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December 2019

**Southwest Area Integrated Water Resources
Planning and Management Project -
Additional Financing**

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GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

Ministry of Water Resources



Bangladesh Water Development Board
Southwest Area Integrated Water Resources Planning and Management Project
-Additional Financing
[ADB Loan No. 3302 (SF) & GON Grant No. 0441 (EF)]

Semi-Annual Environmental Monitoring Report for period
July-December 2019



*"Workers with PPE at work site of Construction of Boroitala WMG training center,
Kalidaskhali-Arpara sub-project"*

Joint venture of



December 2019



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Executive Summary

The Southwest Area Integrated Water Resources Planning and Management Project-Additional Financing (SAIWRPMP-AF) financed by Asian Development Bank (ADB) Ministry of Water Resources formally started on 1st July 2015 with the strategic objective to achieve sustainable O&M of the project through sharing the management of the water infrastructure with the stakeholders for improving economic growth and reducing poverty. The project will be completed by 30 June 2022 as per approved DP.

The project contains 11 subproject areas namely, Beel Sukunia, Daduria – Kandor Beel, Alfadanga-Boalmari, Chatler-Fakurhat, Kalidaskhali-Arpara, Horai-River, Bamankhali-Barnali, Purulia-Charbhatpara, Arol Beel and Sunamukhi-Banmander (to be replaced by another similar project as this area found to be 48,000 ha, which is more than maximum 14,000 ha net) . The project aims at developing Integrated Water Resources Management (IWRM) system based on the strategy adopted for the additional sub-region in the Southwest areas of Bangladesh that covers 18 Upazilas in six Districts of Faridpur. These are Faridpur, Rajbari, Magura, Jessore, Narail and Gopalganj with a total envisaged coverage of 83,996 ha gross area to be implemented plus another 2 Sub-projects under Jessore district for which IWMP to be prepared but will not be implemented under this project.

The subprojects of SAIWRPMP-AF may have some small and localized adverse environmental impact only during construction period which can be mitigated by appropriate mitigation measures proposed in the environmental management plan (EMP).

The sub-project areas under SAIWRPMP-AF fall in the “Red category” according to the Environmental Conservation Act of 1995, and the Environmental Conservation Rule of 1997 of the Government of Bangladesh. Therefore EIA/EMP studies of the sub-project areas have been completed and submitted to GoB authority (DoE) for endorsement.

This report covers major developments and achievements during the period July-December 2019.

1. INTRODUCTION

1.1 Background

The Southwest Area Integrated Water Resources Planning and Management Project-Additional Financing (SAIWRPMP-AF) aim at the improvement of the performance of existing flood control and drainage/ irrigation (FCD/I) systems and to enhance the livelihoods of the affected rural people through (i) preparing participatory integrated water management plans (IWMPs) for the selected systems; (ii) delivering improved water management infrastructure and support services for agriculture, fishery development and gender & livelihood enhancement support activities; and (iii) strengthening institutions for sustainable O&M. The overall objective is to achieve sustainable O&M of the FCD/I schemes by sharing the management of the water infrastructure with the stakeholders for better management and improved economic growth and reduced poverty in the area.

The project contains 11 subproject areas namely, Beel Sukunia, Daduria–Kandor Beel, Alfadanga-Boalmari, Chatler-Fakurhat, Kalidaskhali-Arpara, Horai-River, Bamankhali-Barnali, Purulia-Charbhatpara, Arol Beel and Sunamukhi-Banmandar (omitted). The project aims at developing Integrated Water Resources Management (IWRM) systems based on the strategy adopted for the additional sub-region in the Southwest areas of Bangladesh that covers 18 Upazilas in six districts of Faridpur, Rajbari, Magura, Jessore, Narail and Gopalganj with a total envisaged coverage of 108,636 ha (to be reduced omitting Sonamukhi-Banmandar-not acceptable by ADB as the area exceeds selection criteria which is less than 14,000 ha net whereas the area found is 48,000 ha gross). 9 nos. subprojects will be implemented under the present project (SAIWRPMP-AF). 7 nos. for which feasibility already done under phase-1 plus 2 subprojects (BB & PC) will be implemented after preparation of IWPM.

Subproject areas

The project entails implementation of seven IWRM plans outlined in Feasibility Studies that have been prepared in 2013. The total gross area of seven subprojects is 63,058 ha (net 49,425 ha). These seven FCD/I schemes are:

- i. Beel Sukunia Subproject is located in Faridpur Sadar and Nagarkanda Upazila under Faridpur District;
- ii. Daduria Beel Subproject is located in Boalmari Upazila under Faridpur District;
- iii. Kandor Beel Subproject is located in Boalmari Upazila under Faridpur District;
- iv. Alfadanga-Boalmari Subproject is located in Alfadanga Upazila under Faridpur District;
- v. Chatler-Fakurhat Subproject is located in Sadarpur and Bhanga Upazila under Faridpur District;
- vi. Kalidaskhali-Arpara Subproject is located in Shalikhah Upazila under Magura District;
- vii. Horai River Subproject is located in Rajbari Sadar, Baliakandi and Kalukhali Upazila under Rajbari District;

In addition to the above seven subprojects, IWM studies are foreseen in four subproject areas whose IWMP will be prepared but only two will be implemented (Bamankhali Barnali gross area 16,800 ha and net 13,000 ha and Purulia Charbhatpara a gross area of 1270 ha, net 1,000 ha) having a total gross area of 18,070 ha and net 14,500 ha), that will involve simple

interventions like repair work of some structures and re-excavation of khal, re-sectioning of embankment. These four subprojects are:

- i. Purulia-Charbhatpara Subproject is located in Kashiani Upazila under Gopalganj District;
- ii. Bamonkhali-Barnali Subproject is located in NarailSadarUpazila under Narail District, and Shalikha and Magura SadarUpazila under Magura District;
- iii. Arol Beel Subproject is located in Chougacha, Jessore Sadar and JhikorgachaUpazila under Jessore District; This will not be implemented under present project.
- iv. Sonamukhi-Banmandar: This sub-project area has been omitted because of its large size beyond selection criteria detected while surveying the SP area.

The IWM plans of only two of these subproject areas will be implemented under Southwest-AF. Those are Purulia-Charbhatpara and Bamonkhali-Barnali. The other one (Arol Beel) will be implemented under separate project.

The sub-projects of SAIWRPMP-AF may have some small and localized adverse environmental impact during construction period which can be mitigated by appropriate mitigation measures, to be proposed in the environmental management plan (EMP). The construction of new embankment and repair/renovation of existing embankments, as well as construction of new structures/regulators and repair/renovation of existing structures/regulators, have its associated environmental impacts that require due consideration during project design and implementation.

Furthermore, the project will formulate the TOR of a Feasibility Study in Tungipara and Kotalipara Upazila's of Gopalganj District suffering from drainage congestion. This Draft Feasibility Study has been completed and awaiting finalization in respect of comments received in the presentation on presentation held on 29 December, 2019.

Lastly, the project will support the Water Management Organizations that have been established in Narail and Chenchuri Beel during phase-1. A map of the new subproject areas is shown in **Figure 1**.

Southwest Area Integrated Water Resources Planning and Management Project-Additional Financing

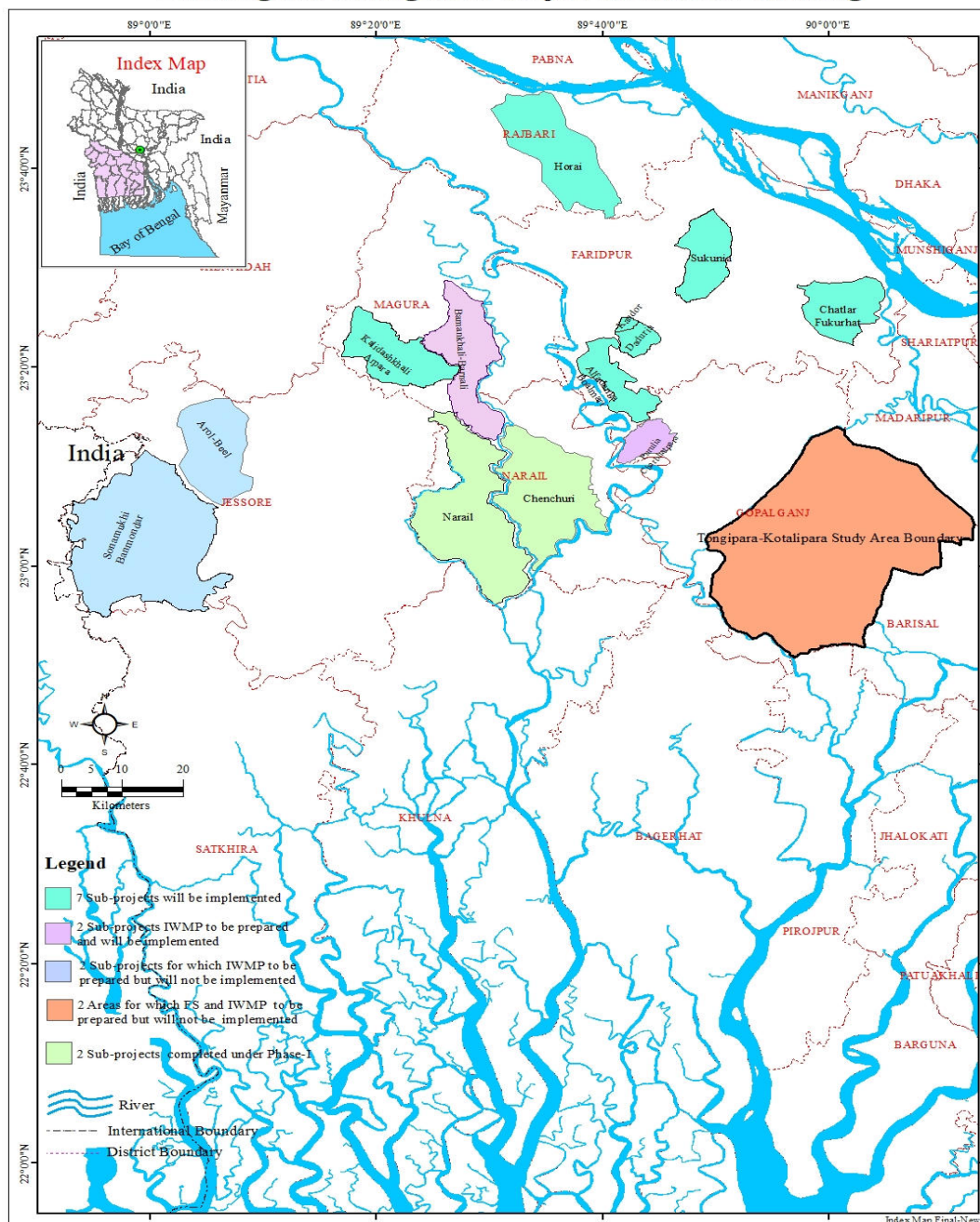


Figure 1: Map showing the subproject areas

1.3 Environmental Category as per ADB Safeguard Policy Statement 2009

Project implementation has been progressing in compliance with the requirements of ADB and national laws and regulations of Bangladesh. The project falls under Category B as per ADB Safeguard Policy Statement 2009.

