-19 measures	Done	Done
39	Submission of Bi-annual report	Done	Done
40	EIA for Polder 15, 16, 17/1, 17/2, 24 and 34/3 under W-03 to be finalized in accordance to the comments provided for Polder 14	April 15, 2021	Cleared by the WB
41	Conduct Environmental sampling/testing in Packages-1 & 2 for the year of	April 15, 2021	Done
42	5thAnnual Environmental Audit Report	April 15, 2021	Done Draft "Incident notification and Reporting" prepared. The document will be submitted by 15 August 2021
43	Prepare action plan for the 4th Annual Environmental Audit Report	Done	Done
44	Revise the "Grievance Collection Box" report and ensure the numbers of boxes are increased relocated in less visible places as suggested.	April 15, 2021	Done In the present COVID 19 situation minimum number of workers are involved in work sites. The numbers of GCB boxes will be increased whenever the number of work location and workers will be increased.

45	PMU should implement the GRM and record the grievances and share the status in the MPR.	Continuous	Continuous The status of GRM regularly mention in MPR
46	Contractor of package 2 to complete construction of the pedestrian at the camp site for polder 41/1	Done	Done
47	Implementation of IPM/IPSNM practices at farmer's field	Done	Done
48	Conduct the monthly EHS committee meetings and share the minutes with the Bank team	Continuous	Done Last virtual meeting was held on June 13, 2021
49	Implement the recommendation of the COVID Emergency plan and the follow the guidance and clauses for contractors	Done	Done
50	PMU to follow up with all contractors for Package 2, for establishment of dedicated 'Waste Storage Sites	Starting immediately	**New action** Established in Polder no. 39/2C & 41/1 Due in Polder no. 40/2, 43/2C & 48 (expected to establish by August, 21). Necessary steps are being taken for establishing dedicated 'Waste Storage Sites'

Annexure 9: Compliance matrix of the recommendations of last report

A matrix of the recommendations suggested in the last report against the actions that was targeted between January- June 2021

Sl.	Suggested recommendation in previous report	Progress	remarks
1	Assure strict compliance of EPP of OHS protocols prepared for measures against spreading of Covid-19 at working sites and camps.	Being complied	-
2	Monitor the incidents as per ESIRT of the World Bank.	Being monitored	-
3	Assure the use of PPE by the workers	Being practiced	Need continuation
4	Adequate toilet facilities should be provided in all working sites. Special care should be taken for cleanness of toilets	Partially complied	Need to improve
5	Both the contractors should follow the test result of drinking water, surface water, soil quality, air quality and noise quality carried out in December 2020 and take necessary action accordingly.	Followed	-
6	Ensure regular toolbox talk at all sites including awareness of measures against Covid-19.	Being complied	Need continuation
7	Both Contractors to implement the action plan prepared on the basis of 5th Environmental Audit report and routinely report on its implementation	Contractors are implementing in work sites	Need to confirm
8	Follow the safety procedure of the equipment at all sites.	Followed	-
9	Aware the workers about the existence of grievance box and register their demand/complain	Awareness and motivation work is continuing	
10	Regular exchange visit of EHS team of Package-1 and 2 to be ensured for adopting good practices.	Could not possible due to prevailing Covid-19 situation	Need to conduct
11	Engage EHS Chinese and Local officer in every polder where same has been discontinued.	Engaged	