

Ministry of Water Resources
Bangladesh Water Development Board(BWDB)
Climate-Smart Agriculture and Water Management(CSAWM)Project(BWDB Part)
Terms of Reference (TOR)
for
Consulting Services for Monitoring and Evaluation
(Package No. CSAWM-WDB-PCU-SD-02)

1. Introduction

The Government of Bangladesh has prepared the Climate-Smart Agriculture and Water Management Project (CSAWM) for introduction of climate resilient agricultural and water management technologies and effective on-farm water management to support the cropping pattern. The Project Development Objective (PDO) of CSAWM Project is to enhance climate resilience and productivity of irrigated agriculture and fisheries in targeted sub-projects. The Government of Bangladesh (GOB) has received World Bank credit for implementation of the project. The project emphasizes on improved water use efficiency and will upgrade the safety standards and efficiency of the water management infrastructure systems to actively support the climate smart agricultural practices. The project, i.e., CSAWM is scaling up the pilot reforms program initiated under previously completed Water Management Improvement Project (WMIP) and is incorporating climate change aspects in the project design. Further, the project is aimed to widespread implementation of the participatory subproject management approach on a larger scale and institutionalization within Bangladesh Water Development Board (BWDB), Department of Agricultural Extension (DAE) and Department of Fisheries (DOF) structure. The proposed project will also strengthen Water Management Organizations (WMO) formed under WMIP, where possible, and form the new WMOs.

During the past half a century, more than 910 water resources sub-projects were completed, ranging in size from small to large with varying multipurpose types from FCDI(Flood control Drainage & Irrigation) / Flood Control and Drainage-FCD (inland and coastal embankments and polders; small-scale FCDs; compartmentalization; river training and bank protection and river dredging), urban FCD, minor/small-scale irrigation, and major/large-scale irrigation to structural and non-structural flood proofing subprojects). Some approaches have failed to deliver the intended benefits due to climate change and anthropogenic factors while others have achieved reasonable amount of success; some interventions have helped alleviation of rural poverty while others have aggravated the situation, creating a good social cohesion as well as bad social conflict. In this backdrop, the GOB has formulated the National Water Policy (NWP) with the intention of guiding future public and private actions for ensuring optimal development and management of water that benefit both individuals and the society at large. A National Water Management Plan (NWMP) has been approved by the Government in 2004 with the main objective of developing a macro water management plan for operationalizing the directive of the NWPo. For effective people's participation, Government has approved Participatory Water Management Rule 2014 under the purview of BWDB Act 2000. The reform initiatives thus initiated by the Government have created an enabling environment for taking concrete actions and as a result, this Project has been conceived as an instrument for carrying forward Climate Smart Agricultural Water Management.

The main consulting firm Design & Construction Supervision will assist BWDB in ensuring improved functionalities of the BWDB sub-projects through proper



rehabilitation/modernization of the water management infrastructures like water control structures, embankments, protective works, khal/canal/river digging or dredging, pump house etc. in order to create enabling water management conditions for improved and climate resilient agriculture and fisheries production. 19 numbers medium to very large BWDB sub projects (ranging between 1,000 ha to 15,000 ha) have been finalized under this project which will be implemented in 27 upazilas of 17 districts in Bangladesh at a cost of IDA loan and GoB fund. The Consultants will also assist in capacity development of the BWDB officials including the Office of the Chief Water Management. In addressing the climate change properly among others it would also require consulting services for (i) Developing & updating of Subproject Information Management System-Smart (SiMS-Smart) and limited scale morphological modelling for erosion protection and dredging as required (ii) Screening and technical, environmental and social auditing of BWDB subprojects and (iii) Implementation of land acquisition plans (LAPs) and resettlement action plans (RAPs) for the subprojects as required. For the services under SI.(iii) one individual consultant on land acquisition and resettlement under PCU will be recruited for technical guidance and assistance to BWDB's own dedicated manpower adequate to managing land acquisition and involuntary resettlement under the project. There will be an individual Procurement consultant for procurement related activities of goods, works, services & non-consulting services and also an individual Financial Management Consultant under PCU.

2. Project Components

The project has the following components.

Component 1: Improved Climate Resilience of Flood Control, Drainage and Irrigation (FCDI) Infrastructure Systems

The activities under this component include: (i) rehabilitation of selected FCD & FCDI subprojects identified by the BWDB in consultation with local communities and/or WMOs (Water Management Organization); (ii) management transfer of rehabilitated water management subprojects/infrastructures to local communities, e.g. WMOs; and (iii) institutional development & capacity development of the BWDB including the Office of the Chief Water Management (OCWM) and WMOs.

In addition, this component also addresses Participatory Subproject Cycle Management (PSM) approach to promote the participatory and community mobilization aspects of subproject rehabilitation and management transfer and the involvement of communities in operations and (routine) maintenance (O&M) management. The participatory process is based on the Participatory Water Management Rule 2014 adopted by the Government.

Component 2: Climate-Smart Agriculture and Fisheries Production & Marketing

Taking advantage of the improved and resilient water management conditions (in terms of flood control and drainage in the monsoon season, increased availability in the dry season and efficient irrigation) accruing out of investments in Component 1, project support under this component focuses on increasing the productivity and



resilience of both crop and fisheries production systems to climate change while also pursuing opportunities for reducing greenhouse gas (GHG) emissions from these production systems.

Component 3: Project Management Support

This component covers the project management including implementation of ESMF, monitoring and evaluation of all project activities in line with the Results Framework, and set-up adequate fiduciary, governance, audit and accountability mechanisms; grievance redress mechanism, communication and monitoring and evaluation, and special studies. This component will also support introduction of interactive voice response (IVR) system to promote effective citizen engagement through disseminating information of projects and associated agriculture and aquaculture interventions to seek community feedback.

Component 4: Contingency Emergency Response

This component with zero budget allocation will concentrate on the expenditures under the Immediate Response Mechanism (IRM) in case of natural or man-made crises or disasters, severe economic shocks, or other crises and emergencies in the country.

3. Objectives of CSAWM

The objectives are (a) to rehabilitate and modernize the FCD and FCDI subprojects to enhance agriculture and aquaculture/fisheries production by improving the water use efficiency, management transfer and capacity building of WMOs and to enhance institutional performance of BWDB including the OCWM.

(b) to improve national water resources management introducing IWRM and to build resilience to climate change risks by involving the local communities to play an expanded role in all stages of the Participatory Subproject Cycle Management (PSM), from planning and design to operations and management.

4. Implementation Arrangement

To promote an integrated approach, the project implementation has a joint and shared responsibility of the Ministry of Water Resources (MOWR), Ministry of Agriculture (MOA) and the Ministry of Fisheries and Livestock (MOFL), respectively working through the BWDB, the DAE and the DoF. Working jointly, each implementing entity- BWDB, DAE and DoF- will take the lead on project elements under their respective institutional mandate, capacity and skills endowment. In this case, BWDB takes the lead on activities related to Component 1 (Improved Climate Resilience of Flood Control, Drainage and Irrigation (FCDI) Infrastructure); DAE is the lead entity on one part of Component 2 (Agriculture Production Improvement and Market Access); while activities targeting to the Aquaculture production improvement and Market Access (another part of Component 2) is led by DoF. Each of these components have separate DPPs approved by the Government having common project objectives to be achieved via working in close collaboration and integrated manner. Both DAE and DoF should be actively engaged in all steps of WMO formation, activities and their sustenance.



There is a Project Coordination Unit (PCU) at BWDB, responsible for overall coordination across all project activities. The PCU is headed by a Project Coordinating Director (PCD) and will be staffed with adequate number of employees from BWDB on deputation and a Procurement Specialist & Financial Management Specialist. The DAE and DoF will each establish a Project Implementation Unit (PIU) responsible for implementation of their respective components coordinating with the PCU.

There is a Project Steering Committee (PSC) chaired by the Secretary/Senior Secretary of MoWR and it is formed with representatives from different ministries/agencies as per GoB directives. The PSC is working as coordinating PSC, and representatives of Secretary/Senior Secretary of MoA and MoFL will be the members of this PSC. The PSC will provide overall policy guidance & problem solving decision during project implementation. In addition, there is also a Project Implementation Committee (PIC) which is being chaired by the Director General of BWDB, DAE & DoF rotationally. The PIC will act as the Coordinating PIC and representatives from concerned ministries, agencies including BWDB, DAE & DoF are members of this coordinating PIC. The PIC will provide necessary assistance/suggestions for implementing project activities.