1.4 Environmental Category of each subproject as per National Laws and Regulations

The project falls under Category 'Red' according to the Environmental Conservation Act of 1995 and the Environmental Conservation Rule of 1997 of Government of Bangladesh. In compliance, the project has already procured Environmental Clearance Certificate (ECC) from Department of Environment, Government of Bangladesh.

1.5 Project Safeguard Team

Project Implementation has started in June 2017 and all Civil Works are now in the implementation stage. The respective divisions have been charged with monitoring the implementation of the Environment Management Plan (EMP).

1.6 Reporting Period

This report covers major developments and achievements during the period July – December 2019.

1.7 Brief description of subprojects

The project has different categories of subproject areas. These are briefly described below.

1.7.1 Phase-1 subproject areas of Narail and Chenchuri Beel.

The subproject areas of Narail (NSP) and Chenchuri beel (CSP) and their interventions are briefly described below.

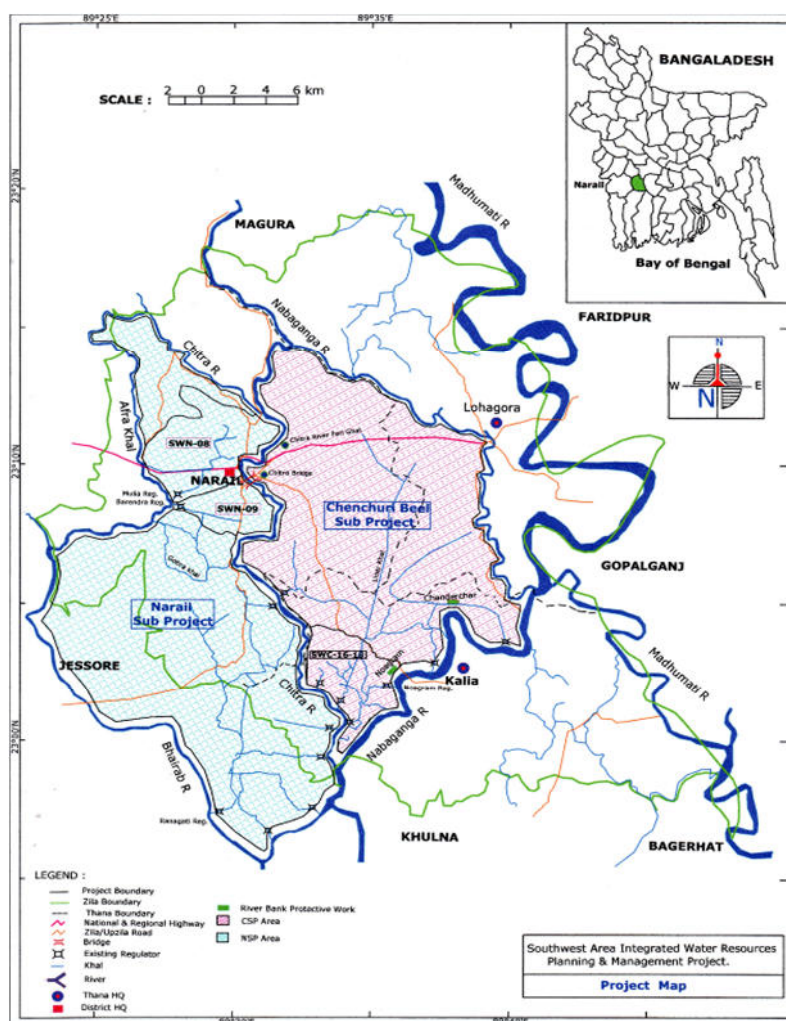
The current project does not foresee any substantial construction works and focuses on capacity development of the WMOs established during phase-1 of the project. Hence, environmental monitoring does not apply to these areas.

Narail subproject area

Location and description	The area covers 31,600 ha gross spread over the District of Narail (Final area 20,000 ha by omitting areas already taken up by LGED).
FCD first completed	1985
Main interventions implemented	<ul style="list-style-type: none"> • Rehabilitation of 9 regulators + 3 new • Excavation of khals: 125 km • Re-sectioning embankment: 13 km • Rural road up gradation: 4.50km.
Nr. WMOs developed	7 WMAs; 43 WMGs
Status of implementation	<ul style="list-style-type: none"> • Organizational support is being given to WMOs under after care programme.

Chenchuri Beel Subproject

Location and description	The area covers 20,000 ha gross spread over the District of Narail and Jessore by omitting area already taken up by LGED.
FCD first completed	1986
Main interventions implemented	<ul style="list-style-type: none"> • Rehabilitation of 7 regulators + 2 new • Excavation of khals: 121 km • Re-sectioning embankment: 17 km • Retired embankment: 2.30 km (Chander Char& Noagram) • Permanent river bank revetment: 1,350 m Chander Char+500 m at Islampur.
Nr. WMOs developed	7 WMAs; 59 WMGs under Chenchury beel sub-project.
Status of implementation	Organizational support to WMOs under After Care programme.

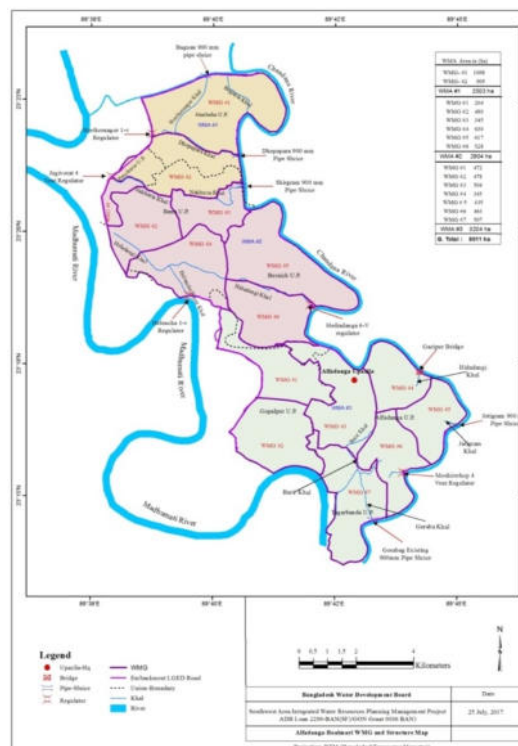


1.7.2 Rehabilitation of water infrastructure and WMO development for Additional Financing

Substantial civil works and formation and development of WMOs and Subunit implementation plans are planned for these areas. The concerned subproject areas and their planned interventions are briefly described below. Environmental monitoring will focus on these areas, but the construction works have not started to date.

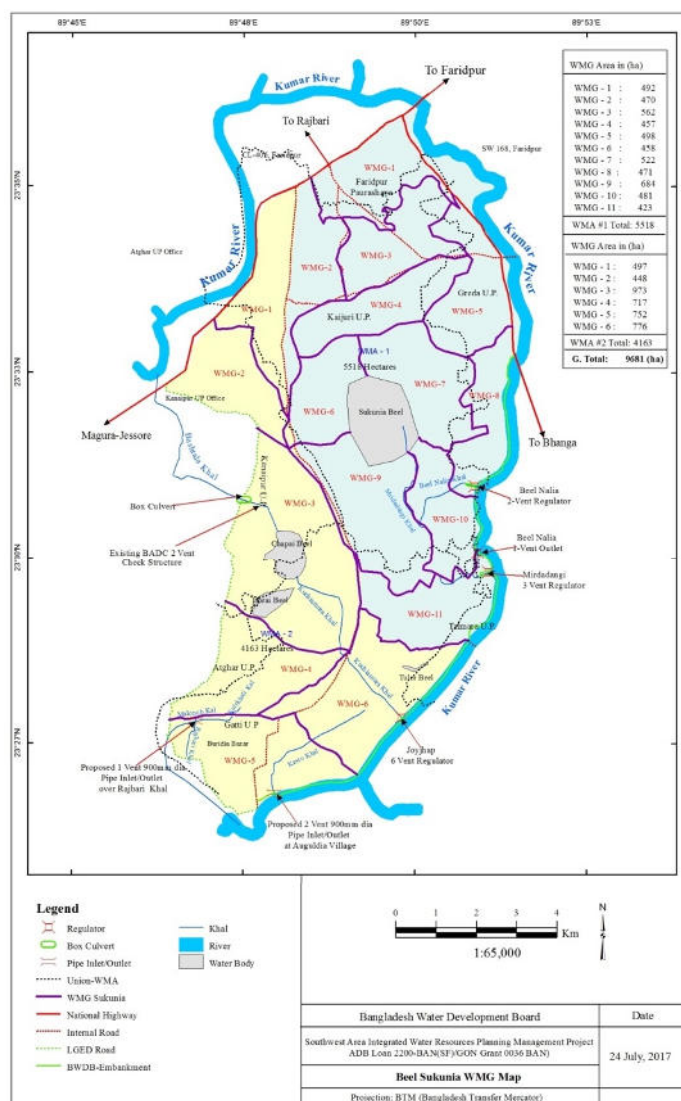
Alfadanga-Boalmari Sub-Project

Location and description	The Alfadanga-Boalmari sub-project covers a gross area of 8,011 ha, of which 6,632 ha is cultivated. Administratively the sub-project is part of the Alfadanga and Boalmari Upazilas of the Faridpur district. The sub-project area is covered by seven unions namely Alfadanga, Banai, Buraich, Gopalpur, Pachuria, Togorbondh of Alfadanga Upazila and Gunabazar of Boalmari Upazila.
FCD first completed	1972
Main interventions planned	<ul style="list-style-type: none"> • Rehabilitation of 9 regulators & 2 new • Rehabilitation of 3 inlets + 1 new • Excavation of khals: 32 km • Re-sectioning embankment: 2.592 km • Retired embankment: 1.45 km
Nr. WMOs planned	3 WMAs; 32 WMGs formed, Target 32, 100% complete.
Status of implementation	<ul style="list-style-type: none"> • Designs have been prepared and tendered for a retired embankment • Plan for Land Acquisition has been submitted to Deputy Commissioner • Resettlement plan has been prepared • Civil works are in progress



