FAST-TRACKING NATIONAL FOREST MONITORING SYSTEMS FOR REDD+ MRV CLOUD-BASED PLATFORM

Introduction

This proposal seeks to fast track REDD+ country development of operational National Forest Monitoring Systems (NFMS) and its related capacities for Measurement, Reporting and Verification (MRV). The proposal integrates and strengthens ongoing initiatives (SEPAL, Open Foris, UN-REDD, GFOI) towards a single MRV platform for all FAO and partner knowledge management tools related to NFMS and related MRV functions, so as to provide country stakeholders with an easily accessible portfolio of options for application in their country contexts. This proposal can be catalytic for national entities that are interested in increasing transparency in reporting and in receiving payments for emissions reductions under the UNFCCC, the FCPF Carbon Fund, or any other bilateral agreements and support their ability to fulfil modalities for their Nationally Determined Contributions (NDCs).

Context

Operational NFMS are required for the MRV of REDD+ results to enable REDD+ countries to access Results Based Payments (RBPs) under the UNFCCC, the Green Climate Fund (GCF), the World Bank Carbon Fund, and bilateral agreements, and can complement the monitoring of NDCs, as well as Sustainable Development Goals.

Since 2001, FAO has provided direct support to countries for monitoring their forest resources and since 2008 FAO, though various programmes including UN-REDD, has developed a variety of technical solutions to assist countries in REDD+ MRV and for transparency in REDD+ efforts. These tools include the Open Foris suite, and more recently a 'cloud-based' solution for accessing space data and applying remote sensing processing chains under the SEPAL (System for Earth Observation Data Access, Processing and Analysis for Land Monitoring , funded by Norway).

Open Foris is a set of free and open-source software tools that facilitates flexible and efficient data collection, analysis and reporting. In particular, it enables countries to design (Collect), implement (Collect Mobile), and analyze (Calc) National Forest Inventory (NFI) information for estimating Emission Factors. Open Foris also includes tools for collecting Activity Data such as Collect Earth, and the Geospatial toolkit that supports the data generation for the development of a Satellite Land Monitoring System (SLMS).

FAO/UN-REDD has also been supporting countries in the development of transparent online National Forestry Monitoring System web portals (e.g. see the PNG NFMS webportal). These portals are an expression of transparency for countries' REDD+ efforts and actions and provide a country-based decision tool as well as visualization platform for the REDD+.

Additionally, FAO recently launched a new e-learning course on GHG inventory for agriculture to enhance the capacity of countries to report to the UNFCCC on agriculture and forestry. In combination, these tools provide technical solutions for many elements of MRV for REDD+.

In parallel to the development of these tools, many countries have been supported in strengthening their capacity for the development and implementation of the pillars of NFMS (NFI, SLMS, GHGi), and Forest Reference Emission Levels/Forest Reference Levels (FREL/FRL). FAO has provided tailored country support which has led to the submission of 70% (18) of all of the FREL/FRL submitted to the UNFCCC across diverse country contexts in Asia, Africa and Latin America.

Rationale and approach

Through its global and country-level expertise, UN-REDD Programme has identified a need to accelerate the transfer of knowledge to countries using accessible and integrated tools, and novel learning environments which match country contexts and needs. The solution proposed below can accelerate the move by countries from REDD+ readiness towards REDD+ implementation.

Progress on REDD+, both at the UNFCCC and at the country level, is a success story as recognized in the Paris Agreement. However, there is growing pressure for countries to advance rapidly through REDD+ readiness to REDD+ implementation and RBPs. To this end, robust National Forest Monitoring Systems are a key requirement.

The current suite of technical solutions combined with extensive country experience provides a strong basis for the development of a **REDD+ MRV platform integrating a portfolio of MRV tools that can fast track the development of NFMS for REDD+.** Now it is time to increase the speed, efficiency and reliability with which countries can produce information required for REDD+ implementation.

In this context, a three-year (2018-2020) global project component is proposed to enact the development, and implementation of a streamlined **REDD+ MRV platform** with the following outputs:

Outputs
1. Tools developed under Open Foris, SEPAL and UN-REDD integrated, augmented, streamlined, and made available to countries in a secure cloud-based environment, the **REDD+ MRV platform**. This will be complemented by development of simple open-source technical solutions for developing Forest Reference Emission Levels/Forest Reference Levels (FREL/FRL), and reporting REDD+ results. Implementation of elements above will result in a cloud-based MRV solution with linked capacity building material offering countries secure, IPCC compliant, start-to- finish calculation chains from raw remotely sensed data and field based inventory to data generation for the FREL/FRL or REDD+ results, satisfying the modalities of REDD+ under the UNFCCC (Warsaw Framework for REDD+), the Carbon Fund Methodological Framework, or Bilateral MRV agreements.
2. By 2020, operational NFMS used as the basis of FREL/FRL submissions and REDD+ results to the UNFCCC in 15 countries.

