

“cook”

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## REDD+ MRV: Capturing benefits from community forest management in the tropics

# REDD Research & Development Center

- Research and Development
  - Malaysia, Paraguay, Cambodia
- Training
  - Training for experts
  - Supporting JICA training course
- Raising Public Awareness
  - Open Seminar
  - Making educational video tool



<http://www.ffpri.affrc.go.jp/redd-rdc/en/index.html>



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**REDD** Research and Development Center  
**Japan**

# What is REDD-plus Cookbook?

- Hands-on manual on REDD-plus for policymakers, government officials and precisians
- Based on the UNFCCC decisions and the IPCC guidelines/guidance
- English & Japanese
- 151 pages with 36 units of items
- National/subnational level
- Reference guide



# Why Cookbook is needed?

- Capacity building for every stakeholders is crucial
- REDD+ needs wide range of technical knowledge (satellite imagery, ground-based survey...)
- Many jargons (phased approach, safeguards...)
- Many good technical manuals are exist but not always user-friendly



# Contents and Target

## Introduction

- Chapter 1 - About REDD-plus
- Chapter 2 - Designing a forest monitoring system

Policymakers  
and their  
partner  
organizations

## Planning

- Chapter 3 - Basic knowledge
- Chapter 4 – MRV of forest carbon
- Chapter 5 - Monitoring by the stock change method

REDD-plus  
implementing  
organizations

## Technical

- Chapter 6 - Preparation of REDD+ implementation
- Chapter 7 - Estimation of forest area using R/S
- Chapter 8 - Permanent sample plot method
- Chapter 9 - Estimation models for forest carbon stocks

Experts who  
work on the  
REDD-plus  
activities

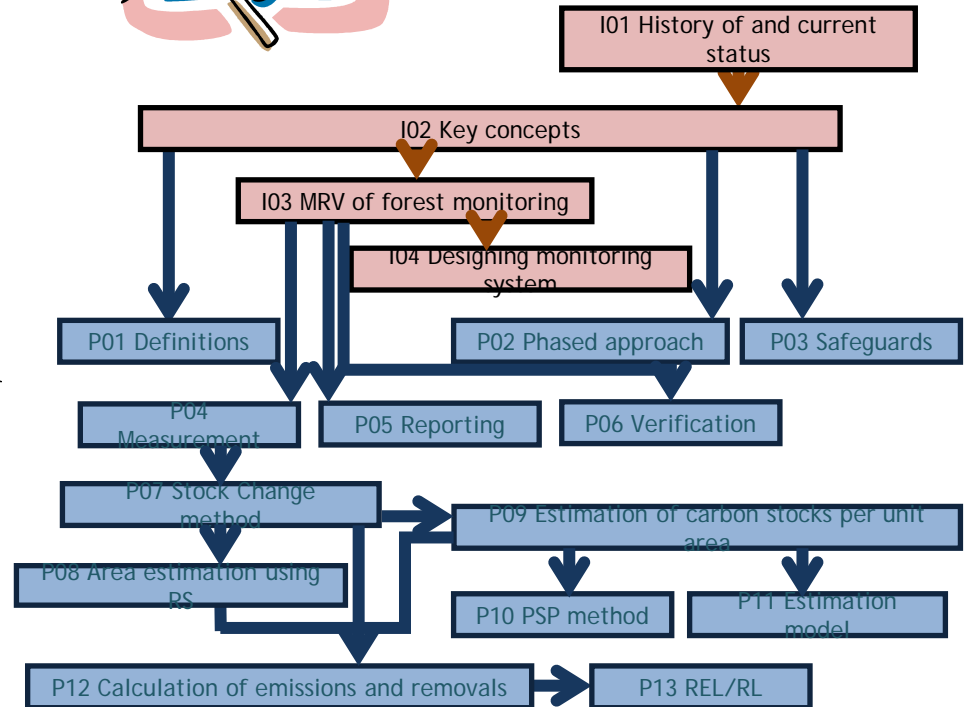
## References

- List of relevant guidance, manuals, articles
- Index

Users who need  
more in-depth  
information

# User-friendliness

- Each items in the sections are compiled into small units called “recipe”.
- Users can easily go through the items in each recipe to in-depth recipe or references in flow chart.



# Design of "Recipe"

## Measurement, reporting and verification (MRV) of forest monitoring

The preceding Recipe is

Recipe I02 Key REDD-plus concepts

Measurement, Reporting, and Verification (MRV) is a system to enable objective evaluation of the implementation status of REDD-plus policies and emissions and removals for the credit mechanism. How to implement MRV at national and sub-national levels for REDD-plus is still under discussion, but for voluntary credit verification systems used by the private sector (e.g., Verified Carbon Standard (VCS); see T04), the framework for MRV implementation at the project level, the Clean Development Mechanism (CDM), takes into account institutional design. In this chapter, what is meant by "measurement", "reporting", and "verification" is outlined and the MRV requirements of forest monitoring for REDD-plus are explained.

