

DRAFT TERMS OF REFERENCE

Hiring of an agency for Design, Development & Deployment of ICT based MIS to support the implementation of the Meghalaya Community Led Landscapes Management Project under MBMA

A. Project Background:

1. The World Bank supported ‘**Community – Led Landscapes Management Project** aims to strengthen community-led natural resource management based on a landscape approach in Meghalaya. The Meghalaya Basin Management Agency (MBMA) will implement the Project over a period of 5 years from 2018 to 2023. During the project tenure, communities and related institutions, including relevant line departments of the Government of Meghalaya, will be systematically strengthened for improved governance, livelihood promotion and village development through effective natural resource management in the state.
2. The Project will be implemented in approximately 400 villages using a decentralized and participatory approach, with financial autonomy to the PRIs i.e. the Village Council (Dorbar, Nokma, and Doloi) and a Village Natural Resources Management Committee (VNRMC) that will be constituted to support the planning and implementation of NRM interventions. There will be a strong focus on institution-building at the village-level, by ensuring systematic capacity-building on technical, managerial and social development skills, including, but not restricted to resource mapping and data collection, land use planning, project design and monitoring. The Project will also extend such training to communities beyond the targeted project villages and support efforts made by them to access funding from various rural and natural resource initiatives and schemes. Through these processes, the project would ensure convergence of various centrally and State Sponsored Programs to improve the efficiency of public spending on environmental protection.
3. The Project will also invest in improving the process and outcome delivery, by developing effective systems at the Village, District and State levels to achieve the project’s development objectives. The outputs include knowledge management, information technology systems, financial management, procurement management, citizens’ engagement, conflict resolution, grievance redress and monitoring and evaluation through social audits at the community level.
4. A brief project description and proposed activities under the project is included in ***Annex I***.

B. Objective of the Assignment:

- I. The primary objective is to design, develop, deploy and maintain a full stack ICT based application platform which would house MIS modules for project progress performance monitoring and GIS based tools for Geospatial analysis. The integration of GIS applications for Geo-tagging of project activities (geospatial Meta data), geospatial analysis of data generated during the process, tracking progress will be one of the major activity.
- II. The MIS will be used to track implementation progress and other aspects of the project at select intervals with additional scope of comparative reporting and analysis for non-project areas (villages / blocks) as well as other state government and central government platforms for information sharing and scheme convergence and shall generate the necessary reports which will be used to facilitate informed decision making at all levels and by all stakeholders.
- III. To keep provision of future updation, up gradation of the MIS architecture which might arise out of any changes in project components or implementation methodology in the near future.
- IV. To design and develop a system to monitor and manage Grievance Redressal Mechanism, which will be mobile / tablet based, to capture and feed data into the MIS.

C. Scope of Work:

Since the MIS application is going to be the backbone of the project, there is need for experts and domain agency to play a direct role in design of the IT architecture and also engage in its implementation and maintenance.

The minimum scope of work is defined in *Annexure II*. However the agency has to define broad scope of the project during initial design analysis phase.

Detail list of tasks to be carried out by the agency as part of this assignment are given below:

I. Stock Taking and Requirements Gathering

- a. *Defining needs*: The agency will take a broad view of the overall needs and help the project team develop the ICT based MIS based on their current and future requirements and priorities. It is imperative that the agency also consider institutional expertise while defining the needs of the system.

- b. ***Stocktaking of existing MIS:*** The agency will determine what existing ICT systems and MIS' are already in place and collect all details of the hardware, software, application, process workflows relevant to the project, service levels, technical details, interface points etc. Also engage with all relevant internal and external ICT vendors to understand the existing and mandatory policies, procedures and standards that will affect the design and development.
- c. ***Requirements gathering:*** The agency will familiarize themselves with the projects by studying the existing Approach Papers and User Requirement documents but will conduct further studies to understand the information needs at all levels as also the challenges and limitations in the field. This would broadly include:
- i. **Program Design:** Understanding the various components, organizational structure and management levels of CLLMP
 - ii. **Key Performance Indicators:** Identification of output and outcome level indicators for performance measurement of the program. This will be based on project Result Framework listed in *Annexure III*
 - iii. **Process Flows:** Identification of all existing processes and new processes which are going to be captured by the MIS
 - iv. **Information Needs:** Identifying the information needs of SPMU, DPMU, BPMU, VPMU and other key stakeholders for effective decision making. This includes the real time reporting of project component stakeholders, at micro level i.e. Human Resources Management, Capacity Building, Village information for VPMU, Civil society & stakeholders in rural areas and macro level dashboard for decision making at superior level.
 - v. **Information flows:** Understanding the origins of information and determining the information flow and target/destination of the information. Detail outline of the information architecture and its deliverables in the project context. This should elaborate following aspects of the design architecture:
 - a. GIS Integration across the system
 - b. Database Linkages
 - c. Data Responsibility –mapping

