GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

Ministry of Water Resources

Bangladesh Water Development Board ADB Loan: 3135-BAN (SF)











14th Semiannual

ENVIRONMENTAL MONITORING REPORT (EMR)

Period: July-December, 2022

IRRIGATION MANAGEMENT IMPROVEMENT PROJECT (IMIP), BWDB

Dhaka, January 2023

ACRONYMS AND ABBREVIATIONS

ADB - Asian Development Bank

BADC - Bangladesh Agriculture Development Corporation

BOD - Biological Oxygen Demand

BOQ - Bill of Quantity

B/P- Buried Pipe (uPVC Pipe)

BWDB - Bangladesh Water Development Board

CAS - Catch Assessment Survey

C-IMO - Construction Phase Irrigation Management Operator

COD - Chemical Oxygen Demand

CW- Construction Works

DAE - Department of Agricultural Extension

DFR - Draft Final Report

DO - Dissolved Oxygen

DoC - Department of Cooperatives

DOE - Department of Environment

DOF - Department of Fisheries

DoPHE- Department of Public Health Engineering

DTW - Deep Tube Well

EAP - Environmental Action Plan

EC - Electrical Conductivity

ECA - Environment Conservation Act

ECC - Environmental Clearance Certificate

ECR - Environment Conservation Rules

EEC - European Economic Commission

EIA - Environmental Impact Assessment

EIRR - Economic Internal Rate of Return

EMP - Environmental Management Plan

EMR- Environmental Monitoring Report

EMU - Environmental Management Unit

ERP - Environmental Responsible Procurement

FAP - Flood Action Plan

FAO - Food and Agricultural Organization

FCD - Flood Control, Drainage and Irrigation

FD - Forest Department

FGD - Focus Group Discussion

FOM- Field Office Manager (IMO)

FPCO - Flood Planning Coordination Organization

GAP - Gender Action Plan

GI - Galvanized Iron

GKIP - Ganges Kobodak Irrigation Project

GRM - Grievance Redress Mechanism

GOB - Government of Bangladesh

GPP - Guidelines for People's Participation

GPWM- Guidelines for Participatory Water Management

GRC - Grievance Redress Centre

H/T- Header Tank

ICC - Implementation Coordination Committee

IDA - International Development Agency

IEC - Important Environmental Components

IEE - Initial Environmental Examination

IMIP - Irrigation Management Improvement Project

IMO - Irrigation Management Operator

IMED- Implementation, Monitoring and Evaluation Division

IPM - Integrated Pest Management

ISPAN- Irrigation Support Project for Asia and Near East

IWM - Institute of Water Modeling

IWRM - Integrated Water Resources Management

IWRMP- Integrated Water Resources Management Plan

JMC - Joint Management Committee

KJDRP- Khulna Jessore Drainage Rehabilitation Project

LDA - Land Donation Agreement

LLP - Low Lift Pump

LGI - Local Government Institution

M-IMO- Management Phase Irrigation Management Operator

MIP - Muhuri Irrigation Project

MOA - Ministry of Agriculture

MOEF- Ministry of Environment and Forest

MOM - Management Operation and Maintenance

MoU - Memorandum of Understanding

MOWR- Ministry of Water Resources

Mt - Metric Ton

NGO- Non-Governmental Organization

NWMP- National Water Management Plan

NWP - National Water Policy

O&M - Operation and Maintenance

PAP - Project Affected Person

PD - Project Director

PH - Hydrogen Ion concentration in a solution

PHE - Public Health Engineering

PIU - Project Implementation Unit

PMDC- Project Management & Design Consultants

PMU - Project Management Unit

PMO - Project Management Office

POPs - Persistent Organic Pollutants

PPP - Public Private Partnership

PPE - Personal Protection Equipment

PPTA - Project Preparation Technical Assistance

PRRA - Participatory Rapid Rural Appraisal

PSC - Project Steering Committee

PVC - Poly Vinyl Chloride

PWD - Public Works Department

RAP - Resettlement Action Plan

RCC - Reinforced Cement Concrete

REB - Rural Electrification Board

RF - Resettlement Framework

RSDP - Resettlement and Social Development Plan

SIDA - Swedish International Development Agency

SPRS- Safeguard and Public Relation Specialist

SPS - Safeguard Policy Statement

STW - Shallow Tube Well

SWMC- Surface Water Modeling Center

TBIP - Teesta Barrage Irrigation Project

UNDP - United Nations Development Program

WARPO- Water Resources Planning Organization

WUO - Water Users Organization

WUG - Water Users Group

WUA - Water Users Association

WMO - Water Management Organization

WMG - Water Management Group

WMA - Water Management Association

WHO - World Health Organization

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14th Semi-annual Environmental Monitoring Report

EXECUTIVE SUMMARY

- 1. This 14th semi-annual Environmental Monitoring Report (July December, 2022) has been prepared with due attention to ADB's requirements and concerns as outlined in ADB's Safeguard Policy Statement (SPS-2009) and reflected in the Environment Management Plan (EMP) for protection of the natural and social environment from adverse impacts that may occur due to implementation of the activities under MIP. The report presents the status and occurrences of the safeguard issues gathered by monitoring the situation at the field level, by enquiring with community people, IMO's field staff, working labors and staff of contractors, compiling EMP monitoring checklist and by observation of the PMU Safeguard officer in the field on July & December, 2022 and January, 2023.
- 2. The overall objective of MIP is poverty alleviation and enhancement of food security through increased yield/cropping intensity and diversification of crops and reducing irrigation costs of production. The project components are (1) rehabilitation of about 17.75 km coastal embankment, (2) re-excavation/re-sectioning of 373 km drainage/irrigation khal, (3) rehabilitation of 4 sluice gates, (4) construction of 2 sluice gates,(5) rehabilitation of 3 water control structures, (6) construction of 4 water control structures, (7) installation of 283 km electricity distribution line, (8) installation of 8.50 km underground uPVC water distribution pipeline, (9) installation of 20 km RCC pipeline and (10) installation of 12 km GI pipeline and
- 3. (11) installation & electrifying 850 Low Lift Pumps (LLP). But the safeguard issues under the works of last 5 components (7-11) above have been incorporated in this 13th Semiannual EMR. The project will increase farmers' knowledge in improved agricultural production technology by training and also promote institutional development for attaining a sustainable self-managed and self-financed system.
- 4. The positive impacts of MIP on the environment are (i) protection of lives and properties from tidal surge/flood by construction/rehabilitation of coastal embankments & water control structures, (ii) protection land from further degradation due to salinity intrusion through water regulating structures; (iii) increased water use efficiency through surface water retention by storing in reservoir and distribution through a profuse networks of irrigation khals for cultivation in the dry season, (iv) reduced water logging through drainage khals/structures and control measures and (v) diversification of cropping patterns, increasing cropping intensity and attaining food security by providing year round irrigation.
- 5. During the reporting period only (i) construction of pump houses with buried pipe system, (ii) installation of electrical substation with supply lines and (iii) re-excavation of 48 silted up canals were going on in the field. The major negative impacts of these three construction works considered on the local environment are (i) risk of leaving heaps of spoil earth on private agricultural land after re-excavation of silted up khals, installation of underground uPVC pipes and filling the trenches,(ii))hindrance in movement of local people/cattle/vehicles over the long open trenches waiting for installation of uPVC pipes,(iii) removal of trees/crops by excavator during trenching and installation of uPVC pipes along the trench lines or re-excavation of silted up khals along the khal banks, (iv) unauthorized (without permission/payment) staking of construction materials, equipment, pipes etc. and construction of labor sheds on private

- 6. lands/crop fields, (v) lack of supplying potable water and health & safety equipment/materials for construction labors to combat Covid-19 pandemics. The reporting period (July to December, 2022) was the pick irrigation season. Irrigation season will be started from January 2023 and that was stopped during the monitoring visit (18-19 July, 2022 and 4-5 January, 2023) of PMU safeguard team. So, the adverse impacts on the environment/society for operation are minimum / negligible.
- 7. The lead farmers and contractor's personnel/labors/labor leaders have been trained/consulted on those issues several times. To mitigate the negative environmental impacts and social issues (i) the contractors'/sub-contractor's employees engaged for supervision are requested to take remedial measures. In most cases, the German contractor engaged in implementing Package No. 6 & 7found to take corrective actions, but local contractors found reluctant to improve the standard of accommodation, toilet and other health, sanitation and medical facilities including protective measures against EHS issues of MIP.
- 8. During the present reporting period, 04 abandoned LLPs have been relocated to nearby villages within the command area. The safeguard issues specially the environmental issues of 34 relocated schemes have been focused in this 13th SEMR. The major impacts monitored during this reporting period are only (a) impacts that occurred during construction of pump house and header tanks, outlet chambers, buried pipe setting and erection of electric poles, installation supply lines; (b) environmental health and safety compliance and (c) felling/cutting of trees and planting of saplings (d) social issues like labor's wages, wage discrimination to female labors, low wage paid to labors and peaceful living of neighboring communities' have been monitored and overall results have been found satisfactory within limited monitoring arrangements except a few issues stated in the templates.
- 9. In regards to IEE monitoring, three physical parameters (pH, EC, TDS) and five inorganic chemical parameters (PO4-, SO4-, NO3-, CI-, As) of surface water from 15 points have been studied by C-IMO in response to discussions with ADB Mission and also farmer complains for pollution water. Testing of surface water samples has been done for investigating the toxicity of canal water polluted by poultry feces and motivating the defended people and the quality of irrigation water as well.
- 10. Key components of physical works and their progress status are stated in the Table-1, implementation status of EMP and its monitoring has been stated in Table-3 (as per EMP). Monitoring of implementation status of Health and Safety Plan (HSP) has been shown in Table- 4. While preparing the report, the key points suggested by ADB (Such as, which proposed mitigation measures were done, whether those were effective or not, how the measures were performed, by who and where) have been followed. The problems faced and the reasons why the proposed mitigation measures have not been effective in some cases have been mentioned in the main report as well as in the recommendation and the conclusion. The issues mentioned in ADB's Aide-Memoire of ADB's past mission (2022) and agreed action plan for July- December, 2022 have been addressed in the EMR.
- 11. Though the Covid-19 situation has been improved in the country including the project area, yet C-IMO, PIU and PMU have kept vigilant eyes on the situation and taken quick action as per ADB's guidelines which have been described in section 2.5 of the Chapter II.

PMU SAFEGUARD CELL

IMIP-MIP, BWDB, DHAKA

CHAPTER-I: BACKGROUND OF MUHURI IRRIGATION PROJECT

1.0 PROJECT BACKGROUND

- 12. The khal beds of Muhuri Irrigation Project (MIP), which was completed and commissioned in 1986, became largely silted over the last 30 years. This has been added by land slide that occurred in many parts of the khals due to sandy soil. This reduced the volume of water flow in the khals and resultantly, the command areas of the schemes requiring irrigation, substantially decreased. The underground water level is going down every year reducing the availability of water for irrigation and drinking.
- 13. Further, the siltation of the rivers in Bangladesh and diversion of water in the up streams of the rivers originating in/flowing through some parts of India, efficient use of water resources with diversification of crops/changing cropping pattern has become essential for obtaining food security for more than 160 million people of the country.
- 14. In MIP at present, the motors for irrigation are owned by rich farmers who run the motors mostly by diesel and sell water to small and medium farmers. The cost for irrigation is high and fixed per bigha (33 decimals). As farmers pay a fixed water charge per Bigha and lack adequate knowledge in requirement of water for crops, they use more water than required for their crops. Distribution of water through the present field channel system is wasteful, because a substantial amount of land remains uncultivated, and a lot of water is lost in the process due to seepage and evaporation. The overall production cost has gone up and farmers are losing interest in farming which has become uneconomic.
- 15. In view of the above, Government of Bangladesh, with the financial assistance of ADB, has launched a project to modernize 3 large scale old irrigation projects of BWDB under Irrigation Management Improvement Project (IMIP). Under IMIP the implementation of Muhuri Irrigation Project (MIP) at Feni& Chittagong districts is going on and feasibility studies for modernization of another two old BWDB projects named Ganges Kobotak Irrigation Project (GKIP) at Kustia, Meherpur, Chuadanga and Magura districts and Tista Barrage Irrigation Project (TBIP) at Rangpur, Dinajpur and Nilphamari districts have been completed and DPP preparation of GKIP has also been started. This Environmental Monitoring Report (EMR) concentrates on the impacts of implementation of MIP activities with respect to environment and social issues.

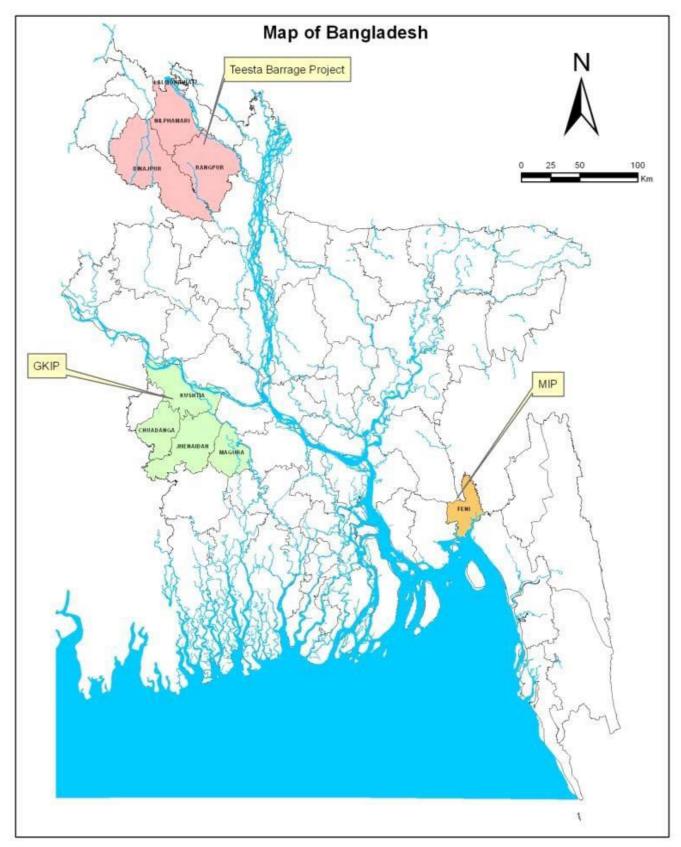


Figure 1: Location Of The Three Projects Shown In The Map Of Bangladesh

1.1 PROJECT LOCATION

16. The MIP is located between latitude 22.45° - 23.09° N and longitude 91.21° - 91.35° E in the middle of the southeastern region of Bangladesh, adjacent to coastal belt of the Bay of Bengal. The project covers five Upazilas of Feni District (Feni Sadar, Sonagazi, Chhagalnaiya, Fulgazi, and Porshuram) and part of Mirsarai Upazila in Chittagong District (Figure-2). The MIP is on the flood plains of 3 flashy rivers Muhuri, Feni and Selonia flowing from Indian hills of Tripura to the East and the Bay of Bengal to the West. So heavy downpour in Indian hills suddenly flashes the area violently and damages houses and property, submerges the crops and land and reduces the storage and flowing capacity of the rivers by sand/silt carried with flood water. The MIP area also experiences natural disasters like tropical storms, cyclones, and tidal surges at intervals of several years. The project area of MIP is also prone to earthquake due to the presence of India- Myanmar fault to its eastern periphery.

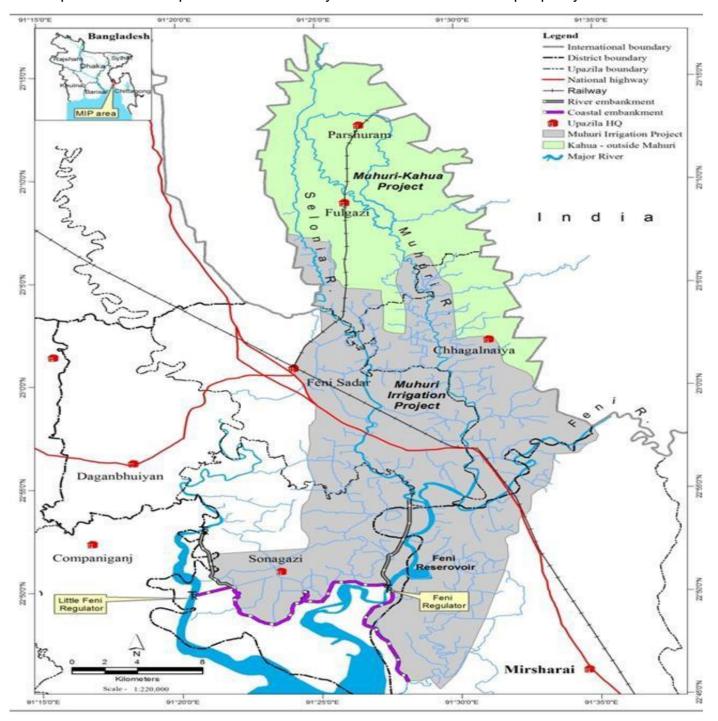


Figure 2: MIP between the Flood Plains of Flashy Rivers Muhuri & Selonia originated from The Indian Hills

1.2 PROJECT OBJECTIVES

- 17. The overall project objective is alleviating poverty, enhancing food security through increased yield/diversification of crops, increasing cropping intensity and reducing irrigation costs of production.
 - 18. The specific objectives of the project are-
 - (a) Ensuring dry season irrigation using surface water by installing low lift pumps (LLP) on re-excavated canal banks, to reduce saltwater intrusion from the Bay of Bengal, and to reduce the extent, depth, and duration of monsoon flooding.
 - (b) Modernizing the irrigation system of MIP focusing on sustainable operation and maintenance through rehabilitation of the irrigation infrastructures, replacing the existing drainage/channel system by setting underground pipelines, electrifying the LLPs, and introducing prepaid metering and smart cards with which farmers would irrigate his/her land whenever s/he needs and gets whatever quantity of water s/he needs, thus reducing waste of water.
 - (c) Improving irrigation management through innovative approaches for modernization and cost recovery in full for the Level 2 (Secondary canal systems) and the Level 3 (framers' canal system) infrastructures' O&M while the Executing agency will carry out O&M of the Level 1 (Embankment, regulators, and primary canal system/rivers) of the MIP with contribution by the GoB.
 - **(d)** Increasing sustainability of MIP through raising farmers' awareness, institutional strengthening, and effective community participation.
 - **(e)** Controlling floods, increasing water storage capacity by re-excavating the canals excavated under MIP in 1986 and using water resources effectively and efficiently.

1.3 PROPOSED INTERVENTIONS AND THEIR PHYSICAL PROGRESS UP TO December, 2022

- 19. The following interventions are proposed under the project-
- (a) Rehabilitation of 17.75 km coastal embankment and re-excavation of 460 km khal (canal). 48 re-excavated irrigation & drainage canals which cover about 44 km, silted up by flashfloods from Indian hills last years, need re-excavation again.
- **(b)** Construct 850 pump houses with header tanks, supporting outlet chambers and gas pipes.
- **(c)** Replacing 440 diesel pumps and installation of 410 new pumps and electrifying all 850 irrigation pumps for reducing irrigation costs.
- (d) Setting buried (uPVC) pipes under 850 schemes to irrigate 18000 ha of land by installing prepaid meters equipped with Smart Card system so that water can be used efficiently by reducing system loss.
- (e) For further reducing irrigation costs, assessing feasibility of using solar power in 50 LLPs on pilot basis.

(f) Construction and installation of a 33/11 KVA electrical substation for ensuring optimum power supply to the irrigation pumps.

Table 1: Key Components Of Mip's Physical Works And Their Progress

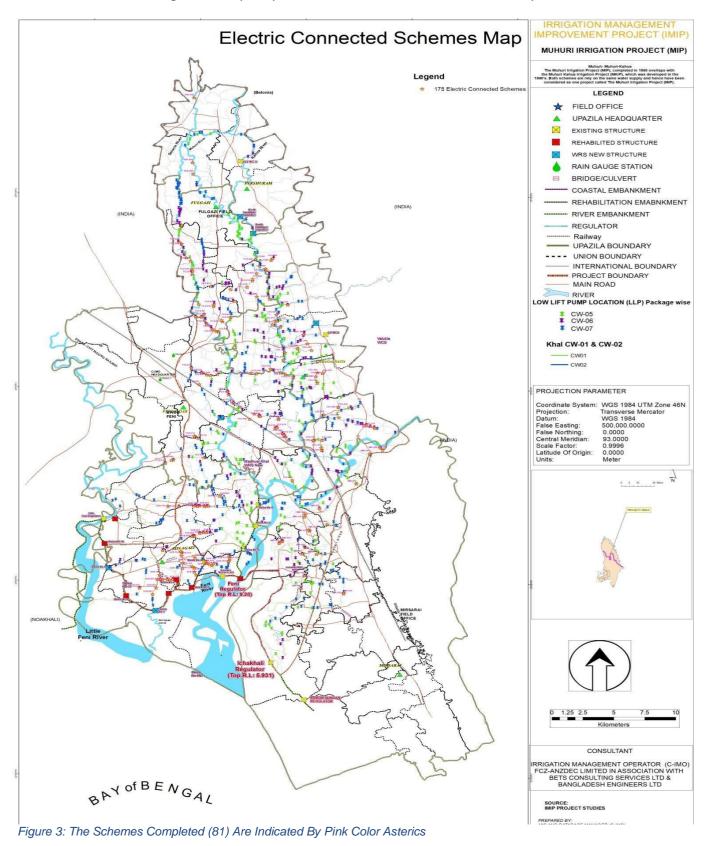
SI.	Project	Packages	Unit/Quantity	Unit/ Quantity	Physical	Status Till
No.	Components		(Targeted)	(Achieved)	Progress	30.12.2022
1	Rehabilitation of coastal embankment	CW: 01	17.75km Embankment	17.75 km	100.00 %	Completed
2	Re-	CW: 01	203.11 km	181.55 Km **	89.38 %	Completed
	excavation of canals	CW: 02	200.87 km	191.37 Km **	95.27 %	Completed
		CW: 03	LLP-81 B/P- 81(74.47km) P/H- 81 H/T- 81 P/M-81 Area-5400 ha	LLP-81 B/P- 81(74.57km) P/H- 81 H/T- 81 P/M-81	99.75 %	Completed
3	Farmers distribution system to connect 850 LLPs in 18,000 ha command area of MIP	CW: 05	LLP-235 B/P- 235(240.06km) P/H- 235 H/T- 235 P/M- 235 Area-5025 ha	LLP-205 (Pump Installed) B/P- 235(238.434 km) P/H-232 H/T-235 P/M-189	93.73%	On going
		CW: 06	LLP- 210 B/P- 210(233.34(km) P/H- 210 H/T- 210 P/M- 210 Area-5700 ha	LLP- 190 (Pump Installed) B/P- 189 (214.752 km) P/H- 210 H/T- 210 P/M- 161	89.26 %	On going
		CW: 07	LLP- 324 B/P- 297.724 P/H- 324 H/T- 324 P/M- 325 Area-2000 ha	LLP- 296 (Pump Installed) B/P- 311 (285.966 km) P/H- 324 H/T- 324 P/M- 270	88.29 %	On going
	Installation of electrical lines, transformers & connection to 850 LLPs	CW: 04	P/E - 3110 C/I- 180 km T/I - 1791 M/C - 850	P/E- 2975 C/I- 126.09 km T/I - 1059 M/C – 304	71.00 %	On going
4	Installation of 33/11 KVA substation on 0.40 acres of land	CW: 04	L/A - 0.40 acre S/L - 0.113 km F/L - 10.835 km T/I - 1.0 S/I - 1.0 G/I– 1.0	L/A -0.40 acre S/L - 0.00 km F/L - 0.00 km T/I - 0.0 S/I - 0.0 G/I - 0.0	62.00 %	On going

Note: CW- Construction works, LLP- Low Lift Pump, B/P-Buried Pipe, P/H-Pump house, H/T-Header tank, P/M-Prepaid meter, P/E-Pole erected, C/I-Cable installed, T/I-Transformer installed, M/C- Meter connected, L/A-Land acquired, S/L- Source line (connected), F/L- Feeder lines (connected), S/I- Switchgear installed, G/I-Gantry installed

^{*} Though the target was excavation/re-excavation of 460 km of irrigation khal but the contracts were

revised to 405 km as some parts of different khals were not required to re-excavate as those portions were already aligned with/a little above the design level.

