

Terms of Reference for

Develop a data base of basic attributes of all forest management regimes for Mid, Mid-Western and Far-Western development regions and data feed into national forest information system

1. Background

Global climate change threatens the livelihoods of people worldwide. A significant portion of the greenhouse gas emissions results from land-use and land use changes, particularly deforestation and forest degradation in tropical areas. The international community is developing a mechanism called Reducing Emissions from Deforestation and Forest Degradation (REDD+) to provide positive incentives to help developing countries reduce emissions from deforestation and forest degradation and to support conservation, sustainable forest management, and the enhancement of forest carbon stocks. REDD+ has the potential to contribute to sustainable development in these countries. Preparations for REDD+ include enhanced human and institutional capacity to develop and coordinate relevant land use policies to mitigate future impacts on forest cover and quality.

Nepal has prepared its REDD+ Readiness Preparation Proposal (R-PP). The implementation of the R-PP is being coordinated by the REDD-Forestry and Climate Change Cell under the MoFSC in close collaboration with multiple-stakeholders including other government institutions, NGOs, INGOs and Civil Society Organizations of which constitute a National REDD+ Working Group (RWG).

The Forest Carbon Partnership Facility (FCPF) (with the World Bank as its delivery partner) is supporting Nepal in its national efforts towards "REDD+ Readiness". The objective of the Nepal Readiness Preparation Program is to prepare Nepal to engage in and benefit from the REDD+ program within the context of the international climate negotiations of the UN Framework Convention on Climate Change (UNFCCC).

2. Rationale

The success of a national REDD+ program will depend much on a robust yet transparent information system that can link to relevant databases on carbon and other social and environmental aspects. The existence of information and internet technology can be used for rapid and robust data entry, data management and analysis and output generation. The National Forest Database (NFD) will incorporate comprehensive data on themes related to forest resources, forest management, carbon stocks, forest users and REDD+ activities. Ideally the database should cover all forest types including community forests, collaborative forests, leasehold forests, national forests, government managed forests, forests under protected areas and buffer zones, private forests and religious forest. The National Forest Information System (NFIS) will provide necessary infrastructure, interface, tools and links to the NFD

database as well as other external databases to provide user requested information necessary for exploration, analysis, reporting and visualization on forest resources, carbon stocks and flows, management and users. A web-based information system enables easy access and updating of data and information.

A functional information system is crucial for monitoring and reporting on REDD+ program and activities at both national and international levels. The system will also help in making information decisions at policy and field implementation levels. Although the current effort is focused on REDD+, NFD and NFIS will be valuable for the whole forestry sector with potential link to agriculture and land use planning in future. REDD IC aims to develop the NFD and NFIS as an integrated system to be housed in one forestry institution. Establishment of computer hardware and software and capacity building of staff are essential to ensure continued operation and updating of NFD and NFIS.

In 2015, REDD IC has developed a comprehensive framework of National Forest Database (NFD) and National Forest Information System (NFIS). In addition, data of basic attributes of all forest management regimes in Western Development Region have already been fed that is currently defunct, perhaps due to lack of access to external users and limited manpower and budget. Many Management Information System (MIS) related features previously developed under Ministry of Forests and Soil Conservation (MFSC) are likely to be useful for the NFIS. The department of forests already has a database on community forests and leasehold forests; and another non-wood forest product database has also been developed with FAO support. Some other departments also have their own databases. The NFIS should be able to link to these databases and provide differential access to different categories of users (system administrators, data managers, government officials, senior managers, partner institutions and the general public).

3. Assignment

Three activities will be undertaken under this assignment

- (i) Upgrade National Forest Database (NFD) by adding forest database from three development regions including Mid, Mid-Western and Far- Western (a total of 42 districts and protected area systems in). The NFD will integrate and incorporate existing data collection mechanism at the management regime level. NFD model developed in 2015 and tested in Western development region through comprehensive consultations with stakeholders will be the framework for this assignment. The database will incorporate data required for various forestry thematic applications related to forest resources, forest carbon accounting, forest management, forest users and beneficiaries, LULUCF/Activities, REDD+ Safeguards, etc. It should incorporate spatial data related to the management regime unit boundaries and the linked with the related information in the database. The database structure should be sufficiently flexible to incorporate additional thematic data in future. Developed database will be used to update the open source database platform along with spatial component hosted in a secure centralized system in MFSC.

- (ii) Capacity building of forest officers in data entry, database update and data feed into the National Forest Information System (NFIS). A total of three trainings (one in each region) of two days package will be delivered. Training participants will be from 42 DFOs, protected areas under the three regions and three Regional Directorates of Forests.
- (iii) Maintaining/updating NFD/NFIS server established in the MFSC. Under this assignment, the service provider will run the NFIS server established in the MFSC premise, update the server to accommodate /feed in database/information from Mid, Mid-Western and Far-Western regions and keeps the system running.