### MRV

The concept of MRV was introduced in the Bali Action Plan agreed at COP 13 in 2009<sup>1)</sup>. According to this plan, GHG mitigation actions and commitments must be measurable, reportable, and verifiable. However, international discussions on the specific purpose and target of MRV and on who is responsible for implementing it are still in progress. As of 2012, MRV modalities of forest monitoring for REDD-plus were also under consideration by SBSTA. Data on GHG emissions and removals obtained by using appropriately designed MRV will be an important basis for evaluating the effectiveness of REDD-plus activities.

### Measurement (see P04)

REDD-plus activities are evaluated according to the emissions reductions and removals that result. Thus, these amounts must be measured. In forest monitoring, "measurement" means the continuous measurement and collection of data on anthropogenic forest-related GHG emissions by sources and removals by sinks, forest carbon stocks and forest area changes<sup>2)</sup>.

More specifically, REDD-plus participating countries must measure forest cover changes and emissions and removals per unit of land area<sup>3)</sup> (Figure I03-1) where the activities are carried out, in accordance with guidance provided by the UNFCCC, and calculate total forest GHG emissions and removals from the acquired data. The measurement system must be transparent, consistent, and accurate, and uncertainty should be minimized, but it must also be feasible for the participating country. In the future, "measurement" for safeguards and other forest-related functions will also be required.

### INFO

1) The MRV concept was introduced in the Bali Action Plan, which was adopted by UNFCCC COP 13, held in Bali, Indonesia, in 2007, to realize domestic and international actions for the mitigation of climate change and to guarantee the quality of the actions. MRV stands for Measurement, Reporting, and Verification. For example, use in the form of the measurement and the report in the National Communications (NCs) in the Copenhagen agreement, and the International Assessment and Review (IAR) which verify them.

### INFO

2) UNFCCC (2009) Decision 4/CP.15, FCCC/CP/2009/11/Add.1, 11-12, UNFCCC

### INFO

3) IPCC (2003) Good practice guidance for land use, land-use change and forestry. IGES <http://www.ipcc-nggip.iges.or.jp/public/gpgluc/gpgluc.htm>



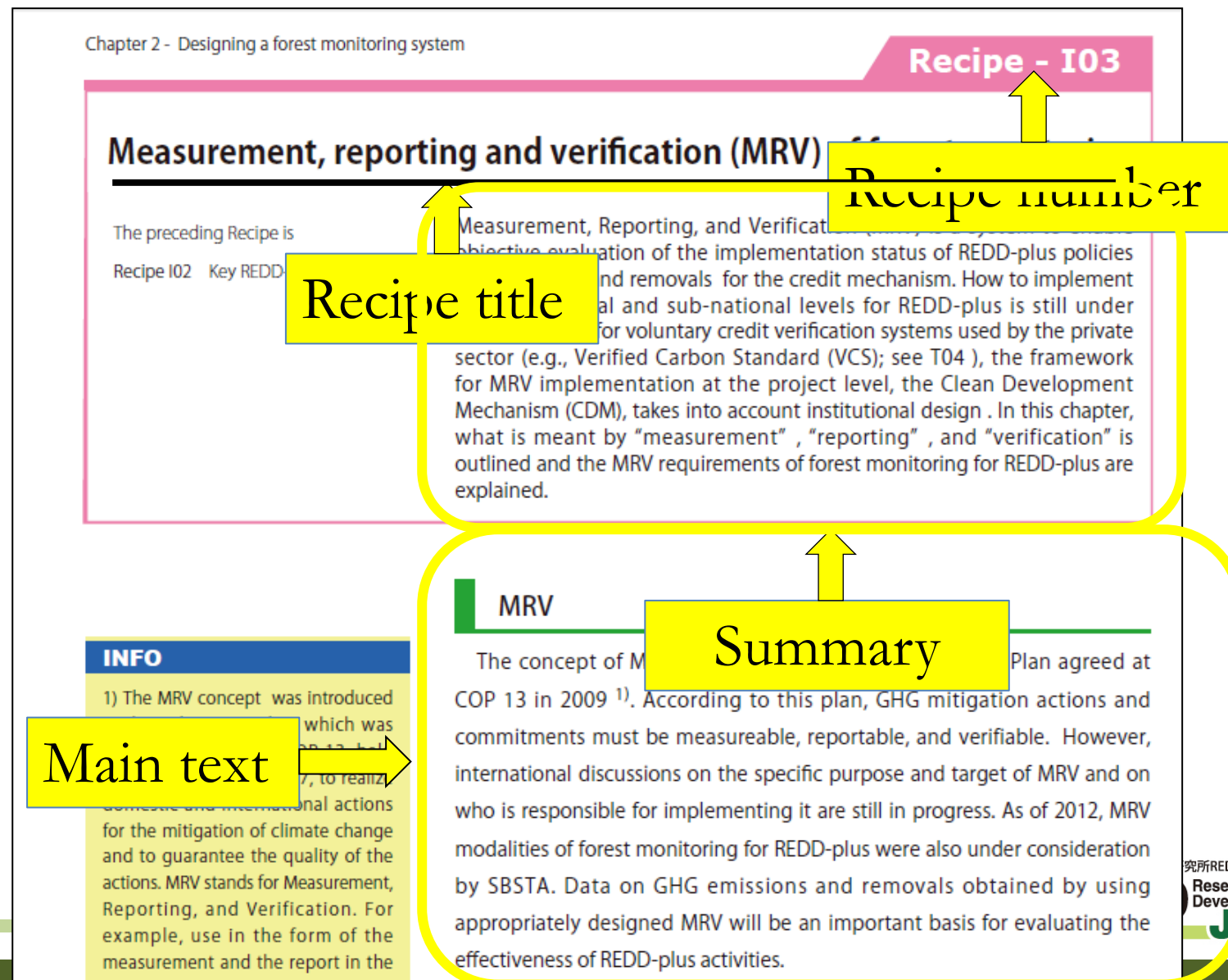
Figure I03-1 Measurement of forest cover changes and emissions and removals per unit of land area

