

Government of Nepal  
Ministry of Forests and Environment  
**REDD Implementation Centre**

**Terms of Reference (ToR) for Consultancy Services for  
Study on Emissions due to Grazing  
(Budget head: 2.5.3.19)**

**1. Background**

Nepal is one of the leading REDD+ countries under the World Bank's Forest Carbon Partnership Facility (FCPF) whose Emission Reduction Program Documents (ER-PDs) have been included into the Carbon Fund portfolio of the FCPF. Nepal completed implementation of the first phase of the REDD+ readiness project in 2015. Nepal's request for an additional readiness grant was approved by the 21<sup>st</sup> Participants Committee meeting of the FCPF in 2015. Nepal and the World Bank signed the grant agreement for additional readiness funding of USD 5.2 million in January 2017. Among other readiness activities, improvement of the national forest inventory and monitoring system for a robust and functional MRV system is one of the focused areas of the ongoing 2<sup>nd</sup> phase of REDD+ readiness. It is expected that Nepal will enter into implementation phase of the REDD+ in January 2020 after negotiation and signing of the Emission Reduction Payment Agreement (ERPA) between the government of Nepal and the World Bank in 2019.

Nepal's Readiness Preparation Proposal (R-PP) for REDD+ has identified nine main drivers of deforestation and forest degradation. Overgrazing has been categorized as one of the major drivers. Most of the other studies and reports/documents including Emission Reduction Program Idea Notes and ER-PD have discussed and supported that "overgrazing" is one of the major drivers of deforestation and forest degradation in Nepal. However, previous studies have not provided any empirical evidence to support their claims. Therefore, there is a lack of information about the actual contribution of grazing to the overall GHG emissions of the country.

Nepal has already submitted its national Forest Reference Level (FRL) to the UNFCCC for its review and technical assessment in the context of results-based payments for REDD+ in 2017. In the submission, emission contribution due to fuel-wood collection as driver of forest degradation has been included but contribution due to other drivers such as unsustainable harvesting, forest fires and grazing have not been included because reliable data were not available for these drivers. Therefore, it is now very important to conduct an empirical study to find out the actual emission due to grazing, as one of the drivers of forest degradation, to the overall GHG emissions to include in the revised version of the FRL in coming years.

Under the second phase of REDD+ readiness, REDD IC is supporting an empirical study on emission due to grazing, which is critical to update the national FRL in coming years and claiming the REDD+ results-based payments for the emission reduction credits generated from implementation of various REDD+ interventions.

This ToR is developed for the service providers who are interested in this assignment to conduct the study on emissions due to grazing in the context of Nepal.

## **2. Objective of the assignment**

The main objective of this assignment is to evaluate, analyze and quantify emissions from grazing in Nepal. Specific objectives include:

- To review/ synthesize the contribution of grazing to GHG emissions at global, regional and national level
- To identify cattle population (livestock unit) and their feeding/ grazing behavior
- To assess the pathways of GHG emissions due to grazing (grazing, lopping, bush cutting, etc.)
- To conduct field study to quantify emissions from grazing focusing on Terai and Siwalik region of Nepal
- To quantify and map area of grazing in Terai and Siwalik region of Nepal
- To quantify the GHG emission due to grazing.

## **3. Scope of the work**

REDD IC is seeking a qualified firm/consortium of firms to conduct study on emissions due to grazing. The service provider for this assignment will work with close co-ordination with REDD IC and the field work of the will focus on Terai and Siwalik region of Nepal. Following tasks need to be undertaken for successful completion of the assignment:

### **3.1 Desk review and analysis**

- Thorough review and critical analysis of several publish and unpublished articles/reports on grazing and its contribution to the emissions in Nepal and around the globe is very important.
- Review and analyze key documents such as Nepals' FRL, Emission Reduction programme document and National Forest Inventory reports relating to grazing and emissions.
- Review and analysis of other national and international study reports and policy documents on various aspects of forest management, principles of SMF, REDD+, drivers of deforestation and forest degradation is also critical.

### **3.2 Consultation, field observation and measurement**

- Number of consultations with all the stakeholders including government authorities, civil society organizations and local communities are required.
- The consultants should visit and observe some of the forestry sites damaged from grazing and/or potential grazing prone areas in Terai and Siwalik physiographic regions of the country to get more clear understanding of the causes of grazing.
- The consultants should measure representative sample plots to collect different variables for GHG emissions due to grazing (including lopping, bush cutting, etc) throughout Terai and Siwalik region.