- **Finally, total 373 km khals (Table-1) out of 405 km has been re-excavated. Remaining 32 km was left as there were some immovable structures like Bazar; mosques etc. on those parts and some portions of different khals were already excavated/re-excavated by LGED and BADC.
- ***Moreover, 48 khals (39 re-excavated and 9 not-re-excavated), covering 44 km and badly silted up by flashfloods occurring over the past years, have been listed to re-excavate by GoB fund.



1.4 RELOCATION OF 34 LLP SCHEMES WITHIN THE MIP COMMAND AREA

20. Thirty-four schemes, out of total 850, have been relocated to the nearby area within the MIP command area where some farmers have been voluntarily agreed to donate small part of their land for installation of irrigation pumps. C-IMO field engineers have been compelled to relocate those 34 schemes to newly selected areas as no farmers in the previous location have been agreed voluntarily to donate 1 decimal land for construction a pump house in the most feasible point of canal bank. The main cause behind the issue is the presence of one or more local water lords within those LLP scheme areas who are making their fortune with very little effort by selling irrigation water to the small farmers. Some elite/big farmers or most influential farmers or political leaders within those LLP areas have installed electrical irrigation pumps and charging higher irrigation charges from the small farmers. The small farmers have no alternatives without having irrigation water from those water lords with higher charge as the local electricity supplying agency demand a big amount of money as security deposits for electrical connection to the private irrigation pumps. In some cases, land use has been changed/going to be changed due to rapid urbanization specially near the township areas. So, those schemes have been relocated to more remote rural areas.

1.5 SCOPE OF ENVIRONMENTAL SAFEGUARD MONITORING IN MIP

- 21. This 14th Semiannual Environmental Monitoring Report (EMR) concentrates on the impacts of implementation of MIP physical activities like construction of pump houses and buried pipe system, construction and installation of electrical substation and electricity supply lines with respect to environmental and social issues. As the re-sectioning of coastal embankments and re-excavation of irrigation canals have already been completed so the environmental and social impacts mitigation, management and monitoring issues of MIP have not been addressed here. But about 39 re-excavated canals under package no cw-1 & 2have already were silted up by flash floods of last 2 years. That's why those 39 silted up canals and additional 9 new canals i.e., total 48 canals covering 44 km, have been estimated for re-excavation by GoB fund. Re- excavation of 27 khals out of 48 have already been completed and the remaining 21 are under process.
- 22. Among 850 LLP schemes 34 have been relocated and all of them have been visited by PMU safeguard officer from December 2021 to June 2022. The information of first 12 relocated schemes was reflected in the twelfth Semiannual EMR. Then 18 schemes were visited and consulted by the same team within January June, 2022 and reflected in the 13th EMR. Last 4 Schemes were visited in July, 2022 and the environmental issues of those SCM have been incorporated in this 14 Semiannual EMR. The main objectives of his visits were to (i) identify the significant environmental issues and recommend their mitigation, management, monitoring plan and reporting, and to (ii) identify the possible social issues i.e., voluntarily land donation of by local dedicated farmers for pump houses and motivate them to sign donation agreement,
- 23. Implementation of physical works (Table-1), labors are working, and they have their rights, obligations, and health and safety issues. It is necessary to ensure that the labors get their legal rights, payments from the contractors, protection from physical injuries & pandemics, safety from any environmental contamination/digesters/adverse weather events & social conflicts. The project is implemented in the rural areas and naturally the rural communities may face some socioeconomic problems. All these require to be identified on the spot and necessary actions

24. need to be taken to save the labors, project employees and rural community from sufferings. From the nature of the project, it is evident that the project would cause some adverse impacts on the property i.e., land, houses, trees & crops and income of landless squatters and owners of the land. The contents of this report have been designed keeping all these aspects in a view so that the remedial actions can be taken to minimize the adverse environmental impacts and safeguard the social issues.

1.6 STATUS OF ENVIRONMENTAL COMPLIANCE WITH ADB LOAN COVENANTS

Table 2: Status Of Environmental Compliance With A Loan Covenants

Schedule and Item	Program Specific Covenants	Compliance Status	Remarks
Schedule 4, Item 6: Conditions for Award of Contract	The Borrower shall not award any works contract that involves environmental impacts until BWDB has: (a) obtained the final approval of the IEE from the Ministry of Environment and Forest; and (b) Incorporated the relevant provisions from the EMP into the Works contract.	Complied	IMIP obtained the Environmental clearance certificate from Department of Environment on 30.11.2014. Incorporated EMP into the Civil works contract.
Schedule 5, Item 13: Environment	The Borrower shall cause BWDB to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Borrower relating to environment, health, and safety. (b) the Environmental Safeguards; and (c) all measures and requirements set forth in the IEE, the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Complied	All civil work packages of MIP maintained the environmental safeguard compliances like environment, health and safety, grievance redresses set forth in IEE/EMP/CAP moderately in the initial years and gradually satisfactorily in the recent years.
Schedule 5, Item 15: Human and Financial Resources to Implement Safeguards Requiremen ts	The Borrower shall cause BWDB to make available necessary budgetary and human resources to fully implement the EMP.	Complied	MIP has allocated necessary budget and established a safeguard desk in the field at C-IMO office, Feni, a GRC at PIU, Feni and a safeguard cell in PMU, Dhaka. At present no person is engaged in Safeguard Desk at Feni. Safeguard Cell in Dhaka is implementing & monitoring EMP/GRM now.
Schedule 5, Item 16: Safeguards Related Provisions in Bidding Documents and Works Contracts	The Borrower shall cause BWDB to ensure that all bidding documents and contracts for Works contain provisions that require contractors to: (a) Comply with the measures relevant to the contractor set forth in the IEE, the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report. (b) make available a budget for all such environmental and social measures. (c) provide BWDB with a written notice of	Complied	 (a) Provisions for environmental compliance were incorporated in all bidding and contract documents. (b) Budget for environmental compliance was included in the bidding/contract amount. (c) No such unanticipated risks / impacts have been evolved yet. (d) Such conditions were considered but not recorded. (e) 34 affected structures, 10 land

Schedule	Program Specific Covenants	Compliance	Remarks
and Item		Status	
	any unanticipated environmental or resettlement risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP or the RF; (d) adequately record the condition of roads, agricultural land, and other infrastructure prior to starting to transport materials and construction; and (e) reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.		losers,176 PAPs have been resettled/ compensated and 13000 trees have been planted
Schedule 5, Item 17: Safeguards Monitoring and Reporting	The Borrower shall cause BWDB to do the following: (a) submit semiannual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission. (b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP or the RF, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and (c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP promptly after becoming aware of the breach.	Complied	 (a) 14 semiannual EMRs, 5 Semiannual SMRs have been submitted to ADB, DoE and BWDB for disclosure till December, 2022. (b) Acquisition of 40 decimal lands for establishment of a medium level electrical substation, which was not included in the IEE/EMP, has been informed ADB and all resettlement issues which it raised have been resolved already. (c) Two grievance issues which were noticed out of the formal resettlement program were recorded, investigated, and compensated by BDT 40,000 and BDT 25,000
Schedule 5, Item19: Labor Standards	The Borrower shall cause BWDB to ensure that all bidding documents and contracts for construction or civil works under the Project contain provisions that require contractors: (a) to comply with applicable core labor standards, labor laws and incorporate applicable workplace occupational and health and safety principles. (b) to eliminate discrimination in respect of employment and to not differentiate payment between men and women for work of equal value.	Complied	 (a) Existing labor standards and workplace occupational health and safety compliances stated in the labor law of GoB has been incorporated in all bidding & contract documents, (b) Though Female labors are not available due to strong religious restrictions/norms in MIP area but provisions to eliminate gender discrimination, (c) Provisions for not to employ child/force labors were also incorporated in the bidding/

Schedule and Item	Program Specific Covenants	Compliance Status	Remarks
	forced or compulsory labor; to allow for freedom of association.		contract documents.
			(d) 25 % of total earth work was
	(d) to maximize employment of local poor		provisioned in the DPP for
	and disadvantaged persons for		conducting by local poor and
	construction purposes to the extent		disadvantaged persons manually
	possible, provided that the requirements		but finally those were done
	for efficiency are adequately met		mechanically by labor contracting
			societies due to lack of
	(e) to disseminate, or engage appropriate service providers to disseminate,		interests/scarcity of local labors.
	information on the risks of sexually		(e) Provisions of awaking local
	transmittable infections, including		communities' /contractors'
	HIV/AIDS, to their employees and to		personnel about STDs /HIV /AIDS
	members of the local communities		were incorporated in the
	surrounding the Project facilities,		bidding/contract documents and
	particularly to females; and		the issue was discussed in the
			concerned trainings/workshops.
	(f) to implement the applicable provisions of		(f) A GAP was provisioned, prepared
	the GAP.		& implemented accordingly

1.7 IMPLEMENTATION STATUS OF ADB'S CORRECTIVE ACTION PLAN (CAP)

Table 3: Implementation Status Of Corrective Action Recommended In June, 2022, ADB Review Mission

SI. No.	Issues	Agreed Corrective Action	Agency	Time line	Status of compliance
1	Consultation Report for relocated LLP Schemes	Submit consultation report of remaining 4 pump houses.	PMU and PIU	31 July, 2022	The last 4 relocated schemes have been consulted and the SCR have been submitted to ADB in a combined Stakeholder Consultation Report (SCR) for total 34 relocated schemes. More over the SCR for remaining 4 schemes has also been incorporated in 5 th SMR (July-December, 2022) & submitted to ADB
2	Revised IEE for relocated LLP schemes.	Submit revised IEE for relocated 34 LLP schemes and water quality test results for each project Upazilas.	PMU,	31 July, 2022	Revision of the IEE report incorporating 34 relocated LLP schemes is done and it has been submitted to ADB by the end of November, 2022.
3	Female pump operators and women- focused livelihoods trainings.	Appoint 17 pump operators (2% of 850) and conduct womenfocused livelihoods trainings.	PMU and PIU	31 Dec. 2022	Female pump operators and women- focused livelihoods trainings will be organized in FY: 2022-2023.

1.8 ADB'S SAFEGUARD POLICY STATEMENTS (SPS-2009)

25. The Safeguards Policy Statement (SPS 2009) of ADB provides guidance on the environment category of projects based on the degree of anticipated environmental impacts. ADB environmental safeguards objectives are: (i) to ensure the environmental soundness and sustainability of projects and (ii) to support the integration of environmental considerations into the project decision-making process. ADB environmental safeguards are triggered if a project is likely to have potential environmental risks and impacts. A project is classified as one of the four environmental categories (A, B, C, or FI) based on the most environmentally sensitive component. Categories are as follows:

Category A: Project that is likely to have significant adverse environmental impacts which are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment (EIA), including an environmental management plan (EMP), is required.

Category B: Project with potential adverse environmental impacts that are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination (IEE), including an EMP, is required.

Category C: Project that is likely to have minimal or no adverse environmental impacts. An EIA or IEE is not required, although environmental implications need to be reviewed.

Category FI: Project is classified as category FI if it involves the investment of ADB funds to, or through, a financial intermediary. The project may be categorized as A for environment under the ADB's Safeguards Policy Statement 2009 (SPS) considering its vastness and area.

1.9 ENVIRONMENTAL CATEGORIZATION OF MIP

26. According to ADB's SPS-2009 environmental and social categories and the reporting requirements for each category of MIP are described below-

1.10 ENVIRONMENTAL SAFEGUARD REQUIREMENTS OF MIP

27. According to ADB's Safeguard Policy Statement (2009) MIP under IMIP was categorized B for environment and an initial environmental examination (IEE) was prepared as the negative impacts are typical to any construction activities involving earth works which can easily be mitigated through adoption of measures described in the Environmental Management Plan (EMP). But according to Bangladesh Environment Act (1995) and Environment Conservation Rule-1997, it was categorized Red as modernization process of MIP will control natural water flow by construction of water control structures. To meet the requirement of DoE (Department of Environment), Bangladesh, an Environmental Impact Assessment (EIA) study was done and Environmental Clearance Certificate (ECC) from DoE was obtained on 30.11.2014 (Annex- 5.1.1) and it has been renewed from 29 November 2022. Consultations were undertaken with affected stakeholders and a suitable grievance redress mechanism (GRM) had been proposed to resolve any project related grievances. The Grievance Redress

Mechanism (GRM) was established during the 5th reporting period and leaflets were distributed in farmers' training classes and pasted in public places to publicize the GRM. Discussion is also held on environmental and social safeguard issues and GRM procedures in the farmers' training classes.

1.11 ENVIRONMENTAL COMPLIANCE FOR ELECTRICAL SUBSTATION

- 28. A new project component i.e., a medium size (14/10 MVA) Electrical Substation has been proposed & incorporated in the 2nd revised DPP of IMIP-MIP. To run 850 irrigation pumps of MP smoothly and efficiently by electricity the proposed substation is compulsory as the existing electrical infrastructures and installations in the project area are not sufficient and the power board has not capability to install a substation in the project area at this moment. That's why an effort has been taken to construct and install a medium size electrical substation (Annex-5.6) at Fulgazi Upazila of Feni. To cover the environmental impacts of that plant and their management and monitoring issues the revision of the first IEE has been proposed by ADB.
- 29. As required by ADB, the IEE of MIP, prepared during the feasibility study in 2012-13, has been revised by PMU Safeguard officer and approved by ADB. A land of 40 decimals has been acquired by BWDB for installation of that substation and the land has been raised about 5 feet by filling earth material. The construction activities electrical substation and electrical supply lines are mostly completed. But during the monitoring visit of PMU safeguard team (January, 2023) all construction works especially of underground uPVC pipelines, pump houses, and substation (Figure:16-17) were going on except construction of electrical supply lines.

1.12 INDIGENOUS PEOPLES SAFEGUARD

30. The MIP is categorized as C for the Indigenous Peoples safeguard. There are no Indigenous People as defined for operational purposes by ADB's SPS (2009) in the Project area and the areas under the subsequent tranche of the Program. As the subsequent tranche is also categorized as C, an Indigenous Peoples Planning Framework has not been prepared. So, there is no scope of reporting on Indigenous Peoples Safeguard under MIP.

1.13 NATIONAL ENVIRONMENTAL FRAMEWORK OF BANGLADESH

31. To protect the land, air, water and the resources with the communities living their Gob has formulated and enacted some Acts, rules, policies, strategies which must be complied by any public, private and international entities for conducting/implementing any studies /projects /activities which may interfere those resources /environment /communities. Some of the important and concerned national legal bindings for MIP have been tabulated below.

Table 4: National Environmental Acts, Rules, Policies And Strategies

Environmental	Responsible /		
Policy/Rules /	Agency / Ministry	Potential Applicability	Compliance Status
Regulations	/ Authority		

Environmental Policy/Rules / Regulations	Responsible / Agency / Ministry / Authority	Potential Applicability	Compliance Status
Environment Conservation Act (ECA), 1995	Ministry of Environment, Forest, and Climate Change; Department of Environment	According to this law no industrial unit or project shall be established or undertaken without obtaining, in the manner prescribed by rules, an Environmental Clearance Certificate from the Director General.	Complied with: IEE & EIA report were prepared and obtained & renewed ECC from DOE.
Environment Conservation	Ministry of Environment,	According to these Rules an industry or project is obliged to keep the	Complied with the base line Environmental quality

	T		T
Rules (ECR), 1997	Forest, and Climate Change; Department of Environment	environmental quality parameters of air, water, sound, odor etc. below the EQS (Environmental Quality Standards).	parameters of air, surface water, ground water etc. have been quantified and the EMP has been prepared by incorporating them. As it has been 10 years old, so it is being revised by updated data.
Amended ECA-2000& ECR - 2005	Ministry of Environment, Forest, and Climate Change; Department of Environment	The amendments ascertain responsibility for compensation in case of damage to ecosystem	Complied with 13,000 tree saplings have been planted to compensate the damage of trees along the canal banks.
Environment Court Act, 2010	Judiciary Ministry of Environment, Forest, and Climate Change	This act has given high priority to prevent environment pollution. Applicable, for all projects having potential environmental threats.	Complied with; Complaints, against the establishment of brick fields on the crop fields of MIP- LLP schemes area, submitted to local administration and law enforcing agencies but no actions taken apparently.
Bangladesh Wildlife Preservation Act, 1974 and Revision, 2008	Ministry of Environment, Forest and Climate Change; Bangladesh Wildlife Advisory Board	This act emphasizes the preservation of Wildlife Sanctuaries, parks, reserves. No person shall damage or destroy any vegetation in any wildlife sanctuary & the wild Animals shall not be hunted or captured.	Complied with; This Act is not Applicable in MIP as there is no wildlife sanctuary/ national park or any other protected area under this act, located within the MIP area.
The Forest Act 1927, Amendment 2000 (Protected, village Forests and Social Forestry) and Social Forestry Rules-2004	Ministry of Environment, Forest, and Climate Change	This act/rule allows the society/ entity to launch a social forestry Program in Govt. land or private land with permission.	Complied with; Social Forestry Group has been formed under the social forestry Act/Rule and 4 Plantations raised on the canal bank has been handed over to4 groups and remaining 3 will be handed over within next year.
The Protection and Conservation of Fish Act, 1950 and The Protection and Conservation of Fish Rules, 1985	Ministry of Fishery; Department of Fishery	These Act & Rules prohibit or regulate the construction of temporary or permanent of weirs, dams, bunds, embankment, and other structures across the natural water course like rivers, canals, channels, Haors or other fish migration routes.	Complied with; No water control structures have been required to construct across any natural water courses or fish migration routes under IMIP-MIP. The Feni regulator under MIP was constructed 4/5 decades before. It is kept open during fish breeding season.
The Embankment and Drainage Act 1952	Ministry of Water Resources and FCD	This Act consolidates the laws relating to embankment and drainage and to make better provision for the construction, maintenance, management, removal and control of embankments and water courses for the better drainage of lands and for their protection from floods, erosion, and other damage by water.	Complied with; No water embankment has been required to construct across any natural water courses or drainage system under IMIP-MIP. The coastal embankment under MIP was constructed 4/5 decades before keeping proper drainage facilities/provisions.
Wetland Protection Act 2000	Ministry of Water Resources; Department of Haor and Wetland Development	This act insists on a formal environmental impact assessment (EIA) process, as set out in EIA guidelines and manuals for water sector projects or related to alteration of natural drainage.	Complied with; IEE/EIA/EMP have been prepared and ECC has been obtained and renewed for MIP No wetland has been filled up or caused to dry up by MIP.

		No construction of roads if likely to	
		affect the flow of navigable water ways without clearance from concerned	
		authorities Upland flow in water channels to	
		preserve eco-system	
		Protection against degradation and resuscitation of natural water bodies	
		such as lakes, ponds, beels, khals,	
		tanks, etc. affected by man-made interventions or other causes.	
		Completely stop the filling of publicly	
		owned water bodies and depressions in urban areas for preservation of the	
		natural aquifers and environment.	
		Stop unplanned construction on	
		riverbanks and indiscriminate clearance of vegetation on newly	
Antiquities Act	Ministry of cultural	accreted land. This act governs preservation of the	Not applicable as no structure of
1968	Affairs	national cultural heritage, protects and	national cultural heritage have
		controls ancient monuments, regulates antiquities as well as the maintenance,	been affected due to MIP implementation.
		conservation and restoration of protected sites and monuments,	
		controls planning, exploration and excavation of archaeological sites.	
The Building Construction	Ministry of Works	This Act control the haphazard construction of building and excavation	Complied with. The MIP infrastructures are
Act 1952 (with		of tanks which are likely to interfere	being constructed according to
amendments)		with the planning of certain areas in Bangladesh	the law.
The Vehicle Act, 1927 The	Bangladesh Road Transport	This ordinance/rules regulate movement of heavy vehicles during	Complied with; The heavy machine tools of electrical
Motor Vehicles Ordinance,	Authority	both construction and operation phase of industry/projects.	substation will be carried along the Feni-Porsuram highway.
1983 The			Two of C-IMO vehicles are out of
Bengal Motor Vehicle Rules,		Regulate vehicular exhaust emissions	use and emitting excess
1940.			GHG/obnoxious gases. C-IMO has been requested to replace
The Land	Department of	This act provides appropriate	those vehicles. Complied with; 40 decimals of
Acquisition Act, 1894. The	Land and Revenue	compensation for the land acquired	land have been acquired for installation of an electrical
Acquisition and	Revenue		substation. The land losers have
Requisition of Immovable			been compensated according to the Resettlement Framework
Property Ordinance			(RF) and Resettlement Plan (RP) approved by ADB and
1982 and			BWDB
subsequent amendments			
in 1994, 1995, 2004.			
Water Pollution Control	Ministry of Water Resource;	This ordinance prevents and controls the pollution water/water bodies.	Complied with; Construction of structures has not emitted
Ordinance 1970	Department of Environment	,	/discharged any toxic/hazardous material which may pollute local
1970	Environment		water or water bodies.

			The water of a few of irrigation
			The water of a few of irrigation canals in Chagolnaiya Upazila under MIP has been reported to be polluted by local poultry firms which are being operated by local poultry farmers before commencement of MIP under IMIP. The pollution is not done by MIP. The WUA has submitted complaints to local administrative and law enforcing agencies for remedy.
Bangladesh Penal Code	Ministry of Law and Justice; Judiciary	Chapter XIV of the Penal Code provides offences affective public health, safety, convenience, decency, and morals. Section 277: Falling Water or Public Spring or Reservoir. Section 278: Making Atmosphere Noxious to Health; Section 284: Negligent Conduct with Respect to Poisonous Substance. Section 285: Negligent Conduct with Respect to Fire or Combustible Matter; Section 286: Negligent Conduct with Respect to Explosive substance. Section 277: whoever voluntarily corrupts or fouls the water of any public spring or reservoir, to render it less fit for the purpose for which it is ordinarily used will be punished under the law. Section 278: whoever voluntarily vitiates the atmosphere in any place to make it noxious to the health of persons in general dwelling or carrying on business in the neighborhood or	Complied with; an EMP is prepared under IEE/EIA report accordingly and it is being implemented in MIP.
National Land Use Policy, 2001	Ministry of Land	passing along a public way will get This policy prioritizes the use of public/private land for agriculture production, food safety and environment/biodiversity conservation etc. over those for housing, industries, mining etc.	Complied with; No agricultural land or natural wetlands or biodiversity hotspot have been exploited/encroached/polluted by MIP under MIP during construction and/operation.
Bangladesh Labor Act- 2006	Ministry of Labor and Manpower	This act ensures the optimum right of labor or other personnel engaged in construction works and ensure occupational health and safety (OHS) from different hazards, accidental risks/ fatalities/grievances/ AIDs/pandemics etc. during construction and operation	Complied with. The labors and other construction level personnel and their supervisors and managers have been trained on labor right and their OHS/AIDS/HIV/Pandemics like Covid-19 and necessary PPEs/safety gears have been supplied by the contractor's in most of the packages.

1.14 REPORTING PERIOD AND FREQUENCY

32. According to ADB's Environmental Safeguard Policy (SPS-2009) requirement two semi-annual Environmental Monitoring Reports (EMRs) need to be submitted in a year at intervals of six months i.e., one in July (for the period from January to June) and another in January (for

the period from July to December).