- d. Frequency of Data updation/input/entry
 - e. Quality Control Checks
 - f. Standardization Protocols and Processes
- vi. Reports: The MIS should include all analytical reports, graphic analysis, GIS maps and online queries for addressing the decision making, monitoring and reporting needs across each user level. Reports would include easy to use pre-defined reports and user defined reports, which could be easily customized and adhoc reports as and when required. The MIS system should have an in-built project management system for ease of individuals and stakeholders' at different level to track and summarize the project performance at village, block and district level.
 - vii. Infrastructure availability: Study infrastructure availability (Broadband, mobile connectivity etc.) and to develop an infrastructure plan which will include the best modes of data transmission and communication
 - viii. Work load: Estimate concurrent users for various modules and their locations in order to assess the load on system. The options for scalability of users as per project requirement to be considered.
 - ix. Migration Strategy: Study existing systems and databases to plan data and user migration strategy for rollout. Outline and define The Business Continuity Plan (BCP) with 99% uptime with redundant backup storage. To also study the security certification and periodical security audit of the ICT based MIS application.
 - x. Capability Assessment: Assess capability of existing manpower at state, district, block, cluster and village levels to understand ground level realities and plan UI interfaces and develop training plans.
- d. **Documentation**: All user requirements will be documented and presented for review and approval.
 - e. **Liaison with CLLMP/IBDLP teams**: The agency will liaise with sub teams within the CLLMP supporting various aspects of the project/ Programme and seek their

technical inputs regarding project processes, information and reporting needs, and feasibility of use of MIS for different data tasks.

II. Design of MIS Application

- a. **Options:** The agency will propose suitable solutions for a scalable & modular ICT based MIS system along with alternative options of overall architecture, based on the feedback and learning from the other similar projects that the agency may have executed. The options along with pros and cons will particularly relate to available technologies and platforms and their comparison (options to be subjected to an independent review). The MIS platform and modules should be able to capture data both in online (connected to internet/intranet) and offline mode that will also eventually update/ appraise project Result Framework as listed in *Annexure III*. In case of offline mode, the data would be captured on the local device and synchronized with centralized server when connected to internet/intranet. The MIS platform and modules should be able to capture data using multi modal devices, e.g. laptop, mobile phone, tablets, etc. The MIS platform should be able to sync data captured from various devices onto the central server and also transfer specific data back to the various devices.
- b. **Data Warehouse Design:** Present database design options detailing staging, integration and access layers, considering augmentation and integration of geospatial Meta data.
 - i. **Interfaces:** Highlighting interfacing requirements with other application central and state level databases etc. and third-party solutions Web-site/Portal etc.
 - ii. **Data synchronization:** Methods and frequency of synchronizing including back-up and data purging policies etc.
 - iii. **Data integrity:** Check totals and validation checks for every data entry, data transformation, alerts/escalations for enforcing data discipline and maintaining transaction audit trail
 - iv. **Data warehousing reporting Tools:** Define data warehouse tool requirements on database types and query/reporting requirements including their frequency and distribution list, availability on reports portal, etc.

- c. **Data Center and hardware aspects:** Describe data center layout requirements and present hardware sizing taking into account the no. of concurrent users, desired response time, database sizes etc. This includes definition of back end servers, data storage/volumes, network equipment, connectivity and peripherals. Also define physical security requirements. Note - supply of hardware is not included in the scope of services to be provided as part of this assignment. However, the MIS design should specify hardware requirements and estimate the likely cost of any new equipment that will need to be procured.
- d. **Hosting requirements:** Define the hosting needs along with connectivity options for high availability of the system and networking and bandwidth requirements.
- e. **Change Management Plan:** Identify the organizational change requirements relating to infrastructure upgrade, process reengineering, skills upgrade, compliance etc and define a change management plan. For this purpose, an assessment needs to be conducted to ascertain present skills levels vis-à-vis required skill sets, which will aid to recruit additional staff and/or redefine the roles of existing staff. Suggest change management procedures associated with enhancement or modification of system components that have already been deployed. Reengineering requirements, if any must also be highlighted based on best practices.
- f. **Governance Framework:** Develop a comprehensive governance framework that define, inter-alia the following aspects:
 - i. Work processes: All relevant processes required by stake holders to utilize this platform including operational work flows and associated procedures
 - ii. Data staging, integration and access: All processes associated with data capture, data migration and data conversion from existing ICT systems and paper records. This should include historical and adhoc data creation process
 - iii. Data security: Define and develop pertinent strategies for data security including schedules of authorization, access control, user protocol, to detect and quarantine malicious activities etc. Define security metrics and develop policies and procedures for information security including the processes associated with external party interfaces or third-party support along with the relevant service levels. Also define the policy for use of external storage facility and anti-virus

policy. Security measures should be in compliance with requirements as notified by NIC or competent authority.