The following steps will be followed/reviewed from starting to ending of the project:

Step 1: Short-listing of Subprojects

Initially, BWDB Technical Committee identified 132 subprojects, then the project preparation consultants reviewed and finalized a short list of eligible 42 priority subprojects. Beneficiary views were taken in short-listing of subprojects and also environmental and social risks and impacts were considered in selecting subprojects. The BWDB DPP review committee and an EIA committee then reviewed the 42 subprojects and finalized a short list of eligible 23 priority subprojects. Finally, a technical committee consisting of members from BWDB, DAE, DoF & Department of Forest, formed by MoWR, reviewed the 23 subprojects and selected 19 subprojects. These short listed 19 subprojects had been reviewed and justified for implementation.

Out of 910 FCD/I completed Subprojects of BWDB, the following criteria has been adopted to select the 19 candidate Subprojects.

- (i) Subprojects ranging between 1,000 ha to 15,000 ha;
- (ii) Subprojects which are most vulnerable to climate change impact;
- (iii) Subprojects with high poverty level;
- (iv) Subprojects with existing WMOs/CBOs or willing to form WMOs; and
- (v) Cost effectiveness of the rehabilitation.



This study considers 19 sub-projects for implementation as mentioned in Table below:

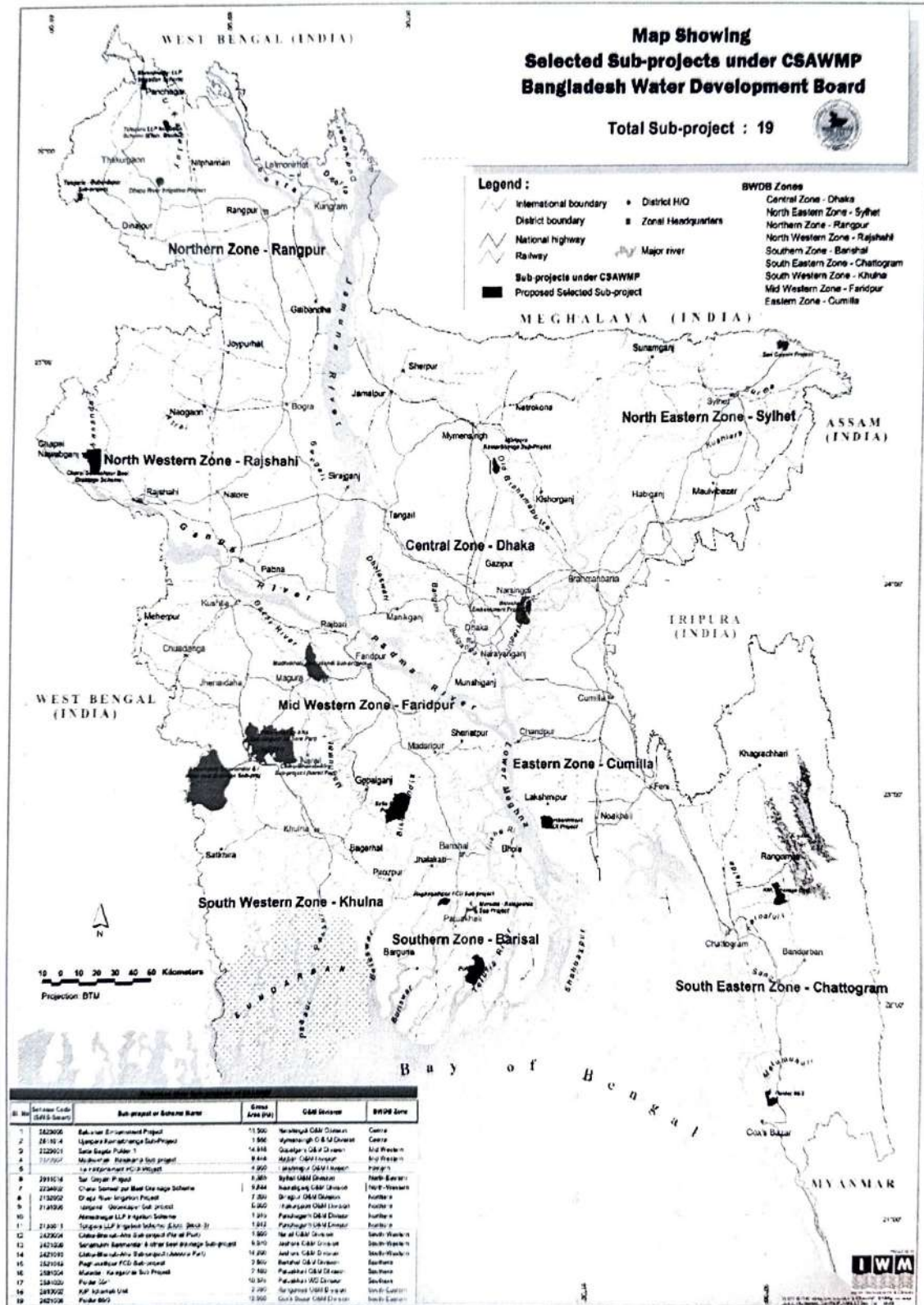
Sl n o	Name of the Sub-Project	Division	District	Upazila
1	Balushair Flood Embankment FCDI Sub-project	Dhaka	Narsingdi	NarsingdiSadar
2	Satla-Bagda FCDI (Polder-1) Sub-project	Dhaka	Gopalganj	Tungipara, Kotalipara
3	Modhukhali-Baliakandi Sub-project (Remaining Work)	Dhaka	Rajbari	Baliakandi
4	Ujanpara-Komarbhanga FCDI sub-project	Mymensingh	Mymensingh&Kishoreganj	Nandail and Iswarganj
5	Sarigoyain FCDI Sub-Project	Sylhet	Sylhet	Jaintapur
6	Chari-Shameshpur FCD Sub-Project	Rajshahi	Rajshahi, ChapaiNawabganj	ChapaiNawabganjSadar, Godagari
7	Tangaria-Gobindapur Sub-Project (FCDI)	Rangpur	Thakurgaon	Haripur
8	Dhepa-Punarbhaha Water Management Sub-project	Rangpur	Dinajpur	Birol
9	Ahamednagar Low Lift Pump Irrigation Sub-project	Rangpur	Panchagar	Boda
10	Telepara Low Lift Pump Irrigation Sub-project (Electrical Block-3)	Rangpur	Panchagar	Debiganj
11	Ragunathpur FCD Sub-project	Barishal	Barishal	Bakergonj
12	Muradia-Kalagachia Sub-project	Barishal	Patuakhali	Patuakhali&Dumki
13	Rehabilitation of Polder No. 55/1	Barishal	Patuakhali	Galachipa



Sl n o	Name of the Sub- Project	Division	District	Upazila
	Sub-project			
14	Tie Embankment FCDI Sub-project	Chattogra m	Lakshmipur	LakshmipurSadar
15	Polder no. 66/3 Sub-project	Chattogra m	Cox's Bazar	Cox's Bazar Sadar
16	Karnafuli Irrigation (Ichamati Unit) Sub-project	Chattogra m	Rangamati	Rangunia
17	Chitra-Bhairab- Afra Sub-Project (Narail Part)	Khulna	Narail	NarailSadar
18	Sonamukhibanman dar and other beel drainage sub- project	Khulna	Jashore	Jhikargacha&Sharsa
19	Chitra-Bhairab- Afra Sub-Project (Jashore Part)	Khulna	Jashore	JashoreSadar, Bagharpara



Location of the Sub-projects shown in Map below:



Step 2: Assessment of Subprojects

Review of assessment of the *Subprojects* will be based on (i) socio-economic baseline information; (ii) a technical audit in terms of current effectiveness of the flood control, drainage and/or irrigation infrastructure; (iii) PRA (Participatory rural appraisal) on the rehabilitation requirement; (iii) environmental and social risks and impacts; and (iii) vulnerability of the subprojects to climate change impacts.

Step 3: Re-Prioritizing the Subprojects

Review and re-prioritization of the *Subprojects* for CSAWM to be implemented batch-wise based on multi-criteria analysis. The criteria includes (i) climate change vulnerability index (CCVI) which shall provide classifications of subprojects as extremely vulnerable, highly vulnerable, moderately vulnerable and less vulnerable; (ii) subproject performance improvement criteria (SPIC) due to proposed rehabilitation/development works under various climate change scenarios; (iii) poverty index, iv) implementation readiness including availability of design, and v) land acquisition required or not.

Step 4: Formulation/mobilization of WMOs

The existing WMOs will be reactivated/mobilized and new WMOs will be established. The WMOs (Water Management Groups (WMGs) and Water Management Associations (WMAs)) will be appraised with relevant information regarding the objective of the project, data on existing situation, probable impacts of climate change in the subproject area, proposed climate-smart interventions (rehabilitation works) and management of their consequent environmental and social risks and impacts. The opportunity of value chain development and WMO member participation in it will also be informed to WMO members.