1.15 ARRANGEMENT FOR SUPERVISION AND MONITORING OF EMP IMPLEMENTATION.

- 33. A Safeguards Cell was specially established on 24 December 2015 at PMU office in Dhaka headed by a Deputy chief (Agriculture) as Environmental and Social Safeguard Officer (ESSO) who is graduated in forestry and environmental science and experienced in forest, agricultural and environmental issues of development project; monitoring and evaluation for overall EMP implementation and reporting (EMR) to ADB and DoE about the impacts of IMIP-MIP on the natural and social environment. The ESSO normally visits the fields normally twice within a reporting period to ensure the implementation of EMP and its field level monitoring are going on properly. He may also visit fields any time for investigation, counseling the grieved parties specially the APs, if any, and verification of the damages/compensation consulting with the complainant, field managers and BWDB field officers etc. For solving/reporting to Project director to compensate.
- 34. At the field level C-IMO established a Safeguard Desk and deployed a Safeguard and Public Relation Specialist on 24 April 2017 to monitor the implementation of EMP by the contractors. He was responsible to visit the sites of physical components especially khal reexcavation, embankment rehabilitation/repairing works, pump house construction, sluice gate/regulator construction and repairing, underground pipe setting, outlet construction etc. by the contractors and speak to the labor, contractors' supervisors, sub-contractors, villagers (Female & male) and record concerned environmental and social safeguard issues and labors' & villagers' health and safety and welfare situation etc. and send to the Safeguard Cell in PMU office in Dhaka. But due to physical disability due to cancer and the ailment of old age he resigned from C-IMO last year and there were no one to monitor the environmental issues in the field during the reporting period. So, the field level monitoring of both environmental and social safeguard issues has been severely hampered within this reporting period.
- 35. Field Office Managers (FOM) employed one in each of six Upazilas of Feni and Chittagong districts are responsible to monitor the overall implementation and reporting of day-to-day field works including social and environmental issues. But they have never been found sincere in monitoring & reporting safeguard issues though they have been trained 3 times for that purpose. The GM/DGM of C-IMO was given instruction to take necessary actions, and enhance the safeguard monitoring activities, record the grievance/complaints in the field and resolve them in association with the BWDB field office/forward to PMU-Safeguard cell for further actions.
- 36. PIU, the field level officer of BWDB is also responsible to monitor the field works, receive any complaint from the stakeholders, contractors, C-IMO and response/mitigate the issues locally and/or inform the PD, PMU-IMIP for further resolution. This report reflects status of all those issues going on in the field. (Details may be seen in Table 7, 8 and 11).
- 37. The Safeguard cell of PMU had been reforming since June 2015 and the team had been reshuffled in November 2020 by replacing a member and giving the Safeguard officer additional responsibility of Social safeguards monitoring as follows.

Table 5: PMU Safeguard Team, IMIP-MIP, BWDB, Dhaka

Name of the officer	Designation	Education	Responsibility
Md Jahangir Alam	Deputy Chief	M.Sc (Environmental Science) M.Sc (Forestry),	Safeguard Officer (Environmental and Social Safeguard)

Shahnaz Parvin	Assistant Chief	MS (Sociology)	Member (Social issues)
Shihab Ahmed	Assistant	B Sc (Civil Engineering)	Member (Environmental
Sililab Alilleu	Engineer	B.Sc (Civil Engineering)	issues)

- 38. The safeguard officer working in the Safeguard Cell in PMU is responsible for overall implementation process of EMP. The team review the environmental factors as well as health and safety situation of construction workers, community people and compliance requirements as per national labor laws, environmental laws, social safety, and human rights etc. and conditions in the bidding documents and contract agreements and ensure and follow up compliances including stakeholders complains under the grievance redress mechanism. The Safeguard Cell and C-IMO both train the field level staff of BWDB, C-IMO and contractors' construction workers and labors on implementation of EMP, health and safety issues. PMU's Safeguard officer verify the field reports, time to time monitor the implementation of EMP during their field visits, consolidates all reports sent by C-IMO and PIU and prepare semi-annual safeguard report and submit to ADB and DoE for disclosure in their official websites.
- 39. In BWDB field office, the Executive Engineer and Sub-Divisional Engineers there are playing of the role of GRM expert. In case of contractor's part, the Extension and Training Specialist (ETS), Mr. Rabindra Majumder, has been given the additional responsibility of the Environmental Focal Point for monitoring the safeguard, EHS and GRM issues but he has to go for pay off (absent in the field) from September to November, 2022 as C-IMO has limited man-month. The monitoring and supervision done during the reporting period are tabulated below (Table-6).

Table 6: Itinerary of monitoring visit during July-December, 2022

SI. No.	Name of Package	Date of Inspection	Activities Monitored	Conducted by Whom
1	CW: 07	18 July, 2022	Visiting 4 Relocated schemes of Mirswarai Upazila, Chattagram during and conducting stakeholder consultation for Environmental & Social Safeguard, EHS and GRM issues of those 4 schemes.	PMU Safeguard Officer, & Environmental Focal Person (TEC) of C-IMO.
	CW: 06&7	19 of July, 2022	Monitoring visit to MIP command area for observing the implementation of EMP, EHS, GRM & Agriculture support Services like plantation, Demonstration etc. under IMIP	PMU Safeguard Officer, & Environmental Focal Person (TEC) of C-IMO.
2	CW: 06&7	4-5 January, 2023	Monitoring visit to MIP command area for observing the implementation of EMP, EHS, GRM & Agriculture support Services like plantation, Demonstration etc. implemented during July-December, 2022 under IMIP, BWDB	PMU Safeguard Officer, & Environmental Focal Person (TEC) of C-IMO.

CHAPTER II: ENVIRONMENTAL MANAGEMENT PLAN

2.0 ENVIRONMENT MANAGEMENT PLAN AND ITS IMPLEMENTATION

2.1 ENVIRONMENT MANAGEMENT PLAN

- 40. Management of Important Environmental Impacts (IEIs) comprises three components like-
- (a) Environmental mitigation plan: This part of the plan contains suggestions on mitigation measures to minimize possible negative impacts,
- **(b)** Compensation plan: Plan suggesting measures required for providing compensation for well assessed negative impacts which cannot be mitigated,
- (c) Environmental monitoring plan: Plan for detecting changes/impacts that may take place due to the planned interventions in the project.
- 41. Environmental Management Plan for MIP as suggested in the concerned EIA report unveils that during the preconstruction phase there are no adverse impacts, hence no mitigation/monitoring plan designed for that phase. But during construction and post construction phase there may be some adverse impacts which need to be mitigated or even compensated. The EIA study was conducted during the FY 2013-2014 and the report did not show any issues which might be compensated. But during the implementation period of FY 2016/2019 resettlement of squatter families on the embankment faced some challenges, but Development Project Plan (DPP) of IMIP and Bangladesh Environment Act (1995 amended in 2010) do not allow compensating squatters. Therefore, the subsequent semi-annual EMRs included no compensation plan for MIP. The squatter families who left their dwellings during project implementation in FY 2016/2019 have come back and managed themselves re-settling on the places which they left before.
- 42. As mentioned in Para 1.4 under chapter 1, a Resettlement Plan was prepared by ADB in cooperation with BWDB covering the PAPs living on the coastal embankment repaired/rehabilitated under MIP and the landowners whose land has been acquired for construction of electric sub-station. The RP has been implemented and the details have been described in Semiannual Social Monitoring Report (SMR 1-2). The PMU has renewed the ECC till 29 November 2022 and will try to renew further till 30 June, 2024 after approval of extension of the project.

2.2 ENVIRONMENTAL MONITORING PLAN

43. Environmental Monitoring Plan (EMP) was prepared under Environmental Impact Assessment (EIA) process of MIP. Before preparation of EIA report BWDB prepared an IEE report under TAPP which fulfilled the requirements of ADB's Safeguard Policy Statement (SPS-2009). According to SPS 2009, fulfilling the country's (Borrower's) environmental and social safeguard requirements is mandatory. At the same time IMIP-MIP's EIA report required for obtaining the Environmental Clearance Certificate (ECC) from the Department of Environment (DoE). This is the reason for preparing a detailed EIA and EMP for IMIP-MIP.

- 44. The major limitation of original IEE report prepared in 2012 under TAPP was the lack of representative monitoring points for soil, surface water, and ground water monitoring. There are no points addressed or GPS coordinates tabulated in the IEE report from where the reported water quality samples /parameters have been analyzed. So the monitoring of water and soil quality parameters has been difficult for PMU. That's why the original IEE report has been obligatory to revise the quantitative environmental baseline by screening the representative monitoring points and testing the soil, surface water and ground water quality parameters mentioned in the IEE report and incorporating those results in the Revised IEE report. In response to some complaints of severe pollution of irrigation water, in some irrigation canals, raised by the local people C-IMO tested the water from those canals (15 points of irrigation canals scattered over 6 Upazilas of Feni and Chittagong districts) where all other parameters tested were found under allowable limit, except orthophosphate which was found relatively higher than the allowable limit. C-IMO has been instructed to take immediate actions against the issue.
- 45. The representative monitoring points will be screened and fixed very soon and the all concerned parameters mentioned in the EMP of MIP will be tested accordingly. An urgent letter, for conducting such screening of monitoring points and testing of soil, ground water and surface water, has been issued to C-IMO (Appendix-0000).
- 46. The time for monitoring the changes of quantitative environmental parameters have not been exceeded, as it was supposed to conduct after full swing operation of the irrigation schemes i.e., after 2 years of operation to find out the changes / adverse impacts of MIP rehabilitation and operation and revising the EMP addressing those adverse impacts. As only 91 schemes out of 850 are in operation by the end of 2022 and another 251 schemes are ready for operation in 2023 so it will be realistic to capture the expected changes in quantitative environmental quality parameters after operation of at least 50% of 850 LLP schemes. That's why updating the Environmental base line of IEE report by screening of monitoring points and testing of quantitative water and soil quality parameters will be better before full swing operation of at least 500 LLP schemes. PMU Safeguard team was waiting to capture the optimum expected impacts of MIP till operation of at least 500 schemes.
- 47. Due to addition of a complementary project component like construction and installation of Electrical substation in the MIP command area the IEE report of MIP has been revised and approved by ADB. The construction and installation of the proposed substation, which was stopped before ADB's approval, is going on.
- 48. Moreover, the 1st revised IEE report has been revised 2nd time by incorporating the stakeholder consultation results and possible environmental impacts of 34 relocated schemes in December, 2022 and submitted to ADB for approval.
- 49. This 14th Semiannual EMR (July-December, 2022) has been prepared according to the RIEE report which included the monitoring plan of the Electrical substation component.

2.3 IMPLEMENTATION ARRANGEMENT OF ENVIRONMENTAL MONITORING PLAN

- 50. Responsibilities and scope of work of each of the agencies involved in implementation arrangement are described below:
 - **Contractors** are responsible to comply the national environmental and labor laws, health, and safety measures of construction workers/employees. Though the contractors are supposed to engage a person capable to develop an implementation & monitoring plan for monitoring the compliances like environmental and social safeguards, GRM, EHS,

prevention of dispersal of STDs/STIs, pandemics like poxes, Covid19 etc. but they didn't find to deploy such safeguard/EHS expert. So, day to day monitoring of construction works, EHS issues, accidental injuries, availability of First Aid facilities, emergency ambulance facilities, and health and hygiene materials, healthy accommodation and toilet facilities, PPEs, keeping the records of grievances, if any and implementation of compliance requirements mentioned in the EMP (incorporated in the BID document. Contract Agreement) is done poorly by their site engineers/staffs except in case of package CW: 6 & 7. Though the contractors are supposed to clear the construction sites, remove the agricultural crops, if any and vegetation/trees along the canal bank consulting with IMO and BWDB and prepare a list of trees to be removed and/or crops to be damaged before starting any construction works but they have been found to prepare any list of possible damages submit the inventory report to C-IMO as well as PIU/PMU of IMIP. In some cases, contractors have been compelled to compensate the farmers for such unavoidable damages of crops/cropping lands, if any.

- **IMO** is responsible to conduct the day-to-day monitoring and supervision of the implementation of environmental and social safeguard issues and keeping concerned records of activities like progress, complaints and grievances from labors, community people, farmers, etc. They are also responsible for consolidating those daily records as monthly and quarterly reports and submit it to PMU-Safeguard cell. If problem continues due to non-compliance, the matter was supposed to report to Director, PIU with request to take necessary actions. But as during the reporting period i.e., this year, there is no safeguard expert/other officer are engaged for safeguard monitoring, so field level monitoring was hampered in some extent. PMU Safeguard team is trying hard to monitor the situation.
- PIU Director is responsible to ensure the implementation of EMP by contractors and enforce them to implement EMP and record & report monthly and quarterly to PD, PMU in case of any grievances raised and breaches made in implementation of EMP by contractors.
- PMU (Safeguard Cell) is responsible to oversee the entire safeguard implementation process, included both in EMP, bid/contract documents and consolidate those in monthly and quarterly reports sent by IMO and inform PD, IMIP-MIP for necessary actions and finally prepare and submit semi-annual / annual Safeguard Report for ADB and DoE. The reporting workflow diagram of EMP is given below.

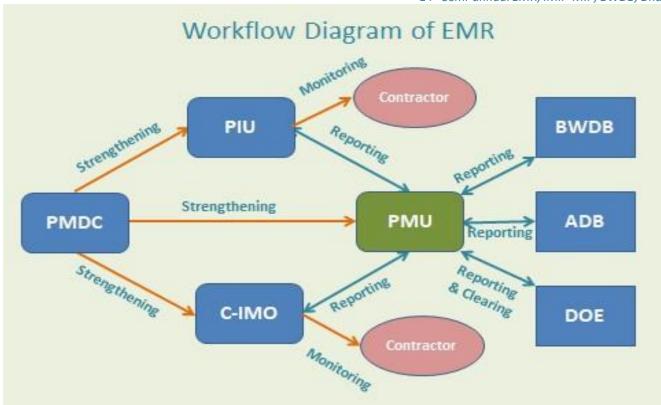


Figure 4: reporting workflow diagram for semiannual emr

• **PMDC** has the responsibility to strengthen PMU-Safeguard Cell, PIU, IMO, contractors and to develop their capacity for implementing /monitoring /supervising /reporting of environmental and social safeguard issues of MIP by providing necessary training, guidance, and demonstrations. Contract of PMDC is over and they had no active role during the reporting period.

2.4 IMPLEMENTATION STATUS OF ENVIRONMENTAL MANAGEMENT PLAN (EMP)

Table 7 Impacts Of IMIP-MIP Components And Implementation Status Of EMP

Impacts on water & soil resources, wetland habitats and construction, operation and social impacts as per EMP							
SI.	Action	Resource	Mitigation	Responsibility			Status of implementation up to December, 2022
No		impact	measures	Implement	Monitor	Fund	
A1	Re-sectioning of Khals to increase capacity to meet long term drainage needs	Extreme rainfall events including climate change may cause flooding and damage	Technical design of the khal to be based on 1:25 year return period to incorporate provision for climate change.	PPTA design consultant during 2013	BWDB Design cell	PPTA budget	Re-excavation of irrigation canals according to the revised target (373 km) was completed last year. Though the khals so far re-excavated following the technical design of raising the return period to1:25 years from 1:10 year and it was ensured through supervision and on-site monitoring, but some minor deviations were observed during re-excavation which were corrected on the spot. In the meantime, problem of siltation of khal beds due to influx of sand carried by flowing water is noticed in 48 khals. To maintain adequate flow of water in these khals, re-excavation initiative has been taken already in 39 silted up khals and 9 new khals. Total 27 out of 48 silted up khals have already been re-excavated till December, 2022 by GoB fund.
A2	Increasing water use efficiency by using underground uPVC pipes.	uPVC pipe distribution may reduce the ground water recharge. Improved surface water management will reduce ground water demand	Develop appropriate plan for conjunctive water use.	PMDC will conduct ground water baseline studies	PMU and IMO to monitor ground water use and levels	Loan fund	Farmers training curriculum incorporates improved and efficient water management including alternate wet and dry method (AWD method) to reduce water demand and irrigation cost. The problem of reduced recharge to the underground water level is also discussed in training class. This year irrigation was provided in 90 schemes for cultivating Boro crop which was in 66 schemes in the last year. According to the EMP the test was supposed to be conducted at the end of the construction phase. But the IEE report does not include representative monitoring points for ground water quality which should be fixed at first. Then after one year of operation the ground water quality / quantity will be measured again by environmental expert / consultants. Based on those findings an appropriate plan for conjunctive water use for irrigation and drinking will be developed. PMU / IMO will monitor the work and keep watch on the ground water use and levels, water contamination and soil degradation and toxicity.

B1	Re- excavation of khal including removal of vegetation or felling of trees	Removal of vegetation may increase instability of khal banks and loss of biodiversity	Khal side slopes to be kept a 1V:15H in order to ensure stability. Contract documents to specify correct cutting procedures.	Khal re- excavation by contractors Tree plantation by PMU /C- IMO /DoF	IMO	Included in construction contract	As mentioned under A1 above, khal re-excavation was completed last year. But total 27 silted up khals out of 48 (listed for de-siltation) have been re-excavated till December, 2022 including 17 re-excavated during the reporting period by GoB fund. For the khals so far re-excavated, technical design of khal side slopes was kept 1V:5H to ensure stability of khal banks. As per EMP, FD was responsible for planting saplings and C-IMO for monitoring. However, IMO planted 13,000 (Thirteen thousand) saplings on the canal bank under Agricultural Support services for Cost Recovery (ASCR) Program. Another 2000 saplings have been planned to implement by IMO within this reporting period under ASCR. Some more saplings may be planted if more trees need to cut along the alignment of 9 new khals which have been silted up an re-excavated.
B2	Re- excavation of Khal, construction of Substation /sluice gates, pump houses, header tanks, buried Pipes.	Disposal of soil material from earth works on the canal bank/agricultural soil and elsewhere which may slip back into khal or encroach onto farmers' fields or block the roads or create nuisance for local people.	Spoil management will be decided by the IMO during the implementation period depending on the availability of land for placing the spoil. Most spoil will be placed on the banks but uncontaminated spoil with the correct constituency can be used for fill for housing or spread on the fields.	Contractor	IMO	Included	As there was no khal re-excavation works by ADB fund during the reporting period, so there is no scope of splashing of spoil earth in the khal bed or farmers' field during the current reporting period. While setting underground pipes, spoil earth generated temporarily. The generated soil was used to re-fill the trenches after completion of pipe setting. Spoil generated due to underground pipe setting/outlet construction is not much. In some places where spoil earth remained excess after re-filling of trenches, the farmers used them for raising/leveling their land or homestead. In the substation site, construction of boundary-cum-retaining wall is going on (Figure-5). The excavated earth material is almost withdrawn by the contractor except a small portion of eastern side where soil is temporarily heaped on the adjacent agricultural land. (Figure-6). The PMU Safeguard Officer talked to the farmers and also the contractor's personnel on 5 January, 2023 and be informed that agriculturally off season is going on i.e., the crop field is fellow now. The contractor has already cleared some heaps of spoil earth and the remaining heaps will be cleared just after completion of construction of retaining wall. So, the farmers have no complaints.
В3		Re-sectioning of canals /constructing road for movement of machines/for heightening the land for pump house and header tank	Borrowing soil from nearby agricultural land for heightening base of pump house, substation and borrow pits left unfilled may turn into breeding place of mosquitoes like	Contractor	IMO	Included	In the reporting period, there was no occurrence of borrowing of soil from private land. The pump houses have been constructed either on Govt. land or on private land with consent of the land owner. To raise the floor level of pump house, some soil is needed sometimes. But the volume of soil needed is small and need not be borrowed from outside. So, no borrow pits are left as breeding grounds of mosquitoes. The. Stakeholders are advised to lodge complains to Upzila Grievance Redress Committee, if any case of borrowing soil from stakeholders' land occurs without their consent. In training class / consultation session the matter was discussed. A leaflet

construction etc. aides spp. dengue spp. etc.

(Annex-5.3) was also distributed among the farmers.



Figure 5: Earth material from the adjacent private land has been withdrawn before cropping season



Figure 6: Earth material is temporarily heaped on the adjacent agri-land only on eastern side of Substation.



Figure 7: Trench cut is partially filled for facilitating movement of cattle and local pedestrians



Figure 8: Trench cutting by excavator was found laid off in site after 5 PM during field visit.

C. Construction impacts

SI No	Action	Resource	Mitigation	Res	sponsibilit	У		Status of implementation up to December, 2022
INC	, Action	impact measure		Implement	Monitor	Fund		
C1	Excavation, re- excavation, filling, grading and finishing of earthworks	The construction work may involve a mix of manual labor and machinery. Dust, fumes and noise in the vicinity of works.	Reduce ambient dust levels by spraying water, remove construction debris and dispose of in an approved location.	Contractor	IMO	Included in construc - tion contract	on. fello mov dust Duri long	The construction of pump house and underground pipe setting is going. The construction site is in the remote rural areas which are temporary by as the it is dry winter part of the year and agriculturally off season. So we were the cattle or humans are very rare. There is very little generation of the transport of the year and agriculturally off season. So we were the cattle or humans are very rare. There is very little generation of the transport of the property of the community people and found the grant transport of the cattle or humans are checked with community people and found the grant transport of the cattle or humans are very rare. There is very little generation of the transport of the community people and found the grant transport of the cattle or humans are very rare. There is very little generation of the season. So we were the cattle or humans are very rare is very little generation of the transport of the cattle or humans are very rare. There is very little generation of the cattle or humans are very rare. There is very little generation of the cattle or humans are very rare. There is very little generation of the cattle or humans are very rare. There is very little generation of the cattle or humans are very rare. There is very little generation of the cattle or humans are very rare. There is very little generation of the cattle or humans are very rare. There is very little generation of the cattle or humans are very rare. There is very little generation of the cattle or humans are very rare.

C2	Constructio n activities near and inside the community areas	Construction vehicles and machines can disturb the local community	Select machinery and vehicle transport routes away from communities. Avoid operation /running machine in the night close to community	Contractor	IMO	Included in construction contract	Contractors' employees are instructed not to operate excavating /mixing machines at night near the community households. They follow the instructions and ceased the construction works after 5 PM (Figure-8). Construction work being small, mixture machines are not normally used. Where available, transport routes away from communities are used. Normally, the construction sites are away from the community (Figure-7). Moreover, the During field visit these were checked by enquiring with community people. In the reporting period there was no complain.
C3	Air and noise pollution	Air and noise pollution due to lack of proper maintenance of vehicles	Adequate maintenance of vehicles/machine s is required	Contractor	IMO	Included in construc tion contract	Contractors / contractor's staffs are requested to maintain their vehicles / machines adequately in order to avoid air and noise pollution. It is checked with community people and farmers in training classes. So far, there has been no complaining. Two out of three IMO's vehicles are about 25 -30 years old, have passed their lifelong before, engine stops working in the mid highway several times in a single journey which is very life threatening. Any time the speedy buses of highway can run over the car when engine stops working. More over those two cars emit black smoke too much which polluting the highway environment and threatening public health. IMO local partner BETS managed to obtain fitness certificate (Annex-5.8) without sending the cars to BRTA office or checking them physically. They have been requested to change those vehicles.
C4	Impacts on archaeologic al sites, graveyards or other community heritage and artifacts	Not envisaged	Ensure the contractors have understanding. If archaeological remains are found work should be ceased immediately until impact verified by Archaeological Department.	Contractor	IMO and BWDB	Included in construction contract	No such archaeological sites, public graveyards or any community heritage and artifacts have so far, been noticed. In Chhagalnaiya Upazila one private family graveyard is located in such a way that the construction of a pump house was not possible without encroaching some portion of the graveyard. The matter was discussed with the owners of the graveyard. They allowed construction of the pump house encroaching some portion of the graveyard. Further, the field staff has been instructed not to damage any prayer house (mosque/ church/ pagoda) of any religion.
D1	Drainage may remove wetland areas	There are a few low-lying areas of wetlands	Very low land will not be connected to drainage facility	PPTA Design consultant	BWDB	PPTA budget	Contractor's staffs have been instructed for not connecting very low land to drainage facility. This instruction is being followed. Till today, such wetlands /pockets, likely to be removed due to drainage facility, has not been noticed. If there is any such problem, it will be solved with the help of PMDC and BWDB design office.

