



GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH  
MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD  
**COASTAL EMBANKMENT IMPROVEMENT PROJECT, PHASE-1, (CEIP-1)**

Financed by World Bank  
with Grant Contribution of PPCR - Climate Investment Fund

**Sixth Annual Environmental Audit Report**  
**for 01 January – 31 December 2021**

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(CONTRACT PACKAGE NO. CEIP-1/ C2/S3)



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## Acronyms

BWDB	Bangladesh Water Development Board
CAP	Corrective Action Plan
CC	Cement Concrete
CEGIS	Center for Environmental and Geographical Information Services
CEIP-1	Coastal Embankment Improvement Project, Phase-1
C-ESMP	Contractor's Environmental and Social Management Plan
CHWE	First Engineering Bureau of Henan Water Conservancy
CICO	Chongqing International Construction Corporation
CRTS	Consultancy for Research and Testing Services
CSE	Construction Supervision Engineer
DDCS & PMSC	Detailed Design and Construction Supervision and Project Management Support Consultant
DPM	Deputy Project Manager
DRE	Deputy Resident Engineer
DS	Drainage Sluice
DTL	Deputy Team Leader
EHS	Environmental Health and Safety
EMP	Environmental Management Plan
ES	Environmental Specialist
ESMF	Environmental and Social Management Framework
FGD	Focus Group Discussion
FS	Flushing Sluice
GoB	Government of Bangladesh
GPS	Global Positioning System
HHs	Households
ICM	Integrated Crop Management
IPM	Integrated Pest Management
IPOE	Independent Panel of Experts
JD	Job Description
KUET	Khulna University of Engineering and Technology
LTMRA	Long Term Monitoring, Research and Analysis
M&E	Monitoring and Evaluation
MTR	Mid-Term Review
NCR	Non-Compliance Register
NGO	Non-Governmental Organization
PM	Project Manager
PMU	Project Management Unit
PPE	Personal Protective Equipment
PSC	Project Steering Committee
QC	Quality Control
R/S	River Side
RE	Resident Engineer
SECU	Social, Environmental and Communications Unit
SES	Senior Environmental Specialist
ToR	Terms of Reference
WB	World Bank
WMG	Water Management Group
XEN	Executive Engineer

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## Executive Summary

**Introduction:** The Coastal Embankment Improvement Project, Phase 1 (CEIP-1) is a 9-year \$400 million project being implemented by the Bangladesh Water Development Board financed from the World Bank and the Pilot Programme for Climate Resilience of the Climate Investment Fund. The Project started in 2013 and will close in June 2022. It covers 17 polders in three packages of 4, 6 and 7 polders respectively. Nine polders (out of ten polders in Packages 1 and 2) will have their embankments upgraded and the embankment of Polder 39/2C of Package-2 will be newly constructed and the remaining 7 polders are being designed as part of CEIP-1 and prepared for tendering under CEIP-Phase 2. The Third Party M&E Consultants joined the project on 01 November 2015. Since then, the Third Party M&E Consultants carried out the 5 nos. of Annual Environmental Audits each covering one year and this sixth Annual Environmental Audit covering the period January-December 2021, has been carried.

The overall objective of the sixth Annual Environmental Audit of CEIP-1 was to assess the extent to which these Plans for safeguarding the environment are in place and their adequacy with respect to coverage and content, the extent to which they are being implemented and whether they are effective considering the institutional and contractual arrangements applicable to the Project. The audit examined: (1) the preparation and update of required safeguards documents; (2) the implementation of the EMPs, C-ESMP and EAPs; (3) the implementation of environmental monitoring, including the use of effective monitoring systems, tools and protocols; (4) institutional strengthening and capacity development, including institutional arrangements, staff and funding resources, and implementation of training programs; (5) the implementation of disclosure, consultations, communication, grievance redress mechanisms; and (6) compliance with reporting requirements. The audit covered the Contractors for Package 01 and Package 02, Consultants of Long-term Monitoring, Research and Analysis of Bangladesh Coastal Zone, the DDSC&PMS Consultants, Consultants of CEIP-2 Feasibility Study and Project Management Unit (BWDB- Social and Environmental Coordination Unit).

The M&E Consultants have undertaken a review of documents, reports, site records, test results, conducted interviews in offices and in the field, and made direct observations during a one-week period and then recorded their findings. Specific work sites, which were visited on a particular polder were selected randomly for the most part, but in all cases without advance notice to the Contractors and DDSC&PMS.

### **Audit findings:**

#### **Existing base documents**

Existing base documents or reports were reviewed such as EIAs and EMPs, Contractor EAPs/ESMPs, Quality Assurance Plan, Contract/Bidding documents etc.

**EIAs and EMP:** According to 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 CEIP-1 have spelled out the required actions needed comply with Government regulations and WB safeguards. The preparation of the EIAs for the other 7 Polders of (14/1, 15, 16, 17/1, 17/2, 23 and 34/3) have been finalized and already cleared by WB. The Environmental Clearance Certificate (ECC) for both Package 01 and Package 02 needs to be renewed every year from DoE which has been done regularly. The renewal for 2022 has already been obtained by the project.

**Environmental Action Plans (EAP) of Contractor for Package 01:** The EAPs are the polder-specific living documents of the contractor which translate into concrete, site-specific and time-bound actions as to how the environmental and EHS issues of the EMPs will be addressed. These are being updated as and when required. All of them were approved by WB. The 6<sup>th</sup> audit revealed that these have been updated as there were some inconsistencies.

**Environmental and Social Management Plan (C-ESMP) of Package 02 Contractor:** In Package 02, the term C-ESMP is used; it is analogous to the EAP of Package 01. The C-ESMPs are also polder-specific living documents of the contractor which translate how the environmental, EHS and social issues of the EMPs are to be addressed in the way of actionable plans. These are also being updated as and when required. All of them were approved by WB. The 6<sup>th</sup> audit revealed that these have been updated as there were some inconsistencies.

**EHS Risk Assessment of Package 01 and Package 02 Contractors:** Both the polder-specific EHS Risk Assessment reports of Package 01 and Package 02 were cleared by the WB. As part of the last audits, the EHS Risk Assessment reports of the both contractors of CEIP-1 were reviewed. That audit revealed that the risk assessments were mostly focused on the activities of CC block manufacturing plants, sluices and barges. There were some gaps on the EHS and recommended to update it.

**Contract document of Package 01 and Package 02 and Implications for Similar Future Project:** The Contractors’ contractual obligations in general and specifically (around 20 items) cover mostly matters of Environmental Health and Safety (EHS). It is notable that the Package 02 contract document is comprised of more elaborated environmental-measures budget lines than the contract of Package 01. Considering the smaller number of budget items for EMP implementation in the contract of Package 01, it has been recommended to monitor implementation of mitigation

measures for each impact area to ensure they are adequately addressed. The bid documents and contract for similar future project should give emphasis and care to ensure all the required clauses are incorporated to fully address the relevant elements of the EMPs including the penalty clauses for non-compliance of the EMPs.

**Quality Assurance Plan V1.0- August 2016:** In earlier audits, the QAP was adequate in these two respects, but could be strengthened in its statement of how EMP compliance will be monitored and achieved amid COVID-19 protocols. But this audit found that DDSC&PMSC Consultants included with the plan- how EMP compliance will be monitored including the COVID-19 protocol.

#### **Systems- Tools, formats, institutional arrangements, protocols, and quality assurance**

**Environmental monitoring tools and guidelines:** Both the Contractors have been following the monitoring checklist, which is annexed to the Contractors' EAPs and C-ESMPs as a set of monitoring tools. There are no separate guidelines to ensure compliance with the EMP. DDSC&PMSC and PMU environmental personnel have also been monitoring the implementation of EMP through the indicators of the monitoring checklist that has become part of the EAPs and C-ESMPs. The monitoring has been carried out using these tools which are known as the "Bi-Monthly Environmental Inspection Checklist".

**Twice- monthly environmental inspection report of package 01 and field reports:** It was found that the Contractor has been submitting reports using the monitoring checklist formats of the EAP and providing remarks for any notable findings. These reports also include an annex presenting photographs on findings. For a given reporting period, a sampling of sites is covered reflecting the visits made by the concerned EHS officer of the Contractor. The Environmental Specialist of DDSC&PMSC conducts field visits and shares the field findings after completion of the field visits with the DDSC&PMSC field level staff and contractor staff taking note of the deadline for addressing the non-compliance by the contractor. . The field-based Environmental Specialist of the PMU conducts field visits in the polders of the Package 01 areas to supervise and monitor the implementation of EHS practices by Contractors along with the Sr. Environmental Specialists visit of PMU.

**Twice- monthly environmental inspection report of package 02 and field reports:** It was found that the Contractor has been submitting reports using the monitoring checklist formats of the C-ESMP and providing remarks for any notable findings. These reports also include an annex presenting photographs on findings. For a given reporting period. The Environmental Specialist of DDSC&PMSC conducts field visits and shares the field findings after completion of the field visits with the DDSC&PMSC field level staff and contractor staff taking note of the deadline for addressing the non-compliance by the contractor. . The field-based Environmental Specialist of the PMU conducts field

visits in the polders of the Package 01 areas to supervise and monitor the implementation of EHS practices by Contractors along with the Sr. Environmental Specialists visit of PMU.

### **Compliance Performance**

#### **Compliance performance of package 01:**

- Based on the data garnered from the Twice-Monthly Environmental Inspection Reports, Package 01 considered 32 different elements for inspection and an improved compliance level was observed for most of these elements. From the analysis of compliance and non-compliance of the entire year 2021, it was revealed that 25 elements were 100% compliant for the full year and also in the fourth quarter. Thus, compliance level is steady by this measure.
- 31 out of 32 different elements inspected were equally or more compliant in the fourth quarter of 2021 compared to the full year compliance level. Compliance is notably improving by this measure.
- Only 1 element out of 32 elements found with less compliance level at Q4 compare to whole year.

#### **Compliance performance of package 02:**

- Based on the data garnered from the Twice-Monthly Environmental Inspection Reports, Package 02, the audit team considered 17 different elements for inspection and an improved compliance level was observed for most of these elements. From the analysis of compliance and non-compliance of the entire year 2021, it was revealed that 6 elements were 100% compliant for the full year and in last quarter. Thus, compliance level is steady by this measure.
- 10 out of 17 different elements inspected were equally or more compliant in the fourth quarter of 2021 compared to the full year compliance level. Compliance is notably improving by this measure.
- 1 element out of 17 elements found with less compliance level at Q4 compare to whole year. Thus, compliance level is declined by this measure.

### **Grievance Redress Mechanism**

**Grievance Redress Mechanism (GRM) for Package-01:** A total number of 178 complaints/grievances have been received up to December 2021 by GRC in Package-01. During the January-December, 2021 period, only one new grievance was registered and that was an appeal for structure compensation.

**Grievance Redress Mechanism (GRM) for Package-02:** A total number of 51 complaints/grievances have been received up to December 2021 by GRC in Package 02. There were no new grievances in 2021 and only six grievances registered in 2021.

Considering the nature of the complex works as well huge geographical coverage of the project, there should be more grievances. There is room to think and providing more efforts on making the people aware on the GRM system of the project so that they are aware on GRM as well as know the exact channel to raise it.

**Monitoring Testing results:** 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 the tests were performed in their laboratory.

#### **Contractor's Emergency Response Plan**

**Package 01:** The emergency response plan is also a living document; it has been used by the Contractor of Package 01 continuously. The emergency response plan covers both natural and man-made disasters, and accidents and injuries. As injuries/accidents have been experienced by the Contractor continuously (mostly minor accidents), the emergency response plan has been utilized continuously. Examples of this are the actions being taken for accident/injury victims including the reporting, or awareness raising by the Contractor among its staff members/workers regarding the preparedness measures for any anticipated disaster such as the Amphan cyclone which took place in Bangladesh. In addition, an Emergency Preparedness Plan (EPP) considering the COVID19 management has been prepared by the contractor based on the GoB/WHO/WB guidelines, that was submitted to WB and cleared by the WB. The plan has been translated in Bengali and Chinese languages by the contractor.

**Package 02:** The emergency response plan has been also used by the Contractor of Package 02 continuously. The emergency response plan of Contractor of Package 02 covers both natural and man-made disasters, and accidents and injuries. As injuries/accidents have been experienced by the Contractor continuously (mostly minor accidents), the emergency response plan has been utilized continuously similarly to what has been described above with respect to Package 01.

In addition, an Emergency Preparedness Plan (EPP) considering the COVID19 management has been also prepared by the contractor of Package 02 based on the GoB/WHO/WB guidelines, that was submitted to WB. Hence, it was cleared by WB on 03 February 2021. The EPP has also been translated into Bangla and Chinese languages by the Contractor of Package 02 and they are

implementing the COVID-19 plan in its day to day activities.

**Correspondence on EHS issues:** In CEIP-1, the correspondences for improving the EHS practices and complying the non-compliance issues have been maintained based on the findings or gaps revealed by the PMU and DDCS&PMS Consultants to keep the environmental safeguards issues on track. The sixth audit found that from PMU, the Project Director with the advice of Sr. Environmental Specialist and Field level Environmental Specialist of the PMU makes necessary correspondence with the DDCS&PMS Consultants for environmental safeguards issues as and when required. The DDCS&PMS Consultants also make necessary correspondences/ send letter to the contractors of both Package 01 and Package 02 of CEIP-1 and vice-versa on environmental issues to improve the EHS practice levels and comply the non-compliance issues.

**Decommissioning carried out by Contractor of Package 01:** As activities of the Package 01 Contractor are at the ending stage, they have prepared a decommissioning plan which has been reviewed by the PMU and DDCS&PMS Consultants for finalization, and currently this is being implemented. The implementation of the decommissioning plan is being monitored by PMU, DDCS&PMS Consultants and Third Party M&E Consultants.

**Improvement in Management of Environment, Health and Safety (EHS):** The outbreak of COVID-19 affected the work progress and had a great demand to maintain the EHS quality of the worksites. Maintaining and improving the EHS management in Packages W-01 and W-02 have been found significant manner.

**Monthly EHS meeting:** 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 outbreak of Covid-19. During the audit covered period, the latest virtual monthly Environment, Health and Safety (EHS) meeting regarding the EHS issues in different polders of Package W-02 was held at 11.00 a.m. on 19th of July, 2021, presided over by Mr. Md. Halim Shalehy, Executive Engineer (Addl.C.), Patuakhali WD Division, BWDB and Convener of the Committee. The meeting was participated by PMU Environmental Specialists, Env. Specialist of DDCS&PMSC, Env. Specialist of Third-Party M&E Consultants, Representatives of World Bank and Representatives of the Contractor (Package-2), CEIP-1.

**Mechanism for Complying Safeguard Requirement at Sites:** The evolving of COVID-19 pandemic in Bangladesh compelled both the contractor of Package-1 and 2 for maintaining covid-19 management at each site. From the beginning of Coronavirus infection in Bangladesh the Contractor was very much aware of implementation of the instructions mentioned in OHS protocol of construction sites for protection of their work force against COVID-19 infection. They have maintained consultation with PMU, who has the overall accountability of the OHS governance and

assurance of the project. The Contractor erected various pictorial signboards at all worksites displaying how various practices related to control of COVID-19 to be adopted by the work force. Moreover, they have trained the workers on how to remain safe/unaffected from the attack of COVID-19 and what measures to be followed in case of any infection of COVID-19, following the COVID-19 OHS protocols and other instructions from the local National Health Departments. The Contractor has also maintained constant communication with the various clinics/hospitals to face any incidence of COVID-19 infection.

#### **Staff awareness and training**

**Contractor of Packag-01:** The Package 01 Contractor has conducted a robust program of monthly environmental training during the January-December 2021 period. More than 1,300 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.

**Contractor of Packag-01:** The Package 02 Contractor has also conducted a very robust program of monthly environmental training during the January-December 2021 period. More than 9,000 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.

#### **Fish Conservation Initiative by Contractors**

**Fish Conservation Initiative by Contractor of Package 01:** During the audit period, 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. 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. This is recommended that Contractor will release these remaining fingerlings and prepare a nourishment plan and implement it as soon as possible.

**Fish Conservation Initiative by Contractor of Package 02:** The Contractor, Package-2 also has various activities related to farm survey and improvement of aquatic resources (mainly fish) within the Polder areas, according to the contract document. They have been instructed by PMU and DDCS&PMS Consultants 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. However, considering the given situation, the Contractor of Packag-02 is recommended to start fish conservation activities as soon as possible.



**EMP Implementation Budget:** For Package 01, the total expenditure for EMP cost so far paid is Tk. 55,791,359 out of a maximum budget of Tk. 60,200,000 meaning 92.70% of total budget has been paid. 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, the total paid cost for EMP implementation so far is Tk. 2,115,728 out of a maximum budget of Tk. 64,364,491 amounting to 3.30% of total budget having been paid. From discussion with the PMU, it has been revealed one payment against EHS of items is in process to be paid after a long time. However, considering that there is a lack of EHS personnel at the polder level of each polder of Package02 and there are shortfalls in EHS compliance, it is recommended that the EHS related payment are made smoothly if the items comply as per the contractual obligation of Contractor of Package-02.

**Status of action items of WB Aide Memoire, Previous Audits and Bi-Annual Environmental Monitoring Report:** Most of the action items of WB Aide Memoire, audits and Bi-Annual Environmental Monitoring reports found been complied by the CEIP-1.

**Polder-specific field observations:** Audit based on the field visits revealed many of the good EHS practiced those have been implemented by the project. Beside, some of the gaps were revealed at field level related to use of PPE, waste management, waste water management etc. those need to be addressed by the contractors.

**Observations on Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants:** The action items of the previous audit related to said consultants have found not addressed. Audit recommended that Environmental Specialist of the Long-Term Monitoring, Research and Analysis Bangladesh Coastal Zone Consultants maintain 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.

**Labor influx:** In most of the work sites and camp sites, there is a limited influx of labor. The laborers are predominantly from the vicinity and they prefer to return to their homes after finishing their works. In a few work sites, sleeping facilities have been put in place for a few laborers.

**Constraints to implement EMP:** Engagement of this expert can contribute to achieve EMP implementation in a successful manner as many of the gaps in EHS practices have been revealed by the audits and level of impacts (positive and negative) of the project. audit recommends the 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. Considering the smaller number

of EMP implementation budget items with the contract of Package 01, it is recommended that DDCCS&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.

**Some of the polder level impacts of CEIP-1 interventions:** Interventions of CEIP-1 have been showing their impacts. Some of them are:

- i. As height of embankment has been increased, farmers are cultivating more land and it is increasing gradually;
- ii. Reduced saline intrusion in soil led increase of cropped area in Rabi season and Soil salinity has been reducing gradually;
- iii. Water management activities have been improved;
- iv. The reserve water in private canal surrounding the Gher has created a scope for surface water irrigation of Boro rice in Rabi season.

The polder area was often subjected to natural disaster which caused loss of lives and properties and suffered from severe deterioration of agriculture due to saline water intrusion. These areas also experienced in river bank erosion which resulted loss of agricultural lands, lives and other hazards. The successful implementation of the project through its intervention such as sustainable flood embankment, proper drainage structure and adequate river bank protection work created opportunity of environmental friendly atmosphere all around the area. The area have enormous improvement of agriculture production by reducing saline water intrusion and drain out excess water. The river bank protection work confirmed protection of lives and properties of the local communities. These activities also ensured the conservation of biodiversity of the area.

**Conclusions and recommendations:** The audit was conducted as per the TOR It found some level of progress in environmental compliance implementation. However it has made 16 recommendations followed by a time bound corrective action plan that needs to be implemented by CEIP-1.

# 1. Introduction

## 1.1. Background

The Coastal Embankment Improvement Project, Phase 1 (CEIP-1) is a 9-year \$400 million project being implemented by the Bangladesh Water Development Board financed from the World Bank and the Pilot Programme for Climate Resilience of the Climate Investment Fund. The Project started in 2013 and will close in June 2022. It covers 17 polders in three packages of 4, 6 and 7 polders respectively. Nine polders (out of ten polders in Packages 1 and 2) will have their embankments upgraded and the embankment of Polder 39/2C of Package-2 will be newly constructed and the remaining 7 polders are being designed as part of CEIP-1 and prepared for tendering under CEIP-Phase 2. The Detailed Design and Construction Supervision Consultants (DDCS&PMSC) commenced their design work for the first of three Packages in January 2015 and the Package 01 Contractor commenced services on 26 January 2016. The Package 02 Contractor's contract was signed on March 2017 and work was commenced on 12 July 2017. Moreover, contract signing between Bangladesh Water Development Board (BWDB) and the Non-Governmental Organizations (NGOs) for the consultancy services of social mobilization, afforestation and Integrated Pest Management Plan (IPM) was started from 24 February 2019 and CEIP-1 accomplished contract signing of five NGOs by 02 May 2019, and the NGOs accomplished providing their services. Contract between BWDB and the Consultants for long term monitoring, research and analysis of Bangladesh coastal zone was signed on 04 October 2018 which was effective from 15 October 2018 and the Inception Report was due on 15 January 2019. The Consultants for feasibility study of CEIP-2 have been assigned in 2021 and they have started their works.

The Third Party M&E Consultants joined the project on 01 November 2015. Since then, the Third Party M&E Consultants carried out the Annual Environmental Audits as follows:

- First Annual Environmental Audit during 01 January to 06 February 2017 covering the reporting period January through December 2016.
- Second Annual Environmental Audit covering January-December 2017 was carried out during 10 January to 07 February 2018
- Third Annual Environmental Audit covering January-December 2018 was carried out during 06 January to 07 February 2019
- Fourth Annual Environmental Audit covering January-December 2019 was carried out during 05 January to 07 February 2020
- Fifth Annual Environmental Audit covering January-December 2020 was carried out during 07 January to 07 February 2021.

This sixth Annual Environmental Audit covering the period January-December 2021, has been carried out by the Third Party M&E Consultants.

Institutional arrangements of CEIP-1 for safeguarding the environment include:

1. Project Management Unit, with its Social and Environmental Coordination Unit (SECU), who are responsible for oversight and guidance on environmental matters as well as coordination with GoB agencies. The Environmental issues of the Project are being tended to by a Senior Environmental Specialist and an Environmental Specialist (Field) under PMU's SECU. PMU also reports to BWDB, the Project Steering Committee (PSC) and the World Bank.
2. DDCS&PMS Consultants who are responsible for developing the EIAs and EMPs consistent with World Bank and GoB guidelines and ensuring the EMPs are implemented satisfactorily. These Consultants review and approve the Contractor's EAPs and monitor their implementation on an ongoing basis. The DDCS&PMS Consultants develop the bidding documents and make sure that the Contract and its specifications include the necessary clauses and elements governing environmental safeguards.
3. The Consultants for long term monitoring, research and analysis of Bangladesh coastal zone also need to consider the environmental safeguards and sustainability issues in their polder development plan, updated design and specifications and action plan for capacity building activities.
4. The NGOs are responsible for the social mobilization works for the sustainable operation of the polders, social afforestation and IPM interventions.
5. Civil Works Contractors who must develop and implement polder- and site-specific Environmental Action Plans (EAPs) in the case of Package 01 and Contractor Environmental and Social Management Plans (C-ESMP) in the case of Package 02.
6. World Bank reviews and provides comments and no objection to the various safeguard documents.
7. Community participation, consultation and feedback through the EIA process and Grievance Redress Mechanism.
8. Third Party M&E Consultants who perform environmental audits and monitor and evaluate the project overall. Specifically, with respect to environmental safeguards, the M&E Consultants review and comment on environmental documents prepared under CEIP, spot check compliance, report their findings and prepare recommendations. The M&E Consultants report to the PSC and their contract is administered by the Project Director. The Third Party M&E Consultants will take the lead in facilitating the preparation of a time-bound action plan based on audit recommendations. It will monitor action on the recommendations of the audit by PMU, DDCS&PMSC and concerned contractors.