They will also be trained on how effectively they participate in the participatory subproject cycle management (PSM) process.

National WMO expert, junior WMO specialist to be recruited under D & S consulting firm, and community facilitators/extension overseers to be recruited through outsourcing will work under the guidance of WMO Consultant, in consultation with PCD/PDs, Chief WM and TL of the Main Consultant. Regular performance monitoring of the facilitators as well as WMO will be done for attaining good quality works and sustainability.

The WMO formation will follow the attached draft 'guidelines for WMO formation and functioning' (*Annexure-1*) to be finalized in consultation with PD and OCWM, BWDB. Identification of prospective WMO members should be done based on, i) hydrological sub-unit via mapping and land classification, and ii) Local people within the project area including farmers, small traders, artisans of handicrafts, boatmen, aqua culturists, landless, distressed, persons affected or possibility to be affected directly or indirectly, positively or negatively by the project. In this regard, the successful as well as failure experiences of WMIP, Southwest Area Project, Phase-I & II, Blue Gold Project and IPSWAM project should be used as a reference for this task.

Step 5: Planning and design

The local stakeholders and WMO members should be involved in all steps of participatory water management starting from sub-project identification through to planning, design, implementation and O&M works and, WMO formation/implementation/sustenance processes. Review of the planning exercise shall include: (i) formulation of a



Subproject implementation management plan in consultation with WMOs; (ii) analyzing feasibility of the plan (technical, economic, environmental and social); (iii) preparing an outline for the operation and maintenance plan; (iv) preparation of LAPs and RAPs, as required; (v) sign agreement between BWDB, WMO and LGI as required. In all these stages, active participation of the WMOs and other stakeholders should be ensured.

Step 6: Implementation

In this step the following will be executed with the help of D & S consulting firm: (i) preparation of designs and cost estimates of rehabilitation and improvement components; (ii) assist in the preparation of tender documents, tendering and award of contracts; and (iii) construction supervision.

The consultant's role will be to prepare a guideline for preparation of designs and cost estimates of the infrastructures to be rehabilitated, and bidding documents according to the applicability of WB Guidelines or GoB, PPA/PPR. The guidelines will be circulated to the field offices to prepare their respective designs, cost estimate and bidding documents.

Step 7: Capacity building for environmental and social management and O&M

Review of the environmental and social management plan (ESMP) and finalized for the O&M period with active participation of the WMOs and other stakeholders. Trial operation of the Subprojects will be made for one year together with the WMOs after completion of rehabilitation works. The WMOs will be provided with O&M manuals written in Bangla. WMOs will be trained on the use of O&M manuals.

Step 8: Management transfer

Subproject performance will be assessed jointly with the WMOs and BWDB. The management of the subprojects will be transferred to the WMOs as per agreed guidelines.

5. Duration of the Project

As per the DPP the CSAWM project is being implemented for a period of four and a half years starting from January, 2022 to June, 2026. The duration of this Monitoring & Evaluation Consultancy Service is expected to be 24 (twenty four) months, effective from as per agreed work plan made by the consulting firm up to the end project period which will be finalized during negotiation before awarding the contract.

6. Objectives and Scope of the M&E Consultancy:

6.1 Objectives:

The Monitoring & Evaluation (M&E) consultant will monitor, review, assess and evaluate overall activities and results of the project from identification to design and implementation. Thereby, the M&E consultant will monitor and assess the project's progress towards achieving the PDO, and related results indicators as identified in the project's Results Framework and Project Implementation Manual (PIM), and the M&E Plan in particular. The three implementing agencies, BWDB, DAE and DoF will support internal monitoring and evaluation through their usual progress reporting, while the M&E Consultant will be responsible for overall coordination



and integration of the M&E System. The M&E Consultant will commission periodical monitoring for process, input, output and outcomes as per project design, and report directly to the Project Steering Committee (PSC) as well as to the PCU, BWDB and the World Bank.

6.2 Scope of Services:

The M&E Consultant should have the following main tasks. Depending upon the aspects of the project to be monitored, the Consultant, in discussion with the PCU and other project Consultants, has to decide whether the particular aspect will be surveyed, monitored and evaluated on the “sample” or “all” basis. In case of sample base M&E, the rationale for choice of sample and the use of evaluation method for the aspect have to be substantiated by the Consultant and agreed with the PCU beforehand. The Consultant shall accomplish but not limited to the following tasks:

Task A. Review critically all the aspects of Participatory Water Management in BWDB Sub projects including rehabilitation and improvement of the FCD/FCDI schemes/structures, with clearly articulated role of WMOs; monitoring of the performance of BWDB sub projects under component 1 and institutional improvement of BWDB, DAE and DOF and suggest on the right/suitable way of sustainable Participatory Water Management (PWM). The added value of DAE&DoF activities on formation& nursing of the WMOs, during and post project condition and, value chain development on sustenance of WMOs will be reviewed and a suitable WMO formation and functioning/sustenance model should be recommended. This would be achieved by methods of consultations and inputs from the various consultancies provided for each component of the project and the stakeholders of the project.

Task B. Monitor and keep track of CSAWMP’s progress towards achieving results indicators and PDO indicators as identified in the project results framework(as per Project Appraisal Document PAD, and Project Implementation Manual, PIM). Update the M&E Plan (when necessary) and coordinate its operationalization, including the provision of support to PCU and PIUs in collecting indicator baseline and progress values, and collecting related data (e.g., through Task C and D). To this end, put in place and manage a web-based progress and results monitoring system and key document repository for the project as a whole. Facilitate/organize regular project progress review workshops with PCU and PIU.

Task C. Design survey approach, methodology, questionnaires, analytical software, input and output format for M&E based on assessment of formats being used by the MoWR, BWDB, Planning Commission, IMED(implementationMonitoring&Evaluationdivision) and also by the Development Partner.

Task D. Perform field survey operation to collect among others, agro-socio-economic, fisheries, environmental information, as well as information to determine climate-resilience of schemes, production systems and households, using structured questionnaire covering both qualitative and quantitative information through applying in-depth method and Focus Group Discussion (FGD). If beneficiary surveys for representative sample are required, for instance at baseline, mid-term or project completion, the Consultant will be responsible for working & conducting the surveys. The



firm should engage qualified enumerators, use code questionnaires, supervise enumerators in the field, develop quality protocols, data cleaning etc. Environmental information should also include the assessment of project's greenhouse gas emission reduction compared to a without project scenario, using recognized methods and software. The Consultant shall be responsible for review of all documents and checking of data collected from the field level for ensuring validity of data, to oversee the processing of data and statistics.

Task E. Discuss with the BWDB, DAE and DOF officials (field, planning and design, environmental and social), consultants of the project components, officials of the World Bank, if needed, other public sector agencies as appropriate for clarification of any outstanding issues including methodology proposed.

Task F. Review project performance records as available, O&M performance, institutional aspects, project completion reports, monitoring reports, evaluation reports if available, PPs, revenue budget allocation procedure, procurement and financial reports, environmental and social due diligence and management, etc. to assess areas of efficiency and deficiency, weakness and strength.

Task G. Prepare a project activity calendar through CPM (Critical Path Method) or any other suitable software.

Task H. Assess operational status of the rehabilitated and modernized project-subprojects, benefited area, negative environmental and social impact and detriments, Project Affected Persons (PAPs) etc. from the data collected from the field.

Task I. Measure financial and economic worth of the project as of now and compare it with the planned worth with the help of standard and compatible FARMOD and COSTAB programmes software. Assess profitability and financial benefits of selected project activities and agricultural/fisheries enterprises promoted by the project.

Task J. In coordination of the E&S specialist, the M&E consultant will review and assess process and outcomes of environmental and social due diligence and management of environmental and social risks and impacts of subproject implementation including citizen participation, gender and vulnerability inclusion, management of gender-based violence (GBV), grievance management, payment of compensation for land acquisition, resettlement of project affected people and livelihood restoration, impact of value chain development on the livelihood improvement of the project beneficiaries and flag any lapses to remedy to BWDB, DAE and DoF. Assist E&S specialist in carrying out E&S screening of the sub-projects and develop site specific ESMPs. The firm will also assist the E&S specialist in collecting environmental and social monitoring data of the sub-projects.

Task K. Suggest realistic remedial measures to be taken by the management in case of post project condition.