### **3.3 National level workshop**

- The consultant should organize a national level workshop involving related stakeholders and experts to share the draft results and collect feedback for finalization of report. REDD IC will facilitate to identify the participants of the workshop.

## **4 Reporting and deliverables**

### **4.1 Inception report with detail action plan and timeframe**

Inception report with detail action plan, consultation plan and timeframe as well as methodology shall be submitted within the one week of signing of the contract for the assignment. This should be presented at the inception workshop. After incorporating all the feedbacks, suggestions and inputs from the participants of the workshop, the inception report must be finalized and submitted to the REDD IC within the one week of the inception workshop. The selected firm and REDD IC will agree on the specific activities and accordingly detailed plan of action and deliverables. The work plan should be developed in close collaboration with REDD IC.

#### **4.2 Intermediate reporting**

The firm shall submit monthly progress report within first week of following month from the start of the contract.

#### **4.3 Final report**

The firm shall submit two hard copies with a digital copy of final report after completion of the activities incorporating all the comments and suggestions from national level workshop. The firm should submit electronic copy of field data in excel sheet, photographs and other relevant documents to REDD IC.

### **5. Team composition and qualification of the firm and experts**

#### **5.1 Qualification of the firms**

Firms legally registered within the concerned authorities with clear mission, vision and objectives and registered in national VAT system are eligible to apply. The firms should have relevant work experience in forest sector study including forest inventory, drivers of deforestation and degradation, SMF, REDD+ and /or related field in Nepal. The firm must have registered with valid company/firm registration and renewal, VAT registration, tax clearance, and demonstrated annual transaction.

#### **5.2 Team composition, responsibilities and qualification of the team members**

The firm shall comprise of the following experts: A Team Leader cum Forestry Expert, a Forest Biometry Expert, Grazing and Livestock Expert, GIS Expert, field enumerators and assistant field enumerators. The firm needs to ensure that the proposed team composition possesses required qualification, skills and experiences to deliver desired high-quality result. In addition to this, the firm can propose supporting staffs for field consultation and other activities as required.

##### **5.2.1 Team Leader cum Forestry Expert**

**Roles and responsibilities:** The National Team Leader cum Forestry Expert will lead the team. The team leader will report to the chief of REDD IC and work in close coordination with the focal person designed at the REDD IC for this assignment.

The team leader will:

- Study and analyze related published and unpublished literatures, policy documents, working documents, databases and develop a firm foundation for estimating historical emissions reference level from grazing in Nepal;
- Estimate historical trend of deforestation and forest degradation caused by grazing in Nepal;

- Estimate historical emissions from grazing in Nepal (covering all physiographic zones)
- Develop a plan of actions with timeline of each of the actions in coordination with the REDD IC and other team members;
- Coordinate the team and make sure that all of the experts are preparing corresponding reports and harmonizing the efforts.
- Prepare final report with the help of other team members

**Required qualification:** The Team Leader cum Forestry Expert must be Nepali national with following qualification and experiences:

- Hold Post Graduate Degree (preferably PhD) in forestry;
- At least 10 year experiences in forestry sector in Nepal including REDD+ process;
- Knowledge on principles of SMF, demand and supply dynamics of forest products in Nepal;
- Knowledge on drivers of deforestation and forest degradation, biomass inventory and emissions estimation and REDD+ process.

### 5.2.2 Forest Biometry Expert

**Responsibilities:** The Forest Biometry Expert will help the team leader in his works and responsible for the technical part of the Forest inventory/ sampling and estimation of emissions due to the grazing.

**Required qualification:** The Forest Biometry Expert must have minimum qualification and experience as below:

- Hold at least MSc in forestry with specialization on forest biometry or related field;
- Have at least 5 years working experience in forestry sector including REDD+ process and Forest Inventory/ sampling, biomass/carbon estimation;
- Good understanding of forest types, species distribution, sustainable management of forests and drivers of forest degradation in Nepal.
- Good understanding of climate change, REDD+, biomass, carbon estimation and GHG emissions and related issues.

### 5.2.3 Grazing and Livestock Expert

**Responsibilities:** The Grazing and Livestock Expert will help the team leader in his works and responsible for the technical part of the forage and fodder requirements as well as feeding/ grazing behavior of livestock and also helps in estimation of emissions due to the grazing.