BeelSukunia Sub-Project

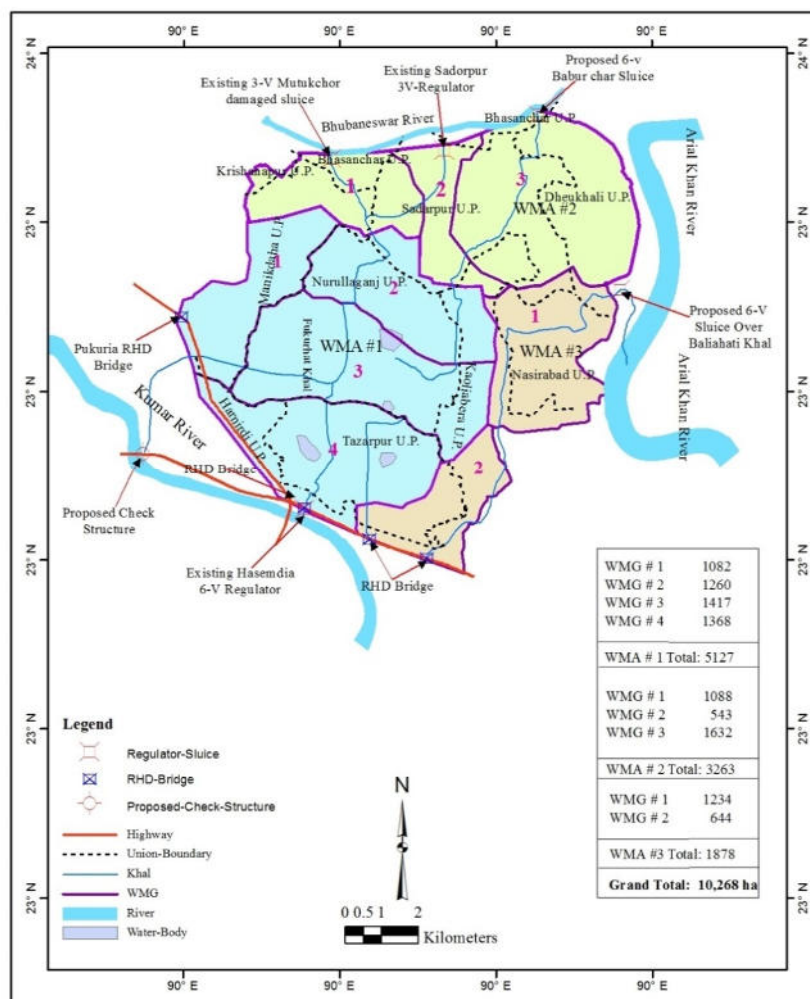
Location and description	The Beel Sukunia sub-project covers a gross area of 9,681 ha, of which 7,933 ha is cultivated. Administratively the sub-project is part of the FaridpurSadar and NagarkandaUpazilas of the Faridpur district. The sub-project area is covered by six unions namely Kaijuri,Greda,Kanaipur,Atghar,Balli and Talma as well as FaridpurPaurashava which is part of the Faridpur Municipality.
FCD first completed	Late 1980s
Main interventions planned	<ul style="list-style-type: none"> • Rehabilitation of 2 regulators and 1 new • Rehabilitation/ new inlets: 1 • Excavation of khals: 19 km
Nr. WMOs planned	2 WMAs; 37 WMGs formed, Target 40.
Status of implementation	<ul style="list-style-type: none"> • WMO formation is in progress • Civil works are in progress



Chatler-Fakurhat Sub-Project

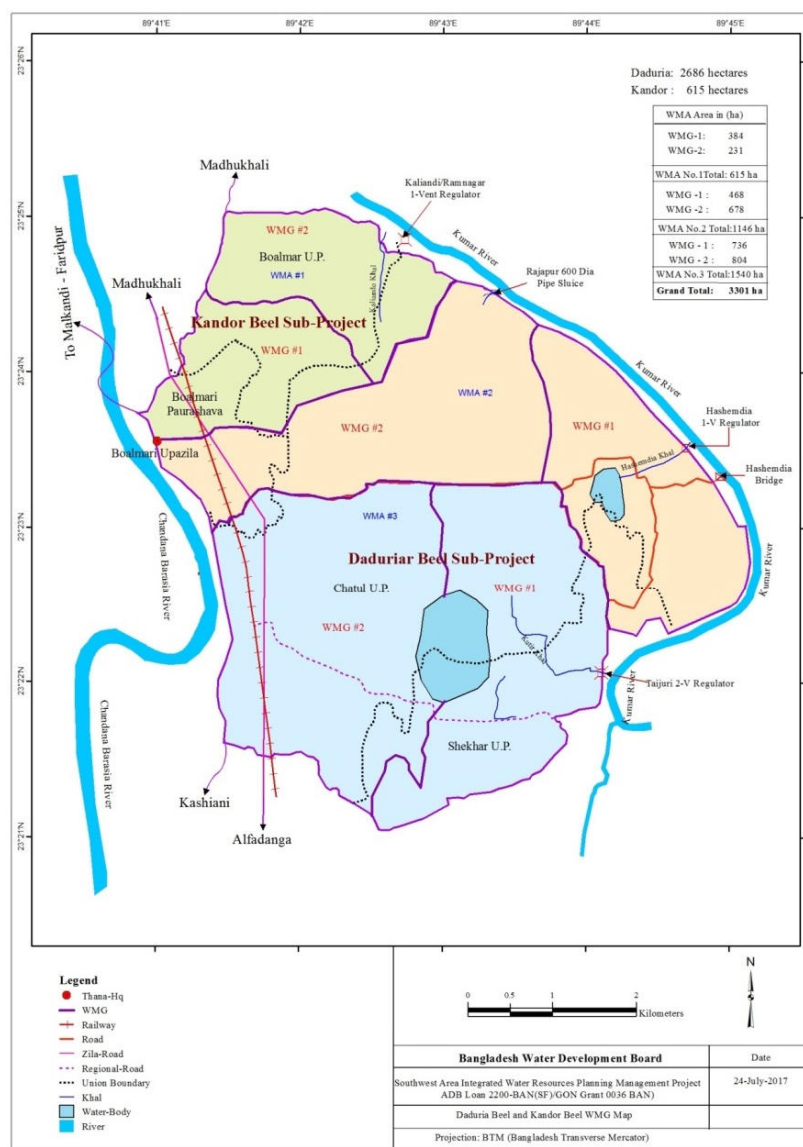
Location and description	The Chatler-Fakurhat sub-project covers a gross area of 10,268 ha, of which 8,092 ha is cultivated. Administratively the sub-project is part of the Sadarpur&BhangaUpazilas of the Faridpur district. The sub-project area is covered by (13) thirteen unions namely NurulGonj, Kaulibera,Tujarpur, Chandra, Gharua, Nasirabad, Manikdaha, Krishnapur, Hamirti, Bhasanchar, Sadarpur, Dheukhali&BhangaPourashava..
FCD first completed	1963
Main interventions planned	<ul style="list-style-type: none"> • New check structure: 4 nos. • Excavation of khals: 62 km
Nr. WMOs planned	3 WMAs; 37 WMGs formed, Target 40 WMG.
Status of Implementation	<ul style="list-style-type: none"> • WMO formation in progress • Civil works are in progress

South-West Area Integrated Water Resources Planning and Management Project
Chatler-Fakurhat WMG Map (9 WMGs)



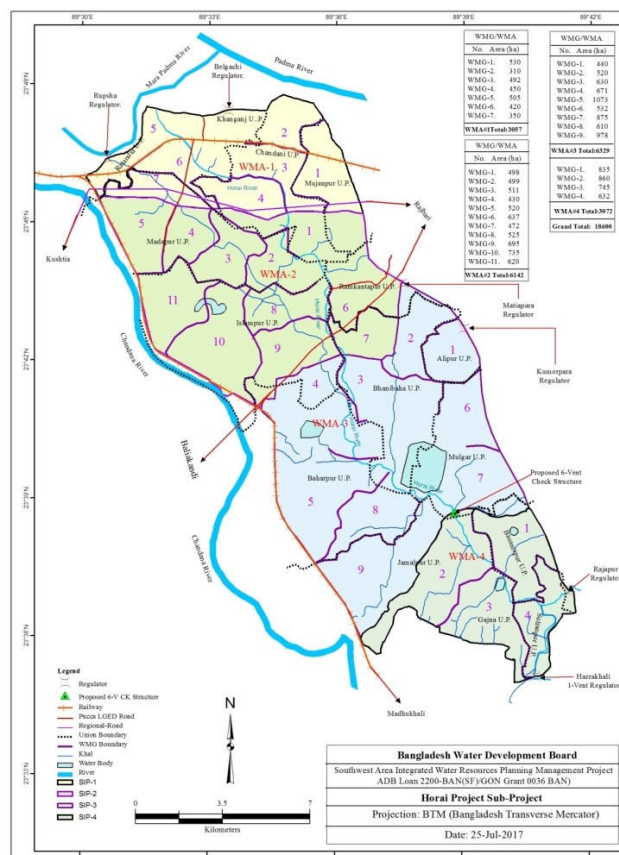
Daduria-KandorBeel Sub-Project

Location and description	The Daduria Beel and Kandor Beel sub-project covers a gross area of 3,301 ha, of which 2,388 ha is cultivated. Administratively the sub-project is part of the Boalmari Upazila of the Faridpur district. The sub-project area is covered by three unions namely Boalmari, Chatul and Shekharbazar.
FCD first introduced	1993
Main interventions planned	<ul style="list-style-type: none"> • Rehabilitation of 1 regulators • Rehabilitation/ new inlets: 1 new • Excavation of khals: 9 km • Culvert/Bridge: 2 nos.
Nr. WMOs planned	3 WMAs; 13 WMGs formed, target 13, 100 % complete.
Status of implementation	<ul style="list-style-type: none"> • WMO formation is in progress • Civil Works are in progress