D2	Re- excavation and removal of vegetation from khal may affect fish breeding.	The vegetation along the khal provides a refuse for fish	Secondary vegetation will quickly regenerate. Only strictly unavoidable vegetation and trees should be removed.	Contractor	IMO	Budget provided in IMO contract	As mentioned earlier, khal re-excavation was complete two years before. No adverse effect on fish breeding/non-fish aquatic animals were, so far, been noticed or reported. Concerned Field Office Manager was instructed to remain more vigilant about saving fish and non-fish aquatic animals for the sake of environmental protection. Due to flash flood from Indian hills of Tripura state, upstream of project area, silted up 9 Re-excavated khals partially which are being desilted Necessary actions will be taken, where needed. Fishes are being cultured in irrigation canals of MIP by the WMGs.
E	Impacts of	project interv	vention during	Operation			
E1	Soil degradation due to poor on- farm management	Intensive agriculture may cause soil exhaustion and soil toxicity due to chemical usage and lack of knowledge	Appropriate soil management and soil testing systems and educate farmers on it. Repeated information sharing on good agriculture and soil management practices.	IMO will provide agricultural support	PMU	IMO budget	In farmers' training, the risks of soil degradation due to poor on-farm management/intensive cultivation because of irrigation facility /excessive use of pesticides/ insecticides /chemical fertilizer are discussed. The training curriculum includes soil fertility, soil toxicity, land productivity, integrated pest management (IPM techniques) etc. ADB mission advised to revise IEE report by testing soil, surface water and ground water quality from the LLP scheme under operation and fixing representative monitoring points. Then after 2 year of operation the changes will be analyzed and necessary actions will be taken to reduce the adverse impacts, if any.
E2	Increased agrichemical s in surface and ground water systems	Excessive use of agrichemicals to increase crop yields and targeted crops may destroy biodiversity and aggravate public health.	Educating Farmers to use IPM method and reduce use of agrichemicals and ensure their proper management if necessary.	IMO will provide agricultural support	IMO/ BWDB	IMO budget	Farmers' have been warned on adverse impacts of excessive agrochemical use during farmers training programs and advised and also demonstrated Integrated Pest Management (IPM) which is considered more farmer and environment friendly method for pest control. The matter is kept under watch; necessary actions will be taken, when needed. During a visit to Kata Mobarakghona, Feni Sadar (FSD-06) on June-July, 2022 for monitoring demonstration of Transplanted Aush Rice (Figure-09) PMU Safeguard team recorded the adverse impacts of pesticide (Figure-11), prescribed by IMO-Extension & Training Specialist-ETS, use in the demonstration plot. The farmers used a pesticide "ALCO" (a contact poison) in their rice field successfully killed not only insects (stem borer) but also snakes, frogs, and fishes. He rescued dead body of two Shoal Fishes (large snake head) from his rice field after application of ALCO. The C-IMO has been advised to replace ALCO and monitor the impacts of the pesticides on the ecosystem (Figure: 11).



Figure 9: Prevention of Birds (One caught in hand) by using nets over the ripen crops demo plot at Feni Sadar.



Figure 10: Bumper production of T. Aush Rice using Canal water polluted by poultry feces at Sonagazi, Feni.



Figure 11: Pesticides and Fertilizers used in the demonstration plots

E3	Establishm ent of brick field within the command area of the schemes	

Establishment of brickfield in the agricultural land against environmental law& policy within the command area of irrigations schemes.

Stop manufacturing of bricks of the said brick field and keep watch to stop establishing IMO / BWDB When IMO could not solve the problem, Director, PIU was requested to take some action to stop manufacturing bricks within the command area of schemes. The problem was then placed as an agenda in 2nd, 3rd and 4th ICC meetings where representatives of local administration were present.

The concerned WMG approached to the Department of Environment to act against brickfields. The Safeguard specialist discussed earlier the problem with the Department of Environment in Feni. But the problem could not be solved. The schemes have been removed to some other nearby places.

	Establishing a	Khal water is	Two alternative	IMO/	Poultry farms were existed on the canal bank in different Upazila of Feni long
	large number	being polluted	remedies were	BWDB	before taking MIP under IMIP for modernization. So pollution of canal water
	of poultry	by about 30	considered.		by poultry feces is not the impacts of IMIP. C-IMO, PIU and WMO submitted
	farms on the	poultry farms	First- to prohibit		complaints in ICC, DoE and district administration of Feni but no action was
	bank of khals	•	poultry owners		taken by them.
	and throwing	•	to throw poultry		
	poultry feces		feces into khals		According to the advice of ADB's Environmental Safeguard Officer, canal
	directly into	Mirasarai due			water polluted with poultry feces were used in 3 demonstration plots of
E4	khal water	to throwing of	Second-		transplanted Aush (T. Aush) Rice at Feni sadar and Sonagazi Upazila
		garbage and	Establishing		(Figure: 10 and 12-14) and the result was astonishing.
		wastes of	bio-digester		
		factories and	and use the		Demonstration reveals that poultry feces also contain nutrients like nitrogen,
		municipalities	feces to		phosphates, potassium etc. which are beneficial for plants / crops though the
		in Feni Sadar	produce		raw / fresh feces are harmful for plant and aquatic life of the canal but after
			compost.		decomposition over 2-3 months it becomes beneficial like cow dung for crops.
Sala Salas		Y - 7		ADB	
		The second of	· And	The second second second	as server has any officentify as many



Figure 12: Demonstration of high yield variety of Tomato () at Feni Sadar Upazila by using poultry feces.



Figure 13: Demonstration Of Winter Vegetables (Cauliflower) at Fulgazi by using poultry feces.



Figure 14: Demonstration of winter vegetables (Cabage) at Fulgazi, Feni by using poultry feces.



Figure 15: Boro Rice seedlings (Bongoondhu-100) grown from seeds of last year demo plot at Fen Sadar

F	Social impact	ts					
F1	Workers /labor camps and facilities	External labor can cause disruption and disturbance	Ensure appropriate labor shelter, sanitation, potable water and other facilities and no conflict with local population	Contractor	IMO	Included in the contract	During the monitoring visit of PMU safeguard officer construction works were going on. Labors are kept under strict supervision and advised, during field visits, not to create any disturbance / social disquiet for the local community or make any conflict with local labors and community. If there is any complain from the community, they would lose their jobs. PMU Safeguard officer, during his field visits, enquires this matter with the local community. The employees of contractors are advised to make labors aware of the dangers and preventive measures etc. and Covid-19. Wastes in the field during pump house & electrical line construction and burying pipelines (Figure: 5-8) were negligible. Wastes in substation site was also very less (Figure: 16-18).

2.5 IMPLEMENTATION STATUS OF ENVIRONMENTAL HEALTH AND SAFETY (EHS) PLAN

51. The situation with regard to is discussed with all concerned parties like labors, labor- leaders, contractors, supervisors, sub-contractors and community people. In farmers' training classes /consultation sessions also these are discussed and they are requested to report if any deviation of rules and norms are noticed. The findings of monitoring of implementation status of EHS are stated below (Table-7).

Table 8: Impacts of IMIP-MIP components and implementation status of EHS

SI No	HSP Parameters to be Monitored	Methods	Frequency	Responsi bility	Monitoring Status up to December, 2022
1	Safety indication /sign boards in work sites	Physical observation	Once at the beginning of construction works	Contractor / IMO	Safety indication is not placed in the work sites. The contractors' employees are repeatedly reminded to demarcate the work sites and put a safety indicator there. The issue was reported to the Director, PIU in the beginning for requesting the contractors to put safety indication /signboard in the work site. Khal re-excavation and embankment repairmen are complete. Only construction of pump houses with buried pipelines and substation with supply lines are going on the sites which are mostly in the isolated places/remote areas on the canal bank where movement of people/cattle/tractors is less due to off season (Figure -: 5-8). However, contractors have been instructed to mitigate the risks evolved if any and not to obstruct the people/cattle/vehicle movement. No complain was raised so far by local people as the trench cut was filled up over buried pipelines to facilitate the movement of cattle and local pedestrians (Figure-7) according to the instruction given instantly during the last field visit of PMU safeguard officer.
2	Safety measures for labors in their work	Accidents may occur	Making labors aware of the danger and taking precautionary measures	Contractor /IMO	Safety measures for labors against accidents were discussed in safeguard training of contractor/ contractors' employees and labors held in 2019, 2020, 2021 and 2022. During site visits, labors/contractors' employees are cautioned about possible dangers during work. Contractor of package No. 6 & 7 take possible measures. But during the monitoring visit of PMU- safeguard officer in January, 2023 none was found doing physical works in the field without safety measures.

3	Temporary accommodatio n for workers /person also of contractors	Physical observation	Once in every site during working	Contractor / IMO	Generally, accommodations of labors are hired by the contractors / sub-contractors. These were supposed to observe physically by the Safeguard and Public Relation Specialist (SPRS) of IMO by regular site visits but no such visits were done as his contract was over and he left the job. Living conditions provided by contractors of cw-4 at substation site (Figure-18) are checked by PMU safeguard officer on January, 2023 and discussed with the caretaker but no complaints were raised by the labors. found the poor accommodation and sanitation condition (Figure-20). The contractor of package No CW-6 & 7 also provided poor accommodation (Figure-19). But labors sleep on floor and social distance is not maintained.
					But accommodation for the labors/workers provided by the contractors of CW-04 and CW-05 are not satisfactory. Request for improving the standard of accommodation is not given
					any importance. They will be finally requested and if not, authorities will be requested to
					take actions for breach of contract.



Figure 16: Construction of control tower almost complete during the monitoring visit.. (January, 2023)



Figure 17:Construction of Gantry tower almost complete (January, 2023)



Figure 18: Labor shed, drinking water & sanitation facility at substation area



Figure 19: Stockpile of construction materials, labor labor shed, drinking water and toilet at Sonagazi

SI. No	HSP Parameter to be Monitored	IMELHOUS	Frequency	Responsi bility	Monitoring Status up to December 2022
4	Sanitation facilities like temporary toilets etc.	Physical observation and laborers consultation	Weekly or monthly	Contractor/ IMO	Labors' sanitations like temporary toilets arranged in package No. 4 was of reasonable (Figure-18) standard but the condition of toilets in package 6 was poor (Figure- 19). The contractor has been warned to take necessary action immediately.
5	Medical facilities like first aid, emergency transport facilities for carrying injured personals to hospitals etc.	Physical observation and discussion with the laborers / Workers	Day to day monitoring	Contractor/ IMO	All construction works were going on in the field during the monitoring visit of PMU safe guard officer. The field managers informed him that the First aid box was maintained in the work sites with some common medicines, bandage, antiseptic etc. in package No. 6 & 7, but not in other packages. Emergency transports (pick up) were maintained in work sites to carry injured labors to camps / doctors, if necessary, by hiring microbus. He also informed that the contractors of other packages (CW-4 & 5) did not maintain any such emergency transport.
6	Provision of PPEs for labors	Physical observation and discussion with the laborers / Workers	Once during the work going on in all sites	Contractor / IMO/ /PMU, BWDB	Safeguard Specialist checks PPEs of labors physically on the spot / work sites and also enquires with the labors / contractors' employees. Supply of PPEs to the workers/employees have been reduced as no incidence of Covid-19 infection is recorded in the project area.
7	Protection from extreme weather conditions and pests or insects	Physical observation and laborers consultation	Day to day monitoring	Contractor/ IMO	PMU safeguard officer during his site visit, physically checked these and enquires with the labors and problems like lack of blankets in labor sheds in extreme cold weather, dropping rain water through roofs etc. are discussed with contractors / sub-contractors. So far, they have not supplied blankets to them. If requested, contractors provide fans for labors.
					The matter of pests or insect attack is also discussed with labors. Labors informed that no mosquito curtains have been provided to them by the contractor but they managed it by themselves as mosquito infestation is severe there.

8	HIV/AIDS and Covid-19 awareness among the labors & local community to avoid risk of spreading HIV/covid-19 virus between and among the Contractors' personnel and local community	Conducting HIV/AIDS /Covid-19 awareness program by the Contractor via an approved service provider. Discussion with labors and the local community.	Awareness program should be organized once in all sites it should be repeated If labors are imported from outside,	Contractors / BWDB /C- IMO should implement/ monitor awareness program and assess the result by discussing with the labors and the local community	Contractors' employees were requested to organize HIV/AIDS awareness program for labors, but this was not organized. Realizing the practical situation, contractors' employees have been given training on HIV/AIDS awareness in IMO. They were given some printed materials in Bangla with request to make their labors & the local community aware of this. It is checked with the labors during site visits. Employees of contractors are reminded during field visits. Training programs for capacity building of the contractor's/contractors' employees and labors were organized last year and the curriculum included covid-19/HIV/AIDS awareness. In training classes, the Safeguard officer of PMU and C-IMO explained the mood of transmission, health and sanitation, safety and precautions and the deadly consequences of HIV/AIDS and Covid-19 pandemics.
9	Child labors /Forced labors/wage not paid/payment at lower rate after working.	Physical observation and discussion with the laborers / Workers	Day to day monitoring	Contractor/ IMO	No child labor was noticed in the work sites in the 14 th reporting period (July-December, 2022), but the labor sub-contractors were cautioned in advance on the spot and they agreed not to appoint any child labor thenceforth. In the reporting period, there has been no instance of non-payment of wage or payment at lower rate after working.
10	Tube wells/drinking water and water for washing, bathing etc.	Physical observation and discussion with the laborer	Once in every site during working	Contractor/ IMO	Labors' accommodation is provided by hiring or by constructing sheds near work sites. Hired accommodation has arrangements of water for washing/bathing/drinking. This is checked by PMU safeguard officer visiting construction sites and discussing with labor leaders (Figure-17). Where labor sheds are constructed, contractors arrange drinking water either by installing tube wells near the sheds or arrange supply of water from tube wells of nearby mosques/schools etc. These are checked in the field and also discussed with labor leader. There were no complains about drinking water in this reporting period. Temporary plastic water tank with electric pump was seen in front of labor shed of CW-04 (Figure- 17)

11	Discrimination of laborers' payment and low wage paid to some labors.	Discussion with the laborers / Workers	Daily or weekly	Contractor/ IMO	During this reporting period, no female labor was employed as women of Feni District are not willing to work with men outside their homes, due to socio-cultural conditions. Therefore, there was no question of wage discrimination between male and female labors. The wage level in agriculture sector was also verified. It is generally Tk. 700.00/a day with provision of two meals. In some part of Sonagazi Upazila, scope of work is limited and supply of labor exceeds the demand, labor gets Tk.500.00 but work only four hours a day.
12	Working hours	Discussion with the laborers / Workers	daily or weekly	Contractor/ IMO	There are no complains of working beyond 8 hours/a day without overtime payment. Labors work normally 8 hours from 08.00 A. M. to 05.00 P.M. This includes lunch and prayer break (For about an hour). If labors work overtime, they are paid overtime allowance.
13	Engagement of local laborers	Discussion with laborers / Workers	daily or weekly	Contractor/ IMO	Local labors are not so available for this kind of work in the project area. Both local and external labors are employed, if available. Mostly, labors from outside districts are employed.

2.6 IMPLEMENTATION STATUS OF ADB'S INTERIM GUIDELINES FOR COMBATING COVID-19

52. In order to combat the Covid-19 pandemic i.e., transmission, spreading and infection of corona virus among the project people or local communities in the developing member countries, ADB has prepared an interim advisory note as a guideline for the borrower. According to the guidance from the World Health Organization (WHO) stated in the guideline, the health risk in work place from Covid-19 has been classified as 3 categories based on the exposure level to the corona virus. Risk is determined by 3 factors of a health hazards/danger such as (a) Exposure, (b) Frequency and (c) Protection/Adaptation. Exposure of the workers of contractor is low in most cases as the construction sites are in remote rural and agricultural fields where movement of community people are also very less. In case of construction of pump houses the mason and the supporting labors work together but they maintain average one-meter physical distance though they touch the same objects i.e., bricks and masonry pan frequently. So, there is some scope of contamination and transmission Corona Virus among them. Therefore, construction of pump houses has been categorized as medium risk to Covid-19. Moreover, accommodation of labors in the site camps/labor shade are not species enough though the other management/ supervisor level staffs of the contractor have been provided rented house i.e., multistoried buildings where 2-3 persons are living. So, the labor sheds have been categorized as medium risk to Covid-19. Similarly, trainings, workshops, meetings where more than 20 persons meet together in one large room have been categorized as medium risk exposure (Table-8).

Table 9: World health organization (who) risk categorization of project works based on covid-19 pandemic

SI No.	Exposure level of project workers, community people and management people to Corona virus	Covid-19 Risk category
1	Jobs or work tasks without frequent, close contact with the general public and other co-workers, visitors, clients or customers, or contractors, and that do not require contact with people known to be or suspected of being infected withCOVID-19.	Low risk
2	Jobs or work tasks with close (less than 1 meter) frequent contact with the general public, or other co-workers, visitors, clients or customers, or contractors, that do not require contact with people known to be or suspected of being infected with COVID-19.	Medium risk
3	Jobs or work tasks with high potential for close contact with people who are known or suspected of having COVID-19as well as contact with objects and surfaces possibly contaminated with the virus.	High risk

Source: World Health Organization

2.7 EXPOSURE LEVEL TO COVID-19 PANDEMIC AND CONCERN HEALTH RISKS IN IMIP-MIP

53. During the reporting period (July- December, 2022) physical works like construction of pump houses, setting of underground water pipes, setting of electrical water meters, connecting electrical lines to the low lift pumps were going on were 3-5 persons were required at a time in each group. There were no/very limited requirement of community contacts during construction works. But in some cases, workers required to come closer (less than 1 meter) physically for very short period of times intermittently. There was no need to come to close contact of Covid-19 infected / suspected persons any way. So, the physical works and services of the project, concerned Covid-19 exposure level and their risk category have been tabulated below (Table-9).

Table 10: Project activities of different covid-19 risk categories

SI No.	Physical works and / or services implemented	s implemented No of workers involved		Exposure risk category
1	Construction of pump houses	3-5	Frequent	Medium exposure risk
2	Setting of underground water pipes	3-5	Not frequent	Low exposure risk
3	Setting of electrical water meters	3-5	Not frequent	Low exposure risk
4	Connecting electrical lines to the low lift pumps	3-5	Not frequent	Low exposure risk
5	Demonstration programs (Agriculture extension)		Not frequent	Medium exposure risk
6	Cost recovery activities like duck rearing, fish growing and planting trees in the canal/ canal bank	5-10	Not frequent	Low exposure risk
7	Training programs (on campus)	20-30	Frequent	Medium exposure risk
8	Work shops	30-50	Frequent	Medium exposure risk
9	Meetings	20-30	Frequent	Medium exposure risk
10	Accommodation of construction workers in one room	2-3	Frequent	Medium exposure risk

2.8 MANAGEMENT OF HEALTH RISK FROM COVID-19 PANDEMIC IN IMIP-MIP

54. Corona pandemics is almost over in Bangladesh. The cautionary instructions imposed on the contractors by PMU has not been withdrawn but the contractors have relaxed it a little bit during implementation in the field. What preventive measures have been taken by the project against those advised by ADB guidelines has been stated in the table-10 below.

Table 11: actions taken by PMU, PIU, IMO and contractors to comply with ADB'S covid-19 quideline

SI No.	Preventive measures	Detailed measures to be taken according to ADB Guidelines	Measures taken by the Project				
CON	MMON MEASU	RES FOR ALL WORKPLACES					
1	Hand hygiene	Regular and thorough hand washing with soap/alcohol-based hand-rub especially after contact with co-workers or customers; potentially contaminated objects. Protective equipment but before touching eyes, nose, or mouth.	rubs were provided to the management / supervising personnel of German contractors (CW-06 &07) and also				
'		 Hand hygiene stations, such as hand washing and hand rub dispensers, in the workplace and accessible to all staff, contractors, clients or customers, and visitors 	of training, workshops, official meetings and				
	Respiratory	Promote respiratory etiquette and provide medical	Contractors' workers, supervisors, IMO and BWDB				

2	hygiene	face masks and paper tissues for all people at the workplace along with bins with lids for hygienic disposal.	officials have been trained to maintain the respiratory etiquette for preventing transmission of Covid-19 infections by C-IMO, DCEO and PIU, Feni
		Develop a policy on wearing a face mask or cover in line with national or local guidance. When a worker is sick, they should not be allowed to come to work and when the workers feel unwell while at work, they should provide a medical mask so that they may get home safely.	No mask no service" and "Stay home during Covid-19 symptoms" policy of national government was followed in PMU, PIU, C-IMO and office of German Contractors (CW-06 & 07).
		Maintain a safe physical distance of at least 1 meter between people and avoid direct physical contact i.e., hugging, touching, shaking hands), strict control over external access, queue management (marking on the floor, barriers).	A safe physical distance is generally maintained in work place but not in labor shed where labors sleep as shown before. In workplace direct physical contact i.e., hugging, touching, shaking hands) has been avoided. A strict control over access to IMO office has been maintained.
3	Physical distancing	Reduce density of people in the building (no more than one person per 10 square meters), physical spacing at least 1 meter apart for workstations and common spaces, such as entrances /exits, lifts, pantries /canteens, stairs, and other areas congregation or queuing of employees or visitors /clients might occur.	Reduction of people's density in the building (no more than one person per 10 square meters) has not been maintained but physical spacing at least 1 meter apart for workstations and common spaces, such as entrances /exits, lifts, pantries /canteens, stairs, and other areas congregation or queuing of employees or visitors /clients has been maintained.
		 Minimize the need for physical meetings, e.g., by using teleconferencing facilities. Avoid crowding by staggering working hours to reduce congregation of employees at common spaces such as entrances or exits. 	Physical meetings have been minimized and online meeting, by using teleconferencing facilities like zoom and Microsoft cloud meeting soft wires, has been enhanced in almost all in offices.
4	Reduce and manage work-related travels	Cancel or postpone non-essential travel to areas with community transmission of corona virus disease (COVID-19), provide hand sanitizer to workers who must travel advice workers to comply with instructions from local authorities where they are traveling as well as information on whom to contact if they feel ill while	All sorts of long-distance travel to areas with community transmission of corona virus disease (COVID-19) has been cancelled/postponed except some short travel to the demonstration plots calling lead farmers from the nearby villages by maintain Covid-19 preventive measures.