Each polder has its own EIA which includes an EMP which is meant to ensure that the environmental and social management practices are integrated in the design, construction, operation and maintenance of the polder.

Among others, the specific objectives of the EIA are to:

- Comply with national regulatory and WB policy framework (further discussed later on in the document),
- Determine and describe the existing environmental and social setting of the Project Area (the project area defined as is defined as the entire area inside the polder, project influence area outside the polder i.e. the embankment, borrow pits and spoil disposal are if located outside the polder and access route to the polder),
- Identify and assess the potential environmental and social impacts of the project, including health and safety issues,
- Identify mitigation measures to minimize the negative impacts and enhancement measures to ameliorate the positive impacts, and
- Detail an Environmental Monitoring Plan which also defines mitigation measures.

As is the case for the EIAs and EMPs, each polder is also to have an Environmental Action Plan (EAP) for Package 1 and Contractor's Environmental and Social Management Plan (C-ESMP) for Package 2 which is prepared by the Contractors. The EAP of Package 1 and C-ESMP of Package 2 are to operationalize the EMP for which the Contractor is responsible. These Plans detail in a site-specific manner the mitigation and environmental compliance requirements and provide a monitoring plan outlining the protocols, frequency of monitoring, person(s) responsible, etc.

## 1.2.Audit Objective

The overall objective of the sixth Annual Environmental Audit of CEIP-1 was to assess the extent to which these Plans for safeguarding the environment are in place and their adequacy with respect to coverage and content, the extent to which they are being implemented and whether they are effective considering the institutional and contractual arrangements applicable to the Project.

## 1.3.Scope of the Audit

In summary, the audit examined: (1) the preparation and update of required safeguards documents; (2) the implementation of the EMPs, C-ESMP and EAPs; (3) the implementation of environmental monitoring, including the use of effective monitoring systems, tools and protocols; (4) institutional strengthening and capacity development, including institutional arrangements, staff and funding resources, and implementation of training programs; (5) the implementation of disclosure, consultations, communication, grievance redress mechanisms; and (6) compliance with reporting requirements.

The audit covered the Contractors for Package 01 and Package 02, Consultants of Long-term Monitoring, Research and Analysis of Bangladesh Coastal Zone, the DDCS&PMS Consultants, Consultants of CEIP-2 Feasibility Study and Project Management Unit (BWDB- Social and Environmental Coordination Unit).

Fieldwork was centered on the polders of Package 01 and Package 02, but the audit examined CEIP-1 overall whenever appropriate. It is forward-looking to draw lessons and make recommendations on areas of improvement for Packages 01 and 02 which also provide guidance for broader application to similar projects or a future phase of CEIP.

Specifically, the audit assessed and covered:

- Status of implementation of the recommendations / findings of the fifth Annual Environmental Audit that was conducted by Third Party M&E Consultants
- Status of the implementation of the recommendations / agreed actions of the WB environmental mission/s that were conducted in 2021
- Status of the implementation of the recommendations / agreed actions of Bi-Annual Environmental Monitoring Report of January-June 2021
- Extent to which the environmental mitigation measures outlined in the ESMP / EAPs and C-ESMP are being followed and whether they are effective
- Status of the implementation of the environmental safeguard measures for the social mobilization, afforestation and IPM activities of the NGOs
- Status of extent of the environmental safeguards and sustainability issues in the polder development plan, updated design and specifications and action plan for capacity building activities of the consultants of long-term monitoring, research and analysis of Bangladesh coastal zone
- The extent to which the project involves labor influx and the sufficiency of mitigating measures. The rapid migration to and settlement of workers and followers in the project area is called labor influx, and under certain conditions, it can affect project areas negatively in terms of public infrastructure, utilities, housing, sustainable resource management, public health and social dynamics
- Extent to which the Environmental Monitoring Plans are being followed and whether they are effective
- The availability and quality of monitoring equipment, tools, formats and protocols; and processes and procedures for compliance monitoring
- Implementation and effectiveness of workers' and community safety and health, environmental health protocols and measures, including accidents at the work sites, in surrounding communities and along transport routes and for COVID risk management
- Functioning of the GRM in the polder areas, including timeliness and effectiveness of receiving and redressing grievances
- Effectiveness of institutional arrangements for environmental management; availability of funding
- Existence of qualified staff resources

- Design, delivery and effectiveness of awareness and training programs for Contractor and Supervision Consultant staff
- Review of accident records in the work sites and examine the magnitude of the accidents and how those were addressed by the contractor
- Whether any of the CEIP-1 activities may have negative impact on the mangrove forest Sundarbans
- Constraints if any in ensuring compliance with the EMP / EAPs / C-ESMP
- Compliance with record keeping and reporting requirements for all project partners, including the veracity, accuracy, breadth, depth and relevance of information
- Review the implementation status of the COVID-19 OHS protocols at construction sites that have been prepared by the contractors.
- Review the status of the maintenance of COVID-19 safety measures being carried by the project, more generally.
- Recommendations for corrective actions to fulfill any non-compliance with the ESMP, EAPs and C-ESMP, including gaps, omissions, deficiencies, discrepancies and concerns with respect to the above
- Considering that work of Package 01 will be completed in June 2022, specific recommendation for site clearance and decommissioning of temporary facilities
- Based on the findings of the sixth audit, M&E Consultants is suggesting a time bound (deadlines agreed by all parties) Corrective Action Plan (CAP) mentioning the responsible parties, and this CAP has also included the items of third and fourth environmental audits which are still pending.

The Environmental Audit presents findings and observations followed by a section on conclusions and recommendations aimed at improving the effective implementation of environmental safeguards.

#### 1.4. Methodology

The M&E Consultants have undertaken a review of documents, reports, site records, test results, conducted interviews in offices and in the field, and made direct observations during a one-week period and then recorded their findings. Specific work sites, which were visited on a particular polder were selected randomly for the most part, but in all cases without advance notice to the Contractors and DDSC&PMSC and NGOs.

Document Review: Existing base documents were reviewed such as, EIAs, EMPs, Contractor EAPs and C-ESMPs, EHS Risk Assessment report, guidelines, standard procedure manuals, contractor's contract of Package 01 and Package 02, contractors' Emergency preparedness plan, and World Bank Aide Memoires corresponding to the period covered by this audit were reviewed with respect to environmental aspects. The Twice-monthly Environmental inspection reports of both contractors, Monthly Progress Reports of DDSC&PMSC, and Bi-Annual Environmental Monitoring Reports were also reviewed.

Key Informant Interviews and FGDs: PMU, DDCS&PMSC environmental personnel, (Package 01 and Package 02 field offices). Contractors' and DDCS &PMS Consultant's staff also were interviewed in audited polders of Package 01 and Package 02 during the period of January 14-19, 2022. FGDs were conducted with local communities and Water Management Groups (WMGs) in polder areas and workers in all visited sites were also interviewed during the audit team's field visits to gain an understanding of how well the project is implementing EMPs.

Site Records: Test results were reviewed. Non-compliance report (NCR) logs, NCR clearance records and procedures were examined in site offices and major construction work sites.

Direct observation: Level of compliance with the EMP/EAP/C-ESMP and practices of the Project and Contractor staff was observed in the field. Some of the embankment construction worksites and drainage/flushing sluice gate sites including completed drainage/ flushing sluice, CC block manufacturing plants, river protection works and afforestation works were visited in different polders of Package 01 and Package 02 (details in Section 2.7.2) to examine field level application of the environmental safeguards on a sampling basis. The team also visited the campsites, site offices and main offices of both Contractors and DDCS&PMSC to discuss systems, strength of the environment staff and documents. During the field visits and meetings carried out by the audit team, COVID-19 guideline of GoB/WB and Project's COVID-19 protocols were followed strictly (e.g. maintaining social distancing, wearing mask, hand sanitizing, etc.).

### 1.5. Team Composition and Duration

The Environmental audit was accomplished by the Environmental Specialist–National (A.K.M. Rezaul Haque Khan) of the Third Party M&E Consultants with the support of the Team Leader (Mr. Jan T. Twarowski), Deputy Team Leader (Mr. Md. Mahidur Rahman Khan) and M&E Officer (Mr. Md. Safiqul Islam). The audit was conducted through final fieldwork for five days in Package 01 and 02 polder areas during 14-19 January 2022 along with the field visits those were carried out all most monthly basis by the M&E Team members during January- December, 2021. All the findings from final field visits and other fields visits were included in the in the report.

## 2. Audit Findings

This section summarizes the audit findings focusing on:

- existence of appropriate base documents;
- systems- tools, formats, institutional arrangements, protocols, quality assurance;
- environmental staff resources;
- staff awareness and training;
- environmental monitoring testing; and
- actual implementation/ practice level.



## 2.1. Existence and appropriateness of base documents

Existing base documents or reports were reviewed such as EIAs and EMPs, Contractor EAPs/ESMPs, Quality Assurance Plan, Contract/Bidding documents etc.

### 2.1.1. EIA and EMP

According to Environmental Conservation Rules (ECR) 1997 of DoE, the project is categorized as “Red”, requiring that EIA and RAP must be submitted for obtaining Environmental Clearance Certificate (ECC). The ECC was obtained and thus the Project has complied with the regulatory requirement. According to 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 CEIP-1 have spelled out the required actions needed comply with Government regulations and WB safeguards. The preparation of the EIAs for the other 7 Polders of (14/1, 15, 16, 17/1, 17/2, 23 and 34/3) have been finalized and already cleared by WB. However, national disclosure workshop is due to be conducted by the EIA consultants and it is recommended to conduct the national disclosure workshops for these 7 EIAs as soon as possible if COVID-19 situation allows.

The Environmental Clearance Certificate (ECC) for both Package 01 and Package 02 needs to be renewed every year from DoE which has been done regularly. The renewal for 2022 has already been obtained by the project.

### 2.1.2. Environmental Action Plans (EAP) of Contractor for Package 01

The EAPs are the polder-specific living documents of the contractor which translate into concrete, site-specific and time-bound actions as to how the environmental and EHS issues of the EMPs will be addressed. As living documents, the four polders’ specific EAPs have been updated four times and Version 4 has been submitted to DDSC & PMS Consultants. After review 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 in 2019. 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. During the reporting year, the EAPs were updated.

From the review of Version 4 of the EAPs, the audit team found during its fourth Annual Environmental Audit that this version of the EAPs represented an improved stage compared to the prior versions. However, audits (fourth and fifth) found some of the monitoring (testing) frequencies given in the EAPs are not complying with the requirement of EMP (e.g. the EMP specified that air

quality would be monitored half-yearly, but the EAPs indicate annually, EMP says noise level will be monitored weekly while EAPs say monthly, EMP mentioned test for drinking water should be half yearly but EAPs say annually. The current 6<sup>th</sup> audit revealed that these inconsistencies have been addressed within the EAPs.

### 2.1.3. Environmental and Social Management Plan (C-ESMP) of Package 02 Contractor

In Package 02, the term C-ESMP is used; it is analogous to the EAP of Package 01. The C-ESMPs are also polder-specific living documents of the contractor which translate how the environmental, EHS and social issues of the EMPs are to be addressed in the way of actionable plans.

Initially, the C-ESMPs for the six polders of Package 02 were provisionally approved by the DDSC&PMSC with the obligation that they will update these with detailed layouts and other necessary elements by December 2017, once the specific campsites are known. The Contractor for Package 02 had indeed submitted six updated C-ESMPs for the six polders of Package 02 to DDSC&PMSC in December 2017. The DDSC&PMSC has also shared these with PMU and Third Party M&E Consultants who reviewed these documents and provided their comments. Subsequently, the C-ESMPs were reviewed by the World Bank who shared their comments. The comments of WB on the C-ESMPs were addressed by the Contractor Package 02 with the assistance of DDSC&PMS Consultants and Environmental Team of PMU and those were approved. However, another round of updating was carried out in 2019, submitted to WB and WB commented on the C-ESMPs. These documents were also cleared by the WB. The C-ESMPs were translated in Bangla and Chinese and available in the existing CC plant sides and important construction sites to be followed properly.

Last audit also revealed that frequency of monitoring of air quality, noise level, surface water and drinking water were found to be inconsistent between the C-ESMPs (as per monitoring checklists with Annexes- 3, 4, 5, 6, 7, 8 and 10 of C-ESMPs) and CEIP's EMPs of Package 02. The current 6<sup>th</sup> annual audit found these inconsistencies have been addressed.

### 2.1.4. EHS Risk Assessment of Package 01 and Package 02 Contractors

Both the polder-specific EHS Risk Assessment reports of Package 01 and Package 02 were cleared by the WB. As part of the last audits, the EHS Risk Assessment reports of the both contractors of CEIP-1 were reviewed. That audit revealed that the risk assessments were mostly focused on the activities of CC block manufacturing plants, sluices and barges. It was found that the risk assessment covers

many issues but still there are a few gaps which could be addressed. The audit found discussion on various national relevant laws/ policies, but the EHS risk assessment does not cover Environmental Conservation Rules (ECR), 1997 which is the basis of the environmental requirement of the various projects in Bangladesh, and which also provides a step-wise guideline to fulfil the environmental requirements as per law. The risk assessed for air quality addressed only dust creation; other aspects could be accounted (e.g. emissions from plants, vehicles). The assessment did not cover any risk those could cause health problem for workers and environmental pollution because of poor drinking water and sanitation facilities. It was recommended that both the contractors address the above-mentioned gaps in their EHS Risk Assessment reports. As the reports have not been updated yet based on the findings of previous audits, the findings remain same and it is also recommended by this sixth annual audit that both the contractors update the reports by addressing the above recommendation.

#### 2.1.5. Contract document of Package 01 and Package 02 and Implications for Similar Future Project

The previous and current sixth audits found that contracts of Package 01 and Package 02 covered the EMP's clauses partially. Penalty clauses suggested in the EMPs have not been incorporated into the contracts of Package 01 and Package 02. The Contractors' contractual obligations in general and specifically (around 20 items) cover mostly matters of Environmental Health and Safety (EHS). It is notable that the Package 02 contract document is comprised of more elaborated environmental-measures budget lines than the contract of Package 01. Considering the smaller number of budget items for EMP implementation in the contract of Package 01, it has been recommended to monitor implementation of mitigation measures for each impact area to ensure they are adequately addressed. The bid documents and contract for similar future project should give emphasis and care to ensure all the required clauses are incorporated to fully address the relevant elements of the EMPs including the penalty clauses for non-compliance of the EMPs.

### 2.1.6. Quality Assurance Plan V1.0- August 2016

From the review of quality assurance plan of DDCS&PMS consultants previous audits, it was revealed that document covered two sub-sections related to environmental issues – (1) the major tasks to be done by Environmental Specialist of CEIP-1 and (2) Health and Safety (mostly focused on how Health and Safety Personnel will ensure compliance on health and safety issues of the project). In earlier audits, the QAP was adequate in these two respects, but could be strengthened in its statement of how EMP compliance will be monitored and achieved amid COVID-19 protocols. But this audit found that DDCS&PMS Consultants included with the plan- how EMP compliance will be monitored including the COVID-19 protocol.

## 2.2. Systems- Tools, formats, institutional arrangements, protocols, and quality assurance

This section covers the audit findings on Environmental Monitoring tools and guidelines, twice-monthly environmental and field visit reports, grievance redress mechanism, Contractors' Emergency Response Plan correspondence on environmental safeguard issues and recommendations on decommissioning to be carried out by Contractor of Package 01.

### 2.2.1. Environmental monitoring tools and guidelines

Both the Contractors have been following the monitoring checklist, which is annexed to the Contractors' EAPs and C-ESMPs as a set of monitoring tools. There are no separate guidelines to ensure compliance with the EMP. DDCS&PMSC and PMU environmental personnel have also been monitoring the implementation of EMP through the indicators of the monitoring checklist that has become part of the EAPs and C-ESMPs. The monitoring has been carried out using these tools which are known as the "Bi-Monthly Environmental Inspection Checklist". Along with the PMU and DDSC&PMSC, the M&E Consultants monitor the environmental compliances with the tools of EAPs, C-ESMPs and EMPs.

### 2.2.2. Twice- monthly environmental inspection report and field reports

#### 2.2.2.1. Package 01

The Contractor has been submitting twice-monthly (bi-monthly) environmental reports to DDCS&PMSC since November 2016. As a part of the 6<sup>th</sup> Annual Environmental Audit, the reports of January through December 2021 were reviewed. It was found that the Contractor has been submitting reports using the monitoring checklist formats of the EAP and providing remarks for any notable findings. These reports also include an annex presenting photographs on findings. For a given reporting period, a sampling of sites is covered reflecting the visits made by the concerned EHS officer of the Contractor.

The Environmental Specialist of DDSC&PMSC conducts field visits and shares the field findings after completion of the field visits with the DDSC&PMSC field level staff and contractor staff taking note of the deadline for addressing the non-compliance by the contractor. He prepares field visit reports and brings these reports with him during next field visit to see the status of compliances. This is a good approach. The field report of the Environmental Specialist is also shared with the Contractor senior management and PMU as well for gearing up the next course of action. The Senior Environmental Specialist of PMU also carries out field visits to monitor the implementation of EHS practices and give his instruction to improve the EHS practices where required. The field-based Environmental Specialist of the PMU conducts field visits in the polders of the Package 01 areas to supervise and monitor the implementation of EHS practices by Contractors.

#### **2.2.2.2. Package 02**

Contractor for Package 02 also has been submitting the twice-monthly environmental inspection reports. As a part of the 6<sup>th</sup> Annual Audit, the reports of July through December 2021 were reviewed. It was found that the Contractor has been submitting reports using the monitoring checklist formats of the C-ESMP and providing remarks for any notable findings. These reports also include an annex presenting photographs on findings. For a given reporting period.

As is the case for Package 01, the Environmental Specialist of DDSC&PMSC also conducted field visits for Package 02 and he shares the field findings after completion of the field visits with the DDSC&PMSC field level staff and contractor staff taking note of the deadlines for addressing the non-compliance by the contractor. He prepares field visit reports for Package 02 and brings these reports with him during the next field visit to see the status of compliances. This is a good approach. The field report of the Environmental Specialist is also shared with the Contractor's senior management and PMU as well for gearing up the next course of action. Like Package 01, the Senior Environmental Specialist of PMU also carries out field visits in Package 02 areas to monitor the implementation of EHS practices and give his instruction to improve the EHS practices where required. The field-based Environmental Specialist of the PMU also conducts field visit in different polders of the Package 02 areas to supervise and monitor the implementation of EHS practices by Contractors.

### 2.2.3. Compliance Performance

The Audit found that compliance registers have been maintained by the contractors of Package 01 and Package 02 in the worksites. In the register, the good environmental practices for a specific site and the items that need to be improved are recorded by the visiting environmental staff along with a deadline. DDSC&PMSC continues email correspondence directing contractors to correct non-compliance on certain environmental matters. The issues related to any non-compliance should be mitigated and once the issues are resolved, the items should be noted as complied in the "Non-Compliance Register" by the Contractors, DDSC&PMSC and PMU. The remaining issues should be mitigated as soon as possible and reported to DDSC&PMSC on a routine basis. The record should be tracked in a way that it could be understandable how many of the compliances raised, resolved and pending.

The audit team has reviewed the twice-monthly (so called bi-monthly Environmental Inspection report) Environmental Inspection Reports (which contain an Environmental Inspection Checklist) of Package 01 and Package 02 and has compiled the compliance status as elaborated in the following tables and Annexes 4.5 and 4.6. Table 1 comprises the elements and sub-elements considered by the contractor of Package 01 for the purpose of environmental inspections.

Table 2 that follows gives a comparison on compliances and non-compliances for the whole year and also the last quarter of 2021 for contractor of Package 01. The observations from Table 2 are:

- Based on the data garnered from the Twice-Monthly Environmental Inspection Reports, Package 01 considered 32 different elements for inspection and an improved compliance level was observed for most of these elements. From the analysis of compliance and non-compliance of the entire year 2021, it was revealed that 25 elements were 100% compliant for the full year and also in the fourth quarter. Thus, compliance level is steady by this measure.
- 31 out of 32 different elements inspected were equally or more compliant in the fourth quarter of 2021 compared to the full year compliance level. Compliance is notably improving by this measure.
- Only 1 element out of 32 elements found with less compliance level at Q4 compare to whole year.