- iv. **Risk management**: Data management plan, security options for the system and access control, business continuity (BC) and disaster recovery (DR) processes
- v. **Compliance and checks**: Develop protocol for periodic checks, including third party audits for compliance and risk control
- g. ***SRS Documentation***: Define and document in detail processes required for building and using the MIS system and thereafter document and present the design solution for review and approval
- h. ***Independent Review***: An independent review of the design and recommendations of the architecture of the prototype.

III. Development of MIS Application

- a. ***Software development***: Present overall development plan for the proposed comprehensive MIS application. Periodically present a progress report and application samples for review by the CLLMP team and feedback, during the development phase.
- b. ***Software testing***: Design test cases for all levels of testing and furnish them along with test results and test data for review by the CLLMP team. The test protocols will involve:
 - a. Functional testing
 - b. System testing
 - c. Performance testing
 - d. Usability Testing
 - e. Feedback mechanism (to capture impact details from key stake holders)
- c. ***Training and Capacity Building Plan***: Detailed training and capacity building for various users. The responsibility will lie with the agency for the same.
 - i. **Training plan**: Develop training plan based on assessment of skill-gap analysis of project staff (during requirement gather stage) of CLLMP. Requirement for training will be assessed with the focus on end-user services and responsiveness in consultation of project members within MBMA.

- ii. Training modules: Develop curriculum and courseware for variety of training modes, both online and offline, like web based video libraries, self-learning, instructor led training etc. agency should also list out the mode and associated infrastructure needs for successfully delivering the trainings for trainers, ICT staff, data entry agents or agencies, help desk and users,
- iii. Manuals: Develop operations manuals including implementation and rollout plan, user manuals, training manuals and aids, etc. This will also include comprehensive process guidelines for rollout by third party implementers

IV. Implementation

The agency would be responsible for implementation/access to this comprehensive MIS platform at all levels in the state. In doing so, the agency will undertake the following tasks:

- a. **Roll out plan**: The agency will list out different work modules required along with their inter-dependencies and prepare a comprehensive rollout plan in consultation with the CLLMP team for pilot implementations, if so desired, and phased implementation. The roll out of the system to various units, departments and geographical locations will be planned.
- b. **Validity checks and data migration**: The agency will validate the setup of hardware, software, network, connectivity, and tools as outlined by them. Likewise the agency will carry out data migration , where necessary, along with data cleansing/validation and system testing on migrated data
- c. **Onsite performance testing**: The agency will carry out system setup and on-site performance testing. On successful testing the Agency will develop stabilization criteria and prepare a handover plan.
- d. **Handover**: The agency will train the operations team in MBMA on the MIS application functionalities, its various features and user functionalities. The agency will provide complete details of the technical specifications, detailed design documents, list of third party tools used and licenses, source codes of all work packages/applications deployed, version control procedures, etc.

V. Maintenance & Support

The agency will provide warranty support for agreed duration of minimum 6 months which will include bug fixing and enhancements, if any. The agency will also define post implementation maintenance process for the MIS application and provide onsite/offsite support. This would include capacity building and handholding of local IT team.

- a. Field implementation support: The agency will provide implementation support at the center for a minimum period of 36 months till the system is stabilized. During this period, technical personnel will be placed on site along in addition to a central helpline.
- b. Help line: The agency will define guidelines and procedures for setting up helpdesk support and also provide online help within the application.
- c. Help identify Resource Allocation as necessary from MBMA for setting up of local IT cell.

D. Reporting Requirements, Time Schedule and Payment Terms for Deliverables/Completion of Tasks:

Stages	Deliverables (Reports/Activities)	Time schedule from the date of signing contract (T) (as of signing of contract)	% of the contract amount to be paid
Stage 1	<ul style="list-style-type: none"> ▪ Familiarization with User Requirements, other connected systems and specification study ▪ Inception report outlining understanding of user requirements and detailed schedule of work to be done in stages 2, 3 and 4 ▪ Submission and Acceptance of Inception report 	T + 1 month	10%
Stage 2	<ul style="list-style-type: none"> ▪ Development of ICT Solution Architecture 	T + 2 months	10%