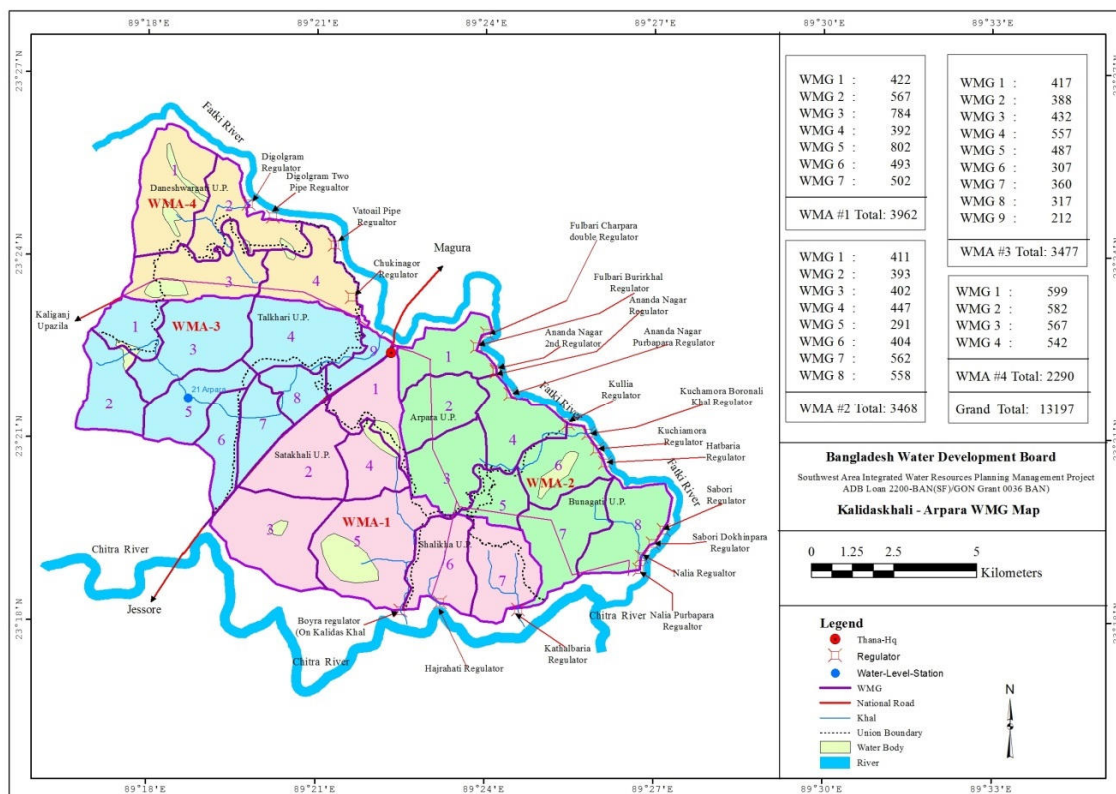
Horai River Sub-Project

Location and description	<p>The Horai River Scheme covers a gross area of 21,100 ha. Within this area there are 4(four) LGED sub-projects namely Khordadapur WC sub-project (500 ha), Sub-project 4114 (600 ha).Sub-project 4121 (1000 ha) &Koldanga Bethulia WC sub-project (400 ha). In total LGED project covers 2500 ha.</p> <p>Hence, the net command area under present Horai River Sub-project is $(21,100-2,500)=18,600$ ha, of which 13,764 ha is cultivable. Administratively the sub-project is part of the RajabariSadar, Baliakandi & Kalukhali Upazilas of the Rajbari district. The sub-project area is covered by (13) thirteen unions namely Khangonj, Chandoni, Mirzanpur, Banibaha, Alipur, Mulghar, Bashantapur&Ramkantapur unions of RajbariSadarUpazila, Jamalpur, Baharpur, Islampur&Modhapur unions of BaliakandiUpazila&Ratondia union of KalukhaliUpazila.</p>
FCD first introduced	1990s
Main interventions planned	<ul style="list-style-type: none"> Rehabilitation of 6 regulators and construction of new Weir: 1 no. Check structures: 2 new Excavation of khals: 128.74 km
Nr. WMOs planned	4 WMAs; 52 WMGs formed, Target 53.
Status of implementation	<ul style="list-style-type: none"> WMO formation is n progress. Civil Works are in progress.



Kalidaskhali-Arpara Sub-Project

Location and description	The Kalidaskhali-Arpara sub-project covers a gross area of 13,197 ha, of which 10,616 ha is cultivated. Administratively the sub-project is part of the SalikhaUpazila of the Magura district. The sub-project area is covered by (6) six unions namely Talkhari, Dhaneshworgati, Arpara, Shatokhali, Salikha&Bunagati of SalikhaUpazila.
FCD first introduced	1993
Main interventions planned	<ul style="list-style-type: none"> • Rehabilitation of 7 regulators and 1 new • Inlet structures: rehabilitation 13 and 2 new • Check structures: 1 no. • Excavation of khals: 44 km • Re-sectioning embankment: 12.60 km
Nr. WMOs planned	4 WMAs; 37 WMGs formed, Target 37, 10% complete.
Status of implementation	<ul style="list-style-type: none"> • WMO formation is in progress • Civil Works are in progress

**1.7.3 IWM/ Feasibility studies**

The Project will prepare IWM studies for the subproject areas of Purulia-Charbhatpara, and Bamankhali-Barnali. If feasible, these studies will be implemented under the project. The project will also prepare IWM studies for Arol Beel which has been shifted as this will not be implemented. Sunamukhi-Banmander has been omitted since the actual size after survey was found too large (48,000 ha), beyond selection criteria of ADB which is less than 14,000 ha net

Lastly, a drainage study covering two Upazilas namely Tungipara and Kotalipara under Gopalganj district suffering from drainage congestion for which Feasibility study report is being prepared. Implementation is not foreseen under the project. It is therefore, premature to include these subproject areas in the report.

1.8 Monitoring Requirements

The subprojects of SAIWRPMP-AF are classified as “category B” for environmental project classifications as per ADB guidelines, and ‘Red’ as per Department of Environment, Government of Bangladesh. So, following ADB categorization, implementation of the subprojects required Initial Environmental Examination (IEE) including Environmental Management Plan (EMP) which has been prepared.

Results of these IEEs/EIA/EMPs concluded that, some Civil Works will have some minor and localized environmental impacts during implementation. However all efforts will be undertaken for maintaining the Environment, Health and Safety (EHS) standards for workers and work sites. The assessed impacts are insignificant, and temporary in nature, and these can be mitigated to an acceptable level by proper implementation and monitoring of the proposed EMPs.

According to monitoring requirements, Environmental Monitoring Reports (EMR) shall be submitted on semi-annual and annual basis.

1.9 Changes in project scope

There is no change in project scope or adjusted environmental safeguard measures for the project.

So far, no adverse environmental scenario did arise or has been observed in any of the sub-project construction sites that would need any correction in the proposed environmental management plan or formulation of a changed and/or revised management plan. Neither, any failure in the time frame of preparation and completion of EMP implementation is likely. However, corrective action plan/s will be adopted in case of any unexpected scenario would develop.

2. COMPLIANCE WITH NATIONAL STATUTORY ENVIRONMENTAL REQUIREMENTS

The approval of DOE of the EIA for the project is given as **Appendix A**

The Project Environmental Clearance Certificate (ECC) procured from Department of Environment of Government of Bangladesh. Documents are presented in **Appendix B**.

3. COMPLIANCE WITH ENVIRONMENTAL LOAN COVENANTS

Table 2: Compliance with loan environmental loan covenants of ADB

Reference in LA	Covenants	Status of Compliance
LA, Schedule 5 Para. 13	<p>The Borrower shall do the following or cause BWDB to do the following:</p> <p>a) Submit Safeguards Monitoring Reports semi-annually for Involuntary resettlement Safeguards and annually for Environment Safeguards to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</p> <p>(b) If any unanticipated environment and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EIA/EMP, the RP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and</p> <p>(c) Report any actual or potential breach of compliance with the measures and requirements set forth in the EMP, or the RP promptly after becoming aware of the breach.</p>	<ul style="list-style-type: none"> • Environmental Clearance Certificate received from the Department of Environment, Government of Bangladesh. • Civil works of the project are now in progress and some has been complemented. • LAP [2.75 ha(1.18 km) + 0.31 ha (0.27 km)], LAP submitted to DC, Faridpur. RP have been prepared for retired embankment and for re-sectioning portion (2.592 km) RP is in progress. • A Grievance Redress Mechanism (that will deal with complaints from concerned communities about resettlement and/ or compensation and/or wider complaints about the project) has been established.

4. COMPLIANCE WITH ENVIRONMENTAL MANAGEMENT PLAN

4.1 Environmental Monitoring based on EMP

The status implementation of the EIA/EMP of different project activities is presented in **Table 3**.

Table 3: Overview of Environmental Monitoring Observations

Environmental Component	Potential Impacts	Proposed mitigation measures as per EMP	Actual Implementation	Recommended action (if any)	Compliance status (NC, PC, FC)
Mitigation Measures for Common Impacts					
Design and Preconstruction Stage					
Terrestrial habitat	-Damage to terrestrial habitats due to clearing of worksites for construction and reconstruction of structures like culvert, regulator, embankment, etc.	-Clearing of land near the toe; Plan to avoid using productive land for burrow soil for earth work (if dredged material is not utilized).	Temporary minor damage is minimized		It has been complied
Agricultural areas	-Damage of agriculture due to clearing of worksites	-Plan for utilizing soils from dry riverbed/ khal for such earth works.	Does not apply		
Tree cover areas	-Damage of tree cover due to clearing of worksites	-Tree planting plan with suitable species to be prepared for carrying out plantation along the embankment	Our constructions works do not affect trees		
Wet lands: common water bodies	-Damage of wetland resources due to clearing of worksites or planning structures to prevent supply of water to these water bodies	-Provision for keeping ecologically and hierologically important natural wetland habitat undisturbed	Wet lands will remain undisturbed		Complied