Task L. Review D & S Consulting firm developed O&M Management Plan of sub projects and give directives on sustainable, best and economic O&M management. Give recommendations on establishing a joint O&M account operated by the concerned Executive Engineer, BWDB and WMO Executive Committee Member for routine maintenance activities by WMGs.



Task M. Conduct representative Survey on Statistics of dependable income and its source of the stakeholders of the project area with pre-project condition (baseline) or taking data from Bangladesh Bureau of Statistics(BBS) or using secondary data considering the starting of the project as benchmark. It will be important to compare beneficiaries' income increase (as compared to the project baseline) at closing with income increase of a representative control group which did not receive project services.

Task N. Give a current social, environmental, institutional and production profile of the subprojects in brief on the basis of data and information collected. Also include information about climate vulnerability, risks, and the potential for adaptation and mitigation.

Task O. Give findings of the consulting services inter alia of the following lines:

- Sub projects operational status and efficiency with project situation compared with and without project situation.
- Planned and actual performance (production, services)
- Economic efficiency (cost effectiveness)
- Social and institutional efficiency (people's participation)
- O&M efficiency (including time series expenditure/budget data)
- New (other than projected during planning) opportunities and threats
- Ongoing M&E performance and status of results indicators, and PDO indicators, identified in project results framework.
- Achievement of climate resilience and mitigation in schemes and production systems
- Project life expectancy (physical sustainability)
- Effects of interventions by other agencies in the area

Task P. Draw recommendations for improvement of water management:

- For the BWDB/DAE/DOF Field Units
- For other key stakeholders of the project
- Suggestions for effectiveness of the monitoring & evaluation system
- Development of training module in coordination with PCU and Office of the Chief Water Management for different levels of offices on data/information collection and their use in monitoring and evaluation of projects and institutions.
- Design of workshop for interaction between different levels of management and WMO including other stakeholders to induce motivation and awareness for monitoring practice.

The M&E Consultant will prepare and submit a Draft Impact Evaluation Report at the end of each assignment slot(a. at project start-up for the base-line situation; b. at the mid-term reviews(at the middle of the project); and c. at the end of the project implementation) separately for each aspect and component using the Sample based evaluation representing the whole project in an integrated manner.



Receive comments and observations from all concerned quarters, address them and finalize the report for acceptance by the PSC/BWDB/DAE/DOF.

7.0 Reporting

For performing the above activities, the services of a consulting firm having National experts will be hired under this ToR. The consultant's Team will work under PCU of BWDB, in coordination with PIUs of DAE & DOF and directly report to the PSC as well as to PCU.

For each of the project components/sub-components, a separate monitoring system using standard MIS software will be developed under the respective project implementing consultancies. The M&E Consultant will coordinate with the other project consultants to identify key indicators within the agreed Result Framework – both for output and outcomes, based on which a MIS software would be developed or existing software would be customized/enhanced to monitor each aspect of the project.

The project evaluation, including progress and benefit monitoring, would be carried out by this M&E Consultant for different phases: (i) at project start-up for the base-line situation; (ii) at the mid-term reviews (at the middle of the project); and (iii) at the end of the project implementation. It is expected the M&E framework will be integrated in the strengthened BWDB, DAE & DoF monitoring system for all works of recurrent nature for their future use.

Finally, the impact of the project as a whole is also important to be monitored through M&E.

The scope of the consulting services in this ToR might require adjustment based on the project demand and situation during implementation of the project.

8. Consultant's Staff Requirements with Man-Month: This TOR provides an indicative staffing list for the consultant. The consultant may propose alternative staff and skill mix in order to carry out its role and responsibilities according to the project requirement. The Key Experts and Support Staffs of the indicative staffing for the Consultant's team are as follows:

Key Expert			
Sl. No.	Position	Number	Duration (MM)
1	Team Leader/ M&E Specialist	1	12
2	Deputy Team Leader/ Water Resources Specialist	1	24
3	Monitoring & Evaluation (M&E) Specialist	1	24
4	Operation and Maintenance (O&M) Specialist	1	8
5	Social Development Specialist	1	8
6	Environmental Specialist	1	8
7	PSM Specialist	1	8
8	Fisheries Specialist	1	10
9	Agriculture Specialist	1	



Non key Data Support Staff			
1	Field Data Collector	3	72
2	Data & Information Analyst	2	32

The Consultant may propose expert/other supporting staff required to accomplish the tasks outlined in the ToR. It is the Consultant's responsibility to select the optimum team and to propose the professionals which he believes best meets the needs of the Client.

Required Qualifications & Job Descriptions of the Key Members of the Consultants:

Discipline	Qualifications and Job Descriptions
1. Team Leader/ M&E Specialist	<u>Qualifications and Experience</u> Team Leader/ M&E Specialist should have Master Degree in Civil/Water Resources Engineering/Agriculture Economics/Social Science from a recognized university with a minimum of 20 years experience in water resources development/ management projects, of which 8-10 years experience in monitoring & evaluation activities. S/he must have proven ability of working with substantial proven competence and experience in team leadership of M&E of donor financed large water development/management projects. The candidate will have to be computer literate and familiar with relevant programs for this assignment. S/he should have proven experience in working on climate risks, adaptation and mitigation projects in water resources management, agriculture and/or fisheries. English ability: Very Good standard of oral and written English. <u>Job Descriptions</u> The Team Leader will be responsible for monitoring the progress on achieving the Project Development Objective and will ensure that monitoring & evaluation information is up-to-date. The specific job responsibilities of the Team Leader would include but not necessarily be limited to the followings: • Develop monitoring indicators and standard formats; • supervise and involve in base line/mid-term/end-of-project surveys; • Perform regular monitoring of the progress in achieving Project Development Objective; • Prepare regular Project monitoring report to be submitted to the PCU-BWDB, PIU-DAE, PIU-DoF and the World Bank; • Monitor progress on results indicators as defined by the Framework for Results Monitoring;



Discipline	Qualifications and Job Descriptions
	• Prepare specific analysis and reports to monitor the economic and social impact of the project activities; • Cooperate with the PCU-BWDB, PIU-DAE, PIU-DOF, field staffs of the BWDB, DAE and DOF and other relevant project stakeholders to ensure high quality project monitoring; • Other activities from the domain of monitoring and evaluation, as agreed with the Project Coordination Unit; • He/she reports to the Project Director, PCU, BWDB. • Perform any other project related works assigned by the Project Director, PCU and he/she will be liable to the project Director.
2. Deputy Leader/ Resources Specialist	Team Water <u>Qualifications and Experience</u> The Deputy Team Leader/Water Resources Specialist will work in close cooperation with the Team Leader and assist her/him in accomplishing the project activities. S/he will have at least a B.Sc. degree in Civil/Water Resources/Agriculture Engineering with at least 20 years experience in water resources development projects out of which 5-6 years should be in M&E activities. Experience in working with the aided project will be additional qualification and get preference. Experience in working on climate risks, adaptation and mitigation projects in water resources management is preferred. The candidate will have to be computer literate and familiar with relevant programs for this assignment. English ability: Very Good standard of oral and written English. <u>Job Descriptions</u> Specific job responsibilities of the Deputy Team Leader are similar to those of the Team Leader: • Assist the Team Leader in accomplishing the timely and quality delivery of the agreed Work/Activity Plan; • Assist in Coordinating the activities of the different components in the team; • Develop monitoring indicators and standard formats; • Supervise and involve in base line survey; • Perform regular monitoring of the progress in achieving Project Development Objective; • Prepare regular Project monitoring report to be submitted to the PCU-BWDB, PIU-DAE, PIU-DOF and the World Bank; • Monitor progress on results indicators as defined by the Framework for Results Monitoring; • Prepare specific analysis and reports to monitor the economic and social impact of the project activities; • Cooperate with the PCU-BWDB, PIU-DAE, PIU-DOF, field staffs of the BWDB, DAE and DOF and other relevant project stakeholders to ensure high quality project monitoring;