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		 Workers returning from an area where COVID-19 transmission is occurring should monitor themselves for symptoms for 14 days and take their temperature twice a day; if they are feeling unwell, they should stay at home, self-isolate, and contact a medical professional. Previously workers returning from Sonagazi, Feni where COVID-19 transmission occurred at community level were monitored by labor leaders for symptoms. Those who have feelings of fever and*or coughing they were allowed take rest in labor camp.
		 Clean surfaces by brushing or scrubbing thoroughly using soap or a neutral detergent with disinfectants to remove dirt, debris, and to kill pathogens and other micro- organisms on the high-touch surfaces like commonly used area Office room, kitchen, toilets and sitting furniture, working appliances and other common spaces with their fitting were disinfected regularly but the labor sheds and the kitchen and toilets were not disinfected as the contracted didn't provided those materials to them.
5	Regular environment al cleaning and disinfection	 Prepare and use disinfectant solutions according to the manufacturer's instructions, including instructions on how to protect the safety and health of disinfection workers and how to use personal protective equipment (PPE); avoid mixing different chemical disinfectants. Safeguard specialists of IMO provided trainings contractor's personnel, IMO personnel, WUA members to the and Safety issues to combat Covid-19 pandemic But no PPE was provided to either the supervisor workers even the C-IMO has not supplied PPE to the officials
		 Avoid spraying or fogging disinfectants to environmental surfaces of indoor workplaces or in a tunnel, cabinet or chamber as it can cause eye, respiratory, and skin irritation and other toxic effects. Contractors or IMO didn't set any spraying or fogging tunnel/cabinet/chambers in the field or offices.
	Risk communicatio	 Provide posters, videos, and electronic message boards to increase awareness of COVID-19 among workers, and promote safe individual practices at the workplace. Awareness of Covid-19 was raised among the worker and WMO members by posters "No mask no service" and providing training /discussion in each training session and demonstration programs.
6	n, training, and education	 Special attention should be given to reaching out to and engaging vulnerable and marginalized groups of workers, such as those in the informal economy as well as migrant workers, domestic workers, subcontracted and self-employed workers, and those working under digital labor platforms. No special attention has been found to be taken for the vulnerable, marginalized groups of workers by either IMO or the contractors.
7	Management of people with suspected	 Urge workers who are unwell or who develop symptoms consistent with COVID-19 to stay at home, self-isolate, and contact a medical professional or the Workers are allowed to stay home in self-isolation aft feeling unwell and developing Covid-19 symptoms. But r arrangement was made for helping the workers to access

	COVID-19 or their contacts	local COVID-19 information line for advice on testing and referral.	Covid-19 test and treatment.
		 Where local community transmission is high, and work continues, allow for a telemedicine consultation where available, or consider waiving the requirement for a medical note for workers who are sick so that they may stay home. 	
SPE	CIFIC MEASUR	RES FOR WORKPLACES AT MEDIUM RISK	
		Take all the mitigating actions possible to reduce the risk of transmission between workers, clients or customers, contractors, and visitors such as maintaining safe physical distance, avoiding workers sitting face-to-face, scheduling of works in alternate shifts, and installing Plexiglas barriers at all points.	 Sitting arrangement in the office of PMU, PIU, C-IMO and contractors was rearranged to ensure minimum safe physical distance (minimum 1 m apart) but not in the labor shed.
8	In addition to the measures for all sites	Enhance hand hygiene—regular hand washing with soap and water or use of alcohol-based hand rub— before entering and after leaving enclosed machinery, vehicles, confined spaces, and before putting on and after taking off PPE.	 Sanitizers and disinfectants were provided to the offices mentioned above and also in labor sheds CW- 06 & 07 but not in labor sheds run by local contractors.
		 Provide PPE and training on its proper use—e.g., masks, disposable gowns, and disposable gloves or heavy-duty gloves that can be disinfected. Provide face or eye protection (medical mask) during cleaning procedures that generate splashes. 	 PPE with H&S training was provided to the labors/workers/managers/supervisors of CW 06&07 but not the labors/workers specially those employed by local contractors.

55. High risk category of exposure to Covid-19 was not found in the project area during the reporting period and the monitoring visit of PMU safeguard officer. That's why no such preventive measures have been described in this period of reporting. No death case of project personnel or contractors 'personnel by contamination of Corona Virus has been recorded by the field managers or the public relation and safeguard specialists within the reporting period.

2.9 MONITORING IMPLEMENTATION STATUS OF GRIEVANCE REDRESS MECHANISM

56. During the reporting period, no new complain for consideration under GRM has been received. The Project Director has formed a Grievance Redress Committee (Table -11) with Executive Engineer (O&M Division), BWDB, Feni as the convener for dealing complains of such affected persons according to the government gazette no 42,00,0000,035,24,020,14-316 dated. 02 November, 2020

Table 12: GRM committee of IMIP

SI. No.	GRM Committee Members	Designation	Responsibility
1	Executive Engineer (O&M Division.), BWDB or equivalent	Convener	Working as convener of the GRC
2	Chairmen of the Union Parishad of the concerned union (Where affected person will submit complain).	Member	Working as member of the GRC
3	Representative of affected persons	Member	Working as member of the GRC
4	Deputy Assistant Engineer, BWDB (Concerned branch)	Member- secretary	Working as Member secretary of the GRC

2.9.1 FUNCTIONING/SCOPE OF WORK OF GRM

- (a) Accepting complains from the persons affected due to implementation of the project and giving hearing.
- (b) If the complains of the affected persons is within the purview of arbitration system under Land Acquisition Ordinance or are subjects within the purview of existing laws, the committee will advise for submitting the said complain to the concerned Deputy Commissioner/Authority. If the complaint is not within the purview of existing laws, in that case the committee will give decision about settlement of the issues in light of the guidelines of Re-Settlement Plan.
- **(c)** Giving decision about the complains of the affected landless persons following the stated procedures by the committee

2.9.2 PROCEDURE OF RECEIPT AND SETTLEMENT OF COMPLAINS

- (a) The affected person can submit a written application in the office of the convener within a month of receipt of identity card or within a month of informing him about the compensation.
- **(b)** The committee will sit for settlement of the matter within ten days and will preserve all concerned records and minutes of the meeting.
- (c) All works of the committee will be performed in the office of the convener
- (d) The committee will mention the basis of taking the decision
- 57. The committee will publicize among the general public the concerned rules of redressing the grievances and rights of the affected persons permanently in community meetings and by distributing small booklets

- 58. If the said squatters submit applications/complains to the convener, the GRC would consider and do the needful.
- 59. It is ensured that no land for pump house construction is obtained forcibly from the owners. Land owners are motivated to sign the Land Donation Agreement (LDA). Owners of 26 plots out of 29 under C.W. 03 have willfully signed the LDA. All the conditions of SPS-2009 are compiled while obtaining LDAs. Pump house and header tank construction is going on under package No.5, 6 and 7. The total number of pump house and header tank under these packages is 769. As it was difficult to obtain LDAs from the land owners after construction of pump house and header tank, this time the FOMs were instructed to obtain the LDAs signed by land owners before starting construction. It was reported by FOMs that land owners are not willing to sign the LDAs, though they allow construction of pump house and header tank on their land. If IMO sticks to the instruction of signing the LDA before starting construction, then there would be a deadlock in pump house and header tank construction and implementation of the project. The contractors were putting pressure for handing over construction sites. Therefore, IMO is now constructing pump house and header tank on verbal consent of the landowners. After completion of construction, IMO will try to obtain LDAs from landowners.
- 60. If there is any crop damage or temporary interruption on growth of crops due to setting of underground pipes, normally it is locally solved by the contractor/fellow farmers by negotiating with the concerned farmers. There has not been any complain during the reporting period.

2.9.3 COMPENSATION OF SQUATTERS AND LAND OWNERS AT ELECTRICAL SUB-STATION SITE

61. The issue has been discussed in section 1.4 (Re-settlement Framework / Resettlement Plan) under chapter one. More over details of compensation are clearly stated in 2nd Semiannual SMR (January to June, 2021) of MIP under IMIP, BWDB

2.10 TRAINING/COMMUNICATION AND CONSULTATION PROGRAM

- 62. Communication and consultation program have been combined with farmers' training that are being organized under extension and training program on improved agriculture production techniques. (This has been done as per suggestion of Mr. David Mole, consultant of ADB). Discussion was held on environmental and social safeguard issues (GRM, ADB's SPS-2009), employment opportunities of disadvantage people including women, labor's facilities, concerns for communities etc. Also, discussion was held on covid-19 and HIV/AIDS for increasing awareness about the danger of these diseases, how these spread from person to person, what are the preventive measures and what to do, if infected. Photos of the field day program on vegetable demonstration are given below (Figure: 20-22).
- 63. During the reporting period (July to December, 2022) neither any safeguard training was conducted not any training and workshop for lead farmers, pump operators, WUGs, DAE field staff, IMO/BWDB field staff have been organized where the safeguard compliance issues, EHS/GRM/HIV/AIDS/Covid-19 etc. can also be discussed and maintained in the field (Table-13). One demonstration on winter vegetables has been implemented where the safeguard issues like pesticide use, adverse impacts of misuse or over use of pesticides on health and environment and concerned IPM methods has been discussed.



Figure 20: DGM of C-IMO, is delivering lecture in Field day of T.Aush rice demonstration.



Figure 21: Discussion of safeguard & GRM issues in workshop of multiple agencies under MIP



Figure 22: Sharing the safeguard and EHS issues in field days. Figure 23: SCM at, East Icchakhali-3, Mirswarai, Chattagram



Table 13: safeguard / EHS Issues discussed in the farmers' training programs

SI. No.	Name of the Training	No of batches	No. of Participants
1	Lead farmers training on increasing cropping intensities	15	4500
2	Participatory water management	4	120
3	Value chains and marketing linkages for local agricultural input dealers	2	60
4	Gender sensitization & participation in IMIP	1	30
5	Pump operators training	6	1800
6	Demonstration on Boro Rice, T. Aush and High Value vegetable production by lead farmers.	2	60
7	Workshop on Annual Review, reflection and planning	1	30
	Total =	31	6600

64. Total 6 consultation meetings, including 4 SCMs at relocated schemes and 2 demonstration plots, were arranged in at Mirswarai Upazila of Chattagram district and Feni Sadar & Sonagzli Upazilas of Feni district. (Table-14).

Table 14: Details of consultation meetings conducted during July-December, 2022

Package	Date	Venue	Category of Participants	No. of Participant		
rackage	Date	venue	Category or Farticipants	Male	Female	Total
CW-07	18.07.2022	Purba Ichakhali-3, Mirswarai, Chattagram	Farmers, pump operators, WMG leaders, Local people,	19	1	20
CW-07	18.07.2022	South Bhuiyan Gram-1, Mirswarai, Chattagram	Farmers, pump operators, WMG leaders, UP Members,	10	5	15

			Total =	94	25	119
		Safarpur, Amirabad, Sonagazi, Feni.	Farmers, pump operators, WMG leaders, Businessmen, Teachers.	25	5	30
CW-07	20.07.2022	Daulatpur, Feni sadar.	Farmers, pump operators, WMG leaders, Fishermen,	8	7	15
CW-07	19.07.2022	Sahebpur-08, Mirswarai, Chattagram	Farmers, pump operators, WMG leaders, Businessmen	17	4	21
CW-07	19.07.2022	Purba Ichakhali-5, Mirswarai, Chattagram	Farmers, pump operators, WMG leaders, Teachers,	15	3	18

2.11 STAKEHOLDER CONSULTATION MEETING (SCM) FOR 04 RELOCATED SCHEMES

65. PMU safeguard team visited 04 relocated schemes (Table-15) from 18-19 of July, 2022 and the stakeholders have been consulted within the reporting period (Figure: 30-36). The main objective was to assess the possible environmental impacts on both the natural and social environment of LLP scheme areas. One stakeholder consultation meeting (SCM) has been done with the PAPs of each proposed relocated LLP schemes to obtain stakeholders opinion about the proposed relocation and assessing the possible impacts within the command area of MIP. The main focus of those SCMs was to motivate the farmers to donate the land for installing LLPs voluntarily and sign the contract of donation. The details of those 04 SCMs have been incorporated in the 5th Semiannual SMR. The impacts of relocated schemes on natural environment have been discussed here.

Table 15:Relocated schemes of Mirswarai Upazila

S.N	Package No	Scheme ID	Scheme Name	Union Name	Upazila Name	District Name
31	CW-07	MIR-15/1	Purba Ichakhali-3	Ichakhali	Mirsarai	Chattogram
32	CW-07	MIR-21/1	South Bhuiyan	Ichakhali	Mirsarai	Chattogram
33	CW-07	MIR-28/1	Purba Ichakhali-5	Ichakhali	Mirsarai	Chattogram
34	CW-07	MIR-30/1	Sahebpur-08	Osmanpur	Mirsarai	Chattogram

66. Location of old (Abandoned) and new (relocated) schemes in Mirswarai Upazila of Chittagong district are shown in Google Earth images with their possible impacts on natural environments one by one below (Figure: -24).

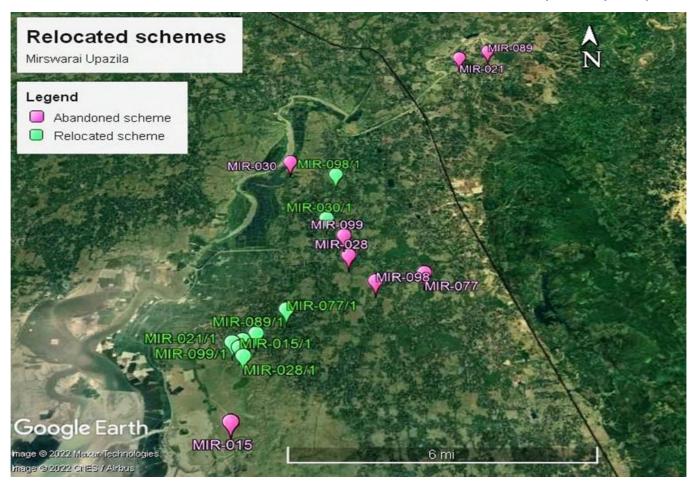


Figure 24 Relocation of schemes at Mirswarai Upazilal, Chattagram

67. The satellite imagery of 4 relocated schemes below (Figure: 25-28) shows that buried pipelines has not crossed / faced settlements (houses / trees or other structures) in 4 LLP schemes visited within the reporting period except Icchakhali-3 scheme at Mirswarai Upazila where the pipeline has crossed a village road.



Figure 25: Proposed Pipeline alignment at East Ichhakhali-3, Mirswarai, Chattagram



Figure 26: Proposed Pipeline alignment at East Ichhakhali-5, Mirswarai, Chattagram



Figure 27: Proposed Pipeline alignment at Shahebpur-8, Mirswarai, Chattagram



Figure 28: Proposed Pipeline alignment at South Bhuyangram, Mirswarai, Chattagram

2.11.1 Consultation Meetings at Mirswarai Upazila, Chattagram

68. Visiting 04 relocated schemes, no significant impacts on the natural environment have been found except the crossing of village road by pipeline at East Icchakhali-3 scheme. The field manager and the contractors field engineer assure that the pipelines have been penetrated beneath the road without opening its crest. So movement of people / cattle / vehicles may be hindered across the road. Moreover, the nearby agricultural fields are dry and barren during offseason. So there is no risk of damage of crops/adjacent land by construction works / labors / instruments. So, no complaints have been recorded in Mirswarai Upazila.



Figure 29: Pump house constructed on the canal bank a East Ichhakhali-3, Mirswarai, Chattogram



Figure 30: Consultation with the farmers at East Ichhakhali-3, Mirswarai, Chattogram



Figure 31: Pump house constructed on the canal bank at East Ichhakhali-5, Mirswarai, Chattogram



Figure 32: Consultation with the farmers at East Ichhakhali-5, Mirswarai, Chattogram



Figure 33: Pump house constructed on the canal bank at East Shahebpur, Mirswarai, Chattogram



Figure 34: Land donor (Raising hand) in front of the pump house at East Shahebpur,



Figure 35: Pump house constructed on the canal bank a South Bhuyangram, Mirswarai, Chattogram



Figure 36: Consultation with the farmers at South Bhuyangram, Mirswarai, Chattogram

69. The SCM team has visited the proposed alignment of pipeline to be installed through the field but found no hindrances like houses, trees, woodlot plantation or other structures across the proposed pipeline except some pulse crops (Mung bean) at early stage. During consultation farmers have not been found to raise complaints in the visited schemes. PMU safeguard officer has instructed the field engineer of contractor (CW-7) to compensate those affected farmers of consulting with the local WMG leaders / UP Members / Field Managers and reinstate the fields after filling up the trench cuts. The attendance lists of participants of 04 stake holder consultation meetings are enclosed in Annexure-5.10. There were no voluntary land donors as the LLP in those schemes have been constructed on the public land (BWDB's canal bank).

2.11.2 Result of Stake Holder Consultation

- 70. Details of stakeholder consultation has been incorporated in the 3rd, 4th & 5th Semiannual SMR which are as follows-
- (a) All farmers are demanding irrigation water as early as possible, if possible, in this season.
- **(b)** All farmers requested to decrease the irrigation charge as less as possible cooperating with that of private pump owners.
- (c) All farmers urged free and distribution of prepaid cards and to ensure the fare access of all card holders to the pump so that land donors can not restrict their access and demand higher irrigation charge. But some land donors requested to preserve their rights to buy all prepaid cards and sell irrigation water to the small farmers within the command area of LLP.
- (d) Pump operators requested to raise their salary/payment per hour. Further investigation reveals that most of the pump operators who have been given training are selected by WMO leaders and most of them have higher income or business. So many of them will not work as pump operator. On the contrary real landless or poor men/women who are interested to work as pump operator have not got any chance to participate in the pump operators' training.
- **(e)** Some farmers/businessmen are wondering that the buried pipe lines through their plantation or orchards may cause the damage or removal of trees. So, the pipelines should pass along the outer boundary of their woodlot/garden or plantation.
- (f) Most of the farmers requested to bury the uPVC pipelines within the offseason (winter season) otherwise their currently fellow land will be under cultivation after that dates when they will not allow burying lands.
- 71. No other issues were addressed as they have loosed no other properties or income etc. except some lands for pump house.

CHAPTER III: RESULTS OF ENVIRONMENTAL MONITORING

3.0 RESULTS OF ENVIRONMENTAL MONITORING AND COMPLIANCE MEASURES

3.1 ENVIRONMENTAL MONITORING

- 72. Implementation of embankment rehabilitation/repairing and khal re-excavation program has been completed. At present, implementation of the remaining project activities such as, pump house construction, underground pipe setting, motor and meter box installation, making electric connection etc. under package No. 4, 5, 6 & 7 is going on. Impact on environmental safeguard issues due to implementation of those components and subcomponents is monitored by field visits enquiring the local community & WMGs and discussing with IMO's field staff and contractors' employees.
- 73. Necessary actions are taken accordingly. So far, no major environmental adverse impact has occurred in the reporting period. The main parameters used for environmental impact monitoring and steps taken for remedies/results achieved are mentioned below:

(a) Noise pollution due to movement of vehicles and running of concrete mixture machines.

Contractors' have been requested to maintain their vehicles properly and they comply with the requests, running of mixture machines are not permitted after dusk. Two of three vehicles of IMO are very old. However, these are repaired and maintained improperly. The local farm of IMO was requested in black and white to get the cars checked by BRTA and obtain the fitness certificates without sending the cars to BRTA and checking physically (Annex-5.9).

(b) Generation of dust, smoke due to construction works, movement of vehicles and running of machines.

Concerned persons have been made aware of this. In case of excessive dust, spraying of water on the road has been advised. For controlling smoke & sound, timely and proper maintenance of vehicles and machines are ensured through motivation/requests. At present, there is no checklist for dust suppression measures. Implementation of this will be started soon with the help of field staff and contractors' employees. Providing a format for the checklist would be helpful. If not, the required information/contents may be supplied to PMU for guidance.

(c) Disposal/management of spoil generated due to pump house construction and pipe setting works.,

Whenever it comes to IMO's notice that generated spoil is not managed as per EMP guidelines the contractors/their employees are enquired and requested to do the needful immediately. In the reporting period, improper management of generated spoil has not been noticed or reported and no complain received. Actually, generated spoil in pump house construction and pipe setting works is not much, but those in the re-excavated sites of silted up khals and the substation site as shown in Figure- 5 & 6. However, this will be watched and resolved after completion of the construction works.

74. In the virtual review meeting held in 08 - 09 May, 2022 ADB wanted to know somewhat in detail the use of generated spoil by the farmers for heightening their homestead and fertilizing their crop land and land used for growing horticulture. Necessary actions as per

Aide-memoire have been taken. There is no complaint recorded within the reporting period for many farmers or other stakeholders.

(d) Occurrence of land slide on khal banks or slope of embankment

In the beginning of the project some land slide occurred mainly due to sandy soil but also in some cases because the slope of khal banks was not maintained by the excavator operators as per design. The matter was pursued and monitored to reduce the occurrence of land slide. Machine operators were instructed to strictly follow the design. Field managers & staff checked on the spot. This greatly reduced occurrence of land slide. In the reporting period, no case of landslide has been noticed or reported.

(e) Occurrence of siltation of re-excavated khal beds

The problem of siltation due to influx of sand in re- excavated khal beds is already noticed in a number of khals. This problem has been identified in about 48khals over the entire project area. In the technical design of the khal it was anticipated that the return period would be 1:25 year (increased from 1:10 year return period) to incorporate provision for climate change. Over excavation was not recommended as this would increase sedimentation rate. However, the practical situation may require the return period to be based on 1: 5-year return period in a number of khals. This will require re-excavation of the silted khals after every five years' time to ensure adequate water flow for irrigation. The expenditure will not be small and it will be difficult to motivate the farmers to bear the costs. If crop land cannot be irrigated with water from khals, the infrastructure built for irrigation (Underground pipe networks, constructed pump houses and header tanks, meter box installation and electric poles and line connections, all may remain unutilized. IMO with the permission of PD, IMIP has identified those silted up Khals and a contractor has been engaged for re-excavation of them. Updated. Actually 27 silted up khals out of total 48 (listed for de-siltation) have been re-excavated till December, 2022 including 17 reexcavated during current reporting period by GoB fund (Figure: 7-8).

(e) Soil borrow areas not within 8 meters from the embankment.

This was ensured through supervision. Whenever, cases of soil borrowing area within 8 meters were noticed, necessary corrective actions were taken.

(f) Loss of fish/aquatic animals while re-excavating the khals.

Concerned persons were advised to release the said animals (if found) in nearby water bodies and instructions were followed. So far, only in one case, a snake was found and killed by the local community. Field staff has been further reminded about this.

(g) Removal of vegetation due to re-excavation of khal or pump house or buried pipe lines.

Vegetation is removed only when it is unavoidable. The contractors were supposed to prepare lists of trees to be cut from the canal bank before starting any excavation/re-excavation works and IMO was supposed to monitor the process but none of them done it sincerely. That's why none had the exact list of how many trees actually cut from the canal banks from the entire project area. The safeguard officer roughly estimated a removal of 2500 trees from canal banks in Chagalnaiya during his field monitoring visit there. The trees were planted by the nearby land/house holders and they harvested those trees voluntarily immediately before the re-sectioning of irrigation canals. Many of them have already replanted the canal banks and some are waiting for completion of the construction works after which they will go for plantation on the canal banks near their lands. So, there

were no complaints from them. In some places, for instance, in Mirswarai the farmers having lands near the canal banks requested the PMU safeguard officer not to go for plantation on the canal banks where they found the soil material re-excavated from the canal beds are very fertile and they have already planted vegetable seedlings there connecting the bank with their adjacent lands. As per EMP, Dept. of Forest (DOF) has planted new saplings on the canal bank from where those were removed and IMO is monitoring it. It appeared that it will take time to cover the entire canal banks with trees. In the meantime, IMO/PMU has planted 10,000 saplings starting from 2018 to 2020 under cost recovery program. For the current year, program for plantation of 3000 saplings has been undertaken but C-IMO has not submitted any estimate within the reporting period (Table-16).

