

Terms of reference - INDIVIDUAL CONSULTANT PROCUREMENT NOTICE



Empowered lives.
Resilient nations.

Position: Early Warning System and Remote Sensing Specialist

(National, 1 post)

Closing date:

GENERAL INFORMATION

Title: Early Warning System and Remote Sensing Specialist

Project Name : PMU REDD+

Reports to: Work Stream Coordinator Moratorium

Duty Station: Jakarta

Expected Places of Travel (if applicable): -

Duration of Assignment: 4 months, from: September – December 2014; OUTPUT Based

REQUIRED DOCUMENT FROM HIRING UNIT

☒	TERMS OF REFERENCE
☐	CONFIRMATION OF CATEGORY OF LOCAL CONSULTANT , please select :
☐	(1) Junior Consultant
☐	(2) Support Consultant
☐	(3) Support Specialist
☒	(4) Senior Specialist
☐	(5) Expert/ Advisor
☐	CATEGORY OF INTERNATIONAL CONSULTANT , please select :
☐	(6) Junior Specialist
☐	(7) Specialist
☐	(8) Senior Specialist
☒	APPROVED e-requisition

REQUIRED DOCUMENTATION FROM CONSULTANT

☒	CV
☒	Copy of education certificate
☒	Completed financial proposal
☒	Completed technical proposal

Need for presence of IC consultant in office:

☒ partial, consultant will come to office to work with team two days in a week. The consultant will spend much of his/her time on the field.

☐ intermittent (explain)

☐ full time/office based (needs justification from the Requesting Unit)

Provision of Support Services:

Office space: Yes No

Equipment (laptop etc): Yes No

Secretarial Services Yes No

If yes has been checked, indicate here who will be responsible for providing the support services:

Signature of the Budget Owner: Roy Rahendra

I. BACKGROUND

Context of the REDD+ initiative:

Indonesia is the third largest emitter of carbon dioxide (CO₂) and the world's largest emitter from agriculture, forestry and other land use. Over the past five years, Indonesia's annual deforestation rate has averaged around 1 million hectares, which contributes to an estimated 87 percent of Indonesia's annual emissions. In response to this situation, in 2009, President Susilo Bambang Yudhoyono, made a voluntary commitment to the world to reduce emissions as much as 26 percent under a business-as-usual scenario or up to 41 percent with international support by 2020.

According to the Second National Communication from Indonesia to the UNFCCC, Indonesia is expected to emit around 2.9 million metric tons (gigatons) by 2020 under the business-as-usual scenario. A commitment to reduce that amount by 26 percent would mean a reduction of 0.8 gigatons, while 41 percent would amount to a reduction of 1.2 gigatons. A reduction from an expected 2.9 to 1.7 gigatons by 2020 is a challenging commitment for a country aiming to maintain its 7 percent annual growth rate. Nevertheless, this commitment has been translated into a comprehensive National Action Plan known as RAN-GRK (PP 61/2011).

The National Action Plan for the Reduction of Green-house Gas Emissions (RAN-GRK) estimates that 87 percent of the emission-reduction target - approximately 1 gigaton - relates directly to the forestry and peat land sectors and, to address this, the government has adopted an incentive mechanism to improve management of the country's vast forest resources while supporting climate-change mitigation. This mechanism, known as REDD+ (Reducing Emissions from Deforestation and Forest Degradation), has five primary objectives: (a) reduction of deforestation; (b) reduction of forest degradation; (c) conservation of carbon stocks; (d) sustainable forest management; and (e) enhancing carbon stocks.

On 26 May 2010 the Governments of Indonesia and Norway signed a Letter of Intent (LoI) to establish a REDD+ Partnership. The first phase of this REDD+ Partnership (Phase 1) was to establish an agency with the capacity to implement and manage REDD+ projects initially in the pilot province Central Kalimantan and progressively in other priority provinces across Indonesia. A Task Force (*Satuan Tugas*, Satgas) was established to support this initial phase and, as of June 2013 at the end of the Task Force's mandate, the following progress was achieved:

1. Drafting of an integrated Presidential Regulation regarding the establishment of a REDD+ Agency and governance of REDD+ in Indonesia;
2. Finalisation of a REDD+ National Strategy (Stranas) and development of Provincial Strategies and Action Plans (PSAPs) for the eleven priority provinces;
3. Agreement on, and legal basis for, the structure and operations of a REDD+ Financial Instrument (FREDDI); its implementation awaits the establishment of the REDD+ Agency and the subsequent release of funding for Phase 2 of the LoI;
4. A methodology for the structure and Standard Operating Procedures (SOPs) of the MRV technical unit; while international standards and an international/national REDD+ registry remain in development, the unit is ready for mobilisation following the establishment of the REDD+ Agency;
5. Legal review of regulatory requirements related to REDD+ implementation in particular land tenure, forest and peat-land governance, forest monitoring and law enforcement, consolidation of land concessions, and a Moratorium on all new concessions for conversion of peat and natural forest in Indonesia; and
6. Successful implementation of a wide range of projects by the REDD+ Task Force in the pilot province Central Kalimantan with a focus on developing an operational capacity and an enabling environment for REDD+ projects.

These achievements have prepared a basic foundation for a future REDD+ national programme that aims to address the emission-reduction target for the forestry and peat-land sectors and the national long-term goals associated with sustainable economic development and poverty reduction.