Environmental Component	Potential Impacts	Proposed mitigation measures as per EMP	Actual Implementation	Recommended action (if any)	Compliance status (NC, PC, FC)
		-Planning drainage structures favorable for fish migration			
Rivers and Khals and dredged materials	-About 3,806 m ³ of soil will be dredged out from beds of khals for re-excavation -Proper plan for disposal and use of dredged material is an important	-Planning and designing khal excavation for adoption of appropriate measures to avoid/minimize negative impacts.	Negative Impacts are being avoided		Complied
Housing and Home gardens	issue screening process as part of due diligence for each sub-project will be carried out, and structure or home gardens affected by the project will be identified	-Incorporation of appropriate protective clause to be followed by the contractor	Guidelines are being followed		Complied
		-Identifying suitable location for disposal of dredged materials -Prior to start dredging, the quality of bed materials to be confirmed by testing presence of heavy metals not detrimental of human health and environment.			
		the Resettlement Plan (RP) will be prepared based on the resettlement framework	RP has been prepared		
Resource users	-Development of FCD/I facilities may result in	-Understand the nature and extent of resource	No conflict has arisen		Complied

Environmental Component	Potential Impacts	Proposed mitigation measures as per EMP	Actual Implementation	Recommended action (if any)	Compliance status (NC, PC, FC)
	conflicts of among different users. Eg: create conflicts of resource uses between agriculture and fisheries;	dependants by different user groups Appropriate management through consultation that will result in minimum conflict shall be selected -WMO formation with all stakeholders' representation to be ensured -Agreeing on operational practices of facilities to ensure it meet all user requirements			
Climate change	Climate change impact on flooding and drainage; and	Considering the climate change induced impact water management structures including height of the embankment have to be designed	Designs follow approved BWDB procedures		Complied
	Greenhouse gas emission	Also training to be provided for use of ICM techniques that will result in low water dependency for agriculture.	Training is being imparted		
Construction Stage					
Monitoring of Environment, Health Safety of workers and work sites	-Workers' safety issues at construction sites	Providence and use of Personal Protective Equipment (PPE)	PPE and medic box have been made available		Complied

Environmental Component	Potential Impacts	Proposed mitigation measures as per EMP	Actual Implementation	Recommended action (if any)	Compliance status (NC, PC, FC)
	- Workers' health safety and maintaining Environmental qualities at work site and project sites	Supply of safe drinking water, provision of sanitation facility and compliance of other related environmental compliances as required			
Hydrology/Drainage	-Temporary drainage congestions specially at construction sites	-Provision for adequate temporary drains at construction of drainage structures (if required)	Constructions take place in dry season, supported by ring dyke.		Complied
	-Increased flood risks due to flood prone area -Drainage congestions and flood will occur if adequate drainage structures are not provided.	-Provision for adequate number of drainage structures with adequate waterway openings at required locations			
Air quality and noise levels	-Dust Generation due to construction activities and transport of construction materials.	-Vehicles transporting construction material will be covered with tarpaulin.	Temporary adverse effects are kept at minimum		Complied
	-Emissions and noise from vehicles, equipment and machinery.	-Construction equipment will be maintained to a good standard and idling of engines will be discouraged; -Machinery emitting visible smoke will be			

Environmental Component	Potential Impacts	Proposed mitigation measures as per EMP	Actual Implementation	Recommended action (if any)	Compliance status (NC, PC, FC)
		<p>banned from construction sites;</p> <p>-Contractor to prepare a dust and noise suppression program detailing action to be taken to minimize dust generation, and the equipment to be used. It is proposed to sprinkle the water twice in a day with two vehicles throughout the construction period.</p> <p>-Proper dust collection and control systems to be installed at stone crushers;</p> <p>-Air quality monitoring will be carried out as per the schedule stated in the environmental monitoring plan.</p>			
Surface water bodies including wetlands	-This is intentional but may reduce the surface water for other environmental demands such as recharging of ground water and survival of aquatic/benthic/bird life during dry periods.	-Retain (do not drain) water in a sufficient area/depth for environmental demands and to meet dry period requirement. Design of regulators/sill to meet this requirement.	The design of the structures take this aspect into account		Complied

Environmental Component	Potential Impacts	Proposed mitigation measures as per EMP	Actual Implementation	Recommended action (if any)	Compliance status (NC, PC, FC)
Soils and agricultural lands	- Ploughing of new lands and digging burrow pits for soil embankment repairs on adjacent lands will increase soil loss thru erosion	-If suitable, use soil high in clay from river or khal beds for embankments as those pits could well be re-silted during next flooding seasons. Use ICM techniques to reduce soil disturbances	Does not apply		
River/ Khal erosion	-Re-excavation of 332.15 km khal for 3,806 m ³ soil from the khals will pose risks of khal/ river bed erosion unless appropriate measures are taken.	-It is required to follow a plan and design khal/river excavation prepared for the purpose. The plan should identify suitable locations for extraction that will cause least damage.	As per contract, the contractors will comply		Complied
		-Contractor will need to follow proper contracts and guidelines for dredging and dredging material disposal. -Proper compaction of disposed materials will be ensured			
Health and safety	-Construction workers are susceptible to accident during construction work.	-Appropriate personal protective equipment (PPE) (ear plug, safety glasses, helmets, protective footwear and gloves, high visibility vests and other			Complied

Environmental Component	Potential Impacts	Proposed mitigation measures as per EMP	Actual Implementation	Recommended action (if any)	Compliance status (NC, PC, FC)
		protective clothing) to be provided to all workers;			
		-First Aid Box will be readily available at construction site;	First aid box are available at side		
		All workers will receive adequate and appropriate information, instruction, training and supervision in relation to safe working practices appropriate to the work;			
		-Provision of adequate sanitation, washing, cooking and dormitory facilities including lighting separately for male and female workers;	Sanitary provisions are in place		
		-Adequate signage, lighting, barriers, yellow tape and persons with flags during construction to manage traffic at construction sites, haulage and access roads.			
Operation and Maintenance Stage					
Tree coverage	-Removal of trees due to clearing of worksites for	-Tree planting has been planned along the	Production trees have been harvested by DoF		Complied

Environmental Component	Potential Impacts	Proposed mitigation measures as per EMP	Actual Implementation	Recommended action (if any)	Compliance status (NC, PC, FC)
	construction/ rehabilitation of embankment will have a stress on the natural ecosystem functions.	embankments with suitable indigenous species to compensate loss of trees due to construction/ rehabilitation of embankment and to improve health of existing ecosystem.			
	-Wildlife will also be dislocated due to removal of trees	-Tree planting campaigns be organized to enhance the overall tree cover of the area.	Construction works do not affect trees		
Agrochemical usage	-With increased agricultural activities the use of agrochemicals (pesticides and fertilizers) will increase and the potential pollution of soil, water and environment will aggravate	-WMO's capacity building to make people aware of the agrochemical hazards	Use of Agro-chemicals is discouraged		Complied
		-The IPM and ICM practices should be encouraged and promoted among the farmers.	Complied through FFS		
Conflicts on resources	-Development of FCD/facilities will create conflicts of resources use among different users. -It create conflicts of resource bases between agriculture, fisheries and other competing users;	-Planned management of land, water and other resources to be ensured for agriculture and fisheries users, considering the demand of those for domestic as well as for nature.	No conflict did arise		Complied

Environmental Component	Potential Impacts	Proposed mitigation measures as per EMP	Actual Implementation	Recommended action (if any)	Compliance status (NC, PC, FC)
		-Monitoring of irrigation efficiency -Carry out proper maintenance of facilities and remediation			
Specific Potential Impacts and Mitigation Measures of Alfadanga-Boalmari Subproject for construction of 1.5km New Retired Embankment					
During Design/Preconstruction Stage					
Land acquisition	-Construction of new retired embankment involves about 2.75 ha land acquisition.	The project will prepare a resettlement plan where Provision for compensation and protection of the affected persons will be developed for the project to materialize.	RP has been prepared		Complied
Construction Stage					
Landscape	Landscape change will take place due to construction of embankment	-Embankment along with the other structures to be constructed as per plan to make the changed landscape beneficial. -Provision for carrying out plantations with suitable species after construction	Generally no changes to the landscape		Complied

4.2 Major Environmental Activities During the period July-December, 2019

The Following major environment-related activities have been carried out during the period from July-December, 2019:

4.2.1 Environmental Training

A training Workshop was conducted on Environmental Safeguards and Management for Southwest Area Integrated Water Resources Planning and Management Project-Additional Financing (SAIWRPMP-AF) to Contractors' representatives along with Senior Facilitators and other project-related BWDB and ISPMC personnel during 16.9.2019-17.9.2019.

4.2.2 Environmental Report Preparation

The following environmental reports were prepared during the reporting period:

- Prepared Initial Environmental Examination (IEE) of Satla-Bagda, Ramshil-Kafulabari and Rajoir-Kotalipara sub-projects under Gopalganj Project.
- Preparation of Site -specific EMP of Bituminous carpeting road in Kalidaskhali-Arpara sub-project
- Preparation of Site-specific EMP of Tita Regulator (2 Vent) in Alfadanga-Boalmari sub-project
- Preparation of Site-specific EMP of Baniabari Foot Bridge in Chatler-Fukurhat Sub-project

4.2.3 Field Visits

The following field visits were carried out during the reporting time:

- Conduct of field visit for collection of data/information for preparation of above mentioned IEE reports and site-specific EMPs
- Conduct of regular field visit for Monitoring of Environmental compliance level at different work sites of SAIWRPMP-AF

Moreover, prepared all environment related documents for preparation of Semi-annual Environmental Monitoring Report for the period July-December, 2019.

5. APPROACH AND METHODOLOGY FOR ENVIRONMENTAL MONITORING OF THE PROJECT

This will be taken care of according to the EMP included in the EIA report prepared by the project & approved by the DoE.

6. MONITORING OF ENVIRONMENTAL IMPACTS ON PROJECT SURROUNDINGS (WATER QUALITY AND NOISE LEVEL)

This will be taken care of according to EIA report approved by DoE

7. SUMMARY OF KEY ISSUES AND REMEDIAL ACTIONS

At present there are no key issues.

8. RECOMMENDATION AND CONCLUSION.

Recommendation made in the EIA report will be followed during the implementation of the civil works which are yet to be started.

APPENDIX A

DOE approval of the TOR for EIA of SAIWRPMP-AF

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

Memo No: DoE/Clearance/5333/2014/ 228

Date: 01/09/2014


Subject: Approval of Terms of Reference for EIA of the Proposed Participatory Integrated Water Resources Planning and Management Project (PIWRPMP) in Southwest Region under Southwest Area Integrated Water Resources Planning and Management Project.

Ref: Your Application dated 04/08/2014.

With reference to the above, the undersigned is directed to convey the approval of the Terms of Reference (TOR) for Environmental Impact Assessment (EIA) of the proposed Participatory Integrated Water Resources Planning and Management Project (PIWRPMP) in Southwest Region under Southwest Area Integrated Water Resources Planning and Management Project.