Stages	Deliverables (Reports/Activities)	Time schedule from the date of signing contract (T) (as of signing of contract)	% of the contract amount to be paid
	<ul style="list-style-type: none"> ▪ SRS ▪ Draft MIS design document (incorporating performance areas, indicators, Result Framework, sources and destination of data collection, recording, aggregation/ filtering and transmission procedures and instruments, periodicity, etc.) ▪ Presentation of MIS platform prototype and discussions with client to obtain feedback and decision on the way forward. ▪ Submission and Approval of the Report. 		
Stage 3	<ul style="list-style-type: none"> ▪ Systems and Software Design Document- submission and approval ▪ Deployment Plan, Support Plan, Training Plan and Test Management Plan- submission and approval ▪ Procurement and Deployment of hardware and connectivity where required using/outsourcing to third party organizations if necessary ▪ Software development ▪ Deployment of application software using the source code 	T + 6 months	30%

Stages	Deliverables (Reports/Activities)	Time schedule from the date of signing contract (T) (as of signing of contract)	% of the contract amount to be paid
	<p>in encrypted HDD / USB or DVD media provided to the project and instructions along with a user manual (after making necessary pilot testing);</p> <ul style="list-style-type: none"> ▪ Testing of the software on live data and generation of sample performance reports, modification as needed, and its acceptance by client ▪ Presentation of report on Stage 3 implementation 		
Stage 4	<ul style="list-style-type: none"> ▪ Training at various levels as per plan submitted ▪ Training materials ▪ Final Software design document and application software ▪ Final system maintenance manual ▪ Submission and acceptance of Report on training delivered with annexes consisting of training manuals and final system maintenance manual 	T + 7 months	20%
Stage 5	<ul style="list-style-type: none"> ▪ Handholding and maintenance for after commissioning of the MIS. 	36 months from the acceptance and full stream operationalization of the application, after the completion of first year of operations for the	Remaining 30% in equal half yearly instalments after approval of the half yearly reports.

Stages	Deliverables (Reports/Activities)	Time schedule from the date of signing contract (T) (as of signing of contract)	% of the contract amount to be paid
		application. In the first year, maintenance and associated costs would need to be built into the Deployment phase.	

The MBMA team will constitute a review committee to monitor the progress and interact with the specialists from time to time.

- a. All draft reports should be submitted to the MBMA team for review and feedback and recommendations. The final report should have the revision and recommendations incorporated.
- b. The reports will be accepted subject to the final approval by The Project Director, on the recommendation of the review committee.
- c. The agency shall be responsible for effective handover of all relevant and updated documents/soft copies/materials to the MBMA team. The documents to be handed over would be, but not limited to, the following-
 - a. Requirements specification
 - b. Design document (high level and detailed)
 - c. Other technical specifications including interface details with other applications
 - d. List of 3rd party tools being used and licenses
 - e. Test scripts & Test results
 - f. Training material
 - g. Operation manuals
 - h. User manuals
 - i. Implementation guidelines & roll-out manual
 - j. Support guidelines
- d. The agency will also handover final source code of the application along with relevant documents. MBMA will be the absolute owner of the software and will have all intellectual property and the agency shall not replicate or reproduce or use without the consent of the owner.

E. Client’s Input and Counterpart Personnel including Data and Facilities to be provided by the Client

a. Services, facilities and property to be made available to the Consultant by the Client:

- i. The Client may provide at its premises, provide or assign a room to the Consultant Agency on request of the latter.*
- ii. The Client will provide conference halls, meeting rooms, rest rooms etc. as may be required during the assignment for the purpose of presentation, submission of reports, workshops, brainstorming sessions and meetings*

b. Professional and support counterpart personnel to be assigned by the Client to the Consultant’s team:

- i. The Client will provide CLLMP PIP, COM, MIS architecture documents and MS Excel based prototypes etc. and other relevant documents, under its control and copyright, for reference by the Consultant agency.*
- ii. Personnel of the SPMU, DPMU and BPMU shall provide necessary inputs to the Consultant Agency with prior approval of the Implementing Authority (MBMA/SPMU)*
- iii. Constitution of a project team to facilitate interaction and exchange of information between the agency and key stakeholders specific to this MIS project. The head of the project team will be the single point of contact (SPOC) with MBMA for liaison with the agency.*
- iv. Provide coordination for activities like user training, acceptance testing and deployment*

F. Required Personnel / staff

To carry out the activities involved in this project and complete assignment on time, the agency must involve the following IT specialists during the design, development and deployment period:

Qualifications & experience of Non - key support staff positions:

S#	Name of the Position	Desired Education and Qualification	Person Months required
	K – 1: <i>Project Team Leader / Sr. Solution Architect</i>	Post graduate in IT/Computer Science from recognized University. Minimum 10- 12 years of work experience in designing, operating and/or managing large scale multi-location systems in multi-vendor environment. Should have expertise in Developing and maintaining Program monitoring/ management systems, preferably web based, for large concerns. Having managed a division / an independent team as part of a Medium or larger organization. Experience of	6 months