The second phase of the Indonesian-Norway partnership soon to be commenced following the establishment of the REDD+ Agency and its technical units in December 2013. The newly established REDD+ Agency has formulated its 10 imperative actions which are as follows:

1. Monitoring moratorium
2. License and concession review → forest gazettement
3. Supports to law enforcement
4. Mapping of customary forest and capacity building for *masyarakat adat*
5. Forest and peat land fire management
6. Green villages
7. Green schools
8. Supports to Spatial Plan finalization
9. Supports to conflict resolution
10. Strategic programs protecting National Parks and Protected Forests

Context of this ToR:

The Measuring (and Monitoring), Reporting and Verification (MRV) and Moratorium work stream of the BP-REDD+ is mandated for handling the process of national and nested sub-national REDD+ measurement and reporting (MR) system in accordance with IPCC Good Practice Guidance. The REDD+ MRV and Moratorium will establish a multi-tiered measurement system. Extending the themes mentioned above, it is an urgent need to develop a near-real time deforestation detection system that provides important information for Monitoring, Reporting and Verification (MRV) that should be conducted by the BP-REDD+ (President Decree No. 62/2013).

In this context, The MRV and Moratorium works stream through UNDP is seeking to recruit an expert on early warning system and remote sensing to assist MRV and Moratorium activities in the development of a detection system for deforestation based on monitoring of Indonesia's forest land by satellite imagery continuously in space and time.

Due to the application of high-temporal satellite imagery (daily datasets); accurate, sufficient, and significant information regarding deforestation events would be obtained; consequently, it should be possible to consider the development of the near-real time deforestation detection system for Indonesia's forest land (Early warning system for deforestation).

Objectives of Assignment:

Developing the early warning system (near-real time system) for deforestation by using remote sensing technology for Indonesia's forest land with high accuracy results in related with the Monitoring, Reporting and Verification (MRV) BP-REDD+.

I. SCOPE OF WORK, RESPONSIBILITIES AND DESCRIPTION OF THE PROPOSED ANALYTICAL WORK

Scope of work:

- a. To develop an appropriate algorithm for deforestation detection system and examine the results' accuracy.
- b. To indicate and compose the developed algorithms for deforestation early warning system (manuscript documentation).
- c. To apply the developed algorithms with high accuracy results to all of Indonesia's forest land
- d. To validate and evaluate the result of the early warning system for deforestation by using LANDSAT, SPOT and/or field verification.
- e. To manage and synchronize the format of results in compatible with the Situation Room BP-REDD+.

II. REQUIREMENTS FOR EXPERIENCE AND QUALIFICATIONS

I. Academic Qualifications:

- Master degree, specializing in Remote Sensing and Early Warning System with at least 10 years' experience in conducting research related to development of monitoring system for deforestation.

II. Years of experience:

- Demonstrated ability and experience to develop an algorithm of change detection on deforestation issues.
- Demonstrated ability and experience to write an academic text on developed algorithms on deforestation issues.
- Ability to produce (bilingual) written material on a broad-range of REDD subjects, targeting a wide-range of stakeholders.
- Demonstrated ability to understand the differences and similarities of a wide range of social groups, and through this understanding prepare appropriate stakeholder engagement policies, processes and materials.
- Sound experience in environmental issues related to REDD or sustainable development, especially in forestry.

III. Competencies:

Functional Competencies:

Knowledge Management and Learning:

- Promotes knowledge management in organization and a learning environment in the office through leadership and personal example; and
- Actively works towards continuing personal learning and development in one or more practice Areas, acts on learning plan and applies newly acquired skills.
- Development and Operational Effectiveness:
- Ability to conceptualise issues and analyse data;
- Ability to coordinate the work of others;
- Ability to implement new systems (business side), and affect staff behavioural/attitudinal change;
- Good knowledge of Results Management Guide and Toolkit; and
- Ability to demonstrate good knowledge on Climate Change and/or REDD issues.
- Management and Leadership:
- Builds strong relationships with clients, focuses on impact and result for the client and responds positively to feedback;
- Consistently approaches work with energy and a positive, constructive attitude;
- Demonstrates openness to change and ability to manage complexities;
- Leads teams effectively and shows mentoring as well as conflict resolution skills; and
- Demonstrates strong oral and written communication skills.

Other Requirements:

- In addition to the scope and output stated above, the incumbent will be required to undertake other *ad hoc* tasks that may arise during the contract period. These tasks should not impede on the incumbent's ability to meet contractual obligations/deliverables.
- All materials and other intellectual property produced while working under contract including, but not limited to, documents, presentations, white papers, photographs and other media, will remain the property of the REDD+ Taskforce and are required to be submitted to WG Coordinator for archiving.
- This assignment will require extensive communications with stakeholders from different locations and in different circumstances and, with this in mind, it may be necessary to accommodate some irregular working hours.

III. EXPECTED RESULTS

An appropriate algorithm for deforestation detection system, which can be apply to all Indonesia's forest land with high accuracy results in several periods. Moreover, the developed algorithm will be documented as a manuscript research. The results of deforestation detection system is available and should be managed and synchronized to the adoptable format in the Situation Room BP-REDD+.

No	Deliverables	Due Date
1	Draft (Draft 00) of algorithms for deforestation detection system by using MODIS data satellites;	September 2014
2	Report of the trial application of near-real time deforestation detection system and accuracy results for the Indonesia's forest land;	October 2014
3	Improved algorithm with high accuracy results (validated by LANDSAT, SPOT and/or field verification) and the results is synchronized to the adoptable format in the Situation Room of BP-REDD+;	November 2014
4	Draft of research manuscript of the application of remote sensing technology (MODIS data satellite) in relations with the near-real time detection system for deforestation in Indonesia.	December 2014