Table 16: cumulative progress of plantation till December, 2022

SI. No.	Plantatio n site	Date of Plantation	Species composition Sapling Sapling joint				Hand over time
1	Canal No- NC 31F, Chagolnaiya Feni	20-30 sep, 2018	Mehoguni, Akashmoni, Mengium, Raintree,Jam, Jolpai, Amloki, Arjun, Kadam	2552	2000	23.06.20	
2	Canal No- IR- 7A & 8B, Sonagaz i, Feni	12-14 October, 2020	Silkoroi, Gamar, Jarul, Akashmoni, Raintree, Jam, Jolpai, Gab, Boroi, Lotkon, Tentul, Chalta, Amloki, Arjun, Neem, Kadam, Shimul, Champa				
3	Mohamaya Canal, Chagolnaiya , Feni	12-14 October, 2020	Silkoroi, Gamar, Jarul, Akashmoni, Raintree, Jam, Jolpai, Gab, Boroi, Lotkon, Tentul, Chalta, Amloki, Arjun, Neem, Kadam, Shimul,	1700	05.01.21	May, 2021,	
4	Katachhara C anal, Mirswarai, Chittagong	12-14 October, 2020	Silkoroi, Gamar, Jarul, Akashmoni, Raintree, Jam, Jolpai, Gab, Boroi, Lotkon, Tentul, Chalta, Amloki, Arjun, Neem, Kadam, Shimul, Champa				
5	Mohamaya Canal, Chagolnaiya , Feni	12, Aug, 2020	Silkoroi, Mengium, Akashmoni, Pomelo, Raintree, Silkoroi, Akashmoni, Chalta,Jam, Jolpai, Amloki, Arjun, Neem,	3287	3000	06.01.21	March, 2022
6	Chagolnaiya , Feni	June-July 2021			22.06.22	March, 2023	
7	Chagolnaiya , Feni.	June- July, 2022	No Plantation has been done due to of Agriculture support service.			he expenditu	re head
		Tot	tal No of Saplings till June, 2022 =	14,581	13,000+		

- 75. No saplings of trees were planted during the reporting period. No such activities have been implemented by C-IMO during the current fiscal year 2022-2023. The rainy season is over this year and there is no scope of plantation this year. Though C-IMO was requested to plant additional 2000 tree saplings during last rainy season (June-August, 2022) but due to delay in releasing adequate fund from ANZDEC New Zealand (Lead Farm of IMO) that program has not been possible to implement this year. So the data showed in the above Table -15 is the figure up to the last year (2021) till previous reporting period.
- 76. Normally the survival inspection of planted saplings/trees, especially those which are under care and protection of contractor, are done during the dry season i.e., within January-March.

As no new sapling has not been planted during the reporting period so the number of trees have not been counted. The trees/saplings will be counted in next dry season (January-February) before handing over to the Social Forestry groups formation of which are going on.

77. Details of plantation plan including species composition and layout plan are enclosed in Annex- 5.4.

(h) Obstruction of water flow and problems caused in land communication/vehicle movement etc.

Overflow of water inundating the nearby land due to cross Bundh occurred in two places. Problems were solved by IMO quickly in cooperation of the contractors. The site engineers have been requested to remain vigilant about this. For land communication, small bridges (iron/bamboo) were constructed by contractors, where needed. Existing foot over bridges constructed by other government/private agencies have been kept intact.

(i) Test of soil, surface water and ground water

During operation phase, environmental impact on soil (reduction of fertility due to indiscriminate application of agrochemicals, intensive cultivation), ground and surface water (arsenic contamination, increased salinity etc.), loss of bio-diversity etc. may occur. There may be some impact in surface water as well as, ground water. Impact of pesticide used in demonstration plot of Transplanted Aush rice at Feni sadar Upazila (Scheme No: FSD-06) has been found. Death of reptiles, amphibians and fishes with targeted insects (steam borer) has been recorded. Impacts of those pesticides must be tested on soil, surface water, ground water and aquatic life especially fishes must be tested. Necessary test/research will be conducted and remedial actions will be taken as mentioned earlier in this report.

In some area the canal water is heavily polluted by poultry and domestic wastes released directly from some private poultry farms established on the canal bank before initiation of MIP under IMIP. Farmers of those area were reluctant to use those polluted black water for irrigation purpose. They complaints that those water may contain too much toxic chemicals like heavy metals, organic and inorganic compounds which cause severe health hazards for water users and even their crops may be damaged for using that toxic water.

C-IMO implemented some demonstration programs of vegetables (Figure: 12-14) and T. Aush rice (Figure: 9 -10) this year (2022) using the irrigation water polluted by poultry feces. No incidents of crop damage or loss of production or health hazards was noticed for using polluted water. Moreover, it was found that canal water polluted by poultry feces contains nutrients which promote the growth and flowering of vegetables which reduces the requirement/cost of organic fertilizer uses.

- 78. Some farmers and local people were raising complaints of high toxicity of the canal water polluted by domestic / industrial / poultry waste. In response to their complaints C-IMO takes initiative to test the physical and chemical parameters of surface water (polluted Irrigation Canal water) from 15 points. The water samples were collected by C-IMO field staff (Figure: 37-40) and tested in BUET Laboratories during the last 6 June, 2022 (Table-17). Details are stated in the test scripts (Annex-5.7).
- 79. The C-IMO informed the PMU safeguard team that the surface water samples were tested only for investing the toxicity of polluted canal water and motivating the concerned defendants of polluted canal area not for the purpose of revising/updating the environmental baseline of IEE report.



Figure 37: Water sample collection at Daliachara khal, Chhagolnaiya, Feni.



Figure 38: Water sample collection at Naluachara khal, Chhagolnaiya, Feni.



Figure 39: Water sample collection at Churamoni khal, Mirsharai, Chitagram



Figure 40: Water sample collection (IMO driver Siraj with the sample water) at Bhorbazar khal, Sonagazi, Feni.

80. So, soil, surface water and ground water samples will be tested after screening and fixing the representative monitoring points by Ecology/Toxicology experts very soon. Then the IEE report will be revised by incorporating the tested parameters within March, 2023.

Table 17: Sampling points and WQ test results of severely polluted irrigation canal under MIP

	SUMMARY OF WATER QUALITY TEST RESULT OBTAINED FROM BUET WITH ACCEPTABLE LIMIT FOR IRRIGATION WATER RECOMMENDED BY MINISTRY OF ENVIRONMENT & FOREST.									
SI.	Name of Khal	Name of Upazila	Test Results of khal/canal water							
No.			рН	Electrical Conductivity (EC)	Total Dissolved Solids (TDS)	Orthophos- phate (PO ₄)*	Sulphate (SO ₄)	Chloride (Cl ⁻)	Nitrate- Nitrogen (NO₃ - N)	Arsenic (As)
	Acceptable Limit for Irrigation		Limit 6.5 -8.5	Limit 2250 μS/cm	Limit 2000 mg/l	Limit 10 mg/l	Limit 1000 mg/l	(Limit 600 mg/l	(Limit	Limit 0.1 mg/l
1	Samitir Bazar Khal		5.45	455	340	0.06	54	93	0.8	<0.001
2	Boromashik hal		6.79	1120	555	26.8	< 7	66	0.8	0.002
3	Daliacharak hal	Chhagal - naiya	6.6	607	316	23.4	< 7	20	0.4	0.001

	Naluachara		6.57	400	424	0.20	. 7	4.6	0.4	0.004
4	khal		6.57	198	121	0.28	< 7	16	0.4	<0.001
5	Kachuakhal		6.62	950	501	14.5	< 7	88	0.4	0.001
6	IR-16B khal	Feni Sadar	6.74	805	407	12.6	< 7	70	0.4	<0.001
7	NC-14G khal		6.76	623	368	0.54	< 7	71	0.2	0.002
8	Gazariakhal		6.64	214	126	1.72	< 7	18	0.3	<0.001
9	IR-13C khal		6.28	1472	695	95	< 7	122.5	0.5	0.001
10	IR-13D khal	Sonagazi	6.48	434	217	13	< 7	18	0.4	<0.001
11	IR-13G khal		6.44	884	434	90	< 7	46	0.3	<0.00 1
12	Vor Bazar khal		6.51	488	229	20.2	< 7	38	0.4	<0.001
13	Gothia bazar khal	Fulgazi	6.49	180	113	0.46	< 7	18	0.4	<0.001
14	Churamoni khal	Mirsarai	6.52	507	279	0.69	< 7	92	0.3	<0.001
15	Icchakhali khal		6.52	444	239	0.34	< 7	84	0.3	<0.001

81. * Concentration of Orthophosphate has been found to exceed the allowable limits in some points. The major source, mode of transmission along the hydrological route and its complications on the public health and the natural environment has not been studied yet. The details will be submitted in the next EMR.

3.2 SOCIAL MONITORING

82. Social issues like dumping the generated spoil or construction materials (stones, sand, cement etc.) on private land etc. were supervised. Unauthorized borrowing of soil from private land, obtaining land for construction of pump house/header tank without consent of the land owners (following ADB's guidelines of SPS-2009), wage discrimination between male and female labors, low wages paid to labors, ensuring arrangement for food and providing accommodation, sanitation, drinking water facilities, medical/first aid facilities etc. to the labors, creating awareness of the labors about HIV/AIDS/covid-19 by the contractors/sub-sub-contractors, controlling possible disquiet of labors to the communities is monitored poorly at field level by the C-IMO field office staff by enquiring with the community, labors and general public in the project area. Monitoring is being done mainly by Safeguard Specialist and rechecked by the safeguard officer of the PMU. Attempt is being made to actively involve the field staff of IMO who remains busy with construction and other works.

The results of monitoring of the social issues in brief are as follows:

83. Labors' accommodation is provided free of cost by the contractors in all work sites either by hiring or by constructing sheds. On request, the contractor make necessary repair, provide fans etc. Standard of accommodation provided under package No.6 & 7 is good, but that under package No. 4 & 5 are not so good. The contractors' supervising staff and labors were given one day's training. They were verbally requested many times to improve the position. Two letters were written recently requesting to improve the standard as per contract.

The contractor of package No. 6 & 7 provides the facilities to labors as per contract, but the contractors of package NO. 4 & 5 are not making any response to IMO's request. They have been warned (Annex-00) to take quick actions to comply the EHS and labor rights according to the contract agreement.

3.3 ENVIRONMENTAL HEALTH AND SAFETY (EHS) MONITORING

- 84. In some sites there were some problems of drinking water. The problem has been solved on persuasion. At present there is no such problem. Drinking water to labors is supplied either by sinking tube wells or by arranging from mosques etc.
- 85. Toilets are built temporarily or accommodation is hired with toilets. The contractor of package No. 6 & 7 provides the facilities to labors as per contract, but the contractors of package NO. 4 & 5 are not making any response to IMO's request for providing improved toilets.
- 86. Problem of labors due to hot weather conditions has been solved by the contractors by providing fans in the sheds, where needed but problem of biting cold of winter and mosquito infestation is not yet solved. In spite of that the standard of accommodation, toilet facilities and health and sanitation condition under package no. CW- 04 & 05 is far from satisfactory

87.

- 88. For maintaining proper standard of accommodation, health and sanitation and for providing PPEs, a training program was organized in October, 2020 for the contractors /their employees and their labors. As explained with photographs in table-2, in package no. CW-06 & 07 implemented by German company, labors are provided accommodation, food, health and sanitation facilities of quite good standard. The local companies implementing package no. CW-04 &CW-05 have not improved the said services and facilities of labors.
- 89. Previously, labors particularly, unskilled labors were paid very low wages, compared to general wage level in the project area. After persuasion, the wage level of unskilled labors as well as skilled labors has been raised to satisfactory level.
- 90. Apparently, 3 under aged labors were noticed in the substation site during early (22-25 February, 2022) of the previous reporting period but no such under aged labors were noticed during the current reporting period (July December, 2022. During the monitoring visit the situation the construction works were almost complete. Labor contractors were strongly urged (Referring to Labor Laws) not to appoint child labor.
- 91. No case of forced labor was noticed/reported since the beginning of the project. There were some problems of non-payment of wage to some labors. These have been solved. Labors were advised to inform Safeguard and Public Relation Specialist, if they faced any problem of withholding their wage payment. But at this moment he resigned from C-IMO and there is the FoMs have been assigned to receive complaints and respond to them quickly.
- 92. Labors are kept under strict supervision to guard against any kind of social disquiet. It has been checked; community people have no complains.
- 93. While re-excavating khals, a number of houses built on khal bank were saved by re-excavating manually in place of digging by machine. A letter was issued from C-IMO to increase the depth of khals instead of increasing the width where houses were built on the khal banks or slope of embankment. This would keep the water flow at the desired level. The possibility of sedimentation / land slide due to increased depth of re-excavated khals was kept under watch, there was no problem).

3.4 PROBLEMS/ISSUES YET TO BE SOLVED

- 94. No visible safety measures for labors in the work sites, except in package No. CW-06 & CW-07 implemented by a German company, is noticed. There is no complaint from their labors. It has been informed that labors do not like wearing boots and helmets during summer hot days. Safety indication/sign boards are not seen in any work site. No complain from community/labors have been received. Necessary measure is being taken to improve the situation.
- 95. No first aid box, emergency medicines/transport facilities are kept in work sites by the contractors of CW-04 and 05. They are asked to provide such facilities as required. Labors are taken to doctors when required by public transports. The contractor of package No. CW-06 & CW-07 maintains these in their work sites. They have a pick-up in their work site.

3.5 QUANTITATIVE ENVIRONMENTAL MONITORING PARAMETERS

96. The quantitative environmental monitoring parameters was far from satisfactory, especially surface water quality parameters (arsenic, salinity etc.), ground water quantity and quality, soil fertility and intoxication, vegetation coverage, wild life habitats and biodiversity loss etc. according to the items mentioned in the Table-18 below is yet to take place. In this connection surface water samples have been collected from 15 khals distributed over 5 Upazilas of Feni and Chattagram districts and tested in BUET LAB. The details of test results are stated below.

Table 18: observation of monitoring results /status of implementation of EMP

Monitoring parameter	Method of monitoring	Location	Frequency of monitoring	Monitoring Results	National Standard	Status up to June, 2022
Surface Water Quality like DO, pH, BOD, EC, Salinity (CaCO ₃ , -SO ₄ , NO ₃ , CI-, Ca, Fe, Mg, K, Na, Zn, B) Arsenic etc.	Screening, sampling and testing of concerned parameters	canals, wetlands and ponds within project area	After completion of physical works and successful operation over two seasons	Will be monitored after at least one year of operation phase	DoE standard	p ^H , EC, TDS, SO ₄ -2, PO ₄ -3, NO ₃ -1, Cl ⁻ , and As ⁻ of 15 surface water samples have been tested at BUET Lab, Dhaka (Annex- 5.7) for fixing the new base line and monitoring.
Ground Water Quality like- Salinity (CaCO ₃ , -SO ₄ , NO ₃ , CI-, Ca, Fe, Mg, K, Na, Zn, B), -Arsenic etc.	Sampling and Testing	Tube wells within project area	Annually after completion of physical works	Will be monitored during operation phase	DoE standard	Ground water quality tested earlier but no such tests have been conducted for revising the baseline & monitoring. At least 4 samples were collected through existing tube wells which will be reported in the next EMR.

Soil Fertility	Sampling and Testing	Top soils of crop field within the project area.	Annually after completion of physical works	Will be monitored during operation phase.	Not specified	Soil quality parameters especially the fertility was tested earlier but no such tests have been conducted for revising the baseline & monitoring. Those will be conducted for at least 2 samples and will be reported in the next EMR.
Vegetation Coverage	Quadrate & review of FD plantation records.	Homestead, village groves, cropland forest and plantation on canal banks and coastal embankment within project area.	Annually after completion of physical works	Quite a large number of trees have been cut away by the owners to facilitate canal reexcavation. Actions has been taken to replant trees	3 saplings should be planted for replacing 1 tree.	Though as per EMP, FD was supposed to plant saplings to compensate any damage of vegetation by MIP and C-IMO was supposed to monitor but as per DPP of the responsibility of these two agencies were reversed and the budget for compensational plantation is included in the Agricultural Support Services and Cost Recovery Head of C-IMO. So, C-IMO planted 13,000 saplings on the bank of reexcavated khals and PMU prepared the plantation plan, monitored the plantation & stakeholder engagement process. Total 10,000 trees out of 13,000 have already been handed over the local social forestry groups for care, maintenance and benefit sharing. The remaining 3,000 will be handed over very soon.
Wildlife habitat Loss -Wetland -Terrestrial	Physical observation and estimation	Wetlands, Village groves, Plantations on canal banks and Coastal embanks within the project area	Biannually after completion of physical works	Will be duly monitored during operation. The situation is being observed now also.	Not Applicable	Till now loss of wild life habitat, either aquatic or terrestrial, has not been observed except loss of some trees along the irrigation canal. Considering those trees as the habitat of some terrestrial and arboreal wild birds 13,000 saplings of timber spp. fruit spp. medicinal plant spp. fiber & flounces spp. rare & endangered tree spp. and wildlife fruit bearing tree spp. have been planted on the bank of khals to compensate the loss.
Biodiversity loss -Aquatic -Terrestrial	Sampling and estimating	Wetlands, Village groves, Plantations	Biannually after completion of physical	Will be assessed/ verified/ monitored	Not Applicable	Till now loss of biodiversity, aquatic lives and wild life is not significant except some loss of multiple tree species along the irrigation canal. Plantation of 13,000 saplings of multiple tree spp. (mentioned

Compliance of Labor laws (National and International)	Physical observation & Questionnaire and Contractors records	on canal banks and Coastal embanks within the project area Construction and operation site within the project area	Day to day during construction works and monthly during operation	during operation phase. The situation is being observed now also. Labors are ignorant about the labor laws & somehow reluctant to raise any	Child labor are prohibited.	above) will compensate that loss of biodiversity done by MIP. Recently the death of some reptiles, amphibians and Pisces with insects in the rice fields of T. Aush demonstration plots after use of pesticide, ALCO, a contact poison have been noticed. The extension and training consultant have been advised to replace the pesticide, ALCO. No child labor, apparently under aged, were found to be engaged at substation site during the monitoring visit of PMU safeguard team. The contractor's representatives /labor sub-contractor has been asked not to appoint such under aged labor thenceforth.
Environmental Health & Safety compliance	Physical observation & Questionnaire and Contractors records	Construction and operation site within the project area	Day to day during construction & monthly during O&M	complaints.		Labors are ignorant about the health and Safety compliance. They would be interested in sanitation, first aid measures and medical facilities which are not available in the work sites.
Social safety Compliance	Physical observation & Questionnaire and Contractors records	Construction and operation site within the project area	Day to day during construction works and monthly during operation	Women are not willing to work outdoor.	•	Contractors provide accommodation, toilet and drinking water by establishing toilets& installing tube wells or by arranging water supply from tube wells available in the vicinity of labor sheds. Other health and safety issues of labors, medical facilities, like first aid arrangements, emergency transports in work sites for taking injured/sick labors to hospital etc. are provided by the German company. These are enquired with the labors on the spot. All these will be pursued in future.

CHAPTER IV: CONCLUSION AND RECOMMENDATION

4.1 CONCLUSION

- 97. EMP implementation during the reporting time is supervised, monitored & poorly managed by the C-IMO in the field by applying the parameters as given in EMP. IMO's field staff being occupied in pump house construction, pipe setting, installation of motors and prepaid meters and electric connections etc. are yet to shoulder the responsibility to the desired extent. In preparing this report and giving views/making comments, the proposed mitigation measures as contained in EMP have been applied together with ADB's suggestions received time to time. The contractors, as per their contract, are responsible to take reasonable steps to protect the environment and to limit damages and nuisance to people and property resulting from pollution, noise, emissions, surface discharges and other results of their operations. The contractors are also under obligation to pay fair wages to labors and provide accommodation, sanitation facilities, drinking water and other welfare facilities including health, medical facilities and safety. These were monitored and possible actions tried to take.
- 98. Contractors of CW-04 & 05 have been found to ignore the requests and suggestion of C-IMO, FOM and even the BWDB field office. In respect of providing PPEs to the labors and for improving the standard of accommodation, health and sanitation facilities, necessary actions will be followed.

4.2 RECOMMENDATION

- 99. The following measures/corrective actions are recommended to overcome the present non- compliance/limited compliance issues of MIP and other related problems including improvement in quality of bi-annual and other reports.
 - i. The contractors of CW-04 & 05 should be compelled to carry out all of the implementation, monitoring and mitigation measures set forth in the EMP and to take necessary actions for further improvement with regard to labor's health, safety, sanitation, toilets, PPEs and other welfare facilities including residence, food and drinking water, hot and cold weather protection arrangement and Covid-19 awareness raising etc. and rights of stakeholders and community people as per contract with BWDB otherwise PMU will soon issue a letter to contractors warning them that they may be declared non- compliant if they don't take effective actions immediately.
 - ii. In regards to IEE and EMP monitoring, soil, ground water should be tested as surface water quality test already conducted.

Table 19: corrective action plan will be implemented within the next reporting period

S/N	Recommended Corrective Measures	Actions Taken	Responsibility	Status
1	Warning the Contractors by issuing letter indicating that they may be declared "Non-Compliant" if they are not found to be compliant to the environmental terms & conditions stated in the Bid Documents and Contract Agreement.	letter has been issued to the contractors	PIU/PMU, IMIP, BWDB	C-IMO/BWDB Field Office & PMU is monitoring the progress

2	Fixing & Testing Soil, surface water and ground water samples from the schemes having toxicity incidence	Screening & testing of soil, surface & ground water (Annex-5.9)	C-IMO/PMU, IMIP, BWDB	PMU is monitoring the progress.
3	C-IMO will be warned to implement all components stated in the approved demonstration estimate such as installation of environment friendly Pest Control technology i.e., solar light traps, Insect & bird preventing nets etc. and supply all agriculture inputs in time and optimum quantity so that the demonstration programs do not suffer.	approved and the fund transferred to C-IMO Lead farm	PMU, IMIP, BWDB	C-IMO lead farm released partial amount to the field office so the demonstrations have been implemented partially due to shortage and timely release of fund to the field.