S#	Name of the Position	Desired Education and Qualification	Person Months required
		working with Government or multilateral/bilateral projects or for similar agencies. Experienced in providing solution ICT based architecture integrated with GIS based system.	
2	K – 2 Sr. <i>IT Specialist</i>	Advanced degree in Computer Science or IT from recognized University. Minimum 5- 7 years of work experience in designing, operating and/or managing large scale multi-location systems in multi-vendor environment. Should have expertise in development of web based systems for large Programs and designing suitable solutions for a scalable & modular MIS system along with alternative options of overall architecture. Should have expertise in developing GIS based framework for gathering, managing, and analyzing geo spatial Meta data integrated with ICT based solutions.	8 Months
	<i>K – 3: Sr. Database Administrator</i>	Advanced degree in Computer Science or IT or related discipline from recognized University. Minimum 5- 7 years of work experience in designing, developing and/or managing large scale database systems. Should have expertise in defining data warehouse tool requirements on database types and query/reporting requirements including their frequency and distribution list, availability on reports portal, data security management including schedule of authorization, access control etc. Should have expertise in GIS based application development, develop framework for gathering, managing, and analyzing geo spatial meta data integrated with ICT based solutions.	12 months
	Non-Key Experts: Programmers / End User Trainer / Knowledge Management	<i>Programmers:</i> Graduate with Engineering qualification or Science graduate with PG Diploma in Information Technology or equivalent from recognized University. Minimum 2- 3 years of work experience in software development. Should be well versed with programming languages, i.e.	52 month

S#	Name of the Position	Desired Education and Qualification	Person Months required
		java, C++, web development and server side technologies. Should have expertise in database types and query/reporting requirements including their frequency and distribution list, availability on reports portal etc.	

NOTE: Consultants to note that CVs of only key experts (positions 1 – 3) will be evaluated at the technical evaluation stage. A consultant may also propose additional human resources to complete the assignment in required time if required, however the same may be considered under the non-key experts only.

The estimated man months defined will be based on scope of work.

AMC will be required after the successful completion and hand-over of the project and will be part of ToR for 3 years [36 months from the date of acceptance of the software/training and other application manuals, security scrutiny, etc. to MBMA] in Lump sum basis, considering following positions:

S#	Position	Tentative Person Months per Year
1	IT Specialist	1 Month
2	Database Administrator	2 Months
3	Programmer/s	12 Months

G. Composition of review committee and review procedure to monitor consultants work

- i. The MBMA team will constitute a review committee to monitor the progress and interact with the agency from time to time as indicated below:

Chairman: PD CLLMP

Member Secretary: DPD Project Implementation

Members: Manager(M&E) and opted members from MBMA and NIC

- ii. The DPD Project implementation & Manager , M&E will closely monitor the work of the Consultant Agency's Work and Task and provide assignment progressreports.

iii. A tentative timeline for carrying out various tasks of the assignment is given below –

Stages	Deliverables (Reports/Activities)	Time schedule from the date of signing contract (T) (as of signing of contract)
Stage 1	<ul style="list-style-type: none"> ▪ Familiarization with User Requirements, other connected systems and specification study ▪ Inception report outlining understanding of user requirements and detailed schedule of work to be done in stages 2, 3 and 4 ▪ Submission and Acceptance of Inception report 	T + 1 month
Stage 2	<ul style="list-style-type: none"> ▪ Development of ICT Solution Architecture ▪ SRS ▪ Draft MIS design document (incorporating performance areas, indicators, Result Framework, sources and destination of data collection, recording, aggregation/ filtering and transmission procedures and instruments, periodicity, etc.) ▪ Presentation of MIS platform prototype and discussions with client to obtain feedback and decision on the way forward. ▪ Submission and Approval of the Report. 	T + 2 months

Stages	Deliverables (Reports/Activities)	Time schedule from the date of signing contract (T) (as of signing of contract)
Stage 3	<ul style="list-style-type: none"> ▪ Systems and Software Design Document- submission and approval ▪ Deployment Plan, Support Plan, Training Plan and Test Management Plan- submission and approval ▪ Procurement and Deployment of hardware and connectivity where required using/outsourcing to third party organizations if necessary ▪ Software development ▪ Deployment of application software using the source code in encrypted HDD / USB or DVD media provided to the project and instructions along with a user manual (after making necessary pilot testing); ▪ Testing of the software on live data and generation of sample performance reports, modification as needed, and its acceptance by client ▪ Presentation of report on Stage 3 implementation 	T + 6 months
Stage 4	<ul style="list-style-type: none"> ▪ Training at various levels as per plan submitted ▪ Training materials ▪ Final Software design document and application software ▪ Final system maintenance manual 	T + 7 months