**Required qualification:** The Grazing and Livestock Expert must have minimum qualification and experience as below:

- Hold at least M Sc Agriculture/ Livestock with specialization on pasture and fodder/ forage development;
- Have at least 5 years working experience in livestock and grazing sector including forage and biomass/carbon estimation;
- Good understanding of forage/ fodder and pasture management in Nepal.
- Good understanding of forage and grazing related issues.

#### 5.2.4 GIS Expert

**Responsibilities:** The GIS Expert will report to the team leader. She/he will work under the guidance of the team leader in close collaboration and consultation with REDD IC. She/he will specifically be responsible to:

- Access, review and analyze grazing related databases, maps and other documents describing occurrence, nature and extent of damage (deforestation and forest degradation) from grazing in Nepal and elsewhere with similar biophysical and socio-economical context to Nepal;
- Identify key parameters to produce spatial data layers related to this assignment;
- Produce spatial maps showing grazing prone areas and/or forests damaged by grazing, and risk of deforestation and forest degradation because of overgrazing;
- Participate in consultation meetings with local people as necessary;
- Support team leader in preparing final report incorporating spatial maps.

#### Requirements

The GIS Expert must be Nepali national possessing the following qualification and experiences:

- Hold at least post graduate (Masters) degree in geo-information, remote sensing, and GIS;
- Have at least five years working experience in spatial data (both images and classified maps) analysis and mapping including image classification, production of thematic maps;
- Experience in analyzing and interpreting remote sensing data, forest types maps and other related spatial information;
- Having good understanding of overgrazing issues in Nepal;
- Good understanding on key parameters of forest management and mapping requirements for grazing.

#### 5.2.5. Field enumerators (Three persons)

**Responsibilities:** Field enumerators will help the team leader in his/her works and responsible for sample design, field consultation and data collection in the field.

**Required qualifications:** Field enumerators must have minimum qualification and experience as below:

- Have minimum BSc degree in forestry or natural resource management;
- Have at least two years of professional experience in field surveys, data collection, data compilation, data entry in the database, and data analysis.
- Understanding of all types of forest management regimes implemented in Nepal, REDD+ process and progress and carbon assessment.
- Training on forest inventory, carbon assessment will be preferred.

#### 5.2.6. Assistant Field Enumerators (Three persons)

**Responsibilities:** Assistant field enumerators will help the team leader in his/her works and responsible for data collection in the field.

**Required qualifications:** Assistant field enumerators must have minimum qualification and experience as below:

- Have minimum Intermediate degree in forestry or natural resource management,
- Have at least two years of experience in field surveys, data collection, data compilation, data entry,
- Understanding on all types of forest management regimes implemented in Nepal, REDD+ process and progress and carbon assessment is desirable,
- Training on forest inventory, carbon assessment will be preferred.

## **6. Inputs to the firm**

- REDD IC will provide access to background documents especially various study reports developed from the REDD IC during the readiness phase to carry out the assignment;
- REDD IC will support for necessary communication for consultation process at all levels;
- REDD IC will support the firm/s to coordinate and attend the national level and field level consultations process as and when necessary;
- REDD IC and the World Bank will provide regular input and suggestions to the consultant(s).

## **7. Selection Process**

Selection process of the firm/s will be based on Quality and Cost Based Selection (QCBS) method in accordance with The World Bank Procurement Regulations for IPF Borrowers, July 2016 (Revised November 2017 and August 2018).

## **8. Work Schedule**

The assignment is expected to start from April 2020 and should be completed by the end of June, 2020.

## **9. Application Procedure**

Eligible company/firm/consortium of the firms should submit “Expression of Interest (EoI)” in a sealed envelope with the following documents:

Signed letter of EoI.

- Copy of company/firm registration certificate with updated renewal
- Copy of the VAT registration certificate
- Copy of annual audit report for last three years and tax clearance certificate of F/Y 2074/75
- Profile of the firm showing clearly the expertise of the firm/company by including previous general and specific experiences.
- CVs of potential experts
- Letter from partnering firm/institution if joint venture is proposed.

The shortlisted firms will be requested to submit the full proposal along with following documents:

- Full technical proposal for the assignment in a sealed envelope. The proposal should include commitment letters from the proposed experts along with duly signed CVs;
- Detail financial proposal for the assignment in a separately sealed envelope.

**Contact Information**

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