Discipline	Qualifications and Job Descriptions
	• Other activities from the domain of monitoring and evaluation, as agreed with the Project Coordination Unit; • Provide regular technical backstopping to the team; and the Project Director, PCU, BWDB; • Work in close coordination with the PCU and in absence of the Team Leader perform the activities of Team Leader and report to the Project Director, PCU, BWDB; • Suggest best solution to the Team Leader in case of ambiguity during project implementation; • He/she report to the Team Leader. • Perform any other project related works assigned by the Project Director and he/she will be liable to the project Director.
3. Monitoring & Evaluation (M&E) Specialist	<u>Qualifications and Experience</u> The M&E Specialist should be a Graduate in Civil/Water Resources Engineering or a Master degree in Agriculture Economics/Agriculture Engineering/Social Science from a recognized university with a minimum of 15 years experience in water resources development/ management projects, of which about 5-6 years in M&E activities of donor financed water development/management projects. The candidate will have to be computer literate and familiar with relevant programs for this assignment. English ability: Very Good standard of oral and written English. <u>Job Descriptions</u> The M&E Specialist would be responsible to the Team Leader/Deputy Team Leader for his job. The job responsibilities of the M&E Specialist shall include but not be limited to the followings: • Perform regular monitoring of the progress in achieving Project Development Objective; • Prepare regular Project monitoring report, to be submitted to the PCU and the World Bank; • Monitor progress on results indicators as defined by the Framework for Results Monitoring; • Prepare specific analysis and reports to monitor the economic and social impact of the project activities; • Cooperate with the PCU-BWDB, PIU-DAE, PIU-DOF, field staffs of the BWDB, DAE and DOF and other relevant project stakeholders to ensure high quality project monitoring; • Other activities from the domain of monitoring and evaluation, as agreed with the Project Director, PCU, BWDB; • He/she reports to the Team Leader. • Perform any other project related works assigned by the Project Director and he/she will be liable to the project Director.
4. Operation &	<u>Qualifications and Experience</u>

Discipline	Qualifications and Job Descriptions
Maintenance (O&M) Specialist	The O&MSpecialist shall have at least a B.Sc. degree in Civil/Water Resources Engineering with minimum experience of 15 years in water development/management projects of which 5-6 years in M&E activities of O&M of water development/management project. Preference will be given to a postgraduate degree in the relevant field. S/he will have to be computer literate and familiar with relevant programs for this assignment. English ability: Very Good standard of oral and written English. <u>Job Descriptions</u> The responsibilities of the O&M specialist would include but not be limited to the followings: • Undertake visits to project sites of special importance in respect to the envisaged study and collect necessary information; • Collect and review available secondary data relevant to O&M aspects of the subproject management by participatory approach; • Determine needs for additional data, identify methodology and sources for data acquisition; • Conduct initial screening of subprojects; • Develop institutional arrangement that is to be adapted for beneficiaries involvement in O&M activities; • Develop institutional arrangement for the people's participation in O&M and prepare sustainable O&M plans for the subprojects; • Prepare the necessary O&M manuals based on the above assessment; • Prepare guidelines for management and/or execution of O&M activities including recovery of O&M costs from beneficiaries; • Prepare guidelines for O&M, including funding arrangements for FCD/FCDIsub-projects through consultations with beneficiaries and local institutions/organizations; • Perform any other project related works assigned by the Project Director and he/she will be liable to the project Director.
5.Social Development Specialist	<u>Qualifications and Experience</u> S/he should have a Master degree in Sociology/Social Science/Social Welfare/Economics or equivalent from a recognized university with 15 years works experience in the relevant field. S/he should have 5-6 years experience in M&E of development projects. Experience in M&E of Social Safeguard Management aspects of the World Bank or any donor funded project will be an added advantage. S/he will have to be computer literate and familiar with relevant programs for this assignment. English ability: Very Good standard of oral and written English.



Discipline	Qualifications and Job Descriptions
	<u>Job Responsibilities</u> His/Her responsibilities shall include but not be limited to the followings: • S/he will be responsible to the Team Leader/ Deputy Team Leader for his/her works and be engaged in mobilizing WMOs with the help of BWDB field staffs; • Undertake reviews and ensure compliance with the GoB's and WB's environmental and Social requirements, procedures and guidelines, including reviewing key project documentation, such as the Environmental and Social Impact Assessment (ESIA); the Resettlement Action Plan (RAP); the Environmental and Social Management Plan (ESMP) covering gender, labor influx, and risks and incidents of GBV; the Environmental and Social Management System (ESMS) in accordance of the project Environmental and Social Management Framework (ESMF), small ethnic community development framework (SECDF) and resettlement policy framework (RPF). • Responsible for monitoring, evaluating and ensuring compliance with SECDF and RPF of the project; • Review, clear and carry out oversight of preparation and implementation of LAPs and RAPs and ESMPs; • Develop recommendations to enhance social benefits and corrective measures to mitigate social risks into various components of the project including risk of discrimination, GBV and labor influx; • Design and conduct surveys and studies to assess social impact of the project; • Contribute to regular M&E reports, MTR report and ICR. • Perform any other project related works assigned by the Project Director and he/she will be liable to the project Director.
6.Environmental Specialist	<u>Qualifications and Experience</u> The Environmental Specialist should have a M. Sc degree in Environmental Science or relevant Environmental subjects /B. Sc. Degree in Civil/Water Resources Engineering with a minimum of 15 years experience out of which 5-6 years experience in M&E activities in the relevant field. The consultant should have carried out environmental impact assessments related to water resource projects as well as preparation and implementation of an environmental management and monitoring plan. Experience in M&E of environmental aspects of World Bank or any other donor funded project will be an added advantage. S/he will have to be computer literate and familiar with relevant programs for this assignment. English ability: Very Good standard of oral



Discipline	Qualifications and Job Descriptions
	and written English. <u>Job Responsibilities</u> His/Her responsibilities shall include but not be limited to the followings: • Review and ensure the compliance of the guidelines in the ESMF of the project; • Review and update Environmental Management Plan; • Review and clear EAs/EMPs of the Project; • Baseline survey of the environmental indicators in the project area; • Design and conduct surveys and studies to assess environmental impact of the project; • Formulate grievance process to address environmental and social safeguards issues for adoption by the project; • Assist the project authority to supervise technical studies to monitor key environmental issues; • Contribute to regular M&E reports, MTR report and ICR. • Perform any other project related works assigned by the Project Director and he/she will be liable to the project Director.
7.Participatory Scheme Cycle Management (PSM) Specialist	<u>Qualifications and Experience</u> The PSM Specialist should be a master's in social sciences/sociology/social welfare, economics, Agriculture Economics, Agriculture science/engineering from a recognized university with a minimum of 10 years' experience in relevant field. The candidate will have to be computer literate and familiar with relevant programs for this assignment. English ability: Very Good standard of oral and written English. <u>Job Descriptions</u> • Review PSM process applied in the project including formation and strengthening WMOs, their participation in project cycle, management of WMOs, identify any lapses and suggest corrective measures and report. • Perform any other project related works assigned by the Project Director and he/she will be liable to the project Director.
8.Fisheries Specialist	<u>Qualifications and Experience</u> The Fisheries Specialist should be a Masters in a relevant scientific subject, such as: marine sciences, aquaculture, biology, fisheries science, ecology, environmental science, zoology or agriculture from a recognized University with a



Discipline	Qualifications and Job Descriptions
	minimum of 12 years experience in relevant field. Experience in assessing and addressing climate risks, achieving resilience and mitigation in aquaculture and fisheries production systems is preferred. The candidate will have to be computer literate and familiar with relevant programs for this assignment. English ability: Very Good standard of oral and written English. <u>Job Descriptions</u> The Fisheries Specialist would be responsible to the Team Leader/Deputy Team Leader for his job. S/he will be responsible for the M&E activities in regards of assessment of fisheries related issues for pre-project and post-project condition. His/Her responsibilities shall include but not be limited to the followings: • Baseline survey for assessment of pre-project condition of cultured fisheries including type, area, yield by species, problem and constraints of fish culture in pond, borrow pit, canal, etc. to monitor the impact of proposed interventions under CSAWM; • Baseline survey for assessment of pre-project condition of open water/captured fisheries in respect of area of water bodies and identifying current beneficiaries; • Assessment of the effect due to rehabilitation of the flood control and other interventions on captured fisheries in water bodies, especially in the beel, river and canal systems; • Assessment of the impacts of the mitigation measures taken by the Design & Supervision Consultant to minimize the negative impact of the FCD/FCDI measures on fisheries and other biotic analysis resources; • Review and comment on the development plan for cultured fisheries prepared by the Design & Supervision Consultant; • Develop programs to monitor and improve fish populations and habitats; • Assist the M&E Specialist in performing regular monitoring of the progress in achieving Project Development Objective; • Contribute in preparing the project monitoring report, to be submitted to the PCU and the World Bank; • Prepare specific analysis and reports to monitor the economic and social impact on the fishermen community due to the project activities; as well as analysis of impacts on climate vulnerability, and climate resilience in fishermen community • Cooperate with the PCU-BWDB, PIU-DAE, PIU-DOF,