Activities
The basic elements and timelines for this proposal are described below:

Stage 1 – Output 1 - (1.5 years - 2018, 2019) – Development and Testing

- Integration of Open Foris into a single secure open source cloud-based computing environment with direct linkage to the suite of FAO MRV tools (SEPAL, UN-REDD NFMS portals) (**REDD+ MRV platform**). All tools will be supported and available throughout the integration process.
- Development of new open source MRV tools to enable calculation chains with accompanying decision trees and capacity building material for FREL/FRL, REDD+ results, and integration with existing tools for stream lined start-to-finish REDD+ MRV calculations. Built-in flexibility will ensure that the applications are compliant with different IPCC Tiers and Approaches and to satisfy the modalities of REDD+ under the UNFCCC (Warsaw Framework for REDD+), the Carbon Fund Methodological Framework, or Bilateral MRV agreements.

- Built in decision trees will allow countries to select the most appropriate IPCC Tier for Activity Data and Emission Factors for their national circumstance. This will facilitate use of the tool by countries with varying capacities for REDD+ MRV.
- Increased user-friendliness and transparency of open-source solutions to facilitate rapid adoption, technical assessment, and additional verification for finance modalities for compliance with the IPCC principles of transparency and completeness.
- Testing of the new REDD+ MRV technical solution in three key REDD+ countries, based on interest and readiness, in consultation with Norway.
- Launching of the new **REDD+ MRV platform**, dissemination, communication and presentation of the platform at key international meetings (SBSTA, COP).

Stage 2 (1.5 years – 2019, 2020) – Output 2 – Full implementation in 15 countries (learning & knowledge exchange)

- Regional and/or global workshops to introduce the **REDD+ MRV platform** and follow up technical support to enable implementation for selected countries. The status and needs of UN-REDD TA countries will considered and their inclusion in regional and/or global workshops will be prioritized when MRV support complements and contributes to UN-REDD TA.
- Fast-track implementation of the platform in 15 REDD+ countries to ensure they satisfy MRV for REDD+ and upcoming modalities for NDCs. UN-REDD TA countries will be prioritized when MRV support is complimentary, other countries will be selected based on interest and readiness, in consultation with Norway.
- Remote technical support and on-line learning events to proliferate use of the platform among REDD+ countries.

Results Framework

UN-REDD TA outputs (*)	UN-REDD TA agency	Timeline (year/s)	Indicators (**)	Baseline (***)
Output 1. Integration of existing NFMS/MRV tools into the **REDD+ MRV platform**, development of new open source MRV tools to enable calculation chains for FREL/FRL and REDD+ results, and **REDD+ MRV platform** tested, communicated and disseminated.	FAO	2018-2020	2018: • Existing tools integrated into **REDD+ MRV platform.** • New MRV tools for FREL/FRL and REDD+ results created and integrated into **REDD+ MRV platform.** (MoV: Tools developed and available for use) 2019: • **REDD+ MRV platform** tested in 3 pilot countries, communicated and disseminated. • 3 webinars and 6 presentations of the platform. (MoV: Evidence of REDD+ MRV platform use through web statistics)	Existing NFMS/MRV tools not integrated. Inadequate tools for FREL/FRL and REDD+ Results. Platform not communicated/disseminated.
Output 2. Transfer capacity and enable country use of **REDD+ MRV platform;**	FAO	2018-2020	By 2020: • Capacity transferred and country use of REDD+ MRV platform enabled (minimum 15 countries). • Number of global and/or regional workshops	Incomplete capacity for REDD+ MRV. Incomplete NFMS/MRV

| Complete operational NFMS/MRV systems in 15 REDD+ countries | | | • Number of country missions for direct support (MoV: Workshop / mission reports; Evidence of REDD+ MRV platform use through web statistics) • Complete operational NFMS/MRV systems in at least 15 countries. (MoV: FREL/FRL submissions/revisions to the UNFCCC; BURs with REDD+ Results submitted to UNFCCC) | systems. |

This global project will fast-track country implementation of the 2016-2020 UN-REDD Programme Results Framework, and more specifically, the project will result in 15 countries satisfying Outcomes 2.1 and 2.2 centered on FREL/FRL, REDD+ Results, and NFMS.

Risk Management Framework

Risk description	Rating	Mitigation measure
External risks		
Lack of demand for new REDD+ MRV platform	P= Low I = High	Development of an all-inclusive REDD+ MRV platform will fill a gap in currently available tools – so demand is expected to be high.
Collaboration partners not willing to contribute/participate	P= Low I = Medium	The REDD+ MRV platform will be developed in close coordination with the Global Forest Observation Initiative (GFOI) – a related FAO project that provides a strong basis for collaboration with the identified partners. It is suggested also than an advisory group comprising of the GFOI Leads is created to ensure collaboration and coordination.
Countries fail to operationalise REDD+ MRV due to difficult national dynamics	P = Low I = Medium	FAO has a long experience in supporting MRV operationalisation despite difficult national dynamics through collaborative work with national counterparts.

Risk description	Rating	Mitigation measure
REDD+ MRV is not embedded in government structures and/or is not given sufficient domestic financial and staffing resources in supported countries	P = Low I = Medium	FAO has experience in supporting MRV operationalisation despite weak government structures with limited domestic finance.
The platform is not used nor leading to desired outcomes.	P = Low I = High	The contribution and participation of partners will ensure the platform is used in combination with close country support through stage 2 of the proposal for implementation of REDD+ MRV.
Internal		

* P: Probability; I: Impact; TBD: To Be Determined

Major collaboration partners

- UNFCCC, World Bank's FCPF, GOFC-GOLD, Carbon Fund and ISFL, Silvacarbon, GIZ, UK and others