Stages	Deliverables (Reports/Activities)	Time schedule from the date of signing contract (T) (as of signing of contract)
	<ul style="list-style-type: none"> ▪ Report on training delivered with annexes consisting of training manuals and final system maintenance manual 	
Stage 5	<ul style="list-style-type: none"> ▪ Handholding and maintenance for after commissioning of the MIS. 	36 months from the acceptance and full stream operationalization of the application, after the completion of first year of operations for the application. In the first year, maintenance and associated costs would need to be built into the Deployment phase.

- iv. The review committee will oversee the deployment process and provide feedback and recommendations to the agency which will be duly incorporated in the deployment plan and related documentation.

Annexure I:

PROJECT DESCRIPTION

1. The Project Development Objective (PDO) is to strengthen community-led landscapes management in selected landscapes in the state of Meghalaya.

2. The project will provide targeted support to landscape restoration activities in an estimated 400 villages, in prioritized degraded and highly degraded landscapes, of the state. Benefits will accrue to community members from these targeted villages and to surrounding villages through improvement in natural resources, including an increase in availability of water, and enhanced soil productivity.

3. The ultimate beneficiaries of the project are village communities (estimated number not less than 100,000, 50 percent women) in the targeted landscapes that depend on land, forests, water, and agroforestry for their livelihood. In addition, at least five members from each of the 6,026 villages across the state will benefit from training and capacity building and knowledge-sharing activities. Village councils, traditional leaders, local community institutions such as NRM groups, women, and youth will benefit from the project through capacity building, access to knowledge, promotion of innovation, use of technology for decision making and availability of technical, managerial, and financial support for preparation and implementation of CNRM plans. At the global level, benefits will be from the provision of public goods such as reduced greenhouse gas (GHG) emissions, improved hydrological services, and restored habitats for biodiversity.

PDO Level Results Indicators

- **PDO Indicator 1:** Village NRM Committees functioning with adequate fiduciary capacities and capable of monitoring capacities to lead on landscapes management
- **PDO Indicator 2:** Share of village-level NRM Plans under implementation according to agreed criteria
- **PDO Indicator 3:** Share of target beneficiaries with rating ‘Satisfied’ or above on process and impact of project interventions (disaggregated by gender)
- **PDO Indicator 4:** Land area under sustainable landscapes management practices

4. **The project will support and inform the GoM’s statewide Integrated Basin Development and Livelihood Promotion Programme (IBDLP).** The IBDLP has two pillars: (a) Market Access and (b) Landscape Management for Sustainable Natural Resource Management. The Meghalaya Community-led Landscapes Management Project (MCLLMP) aligns with the latter by strengthening communities and traditional institutions to manage natural resources such as land, springs and other water sources, forests, and biodiversity, through a landscape approach.¹ It will prioritize about 400

¹ There is no single widely accepted definition of this approach. The approach usually refers to decision making to reduce trade-offs between competing land uses (agriculture, forestry, mining, and so on) and multiple livelihood systems in a geographic unit to reduce poverty, increase food production, protect ecosystems, and increase resilience to climate change. The [Ten Principles of Landscape Approach](#) developed through an inter-institutional and intergovernmental process are a useful guide and have also been used to inform the approach in this project. In this project, the agriculture, forest, and other common land and water resources under the jurisdiction of

villages in ‘very critical’ and ‘critical’ (degraded) landscapes over 5 years for the planning and treatment of these landscapes. Planning and investments will be preceded by training for communities and project management staff at the field level. The project will also extend such training to communities beyond the targeted 400 villages to amplify the reach of the MCLLMP approach to a larger cohort of villages to take up landscape-based management with funds from other government programs.

5. **Participation and leadership of communities in landscape planning and implementation will be central to the project.** A community² will lead the preparation of its own NRM plan to promote integrated NRM including, resource mapping, data collection, land-use planning, project design, and monitoring. A village will be the unit of such plans under the project. From an administrative point of view, each landscape will comprise one or more settlements under a traditional tribal institution (Dorbars, Nokma, and Doloi), typically under a single village council. This approach will also facilitate planning for funds from other government programs for convergence of development programs at the village level.

Component 1: Strengthening Knowledge and Capacity for Natural Resource Management (NRM)

6. The objective of this component is to enable the development, assimilation, analysis, and dissemination of knowledge and skills to improve landscape management within the state. This component will comprise the following subcomponents.