Discipline	Qualifications and Job Descriptions
	field staffs of the BWDB, DAE and DOF and other relevant project stakeholders to ensure high quality project monitoring in fisheries aspects; • Other activities from the domain of monitoring and evaluation, as agreed with the Project Coordinator; • He/she will report to the Team Leader/ Deputy Team Leader. • Perform any other project related works assigned by the Project Director and he/she will be liable to the project Director.
9. Agriculture Specialist	<u>Qualifications and Experience</u> The Agriculture Specialist should have at least a Master Degree in Agriculture/Soil Science with minimum 15 years experience in the related field of water use studies, cropping intensity and cropping pattern design, technically, socially, and environmentally viable production plan for cropping scenarios. Experience in assessing and addressing climate risks, achieving resilience and mitigation in agriculture systems and climate-smart agriculture practices is preferred. S/he will have to be computer literate and familiar with relevant programs for this assignment. English ability: very Good standard of oral and written English. <u>Job Responsibilities</u> The Agriculture Specialist would be responsible to the Team Leader/Deputy Team Leader for his job. S/he will be responsible for the M&E activities in regards of assessment of agricultural related issues for pre-project and post-project condition. His/Her responsibilities shall include but not be limited to the followings: • Baseline survey for assessment of pre-project condition of agricultural production including type, area, yield, problems and constraints, etc. to monitor the impact of proposed interventions under CSAWM; • Assessment of the effect due to rehabilitation of the flood control and other interventions on the agricultural production, cropping intensity, cropping practices, etc.; • Evaluation of the assessment of data requirement of land and agriculture production and cultural practices done by the Design & Supervision Consultant (DSC); • Evaluation of the assessment of cropping practices in the subproject area including input-output mixed and cultural management done by the DSC; • Evaluation of the assessment of HYV technology in the subproject area and its impact on traditional agriculture, land water fisheries, wild life human resources, etc. done by the DSC; • Assessment of impact of the proposed cropping practices



Discipline	Qualifications and Job Descriptions
	on the land and other ecological balance in the proposed project area; • Assist the Environmental Specialist in developing agriculture related program of EIA; • Assist the M&E Specialist in performing regular monitoring of the progress in achieving Project Development Objective; • Contribute in preparing the project monitoring report, to be submitted to the PCU and the World Bank; • Prepare specific analysis and reports to monitor the economic and social impact on the farmer community due to the project activities; as well as analysis of impacts on climate resilience and mitigation in production systems. • Cooperate with the PCU-BWDB, PIU-DAE, PIU-DOF, field staffs of the BWDB, DAE and DOF and other relevant project stakeholders to ensure high quality project monitoring in fisheries aspects; • Other activities from the domain of monitoring and evaluation, as agreed with the Project Coordinator; • He/she will report to the Team Leader/Deputy Team Leader. • Perform any other project related works assigned by the Project Director and he/she will be liable to the project Director.
Non key Data Support Staff	
1. Field Data Collector	<u>Qualifications and Experience</u> The Field Data Collector should be Graduate in social science/engineering/Agriculture. (The team leader will select a balanced team). Preference will be given to the candidates having experience in relevant field. S/he will have to be computer literate. <u>Job Responsibilities</u> • Involve in base line survey, conduct periodic assessment, and collect data and information for other. • Perform any other project related works assigned by the Project Director/Consultant Management and he/she will be liable to the project Director.
2. Data and Information Analyst	<u>Qualifications and Experience</u> The Data and Information Analyst should be Graduate in social science/engineering/Agriculture. (The team leader will select a balanced team). S/he should have substantial experience in computer applications and data analysis and management. <u>Job Responsibilities</u> • Involve in overall data analysis and management of the project • Perform any other project related works assigned by the Project Director/Consultant Management and he/she will be liable to the project Director.



9. Deliverables

Based on the activities, scopes of services and responsibilities described earlier the deliverables will be required as follows:

- Inception report
- Quarterly reports on progress and results for an agreed set of indicators (largely coming from the project Results Framework). This report would need to be combined with overall project quarterly progress report
- Semi Annual Progress Report
- Surveys (of WMO, farmers and fisheries CIGs)
- Fully operational web-based information system for the project, including geographic mapping of project monitoring results. The architecture is expected to be designed after needs assessment in consultation with staff of the PCU/PIU
- Regular progress review workshops with PCU and PIU
- Baseline report considering selected parameters including results indicators
- Mid-term review report
- Draft Impact Evaluation Report and final Impact Evaluation Report, detailing impact of project interventions on beneficiaries, as compared to a control group.
- Draft Project Completion Report
- Final Project completion report
- Any other report if necessary.

The deliverables will be submitted in both hard and soft copy.

There will be arranged Inception report presentation in BWDB before finalization it, a national workshop after submitting draft project completion report and any other Presentation or workshop as per requirement.

WMO Development Process including WMO-managed Agriculture, Fishery, Livestock and other Livelihood Interventions (Sub Project Cycle)

STRATEGY

WMO formation and strengthening or its organizational development are not separated from WMO-managed activities/interventions like operation and Maintenance (O&M) of infrastructure, agriculture, fishery, livestock and other livelihood activities. WMO development is treated as a “demand-driven” evolutionary process. This means: “WMOs (primarily WMGs and WMAs) will learn-by-doing through organized collective action”. The type, number / scale and variety of collective activities would primarily depend on: a) the extent to which the activity contributes to members’ income, b) the stage of development of a particular WMO (**Appendix-1**) as well as, c) the services provided by Government agencies (at the infant stage of WMOs) and higher-level organizations¹.

WMO-managed collective action may begin with simple but “quick yielding” activities which would attract direct beneficiaries. Such activities at the initial stages would “unite/bind” them

¹ For example, efficiency of Facilitators, extension service by Department of Agriculture or technical inputs by BWDB would affect the efficiency of WMOs. Similarly, O&M at higher level or bulk supply of an input or other service by WMA would affect the efficiency and scale of operation of WMG



together and also provide a good opportunity for beneficiaries to “identify” beneficial leaders. Organized collective action such as purchasing inputs for fishery or farm production or group nursery/fingerling culture (organized through an informal committee) coupled with convincing explanation by the Facilitator (whom the beneficiaries would treat as a “friend”/ encouraging companion”) on project’s novel features like planning with beneficiaries, participatory infrastructure development, integrating water management and O&M with agriculture, fishery etc activities and apart from all, WMO rights responsibilities and benefits to collective would help beneficiaries to accept project’s strategy and process and “form” sustainable WMGs with good leaders. They will realize the importance of sub committees and division of responsibilities for expanded collective action, and, as water management is the key to agriculture, fishery, livestock etc activities it would become easier for the Facilitator to motivate the beneficiaries to undertake O&M responsibility and contribute up-front. These WMGs would be federated up to WMAs once the beneficiaries realize the limits of WMG and the need for a parental organization. During this process, WMOs will be organizationally developed”. We will not conduct formal training for that.

Other Salient Features of WMO Development Process

- (i) Facilitating (adopting a “handholding” approach) WMOs to manage water and O&M of infrastructure, agriculture, fishery, livestock and other livelihood activities (mainly through organized collective action in planning and providing services to beneficiaries) is defined as WMO development process
- (ii) For WMO strengthening towards the overall goal of increasing farm income, CSAWMPWMO Development Process focuses on experiential capacity building (learn-by-doing”) supported by a “handholding” process primarily facilitated by BWDB Extension Overseers/Facilitators and technical assistance from a multidisciplinary team of professionals (Senior Facilitator). This process includes WMG formation and federation at WMA level, form Joint Management Committees (JMCs) and capacity building / strengthening of all these organizations partnership development between WMOs and BWDB and other Government agencies and between WMOs and the Private sector).
- (iii) Project will employ Facilitators Team would include professionals representing O&M, agriculture, fishery, livestock and other livelihood activities. The Team would be coordinated by an institutional development specialist. All members of the Team should possess a proven record of experience in working with communities and guiding Facilitators. PCU undertakes administrative control of staff and support services. DSC will work in collaboration with BWDB technical staff in providing technical assistance. BWDB staffs will “gradually take-over”. Hopefully, full take-over by PCU staff would take place towards the end of the third year.
- (iv) The “hand-holding” approach uses trained Facilitators guided by DSC’s WMO experts and with technical assistance by other DSC, PCU professional staff and multidisciplinary teams of Facilitators (on-site). Facilitators will motivate, mobilize and assist beneficiaries and their WMOs throughout the subproject implementation process. As the process follows the experiential capacity building² or “learning-by-doing”

²Facilitators/BWDB extension overseers are the main “capacity builders”. They provide long hours of continuous “training” for three years. As adults “learn more by doing” and because these Facilitators are more acceptable and closer to beneficiaries (and also because the “training” is demand-driven” and on-the-job), formal training would be very much limited. Topics such as accounting / Finance Mgt, WMO-BWDB/Private Sector Contracts, Accounting for specific sub committees of WMOs, special technical training related to specific livelihood activity for a special group etc. may include in formal training.

method, it is believed that WMOs would develop the skills required to maintain the momentum created even after the withdrawal of Facilitators and other CSAWMP assistance.