### Reporting (see P05)

Reporting means providing information on the estimated GHG emissions and removals, on the methods and procedures used to determine them, and on the status and future outlook for measurements of emission reductions and removals by sinks in accordance with the forms and procedures prescribed by the reporting institutions. The form of the report should be chosen according to the subject being reported and the purpose of the report. For example, reporting at the national level is under UNFCCC guidance and project level reporting should conform to requirements of the CDM or other voluntary verification scheme. In any case, reports should include all information needed for verification so that additional information does not need to be submitted later. The UNFCCC obliges the Parties to report a country's national greenhouse gas inventory (see P05), and the report conform to the following five principles: transparency, consistency, comparability, completeness, and accuracy. All reports of REDD-plus activities must conform to these five principles. Transparency is particularly important for developing countries, because adequate historical data is often lacking and data collection is difficult.



# Structure of "Recipe"



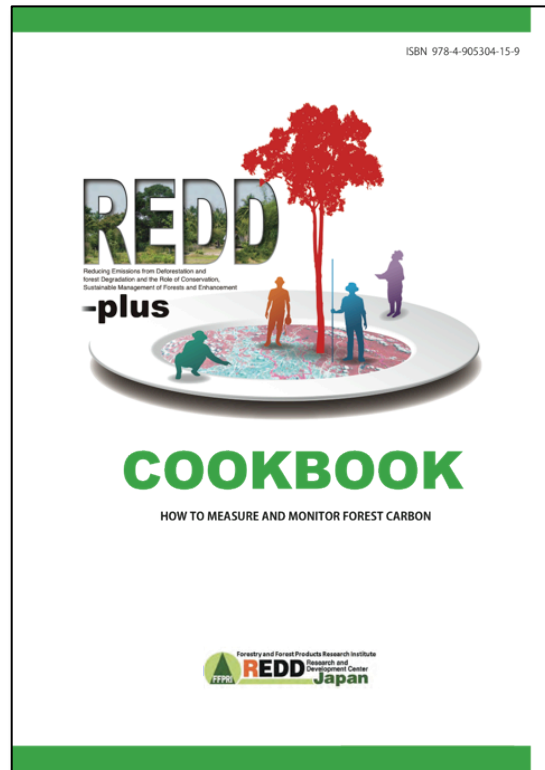


## Chapter 4: MRV of forest carbon

No. 19	Emissions factors. Converting land use change to CO <sub>2</sub> estimates. In: <i>Analysing REDD+ Challenges and choices</i>	EN	2012	Verchot et al.	CIFOR
P04	<p>This chapter in <i>Analysing REDD-PLUS Challenges and Choices</i> introduces the measuring of forest carbon in REDD-plus, and describes the current state of non-Annex I countries with regard to capacity and information available for the measurement, and concludes by summarizes future challenges. It gives detailed explanations of the Gain-Loss Method (including an approach for peatland) and the Tier 1 approach, which the Cookbook discusses only briefly. Furthermore, this chapter covers a range of topics, from the currently available emission factors and the possibility of improving them to a potential integration of community carbon monitoring with national carbon monitoring. This chapter is particularly recommended for people who wish a concise presentation of forest carbon measurements not covered by the Cookbook.</p>				
National, Sub-national, Project					
<a href="http://www.cifor.org/online-library/browse/view-publication/publication/3805.html">http://www.cifor.org/online-library/browse/view-publication/publication/3805.html</a>					

# Download it Now And Let's cook REDD+!

<http://www.ffpri.affrc.go.jp/redd-rdc/en/reference/cookbook.html>



Bon appetit!