Subcomponent 1A: Promotion of traditional knowledge, grass-root innovations, and communication

7. This subcomponent will support (a) state- and regional-level workshops on sharing of unique and traditional NRM practices, relevant for climate change adaptation such as conservation of indigenous varieties of crops, natural spring rejuvenation etc. and lessons from other NRM projects, (b) development of a knowledge management strategy and web platform for sharing of NRM-related knowledge with the community under the MCLLMP and development of knowledge networks, (c) innovation grants to promote and pilot new approaches to sustainable NRM products and services including low cost approaches to increase climate resilience through agroforestry, climate-smart agriculture and spring-shed conservation and (d) catalytic activities to encourage CNRM in new villages. For wider adoption of the MCLLMP approach, the District Project Management Units (DPMUs) will encourage communities that complete the initial training to initiate small activities as a demonstration of their interest to take up larger activities.

Subcomponent 1B: Training and capacity building

8. This subcomponent will finance (a) training and capacity-building activities for all stakeholders and beneficiaries on community leadership and management of natural resources and

a village is defined as the operational landscape. The terms landscape plan and NRM plans have been used interchangeably. See also Sayer, J, et al. 2013. Proceedings of the National Academy of Sciences, USA. May 2013. vol.110 no.21.

²A community in this case would be defined as a group of households that have rights on the same or adjacent agricultural, forest, or other lands and belong to the same traditional institution (Dorbar Shnong or Chanong) or village and can act together. These are based on the three major ethnic blocks or regions in the state: Khasi Hills, Jaintia Hills, and Garo Hills.

the approaches promoted by the project, (b) development of training facilities at block level Bharat Nirman Rajiv Gandhi Seva Kendra (BNRGSK)/Enterprise Facilitation Centers, and (c) national and international exposure visits for project stakeholders. These training activities will be implemented in coordination with the Meghalaya Institute of Natural Resource Management, Institute of Governance, Department of Science and Technology, State Institute of Rural Development (SIRD), Forest Training Institute (FTI, Tura) and Conservation Training Institute (CTI) of the Soil and Water Conservation Department.

Subcomponent 1C: Preparation of strategies, research, and development

9. This subcomponent will support consultancy services to develop plans and strategies in the following areas: (a) preparation of strategy and action plan for development of an agency of excellence in knowledge management, innovation, climate change adaptation and communications; (b) institutional development study for the IBDLP; (c) preparation of a training plan for the project; (d) baseline study for the project; (e) study on drivers of deforestation and natural resource degradation; and (f) study on rehabilitation of population displaced due to mines.

Subcomponent 1D: Monitoring, learning, and reporting

This subcomponent will support a management information system (MIS) to cover the entire state for tracking performance and implementation progress of the project. The Meghalaya Basin Management Agency (MBMA) will design and establish MIS infrastructure for the MCLLMP that can be scaled up to cater to other requirements of the IBDLP.

Component 2: Community-led Landscape Planning and Implementation

This component will support both planning and implementation of the landscape plans by communities in the selected very high/high priority areas.

Subcomponent 2A: Preparation of community landscape plans

Communities, with the help of project facilitating teams (subject matter specialist) at block-level and village-level service providers, will prepare plans to (a) optimize synergies between programs and funding streams and (b) plan holistically rather than be driven by sector-specific targets. The Community Operations Manual (COM) will outline processes of community consultation and development of CNRM plans. Plan preparation will be preceded by information sharing and awareness on the project with villages in the priority landscapes, followed by formation of Village NRM Committees (VNRMCs) with operational bank accounts. Funds for plan preparation will be released to those villages whose Expressions of Interest (EOIs) for participation in the project are selected, an agreed number of Committee members receive foundational training on the project and, the VNRMCs sign the Village Grant Agreement³ with the DPMU to carry out plan preparation according to the guidance in the COM.

Subcomponent 2B: Implementation of community landscape plans and implementation support

³ Government of Meghalaya generally refers to the Village Grant Agreement as Memorandum of Understanding

10. Communities will implement CNRM plans in a phased manner, agreed through an addendum to the Village Grant Agreement between the VNRMC and respective DPMUs after a plan is approved. The addendum will specify the approved funding, milestones, and tranche releases for the plan. Communities will implement agreed first-phase activities in their plan and graduate to the next phase of financing if implementation meets agreed criteria. This approach is meant to incentivize performance-based access to funds by the communities. Interventions needed will be decided by the community in their respective CNRM plans but will be designed to enhance soil and water conservation; soil health improvement and productivity enhancement; spring-shed development and water management; nursery, agroforestry, and community forestry including interventions to introduce climate resilient native species; optimization of shifting cultivation; rehabilitation of areas affected by mining, and other NRM interventions. Criteria for assessing successful implementation will be agreed between the VNRMC and DPMU in the addendum to the Village Grant Agreement.