- (v) WMO Development Process will be monitored and evaluated. Self-M&E by WMOs will be internalized and CSAWMP support to WMO will be based on the performance of the WMO (Milestones/triggers and performance indicators). Performance of Facilitators and all staffs involved, if agreed) will also be evaluated using specific indicators related to WMO strengthening, especially WMO-managed O&M and other services (related to agriculture, fishery, livestock, livelihood etc).
- (vi) To the extent possible, all the interventions would focus on collective action. This means all the members of the group / WMO would benefit from any intervention. For example, target indicators would be "Total and Average" fish production, crop production / cropping intensity, increase in the assets of WMO, value of collective action organized by WMO etc. Project inputs and support directed to selected individuals will be avoided.
- (vii) As WMO Formation and Strengthening is NOT separated from agriculture, fishery, livestock and other livelihood interventions and because water management and O&M of water infrastructure is the key to the success of almost all these interventions, it is expected that, **when they realize that such an integrated approach increases their incomes**, beneficiaries would undertake O&M responsibility including contribution in cash and kind. The real challenge is to motivate and organize quick-yielding activities and **make the contribution "up-front"**.



IMPLEMENTATION PROCESS

Figure-1: Four-Phase WMO Development Process and Sub Project Cycle

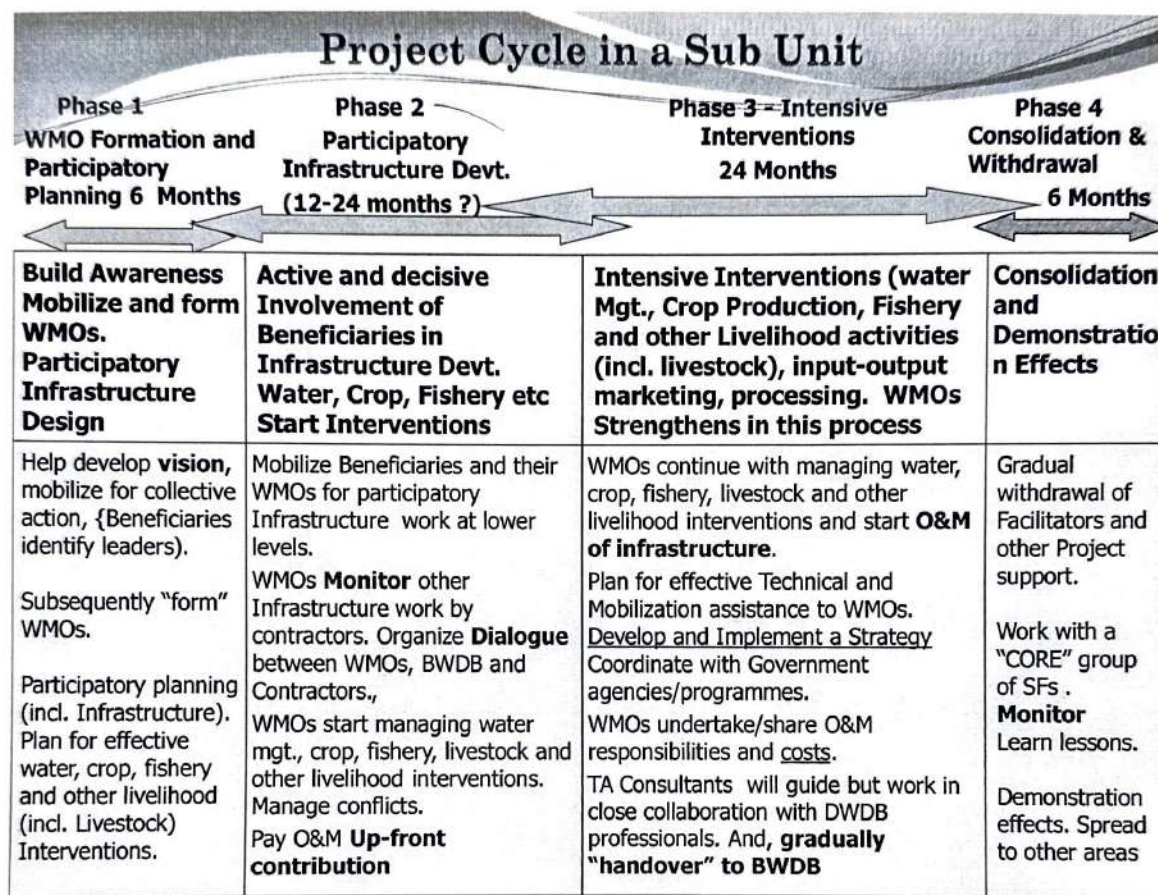


Figure-1

Note: Phases overlap with each other. Therefore, total would be about 4.0 years after mobilizing Facilitators.

Table-1 below shows the Phase-1 activity schedule focusing on SIP preparation.

Abbreviation:

DSC : Design and Supervision Consultant

SIP : Sub-project Implementation Plan



Table -1: WMO DEVELOPMENT PROCESS: SAMPLE ACTIVITY AND TIME SCHEDULE FOR PHASE-I

Step No.	Major Task	Sub Activities	Responsibility and Capacity Building, if Required	*Average Time Required (Weeks)
Preparatory Activity-1	a). Prepare Maps of hydrological Units	a) PCU provide Maps to DSC (as agreed)	a) PCU is responsible for providing maps	One week (1)
	b). Within each SIP area (that is WMA), prepare hydrological unit maps and clearly mark WMG Units (hydrological units and not village-based)	b) DSC, in collaboration with PCU professionals demarcate hydrological boundaries of WMA areas (already done in some areas?) c) DSC in collaboration with PCU staff, identify "mini" hydrological units within WMA areas (for WMGs) d) Field verification by DSC in collaboration with PCU staff (Participatory Walk-throughs may also be used. Existing Extension Overseers/ Facilitators will also be involved). e) {Get an "idea" about direct beneficiaries as well}	b) DSC and relevant PCU professional staff "take-over" from that point c) Relevant engineers (DSC and PCU) conduct orientation "training" to others. TL takes the lead (sorry I couldn't consult TL) d) Existing Ext. Overseer/Facilitators (NGO and PMU) may be sent to these SIP areas and PMU may be sent to these SIP areas and they would organize Walk-throughs and PCU staff walk-through with beneficiaries	Two weeks (2)
	c). Predict the water level (spatial distribution within WMA areas, to the extent possible) after infrastructure development	f) DSC, in collaboration with PCU staff, simulate the "expected behaviour" of water level after infrastructure development. g) DSC, in collaboration with PCU staff, "prepare for presenting this to beneficiaries during the Participatory Planning process"	e) DSC take responsibility	One week (1) Three weeks (3)
				Two weeks (2)
Preparatory Activity-2	Assign Ext. Overseer/ Facilitators.	a) Decide on the numbers Ext. Overseer and Facilitators b) Approve budget, prepare TORs, and decide on their employer (Recruitment Agency/Firm) c) Process for Government and WB Approval d) Advertise at the same time as above e) Selection procedure agreed, DSC select all following transparent process (details accessible to all)	a) DSC and PCU staff (based on the hydrological units identified at the first preparatory activity) b) PD and BWDB, Ministry? c) DSC (WMO Specialists)	01



Step No.	Major Task	Sub Activities	Responsibility and Capacity Building, if Required	*Average Time Required (Weeks)
	Pre-service training	- DSC prepare programme: objectives, topics covered, methods - DSC prepare modules - One week class room and one week field training proposed	- DSC/BWDB undertake responsibility. PCU staff collaborate and also act as resource persons - Topics similar to topics of Step-1 below - Add: leadership development, conflict management, effective communication and basic knowledge on different disciplines	One to two weeks (2)
	Assign SIP areas to Ext. Overseers/ Facilitators	- Consult Ext. Overseers/ Facilitators - Assess - Assign areas - Provide details about respective areas (maps, PPTA studies, if any, etc)	- DSC in collaboration with PCU staff take the responsibility - PCU provides maps and data/information and collaborate	One week (1)
	Identification of "potential collective action", especially for suggesting to beneficiaries during the Planning phase (could start implementation soon)	- DSC examine the "typical/common" interventions proposed for similar SIP areas and identify interventions/activities that could benefit from collective action - DSC examine the potential for "new" / innovative activities/interventions based on collective action - As much as possible, DSC and PCU staff should identify action plans for WMO-managed collective action	DSC get PCU staff involved to build their capacity? (this is usual practice, but I am not aware of the knowledge gap)	(Simultaneously with above activities) So, no need to allocate additional time
Step-1	<u>Awareness Building</u> Information, Education and Communication (IEC) Campaign, if possible. Otherwise,	Topics: a) CSA WMP, its scope and components, expected outcomes and impact, its important characteristics: especially Integrated and Participatory Management	a) It is ideal if IEC Campaign is done. Then, begin with IEC materials and methods including Mass media b) Facilitator: Informal discussions at household,	IEC Campaign: begin at least one month