- I. The project authority shall submit a comprehensive Environmental Impact Assessment (EIA) considering the overall activity of the said project in accordance with the TOR and time schedule submitted to the Department of Environment (DOE) and additional suggestions provided herein..
- II. The EIA report should be prepared in accordance with following indicative outlines:
 1. Executive summary
 2. Introduction: (Background, brief description, scope of study, methodology, limitation, EIA team, references)
 3. Legislative, regulation and policy consideration (covering the potential legal, administrative, planning and policy framework within which the EIA will be prepared)
 - 4a. Project activities:
 - A list of the main project activities to be undertaken during site clearing, construction as well as operation
 - Project Plan, Design, Standard, Specification, Quantification, etc.
 - 4b. Project schedule: The phase and timing for development of the Project
 - 4c. Resources and utilities demand: Resources required to develop the project, such as soil and construction material and demand for utilities (water, electricity, sewerage, waste disposal and others), as well as infrastructure (road, drains, and others) to support the project.
 - 4d. Map and survey information
Location map, Cadastral map showing land plots (project and adjacent area), Topographical map, Geological map showing geological units, fault zone, and other natural features.
 5. Baseline Environmental Condition should include, inter alia, following: (Identification and Quantification of Physical Situation that has been proposed to be changed)
 - Physical Environment : Geology, Topology, Geomorphology, Land-use, Soils, Meteorology, and Hydrology
 - Biological Environment : Habitats, Aquatic life and fisheries, Terrestrial Habitats and Flora and Fauna
 - Environment Quality : Air, Water, Soil and Sediment Quality
 - Relate baseline in both Quantitative and Qualitative term with the anticipated outcomes, achievement of goals, objectives and changes due to project interventions
 6. Socio-economic environment should include, inter alia, following:
 - Population: Demographic profile and ethnic composition
 - Settlement and housing
 - Traffic and transport
 - Public utilities: water supply, sanitation and solid waste
 - Economy and employment: employment structure and cultural issues in employment
 - Fisheries: fishing activities, fishing communities, commercial important species, fishing resources, commercial factors.

7. Identification, Prediction and Evaluation of Potential Impacts (identification, prediction and assessment of positive and negative impacts likely to result from the proposed project).
In identification and analysis of potential impacts'-the 'Analysis' part shall include the analysis of relevant spatial and non-spatial data. The outcome of the analysis shall be presented with the scenarios, maps, graphics etc. for the cases of anticipated impacts on baseline. Description of the impacts of the project on air, water, land, hydrology, vegetation-man made or natural, wildlife, socio-economic aspect shall be incorporated in detail.
 8. Management Plan/Procedures:
For each significant major impact, proposed mitigation measures will be set out for incorporation into project design or procedures, impacts, which are not mitigable, will be identified as residual impacts. Both technical and financial plans shall be incorporated for proposed mitigation measures.
An outline of the Environmental Management Plan shall be developed for the project.
In Environmental Monitoring Plan, a detail technical and financial proposal shall be included for developing an in-house environmental monitoring system to be operated by the proponent's own resources (equipments and expertise).
 9. Consultation with Stakeholders/Public Consultation (ensures that consultation with interested parties and the general public will take place and their views taken into account in the planning and execution of the project)
Beneficial Impacts (summarize the benefits of the project to the Bangladesh nation, people and local community and the enhancement potentials)
 10. Conclusion and Recommendations
- III. Without approval of EIA report by the Department of Environment, the project authority shall not be able to open L/C in favor of importable machineries.
- IV. Without obtaining Environmental Clearance, the project authority shall not be able to start the physical activity of the project.
- V. The project authority shall submit the EIA along with a filled-in application for Environmental Clearance in prescribed form, the applicable fee in a treasury chalan, the no objection certificates (NOCs) from the local authority, NOCs from forest department (if it is required in case of cutting any forested plant, private or public) and NOC from other relevant agencies for operational activity etc. to the Head Office of DOE in Dhaka with a copy to the concerned divisional office of DOE


11.09.2014

(Syed Nazmul Ahsan)

Deputy Director (Environmental Clearance)

and

Member Secretary

Environmental Clearance Committee

Phone # 02-8181778

Project Director

Southwest Area Integrated Water Resources Planning and Management Project
Bangladesh Water Development Board
149, Motijheel C/A, Ansar Chamber (7th Floor)
Dhaka-1000.

Copy Forwarded to :

- 1) Director, Department of Environment, Khulna/Barisal Divisional Office, Khulna/Barisal.
- 2) Assistant Director, Office of the Director General, Department of Environment, Head Office, Dhaka.

APPENDIX-B

Environmental Clearance Certificate from DOE.

(Renewal of Environmental Clearance Certificate from DoE is under process.)

4

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

Memo No: DOE/Clearance/5482/2015/ 384 Date: 28/07/2015

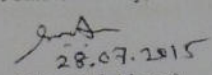
Subject: Environmental Clearance for South West Area Integrated Water Resources Planning and Management Project.

Ref: Your application dated 18/06/2015 and 22/07/2015.

Dear Sir,

Please refer to your letter of 18th June, 2015 and 22nd July, 2015 on the captioned subject, I have the pleasure to convey the approval of Environmental Clearance for South West Integrated Water Resources Planning and management Project.

A copy of the said Environmental Clearance Certificate is attached herewith for your kind information and necessary action at your end.

Yours Sincerely,

28.07.2015
(Syed Nazmul Ahsan)
Director (Environmental Clearance, c.c)
Phone # 8181778

Project Director
South West Integrated Water Resources Planning and management Project
Bangladesh Water Development Board (BWDB) Project Management office
149, matojheel C/A, (Answer chamber 7th Floor)
Dhaka-1000.

Copy Forwarded to :

- 1) PS to Secretary, Ministry of Environment and Forests, Bangladesh Secretariat, Dhaka.
- 2) Director, Department of Environment, Dhaka Regional/Khulna Divisional Office, Dhaka/Khulna.
- 3) Assistant Director, Office of the Director General, Department of Environment, Head Office, Dhaka.

Government of the People's Republic of Bangladesh

Department of Environment

Head Office, Paribesh Bhaban

E-16 Agargaon, Dhaka-1207

www.doe.gov.bd

Environmental Clearance Certificate

Section 12 of the Environment Conservation Act, 1995 (Amended 2010)

Clearance Certificate Number: 384

File number: DOE/Clearance/5482/2015

Clearance Certificate Issue Date: July, 2015

Renewal date not later than: July, 2016

A. Clearance Certificate Type

Environmental Clearance Certificate

B. Clearance Certificate Holder

Project Director

South West Integrated Water Resources Planning and management Project
Bangladesh Water Development Board (BWDB) Project Management office
149, matojheel C/A, (Answer chamber 7th Floor)
Dhaka-1000.

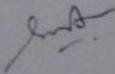
C. Premises to which this Clearance Certificate Applies

Project Director

South West Integrated Water Resources Planning and management Project
Bangladesh Water Development Board (BWDB) Project Management office
149, matojheel C/A, (Answer chamber 7th Floor)
Dhaka-1000.

D. Activities for which this Clearance Certificate Authorizes and Regulates

- 1) Beel Sukunia Subproject is located in Faridpur Sadar and Nagarkanda Upazila under Faridpur District.
- 2) Daduria Beel Subproject is located in Boalmari Upazila under Faridpur District.
- 3) Kandor Beel Subproject is located in Boalmari Upazila under Faridpur District.
- 4) Alfadanga-Boalmari Subproject is located in Alfadanga Upazila under Faridpur District.
- 5) Chatlar-Fakurhat Subproject is located in Sadarpur and Bhanga Upazila under Faridpur District.
- 6) Kalidaskhali-Arpara Subproject is located in Shalikha Upazila under Magura District.
- 7) Horai River Subproject is located in Rajbari Sadar, Baliakandi and Kalukhali Upazila under Rajbari District.
- 8) Purulia-Charbhatpara Subproject is located in Kashiani Upazila under Gopalganj District.
- 9) Bamonkhali-Barnali Subproject is located in Narail Sadar Upazila under Narail District, and Shalikha and Magura Sadar Upazila under Magura District.
- 10) Arol Beel Subproject is located in Chougacha, Jessore Sadar and Jhikorgacha Upazila under Jessore District.
- 11) Sonamukhi- Bonmandar Subproject is located in Sharsha and Jhikorgacha Upazila under Jessore District.



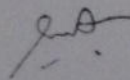
E. Terms and Conditions for Environmental Clearance Certificate

1. **Limit Condition for Discharges to Air and Water:** The Environmental Clearance Certificate must comply with schedule 2 and 10, rule 12 of the Environment Conservation Rules, 1997.
2. **Noise Limit:** The Environmental Clearance Certificate must comply with the Noise Pollution (Control) Rules, 2006

In case of non-coverage of ECR 1997, the World Bank Environment, Health and Safety Guideline shall be adhered to.

3. Operating Conditions:

- 3.1 Activities must be carried out in a competent manner. This includes:
 - (a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
 - (b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.
- 3.2 All plants and equipments installed at the premises or used in connection with the Environmental Clearance activity:
 - (a) must be maintained in a proper and efficient condition; and
 - (b) must be operated in a proper and efficient manner.
- 3.3 Construction works shall be restricted to day time hours so as to avoid/mitigate the disturbance of local lives as well as implementation schedules of the works shall be notified in advance to nearby residents.
- 3.4 Storage area for chemicals and other construction materials shall be carefully selected to avoid disturbance of the natural drainage. To avoid soil contamination at labour camp and work-site chemical, cement and petroleum derivatives shall be handled cautiously.
- 3.5 Sufficient number of culverts, bridges, sluice and other drainage/inlet facilities shall be installed properly to ensure sufficient cross drainage capacity.
- 3.6 During site preparation, piling work, construction/re-construction of land embankments, regulators, approach roads and temporary access roads, top soil shall be kept aside and shall be restored after completion of the said activities.
- 3.7 The open areas that are grasslands can be used for construction but with appropriate safeguards to maintain material and dump sites from contaminating river waters.
- 3.8 This shall be ensured that soil is not obtained from agricultural land and it should be obtained nearby river/khal/beel areas, which are free of invasive plants. The construction equipment and vehicles shall be cleaned regularly.
- 3.9 Re-vegetation and replanting shall be undertaken if rehabilitation works involve extensive vegetation clearance.
- 3.10 Vegetation clearance shall be minimizing at the construction phase as to minimize soil erosion. Soils for embankments shall be properly tested and compacted to ensure stability.
- 3.11 Soil erosion caused by removal of vegetative cover and excavated loose soil shall be checked by adequate protective works and plantation with local vegetation as soon as possible; loose soil shall be covered and stored away from the edge of the sea/river.