CHAPTER V- ANNEXURE

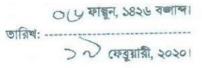
- 5.0 LOCATION CLEARANCE AND RENEWAL OF ECC AND GRM LEAFLET
- 5.1 ENVIRONMENTAL CLEARANCES FOR MIP & SUBSTATION

েশখ হাসিনার বাংলাদেশ পরিচছন্ত্র গরিবেশ

> গণপ্রজাতন্ত্রী বাংলাদেশ সরকার পরিবেশ জম্বিদপ্তর পরিবেশ ভবন, ই/১৬ আগারগাঁও শেরে বাংলা নগর, ঢাকা ১২০৭ www.doe.gov.bd



जाबिक नर-२२.०२.००००.०५४.३३.००५.२० . 2.2



বিষয়ঃ কেনী জেলার মহরী সেচ প্রকল্পের পূনর্বাসন প্রকল্প আই.এম.পি এর প্যাকেজ CW-04 এর আওতায় ফেনী জেলার ফুলগাজী উপজেলার দৌলতপুর মৌজায় ৪০ (চল্লিশ) শতক ভূমি অধিগ্রহনের নিমিন্ত অনাপত্তি পত্র।

সূত্রঃ ১। নির্বাহী প্রকৌশলী (আঃদাঃ),বাংলাদেশ পানি উন্নয়ন বোর্ড, ফেনী কার্যালয়ের পত্র: নিঃপ্র/ফেনী/পওর/১৫০৬; তারিখ: ২৫/১১/২০১৯ খ্রি:

২। গরিবেশ অধিদপ্তর চট্টগ্রাম অঞ্চল কার্যালয়ের পত্র: ২২.০২.৩০০০.২১০.৫২.০৭১.১৯.২৫১; তারিখঃ ২০/০১/২০২০ খ্রিঃ

উপযুক্ত বিষয় ও সূত্রের পরিপ্রেক্ষিতে জানানো যাছে যে, ফেনী জেলার মহরী সেচ প্রকল্পের পূনর্বাসন প্রকল্প আই.এম.পি এর প্রাক্তেজ (W-04 এর আওতার ফেনী জেলার ফুলগাজী উপজেলার দৌলতপুর মৌজায় মোট ৪০ (চল্লিশ) শতক ভূমি অধিগ্রহণের জন্য নিয়্যুগিত বিষয়াদি প্রতিপালনের শর্ভে অন্ত দম্ভর হতে নির্দেশক্রমে জনাপত্তি প্রদান করা হলোঃ

- (ক) আলোচ্য প্রকল্লের কার্যক্রমের মাধ্য**মে যাতে পারিপার্শ্বিক পরিবেশ (যথাঃ মাটি, পানি, বায়ু)-এর উপর কোন বিরূপ প্রভা**ব না পড়ে সে বিষয়ে যথোপযুক্ত ব্যবস্থা **গ্রহণ করতে হবে**;
- (খ) প্রক্রের কার্যক্রমের আওভায় পারিপার্শ্বিক জীববৈচিত্র্য ও বন/গাছপালা ক্ষতিগ্রন্থ করা যাবে না এবং প্রাকৃতিকভাবে সৃষ্ট নর্দমা ও খালের প্রবাহ কোনভাবেই বিল্ল করা যাবে না;
- (গ) এ প্রকল্প কার্যক্রমে সৃষ্ট কঠিন বর্জ্য পরিকল্পিত উপায়ে সংগ্রহপূর্বক পরিবেশসম্মতভাবে নিরাপদ অপসারন অথবা পূলঃখ্যবছারের ব্যবস্থা করতে হবে। প্রকল্প কার্যক্রম চলাকালে সৃষ্ট অতিরিক্ত ধূলাবালি যাতে জনসাধারণের ক্ষতি না করে তার ব্যবস্থা গ্রহণ করতে হবে:
- ্ঘ) জালোচ্য প্রকল্প কার্যক্রমে Green Building Concept-সমূহ যথাযথভাবে অনুসরণ করতে হবে। নবায়নযোগ্য জালানী (সৌরশক্তি) ব্যবহার, প্রযোজ্য ক্ষেত্রে বাংলাদেশ ন্যাশনাল বিভিং কোড যথাযথভাবে অনুসরণ করতে হবে;
- (৬) এ গ্রক্স কার্যক্রমের জাওভার শব্দ নিয়ন্ত্রণের জন্য যথায়থ ব্যবস্থাদি গ্রহণপূর্বক তা সর্বদা কার্যক্ষম রাখতে হবে এবং শব্দের সানমাত্রা শব্দ দূষণ (নিয়ন্ত্রণ) বিধিমালা-২০০৬ এর মধ্যে থাকতে হবে;
- ্চ) নির্মাণ কার্যক্রমের মাধ্যমে কোনো প্রকার বায়ুদূষণ সৃষ্টি করা যাবেনা। নির্মাণ কাজ চলাকালীন নির্মাণাধীন অবকাঠামো যথাযথভাবে ঢেকে রাখতে হবে এবং নির্মাণাধীন এলাকায় নিয়মিত পানি ছিটিয়ে বায়ু দৃষণ নিয়ন্ত্রণ করতে হবে
- (৩) বায়ু দূষণ নিয়ন্ত্রণের জন্য নির্মাণ সামগ্রী ঢেকে রাখতে হবে এবং নির্মাণ সামগ্রী পরিবহনের সময়ও ঢেকে পরিবহন করতে
- প্রতিয় এলাকার ন্যুনতম ৩৩% জায়ণা ফলদ ও বনজ গাছ লাগিয়ে সবুজায়ন করতে হবে;
- ্থা) অন্তি নির্বাপণকল্পে যথোপযুক্ত ব্যবস্থাদি গড়ে তুলতে হবে। এ প্রকল্প কার্যক্রমের বান্তবায়নে কর্মরত শ্রমিকদের পেশাগত স্থাস্থ্য রক্ষার্থে সকল ব্যবস্থা প্রহণ করতে হবে:
- (এং) আলোচ্য প্রকল্পের কার্যক্রমের মাধ্যমে কোন নদী/খাল/বিল/হাওর/বাওড়/দিঘি/পুকুর/বার্ণা/জলাশয় ভরাট করা যাবে না;

- (ট) আলোচ্য প্রকল্পের আওতায় কোনভাবেই খালের প্রশন্তভা হাস করা যাবে না; খাল/জলাশয়ের উপর রাস্তা তৈরীর জন্য কালভার্ট নির্মানের প্রয়োজন হলে যথায়থ কর্তৃপক্ষের পূর্বানুমতি গ্রহণ করতে হবে।
- (ঠ) প্রকল্পের বান্তবায়ন অগ্রগতি পরিবীক্ষণ সংক্রান্ত কমিটিতে পরিবেশ অধিদপ্তরের সংগ্রিষ্ট মহানগর/বিভাগীয়/আঞ্চলিক/জেলা কার্যালয়ের একজন প্রতিনিধি অন্তর্ভুক্ত করতে হবে;
- (ড) প্রকল্প বান্তবায়নকালীন সময়ে পরিবেশ অধিদপ্তর কর্তৃক অন্য কোন নির্দেশনা প্রদত্ত হলে তা যথাযথভাবে অনুসরণ করতে হবে;
- এই অনাপত্তিপত্র ভূমির মালিকানা খত নির্ধারণ করে না।

75/02/2020

(সেশ্বদ নজমুল আহ্সান) পরিচালক (পরিবেশগত ছাড়পত্র)

ফোনঃ ৮১৮১৬৭৩

দিবাহী প্রকৌশলী (অঃদাঃ) ফেনী পওর বিভাগ, বাংলাদেশ পানি উন্নয়ন বোর্ড, ফেনী।

অনুলিপিঃ

১।পরিচালক, পরিবেশ অধিদপ্তর, চট্টগ্রাম অঞ্চল কার্যালয়, চট্টগ্রাম।

২। উপপরিচালক, পরিবেশ অধিদপ্তর, ফেনী জেলা কার্যালয়, ফেনী।

৩।সহকারী পরিচালক, মহাপরিচালক মহোদয়ের শাখা, পরিবেশ অধিদপ্তর, সদর দপ্তর, ঢাকা।

as soly file

5.2 RENEWAL OF ECC FOR MIP



গণপ্রজাতন্ত্রী বাংলাদেশ সরকার পরিবেশ অধিদপ্তর ফেনী জেলা কার্যালয় বাড়ি নং- ৩৭৭/১, সার্কিট হাউস রোড, ফেনী। www.doe.gov.bd

পরিবেশগত ছাড়পত্র নবায়ন

ছাড়পত্র নং: ২১-৬০৫৮৫

পরিবেশগত ব্যবস্থাপনা নিশ্চিতকরণ সাপেক্ষে সংযুক্ত শর্তে নিম্নবর্ণিত প্রতিষ্ঠান/প্রকল্পের অনুকূলে পরিবেশগত ছাড়পত্র নবায়ন প্রদান করা হলো :

প্রতিষ্ঠান/প্রকম্পের নাম

উদ্যোজনর নাম সনাক্তকরণ নং

প্রতিষ্ঠান/প্রকল্পের কার্যক্রম

প্রতিষ্ঠান/প্রক**েশর শ্রেণী**

প্রতিষ্ঠান/প্রকম্পের ঠিকানা

প্রদানের তারিখ মেয়াদ উত্তীর্ণের তারিখ : Irrigation Management Improvement Project

: Md Rafius Sazzad

252000

Construction/reconstruction/expansion of flood control embankment, polder, dike, etc.

: Red

PMU, IMIP-MIP, BWDB, WAPDA Building (7th Floor), Motijheel C/A, Dhaka-1000, Feni sadar, Feni

: ১৯/০৭/২০২১ খ্রিঃ : ২৯/১১/২০২২ খ্রিঃ



ছাড়পত্রটি যাচাই করতে ভিজিট করুন: http://ecc.doe.gov.bd/certificate_verification Page 1 of 3 সনাজকরণ নঃ ১২১০৫৫ Irrigation Management Improvement Project ছাড়পর নঃ: ২১-৬০৫৮৫ পরিবেশগত ছাড়পর নবায়ন এর জন্য প্রযোজ্য শতাবলী:

- ১ . পরিবেশ সংরক্ষণ বিধিমালা, ১৯৯৭ অনুযায়ী আলোচা প্রতিষ্ঠানটির অনুকৃলে পরিবেশ অদিদপ্তর, সদর দপ্তর হতে গত ৩০/১১/২০১৪ ব্রিঃ তারিখে DOE/Clearance/5287/2014/333 নং স্মারকমূলে জারীকৃত পরিবেশগত ছাতৃপত্তের সকল শতাবলী অপরিবর্তিত রেখে পরিচালক, পরিবেশ অধিনপ্তর, চট্টপ্রাম অঞ্চল কার্যালয়ের অনুযোদনক্রমে নিচলিখিত শর্তযুক্ত করে পরিবেশগত ছাতৃপত্র নবায়ন করা হলো।
- ২ ় এ ছাড়পত্র ওধুমাত্র সেচ প্রকল্প কার্যক্রমের জন্য প্রযোজ্য হবে।
- ত , প্রতিষ্ঠানের কার্যক্রম দ্বারা জনস্বার্থে ক্ষতি হলে ভজ্জন্য ক্ষতিপূরণ দিতে হবে। দৃষণ নিয়ন্ত্রণ ব্যবস্থা কার্যকর না থাকলে এবং এর ফলে পরিবেশ ও প্রতিবেশের ক্ষতি হলে Polluters Pay Principle অনুসারে ক্ষতিপূরণ ধার্য করা হবে এবং নির্ধারিত সময়ের মধ্যে ক্ষতিপূরণ দিতে হবে।
- 8 , মেয়াদ শেষ হওয়ার কমপক্ষে ৩০(ত্রিশ)দিন পূর্বে নবায়ন ফি প্রদানপূর্বক নবায়নের জন্য আবেদন করতে হবে।
- ৫ . বাংলাদেশ পরিবেশ সংরক্ষণ আইন, ১৯৯৫ এবং পরিরেবশ সংরক্ষণ বিধিমালা, ১৯৯৭ এ প্রদত্ত ক্ষমতাবলে ছাড়পত্র/নবায়ন পত্রের শর্তসমূহ Enforce
 করা হবে।
- ৬ . পরিবেশগত ছাড়পত্রের মূলকপি এবং পরিবেশগত ছাড়পত্র নবায়নের কপি সংরক্ষণ করতে হবে। পরিবেশ অধিদঙ্গরের এনফোর্সমেণ্ট টিম, পরিদর্শক ও পরিদর্শনের ক্ষমতা প্রান্ত অন্যান্য কর্মকর্জগনকে ছাড়পত্র/নবায়নপত্র প্রদর্শনসহ প্রয়োজনে প্রকল্পের কার্যক্রম পরিদর্শনে সর্বান্ত্রক সহযোগিতা প্রদান করতে হবে।

ছাড়প্রটি যাচাই করতে ভিজিট করুন: http://ecc.doe.gov.bd/certificate_verification Page 3 of 3

5.3 GRM LEAFLET







অত এলাকার সর্বসাধারণের অবগতির জন্য জানানো যাজে যে, কৃষি উৎপাদন ও খাদ্য নিরাপতা বৃদ্ধির মাধ্যমে দারিদ্র বিমোচনের লক্ষ্যে গণপ্রজাত হী বাংলাদেশ সরকার ও এশীয় উন্নয়ন ব্যাংকের অধীয়নে ফেনী জেলার সোনাগাজী, কুলগাজী, ছাগলনাইয়া, ফেনী সদর ও পরওরাম উপজেলায় এবং চউগ্রাম জেলার মিরসরাই উপজেলায় "মুহুরী সেচ প্রকল্প" শীর্ষক ও বছর মোয়ানী একটি প্রকল্প ২০১৪ সালের জুলাই থেকে বাস্তবায়িত হচ্ছে। বাংলাদেশ পানি উন্নয়ন বোর্ড, নির্মাণকালীন সেচ ব্যবস্থাপনা অপারেটর (সি-আইএমও) এর সহায়তায় ৪৬৭.১০ কোটি টাকা ব্যায়ে প্রকল্প কার্যক্রম বস্তবায়ন করছে।

প্রকল্পের লক্ষ্য ঃ

প্রকল্প কার্যক্রমের পরিকল্পনা, বাজবারন ও রক্ষণাবেক্ষণ কাজে সুবিধাভোগী জনগণের অংশগ্রহণের মাধ্যমে প্রকল্পের পানি সম্পানের

ইষ্টু বাবস্থাপনা নিশ্চিত করে উৎপাদন খরত কমানো এবং কসল উৎপাদনের নিবিভূতা বৃদ্ধি ও বাজার চাহিনার নিবিধে অধিক
কাভজনক বৈচিত্রময় ফসল প্রবর্তন করে কৃষিকে একটি সাজজনক শিল্পে পরিনত করা সহ খান্য নিরাপতা বৃদ্ধি ও দারিদ্রতা বিমোচন
করাই প্রকল্পের মূল লক্ষ্য।

প্রকল্পভুক্ত ভৌত অবকাঠামো ও অন্যান্য মূল কার্যক্রম ঃ

	২২.৬০ কিঃ মিঃ উপকৃশীয় বাঁধ পুনঃসংকরণ ও ৪৬০ কিঃ মিঃ খাল পুনঃখনন করা।
	৮৫০টি শক্তি চালিত পাম্প কীমের মাধ্যমে ১৭,০০০ হেঃ জমিতে সুষ্ঠু ভাবে সেচের পানি সরবরাহের জন্য ভূ-গর্ভস্থ ইউ পি ভি সি পাইপ শাইন স্থাপন এবং স্মার্টকার্ড ভিত্তিক প্রি -পেইড মিটার সিস্টেম প্রবর্তন করে সময়মত ও চাহিদা মাফিক সেচের পানি বন্টনের ব্যবস্থা করা।
	১৮০ কিঃ মিঃ বিকুৰে সরবরাহ লাইন উন্নত করা সহ আনুষ্কিক সরঞ্জাম সরবরাহ ও সংযোগ প্রদান।
	৪টি সুইস গেট পুনঃসংক্ষরণ, ২টি নতুন সুইস গেট নির্মাণ, ৩টি শানি নিয়ঙ্গ অবক্ঠামে পুনঃসংক্ষরণ এবং ৫টি নতুন পানি নিয়ন্ত্রন অবকাঠামো নির্মাণ।
	পরীক্ষামূলকভাবে পঞ্চশটি এলএলপি স্কীমে ভবিষ্যতে বিদ্যুৎ শক্তির পরিবর্তে সৌরশক্তি ব্যবহারের মাধ্যমে এলএলপি সালানোর সভাবতো পরীক্ষা করা।
П	দরিদ্র জনগণের কর্মসংখ্রানের শক্ষে। প্রকল্প স্থাকালীন মাটির কাজ সহ অন্যান্য কাজে তাদেরকে নিয়োজিত করা।
	কৃষিতে উন্নত, টেকসই ও আধুনিক প্রযুক্তি প্রসারের লক্ষ্যে কৃষকদেরকে এবং আর্থ সামাজিক উন্নয়নের জন্য সচেতনতা ও

অভিযোগ নিরসন পদ্বতি (Grievance Redress Mechanism) স্থাপন প্রসঙ্গে ঃ

কর্মদক্ষত। বৃদ্ধির লক্ষের দুঃস্থ মহিলাদেরকে প্রশিক্ষণ প্রদান করা।

উজ প্রকল্পের বিভিন্ন কার্যক্রম বাস্তবাহনের কলে য' ইত্রক্ত এলাকার প্রাকৃতিক পরিবেশ যথা মাটি, পানি, বায়ু ইত্যাদি নৃষিত হয়, কিংবা খাল পুনঃখননের মাটি/ আবর্জনা স্থাপাকারে রাখার ফলে যা অসতর্কভাবে খনন যক চলানোর ফলে অধিক পরিমানে বৃঞ্চ নিধন হয়, প্রকল্পে নিয়োজিত কোন প্রমিক কর্মচারীনের প্রাণ্য মন্থ্রী, আবাসন, খান্য, পানি ও সাস্থ্য, নিরাপনা ইত্যাদি সংক্রান্ত অধিকার ক্ষুন্ন হয় এবং জনগণের গান্তিপূর্ণ জীবন খালন বিদ্যিত হয়, তবে তার প্রতিকারের জন্য প্রকল্পের আওতাদীন আইএমতার উপজেলা ও জেলা পর্যায়ে একটি "অভিযোগ নিরসন পদ্ধতি" প্রতিষ্ঠিত করা হয়েছে। উল্লেখিত বিষয়ে প্রকল্পের অংশীদ রাদের কোন অভিযোগ ধাকলে তা নিরসনোর জন্য আইএমতার উপজেলা কিন্তু ম্যানেকার বরাবর লিখিত আবেদন করতে পারেন। যদি উপজেলা পর্যায়ে গৃহীত পিদ্ধান্ত অভিযোগকারী সন্তাই না হন, তবে তিনি কেনী জেলার এন,এস,কে রেছে অবস্থিত আইওমতার জেনারোল মানেকার বরাবর আর্থীল আবেদন পেশ করতে পারবেন

5.4 PLANTATION PLAN OF MIP UNDER IMIP, BWDB

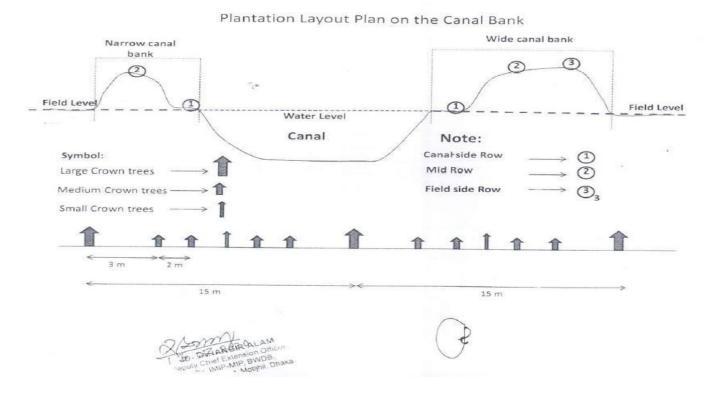
- 100. **Plantation Management:** Plantation is done by contractors following the procurement method, RFQ (Request for Quotation) over 3 years from 2018 to 2020. According to the contract the contractor will plant the saplings following the plantation plan (attached) prepared by PMU, IMIP. The contractor will plant at least 1m height sapling or the sapling should be at least 1 m during final counting after 18 months of plantation. Care and maintenance of planted Saplings will be upon the contractor before final counting and hand over to the Social Forestry Group (SFG) formed for each plantation site. Only the farmers having the land adjacent to the IMIP-MIP irrigation canal could be the member of SFG who will also be the members of local Water Management Organization (WMO). Before handing over the plantation to SFG, the care, maintenance, protection, watering, weeding, replanting/replacing the dead sapling will be done by the contractor. After handing over the care, maintenance, protection, replacement of dead saplings and pruning (if necessary) will be done by the SFG.
- 101. Harvesting and Benefit sharing: The rotation period of the plantation is primarily 10 years but it can be increased to 20 years if the beneficiaries agree to wait for a good harvest and maximize their benefit. In each plantation site the species has been selected by considering the Bangladesh Social Forestry Rules, BWDB Plantation Manual, Local demand of timber, interim return from the fruits, local demand of medicinal plant, conservation of rare and endangered tree species, tree species for supporting the local wild life by supplying food, shelter and breeding facilities. The species has been selected from 5 groups as follows-

Total =
species
(e) Fibre & flounces producing
(d) Rare and endangered species-
(c) Medicinal species -
(b) Fruit species-
(a) Timber species-

102. At the end of the rotation period 75% trees will be harvested and sold by PIU-MIP (XEN, FENI) and the benefit will be shared among the BWDB, IMO, SFG and Concerned Union Parishad according to the contract signed by four parties (given below).

(a) Social Forestry Group (SFG)	55 %
(b) Plantation fund of SFG	10 %
(c) Local Union Parishad	05 %
(d) IMO	10 %
(e) BWDB	20 %
Total =	100 %

103. 25% of total trees (a, b and c above) survived up to rotation end will be retained for supporting the local biodiversity. SFG members can take the brush wood and the fruits, fiber and flounces during the entire period of rotation.



Spacing from plant to plant along the row of the canal bank

l. No.	Row position	Species name	No of Saplings to be planted	Spacing from nearby plant	Spacing from same plant
1		Raintree/Gamar,	400	3 m	15m
2		Shilkoroi	100	3 m	15m
3	Canal Side Row	Chalta	50	3 m	50m
4		Gab	50	3 m	50m
5		Jambura	50	3 m	50m
7		Jam .**	100	2 m	50m
8		Jalpai/Tentul	50	2m	50m
9	Mid Row	Arjun	50	2m	50m
10		Amloki	50	2m	50m
1.1		Nim	100	2m	25m
12	Field side RoW	Akashmoni	1000	2m	2m
		Mangium	1000	2m	2m

Monitoring of plantation

104. 8000 trees out of 13000 are already handed over to the social forestry groups. No plantation was done during the reporting period. According to the contract agreement with the contractor a major portion of the contract amount is retained by the project which will be paid after counting and finding the sapling survived at least 100%. That's why the contractor monitor the plantation, water the saplings, engage a watchman for watching and protecting the saplings and replace the dead ones by a new one in the next rainy season. In order to ensure the survival of at least contracted number of saplings the contractor actually plant more tree saplings than the target. But C-IMO monitors and counts the sapling once in the dry season of the year and advice the contractor for replacing dead saplings if any. PMU safeguard officer also visits the plantation sites and monitors to ensure the plantation is done according to the plantation plan prepared by PMU Safeguard Cell.

5.5 DETAILS OF 34 RELOCATED SCHEMES IN TABULAR FORM

S.N	Package No	Scheme ID	Scheme Name	Union Name	Upazila Name	District Name	Gross Area (ha)		Total Length
1	CW-05	FGZ-71/1	South Boroia-5	Darbarpur	Fulgazi	Feni	*	*	*
2	CW-05	FGZ- 052/1	South Daulatpur-8	Fulgazisadar	Fulgazi	Feni	*	*	*
3	CW-05	FGZ- 159/1	Poithara- 4	Munshirhat	Fulgazi	Feni	*	*	*
4	CW-06	FGZ-90/1	South Daulatpur-7	FulgaziSadar	Fulgazi	Feni	18.23	18.23	655
5	CW-06	FGZ-113/1	South Dhormopur-2	Amzad Hat	Fulgazi	Feni	23.8	16	920
6	CW-07	FGZ-156/1	VobaniChowkbosta	Anandapur	Fulgazi	Feni	20	18.2	920
7	CW-05	FGZ-76/1	Monipur-4	Amzad Hat	Fulgazi	Feni	31.6	28.6	1605
8	CW-07	FGZ-158/1	South Dhormopur-3	GM Hat	Fulgazi	Feni	17.5	13.65	680
9	CW-07	FGZ-154/1	Hasanpur-2	Anandapur	Fulgazi	Feni	13.9	13.9	540
10	CW-07	FGZ-155/1	Hasanpur-3	Anandapur	Fulgazi	Feni	15.8	15.8	665
11	CW-06	FGZ-93/1	Bondua Daulatpur-4	Anandapur	Fulgazi	Feni	13.5	11.2	480
12	CW-07	PAR-23/1	Kolapara-2	ParsuramPour ashava	Parsuram	Feni	17.88	16.09	855
13	CW-05	CHL-99/1	West Madhugram-7	Radhanagar	Chhagalnaiya	Feni	31.96	26.46	1230
14	CW-07	CHL-187/1	Chhaygharia-2	Subhapur	Chhagalnaiya	Feni	26.39	21.11	1385
15	CW-07	CHL-223/1	South Kuhuma-4	Radhanagar	Chhagalnaiya	Feni	18.12	12	870
16	CW-07	CHL-247/1	South Mondia-8	Subhapur	Chhagalnaiya	Feni	11.00	10.12	705
17	CW-06	FSD-76/1	South Daulatpur	Dhalia	FeniSadar	Feni	16.67	12.5	795
18	CW-07	FSD-102/1	Boro Dhalia-4	Dhalia	FeniSadar	Feni	22.95	22.26	740
19	CW-07	FSD-116/1	Boro Dhalia-5	Dhalia	FeniSadar	Feni	12.86	10.29	570
20	CW-07	FSD-146/1	LemuaKosba	Lemua	FeniSadar	Feni	23.77	17.35	1000
21	CW-07	SON-72/1	Jitpur-2	Matigang	Sonagazi	Feni	12.37	10.02	540
22	CW-07	SON-68/1	Char Chandia-6	Char Chandia	Sonagazi	Feni	34.9	24.43	1370
23	CW-07	SON-71/1	Char Chandia-9	Char Chandia	Sonagazi	Feni	32.2	26.73	1290
24	CW-07	SON-106/1	Char Chandia-16	Char Chandia	Sonagazi	Feni	26.32	15.79	720
25	CW-06	SON-55/1	Charkalidash-7	Nawabpur	Sonagazi	Feni	15.42	14.96	595
26	CW-07	SON-98/1	Char Kalidash-8	Nawabpur	Sonagazi	Feni	21.44	19.51	845
27	CW-07	MIR-77/1	Ludda khali-1	Durgapur	Mirsarai	Chattogram	40.92	22.51	1180
28	CW-07	MIR-89/1	Ludda khali-2	Icchakhali	Mirsarai	Chattogram	29.59	21.6	1375
29	CW-07	MIR-98/1	Uttar Tazpur-1	katachara	Mirsarai	Chattogram	33.89	26.77	1310
30	CW-07	MIR-89/1	Luddakhali-3	Icchakhali	Mirsarai	Chattogram	*	*	*
31	CW-07	MIR-15/1	Purba Ichakhali-3	Ichakhali	Mirsarai	Chattogram	*	*	*
32	CW-07	MIR-21/1	South Bhuiyan	Ichakhali	Mirsarai	Chattogram	*	*	*
33	CW-07	MIR-28/1	Purba Ichakhali-5	Ichakhali	Mirsarai	Chattogram	*	*	*
34	CW-07	MIR-30/1	Sahebpur-08	Osmanpur	Mirsarai	Chattogram	*	*	*
						Total	682.9	546.08	26840

5.6 LIST OF SILTED UP KHALS SELECTED FOR EXCAVATION/RE-EXCAVATION BY GOB FUND

Number of Khal	SI. No	Name of Proposed khal	Upazila	Length of Khal (KM)	Estimated Vloume (Cum)
	1	Pathaghat Khal	Sonagazi	0.970	5193.46
	2	IR-5C Khal	Sonagazi	2.535	9623.25
	3	IR-7A & 8B Khal	Sonagazi	1.830	8011.48
	4	IR-8A Khal	Sonagazi	0.20	1026.90
	5	Gulla Khal	Sonagazi	0.995	13529.53
	6	IR-6A Khal	Sonagazi	1.87	7746.78
1.4	7	Huglee Khal	Sonagazi	3.20	18734.50
14	8	BokkorDangi Khal	Sonagazi	2.83	17486.21
	9	Mojupur Khal	Sonagazi	0.855	2998.95
	10	IR-13A & 13B Khal	Sonagazi	1.00	6572.30
	11	IR-5B Khal	Sonagazi	0.59	3898.68
	12	IR-8D Khal	Sonagazi	1.40	7723.4
	13	IR-13F Khal	Sonagazi	0.48	1626.69
	14	Daba Khal	Sonagazi	1.400	15919.45
		Sub-Total (Sonagazi)		20.155	120091.58
	15	IR-28A (Baromashi) Khal	Chhagalnaiya	0.25	1275.35
	16	Chikonchara IR-30A-2	Chhagalnaiya	0.20	799.65
	17	Dhaliachara Br. Of IR-31B Khal	Chhagalnaiya	0.15	3284.33
	18	Gouria Extension Khal	Chhagalnaiya	0.565	9233.03
	19	Kachagoraia IR-24A Khal	Chhagalnaiya	0.95	11546.88
	20	Nalua Khal	Chhagalnaiya	0.39	5531.27
	21	SonapurNapit Khal	Chhagalnaiya	0.29	2387.86
	22	South Mondia IR-31A-3 Khal	Chhagalnaiya	0.71	5176.8
	23	Mohamaya IR-24A Khal	Chhagalnaiya	0.84	12755.46
20	24	Morachara IR-24A Khal	Chhagalnaiya	0.50	5759.78
20	25	Chandgazi Khal	Chhagalnaiya	1.00	4817.99
	26	Highway Borrowpit Khal	Chhagalnaiya	0.10	536.25
	27	Gothia Khal (Part-A)	Chhagalnaiya	0.10	1028.4
	28	BadorMukam Khal	Chhagalnaiya	1.065	6069.26
	29	Andarmanik Khal	Chhagalnaiya	0.80	6539.2
	30	Branch of Kata Khal (New)	Chhagalnaiya	0.16	1488.81
	31	Branch of Aju Bhuiyan Khal (New)	Chhagalnaiya	0.36	3776.3
	32	Branch of Aju Kuhuma-01 (New)	Chhagalnaiya	0.92	9527.29
	33	Branch of Aju Kuhuma-02 (New)	Chhagalnaiya	0.10	518.55
	34	Durgapur Khal (New)	Chhagalnaiya	0.08	959.4
		Sub-Total (Chhagalnaiya)		9.530	93011.86
	35	IR-14C Khal	FeniSadar	1.55	8184.88
9	36	Farhadnagar Khal	FeniSadar	1.935	9519.58
	37	Kachua Khal	FeniSadar	1.16	1924.66

	38	IR-15C Khal	FeniSadar	1.42	5581.94
	39	Shibpur Khal	FeniSadar	0.87	5054.29
	40	Sreepur Khal	FeniSadar	0.60	1089.6
	41	Daudpur Khal (New)	FeniSadar	2.00	10006.6
	42	Sharasi Khal (New)	FeniSadar	1.60	6180.9
	43	Shaplachara-01 Khal (New)	FeniSadar	1.15	9384.55
		Sub-Total (FeniSadar)		12.285	56927.00
2	44	Gothia-1 Khal	Fulgazi	0.306	1696.83
2	45	Mohona Khal (New)	Fulgazi	0.51	8158.85
		Sub-Total (Fulgazi)		0.816	9855.68
	46	Cha Chuma Khal	Mirsarai	0.20	728.5
3	47	Churamoni Khal	Mirsarai	2.11	9802.51
	48	Sarang Khal	Mirsarai	0.90	3937.38
		Sub-Total (Mirsarai)		3.210	14468.39
			Grand Total=	45.996	294354.51

NB. 28 Khals are re-excavated till December, 2022

5.7 WATER QUALITY TEST REPORTS (SURFACE WATER) OF MIP, BWDB

Si. No. Name of Khal Acceptable Limit for Samitir Bazar Khal Boromashi khal Boromashi khal A Naluachara khal Kachua khal Kachua khal Naluachara khal Naluachara khal	Name of Khal sble Limit for Irr tir Bazar Khal mashi khal chara khal achara khal sb khal	o. Name of Khal Name of Upazila Acceptable Limit for Irrigation Water	The second secon		9	st Results of kr	Test Results of khal/canal Water			
	Limit for Interior In		Hd	Electrical Conductivity (EC)	Total Dissolved Solids (TDS)	Orthophosphate (PO4)	Sulphate (SO4)	Chloride (Cl ⁻)	Nitrate-Nitrogen (NO ₃ - N)	Arsenic (As)
	i khal a khal ra khal al		(Limit 6.5 - 8.5)	(Limit 2250 µ5/cm		(timit 10 mg/l	(Limit 1000 mg/l	(Limit 600 mg/l	(Limit	Limit 0.1 mg/l
	i khal s khal ra khal al		5.45	455	340	90.0	54	93	0.8	<0.001
	a khal ra khal nal		6.79	1120	555	26.8	<7>	99 '	0.8	0.002
	ra khai tai	- Chhagalnaiya	9.9	209	316	23.4	<7>	20	0.4	0.001
	led le		6.57	198	121	0.28	<7	16	0.4	<0.001
	le		6.62	950	501	14.5	<7>	888	0.4	0.001
			6.74	805	407	12.6	<7	7.0	0.4	<0.001
	hal	- Feni Sadar	6.76	623	368	0.54	<7	7.1	0.2	0.002
8 Gazaria khal	Ter		6.64	214	126	1.72	<7	18	0.3	<0.001
9 IR-13C khal	16		6.28	1472	695	95	<7	122.5	0.5	0.001
10 IR-13D khal	al		6.48	434	217	13	<7>	18	0.4	<0.001
11 IR-13G khai	a i	Sonagazi	6.44	884	434	06	<7	46	0.3	<0.001
12 Vor Bazar khal	khal		6.51	488	229	20.2	<7 >	38	0.4	<0.001
13 Gothia bazar khal	zar khal	Fulgazi	6.49	180	113	0.46	<7	18	0.4	<0.001
14 Churamoni khal	ni khal		6.52	507	279	69'0	<7	92	0.3	<0.001
15 Icchakhali khal	li khal	Mirsarai	6.52	444	239	0.34	<7	84	0.3	<0.001

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET) DEPARTMENT OF CIVIL ENGINEERING

Mobile: 01819 557 964; PABX: 55167100 Ext. 7226; http://brtctest.ce.buet.ac.bd

Bureau of Research, Testing & Consultation

ENVIRONMENTAL ENGINEERING LABORATORY

Ref. No.: IMO/WQ/2022/3750; Dt: 17/4/2022





FCG ANZDEC Ltd. (Newzealand) In association with BETS Consulting Service Ltd. & Bangladesh Engineers Pvt. Ltd.

Muhuri Irrigation Management Operator (C-IMO)

Company Sent by

Address Project

Muhuri Irrigation Project

: 18/4/2022 - 6/5/2022 Sample No.-1

Date of Test Sample Id

1102-59806 /21-22/CE; Dt: 18/4/2022

BRTC No.

Location: Samitir Bazar Khal, Chhagalnaiya Upazila, Feni

TEST REPORT (PHYSICAL/) CHEMICAL/ BACTERIOLOGICAL ANALYSIS OF WATER SAMPLE)

Source: Surface water (Khal)

			The second secon		
Si. No.	Water Quality Parameters	Unit	Concentration Present	Method of analysis	Minimum Detection Limit (MDL)
-	Ha		5.45	USEPA 150.1; SM 4500-H+ B	0
- 6	Flectrical Conductivity (FC) at 25°	uS/cm	455	USEPA 120.1; SM 2510 B	0.1
7 6	Total Dissolved Solids (TDS)	//wa//	340	USEPA 160.2; SM 2540 B - D	2
2 4	Orthophosphate (PO4) or Reactive Phosphate	l/bm	90.0	USEPA 365.1; SM 4500-PO4	0.04
- 45	Sulphate (SO4)	l/bm	54	USEPA 375.4; SM 4500-SO4	7
ی د	Chloride (CI-)	l/gm	93	USEPA 325.6; SM 4500-CI-	
2	Nitrate - Nitrogen (NO3 - N)	l/gm	8.0	USEPA 353.2; SM 4500-NO3-N-F	0.1
. 0	Arsenic (As)	llgm	<mdl< td=""><td>USEPA 206.2; SM 3113 B</td><td>0.001</td></mdl<>	USEPA 206.2; SM 3113 B	0.001
6		1		+	1
9	-	-	•	,===	

Comments: 1. Sample was supplied by CLIENT

2. Sample was received in sealed condition.

Important Notes: Samples as supplied to us have been tested in our laboratory. BRTC does not have any responsibility as to the representative character of the samples required to be tested. It is recommended that samples are sent in a secure and sealed cover/pack

Test Performed by

Countersigned by

Professor, Dept. of Civil Engg. Dr. A. B. M. Badruzzaman



Assistant Professor, Dept. of Civil Engineering

BUETCE 0 3 30 3 6 B

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET) DEPARTMENT OF CIVIL ENGINEERING

Mobile: 01819 557 964; PABX: 55167100 Ext. 7226; http://brtctest.ce.buet.ac.bd ENVIRONMENTAL ENGINEERING LABORATORY FCG ANZDEC Ltd. (Newzealand) In association with BETS Consulting Service Ltd. & Bangladesh Engineers Pvt. Ltd.

Muhuri Irrigation Management Operator (C-IMO)

Company Sent by

Address Project

Muhuri Irrigation Project

18/4/2022 - 6/5/2022 Sample No.-2

Date of Test Sample Id

: 1102-59806 /21-22/CE; Dt: 18/4/2022

BRTC No.

Ref. No.: IMO/WQ/2022/3750; Dt: 17/4/2022







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FEST REPORT (PHYSICAL/ CHEMICAL/ BACTERIOLOGICAL ANALYSIS OF WATER SAMPLE)

Source: Surface water (Khal)

SI. No.	Water Quality Parameters	Chilt	Concentration Present	Method of analysis	Minimum Detection Limit (MDL)
-	Hd		6.79	USEPA 150.1; SM 4500-H+ B	0
2	Electrical Conductivity (EC) at 25°	mS/cm	1120	USEPA 120.1; SM 2510 B	0.1
3	Total Dissolved Solids (TDS)	l/gm	555	USEPA 160.2; SM 2540 B - D	S
4	Orthophosphate (PO4) or Reactive Phosphate	l/gm	26.8	USEPA 365.1; SM 4500-PO4	0.04
5	Sulphate (SO4)	l/gm	<wdl< td=""><td>USEPA 375.4; SM 4500-SO4</td><td>7</td></wdl<>	USEPA 375.4; SM 4500-SO4	7
9	Chloride (CI-)	l/gm	99	USEPA 325.6; SM 4500-CI-	•
7	Nitrate - Nitrogen (NO3 - N)	∥gш	0.8	USEPA 353.2; SM 4500-NO3-N-F	0.1
8	Arsenic (As)	l/gm	0.002	USEPA 206.2; SM 3113 B	0.001
6		-		<u></u>	1
10	1	1			
A STATE OF THE PERSON NAMED IN					

Comments: 1. Sample was supplied by CLIENT 2. Sample was received in sealed condition.

be tested. It is recommended that samples are sent in a secure and sealed cover/pack

Important Notes: Samples as supplied to us have been tested in our laboratory. BRTC does not have any responsibility as to the representative character of the samples required to

Assistant Professor, Dept. of Civil Engineering Snigdha Afsana

Countersigned by:

Professor, Dept. of Civil Engg. Dr. A. B. M. Badruzzaman

5.8 FITNESS CERTIFICATE OF C-IMO JEEP, BWDB



Bangladesh Water Development Board

প্রকল্প পরিচালকের দপ্তর
পিএমইউ, সেচ ব্যবস্থাপনা উন্নয়ন প্রকল্প (আইএমআইপি)মূহুরি সেচ প্রকল্প (এমআইপি)
বাংলাদেশ পানি উন্নয়ন বোর্ড
ওয়াপদা ভবন (৮তলা)
মতিঝিল বা/এ, ঢাকা-১০০০।
টেলিফোন নং: +৮৮০২২২২৩৮০৩২১
ইমেইল: pd.imip.bwdb@gmail.com



Office of the Project Director
PMU, Irrigation Management
Improvement Project (IMIP)
For Muhuri Irrigation Project (MIP)
Bangladesh Water Development Board
Wapda Building (7th Floor)
Motijheel C/A, Dhaka-1000
Phone No.: +8802223380321
E-mail: pd.imip.bwdb@gmail.com

Memo no: PD-IMIP/E-3/841 Date: 04/01/2023

GM/DGM C-IMO, Feni

Subject: Screening Representative Monitoring Points and quantitative testing of Soil and Ground Water parameters within the MIP command area under IMIP, BWDB

Dear Sir,

This is to inform you that as per IEE and Aid Memoire prepared during last ADB mission the Soil and water toxicity within MIP command area under IMIP are required to be tested from the Representative Monitoring Points (at least 1 monitoring points in each of 6 Upazilas) for revising the IEE report of MIP and monitoring the changes over operation period of MIP.

You are requested to take necessary actions to screen & testing environmental parameters for Soil and Ground Water.

This is very urgent.

With regards.

(Md Rafius Sazzad, Peng.)

Addl. Chief Engineer

Project Director PMU, IMIP-MIP, BWDB, Dhaka

Copy: forwarded for information/ and necessary action-

- 1. ADG, Planning, Design and Research, BWDB, Dhaka.
- 2. Director, PIU, Feni O&M Division, BWDB, Feni
- 3. Deputy Chief (Agriculture), PMU, IMIP-MIP, BWDB, Dhaka.
- 4. Farhat Jahan Chowdhury, ADB, BRM, Agargaon, Dhaka,
- Office Copy.

5.10 FIRST WARNING TO CONTRACTORS FOR NON-COMPLIANCE DURING PHYSICAL WORKS

Bangladesh Water Development Board

প্রকল্প পরিচাশকের দপ্তর
পিএমইউ, সেচ ব্যবছাপনা উন্নয়ন প্রকল্প (আইএমআইপি)মুহরি সেচ প্রকল্প (এমআইপি)
বাংলাদেশ পানি উন্নয়ন বোর্ড
ওয়াপদা ভবন (৮তলা)
মতিবিংল বা/এ, ঢাকা-১০০০।
টেলিফোন নং: +৮৮০২২২৩৬৮০৩২১
ইমেইল: pd.imip.bwdb@gmail.com



Office of the Project Director PMU, Irrigation Management Improvement Project (IMIP) For Muhuri Irrigation Project (MIP) Bangladesh Water Development Board Wapda Building (7th Floor) Motijheel C/A, Dhaka-1000 Phone No.: +8802223380321 E-mail: pd.imip.bwdb@gmail.com

Memo no: PD-IMIP/E-3/925 Date: 23/01/2023

Mr. Mladen Bilinc,

Country Manager, Ludwig Pfeiffer, Germany

Subject: First Warning for Environmental and Social Non-compliance during construction of physical works under contract agreement (package No. CW: 6 and CW: 7) with IMIP-MIP, BWDB

Dear Sir.

This is to inform you that as per contract agreement with BWDB (package No. CW: 6 and CW: 7), you are obliged to comply the Environmental Health and Safety (EHS) issues of MIP under IMIP, BWDB. In the initial 2 years your farm has been found to comply the following EHS issues satisfactorily but over the last year PMU Safeguard Monitoring Team found the following non-compliance issues in the construction sites during their safeguard monitoring visits.

- (1) No Health and sanitation materials, PPE, Safety gears, Safety Jacket, Helmets, First Aid Box etc. have been supplied to/used by the labors/workers during construction.
- (2) Neither any ambulance was found standby in the construction site nor healthy accommodation, potable water, mosquito nets, blankets, sanitary toilets and etc. were supplied to the labors/workers. Some child labors were also found to work in the sites.
- (3) Many long trenches were found open without providing proper signage and movement facilitates/provisions for local pedestrians, farmers, cattle & power tillers and in most cases the uPVC pipes have been laid down without leveling and filling by sand which are direct breach of contract agreements (Attachment -1).

Your field engineers/representatives were requested repeatedly over the last year by PMU, BWDB field office and C-IMO field staff to comply the EHS and safeguards but the situation has not improved satisfactorily. You are requested to take prompt actions to comply the above mentioned issues otherwise you will be declared non-compliant which may bar your farm from working further with BWDB and ADB funded projects.

With regards.

(Md Rafius Sazzad, Peng.)
Addl. Chief Engineer &
Project Director

PMU, IMIP-MIP, BWDB, Dhaka

Memo no: PD-IMIP/E-3/925/1(6) Date: 23/01/2023

Copy: forwarded for information/ and necessary action-

- ADG, Planning, Design and Research, BWDB, Dhaka.
- 2. Executive Engineer, Feni O&M Division & PIU, IMIP-MIP, BWDB, Feni.
- 3. PMU Safeguard Officer, IMIP-MIP, BWDB, Dhaka.
- 4. GM/ DGM, C-IMO, Feni.
- Office Copy.

Bangladesh Water Development Board

প্রকল্প পরিচাশকের দপ্তর
পিএমইউ, সেচ ব্যবছাপনা উন্নয়ন প্রকল্প (আইএমআইপি)মূহুরি সেচ প্রকল্প (এমআইপি)
বাংলাদেশ পানি উন্নয়ন বোর্ড
ওয়াপদা ভবন (৮তশা)
মতিঝিল বা/এ, ঢাকা-১০০০।
টেলিফোন নং: +৮৮০২২২২৩৬৮০৩২১
ইমেইল: pd.imip.bwdb@gmail.com



Office of the Project Director PMU, Irrigation Management Improvement Project (IMIP) For Muhuri Irrigation Project (MIP) Bangladesh Water Development Board Wapda Building (7th Floor) Motijheel C/A, Dhaka-1000 Phone No.: +8802223380321 E-mail: pd.imip.bwdb@gmail.com

Memo no: PD-IMIP/E-3/932

Date: 25/01/2023

Mr. Rabiul Alam,

Managing Director, Energypac, Engineering Ltd. Tejgaon I/A, Dhaka.

Subject: First Warning for Environmental and Social Non-compliance during construction of physical works under contract agreement (package No. CW: 4) with IMIP-MIP, BWDB

Dear Sir.

This is to inform you that as per contract agreement with BWDB (package No. CW**) you are obliged to comply the Environmental Health and Safety (EHS) issues of MIP under IMIP, BWDB. In the initial years your farm has been found to comply the following EHS issues satisfactorily but over the last year 2 years PMU Safeguard Monitoring Team found the following non-compliance issues in the construction sites during their safeguard monitoring visits.

- (1) No Health and sanitation materials, PPE, Safety gears, Safety Jacket, Helmets, First Aid Box etc. have been supplied to/used by the labors/workers during construction.
- (2) Neither any ambulance was found standby in the construction site nor healthy accommodation, potable water, mosquito nets, blankets, sanitary toilets and etc. were supplied to the labors/workers. Some child labors were also found to work in the sites.
- (3) Long electrical lines were found without proper signage and movement facilitates/provisions for local pedestrians, farmers, cattle &. power tillers

Your field engineers/representatives were requested repeatedly over the last year by PMU, BWDB field office and C-IMO field staff to comply the EHS and safeguards but the situation has not improved. You are requested to take prompt actions to comply the above mentioned issues otherwise you will be declared non-compliant which may bar your farm from working further with BWDB and ADB funded projects.

With regards.

Md Rafius Sazzad, Peng.

Addl. Chief Engineer & Project Director

PMU, IMIP-MIP, BWDB, Dhaka

Date: 25/01/2023

Memo no: PD-IMIP/E-3/932/1(6)

Copy: forwarded for information/ and necessary action-

1. ADG, Planning, Design and Research, BWDB, Dhaka.

- 2. Executive Engineer, Feni O&M Division & PIU, IMIP-MIP, BWDB, Feni.
- 3. PMU Safeguard Officer, IMIP-MIP, BWDB, Dhaka.
- 4. Farhat Jahan Chowdhury, ADB, BRM, Agargaon, Dhaka,
- 5. GM/ DGM, C-IMO, Feni.
- 6. Office Copy.

5.11 Participants list of SCM at 4 Relocated schemes at Mirswarai, Chattagram

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5.12 Participants of demonstration program conducted in the reporting period

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8	कामान विभिन्न	मुंठं क्रियाक	ų	*-4	01825215978	300 (Three Hundred Taka Only)	100 (One Hundred Taka Only)	2619/1003/20T
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5.13 DESIGN AND LAYOUT PLAN OF THE PROPOSED ELECTRICAL SUBSTATION

The layout plan and design of the proposed 33/11 KV Electrical substation for MIP under IMIP, BWDB is attached below