**Table 1: Elements Comprising the Compliance Inspection Checklist Considered in 2021 by Package 01 and Package 02**

Elements	Sub-Elements
Fuel storage areas	Install hardstand and secondary containment
	Firefighting equipment installation
	Sand and shovel close-by
	Regular checks on physical condition

Elements	Sub-Elements
	The Material Safety Data Sheet (MSDS) from supplier of hazardous substances (diesel, oil, lubricant) will be collected and placed besides containers/storage.
	Spill kit/absorbent mat will be in place to catch any spilled fuels at the location where potential spillage may occur.
	Sufficient hydrants to address potential fire should be equipped at fuel storage area as well as the areas where chemicals/fuels are used.
	Maintain minimum distance during fueling and fueling
	Provide eye protective glass
	Provide hand gloves
Access road construction	Obtaining approval
	Construction of culverts if needed
Temporary Facilities Decommissioning	Revegetation implementation
	Close-out check
Construction and re-sectioning of embankments	Pavement (if present) will be removed and disposed of at the premises of BWDB
	Topsoil from areas of earth works will not be used for construction works. The topsoil (from surface to 15 cm depth) will be removed and preserved for later use of replacing after construction in rehabilitation.
	Disposal of excess soil will be done at site with no objection from DoE and local authority.
	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 topsoil (15) cm during earth work activities
The bank and slope protection works	Spilling of earth material in surface water will be avoided.
	Turfing will be applied to prevent erosion
Re-excavation works	Spoil plan (volume to be dredged; disposal site to be used; quality of dredged material; applicability of dredged material) to be developed for approval by Engineer.
	Unnecessary resuspension will be avoided by selection of suitable dredging equipment.
	Temporarily deposition of dredged material will be away from the channel edge to limit damage to streamside and stream habitats.
	Return water will be conveyed through siltation chambers to avoid high loads of fines to be discharged on surface water.
	Where applicable biotechnical Engineering, for example, geo textile, may be used to help stabilize the material.
	Smothering of important flora and habitats will be avoided.
	Provide solid demarcation around the excavation
	Establish sufficient sign /signaling that can be visible at night
	Erect light reflective signboard
	Set and check the stability of excavator after certain interval during work

Elements	Sub-Elements
	Conduct the toolbox talk before starting the work
Manufacture of pre-cast CC blocks	Workers will be equipped with proper PPE.
	Signals will be installed to indicate the entry and exits and movement of vehicles construction in the work area.
	Manufacturing will not take place at night.
	Stacks with sand will be covered or wetted.
	Provide noise control barrier around the plant area as possible
	Make a closed chamber for plant operator
	Periodic hearing check for the exposed workers
	Shifting duty for the noise exposed areas
	Spray water at certain intervals in the plant area
	Wet and clean the aggregate before using
	Cover/wet dusty parts or materials
	No operation without the screen or barrier provided with the machine
	Conduct toolbox talk regularly
Borrow Material	Agreeing on borrow area
	Perform soil analyses on borrow materials when contamination is expected
	Prevention of erosion/dust forming
	No-Tress pass line fixed with bamboo poles
	Check the physical condition of excavator regularly
	Conduct toolbox talk before starting the work
	Training on driving safety at regular interval
	Check the physical condition of truck regularly
Occupational Health and Safety	Development of Health and Safety plan including emergency procedures
	Train all staff in health and safety
	Provision of HIV, including STI (Sexually Transmitted Infections) information, education, and communication
	Provision of PPE and ensuring their use
	Provision and use of life jacket during visiting campsite/worksites by boat
	Installation of first aid facilities at work site and camps 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
Public Health and Safety	Notification of the public adjacent to the construction areas
	Installation of dedicated pathways for pedestrians
	Proper signaling of work areas
	Limitation of construction 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
	Construction activities will be undertaken according to during daylight working hours between the hours of 07:00-17:00 on weekdays



Elements	Sub-Elements
Water Supply	Providing construction camps with portable water either through installing tubewells (hand pump, shallow and deep tubewell), Pond Sand Filter (PSE) or supplying safe bottled water
	Ensuring the location plan of tubewells (used for supplying potable water) that these are not sited near any sanitation facilities as to avoid water pollution
	Maintaining the distance of a tubewell/surface water resource from a soak pit at minimum 15 m
	Maintaining the drainage from the tubewell diverting into the drainage system of the camp area
	Providing separate tubewells for the use of women.
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 facilities (i.e. septic tank, soak pits etc.) for the sewerage of toilet and camp site wastes.
	Arranging disposal of wastewater from washrooms, kitchens, s, etc. via the camp area's drainage system
Solid Waste Management	Ensuring collection and disposal of solid wastes within the construction camps and work areas
	Taking measure to collect and store inorganic wastes in a safe place within the household and organic wastes cleared on daily basis to waste collector.
	Establish measures for Waste collection, transportation and disposal systems at approved disposal sites.
	Disposal of construction and demolition waste.
Wastewater	Installation of decanter boxes for washing buckets and cement mixers
	Installation of proper filtering elements.
	Carrying out periodic checks and clean-ups for the decanter box.
	Prioritize reuse of aggregates and water from the decanter box.
	Ensure safe disposal of liquid wastes generated at camp site.
Air	Regular maintenance of vehicles
	Covering or wetting of dusty materials
	Dust suppression by wetting surfaces
	Impose speed limits
	Revegetate bare surfaces soonest
Noise	Notify nearby population prior to any typical noise events
	Ensure construction activities do not generate unacceptably high level of noise
	Restrict working to daylight hours
	Locate noisy equipment / facilities away from sensitive receptors
Water and Hydrology	Preventing waste, soil, etc. entering in the water system by waste collection, revegetation and dust suppression etc.
	Ensure proper drainage of working areas e.g. perimeters lines must be provided with open shallow drains
Flora and Fauna	Agreeing with local authorities on tree felling.
	Prevent disturbance of animals

Elements	Sub-Elements
	Ensuring sufficient free flow in the construction work for fish migration
Monitoring of Air Quality	Performance of air quality tests at selected sensitive sites for parameters SPM 2.5/10, SO <sub>x</sub> , NO <sub>x</sub> 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 at selected sites (borrow areas, spill sites) for parameters as organic matter, N, P, K, pH, Salinity, S and Zn.
Monitoring of Surface Water Quality	Performance of analyses on surface water (river, khal, beel and pond) 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.
Deployment of Environment and Safety Supervisor	Employ one full-time Environment and Safety Supervisor for compliance monitoring of EMP
Complaints and Environmental Incidents	Grievance Redress Mechanism will be established.
	Complaints received from the public or other stakeholders will be registered and recorded and be brought to the attention of the Site Engineer.
	All environmental incidents occurring on the site will be recorded and be brought to the attention of the Site Engineer.
	Action will be taken within 7 working days.
Reporting and Documentation	<p>The following records will be kept at site:</p> <ul style="list-style-type: none"> <li>- Environmental Monitoring Results</li> <li>- Contractors self-assessment record/results</li> <li>- Register of non-compliance</li> <li>- Register of corrective actions</li> <li>- Monthly Environmental Reports</li> </ul>
Training	Environmental training on EMP will be arranged for Construction Field supervisors and Environment & Safety Supervisors.
Electrical safety	Clearly visible notification on the safe use of electrical appliances
	Check all wirings to prevent any accident, fire due to short circuit
	Rise the wire system up or underground conduit system should be established
	Close all the switch board properly. Only responsible will check at regular intervals
	Cover the joint by tape or other insulating materials
Forklift Operation	Designate movement routes for forklifts
Safety at Barge	Occupational safety measures to be maintained
	Proper anchorage
	Balanced loading
	Workers to use PPE
	Maintain speed limit of forklift
	Regular toolbox talk
	Separate lane for pedestrian and forklift

**Table 2: Summary Status of Compliance and Non-Compliance and comparison between whole year and Quarter 4 in 2021, Package-01**

S.N	Inspected Sites	No. of Compliance in a Year	No. of Non-Compliance in a Year	% of Compliance in a year	% of Non-Compliance in a year	Number of Compliance in Q4	Number of Non-Compliance in Q4	% of Compliance in Q4	% of Non-Compliance in Q4
1	Fuel storage areas	480	0	100.0	0.0	120	0	100.0	0.0
2	Access road construction	96	0	100.0	0.0	24	0	100.0	0.0
3	Temporary Facilities Decommissioning	0	48	0.0	100.0	60	12	83.3	16.7
4	Construction and re-sectioning of embankments	288	0	100.0	0.0	72	0	100.0	0.0
5	The bank and slope protection works	96	0	100.0	0.0	24	0	100.0	0.0
6	Re-excavation works	480	48	90.9	9.1	120	12	90.9	9.1
7	Manufacture of pre-cast CC blocks	312	0	100.0	0.0	78	0	100.0	0.0
8	Borrow Material	312	0	100.0	0.0	78	0	100.0	0.0
9	Hard Rock Revetment	42	0	100.0	0.0	78	0	100.0	0.0
10	Occupational Health and Safety	360	0	100.0	0.0	90	0	100.0	0.0
11	Public Health and Safety	288	0	100.0	0.0	72	0	100.0	0.0
12	Water Supply	144	24	85.7	14.3	36	6	85.7	14.3
13	Sanitation	240	0	100.0	0.0	60	0	100.0	0.0
14	Solid Waste Management	144	0	100.0	0.0	36	0	100.0	0.0
15	Waste water	168	72	70.0	30.0	42	18	70.0	30.0
16	Air	168	0	100.0	0.0	42	0	100.0	0.0
17	Noise	192	0	100.0	0.0	48	0	100.0	0.0
18	Water and Hydrology	96	0	100.0	0.0	24	0	100.0	0.0

19	Flora and Fauna	288	12	96.0	4.0	72	6	92.3	7.7
20	Monitoring of Air Quality	48	0	100.0	0.0	12	0	100.0	0.0
21	Monitoring of Noise Quality	48	0	100.0	0.0	12	0	100.0	0.0
22	Monitoring of Soil Quality	48	0	100.0	0.0	12	0	100.0	0.0
23	Monitoring of Surface Water Quality	48	0	100.0	0.0	12	0	100.0	0.0
24	Monitoring of Drinking Water Quality	48	0	100.0	0.0	12	0	100.0	0.0
25	Deployment of Environment and Safety Supervisor	48	0	100.0	0.0	12	0	100.0	0.0
26	Complaints and Environmental Incidents	192	0	100.0	0.0	48	0	100.0	0.0
27	Reporting and Documentation	48	0	100.0	0.0	12	0	100.0	0.0
28	Training	48	0	100.0	0.0	12	0	100.0	0.0
29	Construction of the closure dam	216	0	100.0	0.0	54	0	100.0	0.0
30	Electrical safety	216	0	100.0	0.0	54	0	100.0	0.0
31	Forklift Operation	24	24	50.0	50.0	6	6	50.0	50.0
32	Safety at Barge	168	24	87.5	12.5	42	6	87.5	12.5

Table 3 comprises the elements and sub-elements considered by the contractor of Package 02 for the purpose of environmental inspections. Table 4 gives a comparison on compliances and non-compliances for the whole year and also the last quarter of 2021 for contractor of Package 02. The observations from Table 4 are:

- Based on the data garnered from the Twice-Monthly Environmental Inspection Reports, Package 02, the audit team considered 17 different elements for inspection and an improved compliance level was observed for most of these elements. From the analysis of compliance and non-compliance of the entire year 2021, it was revealed that 6 elements were 100% compliant for the full year and in last quarter. Thus, compliance level is steady by this measure.
- 10 out of 17 different elements inspected were equally or more compliant in the fourth quarter of 2021 compared to the full year compliance level. Compliance is notably improving by this measure.
- 1 element out of 17 elements found with less compliance level at Q4 compare to whole year. Thus, compliance level is declined by this measure.

**Table 3: Summary Status of Compliance and Non-Compliance and comparison between whole year and Quarter 4 in 2021, Package-02**

SI	Inspected Sites	No. of Compliance in a Year	No. of Non-Compliance in a Year	%of Compliance in a year	%of Non-Compliance in a year	Number of Compliance in Q4	Number of Non-Compliance in Q4	%of Compliance in Q4	%of Non-Compliance in Q4
1	Construction of Base camp	636	24	96.4	3.6	318	12	96.4	3.6
2	Fuel storage areas	276	12	95.8	4.2	312	18	94.5	5.5
3	Access road to the base camp	120	60	66.7	33.3	312	18	94.5	5.5
4	Training	60	0	100.0	0.0	30	0	100	0
5	Occupational Health and safety	492	24	95.3	4.7	318	12	96.4	3.6
6	Public Health and Safety	344	32	91.5	8.5	312	12	96.3	3.7
7	Water Supply	278	36	88.54	11.46	139	18	88.54	11.46
8	Sanitation	288	12	96.0	4.0	144	6	96	14
9	Solid Waste Management	180	60	75.0	25.0	90	30	75	25
10	Waste water	216	108	50%	50%	108	54	50%	50%
11	Air	288	12	96.0	4.0	144	6	96	4
12	Noise	240	0	100.0	0.0	120	0	100	0
13	Water and Hydrology	120	0	100.0	0.0	60	0	100	0
14	Monitoring of Drinking Water Quality	60	0	100.0	0.0	30	0	100	0
15	Deployment of Environment and Safety Supervisor	60	0	100.0	0.0	30	0	100	0
16	Complaints and Environmental Incidents	192	48	80.0	20.0	96	24	80	20
17	Reporting and Documentation	60	0	100.0	0.0	30	0	100	0

#### 2.2.4. Grievance Redress Mechanism

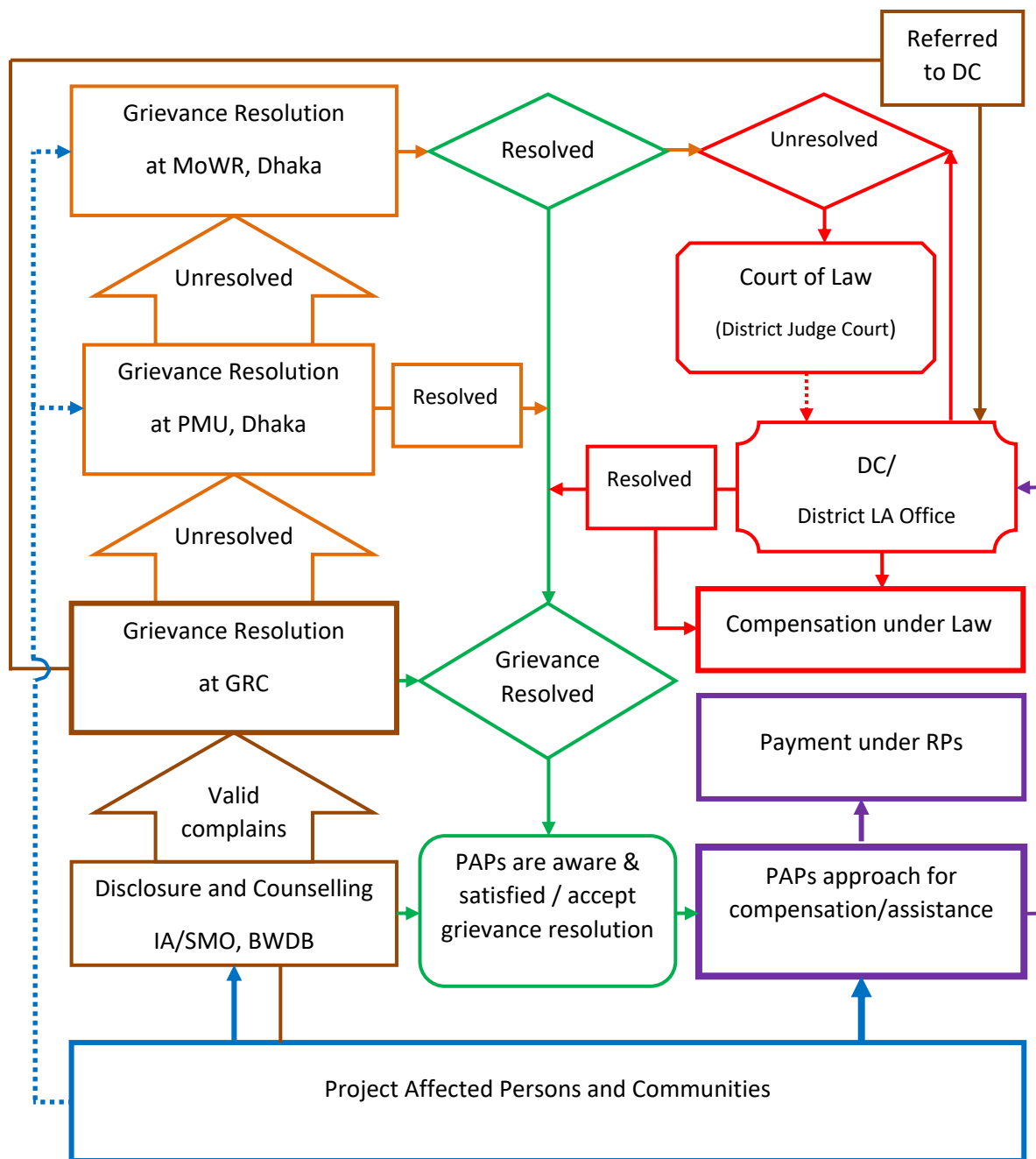
Several social and environmental issues may arise during implementation stages of the Project. Following are some of the environmental issues that could be the subject of grievances from the affected people, concerned public, construction workers and civil society members:

- 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 including crop damage;
- 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. CEIP-1 has designed the GRM and the PMU, with the 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, it is designed to use 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 the following figure.



The Project Management Unit (PMU) and Project Implementation Organizations (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. In past years, the project information brochure including information on the GRM has been 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 been formed 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 Council Member   | : Member            |
| 4. Teacher from Local Educational Institution<br>(nominated by Upazila Administration) | : Member            |
| 5. Representative from Local Women's Group   | : Member            |
| 6. Representative from the PAP Group   | : Member            |

#### 2.2.4.1. Grievance Redress Mechanism (GRM) for Package-01

There are 15 Grievance Redress Committees (GRC) at local level for Package 01 out of 15 GRCs required. These GRCs have been formed earlier at each Union of all Polders under Package 01 with the representatives of BWDB, Union Parishad, educational institute, PAPs and DDCS&PMS Consultants. The Project's stated target is to try to resolve all cases within four weeks from the date of GRC receiving the complaint and trying to resolve the cases locally.

A total number of 178 complaints/grievances have been received up to December 2021 by GRC in Package-01. Table 5 shows the types of complaints received in Package 01. During the January-December, 2021 period, only one new grievance was registered and that was an appeal for structure compensation.

**Table 4: Type of complaints received in Package 01 through December 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
<b>Grand Total</b>		<b>58</b>	<b>17</b>	<b>30</b>	<b>73</b>	<b>178</b>

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

Among the complaints, 43 cases have been resolved at the entry level and 134 cases have been resolved through investigation and formal hearing by GRC and 1 case remains pending. Table-6 shows the status of complaints/cases received and resolved so far by GRC.

**Table 5: 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
<b>Total</b>			<b>178</b>	<b>43</b>	<b>134</b>	<b>1</b>

Source : MPR, December 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.

#### 2.2.4.2. Grievance Redress Mechanism (GRM) for Package-02

Union-wise GRCs have been established between August and October 2017 in the Package 02 Polders (39/2C, 40/2, 41/1, 43/2C, 47/2 and 48). Table-7 lists the 21 GRCs for Package 02 polder-wise.

**Table 6: Polder-wise Date of Establishment and Location of Grievance Redress Committees of Package 02**

Sl. No.	Polder Name	Number of Committees	Location	Date of Formation
1.	39/2C	9	Bhandaria Pourosova, Bhandaria Pirojpur	05/10/2017
2.			1 No. Vitabaria Union, Bhandaria Pirojpur	05/10/2017
3.			2 No. Nadmullah Shialkathi Union, Bhandaria, Pirojpur	05/10/2017
4.			3 No. Telikhali Union, Bhandaria, Pirojpur	05/10/2017
5.			4 No. Ekri Union, Bhandaria, Pirojpur	05/10/2017
6.			5 No. Dhawa Union, Bhandaria, Pirojpur	05/10/2017
7.			2 No. Dhanisafa Union, Mothbaria, Pirojpur	05/10/2017
8.			3 No. Mirukhali Union, Mothbaria, Pirojpur	05/10/2017
9.			1 No. Chechri Rampur, Union, Mothbaria, Pirojpur	05/10/2017
10.	40/2	3	Pathorghata Poursosova, Pathorghata Barguna	30/08/2017
11.			Charduani Union, Pathorghata Barguna	30/08/2017
12.			4 No. Pathorghata Union, Pathorghata, Barguna	30/08/2017
13.	41/1	3	Barguna Poursosova, Barguna	30/08/2017
14.			5 No. Aila Patakata Union, Barguna	30/08/2017
15.			6 No. Burir Char Union, Barguna	30/08/2017
16.	43/2C	2	Amkhola Union, Golachipa, Patuakhali	27/08/2017
17.			Golkhali Union, Golachipa, Patuakhali	27/08/2017

Sl. No.	Polder Name	Number of Committees	Location	Date of Formation
18.	47/2	1	Dalbu Gonj Union, Kolapara, Patuakhali	07/09/2017
19.	48	3	Kuakata Pourosova, Patuakhali	07/09/2017
20.			Dhulashar Union, Kolapara, Patuakhali	07/09/2017
21.			Lotachapli Union, Kolapara, Patuakhali	07/09/2017

There are 21 Grievance Redress Committees (GRC) at local level for Package-02 since this Package covers 21 unions. 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. Efforts have been made to reach resolution of all cases within a four-week time from the date of receiving the complaint and trying to resolve locally.

A total number of 51 complaints/grievances have been received up to December 2021 by GRC in Package 02. Table 8 shows the types of complaints received through December, 2021 in Package 02. There were no new grievances in 2021 and only six grievances registered in 2021. Considering the nature of the complex works as well huge geographical coverage of the project, there should be more grievances. There is room to think and providing more efforts on making the people aware on the GRM system of the project so that they are aware on GRM as well as know the exact channel to raise it.

**Table 7: Type of complaints received in Package 02 through December, 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
<b>Grand Total</b>		<b>18</b>	<b>16</b>	<b>17</b>	<b>51</b>

Source : MPR, December 2021, DDCS&PMS Consultant

Among the complaints, 51 cases have been resolved at the entry level. Table 9 shows the status of complaints/cases received and resolved so far by GRC.

**Table 8: 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	8
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
<b>Total</b>			<b>51</b>	<b>51</b>	<b>0</b>	<b>0</b>

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

In Package 02 areas, the GRM covers both social and environmental concerns; no formal 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.

### 2.2.5. Monitoring Testing results

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 the tests were performed in their laboratory. However, it is recommended that both the contractors carry out monitoring testing covering every year.

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

Sl. No.	Type and nos. of Test	Parameters tested	Status on testing results	Comments
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 samples, 17 samples have all parameters within normal range of Bangladesh Standard for inland Surface Water (ECR 97). 9 samples contain slightly 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 crops of Bangladesh (FRG 2005)	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 the farmers, according to recommendations of DAE. For Zinc deficiency, Zinc fertilizers need to be applied after plot wise soil testing verification.
4.	Test of Air quality  Total 18 samples	Test of air quality include contents of PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , 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 <sub>2.5</sub> , 2 have higher contents of PM <sub>10</sub> and NO <sub>x</sub> and 2 have higher contents of PM <sub>2.5</sub> , PM <sub>10</sub> and NO <sub>x</sub> , which have pollution concern to different degrees	The higher values of PM <sub>2.5</sub> , PM <sub>10</sub> and NO <sub>x</sub> 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 <sub>2.5</sub> is a common occurrence. However, care is being taken, so that air pollution can be avoided/ minimized through the activities CEIP-1

Sl. No.	Type and nos. of Test	Parameters tested	Status on testing results	Comments
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 dBA) of mixed area.	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.

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 river 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.