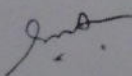
- 3.12 Proper construction practices shall be followed that minimize loss of habitats and fish breeding, feeding and nursery sites.
- 3.13 Necessary steps shall be taken to protect flooding of local areas due to restricted flow at the project sites.
- 3.14 Proper and adequate sanitation facilities shall be ensured in labor camps throughout the proposed project period.
- 3.15 In order to control noise pollution, vehicles & equipment shall be maintained regularly; working during sensitive hours and locating machinery close to sensitive receptor shall be avoided.
- 3.16 No solid waste can be burnt in the project area. An environment friendly solid waste management should be in place during whole the period of the project in the field.
- 3.17 Proper and adequate on-site precautionary measures and safety measures shall be ensured so that no habitat of any flora and fauna would be demolished or destructed.
- 3.18 Any heritage site, ecological critical area and other environmentally and/or religious sensitive places shall be avoided during project construction phase.
- 3.19 To control dust vehicles and equipment to be used for this project shall be maintained properly, water trucks shall be used, stockpiles to be located away from sensitive receptors and vehicle speed limits shall be enforced.
- 3.20 Resettlement plan should be properly implemented and people should be adequately compensated, where necessary.
- 3.21 Climate Change effects and maximum storm surge height shall have to consider at the design phase.
- 3.22 Construction material should be properly disposed off after the construction work is over.
- 3.23 Appropriate permission would be required to obtain from the forest department in favor of cutting/felling of any plant/tree/sapling forested by any individual or government before doing such type of activity.
- 3.24 The mitigation measures described in the Environmental Impact Assessment (EIA) report along with the emergency response plan shall strictly be implemented and kept functioning on a continuous basis.

4.1 Monitoring and Recording Conditions:

- 4.1.1 The results of any monitoring required to be conducted by this Clearance Certificate must be recorded.
- 4.1.2 The following records must be kept in respect of any samples required to be collected for the purposes of this Clearance Certificate:
 - (a) the date(s) on which the sample was taken;
 - (b) the time(s) at which the sample was collected;
 - (c) the point at which the sample was taken; and
 - (d) the name of the person who collected the sample.

4.2 Requirement to Monitor Concentration of Pollutants Discharged

For each monitoring, the Clearance Certificate holder must monitor (by sampling and obtaining results by analysis) the following parameter: water flow, water quality, air quality, noise, the surrounding areas for spread of



invasive species, the changes in aquatic habitats before, during and after construction, fish catch during and after construction.

5. **Reporting Conditions:** Environmental Monitoring Reports shall be made available simultaneously to Head quarters and Dhaka Regional and Khulna Divisional office of the Department of Environment on a quarterly basis during the whole period of the project.
6. **Notification of environmental harm:** The Clearance Certificate holder or its employees must notify the Department of Environment of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident.

F. Recording of Pollution Control:

The certificate holder must keep a legible record of all complaints made to the certificate holder or any employee or agent of the certificate holder in relation to pollution arising from any activity to which this Environmental Certificate applies. The record must include details of the following:

- (a) the date and time complaint;
- (b) the method by which the complaint was made;
- (c) any personal details of the complaint which were provided by the complaint or, if no such details were provided, a note to that effect;
- (d) the nature of the complaint;
- (e) the action taken by the certificate holder in relation to the complaint, including any follow-up contact with the complaint; and
- (f) if no action was taken by the certificate holder, the reasons why no action was taken.

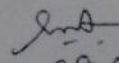
The record of a complaint must be kept for at least 4 (four) years after the complaint was made. The record must be produced to any authorized officer of the DOE who asks to see them.

G. Validity of the Clearance Certificate:

This Environmental Clearance is valid for one year from the date of issuance and the Project authority shall apply for renewal to Head Office of DOE in Dhaka with a copy to Dhaka Regional and Khulna Divisional Office of DOE at least 30 (thirty) days ahead of expiry.

Violation of any of the above conditions shall render this clearance void.

This Environmental Clearance Certificate has been issued with the approval of the appropriate authority.


28.07.2015

(Syed Nazmul Ahsan)
Director (Environmental Clearance, c.c)

APPENDIX-C

Field visits were carried out during the reporting period when construction work started and described as follows:

Work/Location	Observation	Means od development	Remarks
Repair of 3Vent Chukinagar sluice	A signboard (Bangla) erected describing the work		
	A hired house for accommodation of workers, has toilet facility with a tube well	The water of the tube well need to be tested and the tube well need to kept clean for use	The Contractor requested for testing of water and maintaining a hygienic toilet for the workers
	A first aid box has been available for workers safety	All required medicines to be available for workers safety/ security	The Contractor has been requested for replenishment of medicines in the First-aid box
	No environmental Inspector, Supervisor and Nurse have been appointed	A small amount (money) has been accommodated as cost; thus the Contractor has been requested for appointing 1 person for the purpose.	
	No PPE was supplied to the workers	Provision of PPE to workers to be done for their safety measure	The Contractor has been requested to procure the PPE soon.
	An environmental register has been introduced at work site for monitoring of EHS qualities during visit		
Construction of WMG Training Centre at Boroitala	The workers have helmet, vest and accommodation facility for few workers, others are local	The workers have been briefed of the requirement of using PPE during work	The Contractor has been requested for testing of water
	No signboard has been erected	A signboard of the work need to be erected at work site	The contractor has been requested for erecting a signboard of the works at work site
	Workers have no PPE	Workers need to use PPE during working	The Contractor has been requested to procure and supply PPE to workers during working
	Employed no Env. Inspector/supervisor/Nurse	A small amount (Taka) has been accommodated as cost for 3 issues; thus the Contractor has been requested for appointing 1 person for the purpose.	
	There is a tube well for supply of drinking water to workers	Water quality needs to be tested	The Contractor has been requested for testing of water
	A register for recording the EHS compliance/non-compliance has been introduced for proper monitoring and Improving		

Field Visit for monitorin/g the Environmental compliance level from 30.12.2019 to 02.01. 2020

Work/Location	Observation	Means of development	Remarks
Construction of 1 vent Dori Soloi Regulator in Kalidashkhali-Arpara Sub-project	Provided first aid facilities for the construction workers	-	-
	A tin shed is under preparation at work site	The shed need to be fenced properly	Requested the Contractor to carry out the needful
	A Bangla Signboard has been erected at work site	Need proper maintenance	
	A house has been hired for workers' accommodation	The house need to be maintained/cleaned properly	
	A medical nurse (Ms. Nasrin) and an Environmental Inspector (Mr. Sumon Ali Khan) have been appointed to look after EHS issues of the work site	The Medical nurse and the Environmental Inspector need to be present on all working days of the work site	Requested the Contractor accordingly
	2 toilets have been established around work site	The toilets to be kept clean and hygienic	Requested the workers and Contractor accordingly
	Tube well for supply of safe drinking water is available	The water of the tube well need to be tested for Arsenic, iron, chloride and Coliform bacteria	The Contractor has been requested to get the test done within 1 week.
	A register for recording EHS monitoring during field visit has been introduced at site	Visitors' observations need to be recorded in register	
Construction of 2 vent Boyra regulator	A signboard (in English) has been erected at work site	A Bangla signboard needs to be erected	Requested the Contractor for the purpose. The work is yet to be starteully
	2 workers' camps has started to be constructed	Need to be constructed before the full starting of the work	The Contractor agreed to complete the construction before full start of the work. the
	First aid box is yet to be procured	Need procuring the first aid box before the full start of the work	The Contractor agreed to provide the first aid box before full start of work
	The Contractor need to procure all PPE before the start of the work	Contractor agreed to procure all PPE before the start of the work	
	The Contractor has started to establish 2 toilet facilities at work site	The Contractor has been requested to maintain them hygienically	

	Tube well need to be established and water need to be tested for safety	The Contractor has been requested to take necessary measures accordingly	
	Employment of Environmental Inspector/ Nurse to be done for EHS improvement	The Contractor has been requested to take the necessary effort accordingly	
	A register for recording EHS monitoring during field visit has been introduced at site	Visitors' observations need to be recorded in register	
Joyhaph 5 vent regulator of Bil Sokunia	A work shed is constructed for 30 workers to be employed	The floor of the work shed need brick soling	Requested the Contractor for the purpose. The work has not fully started
	Established a toilet for the workers	Requested the Contractor for establishing another toilet	
	Established a tube well nearby the toilet	Requested the Contractor 50 feet away of the toilet.	
	Requested the Contractor to provide PPE	Requested the Contractor accordingly and he agreed to procure them for the workers	
	Required to procure first aid facilities for the workers during working	The Contractor agreed to procure first aid facilities for workers	
	Need appointing Environmental Inspector/Nurse etc. for improved EHS compliance	The Contractor agreed to appoint them soon	
	A register for recording EHS monitoring during field visit has been introduced at site	Visitors' observations need to be recorded in register	