Step No.	Major Task	Sub Activities	Responsibility and Capacity Building, if Required	*Average Time Required (Weeks)
	this will be done mainly by Ext. Overseers/ Facilitators	b) WMO development: who should be leaders, how collective action could change incomes, need for sub committees, their composition, gender equity, special programmes for weaker sections of the society, WMA and WMA, JMC c) Sub Project Cycle, Interventions-broad areas: Infrastructure, Participatory water management and O&M, agriculture, fishery, livestock, other livelihood; examples of collective action in each of these broad interventions d) Planning process (SIP preparation methodology) e) Outline of “expected implementation cycle”, roles and responsibilities of WMGs and WMOs (and beneficiaries) f) Participatory M&E.	small group and hydrological unit level (it is crucial to identify hydrological units). c) Followed by formal meetings at WMA and WMA level. DSC Training Specialist (in collaboration with PCU counterpart) would assist in providing the Ext. Overseer and Facilitators with material to strengthen this process; e.g. handouts, posters (in addition, Training Specialist can provide inputs to Ext. Overseer and Facilitators capacity in conducting meetings, presenting themselves and in Participatory Management and planning process). DSC WMO Specialist will be the overall Guide.	prior to fielding Facilitator. After that, continue in a reduced scale. Minimum four weeks after fielding Facilitator (4)
Step-2	Ext. Overseers/ Facilitators help beneficiaries identify potential members for the Planning Committee		Ext. Overseers/ Facilitators are guided by DSC	Three weeks (3)
Step-3	Form Planning Committee Assessing Present status and Feasibility Check (jointly with beneficiaries / Planning Committee)	Ext. Overseers/Facilitators under the guidance of DSC and PCU staff, will mobilize and assist Planning Committee and beneficiaries to assess the present status of: a) Beneficiary involvement in O&M and relationship with BWDB, sources of funding/status of water fee collection, willingness to change etc, b) Resource use pattern (including land and water), especially the status of Agriculture and Fishery, associated water management and O&M, other	Formats, facilitating materials (e.g. for quick participatory assessments) Each of the Facilitators teams will be provide with all the relevant maps of their respective areas, feasibility studies, handouts, brochures etc. DSC, PCU staff take responsibility. All work as a “Team” but each SIP may coordinate by a specific person.	One-day event Six weeks (6)



Step No.	Major Task	Sub Activities	Responsibility and Capacity Building, if Required	* Average Time Required (Weeks)
		livelihood (detailed formats will be provided) c) Environment management, d) Gender equity, and e) Potential in the WMO area.		
Step-4	WMO Develop the WMO Vision {It is assumed that WMOs are "formed" at this stage} This will be elaborated later	a) Ext. Overseers/ Facilitators, with the technical assistance and guidance of DSC and PCU staff, motivate and educate WMOs and beneficiaries to think "how the WMO and its members would be in five years?" Specific indicators would be used. b) What should be the "path" towards that goal? c) How could WMO utilize collective action (Social Capital) in realizing the vision and goal? How WMOs were developed in other areas/countries? etc.	DSC, PCU staff, Ext. Overseer and Facilitators will provide technical inputs in this process. They will: a) Provide each Ext. Overseer/Facilitators- team with success cases local and abroad (not just stories, but recorded evidence and detailed process followed) b) Encourage live debates and brainstorming, Facilitate interactions Training Specialist will support this process as suggested earlier in step-1	Three weeks (Overlaps with above) (3)
Step-5	Identify potential interventions focusing on WMO-managed collective action	Consultants and the concerned PCU staffs together with the Planning Committees reach a consensus on a "package of interventions"; infrastructure, post construction O&M of these infrastructure, agriculture,		Four weeks (4) (Overlaps with above)
Step 6	Developing the Plan	a) DSC and PCU staff the "consultants' and PCU staffs' as well as Planning Committees' Plans" will be presented to beneficiaries. b) Please refer "Participatory Planning Note"		Six weeks (6)



Step No.	Major Task	Sub Activities	Responsibility and Capacity Building, if Required	* Average Time Required (Weeks)
		c) Present the Plan to the General Body. Plan should be approved by the General Body with at least with 75% majority.		
Step-6	Open Bank Accounts MoA Between WMO and BWDB Capacity building on Plan implementation “Prepare” WMOs and beneficiaries for participatory Implementation	a) Assist WMOs to prepare a draft MoA (Memorandum of Agreement) b) Facilitate the submission and discussion of MoA at the WMO General Body and BWDB c) MoA is Converted into a legal document and signed (expect a clear division of roles and responsibilities. Monitoring and Conflict management mechanisms etc are in place. Ready to implement the Plan) d) Continue with capacity building program.	a) Workshop with WMOs to prepare a draft MoA b) Workshop with WMOs and BWDB to discuss/modify (if required), and c) Facilitation and assist documentation at WMO General Body d) Facilitate and assist in Converting MoA into a legal document (expect a clear division of roles and responsibilities. Monitoring and Conflict management mechanisms etc are in place. Ready to implement the Plan)	Three weeks (3)

Total 10-12 months

* Average Time Required (Weeks) : This time period will be adjusted as per field condition and tried to shorten as far as possible



Implementation Schedule

Implementation Steps	Year 01				Year 02				Year 03				Year 04				Risks / Remarks
	01 July-30 June				01 July-30 June				01 July-30 June				01 July-30 June				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
SIP Preparation Phase (6-10 Months)																	If Ext. Overseers or Sr. Facilitators are not recruited on time, Project may reduced to "infrastructure project" as there is no time for WMO development. Then sustainability of infrastructure O&M is doubtful.
Help develop vision.																	
Mobilize for collective action, {Beneficiaries identify leaders}.																	
Mobilizing for collective action would continue. Here we show only initial phase																	
Subsequently "form" WMOs.																	
Participatory planning (incl. Infrastructure).																	
Plan for effective water, crop, fishery and other livelihood (incl. Livestock) Interventions.																	
WMO enter into an Agreement with BWDB																	
Participatory Infrastructure Development																	
Mobilize Beneficiaries and their WMOs for participatory Infrastructure work at lower levels.																	
WMOs Monitor other Infrastructure work by contractors. Organize Dialogue between WMOs, BWDB and Contractors.,																	
WMOs start organizing collective action in O&M & managing water, crop, fishery, livestock and other livelihood interventions.																	
Manage conflicts.																	
Pay O&M Up-front contribution																	
Intensive Intervention Phase																	
WMOs expand collective action and intensify the management of water mgt., crop, fishery, livestock and other livelihood interventions. Manage conflicts.																	
Project provides effective technical and mobilization assistance to WMOs. Develop and Implement a Strategy.																	
Coordinate with Government agencies/programmes.																	
agencies/programmes.																	
WMOs undertake/share O&M responsibilities and costs.																	
DSC take the overall responsibility for guiding; but work in close collaboration with DWDB professionals. And, gradually "handover" to BWDB																	
PMO/BWDB Gradually "take-over"																	
Consolidation and Withdrawal of Project Assistance																	
Gradual withdrawal of Facilitators and other Project support.																	
Work with a "Core" group of SFs . Monitor. Learn lessons. Demonstration and spread effects.																	



Appendix-1: Development Path of a Progressive WMO / Federated WMOs

When the WMO reaches an adequate level of “maturity” in terms of organizational strength and resources, it may expand beyond collective purchasing of (agricultural /fishery) inputs and similar activities. Depending on the maturity, WMOs or higher-level organizations may add more profitable business activities/enterprises such as output marketing and organizing production. They may commence organizing beneficiaries for market-oriented production, undertaking forward contracting for identified markets, etc. Such activities would require more advanced organizational skills. In other words, a “matured” WMO would undertake other support services including input-output marketing and post-harvest services as well as agri-business (Figure). This will enhance beneficiaries’ capacity to maximize profits. The Facilitators and the Specialists should aim at developing an “entrepreneurial culture” within the WMOs.