Sl. No.	Type and nos. of Test	Parameters tested	Status on testing results	Comments
4.	Test of Air quality 23 air samples were collected for testing	Test of air quality include contents of PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , 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 have higher PM <sub>2.5</sub> contents and 1 location had a higher value of NO <sub>x</sub> according to Bangladesh ambient air quality standard (DOE 2005), that causes health hazard to some people	The higher values of PM <sub>2.5</sub> and NO <sub>x</sub> in the air contribute to air pollution and rise 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 <sub>2.5</sub> 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	<p>For Polder 39/2C, Generator areas, Stacking area, Workshop area have higher values of noise, whereas living area has noise value within permissible limit</p> <p>For Polder 40/1, Mixture machine has higher noise value, whereas living area, curing area, stacking areas have less noise values within permissible limit.</p> <p>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</p> <p>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</p> <p>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.</p> <p>For Polder 48, Mixture machine and stacking area have higher values of noise, whereas living area, Workshop area and most of curing areas have noise values within permissible limit</p>	<p>The Contractor has arranged various safety measures for the workers in locations having higher noise values.</p> <p>In addition, workers have been made aware to be careful of working in high noise level areas.</p>

## 2.2.6. Contractor's Emergency Response Plan

### 2.2.6.1 Package 01

The Contractor has prepared its emergency response plan to ensure the implementation of the occupation health, safety standards of the Project and as stipulated in the company's environment, occupation health and safety policy. These standards aim to form a safe, healthy, civilized, clean and tidy cultural environment in the entire Project area, and to continuously improve the management level of engineering construction. It is designed to guide rapid response to the potential EHS emergencies (natural and accidental) that might occur due to project activities or natural disasters. At the same time, it will minimize the damage and loss to the personnel, local inhabitants and the company. This plan cites emergency resources, emergency plans in case of accidents, prevention of casualties, emergency response procedures and site emergency and rescue procedures for fire emergency, height falls, mechanical injury, lifting damage, electric shock accident, emergency measures for a collapse accident, traffic accident and heat stroke. It also covers environmental management and control measures for dust control, noise control, solid waste control, control of water and air pollution. The plan also reveals how the Contractor will improve its emergency rescue ability and strengthening safety education of project staffs including the local labours. The Audit Team finds that the plan is a helpful document, which will reduce the EHS risks. On the other hand, the Team also recommends that the Contractor facilitate training for its staff on the emergency response plan so that they are conversant with its contents every year.

The emergency response plan is also a living document; it has been used by the Contractor of Package 01 continuously. The emergency response plan covers both natural and man-made disasters, and accidents and injuries. As injuries/accidents have been experienced by the Contractor continuously (mostly minor accidents), the emergency response plan has been utilized continuously. Examples of this are the actions being taken for accident/injury victims including the reporting, or awareness raising by the Contractor among its staff members/workers regarding the preparedness measures for any anticipated disaster such as the Amphan cyclone which took place in Bangladesh.

In addition, an Emergency Preparedness Plan (EPP) considering the COVID19 management has been prepared by the contractor based on the GoB/WHO/WB guidelines, that was submitted to WB and cleared by the WB. The plan has been translated in Bengali and Chinese languages by the contractor.



The audit revealed that the COVID-19 management plan is being implemented at day to day activities.

#### **2.2.6.2. Package 02**

The Contractor 02 has also prepared its emergency plan and from the audit it is found to be a comprehensive and good document that would allow the contractor to face a wide variety of emergency situations.

The emergency response plan has been also used by the Contractor of Package 02 continuously. The emergency response plan of Contractor of Package 02 covers both natural and man-made disasters, and accidents and injuries. As injuries/accidents have been experienced by the Contractor continuously (mostly minor accidents), the emergency response plan has been utilized continuously similarly to what has been described above with respect to Package 01.

In addition, an Emergency Preparedness Plan (EPP) considering the COVID19 management has been also prepared by the contractor of Package 02 based on the GoB/WHO/WB guidelines, that was submitted to WB. Hence, it was cleared by WB on 03 February 2021. The EPP has also been translated into Bangla and Chinese languages by the Contractor of Package 02 and they are implementing the COVID-19 plan in its day to day activities.

#### **2.2.7. Correspondence on EHS issues**

In CEIP-1, the correspondences for improving the EHS practices and complying the non-compliance issues have been maintained based on the findings or gaps revealed by the PMU and DDCS&PMS Consultants to keep the environmental safeguards issues on track. The sixth audit found that from PMU, the Project Director with the advice of Sr. Environmental Specialist and Field level Environmental Specialist of the PMU makes necessary correspondence with the DDCS&PMS Consultants for environmental safeguards issues as and when required.

The DDCS&PMS Consultants also make necessary correspondences/ send letter to the contractors of both Package 01 and Package 02 of CEIP-1 and vice-versa on environmental issues to improve the EHS practice levels and comply the non-compliance issues (Annex- 4.4).

#### **2.2.8. Decommissioning carried out by Contractor of Package 01**

As activities of the Package 01 Contractor are at the ending stage, they have prepared a decommissioning plan which has been reviewed by the PMU and DDCS&PMS Consultants for finalization, and currently this is being implemented. The implementation of the decommissioning plan

is being monitored by PMU, DDCS&PMS Consultants and Third Party M&E Consultants.

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

The outbreak of COVID-19 affected the work progress and had a great demand to maintain the 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 December, 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.
- 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.
- It was made mandatory that all personnel wear surgical masks during working and has been provided masks before going to work every day.
- Arrangement made to keep workers' hands clean with hand sanitizer and disinfectant to avoid spreading of the virus, which is followed strictly.
- Thorough disinfection drive was conducted every Friday, including office areas, camps, pre-fabrication plants, construction vehicles and motor vehicles.
- Supplied PPE like surgical masks, medical gloves, eye mask to supporting staff (such as gate guard, police).
- Conducted training of workers for awareness on prevention and safety issues related to Corona virus infection during tool box talking.
- Staffs and workers are not allowed any leave during work and leaving work site is restricted.
- Access to work sites and camp site by the local people is restricted.
- 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/observe any symptom of COVID-19 and adopt required measures as stated in Covid-19 OHS protocols in case it is found positive.

### 2.2.10. Monthly EHS meeting

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 outbreak of Covid-19.

During the audit covered period, the latest virtual monthly Environment, Health and Safety (EHS) meeting regarding the EHS issues in different polders of Package W-02 was held at 11.00 a.m. on 19<sup>th</sup> of July, 2021, presided over by Mr. Md. Halim Shalehy, Executive Engineer (Addl.C.), Patuakhali WD Division, BWDB and Convener of the Committee. The meeting was participated by PMU Environmental Specialists, Env. Specialist of DDCS&PMSC, Env. Specialist of Third-Party M&E Consultants, Representatives of World Bank and Representatives of the Contractor (Package-2), CEIP-1. The decision and follow up the Environmental Safeguard agenda are outlined herewith.

Sl. No.	EHS Tasks/Agenda	Decisions	Follow up status
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Sl. No.	EHS Tasks/Agenda	Decisions	Follow up status
1.	Compliance status of COVID-19 measures as per OHS manual.	The contractor should strictly comply with the Covid-19 protocols continuously. DDCS & PMS consultants will monitor the compliance level and report to PMU regularly.	Being followed as per approved EPP for Covid-19 manual
2.	Good-household keeping	The Contractor will improve the household waste management system in the mentioned Polders by 7 days' time.	Done. Further improvement is advised for Polder 40/2 & 48.
3.	Establishment of Industrial waste storage area	The contractor will establish dedicated industrial waste area within 10 days. DDCS&PMS consultants will inform PMU along with photographs after completion of the work.	Established. Further improvement is advised in Polder 40/2.
4.	Activity of GRM	DDCS&PMS consultants and Environmental Specialist PMU will motivate the workers for lodging the complaints.	Being followed as continuous item
5.	Holding of regular tool box talk	Holding of tool box talking should be continued. It should be conducted separately with different categories of workers such as driver, workshop workers etc. rather all at a time.	Being followed as continuous item
6.	Hygienic toilet facilities	The contractor will maintain toilets hygienically at all work sites.	Being maintained as continuous items.

The CEIP-1 Environmental Specialist team pay attention to comply the decision of monthly EHS committee meeting and put record any shortfall to place in the next meeting. The Project is receiving benefit through monthly EHS committee meeting for smoothly implementation of the Environmental safeguard practices in work sites of CEIP-1.

### 2.2.11. Mechanism for Complying Safeguard Requirement at Sites

The safeguard requirements are basically being complied as per EMP include in approved EIA. Again the site specific environmental safeguard are complied as specified in EAP and C-ESMP for Package-1 and Package-2 respectively prepared on the basis of approved EIA. Besides these, Emergency Preparedness

Plan (EPP) for Covid-19, Environmental and Social Incident Response Toolkit (ESIRT), recommendation of Annual Environmental Audit Reports and Program suggested in Bi-annual Environmental Monitoring Reports are also followed as a part of environmental safeguard compliance. The Environmental monitoring tests such as Air quality, soil and water quality is being conducted by CRTS of Khulna University of Engineering and Technology. The EHS committee headed by Executive Engineer, BWDB undertake full efforts for complying environmental safeguards and instruct necessary improvements of EHS quality to the contractor. The Environmental Specialists of PMU, DDCS & PMS Consultants monitor the compliance level at fields as directed by the EHS committee. The Environmental Specialists and the contractor provide training to the workers and staff during site visits and in tool box talking & monthly training session for complying the environmental safeguards.

The evolving of COVID-19 pandemic in Bangladesh compelled both the contractor of Package-1 and 2 for maintaining covid-19 management at each site. From the beginning of Coronavirus infection in Bangladesh the Contractor was very much aware of implementation of the instructions mentioned in OHS protocol of construction sites for protection of their work force against COVID-19 infection. They have maintained consultation with PMU, who has the overall accountability of the OHS governance and assurance of the project. The Contractor erected various pictorial signboards at all worksites displaying how various practices related to control of COVID-19 to be adopted by the work force. Moreover, they have trained the workers on how to remain safe/unaffected from the attack of COVID-19 and what measures to be followed in case of any infection of COVID-19, following the COVID-19 OHS protocols and other instructions from the local National Health Departments. The Contractor has also maintained constant communication with the various clinics/hospitals to face any incidence of COVID-19 infection.

Major other steps undertaken by the Contractor, following the COVID-19 OHS Protocols are as follows:

- The Contractor developed a plan for COVID-19 pandemic to address the exposure risk, routes of transmission of workers in advance as possible of potentially worsening outbreak conditions.
- Appointed Covid-19 Site coordinator, responsible for all control measures related to COVID-19 prevention.
- Informed/trained/supervised employees with updated and usual health and updated preventive recommendations that have to be followed individually and collectively.
- Provided workers with the COVID-19 related Personal Protective Equipment (COVID-PPE) according to local health authority that included face mask, face shields or glasses, hand sanitizers and others required.
- Avoided physical gathering and non-essential meeting and made arrangement for maintaining distance (2 meters) for individual work force working at site.
- Measuring body temperature of workforce every day at inception of work.
- Make arrangement for hand cleaning by use of approved hand sanitizers/soap by the workforce at number of times to avoid infection/spreading of virus
- Provision of PPE like surgical masks, medical gloves, eye mask to supporting staff (such as gate guard, police)

- Provide quarantine facilities at all camp sites
- Thorough disinfection drive carried out on weekly holiday in all work sites like office areas, camps, prefabrication plants/workshop, construction vehicles. Equipment, motor vehicles etc.
- Workers are not allowed any leave during work period and leaving work site is forbidden
- Workers were encouraged to get vaccinated for all the 3 courses as approved by the National Health Department
- Carried out routine testing of the workforce for potential COVID-19 infection
- Workers were asked to notify with immediate action to their Supervisors, if feeling ill, sick or unwell.
- Made arrangement for adoption of required measures whenever any worker gets infected.

### 2.3. Environmental staff resources

For implementation, supervision and monitoring of EMP compliance, the following staff resources have been deployed.

**Table 9: Environmental, Health and Safety Personnel**

Sl.	Name	Designation	Place of posting	Mobile No.	E-mail Address
01	Syed Hasan Imam	Project Director	Dhaka	0 1720-015064	pdpmuceip@gmail.com
02	Jean Henry (Harrie) Laboyrie	Team Leader, CEIP-1	Dhaka	01935146720	harrie.laboyrie@rhdhv.com
03	A K M Momtaz Uddin	Deputy Team Leader, CEIP-1	Dhaka	01711026230	akmmomtaz@gmail.com
04	Jan T. Twarowski	Team Leader, Third Party M&E Consultants	Dhaka	01745573470	tl.me.ceip1.sheladia@gmail.com
05	Md. Asraful Alam	Executive Engineer, CEIP-1, BWDB, Khulna	Khulna	01318235115	xen.ceip1.khulna@gmail.com
06	Mr. Mahidur Rahman	Deputy Team Leader, Third Party M&E Consultant	Dhaka	01711173629	dtl.me.ceip1@gmail.com
07	Dr. Abu H. Murshid	International Environ. Specialist, Third Party M&E Consultant	Dhaka	01785073802	amurshid@aol.com
08	A.K.M. Rezaul Haque Khan	Environmental Specialist, Third Party M&E Consultant	Dhaka	01712142502	env.me.ceip1.sheladia@gmail.com

Sl.	Name	Designation	Place of posting	Mobile No.	E-mail Address
09	Md. Amir Faisal	PMU Sr. Environmental Specialist	Dhaka	01715-315227	faisal.mdamir@gmail.com
10	Dr. Md. Towhidul Islam	PMU Field level Environmental Specialist	Khulna	01911493918	towhidenvs@gmail.com
11	Mr. M.A. Saleque	PMU Senior Revenue Officer	Dhaka	01785214443	masaleque@gmail.com
12	Md. Aftab-Ul-Alam	Senior Social Specialist, PMU	Dhaka	01716132723	Aftabualam.7787@gmail.com
13	Mr. Akbar Hossain	Senior Forestry Specialist, PMU	Dhaka	01711543475	ahossain56.bd@gmail.com
14	Currently vacant	Communication Officer, PMU	Dhaka		
15	Zahiruddin Md. Babar	Social Specialist/ Economist, PMU	Khulna	01711005885	zahir_babar@yahoo.com
16	GM. Akram Hossain	Resident Engineer-1	Patuakhali	01713040037	gmakram68@gmail.com
17	Currently vacant	Deputy Resident Engineer-1, CEIP-1	Khulna		
18	Mohammad Ali	Deputy Resident Engineer-2, CEIP-1	Patuakhali	01711320432	ceip1patuakhali@gmail.com
19	Abu Bakr Siddique	Environment Specialist, CEIP-1	Dhaka	01795095607	abs_1949@yahoo.com
20	Md. Saiful Islam	Construction Supervision Engineer-1	Khulna	01727332986	saifulkhulna@gmail.com
21	Md. Harunur Rashid	Quality Control Specialist	Patuakhali	01720043618	engrharun7@gmail.com
22	A.K.M.Mazibur Rahman	Construction Supervision Engineer	Patuakhali	01712540050	akmmr1955@gmail.com
23	Sadequl Islam	Construction Supervision Engineer	Patuakhali	01822213320	Sadequl477@gmail.com
24	Mr. Sun Huaxin	Project Manager (Contractor), CHWE	Khulna	01991996805	chwe_ceip1_bd@hotmail.com
25	Mr. Ren Gaofei	Environment, Health and Safety in-charge, CHWE, Package-1	Khulna	01761931689	18738153286@163.com
26	Mr. Prodip Sarker Babu	Local EHS Officer, Khulna, Package-1	Khulna	01716717871	prodip.babu80@yahoo.com
27	Mr. Song Kunpeng	Chinese EHS Engineer	Polder 32	01646810982	441656743@qq.com
28	Mr. Aporup Roy	Local EHS officer	Polder 32	01751630797	Aporoy09@gmail.com



Sl.	Name	Designation	Place of posting	Mobile No.	E-mail Address
29	Mr. Gao Xing	Chinese EHS Engineer	Polder-35/1	01646737474	1065708430@qq.com
30	Mr. Sohel Rana	Local EHS Officer	Polder-35/1	01792094033	md.masudr921@gmail.com
31	Mr. Wang Jian	Chinese EHS Manager	39/2C	01887707650	281196254@qq.com
32	Mr. Taher	Local EHS Officer	39/2C	01712003561	-
32	Mr. Chen Guangyong	Chinese EHS Manager	40/2	01788933654	981444742@qq.com
33	Mr. Emon	Local EHS Officer	40/2	01939648808	emon.islam8808@gmail.com
34	Mr. Luo Tao	Chinese EHS Manager	41/1	01645649518	1498290447@qq.com
35	Mr. Azhar	Local EHS Officer	41/1	01797181079	sajaldavid92@gmail.com
36	Mr. Guo Linyang	Chinese EHS Manager	43/2C	01648201676	471277572@qq.com
37	Mr. Hemayetuddin	Local EHS Officer	43/2C	01719459671	hemayetuddin91@gmail.com
38	Mr. Yong Zhen	Chinese EHS Manager	47/2 & 48	01741510253	1196150381@qq.com
39	Mr. Md.Musa	Local EHS Officer	48	0176463243	mahinmusa71@gmail.com
40	Mr. Ma Danyong	EHS In-charge of CICO	Patuakhali	01712707924	1291430960@qq.com

## 2.4. Necessary equipment and arrangements for environmental monitoring and testing

As mentioned in section 2.2.5 that samples for tests for air quality, surface and drinking water, and soil were collected from both the Package 01 and Package 02 areas and the reports were prepared at the laboratory of Consultancy for Research and Testing Services (CRTS) of Department of Civil Engineering of Khulna University of Engineering & Technology (KUET). During the audit reporting period, noise level measurements were undertaken which is submitted on monthly basis, as reported in monthly progress report.

## 2.5. Staff awareness and training

The Package 01 Contractor has conducted a robust program of monthly environmental training during the January-December 2021 period. More than 1,300 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. Please see table below for the breakdown:

**Table 10: Number of Package 01 Participants (Staff and Workers) Receiving Environmental Training During 2021**

Polder No/ Place	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total in 2021

32	19	20	19	19	20	80	80	72	78	72	11	35	525
35/1	60	60	58	52	68	86	86	81	84	68	106	36	845
<b>Total</b>	<b>79</b>	<b>80</b>	<b>77</b>	<b>71</b>	<b>88</b>	<b>166</b>	<b>166</b>	<b>153</b>	<b>162</b>	<b>140</b>	<b>117</b>	<b>71</b>	<b>1,370</b>

Source: Monthly Report of Contractor of Package 01

Interviewing the Contractor 01 EHS staff revealed that, considering less works in the field due to the COVID19 and also the near completion of some of the physical works, fewer participants compared to previous years have been covered during the reporting year.

The Package 02 Contractor has also conducted a very robust program of monthly environmental training during the January-December 2021 period. More than 9,000 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. Please see table below for the breakdown:

**Table 11: Number of Package 02 Participants (Staff and Workers) Receiving Environmental Training During 2021**

<b>Polder No/ Place</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Total in 2020</b>
39/2C	70	79	80	150	258	289	280	285	290	265	239	241	2526
40/2	150	184	200	215	206	135	132	120	130	125	139	135	1871
41/1	180	195	190	190	156	75	81	5	60	120	187	169	1608
43/2C	130	166	185	200	166	82	75	55	50	55	105	125	1394
48	60	118	165	165	163	112	110	80	88	155	159	169	1544
<b>Total</b>	<b>590</b>	<b>742</b>	<b>820</b>	<b>920</b>	<b>949</b>	<b>693</b>	<b>678</b>	<b>545</b>	<b>618</b>	<b>720</b>	<b>829</b>	<b>839</b>	<b>8,943</b>

Source: Monthly Report of Contractor of Package 02

Despite COVID19, due to the rapidly expanding number of activities and work fronts, the number of participants trained in 2021 was much higher than the 1,731 of the previous year.

The following major topics have been discussed during the training sessions.

- Environmental Management in the CEIP-1
- Environmental Health and Safety
- COVID19 management
- Environmental Monitoring
- Reporting

The Environmental Specialists of PMU, DDCS&PMSC and Third Party M&E team also provided on-the-job training during their combined/joint visits to work sites.

In all the training sessions, the following issues were discussed:

- The workers should use all required PPE like helmet, mask, hand gloves, safety boot, glass, visible jacket (vest), life jacket (during crossing river) etc. The Contractor has to supply the PPE

and workers have to use them for their safety.

- Regular hand washing, sanitizing, social distancing.
- Conduct of regular tool box talk with the workers for enhancement of workers' awareness on EHS safety.
- Provision of safe water and supply of required medicine to be made by the Contractor for the use by the workers during work.
- Monitoring and recording of noise levels of high noise areas and provision of noise barriers at required locations and use of ear plug.
- Introduction of rotational works for the workers of high of high noise area (especially in the CC block manufacturing yards) to limit the effect of high noise.
- Construction and maintenance of suitable secondary container (with minimum 110% capacity) for storage of hazardous fuel and chemical materials.
- Establishment of impervious/concrete pavement with collection sump/ditch at the refueling areas with spill kit/absorbent mat.
- Establishment of temporary industrial waste storage with impervious/concrete pavement at required work sites, especially at the CC block manufacturing plants.
- Take all required arrangement for traffic management including deployment of guard; maintaining separate facility for movement of fork lifters.
- Provision of signboards/signage at required location for provision of information and maintaining safety for workers, local population and avoiding of potential accident.
- Proper collection of various waste and arrangement of safe disposal

As part of the audit, the evidence from both contractors was examined with respect to training (e.g. training records/attendance sheets, photos).

## 2.6. Fish Conservation Initiative by Contractors

As per the contractual obligation of the Contractors of Package 01 and Package 02, they need to take measures for the conservation and stocking of threatened fish species in polder areas. Considering the work progress and completion period of activities of Package 01, Contractor of Package 01 has made significant progress on fish conservation measures and they have a robust plan to achieve before completion of all other activities of their Package. Contractor of Package 02 has also plan to carry out such works but this needs to be on ground as soon as possible.

### 2.6.1. Fish Conservation Initiative by Contractor of Package 01

During the audit period, 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. 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. This is recommended that Contractor will release these remaining fingerlings and prepare a nourishment plan and implement it as soon as possible.

### 2.6.2. Fish Conservation Initiative by Contractor of Package 02

The Contractor, Package-2 also has various activities related to farm survey and improvement of aquatic resources (mainly fish) within the Polder areas, according to the contract document. They have been instructed by PMU and DDCS&PMS Consultants 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. However, considering the given situation, the Contractor of Packag-02 is recommended to start fish conservation activities as soon as possible.

## 2.7. Feasibility Study of CEIP-II

The consultants team for the feasibility study of CEIP-II has been mobilized. During the audit period draft inception report of the feasibility study was submitted to PMU and the PMU Environment team reviewed and shared their comments those to be addressed with the environmental section of the inception report.

## 2.8. EMP Implementation Budget

As part of the implementation of EMP approximately BDT 6 crore (about \$750,000) is earmarked for each Package-01 and Package-02, though many more items for environmental monitoring and mitigation are included in Package-02. Expenditures are being incurred for:

- Emergency works for breach of embankment and damaged structures;
- Crop compensation to the direct loser, land owner/share croppers of construction site/damaged due to dredge spoils;
- Waste disposal arrangement at construction site;
- Water quality monitoring;
- Air and noise quality monitoring analysis;
- Soil and water salinity monitoring cost;
- Conservation and stocking of threatened fish species;
- Management of soil health by replacing back in agricultural land;
- Reducing erosion through proper compaction, turfing;
- Afforestation along the dyke side to reduce erosion and threat of climatic events.

For Package 01, the total expenditure for EMP cost so far paid is Tk. 55,791,359 out of a maximum budget of Tk. 60,200,000 meaning 92.70% of total budget has been paid. 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, the total paid cost for EMP implementation so far is Tk. 2,115,728 out of a maximum budget of Tk. 64,364,491 amounting to 3.30% of total budget having been paid. From discussion with the PMU, it has been revealed one payment against EHS of items is in process to be paid after a long time. However, considering that there is a lack of EHS personnel at the polder level of each polder of Package02 and there are shortfalls in EHS compliance, it is recommended that the EHS related payment are made smoothly if the items comply as per the contractual obligation of Contractor of Package-02.

## 2.9. Actual implementation/ practice level

### 2.9.1. Review of achievement status of Action Items from the Aide Memoires, status of compliance of the recommendations of Previous Annual Environmental Audits of Third Party M&E Consultants and Last Bi-Annual Environmental Monitoring Report

The following tables represent the achievement status of specific action items raised in Aide Memories of World Bank missions, -previous Annual Environmental Audits, and eleventh Bi-Annual Environmental Monitoring Report during the audit period:

**Table 12: Status of implementation of action items of WB Aide Memoire**

Sl. No.	Sub-actions	Agreed time line (SR: September 5 to 27, 2021)	Updated status
43	Complete recruitment of the fishery	October 31, 2021 New Action	Discussion made with the Faculty of Fisheries, Patuakhali Science and Technology University. They are agreed to provide all sorts of technical support for implementing the fish related activities in CEIP-1/W-02.
44	Implement the recommendations of Annual Environmental Audit Report and Action plan	October 31, 2021 New Action	Most of the action items have been complied
45	Continue improving EHS practices in the work sites by also addressing the Covid 19 response elements maintaining all the precautions in the field and take minimum exposure	Continuous New Action	EHS practice improvement is continued; COVID-19 responses elements are being followed
46	Improve the public awareness regarding the GRM	Continuous New Action	Paying attention to GRM and people are being inspired about GRM

47	Initiate and conduct fish farm survey	November 30, 2021 New Action	Discussion made with the Faculty of Agriculture, Patuakhali Science and Technology University. They will conduct farm survey activities himself and expected to be shared the report with PMU by May 31, 2022
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**Table 13: Status of implementation of action items of Previous Environmental Audit**

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE	STATUS
Actions related to contract Package W-01 & W-02				
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	Being followed and to be continued
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	Not applicable at this stage;  The recommendations will be considered in upcoming project as 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	The report has been shared with the relevant authorities to be followed as required
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 4 <sup>th</sup> and 3 <sup>rd</sup> Audits	Among total 28 actions items of 4 <sup>th</sup> and 3 <sup>rd</sup> audit ( 26 items of 4 <sup>th</sup> audit and 2 items of 3 <sup>rd</sup> audit have been complied), 5 action items related with Long Term Monitoring, Research, and Analysis of Coastal Zone Consultants are still pending

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE	STATUS
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 and to be continued	Improved and 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)	The works for Package W-01 almost completed. So CIEP-1 made arrangement for EHS visits in Polder 39/2C from other Polders of Package W-02
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	The practice level is being improved and the improvement level should be carried out
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 improve the EHS practices. The DDCS& PMS Consultants and PMU also need rigorous supervision to improve the EHS practices in Package 02.	Contractor of Package 02;  DDCS& PMS Consultants; and  PMU	By 20 May 2021 to Show good performance;  Practices to be continued and	The management team of Package W-02 has taken required arrangement for upgrading the EHS qualities in work sites of Package W-02
9	It is recommended to initiate the fish conservation activities for Package 02	Contractor of Package 02	31 July 2021	Discussion has made with the Faculty of Fisheries, Patuakhali Science and Technology University. They are agreed to provide all sorts of technical support for implementing the fish related activities in CEIP-1/W-02.



SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE	STATUS
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	The DDCS&PMS has requested for arranging a program in Polder 39/2C with all EHS Manager & Officer from the other Polders of Package W-02
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	The document is already reviewed and finalized by PMU and this is being followed by the Contractor of the Package W01  Done
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	Being monitored by the PMU, DDCS&PMS Consultants and 3 <sup>rd</sup> Party M&E Consultants.
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 Pkg 01 and Pkg 02;  DDCS&PMSC;  NGOs;  PMU.	30 May 2021	Some gates have been fixed but others need to be fixed as soon as possible
14	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	The polder-specific recommendations have been followed where applicable;  Works have been accomplished/ not ongoing at many of the sites those were visited during the audit.
Action related with Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants				

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE	STATUS
15	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 4 <sup>th</sup> audit below	No progress on this item yet
16	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 <b>(Pending items of forth audit)</b>	Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants	30 April 2021	No progress on this; PMU needs to be reported on this
17	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/ impacts/constraints/ challenges may be evolved for polder development as well as the measures will be needed to be taken <b>(Pending items of forth audit)</b>	Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants	30 April 2021	Requirement of polder-specific EIA should be included in polder development plan;  Status on this needs to come from Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants to PMU

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE	STATUS
18	The updated design and specification Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants need to consider the environmental aspects <b>(Pending items of forth audit)</b>	Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants	Continuous parallel to the design and specification works	Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants need to report PMU on this
19	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 <b>(Pending items of forth audit)</b>	Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants	31 January 2021	No progress on this
Action for decision of PMU				
20	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	Being followed

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE	STATUS
21	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.	DDSC & PMS Consultants; PMU	Will be looking for more coordination as and when required	Coordination are being continuing as per requirement
22	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	Implementation of the Corrective Action Plan has been continued;  Most of the items are already implemented as mentioned in this table
23	The audit recommends that the International Environmental Specialists of DDSC&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 RDPP budget covers)	RDPP does not cover DDSC&PMS Consultant  Mobilization of Third Party M&E Environmental Specialist depends on Project Director's decision

**Table 14: Status of implementation of action items of Bi-Annual Environmental Monitoring Report  
(Covering Jan-Jun 2021)**

SL	Proposed Actions	Status
1	Assure strict compliance of EPP of OHS protocols prepared for measures against spreading of Covid-19 at working sites and camps.	Being followed strictly
2	Fisheries related activities should be started for Package-2 and the remaining work of fisheries should be completed in Package-1	No mentionable progress on this

SL	Proposed Actions	Status
3	Decommission work for Package-1 should be completed	Continues and in progress
4	Monitor the incidents as per ESIRT of the World Bank.	ESIRT is being followed
5	Assure the use of PPE by the workers.	Used; But need improvement on use of PPE
6	Adequate toilet facilities should be provided in all working sites. Special care should be taken for cleanness of toilets.	Being improved
7	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.	Need to carry out measures continuously
8	Ensure regular toolbox talk at all sites including awareness of measures against Covid-19.	Toolbox talks being happened regularly
9	Both Contractors to implement the action plan prepared on the basis of 5th Environmental Audit report and routinely report on its implementation	Continued
10	Follow the safety procedure of the equipment at all sites.	Being followed
11	Aware the workers about the existence of grievance box and register their demand/complain.	Being continued
12	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).	One took place from Package 01 to Package-02 areas and current COVID-19 situation is not allowing

## 2.9.2. Polder-specific field observations

### Package 01

#### Polder 35/1

In polder 35/1 areas, the audit team visited slope protection works at chainage 23+512 km and 24+500 km, embankment works between chainage 52+250 km and 61+800 km, completed Drainage Sluice (DS) 04, DS 08, afforestation works at chainage 25+500 km and 22+000 km, and Tafalbari CC block manufacturing yard. Also, a meeting was held with the Water Management Association (WMA) of Polder-35/1. The findings from the visit are as follows:

- From the visit at two sections of slope protection works, it was found that workers are working but none of the workers were using mask, safety shoes, gloves. There was no demarcation and safety signage at the worksite. It is recommended that Contractor of Package 01 will ensure use of all required PPE and demarcation and safety signage at all such worksites. However, for the improvement of the embankment, the internal communication system of the communities has been improved and the audit found local vehicles (e.g. autorickshaw, vans) run smoothly to carry people. Discussion with the van/ auto rickshaw drivers found that they are happy for the improved communication system and now people can move to different places of the polder very smoothly and the delivery men also can deliver different items very quickly to the local shops.
- Ongoing embankment works between chainage 52+250 km and 61+800 km was visited along with the site of borrow pit from where soil was being collected. From the visit, it was revealed that the landowner of the borrow pit (agriculture land) proposed to make pond at the borrow pit site. The pond was being made at the borrow pit site along with construction of dyke of the pond. The landowner planned to carry out fish culture at the pond to be built at soil collection site and this will give more profit to the landowner than the crop production. There was drinking water and first aid box for the workers at worksite. However, there was not any demarcation or safety signage along with the corridor used for soil collection and at the embankment worksites. This is recommended that the embankment worksite is ensured with adequate safety signage and demarcation.

- From the visit at completed DS 04, it was revealed that the structure is functional. A site office for the WMA of polder 35/1 was found built near the DS 04 site and that was also found functional. The community people shared that numbers of DS structures constructed are not adequate to control water logging and they faced water logging problem during last rainy season. They also suggested that more such structures are required to mitigate the water logging problem inside the polder areas. The visit at the completed DS0 08 site also found that the structure is functional.
- From the audit of the afforestation sites at chainage 25+500 km and 22+000 Km, it was found that the afforestation group are responsible for this section of the afforestation works. Forest department has appointed 3 caretakers to look after the planted saplings and at 22+000 km site, it was found that the caretaker is watering the plants. The audit found that the growth of the plants is good and the diversified indigenous species have been planted (e.g. wood, medicinal, fruits) as per the afforestation plan of the CEIP-1 and no invasive or exotic species has been planted.
- A meeting was held with the WMA of Polder 35/1 on the DS 04. From the discussion with the WMA, the following points were revealed:
  - i. For the constructed embankment, people can travel from one place to another very easily.
  - ii. Storms, tidal surges etc. will not destroy people's houses and other resources as they are protected by improved embankment
  - iii. For the construction of sluice gates, people can preserve water and use that water for cultivation in the dry season.
  - iv. Afforestation done by CEIP will protect the people from climatic disasters and they will get adequate shade, more oxygen and the birds will have new habitats. At present many people are engaged as a watcher and getting paid for taking care of the planted saplings. After ten years from the social afforestation, beneficiaries will get 45% of any profit.

- The audit team visited the Tafalbari CC block manufacturing yard. The team found many good EHS practices in place and there were a few gaps that need to be addressed. Environmental Monitoring register (non-compliance register), accident/injury register, English, Bengali and Chinese versions of EHS risk assessment and EAP (Environmental Action Plan) of Polder 35/1, etc. were in place. At the audited site, there were COVID-19 precautions measures (e.g. screening of temperature, availability of hand sanitizers), wall-mounted fire extinguishers (but their expiry dates need to be checked and they need to be refilled, if required), and grievances/complaints box inside and at gate of the yard. There were first aid boxes with sufficient items, adequate supply of drinking water for the workers at the worksite. The latrines set nearby the office of the yard were found improved. The overall waste management practices at site were found good. The industrial waste found kept in designated place but those need demarcation and messages. It was also found that machines, machineries and vehicles are kept in designated place but those need demarcation. The construction works of package-01 is at ending stage and it was revealed that the yard used as CC block manufacturing was paved. It was revealed that contractor is removing the paved floor from the manufacturing yard to give the land back so that it can be used as agriculture land again. They are not dumping the dismantled debris anywhere whereas they are handing over this to specific vendor. The fuel storage found with all the safety arrangement. The workshop areas also found in organized manner. However, at adjacent place of workshop, oil drips found on unpaved ground from stored oil barrel. Any kind of oil barrels should be stored at designated place and paved floor. Adjacent to the CC block manufacturing yard and on the bank of river, plastic waste/ Polyethylene found dumped that may impose pollution to the river. It is recommended that no waste is dumped on riverbank or any other places randomly rather following the proper management procedure. The audit also found that stone chips were being cleaned with water and the wastewater was directly dumped to the river. To avoid pollution of river water, it is recommended not to clean stone chips on riverbank. The work is recommended to be done inside the CC block manufacturing yard with proper management of wastewater generated from the cleaning of stone chips.



**Polder 39/2C**

Under Polder 39/2C, the audit team visited the completed riverbank protection works from chainage 53+350 km, Contractor's Nadmula camp and Nadmula CC block manufacturing yard, completed DS12 and embankment construction works at chainage 45+600 km. The audit findings are as follows:

- From the audit at river bank protection works, it was found that works are completed at the visited portion in good manner and there is not any environmental concern. On the contrary, this intervention has mitigated river bank erosion that was a recurring event at the visited site and this works have also reduced the deterioration of the river water by stopping erosion.
- Visit at DS12 at polder 39/2C found the construction of the structure is completed which is functional and the visit also did not reveal any environmental concern associated with this structure.
- In the Nadmula camp, the record keeping/ documentation of EHS issues found in good manner. C-ESMP, EHS risk assessment report, non-compliance register, accident register, records on toolbox talk, previous testing reports found at the camp office. There is COVID-19 screening arrangement (e.g. temperature measurement) and hand sanitizer at the entry gate of the camp. Fire extinguishers are also found at the camp. The waste management at camp also found sound (e.g. separate bins for degradable, non-degradable wastes). Demarcated assembly point for emergency situation also found at the camp premises. With the camp and CC block manufacturing yard, there were signboards and safety signage in minimal that needs to be increased. Hand sanitizers, first aid box with adequate items, safe drinking water and hygienic toilet facilities found in place for the workers. For contacting in any emergency situation, contact numbers were also written on wall at the worksite. The store rooms found managed well. Grievance box found at the premises of the site. There were also designated sheds for industrial wastes with required safety measures. The fuel storage found in good condition with paved floor. There was adequate signage of the speed limit in the CC block yard which needs to be increased. The drain from the workshop areas towards sluice was found waterlogged which needs regular maintenance (e.g. cleaning, maintaining proper sloping); this finding was also revealed during last two audits and this should be addressed by the contractor as soon as

possible to stop breeding of vector insects. There was dust and the water sprinkling to suppress the dusts found not practiced well. It is recommended that contractor will maintain regular water sprinkling to suppress the dust. The expiry date of fire extinguisher expired that need to be replaced/ refilled as soon as possible.

- Construction of the embankment work at chainage 45+600 km was visited and it was found that the worker engaged in the excavation work were only using mask. He was not using earplug/earmuff though there is significant sound from the excavator. It is recommended that workers engaged to operate excavator will use earplug/earmuff. There was no safety signage, demarcation at the worksite. Demarcation and safety signage should be erected with the worksite. There was also no alternative pedestrian way for the community along with the embankment construction works that needs to be ensured.

#### **Polder 40/2**

In polder 40/2, the visited sites are Badurtola camp, Batikata CC block manufacturing yard, completed DS09, FS10, FS08, embankment 0+000 km and afforestation at chainage 2+000 km. The audit findings from the visited sites are presented below:

- At the visited Badurtola camp, EHS compliance and non-compliance registers, waste management register, records on toolbox talk, ESRT/accident register found in place. PET bottle found stored in designated shed those are sold to local vendor periodically rather dumping randomly. Bins were also found in place where wastes are being collected. However, wastes like cement bags and construction rods found kept randomly at the camp site premises those need to be stored at designated place. Oil drums and oil driven machineries found kept randomly on unpaved floor and oil drips on the ground were observed. All oil drums and oil driven machineries should be stored at designated place and on paved floor with spill absorbent kits. Workers doing welding works found without PPE. All the welding workers should use all the required PPE items.
- The visit at Batikata CC block manufacturing yard found that there is a well-constructed drainage system around the site. But there was no demarcation, security fencing around the site. The visit also did not find any single piece of safety signage. There was no fire extinguisher, first aid box at the worksite. Plastic wastes revealed being dumped at the worksite and surrounded areas randomly. Visit found that there is a toilet for the workers at the worksite, but it is broken and

very unhygienic. It is recommended that security fencing, adequate demarcation and safety signage, fire extinguishers, first aid box, proper waste management and hygienic toilets for the workers are ensured as soon as possible at Batikata CC block manufacturing yard.

- The visit at embankment works (chainage 0+000 km) revealed that there is no proper demarcation, safety signage, first aid box for the workers. It was also revealed that pedestrians' alternative walkway was not provisioned properly. It is recommended that embankment construction works sites should have proper demarcation, adequate safety signage, first aid box at worksite. It is also recommended to ensure pedestrians' alternative walkway.
- Visit to afforestation site at 2+000 km found that saplings were planted during last rainy season and there are saplings of fruits, wood and medicinal species.
- From the visit at completed DS09, FS10, FS08 sites, no environmental concern was revealed.

#### **Polder 41/1**

In Polder 41/1 areas, the Audit Team visited embankment construction works at chainage 27+000 km, construction of FS24, completed DS03, DS08 and FS06 and afforestation works at chainage 5+300 km and 6+300 km. The findings from the Polder 41/1 are mentioned below:

- Visit at embankment construction site found no demarcation, safety signage, first aid box at the worksite. There was also no pedestrians' alternative walkway. It was also observed that due to lack of giving concern on disturbance to community, the ongoing works posing risk of collapsing of dyke of ponds and edge of homestead. It is recommended that embankment construction works will ensure demarcation, safety signage, first aid box and pedestrians' alternative walkway and all risk to the community peoples structures will be avoided.
- From the visit at construction site of FS24, it was revealed that workers were not using required PPE except helmets (e.g. no masks, safety shoes, harness belt for height works). The worksite was not also with adequate demarcation and safety signage. The electric wires found on the ground. There was no provision of first aid box, drinking water, toilets at the work for the workers. It was also observed dust is not controlled (e.g. sprinkling of water) at the worksite premises and discussion with nearby HH dweller revealed that they are disturbed by the dust generated from construction activities. It is recommended that proper demarcation and safety signage, safe drinking water, toilets and first aid box are ensured at the worksite. It is also needed to ensure that all the workers are using the required PPE items. The electric wires

should be overhead. The dust control measures (e.g. sprinkling of water) should be taken at the worksite.

- Visit at DS03, DS08 and FS06 found that they are not fully functional. These structures need to be made fully functional as soon as possible.
- From the audit of the afforestation sites at chainage 5+300 km and chainage 6+300km, it was found that the afforestation group are responsible for this sections of the afforestation works. Forest department has appointed 3 persons to look after the planted saplings. The audit found that the growth of the plants is good and the species have been planted ( e.g. wood, medicinal, fruits) as per the afforestation plan of the CEIP-1 and no invasive or exotic species has been planted.

### **Polder 43/2C**

In polder 43/2C Golachipa camp, Goalkhali CC yard, completed DS01, FS1 (A), and construction works at DS02, embankment work at chainage 23+800 km and 24+800km and afforestation work at chainage 25+000 km were visited. The findings from the visits are as follows:

- From the visit at Golachipa camp, EHS compliance and non-compliance registers, waste management register, records on toolbox talk, ESRIT/accident register found in place. PET bottle found stored in designated shed those are sold to local vendor periodically rather dumping randomly. Bins were also found in place where wastes are being collected. Vegetable gardening also found at the campsite premises. Construction materials found with cover (tarpaulin). There were also demarcated place for collection of different type of wastes, but different wastes found at many places in disorganized manner at the campsite premises. The waste management practice at the campsite premises should be improved as soon as possible. Oil drums kept on bare soil ground that always need to be on designated place with paved floor. Adequate fire extinguishers are also recommended to place at the campsite premises.
- Visit at Goalkhali CC yard found that the generator is stored on paved floor. But it was found that there is no adequate demarcation and safety signage, fire extinguisher and first aid box; those need to be ensured. Oil drips with oil driven machineries found on the ground without any arrangement of drip management that should be ensured. Plastic bags found dumped randomly around the yard premises. Waste management at this site need to be improved. The accommodation at the yard found very poor (e.g. made of tarpaulin) that need to be improved

significantly.

- During the visit, brick breaking and brick-cement mixing works were ongoing at DS02 site. None of the workers found using any item of PPE. But use of PPE should be ensured. An oil driven machine found on bare ground and there were oil drips. Such oil driven machine should be on tray along with proper arrangement of drip management.
- Completed DS01 and FS 1(A) were also visited. The visit did not find any EHS concern.
- From the visit of embankment works at chainage 23+800 km and 24+800 km were, it was found that there is no safety signage and demarcation at the worksite which should be ensured. The soil was excavated from the borrow pit adjacent to the toe. The EMP of polder 43/2C suggested that borrowing to be avoided from the lands close to toe line and within 0.5 km from toe line. It is recommended that the DDCS&PMS Consultant and field level PMU Environmental Specialist will look on the standard and suggest the contractor a viable recommendation as applicable.
- Afforestation works at chainage 25+000 km visited and it was found that the afforestation group are responsible to look after the planted samplings. The audit found that the growth of the plants is very good and the species have been planted ( e.g. wood, medicinal, fruits) as per the afforestation plan of the CEIP-1 and no invasive or exotic species has been planted.

#### **Polder 48**

Under Polder 48, the audit team visited the slope protection works ongoing at different section after Kuakata beach to DS01. From the visit of those slope protection works, works alongside the embankment and completed DS01, following findings were revealed:

- There was no proper demarcation, signage. Drinking water supply, first aid box for the workers at the worksite. None of the workers found using PPE. Dusts found being generated from the works but there was no dust control measures at place. It is recommended that proper demarcation, safety signage, first aid box, drinking water supply are ensured at the worksite and all workers should use all the required PPE items. Dust control measure is also recommended to ensure at the worksite.
- Visit at completed DS01 found water leakage with the structure. The full functionality of DS should be ensured.

### 2.9.3. Observations on Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone Consultants

The following findings were revealed from last audits and there is no progress on these findings. All the recommendations remain same as previous audits.

**Comments in Chapter of Coastal Biodiversity:** A Review Report Prepared for Coastal Embankment Improvement Project, Phase-1 (CEIP-1)

The Long-Term Monitoring, Research, and Analysis (LTMRA) Consultants have prepared an overview report based on the literature review on coastal biodiversity. This report covers giving overview on coastal zones dividing the whole coastal zones into four zones as Ganges Tidal Plain West (GTPW), Ganges Tidal Plain East (GTPE), Meghna Deltaic Plain (MDP) and Chittagong Coastal Plain (CCP). Audit recommended during last fourth audit to add a section with the report by giving ideas how the biodiversity may be impacted in relation to the polder development. The fifth audit did not reveal any progress on this, and the above recommendation should be addressed by the said consultants. The chapter should also consider the baseline conditions (e.g. natural habitats including the biodiversity of birds, valued environmental components, aquatic biodiversity, list of endangered species).

**Polder Development Plan:** The activities of polder development plan should include study or polder specific EIA on the areas about environmental status, the environmental impacts/constraints/challenges may be evolved for polder development as well as the measures will be needed to be taken and the polder development plan also needs to consider -i. Identification of endangered species and species of conservation significance in coastal area; ii. Identification and assessment of likely impact on valued environment Component in Coastal area; iii. Review of existing environmental monitoring and mitigation document and its improvement. This was suggested from last fourth audit. Meeting with the Environmental Specialist of the Consultant during this fifth audit revealed no evidence on progress on it.

**Updated design and specification:** The updated design and specification works are in initial stage. The audit recommends that the updated design and specification consider the environmental aspects (e.g. fish migration issues in case sluices, considering the sea level rise, species for afforestation). This recommendation also remains same for this audit which was from last fourth audit. The consultants are recommended to address the recommendation.

**Action Plan for capacity building activities:** It is recommended during the last fourth audit it that the Environmental Specialist of the Consultants carry out on-job training for the personnel on how to address the environmental issues in their works. There was no progress on this during the audit period.

**Coordination and collaboration:** No coordination was revealed, and it is recommended that Environmental Specialist of the Long-Term Monitoring, Research and Analysis Bangladesh Coastal Zone Consultants maintain 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.

## 2.10. Labor influx

In most of the work sites and camp sites, there is a limited influx of labor. The laborers are predominantly from the vicinity and they prefer to return to their homes after finishing their works. In a few work sites, sleeping facilities have been put in place for a few laborers. The updated labor influx report (December 2021) has been included in Annex 4.8.

## 2.11. Constraints to implement EMP

Though the audit revealed many EHS good practices. The International Environmental Specialist Third Party M&E Consultants have not been mobilized for long time. Engagement of this expert can contribute to achieve EMP implementation in a successful manner as many of the gaps in EHS practices have been revealed by the audits and level of impacts (positive and negative) of the project. The audit recommends that the proposed replacement candidate for the International Environmental Specialist. Third Party M&E Consultants is approved and mobilized and the Project Director of CEIP-1 extends cooperation as required to mobilize the Expert for this position.

The audit also revealed that the Expatriate EHS personnel at Package-02 areas are inadequate ( e.g. only one at polder 43/2C) due to COVID-19 their mobilization is restricted as shared by the contractor. But deployment of local EHS personnel at different polders is lacking despite the list provided by the contractor showing names of Chinese and local EHS personnel for each of the polders of package 02; these persons are doing other duty as translator, liaison etc. It is recommended that contractor of Package 02 ensures Expat and local EHS staff at each of the polders.

The EMPs of the project outlined the institutional arrangement to implement the environmental

mitigation measures. In line with that, the EMPs suggested BWDB to coordinate with relevant stakeholders such as PAPs, BIWTA, WMOs, FD, DoF, DoE, DAE, BADC, SRDI, LGED, BEDC DC DLS, LGI and NGOs. Coordination with all the stakeholders and agencies should be done by the PMU, CEIP-1. To facilitate this coordination, the Project has its steering committee which consists of persons from different agencies. From the audit point of view, the coordination through the Steering Committee should be enhanced. This audit revealed that an MoU has been made with the Department of Forest and coordination has been made with the Department of Fisheries so far. The PAPs livelihood might be affected, and project should think about livelihood restoration program and CEIP-1 also need to be concerned that livelihood restoration program should not be environmentally unfriendly. So, the audit recommends the 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.

Considering the smaller number of EMP implementation budget items with the contract of Package 01, it is recommended that DDSC&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.



### 3. Conclusions and recommendations

The audit was conducted as per the TOR (attached with Annex-4.1). It found some level of progress in environmental compliance implementation. It also found some areas which need to be improved. The audit recommends as follows:

1. Contractors of both Packages should follow the findings and recommendations of this Sixth annual environmental audit.
2. The DDCS&PMS Consultants and PMU should consider the recommendations herein for the upcoming next phase of the project where applicable.
3. The audit report of sixth audit would be shared with the Contractors, Consultants, relevant sub-Consultants, and PMU staff.
4. It is recommended that all the responsible parties will carry out the action items mentioned with the time bound CAP (Annex-4.10). The contractors, consultants and PMU should convene periodically to report on the implementation of the time-bound action plan incorporating the findings/recommendations of this 6<sup>th</sup> Environmental Audit Report.
5. The practice of using PPE should be enhanced by the contractors of Package 01 and Package 02.
6. Both the Contractors should carry out the efforts to improve the EHS practices.
7. As this sixth audit also found that EHS practices in Package 02 are still poor, the Contractor of Package-02 should give continuous effective efforts to improve the EHS practices. The DDCS&PMS Consultants and PMU also need rigorous supervision to improve the EHS practices in Package 02.
8. Considering that the EHS practice level at each polder of Package-02 need to be improved substantially which needs also cost for personnel, mitigation measures etc., it is recommended that PMU makes payment for EHS items smoothly.
9. It is recommended to start the fish conservation activities for Package 02.
10. Contractor of Package-02 is recommended to ensure full time Expatriate EHS personnel and local EHS Officer at each polder of Package-02
11. To assist in EHS practice level and evaluate the impact level of project (positive/ negative) as

Package-01 is at ending stage, the Project Director of CEIP-1 extends his cooperation as required to mobilize the International Environmental Specialist of Third Party M&E Consultants.

12. It is recommended that contractor/s carry out monitoring testing covering every year.
13. It is recommended that Package 02 contractor continues monitoring with the Bi-monthly Environmental Monitoring checklist from January to December and prepares and submits the reports for them.
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.
15. PMU with the help of DDSC & PMSC identify the issues and the relevant agencies/ stakeholders for EMP implementation and sign MoUs with them as applicable.
16. The audit found good level of EHS compliances and there are many good EHS practices at polder level. However, there are some areas that needs to be improved. So, both the Contractors are advised to follow the Polder-Specific recommendations that have come out from the Audit. The polder-specific recommendations are as follows:

## **Package 01**

### **Polder 35/1**

The recommendations from the Audit at slope protection work at chainage 23+512 km and 24+500 km:

- I. It is recommended that Contractor of Package 01 will ensure use of all required PPE and demarcation and safety signage at all such worksites.

The recommendations from the Audit at ongoing embankment works between chainage 52+250 km and 61+800 km

- I. This is recommended that the embankment worksite is ensured with adequate safety signage and demarcation.
- II. Workers should use all the required PPE.
- III. Trays with required oil absorbent kits should be ensured with the machine being used for mixing of construction materials.

The recommendations from the Audit at the Tafalbari CC block manufacturing yard:

- I. At adjacent place of workshop, oil drips found on unpaved ground from stored oil barrel. Any kind of oil barrels should be stored at designated place and paved floor.
- II. It is recommended that no waste is dumped on riverbank or any other places randomly rather following the proper management procedure.
- III. To avoid pollution of river water, it is recommended not to clean stone chips on riverbank. The work is recommended to be done inside the CC block manufacturing yard with proper management of wastewater generated from the cleaning of stone chips.

## **Package 02**

### **Polder 39/2C**

Recommendations from the Audit at Nadmula Camp and CC block manufacturing yard:

- I. The drain from the workshop areas towards sluice found waterlogged and it needs regular maintenance (e.g. cleaning, maintaining proper sloping)
- II. Contractor needs to maintain regular water sprinkling to suppress the dust.
- III. is recommended that contractor will maintain regular water sprinkling to suppress the dust. The expiry date of fire extinguisher expired that need to be replaced/ refilled as soon as possible.

Recommendations from the Audit from construction of the embankment work at chainage 45+600 km:

- I. It is recommended that worker engaged to operator excavator will use earplug/earmuff.
- II. Demarcation and safety signage should be erected with the worksite.
- III. There was no alternative pedestrian way for the community along with the embankment construction works that needs to be ensured.

### **Polder 40/2**

Recommendations from the Audit at the Badurtola camp site of the Contractor:

- I. Wastes like cement bags and construction rods found kept randomly at the camp site premises those need to be stored at designated place.
- II. All oil drums and oil driven machineries should be stored at designated place and on paved floor with spill absorbent kits.

Recommendations from the Audit at Batikata CC block manufacturing yard

- I. It is recommended that security fencing, adequate demarcation and safety signage, fire extinguishers, first aid box, proper waste management and hygienic toilets for the workers are ensured as soon as possible at Batikata CC block manufacturing yard.

Recommendations from the Audit at embankment works (chainage 0+000 km):

- I. It is recommended that embankment construction works site should have proper demarcation, adequate safety signage, first aid box at worksite.
- II. It is recommended to ensure pedestrians' alternative walkway.

**Polder 41/1**

Recommendations from the Audit on embankment construction works at chainage 27+000 km:

- I. It is recommended that embankment construction works will ensure demarcation, safety signage, first aid box and pedestrians' alternative walkway and all risk to the community peoples' structures will be avoided.

Recommendations from the Audit at construction of FS24 site:

- I. It is recommended that proper demarcation and safety signage, safe drinking water, toilets and first aid box are ensured
- II. It is needed to ensure that all the workers are using the required PPE items.
- III. The electric wires should be overhead.
- IV. The dust control measures (e.g. sprinkling of water) should be taken at the worksite.

Recommendations from the Audit at the completed DS08:

- I. The gates of the DS08 should be fixed as soon as possible and it should be ensured that the structures are functional as early as possible considering the situation.

**Polder 43/2C**

Recommendations from the Audit at Galachipa Camp:

- I. The waste management practice at the campsite premises should be improved as soon as possible.

- II. Oil drums kept on bare soil ground that always need to be on designated place with paved floor.
- III. Adequate fire extinguishers are also recommended to place at the campsite premises.

Recommendations from the Audit at Goalkhali CC yard:

- I. There was no adequate demarcation and safety signage, fire extinguisher and first aid box; those need to be ensured.
- II. Oil drips with oil driven machineries found on the ground without any arrangement of drip management; that should be ensured.
- III. Plastic begs found dumped randomly around the yard premises. Waste management at this site need to be improved.
- IV. The accommodation at the yard found very poor (e.g. made of tarpaulin) and it needs to be improved significantly.

Recommendations from the Audit at DS02 site:

- I. Use of PPE should be ensured.
- II. Oil driven machine should be on tray along with proper arrangement of drip management.

Recommendations of audit from visit of embankment work at chainage 23+800 km and 24+800 km:

- I. Safety signage at the worksite should be ensured.
- II. DDCS&PMS Consultant need to look on the standard and suggest the contractor a viable recommendation as applicable on maintain distance between toe of the embankment and borrow pit.

Recommendations of audit from the meeting with Taltoli khal WMG Executive Committee:

- I. The WMG should be registered and trainings should be provided as soon as possible.

## **Polder 48**

Recommendations of audit from slope protection works:

- I. It is recommended that proper demarcation, safety signage, first aid box, drinking water supply are ensured at the worksite
- II. All workers should use all the required PPE items.
- III. Dust control measure is also recommended to ensure at the worksite.

Recommendations of audit from completed DS01:

- I. The full functionality of DS should be ensured.

### Some of the polder level impacts of CEIP-1 interventions

Interventions of CEIP-1 have been showing their impacts. Focus Group Discussions with community people conducted recently by Third Party M&E Consultants revealed impacts and some of them are

- v. Crop land has been increased by intervention of CEIP-1. Earlier, embankment height was a bit low and Rabi crops used to damage due to overflow of high tide and storm surge that refrained farmers cultivate in Rabi season. As height of embankment has been increased, farmers are cultivating more land and it is increasing gradually;
- vi. Reduced saline intrusion in soil led increase of cropped area in Rabi season and Soil salinity has been reducing gradually;
- vii. Water management activities have been improved;
- viii. The reserve water in private canal surrounding the Gher has created a scope for surface water irrigation of Boro rice in Rabi season.

The physical work of polder 32, 33, 35/1 and 35/3 under Package-1 is almost complete. It is now observed that a remarkable positive Environmental changes have been taken place in the above polder area. We know Bangladesh is one of the most disaster prone and climate vulnerable country in the world and especially the package-1 area is located at the vicinity of the Bay of Bengal. The area was often subjected to natural disaster which caused loss of lives and properties and suffered from severe deterioration of agriculture due to saline water intrusion. These areas also experienced in river bank erosion which resulted loss of agricultural lands, lives and other hazards. The successful implementation of the project through its intervention such as sustainable flood embankment, proper drainage structure and adequate river bank protection work created opportunity of environmental friendly atmosphere all around the area. The area have enormous improvement of agriculture production by reducing saline water intrusion and drain out excess water. The river bank protection work confirmed protection of lives and properties of the local communities. These activities also ensured the conservation of biodiversity of the area.

## 4. Annexes

### 4.1. Terms of Reference

#### Fifth Annual Environmental Audit of CEIP-1 Project Terms of Reference

##### Background:

The Coastal Embankment Improvement Project – Phase 1 (CEIP-1) is a 9-year \$400 million project being implemented by the Bangladesh Water Development Board in partnership with the World Bank and the Pilot Programme for Climate Resilience of the Climate Investment Fund. The Project started in 2013 and will close in June 2022. It covers 17 polders in three packages of 4, 6 and 7 polders respectively. Ten polders (Packages 1 and 2) will have their embankments upgraded and the remaining 7 polders are being designed as part of CEIP-1 and prepared for tendering under CEIP-Phase 2. The Detailed Design and Construction Supervision Consultants (DDCS&PMSC) commenced their design work for the first of three Packages in January 2015 and the Package 01 Contractor commenced services on 26 January 2016. The Package 02 Contractor's contract was signed on March 2017 and work was commenced on 12 July 2017. Moreover, contract signing between Bangladesh Water Development Board (BWDB) and the Non-Governmental Organizations (NGOs) for the consultancy services of social mobilization, afforestation and Integrated Pest Management Plan (IPM) was started from 24 February 2019 and CEIP-1 accomplished contract signing of five NGOs by 02 May 2019, and the NGOs accomplished providing their services. Contract between BWDB and the Consultants for long term monitoring, research and analysis of Bangladesh coastal zone was signed on 04 October 2018 which was effective from 15 October 2018 and the Inception Report was due on 15 January 2019. The Consultants for feasibility study of CEIP-2 have been assigned in 2021 and they have started their works.

The Third Party M&E Consultants joined the project on 01 November 2015. After working with CEIP-1 for about one year, the Third Party M&E Consultants carried out the Annual Environmental Audits as follows:

- First Annual Environmental Audit during 01 January to 06 February 2017 covering the reporting period January through December 2016.
- Second Annual Environmental Audit covering January-December 2017 was carried out during 10 January to 07 February 2018
- Third Annual Environmental Audit covering January-December 2018 was carried out during 06 January to 07 February 2019
- Fourth Annual Environmental Audit covering January-December 2019 was carried out during 05 January to 07 February 2019

- Fifth Annual Environmental Audit covering January-December 2020 was carried out during 07 January to 07 February 2021.

This TOR is for the sixth Annual Environmental Audit covering the period January-December 2021, due to commence about the second week of January 2022.

Institutional arrangements of CEIP-1 for safeguarding the environment include:

9. Project Management Unit, with its Social and Environmental Coordination Unit (SECU), who are responsible for oversight and guidance on environmental matters as well as coordination with GoB agencies. The Environmental issues of the Project are being tended to by a Senior Environmental Specialist and an Environmental Specialist (Field) under PMU's SECU. PMU also reports to BWDB, the Project Steering Committee (PSC) and the World Bank.
10. DDCS&PMS Consultants who are responsible for developing the EIAs and EMPs consistent with World Bank and GoB guidelines and ensuring the EMPs are implemented satisfactorily. These Consultants review and approve the Contractor's EAPs and monitor their implementation on an ongoing basis. The DDCS&PMS Consultants develop the bidding documents and make sure that the Contract and its specifications include the necessary clauses and elements governing environmental safeguards.
11. The Consultants for long term monitoring, research and analysis of Bangladesh coastal zone also need to consider the environmental safeguards and sustainability issues in their polder development plan, updated design and specifications and action plan for capacity building activities.
12. The NGOs are responsible for the social mobilization works for the sustainable operation of the polders, social afforestation and IPM interventions.
13. Civil Works Contractors who must develop and implement polder- and site-specific Environmental Action Plans in the case of Package 01 and Contractor Environmental and Social Management Plans known as C-ESMP in the case of Package 02.
14. World Bank reviews and provides comments and no objection to the various safeguard documents.
15. Community participation, consultation and feedback through the EIA process and Grievance Redress Mechanism.
16. Third Party M&E Consultants who perform environmental audits and monitor and evaluate the project overall. Specifically, with respect to environmental safeguards, the M&E Consultants review and comment on environmental documents prepared under CEIP, spot check compliance, report their findings and prepare recommendations. The M&E Consultants report to the PSC and their contract is administered by the Project Director. The Third Party M&E Consultants will take the lead in facilitating the preparation of a time-bound action plan based

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on audit recommendations. It will monitor action on the recommendations of the audit by PMU, DDCS&PMSC and concerned contractors.

Each polder has its own EIA which includes an EMP which is meant to ensure that the environmental and social management practices are integrated in the design, construction, operation and maintenance of the polder.

Among others, the specific objectives of the EIA are to:

- Comply with national regulatory and WB policy framework (further discussed later on in the document),
- Determine and describe the existing environmental and social setting of the Project Area (the project area defined as is defined as the entire area inside the polder, project influence area outside the polder i.e. the embankment, borrow pits and spoil disposal are if located outside the polder and access route to the polder),
- Identify and assess the potential environmental and social impacts of the project, including health and safety issues,
- Identify mitigation measures to minimize the negative impacts and enhancement measures to enhance the positive impacts; and
- Detail an Environmental Monitoring Plan which also defines mitigation measures.

As is the case for the EIAs and EMPs, each polder is also to have an Environmental Action Plan (EAP) for Package 1 and Contractor Environmental and Social Management Plan (C-ESMP) for Package 2 which is prepared by the Contractors. The EAP of Package 1 and C-ESMP of Package 2 are to operationalize the EMP for which the Contractor is responsible. These Plans detail in a site-specific manner the mitigation and environmental compliance requirements and provide a monitoring plan outlining the protocols, frequency of monitoring, person(s) responsible, etc.

#### **Audit Objective:**

The overall objective of the sixth Annual Environmental Audit of CEIP-1 is to assess the extent to which these Plans for safeguarding the environment are in place and their adequacy with respect to coverage and content, the extent to which they are being implemented and whether they are effective considering the institutional and contractual arrangements applicable to the Project.

## Scope of the Audit:

In summary, the audit will examine the status of: (1) the preparation and update of required safeguards documents; (2) the implementation of the EMPs, C-ESMP and EAPs; (3) the implementation of environmental monitoring, including the use of effective monitoring systems, tools and protocols; (4) institutional strengthening and capacity development, including institutional arrangements, staff and funding resources, and implementation of training programs; (5) the implementation of disclosure, consultations, communication, grievance redress mechanisms; and (6) compliance with reporting requirements.

The audit will cover the Contractors for Package 01 and Package 02, the DDCS&PMSC, NGOs, Consultants of Long-Term Monitoring, Research and Analysis of Bangladesh Coastal Zone, Consultants of CEIP-2 Feasibility Study and Project Management Unit (Social and Environmental Coordination Unit).

Field work will be centered on the polders of Package 01 and Package 02, but the audit will examine CEIP overall whenever appropriate. It will be forward-looking to draw lessons and make recommendations on areas of improvement for Package 01 and Package 02 which will also give guidance for broader application to similar projects or future phase of CEIP.

Specifically, the audit will assess and cover:

- Status of implementation of the recommendations / findings of the previous Annual Environmental Audits that were conducted by Third Party M&E Consultants
- Status of the implementation of the recommendations / agreed actions of the WB environmental mission/s that were conducted in 2021
- Status of the implementation of the recommendations / agreed actions of Bi-Annual Environmental Monitoring Report of July 2021
- Extent to which the environmental mitigation measures outlined in the ESMP / EAPs and C-ESMP are being followed and whether they are effective
- Status of extent of the environmental safeguards and sustainability issues in the polder development plan, updated design and specifications and action plan for capacity building activities of the consultants of long-term monitoring, research and analysis of Bangladesh coastal zone
- Status on the environmental safeguard activities of the Consultants of Feasibility Study of CEIP-2
- The extent to which the project involves labor influx and the sufficiency of mitigating measures. The rapid migration to and settlement of workers and followers in the project area is called labor influx, and under certain conditions, it can affect project areas negatively in terms of public infrastructure, utilities, housing, sustainable resource management, public health and social dynamics

- Extent to which the Environmental Monitoring Plans are being followed and whether they are effective
- The availability and quality of monitoring equipment, tools, formats and protocols; and processes and procedures for compliance monitoring
- Implementation and effectiveness of workers' and community safety and health, environmental health protocols and measures, including accidents at the work sites, in surrounding communities and along transport routes and for COVID risk management
- Functioning of the GRM in the polder areas, including timeliness and effectiveness of receiving and redressing grievances
- Effectiveness of institutional arrangements for environmental management; availability of funding
- Existence of qualified staff resources
- Design, delivery and effectiveness of awareness and training programs for Contractor and Supervision Consultant staff
- Review of accident records in the work sites and examine the magnitude of the accidents and how those were addressed by the contractor
- Constraints if any in ensuring compliance with the EMP / EAPs / C-ESMP
- Compliance with record keeping and reporting requirements for all project partners, including the veracity, accuracy, breadth, depth and relevance of information
- Review the implementation status of the COVID-19 OHS protocols at construction sites that have been prepared by the contractors.
- Review the status of the maintenance of COVID-19 safety measures being carried by the project, more generally.
- Recommendations for corrective actions to fulfill any non-compliance with the ESMP, EAPs and C-ESMP, including gaps, omissions, deficiencies, discrepancies and concerns with respect to the above
- Status of the implementation of decommissioning plan by Contractor of Package 1
- Based on the findings of the sixth audit, M&E Consultants will suggest a time bound ( deadlines agreed by all parties) Corrective Action Plan (CAP) mentioning the responsible parties, and this CAP will also include the items of previous environmental audits which are still pending.

The Environmental Audit will present findings and observations followed by a time bound (delays agreed by all parties) Corrective Action Plan (CAP) that is aimed at improving the effective implementation of environmental safeguards. It will aim to identify not only direct causes of any issues, but also the root causes.

### Methodology:

The M&E Consultants will undertake a review of documents, reports, site records and lab results, conduct interviews in offices and in the field, and make direct observations during one to two weeks period and then write up their findings. Specific work sites to be visited on a given polder will be selected randomly without advance notice to the Contractor, DDSC&PMSC and Consultants of Feasibility Study of CEIP-2.

The Environmental Audit will examine documents and lab test results records, examine construction site daily logs and records, undertake field observation on compliance status and require field staff to demonstrate/ share their knowledge of Environmental Measurements of soil, water, salinity, biological, physical, and chemical sampling techniques. Also, reliability of any lab testing will be carried out randomly. The Contractor and DDSC&PMS Consultants, long term monitoring consultant and Consultants of Feasibility Study of CEIP-2 will be informed of the scope of the Environmental Audit in advance but will not be informed in advance as to which particular work sites will be visited.

Document Review: Existing base documents or reports will be reviewed such as the EIAs, EMPs, Contractor EAPs and ESMP, works contract, consultant contract, guidelines, standard procedure manuals, ToR etc. World Bank Aide Memoires corresponding to the period will also be reviewed with respect to environmental aspects.

The Monthly Progress Reports and Bi-Annual Environmental Monitoring Report will also be reviewed. Contracts' bi-monthly environmental inspection checklists corresponding to the period will also be reviewed.

Key Informant Interviews: PMU, DDSC&PMSC, long term monitoring consultants, Contractor staff and beneficiaries will be interviewed. Perspectives of communities living near the works, workers, and others will be obtained on how well the project is implementing EMPs.

Site Records: Test results for air quality, water quality, soil quality, pH, salinity, etc. will be reviewed. Non-compliance report logs, NCR clearance records and procedures will be examined.

Direct observation: Level of compliance with the EMP/EAP/ESMP and practices of project and Contractor staff will be observed in the field. Demonstration of water and soil quality, pH, salinity, biological, chemical and physical sampling technique, etc. by Contractor staff may be requested to observe the level of skill and knowledge and whether the technique is appropriate.

A few embankment construction worksites and a few drainage/flushing sluice gate sites per polder sites and active CC block manufacturing sites if any, a few afforestation sites, one Water Management Group (WMG) per package will be visited to examine field level application of the environmental safeguards on a random sampling basis. The team will also visit the campsites, site offices and main offices of both Contractor and DDSC&PMSC to discuss systems, strength of the environment staff and documents.

Moreover, the findings on environmental safeguards issues revealed from different site visits conducted by the M&E Team members during the period of January to December 2021 will be incorporated with the Audit report as applicable.

During the field visits and meetings to be carried out by the audit team, COVID-19 guideline of GoB/WB and Project's COVID-19 protocols will be followed strictly.

#### **Team Composition and Duration:**

The audit will be accomplished by the Environmental Team Environmental Specialist–National (A.K.M. Rezaul Haque Khan) of the Third Party M&E Consultants with the support of the Team Leader (Mr. Jan T. Twarowski), Deputy Team Leader (Md. Mahidur Rahman Khan) and M&E Officer (Md. Safiqul Islam). The audit will be conducted within a short timeline through fieldwork for one to two weeks in Package 01 and 02 polder areas and several days of meetings and document/file reviews in Dhaka, followed by a couple of weeks of report writing in Dhaka.

## 4.2. Field visit plan for the audit

Field visit plan for 6<sup>th</sup> Annual Environmental Audit  
3<sup>rd</sup> Party M&E Consultants  
CEIP-1

Team members of the Field Visit: A. K.M. Rezaul Haque Khan (National ES)  
Md. Safiqul Islam (M&E Officer)

SI	Activity	Time	Date	Remarks
1	Travel from Dhaka to Barishal	Morning flight ( same flight of Ministry team)	<b>14-01-2022</b>	
2	Travel from Barishal to Kuakata and field visit with Ministry Team	9:00 am-5:30 pm	14-01-2022	Night stay at Kuakata
3	Travel from Kuakata to fields with Ministry team	8:00 am -12:00 pm	<b>15-01-2022</b>	Visited site will may also cover Polder 48 if Ministry team visit sites of polder 48 on this day
4	Conduct meeting and field visit for Sixth Annual Environmental Audit purpose at polder 39/2 C (depending on the site visits of Ministry Team)	12:00 pm-5:30 pm	15-01-2022	Direct site visits for different components including meeting with Contractor and WMA  Night stay at Barguna
5	Field visit at sites of Polder 43/2C	8:30 am -5:30 pm	<b>16-01-2022</b>	Direct site visits for different components including meeting with Contractor and WMG  Night stay at Barguna
6	Field visit at sites of Polder 40/2 and 41/1	7:30 am-6:00 pm	<b>17-01-2022</b>	Direct site visits for different components including meeting with Contractor and WMA  Night stay at Barguna
7	Travel from Barguna to Polder Rayenda and field visits at Polder 35/1	8:00 am- 06:00 pm	<b>18-01-2022</b>	Direct site visits for different components including meeting with Contractor and WMA  Night stay at Khulna
8	Meeting with BWDB Khulna (XEN and DDCS&PMS Consultants), Contractor and audit different records of Contractor W01 at their office	7:30 am -11:00 am	<b>19-01-2022</b>	Meeting and audit different records
9	Travel from Khulna to Jashore and travel back from Jashore Airport to Dhaka	Late afternoon flight	19-01-2022	<b>Team returns to Dhaka</b>

### 4.3. Some of the persons met during the audit

SI	Name	Position	Organization	Location	Cell Number
1	Mr. Asraful Alam	XEN	BWDB	Khulna	01732435998
2	Mr. Towhidul Islam	Environmental Specialist	PMU	Khulna	01911493918
3	Mr. Zakir Hossain	Assistant Engineer	BWDB	Khulna	01716014915
4	Mr. Prodip Sarker Babu	EHS Officer	CHWE Contractor	Khulna	01716717871
5	Mr. Rana	Lab Assistant	CHWE Contractor	Polder-35/1	01792094033
6	Mr. Abul Kashem	President	WMA	Polder-35/1	01720025942
7	Mr. Ma Zemou	Polder Manager	CICO Contractor	Polder -39/2C	01887707644
8	Mr. Ma Dian Yong	EHS In charge	CICO Contractor	Polder -43/2C	01712707924
9	Md. Abu Taher	EHS Officer	CICO Contractor	Polder- 39/2C	01712003561
10	Mr. Mehedi	Translator	CICO Contractor	Polder- 40/2	01891810942
11	Mr. Sohel Rana	Field Engineer	DDCS & PMSC	Polder- 40/2	01734968367
12	Mr. Wang Tafu	Polder Manager	CICO Contractor	Polder -43/2C	01762563982
13	Mr. Hemayet Uddin	Translator	CICO Contractor	Polder -43/2C	01719459671
14	Mr. Siam Howlader	Supervisor	CICO Contractor	Polder -43/2C	01644528882
15	Mr. Azhar	Safety Officer	CICO Contractor	Polder-41/1	01797181079

#### 4.4. Sample of correspondence of EHS issue from DDSC&PMSC





## Coastal Embankment Improvement Project, Phase-1 (CEIP-1)

CEIP-1 Project Office, Road 18, House 36, Flat D-1, Block J, Banani, Dhaka 1213, Bangladesh

Return address: Postbus 151, 8500 AD, Nijmegen, The Netherlands

HASKONINGDHV NEDERLAND B.V.

To

**Mr. Wu Weiwen**

Acting Project Manager,  
Chongqing International Construction Corporation  
House#18/B, Apt.#F-1, Road#48  
Gulshan-2, Dhaka-1212  
Bangladesh.

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Your reference : Nil  
Our reference : RDCOR\_BC5883-100\_L003377\_JHL\_MIP  
Direct line : 0193-5146-720  
E-mail : [harrie.laboyrie@rhdhv.com](mailto:harrie.laboyrie@rhdhv.com)  
Date : 26<sup>th</sup> October, 2021  
Enclosure(s) : None

**Subject : Conduct of Fishery related activities in 6 Polders of Package-2 under CEIP-1**

**Dear Mr. Wu Weiwen,**

I would like to bring it to your notice that you need to involve in fishery related activities as per requirement of item nos. 4,5,10,11,12,22,23, 24 and 25 of clause/sub-clause 1.25 Environmental Mitigation works as specified in the Contract Agreement, which has conformity with our previous correspondence vide our letters L003085, L003086 & L003088. For these purposes, you need to recruit a Fishery Specialist and initiate the fishery survey related works on immediate basis along with other fishery related activities since the COVID-19 situation has improved. It is also need to remind you that fishery activities are time bound and specific season basis, thus no time can be lost to complete the work within project completion period.

Under the above circumstances, you are hereby suggested to recruit one experienced Fishery Specialist and initiate the survey related fishery activities within 2 (two) weeks of receiving this letter and inform us immediately. The issue has the concurrence of the World Bank.

Treat the issues to be of utmost importance.

With best regards,

Jean Henry (Harrie) Laboyrie  
Team Leader, CEIP-1  
Detailed Design Construction Supervision and Project Management Support

### Copy to:

1. Mr. Syed Hasan Imam, Project Director, CEIP-1, PMU, Gulshan-2, Dhaka.
2. Mr. Md. Habibur Rahman, Deputy Team Leader, DDCS & PMS Consultants, CEIP-1, Dhaka.
3. Mr. Mohammad Ali, Deputy Resident Engineer, CEIP-1, DDCS & PMS Consultants, Patuakhali
4. Mr. Md. Aminur Rahman, Procurement Specialist, DDCS & PMS Consultants, CEIP-1, Dhaka,
5. Mr. Abu Bakr Siddique, Environmental Specialist, DDCS & PMS Consultants, CEIP-1, Dhaka
6. Mr. Amir Faisal, Sr. Environmental Specialist, PMU, CEIP-1, Gulshan-2, Dhaka-1212
7. Dr. Towhidul Islam, Environmental Specialist, PMU, CEIP-1, Khulna
8. Office copy

A company of Royal HaskoningDHV

Member Rijkswaterstaat

#### 4.5. Environmental Compliance / Non-Compliance Report: Package 01

Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
Fuel storage areas	Install hardstand and secondary containment	12	0	0
	Firefighting equipment installation	12	0	0
	Sand and shovel close-by	12	0	0
	Regular checks on physical condition	12	0	0
	The Material Safety Data Sheet (MSDS) from supplier of hazardous substances (diesel, oil, lubricant) will be collected and placed besides containers/storage.	12	0	0
	Spill kit/absorbent mat will be in place to catch any spilled fuels at the location where potential spillage may occur.	12	0	0
	Sufficient hydrants to address potential fire should be equipped at fuel storage area as well as the areas where chemicals/fuels are used.	12	0	0
	Maintain minimum distance during fueling and fueling	12	0	0
	Provide eye protective glass	12	0	0
	Provide hand gloves	12	0	0
Access road construction	Obtaining approval	12	0	0
	Construction of culverts if needed	12	0	0
Temporary Facilities Decommissioning	Agreeing with local authorities on demolition	12	0	0
	Review of Environmental liabilities	12	0	0
	Waste removal	12	0	0
	General re-instatement of site	0	12	0

Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
	Revegetation implementation	12	0	0
	Close-out check	12	0	0
Construction and re-sectioning of embankments	Pavement (if present) will be removed and disposed of at the premises of BWDB	12	0	0
	Top soil from areas of earth works will not be used for construction works. The top soil (from surface to 15 cm depth) will be removed and preserved for later use of replacing after construction in rehabilitation.	12	0	0
	Disposal of excess soil will be done at site with no objection from DoE and local authority.	12	0	0
	All works will be demarcated clearly.	12	0	0
	Signals will be installed to indicate the entry and exits of vehicles and movement of construction	12	0	0
	The contractor shall manage the top soil (15 cm) during earth work activities	12	0	0
	Check the physical condition of excavator regularly	0	0	0
	Conduct the toolbox talk before starting the work	0	0	0
	Training on driving safety at regular interval	0	0	0
	Rise the wire up to enough height before starting the work	0	0	0
	Check the physical condition of compaction vehicle	0	0	0
The bank and slope protection works	Spilling of earth material in surface water will be avoided.	12	0	0
	Turfing will be applied to prevent erosion	12	0	0

Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
	Proper drainage provision will be kept to avoid formation of rain cuts due to surface run off.	0	0	0
Re-excavation works	Spoil plan (volume to be dredged; disposal site to be used; quality of dredged material; applicability of dredged material) to be developed for approval by Engineer.	12	0	0
	Unnecessary resuspension will be avoided by selection of suitable dredging equipment.	12	0	0
	Temporarily deposition of dredged material will be away from the channel edge to limit damage to streamside and steam habitats.	12	0	0
	Return water will be conveyed through siltation chambers to avoid high loads of fines to be discharged on surface water.	12	0	0
	Where applicable biotechnical Engineering, for example, geo textile, may be used to help stabilize the material.	0	12	0
	Smothering of important flora and habitats will be avoided.	12	0	0
	Provide solid demarcation around the excavation	12	0	0
	Establish sufficient sign /signaling that can be visible at night	12	0	0
	Erect light reflective signboard	12	0	0
	Set and check the stability of excavator after certain interval during work	12	0	0
	Conduct the toolbox talk before starting the work	12	0	0
Manufacture of pre-cast CC blocks	Workers will be equipped with proper PPE.	6	0	0

Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
	Signals will be installed to indicate the entry and exits and movement of vehicles construction in the work area.	6	0	0
	Manufacturing will not take place at night.	6	0	0
	Stacks with sand will be covered or wetted.	6	0	0
	Provide noise control barrier around the plant area as possible	6	0	0
	Make a closed chamber for plant operator	6	0	0
	Periodic hearing check for the exposed workers	6	0	0
	Shifting duty for the noise exposed areas	6	0	0
	Spray water at certain intervals in the plant area	6	0	0
	Wet and clean the aggregate before using	6	0	0
	Cover/wet dusty parts or materials	6	0	0
	No operation without the screen or barrier provided with the machine	6	0	0
	Conduct toolbox talk regularly	6	0	0
Borrow Material	Agreeing on borrow area	12	0	0
	Document borrow area	0	0	0
	Perform soil analyses on borrow materials when contamination is expected	6	0	0
	Prevention of erosion/dust forming	6	0	0
	Borrow area excavation complying with distance from the embankment as per the technical specs.	0	0	0

Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
	No-Tress pass line fixed with bamboo poles	6	0	0
	Check the physical condition of excavator regularly	12	0	0
	Conduct toolbox talk before starting the work	12	0	0
	Training on driving safety at regular interval	12	0	0
	Check the physical condition of truck regularly	12	0	0
Occupational Health and Safety	Development of Health and Safety plan including emergency procedures	12	0	0
	Train all staff in health and safety	12	0	0
	Provision of HIV, including STI (Sexually Transmitted Infections) information, education and communication	12	0	0
	Provision of PPE and ensuring their use	0	0	0
	Provision and use of life jacket during visiting campsite/worksites by boat	12	0	0
	Installation of first aid facilities at work site and camps with adequate stock	6	0	0
	Provide sanitation facilities where needed	12	0	0
	Provision of safe drinking water to work force (tube-well water, bottled water or pond water)	12	0	0
	Proper signaling of work areas	12	0	0
Public Health and Safety	Notification of the public adjacent to the construction areas	12	0	0
	Installation of dedicated pathways for pedestrians	12	0	0

Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
	Proper signaling of work areas	12	0	0
	Limitation of construction vehicles at public roads during peak hours.	12	0	0
	The temporary traffic detours in settlement areas will be kept free of dust by frequent application of water	12	0	0
	Construction activities will be undertaken according to during daylight working hours between the hours of 07:00-17:00 on week days	12	0	0
Water Supply	Providing construction camps with portable water either through installing tubewells (hand pump, shallow and deep tubewell), pond Sand Filter (PSE) or supplying safe bottled water	12	0	0
	Ensuring the location plan of tubewells (used for supplying potable water) that these are not sited near any sanitation facilities as to avoid water pollution	0	0	0
	Maintaining the distance of a tubewell/surface water resource from a soak pit at minimum 15 m	12	0	0
	Maintaining the drainage from the tubewell diverting into the drainage system of the camp area	6	6	0
	Providing separate tubewells for the use of women.	6	0	0
Sanitation	Providing suitable sanitation facilities for the workforce	12	0	0
	Ensuring the location plan of the latrine at least 50 m away from the accommodation facility	12	0	0
	Providing separate latrines for the use of women	12	0	0

Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
	Installing treatment facilities (i.e. septic tank, soak pits etc.) for the sewerage of toilet and camp site wastes.	12	0	0
	Arranging disposal of wastewater from washrooms, kitchens, etc. via the camp area's drainage system	12	0	0
Solid Waste Management	Ensuring collection and disposal of solid wastes within the construction camps and work areas	12	0	0
	Taking measure to collect and store inorganic wastes in a safe place within the household and organic wastes cleared on daily basis to waste collector.	12	0	0
	Establish measures for Waste collection, transportation and disposal systems at approved disposal sites.	6	0	0
	Disposal of construction and demolition waste.	6	0	0
Waste water	Installation of decanter boxes for washing buckets and cement mixers	12	0	0
	Installation of proper filtering elements.	0	12	0
	Carrying out periodic checks and clean-ups for the decanter box.	12	0	0
	Prioritize reuse of aggregates and water from the decanter box.	6	6	0
	Ensure safe disposal of liquid wastes generated at camp site.	12	0	0
Air	Regular maintenance of vehicles	12	0	0
	Covering or wetting of dusty materials	12	0	0
	Dust suppression by wetting surfaces	6	0	0



Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
	Impose speed limits	6	0	0
	Revegetate bare surfaces soonest	6	0	0
Noise	Notify nearby population prior to any typical noise events	12	0	0
	Ensure construction activities do not generate unacceptably high level of noise	12	0	0
	Restrict working to daylight hours	12	0	0
	Locate noisy equipment / facilities away from sensitive receptors	12	0	0
Water and Hydrology	Preventing waste, soil, etc. entering in the water system by waste collection, revegetation and dust suppression etc.	12	0	0
	Insure proper drainage of working areas e.g. perimeters lines must be provided with open shallow drains	12	0	0
Flora and Fauna	Agreeing with local authorities on tree felling.	12	0	0
	Document trees / area of trees.	12	0	0
	Avoid/prevent un-necessary tree vegetation cutting and clearing.	12	0	0
	Revegetate disturbed construction and ancillary site surfaces.	12	0	0
	Prevent disturbance of animals	12	6	0
	Ensuring sufficient free flow in the construction work for fish migration	12	0	0
Monitoring of Air Quality	Performance of air quality tests at selected sensitive sites for parameters SPM 2.5/10, SOx, NOx and CO during working hours	12	0	0
Monitoring of Noise Quality	Monitoring of noise level (dB) at selected sensitive sites during working hours	12	0	0

Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
Monitoring of Soil Quality	Performance of soil quality tests at selected sites (borrow areas, spill sites) for parameters as organic matter, N, P, K, pH, Salinity, S and Zn.	12	0	0
Monitoring of Surface Water Quality	Performance of analyses on surface water (river, khal, beel and pond) for: pH, TDS, DO, BOD, EC/Salinity and Turbidity.	12	0	0
Monitoring of Drinking Water Quality	Performance of analyses on drinking water for: arsenic, iron, chloride and total faecal coliform bacteria.	12	0	0
Deployment of Environment and Safety Supervisor	Employ one full-time Environment and Safety Supervisor for compliance monitoring of EMP	12	0	0
Complaints and Environmental Incidents	Grievance Redress Mechanism will be established.	12	0	0
	Complaints received from the public or other stakeholders will be registered and recorded and be brought to the attention of the Site Engineer.	12	0	0
	All environmental incidents occurring on the site will be recorded and be brought to the attention of the Site Engineer.	12	0	0
	Action will be taken within 7 working days.	12	0	0
Reporting and Documentation	The following records will be kept at site: - Environmental Monitoring Results - Contractors self-assessment record/results - Register of non-compliance - Register of corrective actions - Monthly Environmental Reports	12	0	0

Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
Training	Environmental training on EMP will be arranged for Construction Field supervisors and Environment & Safety Supervisors.	12	0	0
Construction of the closure dam	The area is separated by demarcation.	6	0	0
	Erection of proper cautionary signboard & signage.	6	0	0
	Provide and uses of required PPE, especially use of life-jacket on barge.	0	0	0
	Provide safe drinking water for staff & workers.	6	0	0
	Assure FAF in site.	6	0	0
	Installed hygienic toilet facilities in site.	6	0	0
	Make available the required Fire extinguisher.	6	0	0
	Assure proper signal to control community access.	6	0	0
	Development of smart waste management system.	6	0	0
	EHS training & Tool-box talk before work start.	6	0	0
Electrical safety	Clearly visible notification on the safe use of electrical appliances	12	0	0
	Check all wirings to prevent any accident, fire due to short circuit	12	0	0
	Rise the wire system up or underground conduit system should be established	6	0	0
	Regular check the switch board and wire system	6	0	0
	Close all the switch board properly. Only responsible will check at regular intervals	6	0	0

Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
	Cover the joint by tape or other insulating materials	12	0	0
Forklift Operation	Designate movement routes for forklifts	6	6	0
	No overloading	0	0	0
	Warning lights/sound during movement of forklifts	0	0	0
	Maintain the speed limit	0	0	0
	Prepare the safe operation manual	0	0	0
	Conduct regular toolbox talk	0	0	0
	Provide forklift safety training	0	0	0
Safety at Barge	Occupational safety measures to be maintained	12	0	0
	Proper anchorage	6	0	0
	Balanced loading	6	0	0
	Workers to use PPE	6	0	0
	Maintain speed limit of forklift	6	0	0
	Regular toolbox talk	6	0	0
	Separate lane for pedestrian and forklift	0	6	0
	Make a forklift safety procedure	0	0	0
	Regular check and maintenance of the scraper	0	0	0

#### 4.6. Environmental Compliance / Non-Compliance Report: Package 02

SI	Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
1	Construction of Base camp	Obtaining approval for facilities construction work	60	0	0
		Erection of signboard in Bangla and English with project details	60	0	0
		Install accommodation facilities Engineers and other staff/workers	48	12	0
		Drainage channels installation	60	0	0
		Supply of safe drinking water	60	0	0
		Supply of adequate sanitation facilities	60	0	0
		Safety fencing/Barriers and Entry Kiosks	60	0	0
		Stack yard for plant and equipment	60	0	0
		Construction of store room/warehouse	60	0	0
		Temporary workshop facilities	48	12	0
		Arrangement of sufficient lighting facilities in the camp area	60	0	0
2	Fuel storage areas	Install hardstand and secondary containment	48	12	0
		Fire-fighting equipment installation	60	0	0
		Sand and shovel close-by	60	0	0
		Regular checks on physical condition	60	0	0
		Approval fuel storage	48	0	0
3	Access road to the base camp	Obtaining approval	60	0	0
		Construction of culverts if needed	0	60	0
		Construction of temporary road	60	0	0

SI	Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
4	Training	Environmental training on EMP will be arranged for Construction Field supervisors and Environment & Safety Supervisors	60	0	0
5	Occupational Health and safety	Development of Health and Safety Plan including emergency procedures	60	0	0
		Train all staff in health and safety	60	0	0
		Provision of HIV, including STI (sexually transmitted infections) information, education and communication	36	24	0
		Provision of PPE and ensuring their use	60	0	0
		Provision and use of life jacket during visiting campsite/worksites by boat	60	0	0
		Installation of first aid facilities at work site and camps with adequate stock	60	0	0
		Provide sanitation facilities where needed	60	0	0
		Provision of safe drinking water to work force (tube-well water, bottled water or pond water)	48	0	0
		Proper signaling of work areas	48	0	0
6	Public Health and Safety	Notification of the public adjacent to the construction areas	60	0	0
		Installation of diversion signboard with warning for dedicated pathways for pedestrians	60	0	0
		Proper signalling of work areas	60	0	0
		Limitation of construction vehicles at public roads during peak hours	36	24	0
		The temporary traffic detours in settlement areas will be kept free of dust by frequent application of water	68	8	0

SI	Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
		Construction activities will be undertaken according to during daylight working hours between the hours of 07:00 – 17:00 on weekdays	60	0	0
7	Water Supply	Providing construction camps with potable water either through installing tube wells (hand pump, shallow and deep tubewell), Pond Sand Filter (PSF) or supplying safe bottled water	60	0	0
		Ensuring the location plan of tube wells (used for supplying potable water) that these are not sited near any sanitation facilities as to avoid water pollution	66	0	0
		Maintaining the distance of a tube well / surface water resource from a soak pit at minimum 15m	48	12	0
		Maintaining the drainage from the tube well diverting into the drainage system of the camp area	60	0	0
		Providing separate tube wells for the use of women	44	32	0
8	Sanitation	Providing suitable sanitation facilities for the workforce	60	0	0
		Ensuring the location plan of the latrine at least 50 meters away from the accommodation facility	60	0	0
		Providing separate latrines for the use of women	48	12	0
		Installing treatment facilities (i.e., septic tank, soak pits, etc.) for sewerage of toilet and camp site wastes	60	0	0
		Arranging disposal of wastewater from washrooms, kitchens, etc. via the camp area's drainage system	60	0	0

SI	Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
9	Solid Waste Management	Ensuring collection and disposal of solid wastes within the construction camps and work areas	60	0	0
		Taking measure to collect and store inorganic wastes in a safe place within the household and organic wastes cleared on daily basis to waste collector	36	24	0
		Establish measures for Waste collection, transportation and disposal systems at approved disposal sites	36	24	0
		Disposal of construction and demolition waste	48	12	0
10	Waste water	Installation of decanter boxes for washing buckets and cement mixers	48	12	0
		Installation of proper filtering elements	60	0	0
		Carrying out periodic checks and clean- ups for the decanter box	8	68	0
		Prioritize reuse of aggregates and water from the decanter box	20	56	0
		Ensure safe disposal of liquid wastes generated at camp site	60	0	0
11	Air	Regular maintenance of vehicles	60	0	0
		Covering or wetting of dusty materials	60	0	0
		Dust suppression by wetting surfaces	60	0	0
		Impose speed limits	60	0	0
		Re-vegetate bare surfaces soonest	48	12	0
12	Noise	Notify nearby population prior to any typical noise events	60	0	0



SI	Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
		Ensure construction activities do not generate unacceptably high level of noise	60	0	0
		Restrict working to daylight hours	60	0	0
		Locate noisy equipment / facilities away from sensitive receptors	60	0	0
13	Water and Hydrology	Preventing waste, soil, etc. entering in the water system by waste collection, re-vegetation and dust suppression, etc.	60	0	0
		Ensure proper drainage of working areas e.g., perimeters lines must be provided with open shallow drains	60	0	0
14	Monitoring of Drinking Water Quality	Performance of analyses on drinking water for: arsenic, iron, chloride and total faecal coliform bacteria	60	0	0
15	Deployment of Environment and Safety Supervisor	Employ one full-time Environment and Safety Supervisor for compliance monitoring of EMP	60	0	0
16	Complaints and Environmental Incidents	Grievance Redress Mechanism will be established	24	36	0
		Complaints received from the public or other stakeholders will be registered and recorded and be brought to the attention of the Site Engineer	60	0	0
		All environmental incidents occurring on the site will be recorded and be brought to the attention of the Site Engineer	60	0	0
		Action will be taken within 7 working days	48	12	0
17	Reporting and Documentation	The following records will be kept at site:	60	0	0

SI	Environmental Issues	Types of Compliance, Non-Compliance & Repeating Non-Compliance	Total no. of compliance in package 01 for the year	Total no. of non-compliance in package 01 for the year	Total no. of repeating non-compliance in package 01 for the year
		Environmental Monitoring Results	0	0	
		Contractors self-assessment record/results	0	0	
		Register of non-compliance	0	0	
		Register of corrective actions	0	0	
		Monthly Environmental Reports	0	0	

## 4.7. Selected Photos from the Audit

### Selected Photos from the Audit

#### Package 01



Meeting with Executive Engineer (XEN) & Consultant  
in the XEN office, Khulna



Meeting with Contractor (CHWE) in the Contractor  
office, Khulna

## Good Practices



Gatekeeper measuring temperature in front of the gate at Tafalbari CC block manufacturing yard under polder number-35/1



Gatekeeper spraying disinfectant in front of the gate at Tafalbari CC block manufacturing yard under polder number-35/1



Presence of required signage at Tafalbari CC Block manufacturing yard under polder number-35/1



First Aid box with adequate items for the workers at Tafalbari CC block manufacturing yard under Polder number-35/1





Presence of Grievance collection box at Tafal bari CC block manufacturing yard under polder no.-35/1



Fire extinguisher with expiry date presence on the work site at Tafal bari CC Block manufacturing yard under polder number-35/1



Separate waste bins for recyclable and non-recyclable wastes presence at Tafal bari CC block manufacturing yard under polder number-35/1



Vehicles parked in designated area at Tafal bari CC block manufacturing yard under polder no.-35/1



The paved ground is being removed and the land is being made suitable for cultivation in Tafal bari CC Block manufacturing yard under polder-35/1



Overall management of fuel storage is good at Tafal bari CC Block manufacturing yard under polder no.-35/1



WMA Executive Committee Members and local peoples jointly operating the Drainage Sluice (DS)-04 in polder no. 35/1



Discussion with WMA Executive Committee Members and local peoples at Drainage Sluice (DS)-04 in polder no. 35/1





WMA Office room in polder no. 35/1



WMA Office room in polder no. 35/1



Complete embankment and afforestation in the Chainage: km 25.500 under polder-35/1



Watcher has been found and doing their duties properly in the chainage: km 22.00 under polder-35/1



Visit Drainage Sluice (DS)-8 and the gates is functional at polder no. 35/1



After construction of embankment, local community moving with goods to deliver in local shops at polder no. 35/1



## Bad Practices



Stone washing o the river bank at Tafal bari CC block manufacturing yard under polder no.-35/1



Old Sluice gate debris are gathered in the river side at Tafal bari CC block manufacturing yard under

Polder number-35/1



Without proper signboard and any demarcation Slope Protection Work (Ch: km 23.512) is ongoing under polder no.-35/1



Workers without using PPE at Slope Protection Work (Ch: Km 23.512) under polder no.-35/1



Without proper signboard and any demarcation  
Embankment Work (Ch: km 52.250) is ongoing under  
polder no.-35/1



Without proper signboard and any demarcation  
embankment work (Ch: km 52.250) is ongoing under  
polder no.-35/1



## Package 02

### Good Practices



After using, plastic bottles storage in the designated area at Badurtola Camp under polder no.-40/2



Separate waste bins for recyclable and non-recyclable wastes presence at Badurtola Camp under Polder no.-40/2



Completed Drainage Sluice (DS)-10 at polder no. 40/2



Drainage Sluice (DS)-10 at the polder no. 40/2



Drainage Sluice (DS)-9 in the polder no. 40/2



Drainage Sluice in the polder no. 40/2



First Aid box with adequate items in the worksite of FS-08, under Polder no. 40/2



Completed embankment and afforestation works in the chainage: km 2.00 under polder no. 40/2



## Bad Practices



Workers welding work without using proper PPE at Badurtola Camp under polder no. 40/2



Empty cement bags are dumped randomly at Badurtola Camp under polder no. 40/2



Lack of signage and signboard at Batikata CC block manufacturing yard under polder no. 40/2



Present condition of latrine for workers use at Batikata CC block manufacturing yard under polder no. 40/2



Lack of signage and signboard in the worksite of FS-08, under Polder no. 40/2



Without using PPE workers work in the work site of FS-08, under Polder no. 40/2



Without using PPE workers work in the work site of FS-08, under Polder no. 40/2



Electric wire on the ground in the worksite of FS-08, under Polder no. 40/2





Lack of signage and signboard in the worksite of embankment work (ch: 2.000), under Polder no. 40/2



Without any ear plug the driver operates the high noise vehicle under polder no. 40/2

### Good Practices



Drainage Sluice (DS)-3 in the polder no. 41/1



Drainage Sluice (DS)-3 in the polder no. 41/1



Flushing Sluice (FS)- in the polder no. 41/1



Flushing Sluice (FS)-6 in the polder no. 41/1



Complete embankment and afforestation in the chainage: km 5.300 under polder no. 41/1



Complete embankment and afforestation in the chainage: km 3.600 under polder no. 41/1





Flushing Sluice (FS)-8 in the polder no. 41/1



Flushing Sluice (FS)- in the polder no. 41/1

## Bad Practices



Electric wire on the ground in worksite of FS-24, under Polder no. 41/1



Lack of signage and signboard in the worksite of FS-24, under Polder no. 41/1



Discussion with local people near the work site of FS-24 under polder no. 41/1



Old Sluice gate debris are gathered in the work site of FS-24 under polder no.41/1



Without using PPE worker work in the of FS-24, under  
Polder no. 41/1



Collecting soil for construction of embankment  
(chainage: 27.000) and deep excavation in the locality  
side under polder no. 41/1



## Good Practices



Designated separate waste management area at Golachipa Camp under polder no. 43/2C



Designated household waste area at Golachipa Camp under polder no. 43/2C



Drainage Sluice (DS)-01 Structure polder no. 43/2C



Complete embankment and afforestation in the ch: km 25.000, under polder no. 43/2C



Presence demarcation and signage in the work site  
Drainage Sluice (DS) -06, under polder no. 43/2C



Flushing Sluice (FS)-1A in polder no. 43/2C

### Bad Practices



Oil drum and dry cement bags are scattered in the  
Golachipa Camp area under polder no. 43/2C



No signage and symbol Infront of the generator room  
at Golachipa Camp area under polder no. 43/2C





Lack of signage and demarcation at Golkhali CC Block manufacturing yard under polder no. 43/2C



Used cement bags are dumped randomly at Golkhali CC Block manufacturing yard under polder no. 43/2C



Completed embankment work has been in chainage km24.800 under polder no. 43/2C



Not maintain the minimum distance from borrow to toe in chainage km24.800 under polder no. 43/2C



Drainage Sluice (DS)-02 Structure work has been completed but not yet operational, polder no. 43/2C



Old Sluice gate debris are gathered in the road site of DS-02 under polder no.43/2C



Without using PPE worker work in the of DS-2, under Polder no. 43/2C



Drainage Sluice (DS)-01 structure work has been completed but the old sluice not yet dismantled, under Polder no. 43/2C





Workers without using proper PPE in worksite of DS-06, under Polder no. 43/2C



Electric wire on the ground in worksite of DS-06, under Polder no. 43/2C



Without using PPE worker work in the of DS-6, under Polder no. 43/2C



Electric wire, Cement Bags on the ground in worksite of DS-06, under Polder no. 43/2C





Generator with no secondary containment at DS-06,  
under Polder no. 43/2C



In a small room and tent where 10 to 15 workers are  
stay at

DS-06, under Polder no. 43/2C



Latrine without water seal in DS-06, under polder  
no. 43/2C



Open and no safety tank of the latrine in DS-06, under  
polder no. 43/2C

## Bad Practices



Without proper signboard and demarcation  
Embankment work (Ch: km 45.600) ongoing under  
polder no. 39/2C



Without proper signboard and demarcation  
Embankment work (Ch: km 45.600) ongoing under  
polder no. 39/2C



Without any ear protector the driver operates the high  
sound vehicle under polder no. 39/2C



Discussion with people revealed disturbance for the  
works

(ch: km 45.600) under polder no. 39/2C.





View of completed slope protection works at Kuakata of polder 48



View of completed slope protection works at Kuakata of polder 48



Construction works with proper EHS measures at polder 48



Workers on work without required PPE at polder 48

## 4.8. Labour Influx Report

Initial 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	June 2021
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 & Indian, around 56 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 translators; 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 laborers?	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 laborers; Recently for polder-32, 206 local workers engaged for construction workers; P-33, 80 local workers; P-35/1, 207 local workers; P-35/3, 70

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2. INITIAL SCREENING LABOR INFLUX REQUIREMENTS AND IMPLICATIONS		
		local workers. There are no 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 daytime 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 teamwork.
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	<i>Education</i>	<i>Experience</i>
		No information is available	No information

4. LOCAL COMMUNITY (Please provide Polder wise description of Facilities)		
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)					
<i>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.</i>					
6.1	Number of laborers by sex	Male		Female	
		206		2	
6.2	Number of laborers by skill	Skilled	Semi-skilled	Unskilled	Total
		194	10	4	208
6.3	Number of laborers by origin	Local (same or adjoining district)	Other districts	Other Country	Total
		183	6	19	208
6.4	Number of laborers by age	18-25		25-50	Above 50
		196		07	5
6.5	Source of labour	Contractor	Sub-contractor	Independent	Other
		208	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	Almost within 100m
		4	Temporary	yard and every work site	
7.2	Type of housing in labour camp on leased land (temporary shelters / kuchha /pukka)	Work sites have temporary shelter, but cc block yard has pukka 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 laborers 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 campsite / worksite?	Yes
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 Upazila head quarter. But there some clinic or satellite clinic inside the polder. If any

9. ACCIDENTS, EMERGENCIES AND INCIDENTS (Please provide Polder wise description of Facilities)		
		worker required critical services then he/she refer to Khulna or Dhaka. The contractor has 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 workplace 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;



**Initial 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	12 <sup>th</sup> July, 2017
1.4	Date of Completion	30 <sup>th</sup> June, 2022
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)	<ol style="list-style-type: none"> <li>1. Upgrading via new construction and re-sectioning of embankments with a length of about 209 km;</li> <li>2. Excavation and re-excavation of drainage channels in the Polders with a total length of about 188 km;</li> <li>3. Construction of 50 drainage sluices;</li> <li>4. Repairing of 6 drainage sluices;</li> <li>5. Construction of 73 flushing sluices;</li> <li>6. Repairing of 8 flushing sluices;</li> <li>7. Construction of embankment slope protection works with a total length of some 9.5km;</li> <li>8. Construction of river bank protection works with a total length of 5.40 km;</li> <li>9. Construction of 8 Khal Closing Closures with varying widths between 35m to 60m;</li> <li>10. Dismantling of 36 drainage sluices, 70 flushing sluices and road pavement for about 50 km;</li> <li>11. Construction of RCC Flood wall with a length of about 17km;</li> <li>12. Construction of Road Pavement with a length of about 51km.</li> </ol> <p>Construction duration: 59 months</p>

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 considerations)	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 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	<i>Education</i>	<i>Skill</i>	<i>Experience</i>
		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)					
<i>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.</i>					
6.1	Number of laborers by sex	<i>Male</i>		<i>Female</i>	
		910		5	
6.2	Number of laborers by skill	<i>Skilled</i>		<i>Unskilled</i>	
		435		260	
6.3	Number of laborers by origin	<i>Local (same or adjoining district)</i>		<i>Other Country</i>	
		781		0	
6.4	Number of laborers by age	<i>18-25</i>		<i>25-50</i>	
		445		10	
6.5	Source of labour	<i>Contractor</i>		<i>Other</i>	
		915		0	

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	<i>Temporary</i>	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: Bhandaria Police station, 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, Dispensary 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.

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		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 logbook 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.





## 4.9. ECC renewal

শেখ হাসিনার নির্দেশ  
অলম্ব্যাহু সইফু বাংলাদেশ



Government of the People's Republic of Bangladesh  
Department of Environment  
Head Office, Paribesh Bhaban  
E-16 Agargaon, Sher-e-Bangla Nagar, Dhaka-1207  
[www.doe.gov.bd](http://www.doe.gov.bd)

Memo No. DoE/Clearance/5196/2013/ 165

Date: December 06, 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 Letter No. CEIP-1/1547; Dated: 31.10.2021

With reference to the above, the Department of Environment hereby accords renewal to the Environmental Clearance 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 of the above project issued on 05.11.2018 vide memo number DoE/Clearance/5196/2013/1035 shall remain valid for the renewed period.

02. This renewal is valid until 04.11.2022. Application for further renewal along with the renewal fee as per the ECR, 1997 and VAT on renewal fee (in separate Treasury/ VAT Chalan) and all associated documents shall be submitted to the Department of Environment, Head Office, Dhaka, with a copy to the concerned Regional/Divisional offices at least 30 days ahead of expiry.

  
(Masud Iqbal Md. Shameem)  
Director (Environmental Clearance)  
Phone: 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.

#### 4.10. Time Bound Corrective Action Plan Suggested by the 6<sup>th</sup> Annual Environmental Audit Findings

**Table 15: Time Bound Corrective Action Plan Suggested by Fifth Annual Environmental Audit**

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE	MEANS FOR IMPLEMENTATION	CHALLENGES	SUGGESTIVE MEASURES
1	Contractors of both Packages should follow the findings and recommendations of this sixth annual environmental audit.	Contractors of Package 01 and Package 02	Continuous	Following the findings of audit report and the recommendations of audit as well suggestions of Environmental specialists of CEIP-1	Paying lack of attenuation on the safeguards issue might be challenges	Ongoing supervision and monitoring from the end of DDSC&PMSC, PMU and M&E Consultants
2	The DDSC&PMS Consultants and PMU should consider the recommendations for the upcoming next phase of the project where applicable.	DDSC&PMS Consultants and PMU	As and when applicable	Preserving the audit report	Challenges not assessed at this stage as no such project is started	Not applicable at this stage
3	The report of sixth audit would 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	30 June 2022	Sharing of report through email and sending hard copy	No challenge faced for this	Not applicable
4	It is recommended that all the responsible parties will carry out the action items mentioned with	Contractors; DDSC&PMS Consultants;	Continues	Following CAP of the Audit report, insert status on their	Lack of supervision and monitoring may be a challenge to	Proper supervision and monitoring from the end of

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SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE	MEANS FOR IMPLEMENTATION	CHALLENGES	SUGGESTIVE MEASURES
	the time bound CAP (Annex-4.10). The contractors, consultants and PMU should convene periodically to report on the implementation of the time-bound action plan incorporating the findings/recommendations of this 6th Environmental Audit Report.	Long Term Monitoring Consultants; PMU		implementation in Bi-Annual Environmental Monitoring report and next Annual Audit report	accomplish the action items and report them in reports.	DDCS&PMSC, PMU and M&E Consultants.
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	15 July 2022	Ensure supply of PPE items at all the active sites and supervision and monitoring	The workers may be reluctant to use the PPE	Proper supervision and monitoring from the end of Contractors' management/ EHS Officers, DDCS&PMSC, PMU and M&E Consultants
6	Both the Contractors should carry out the efforts to improve the EHS practices.	Contractors of Package 01 and Package 02	30 June 2022 (to start paying more efforts) To be continued	Continuation of toolbox talk and field visits	Reluctant among the contractor and lack attention	Proper supervision and monitoring from the end of Contractors' management/ EHS Officers, DDCS&PMSC, PMU and M&E Consultants and on-jobs training as and when

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE	MEANS FOR IMPLEMENTATION	CHALLENGES	SUGGESTIVE MEASURES
						applicable.
7	The Contractor of Package-02 should give continuous effective efforts to improve the EHS practices. The DDCS& PMS Consultants and PMU also need rigorous supervision to improve the EHS practices in Package 02.	Contractors of Package 02	Continues	Raising awareness among contractor, providing trainings and technical support from the end of DDCS&PMC and PMU	If COVID-19 situation further worsen, the proper attention, supervision and monitoring may be a challenge	Trainings to be conducted by PMU and DDCS&PMSC and technical support s to be provid3d by them.
8	Considering that the EHS practice level at each polder of Package-02 areas need to be improved substantially which needs also cost for personnel, mitigation measures etc., it is recommended that PMU makes payment for EHS items smoothly	PMU	10 July 2022	Raising awareness among contractor, providing trainings and technical support from the end of DDCS&PMC and PMU and ensuring disbursement of EMP budget when complied	Lack of complying with EMP clauses may delay the EMP budget disbursement delayed	PMU and DCS&PMSC to provide training and PMU to disburse EMP budget when complied.
9	It is recommended to start the fish conservation activities for Package 02.	Contractor of Package 02	30 June 2022	Recruiting fish expert & supplying of required materials to implement related fisheries activities in both Packages	Proper time is a factor as the activities are related on availability of water and effort of the Contractors	The whole activity would be completed within upcoming rainy period
10	Contractor of Package-02 is recommended to ensure full time Expatriate EHS personnel and local EHS Officer at each polder of Package-02	Contractor of Package 02	31 July 2022	To recruit EHS personnel with proper approval from PMU	If COVID-19 situation further become worsen, deployment of Expatriate EHS personnel may be a challenge.	To recruit the EHS expatriate and mobilize them as soon as possible as COVID-19 situation is better now.

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE	MEANS FOR IMPLEMENTATION	CHALLENGES	SUGGESTIVE MEASURES
11	To assist in EHS practice level and evaluate the impact level of project (positive/ negative) as Package-01 is at ending stage, the Project Director of CEIP-1 extends his cooperation as required to mobilize the International Environmental Specialist of Third Party M&E Consultants	The Project Director; PMU	Depending on the Project's need	Approval and necessary clearance from the PD	If COVID-19 situation further become worsen, deployment of International Specialist may be a challenge.	To mobilize the specialist as soon as possible as COVID-19 situation is better now.
12	It is recommended monitoring testing covering every year is done.	Contractor/s	By July in every year	Contact CRTS of KUET timely and make payment for Environmental tests.	Covid-19 situation may cause delay in implementation	The contractor should take the opportunity of improved situation of Covid in the country for conducting of Environmental monitoring test
13	It is recommended that Package 02 contractor continues monitoring with the Bi-monthly Environmental Monitoring checklist from January to December and prepares and submits the reports for them.	Contractor of Package 02	Continues	Using the developed checklists and fill them	Absence of polder level EHS Officer may be challenge to carry out the task	To ensure EHS Officer at each polder.
14	The recommendations made for Long Term Monitoring, Research, and Analysis of Bangladesh Coastal Zone	Long Term Monitoring, Research, and Analysis of	31 August 2022	Following the recommendations of audit	Lack of coordination from the end of the said consultant with PMU is a challenge	To ensure proper coordination with PMU

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	TARGET DATE	MEANS FOR IMPLEMENTATION	CHALLENGES	SUGGESTIVE MEASURES
	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.	Bangladesh Coastal Zone Consultants				
15	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.	DDSC & PMS Consultants; PMU	Looking for more coordination as and when required	Coordination with different stakeholders and discussion with them	Cooperation from other agencies may be a challenge	To continue efforts to rapport building to get extended cooperation.
16	The audit found good level of EHS compliances and there are many good EHS practices at polder level. However, there are some areas that needs to be improved. So, both the Contractors are advised to follow the Polder-Specific recommendations that have come out from the sixth Annual Environmental Audit.	Contractors of Package 01 and Package 02	20 July 2022	To follow the polder specific recommendations	Looking on site by site findings may be escaped	Assistance from Environmental Specialists of CIEP-1 to make clear about the polder level recommendations.