IMAGES OF FIELD VISITS

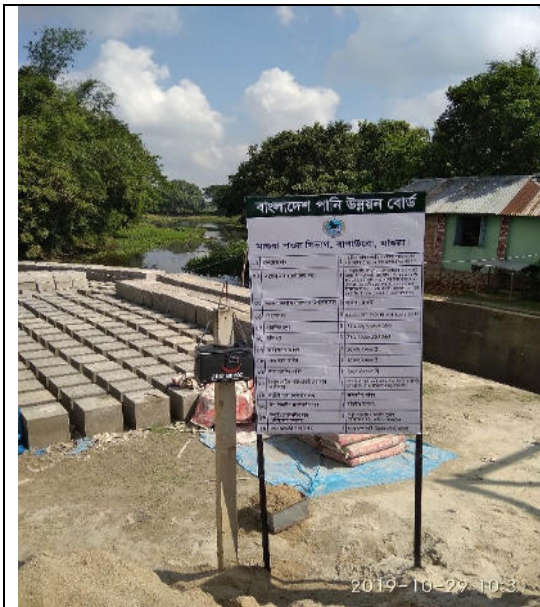


Image- 1: Signboard at Repair of 3 Vent Sluice at Chukinagar-KA sub-project

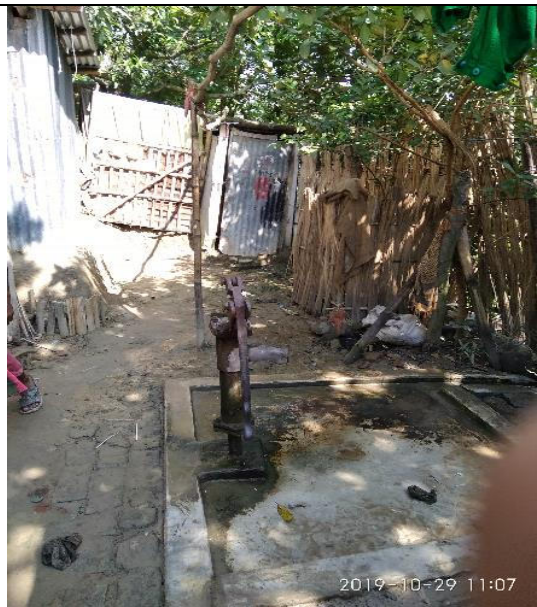


Image- 2: Tube well and toilet facility for workers, at Repair of 3 Vent Sluice at Chukinagar-KA sub-project



Image-3: Workers with PPE at work site of Construction of Boroitala WMG training center, KA sub-project



Image- 4: Discussion EHS with workers at camp site of repair of 3 vent sluice at Chukinagar- KA sub-project



Image- 5: First aid facility at workers' site of Sluice repair works in KA Sub-project



Image- 6: Hired workers accommodation facility at Sluice repair works of KA Sub-project



Image- 7: Construction materials stockpiled at work sites, Boyra sluice, KA Sub-project



Image-8: A tin shed is under construction at construction site of 1 vent Regulator at Dori sului in KA sub-project



Image-9: Provision of first aid facilities along with recruitment of Nurse for workers Healthcare at Dori sului I vent Regulator in KA sub-project



Image-10: Training of workers on EHS performance at Dori sului I vent Regulator in KA sub-project



Image-11: Erection of Bangla signboard at Dori sului I vent Regulator, KA sub-project



Image-12: Erection of cautionary signboard in 2 vent Boyra regulator worksite, KA sub-project



Image-13: Erection of signboard in Boyra 2 vent regulator, KA sub-project



Image-14: Erection of signboard in 5 vent Joyjhap regulator of BS sub-project



Image-15: Construction of workers' shed at 5 vent Joyjhap regulator, BS Sub-project



Image-16: Constructed workers' camp at Joyjhap regulator, BS sub-project

APPENDIX D

Training Workshop on Environmental Safeguards and Management for SAIWRPMP-AF

A 2-day long training workshop on Environmental Safeguards and Management was held in BWDB Faridpur PMO conference room on 16 and 17 September, 2019 for Southwest Area Integrated Water Resources Planning and Management Project-Additional-Financing (SAIWRPMP-AF) under the purview of ADB Guidelines.

Mr. Shajahan, ADB Environmental Specialist (Consultant) was the Chief Resource person in the training session, who was accompanied with Environmental/Safeguards Specialist of SAIWRPMP-AF.

The Executive Engineers and other Engineers, Project Professionals and Technicians of SAIWRPMP-AF were present in the training sessions. In addition, the Team Leader and Deputy Team Leader and Quality Control Engineers of ISPMC were also present in the training sessions along with other supporting personnel.

The Team Leader and Deputy Team Leader of ISPMC presented various project related basic information along with the requirement of performance of Environment, Health and Safety (EHS) issues during pre-construction, construction and post-construction phases of project activities. Deliberations were also made by the BWDB project related Senior officials on the project information and importance of environmental and social components of the project.

The training was mainly targeted for awareness building of the Contractor for proper compliance of EHS requirement, although some project related personnel were also present in the workshop in addition.

After opening of the workshop the Team Leader, ISPMC briefed various important issues with objectives of Southwest Area Integrated Water Resource Planning and Management Project-Additional financing (SAIWRPMP-AF). He focused on the following important issues:

- SAIWRPMP Impact and Outcome
- Sub-project Areas of SAIWRPMP-AF
- Main output of SAIWRPMP-AF
- Project Duration and Progress
- Environment and SAIWRPMP-AF

He also stressed on the basic requirement of environmental and social compliances during the project program and activities. Deputy Team Leader, ISPMC also discussed on various issues related to the importance of environmental management during various stages of construction activities of the Project.

Afterwards, a long and important presentation was made by Mr. Shajahan, ADB Environmental Specialist (Consultant) on the following pertinent issues that covered widely the on the environmental and social safeguards in general and particular to requirements of SAIWRPMP-AF:

- ADB Safeguard Policy Statement 2009
- Environment Policy and Legislation in Bangladesh
- Implementation of Environmental Management Plan(EMP)
- Environmental Monitoring
- Mitigation Good Practices

- Occupational Health & Safety
- Public Consultation, Disclosure and GRM

After the presentation of Mr. Shajahan, Mr. Abu Bakr Siddique. Environmental/Safeguards specialist of SAIWRPMP-AF made presentation on the following environmental issues:

- Presentation on checklist for monitoring of Environmental Management Plan (EMP)
- Display of pictorial examples of improved EMP compliance

In the conclusion Team Leader and Deputy Team Leader, ISPMC briefed on the importance of compliance of Environment, Health and Safety (EHS) issues during conduct of construction activities of SAIWRPMP-AF, financed by ADB. They also stressed on the Contractors' obligation to adopt all necessary measures/steps to minimize/avoid any kind of environmental hazard by complying the requirement, as described during the training session. It was also briefed that the cost of various activities/effort for Environmental Management Plan have been incorporated in contract document and BoQ and thus, the EMP compliance should be addressed as per requirement.

It was also decided that the EMP checklist, described in the training session need to be filled by the Contractor and submit to the concerned SDE/AE on monthly basis. SDE/AE will scrutinize the checklists along with their observations and comments and follow up the Contractor as and when required.

Some images of the workshop are attached as follows:

Training Pictures







APPENDIX-E

Procedures for Environmental Monitoring

Activities related to Environmental Compliance Monitoring in Southwest Area Integrated Water Resources Planning and Management Project, Additional Funding (SAIWRPMP-AF)

- In order to ensure environmental compliance in the work sites, the Contractor shall complete the respective environmental checklists (see attachment) through observation of Environment, Health and Safety (EHS) levels at worksite, and submit them to concerned SDE/ AE of BWDB on monthly basis. He (SDE/ AE) will scrutinize the checklists and add his observations/ comments. He will follow-up with the Contractor as/when required.
- The SDE/AE will file the completed and commented checklists, as evidence of environmental compliance and for clearance of final payment of the contractor.
- Environmental/Safeguard specialist, ISPMC, will check whether the contracts have an environmental clause, and scrutinize the filled-in checklists for assessment of the status of environmental compliance level of various work sites.
- Regularly, and on sample basis, Environmental/Safeguard specialist will visit various worksites (particularly for new constructions and bigger repairs) to monitor and cross check the environmental compliance level of the contractors and workers. He will also advise on any improvement of EHS qualities during field visit as/ when required.
- The Environmental/ Safeguards Specialist will report any major deficiencies in EHS compliance to the concerned SDE/AE and DTL of ISPMC. Minor issues will be discussed with the concerned SDE/AE only.
- The Environmental/Safeguard specialist will prepare the Semi-annual environmental monitoring report that will pertain to compliance with EHS requirements in the SAIWRPMP-AF.

Attachment: Environmental checklist – separate file



Southwest Area Integrated Water Resource Planning and Management Project-Additional Financing (SAIWRPMP-AF)

Checklist for Monitoring of Environmental Management Plan (EMP)

Sub-project:

Type of Activities:

Date of Monitoring:

☐ Checklist for Monitoring of Environmental Management Plan (EMP)

EMP Issue	Complied	Poorly complied	Non-complied	Please explain in details
Please tick (<input checked="" type="checkbox"/>)				
Pre-construction stage				
Vegetation clearance at work site/proper dumping of construction machinery/equipment/ working materials				
Quality of construction plants, machinery/equipment/vehicles- noise and emission levels				
Construction of workers camp with hygienic toilet (separate for male and female) and kitchen facilities				
Imparting training of Contractor's personnel on environmental management issues				
Status of land acquisition				

Checklist for Monitoring of Environmental Management Plan (EMP)

EMP Issue	Complied	Poorly complied	Non-complied	Please explain in details
Please tick (√)				
Construction stage				
Demarcation of work site along with erection of signboard and cautionary signs at various locations				
Provision of diversion road for community communication / transportation				
Provision of training of workers for awareness on EMP				
Provision and use of PPE (like helmet, visible vest, mask, hand gloves, safety boot etc.)				
Provision of safe water and First aid facilities to workers				
Engaging male/female workers with equal wage				
Establishing proper facilities for waste collection and arrangement for safe waste disposal and Management: adoption of 3Rs; Reduce or avoid, Re-use and Recycle.				
Safe storage of working materials (sand, stone chips, cement etc.) and equipment				
Safe storage of hazardous fuels and chemicals				
Spraying of water for dust management				
Taking step for noise management (for workers and community)				

☐ Checklist for Monitoring of Environmental Management Plan (EMP)

EMP Issue	Complied	Poorly complied	Non- complied	Please explain in details
	Please tick (√)			
Status of traffic management and accident management				
Proper disposal of dredged materials				
Impact on fish catch/migration				
Creation of drainage congestion				
Pollution of surface water sources				
Damage of trees/plants				
Top soil (0-15 cm) management				
General tidiness of work site/camp site				
Maintaining register book for documentation of compliance level during EMP monitoring				
Conduct of proper demobilization of work site/camp site				
Other EMP issue (Please specify)				

☐ Checklist for Monitoring of Environmental Management Plan (EMP)

EMP Issue	Complied	Poorly complied	Non-complied	Please explain in details
Please tick (✓)				
Operation stage				
Monitoring of soil quality and compare with baseline				
Monitoring of water quality and compare with baseline				
Status of erosion (specially along the bank of re-excavated khals)				
Monitoring of habitat conditions of wetlands including fish				
WMO formation, trained and fish-friendly operation of hydraulic structures				
Level of improvement of crop production to compare with baseline				

Signature of Monitor:
(with Designation & Date)

Comments by SDE/A.E. :

Signature with date: