

# REDD-Forestry and Climate Change Cell

Ministry of Forests and Soil Conservation

Babarmahal, Kathmandu, Nepal

## Terms of Reference

### Development of a Measurement, Reporting and Verification (MRV) System for Emissions and Removals (FCPF/REDD/S/QCBS-7)

#### 1 Background and rationale

Reducing Emissions from Deforestation and Forest Degradation (REDD) is evolving as a means to reduce forest sector carbon emissions through appropriate forest management practices and enhanced forest governance both in the forestry sector and related sectors. The World Bank has established the Forest Carbon Partnership Facility (FCPF) to assist developing countries in their efforts to reduce their emissions from deforestation and forest degradation. Nepal is receiving FCPF support to develop and apply strategies to address the drivers of deforestation and forest degradation. The quick assessment of land use, forest policy and governance carried out during RPP preparation identified nine major direct drivers of deforestation and forest degradation.

Several processes are occurring in Nepal that would be covered under the definition of REDD+ used by the FCPF. There is deforestation due to conversion of forest to other land uses. Furthermore, there are several drivers and processes that lead to forest degradation as unsustainable harvesting practices and overgrazing. Finally forest carbon stocks get enhanced through some of the successful policies and programmes that have already been implemented such as the community forest programmes in hills.

A reliable, credible system of measuring, reporting and verifying (MRV) changes in forest carbon stocks is a cornerstone of any national REDD+ scheme. Developing MRV systems is crucial for the long-term success of REDD+ and is a core element in the first stage of the phased approach. MRV systems are also a crucial part of a performance-based REDD+ mechanism, as they are fundamental to creating reference levels of country-specific emissions.

With Nepal moving ahead in the readiness phase, it has to establish the organisational capacity to operate a national forest carbon MRV programme efficiently and sustainably. Requirements for this national institutional framework for MRV include:

- Coordination: a high-level national coordination and cooperation mechanism to link forest carbon MRV and national policy for REDD+, and specify and oversee roles, responsibilities and co-benefits, and other monitoring efforts;
- Measurement and monitoring: protocols and technical units for acquiring and analysing the data related to forest carbon at national and sub-national levels;
- Reporting: a unit responsible for collecting all relevant data in a central database, for national estimates and international reporting according to IPCC GPG, and uncertainty assessments and improvement plans; and
- Verification: an independent framework for verifying the long-term effectiveness of REDD+ actions at different levels and by different actors.

Different actors and sectors need to work together to make the monitoring system efficient in the long-term and to ensure sustainability.

Since the very beginning of the measure as well as during the study it is imperative to do an ongoing financial feasibility check to make sure that the suggested activities are financially sustainable.

## 2 Objectives

For a future REDD mechanism Nepal has to put a monitoring and reporting system in place that allows for frequent monitoring of emissions and removals of greenhouse gases, and other benefits. This monitoring and reporting system needs to be financially sustainable, i.e., its operation has to be cost-effective to such an extent that it can be financed by REDD funds.

The REDD Cell therefore seeks technical advisors whose main task will be:

- to assist the Nepal REDD Programme in the development of a comprehensive and detailed proposal for the continuous collection, analysis and verification of national data on forest-related carbon emissions and sequestration for the implementation as part of REDD+ in Nepal.

The advisors shall also:

- bridge existing capacity gaps through a set of appropriate capacity building measures for key national experts to establish the technical skills required to sustain MRV capacities within the country.

## 3 Methodology

### 3.1 Guiding principles

The Intergovernmental Panel on Climate Change's (IPCC) stipulates the universally recognised principles for reporting of national emissions and removals of GHGs (transparency, completeness, consistency, comparability, and accuracy). These principles imply that the MRV design should be sub-

stantiated with information to assess the underlying data technically. Appropriate methodologies and procedures used have to be spelled out to document how the proposed MRV meets these principles.

The consultants will also have to make sure that their contributions will have no direct or indirect adverse social / environmental impacts and to be attentive as to any such possible impacts. For this, it will be essential to provide a detailed analysis of the expected outcomes, opportunities and risks associated with the implementation of MRV.

For the construction of a scenario based on historic emissions and removals the consultants shall use the 2003 IPCC Good Practice Guidance (GPG) framework. It provides internationally recognised approaches and methods for estimating GHG emissions and removals from changes in the use and management of forest lands.

As a minimum requirement the proposed MRV system must include a tier 2 monitoring of the aboveground vegetation carbon pool for forest area changes. The level of detail for the other components depends on a number of country-specific factors.

### **3.2 Criteria to be applied for the assessment of REDD+ outcomes**

To assess REDD+ outcomes, the criteria of effectiveness, efficiency and equity (3Es) shall be applied. This tool shall also guide the development of a national MRV infrastructure:

### **3.3 Stakeholder involvement**

Decentralized participatory and community-based forest management systems have been successful in stopping deforestation and forest degradation in certain parts of Nepal. They are a key part of the REDD strategy options. The monitoring and reporting system therefore has to integrate national, sub-national/district and management unit levels to account for the contributions of all levels and allow for fair sharing of the benefits based on the actual performance.

Furthermore, it is important that the information from the MRV system is made accessible at all levels and to actors of different sectors in order to support decision-making of different REDD strategy options. The monitoring and information system will therefore have to incorporate governmental and non-governmental organizations, civil society, federations, research institutions, the private sector and other institutions. Moreover, all stakeholders should have clearly defined roles and responsibilities. For this, the system can build on the role of existing institutions but will also consider the up-coming overall restructuring of the state.

Transparent channels of publicly sharing forest and emissions data will have to be presented and need to be implemented in an early operational stage.

### **3.4 Work plan**

The consulting firm or consortium of consulting firms is expected to prepare an inception report with a detailed work plan that shall guide through the process. This work plan will describe how the study will be carried out including a work schedule, the methodology to be used for data collection related to each key question, the framework, information collection and analysis, and reporting. Based on the work plan, a detailed plan of the study including capacity building activities will be discussed and finalized jointly by the study team and the REDD cell.

### **3.5 Time frame**

The consultants' services are scheduled for a total of up to eight months.

### **3.6 Other sources of information to be used by the consultants**

The consulting firm is encouraged to collect information from field interviews and observations. For the collection of primary information, the team is expected to spend sufficient time on field visits. Participatory appraisal techniques will have to be adopted to obtain quantitative and qualitative factual information. The process requires information from a variety of sources that include:

- Key person interviews and discussions with local forest authority,
- local communities,
- concerned government units,
- Protected Area authority/BZMC,
- local NGOs working in the forestry sector, and
- direct observations at group level.

## **4 Implement the Study – Specific Tasks**

The development of an operational forest monitoring system for Nepal will entail a combination of remote sensing and field-based data collection from the national Forest Resource Assessment and other sources. As part of the measures (remote sensing and field-based data collection), relevant stakeholders are trained and a flexible unit of capacity building can be applied if necessary.

The advisers will assist the REDD Cell with:

- an analysis of existing land use data sources related to REDD such as the Land Resource Mapping Project (late 1970s), the Master Plan for the Forest Sector (1989), the National Forest Inventory (1994) and FAO Global Land Cover Network (GLCN) Land Cover Land Classification System for Nepal (2009); the advisers will also compile and analyse REDD related data generated as part of ongoing REDD projects in the country (such as the Hariyo Ban Project, the Multistake-

holder Forestry Programme, and the NORAD-funded REDD project implemented by ICIMOD, FECOFUN and ANSAB.

- Critical analysis of existing institutions involved in forest resource data collection and analysis (incl. the Department of Forestry Survey and Research, the Department of Forestry, CFUGs);
- Preparation of a fully costed proposal for a system to strengthen forest data collection, analysis and support REDD transactions. This will include:
  - Documentation of proposed institutional roles and responsibilities for [list key agencies at national level];
  - Specification of protocols and methodologies for data collection, analysis and dissemination;
  - Estimation of procurement needs for equipment, primary data (e.g. remote sensing data, technical assistance, etc.);
  - Preparation of Terms of Reference for further studies, technical assistance, staff training and support to CFUG;
  - Preparation of Terms of Reference and selection criteria and institutional arrangements for validation and independent verification of REDD monitoring results;
  - Analysis of legal and regulatory issues related to the proposal and, as needed, provision of recommendations for necessary policy and regulatory reforms.
- The MRV to be developed will have to relate to both a) actions on the ground (i.e., change forest carbon stocks) and b) REDD+ transactions (i.e., compensation and financial transactions or transfers). MRV of actions is important in the readiness phase and for building capacity, the MRV of transactions will be imperative for the actual REDD+ implementation.
- The national forest monitoring system will have to allow comparison of changes in forest area and carbon content (and associated GHG emissions) and the baseline estimates used for the Nepal RL/REL. The system has to be designed as a combination of remote sensing and on-the-ground methods for forest carbon inventory. It needs to focus on estimating anthropogenic GHG emissions related to forests by source, removal by sinks, forest carbon stocks and changes in the area of forest.

In providing support, the advisers will be expected to give special consideration to:

- The devolution of management functions and responsibilities (including forest inventory) of large areas of forest to Community Forestry User Groups, the technical capacity development needs and potentials of CFUG (regarding both forest carbon and more conventional forest inventory and management issues);
- The involvement of relevant government agencies or institutes, local communities and the civil society as well as the private; REDD Cell staff, and subject matter specialists from concerned agencies and units of government are engaged in design work, and that civil society interests are consulted in regular and meaningful ways throughout the work
- The potentials for developing a REDD MRV system that additionally supports CFUGs, public sector and other institutional models of forest resource management for diverse management objectives;

- Possible environmental and social risks that might develop as a result of forest monitoring field activities and works; misappropriation, misrepresentation or misuse of forest data; inadequate or insufficient dissemination and distribution of monitoring results; these need to be anticipated and mitigated in regular and meaningful ways.

## 5 Expected Outputs

The REDD Cell receives a well referenced and comprehensive report that outlines the MRV system.

The proposal for the MRV system will include provisions for:

- Maintenance and periodic re-measurement of a system for established permanent sample plots representative of all major forest types in Nepal;
- Development of the forest inventory capabilities of the country's Community Forestry User Groups (CFUGs) and establishment of a system for the integration and consolidation of forest measurement and management information generated by CFUGs to fulfil their forest management obligations;
- A national level forest carbon emission reporting / accounting capability based on acquisition and analysis of remote sensing data.
- The preparation of Standard Operating Procedures (SOPs) for database management and organisation of a clearing house mechanism

The report will:

- Document the design and early implementation of an eventually coherent operational system of measuring and reporting changes in deforestation and/or forest degradation, and forest carbon conservation and enhancement activities in Nepal,
- Demonstrate the MRV system's capability of monitoring the specific REDD+ activities as prioritised in Nepal REDD+ strategy,
- Propose a clear rationale and an analytical framework that justifies the selection of methods used or proposed. The MRV system will also have to enable to track any displacements of emissions (leakage)
- Detail out the MRV system's resolution, coverage, and accuracy, and the carbon pools included.
- Present an action plan to develop a fully operational system over time, including the required institutional arrangements and the existing vs. required capacities. The consultants will build the capacities of key institutions involved in the MRV through courses and on-the-job trainings.
- Define the remaining requirements for the implementation of the MRV in terms of additional trainings, hardware and software.
- Include an investment proposal that spells out the funds required to institutionalise the proposed system of forest inventory and data analysis in the long run. Additionally, the report has to present the results of continual financial feasibility checks.

The consultant will prepare an eight page summary of the study, highlighting the followed approach, the work undertaken, the key findings as well as the implications for REDD+ readiness in Nepal.

## **6 Composition of the study team**

The study team will comprise a team leader and three subject matter experts.

The Team Leader will be responsible for the coordination of the overall process and reporting, while other the experts will help the Team Leader in specific activities. The Team Leader is expected to have a thorough understanding and experience in RS, GIS, forest inventories and carbon modelling. All other team members are also expected to have a clear understanding and solid experience in REDD+ mechanisms and carbon modelling.

The consulting firm or consortium of consulting firms to be involved in this assignment has to demonstrate the ability to carry out this study with sufficient experience in leading multi-disciplinary teams. The firm has to demonstrate the proven capability of elaborating studies and producing consistent high quality reports.

Under this assignment, specialists with proven expertise in the following areas are expected to work in a multi-disciplinary team:

- International Team Leader with GIS, RS and Carbon modelling background
- Institution Designer/Developer
- International RS specialist with RS/GIS/carbon modelling
- National GIS Specialist
- Trainer with an GIS/RS background
- RS and GIS Technicians (2 persons for 6 month each)

## **7 Client's Input to the Consultant**

The national REDD Cell will provide a supervising officer dedicated to oversee the contract and to help implementing the study by proving feedbacks and coordinating with other government agencies if necessary.

## **8 Reporting Requirement**

The consultant shall submit an inception report within the first week of the contract agreement describing the consultant's plan of actions. This report shall also be accompanied by a work/ time schedule to confirm that the final submission will be made in time. The inception report needs to be approved by the client to proceed with the further work.

During the time of work, a REDD Cell officer will monitor the consultant's work and performance.

Draft copies of the final report and the 'Learning Plan' for MRV capacity building have to be submitted to the client within six months of signing of the contract agreement. Based on the final review by the client of the submitted draft documents and the ensuing communication the consultant will prepare and submit five hard copies and one e-copy in WinWord of those documents to the REDD Cell.

## **9 Payment Schedule**

The REDD Forestry and Climate Change Cell shall make payments to the consultant based on the consultant's financial proposal and the payment schedule agreed upon during the negotiations held prior to the signing of the contract.

## **10 Consultant's Selection Method**

Consultants may associate to enhance their qualifications. The association/consortium shall be in the form of joint venture (JV) or intended JV where all the JV members shall be jointly and strictly liable for the entire assignment.

A consulting firm or a consortium of firms will be selected in accordance with the procedures set out in the World Bank's Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, January 2011 adopting selection method of "Quality-And Cost-Based Selection (QCBS)". The QCBS follows the following procedures: Advertising for EOI, preparation of the short list of consultants, preparation and issuance of the RFP to all the short listed consultants, receipt of proposals, evaluation of technical proposals with consideration of quality, public opening of financial proposals, evaluation of financial proposal-final evaluation of quality and cost, negotiations and award of the contract to the selected firm.

Evaluation criteria will be based on the QCBS method and the technical and financial proposals will carry 20% and 80% weight respectively.