4. Objectives

- a. To develop database of basic attributes of all forest management regimes in Mid, Mid-Western and far western regions
- b. To feed data into existing National Forest Database (NFD) system
- c. To maintain/upgrade existing NFIS located in the Ministry of Forest and Soil Conservation
- d. To develop capacity of forest officers to deal with NFD/NFIS

5. Approach

Following approaches are required to accomplish this assignment.

- Data framework and checklists preparation
- Team orientation
- Communication/coordination with related experts/institutions from center to district level
- Field visit and data collection (participatory)
- Data entry and link/test with NFIS (upgrade)
- Capacity building

6. Expected Output

Following outputs are required:

- a. A comprehensive database of basic attributes of all forest management regimes in the districts under the said three regions (Mid, Mid-Western and Far Western)
- b. Upgraded National Forest Database and National Forest Information System
- c. Skilled human resource to operate database and NFIS in each district under the said three regions.
- d. Final completion report including suggestions/recommendations

7. Assignment team

A consultancy firm/consortium with related national experts is expected to undertake the assignment. The following is the list of required experts for the assignment.

Key Experts

A. Team Leader and database expert/programmer (national)

The REDD+ expert should have a post-graduate degree in relevant subject with minimum 5 years and preferred 7 years of work experience on data base development and programming. Experience of designing forest and REDD+ related databases and information systems will be beneficial. A proven experience of leading multi-disciplinary and multi-national teams is essential.

B. Information Technology/GIS/RS Expert (national)

The Information System/GIS/RS Expert should be an expert in operating information system, analyzing remote sensing data in GIS environment. The IS/GIS/RS expert should have minimum of BSc and preferably MSc degree in geo-information/GIS and work experience of minimum 5 and preferably 7 years in designing and developing database and GIS, GIS based forest information system, web based GIS, integration of GPS data into GIS. Experience in land use land use change and forestry analysis, MRV analysis, development of training curricula and conducting trainings will be preferable.

C. Software Engineer

The Software Engineer should have minimum of a graduate degree and preferably a post graduate degree in software engineering or information technology with minimum 5 and preferably 7 years of proven experience in system design and development.

Non-Key experts:

D. Data collectors (national/local)

Data coordinators should have a minimum BSc degree in forestry with at least 3 years of experience in questionnaire design, field surveys, data collection, data compilation, data entry in the database, and data analysis. Understanding on all types of forest management regimes implemented in Nepal, REDD+ process and progress, carbon assessment, forest governance, existing forest policies and stakeholders is desirable.

E. Data entry Operators

Data entry Operators should have a minimum of graduate degree (preferably BSc forestry) with at least of one years' experience in forestry related data entry in the database.

8. Qualification and competency of consulting firm/consortium

The consulting firm/consortium for this assignment should have a demonstrated ability and relevant experience in successfully completing similar assignments including database development, capacity building in the field of the assigned assessment and maintenance of information system including server.

Failure to meet the eligibility criteria- minimum three years of experience, intact tax payment status- means automatic disqualification.

Experience Criteria:

- Development and management of databases and information systems-familiarity with forest management in Nepal, forest inventory, and preferably more than 3 projects completed;
- Design and development of national database and information system for natural resource sector-at least 2 and preferably more than 3 projects completed
- Development of information system and GIS based applications in forestry sector-at least 2 and preferably more than 3 projects completed;
- Design and development of database for climate change adaptation and REDD-at least 2 and preferably more than 3 projects completed.

9. Work plan

The team is required to prepare and submit an inception report with a detailed work plan before the assignment formally starts. The work plan should describe how the assignment will be conducted; it should include a work schedule, methodology for each task. The work plan will be reviewed by the REDD IC and later finalized jointly by the team and the REDD IC.

10. Duration of work

This assignment should be completed within four months after signing the contract. This assignment is expected to start in February 2016 and complete by May 2016.

11. Reporting requirement

The following reports are mandatory. The delivery time of these reports will be clearly specified in the full proposal.

- Inception report including detail plan and database framework
- Final report with a comprehensive data base and upgraded NFIS

A comprehensive and fully referenced final report including detailed recommendations must be submitted at the end of the assignment. Recommendations on institutional management of NFD and NFIS including manpower, computer hardware and software must be included.

Both hard copy and soft copies of all reports should be submitted to REDD-Forestry and MFSC. All reports should be in English. An executive summary should be included in English and Nepali in the final report.

12. Deliverables

The following deliverable must be provided. The proposed deadline for each deliverable should be specified in the full proposal and finalized in the inception report.

1. A comprehensive database of basic attributes of all forest management regimes for targeted regions and upgraded NFIS being operated in the MFSC
2. Staff training on data entry and database management at regional level

13. Selection procedure

A consulting firm will be selected using Nepal Government's Public Procurement Act (2063) and Rule (2064).

14. Payment schedule

REDD IC plans to provide lump sum payments in agreed numbers of installment, each linked to a particular deliverable. Three time payments could be made - first installment of 20% of the contract amount against an acceptable inception report, second 40% against a draft final report and third and final 40% against an acceptable final report after the completion of all the activities listed in the ToR. There will be a provision of 10% mobilization advance against the bank guarantee.

15. Contact person

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