Subcomponent 2C: Implementation Support to Community Landscape Planning and Implementation

11. The State Project Management Unit (SPMU), with help from the Block Project Management Unit (BPMU) and village facilitators, will provide the geo-spatial data and analysis to inform the planning process in each village and later help monitor progress during implementation. Community members, in addition to village facilitators, will be trained to use some of the tools for data collection and mapping. Activities under this subcomponent will involve acquisition of satellite data; production of maps and reports; and training of technical personnel in the SPMU, selected facilitators, and community members. These tasks will be carried out under the direction of the SPMU.

Component 3: Project Management and Governance

This component will support the strengthening of the institutional capacity and knowledge management of the project implementing entity, MBMA, for the implementation and management of the project including, among others, (a) establishment of the SPMU within the MBMA and support to seven DPMUs, including technical staff and consultants; (b) the incremental costs associated with implementation; (c) administrative support to 20 BPMUs; and (d) technical fiduciary and safeguards oversight and supervision of project activities in the field.

12. The GoM has also prepared a comprehensive Project Implementation Plan which will guide implementation and which will be updated from time to time by the GoM with the prior concurrence of the World Bank.

Annexure II

Minimum scope of work to be carried out during Project Design analysis and development

1. To integrate and upgrade the management information system with the Excel based prototype (existing MIS) and android application (to capture data from the villages on baseline and implementation activities).
2. To develop dashboards on various activities as per the project components at village, district and state levels.
3. To develop complete work flow on approval mechanism, project document and manual compliance, documents upload, user credentials and security Logs etc. The process flow will also cover various line departments for convergence supporting as well as the entire project team.
4. To develop web services to integrate with existing LAMP MIS, android app, GIS database and other third party applications.
5. To integrate project documents like (COMM) and other manuals (Technical, Social & Environment) in terms of technology.
6. To develop web based application for GIS integration and GIS dashboard.
7. To capture the sequence of process from Project implementation, Annual work plan , procurement plan, annual budget, integration with Procurement STEP tool, IUFR generation, asset identification & management, physical & financial progress of the project and any other which might come out during initial stock gathering steps.
8. To share the process knowledge and entire development code / technology during development phase.
9. Data migration from existing excel based MIS templates and android application on village Profile to the newly developed MIS application.
10. Document management system to capture all the project related documents in sequence along with options for upload and share.
11. Defining and establishing training modules [refer Component 2 of the Project] to define Training cum trainers' profile, Mapping of training calendar and mechanism of training based feedback and rating scenarios.
12. To migrate baseline data (Collected from third party consulting firms) and to integrate with project relational database and utilize the same to identify and generate project core indicators.

Annexure III

Project Result Framework

PDO Statement

These results are at Project Level

The project development objective is to strengthen community-led landscapes management in selected landscapes in the state of Meghalaya.

Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values										
		YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	End Target	
Village NRM Committees functioning with adequate fiduciary capacities, and capable of monitoring capacities to lead on landscapes management. (Number)	0.00	50.00	150.00	400.00	400.00	400.00						400.00

Share of village-level NRM Plans under implementation according to agreed criteria (Percentage)	0.00	10.00	50.00	75.00	90.00	90.00					100.00
Percentage of beneficiaries 'Satisfied' with project interventions (disaggregated by sex) (Percentage)	0.00	0.00	0.00	40.00	0.00	70.00					70.00
Land area under sustainable landscape management practices (Hectare(Ha)) - (Corporate)	0.00	5000.00	12500.00	22000.00	28000.00	31510.00					31510.00

Intermediate Results Indicators

Indicator Name	Baseline	Cumulative Target Values									
		YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	End Target
Share of villages supported with capacity-building package in NRM (Percentage)	0.00	10.00	20.00	60.00	70.00	70.00					100.00

Forest area brought under management plans (Hectare(Ha)) - (Corporate)	0.00	700.00	4000.00	8000.00	12585.00	12585.00						12585.00
Meghalaya Basin Management Agency functional as Agency of Excellence in community-led NRM (Yes/No)	No	No	No	Yes	Yes	Yes						Yes
Community NRM management plans prepared and approved by Village CNRM Committees and DPMU of MBMA that include financing from other central and state government sources available for NRM (Number)	0.00	25.00	75.00	150.00	150.00							400.00

Share of Village NRM Committees with equal or more representation of women among 9 members of the Executive Committee (Percentage)	20.00	30.00	50.00	75.00	90.00						100.00
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Note: The result indicator provided in the list above is indicative only and will have additional intermediate sub indicators , which will be provided during initial design phase.

