

# REDD+ MRV and national forest monitoring for REDD+, outcomes of last SBSTA sessions and need for further input

Jim Penman

GOFC-GOLD/CIFOR Workshop

Wageningen University

September 2012

# REDD+

Re-entered climate negotiations in 2005:

- RED – Reduced emissions from deforestation
- REDD – Reduced emissions from deforestation and forest degradation
- REDD+ - Reduced emissions from deforestation, forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
- Other LULUCF activities related to REDD+ drivers under consideration
- Prospect of national coverage essential to acceptability

# Conceptual Model

Results-based finance based on the difference between actual emissions in future periods and a reference level requires:

- Methodologies to estimate of actual emissions and removals
- Establishment of a reference level with the same coverage of emissions and removals.

Implies need to consider historical as well as current and future data, on a consistent basis

# MRV: what's already agreed (1)

Copenhagen 2009:

- Use most recent agreed IPCC Guidelines
- Identify drivers
- Establish robust and transparent national forest monitoring systems including, if appropriate, sub-national systems
- Use of RS and ground based data in combination
- Transparency, consistency, accuracy, uncertainties to be reduced as far as is practicable
- Results available for review.

# MRV: what's already agreed (2)

## Cancun 2010:

- Sub-national monitoring to include monitoring and reporting of how displacement is addressed
- Results-based actions require national monitoring systems
- Conversion of natural forest not to be incentivised
- National systems to provide information on safeguards
- SBSTA work programme on MRV

## Durban (2011), Reference Levels:

- Are performance benchmarks, consistent with inventories and may be adjusted for circumstances
- A stepwise approach is potentially useful
- May be sub-national as possible interim
- Technical assessment process

# What Durban said about a *stepwise approach* for RLS

*Agrees* that a step-wise approach to national forest reference emission level and/or forest reference level development may be useful, enabling Parties to improve the forest reference emission level and/or forest reference level by incorporating better data, improved methodologies and, where appropriate, additional pools, noting the importance of adequate and predictable support as referenced by decision 1/CP.16, paragraph 71

## Progress in Bonn, May 2012

The Bonn sessions produced draft Decision text (not all agreed) on:

- National Forest Monitoring Systems
- Measuring, Reporting and Verifying (MRV)
- <http://unfccc.int/resource/docs/2012/sbsta/eng/l09r01.pdf>

# Bonn Elements for National Forest Monitoring Systems

National; sub-national contemplated as interim

Use IPCC methods

Data and information provided to be transparent, consistent, complete, subject to QA/QC

Based on existing systems, be flexible and allow for improvement, reflect phased approach

All forest covered; assess changes in natural forest

Identify uncertainties

May provide information on safeguards



# Bonn Elements for National Forest Monitoring Systems

National; sub-national contemplated as interim

Use IPCC methods

Data and information provided to be transparent, consistent, complete, subject to QA/QC

Based on existing systems, be flexible and allow for improvement, reflect phased approach

All forest covered; assess changes in natural forest

Identify uncertainties

May provide information on safeguards

# Bonn Elements for National Forest Monitoring Systems

National; sub-national contemplated as interim

Use IPCC methods

Data and information provided to be transparent, consistent, complete, subject to QA/QC

Based on existing systems, be flexible and allow for improvement, reflect phased approach

All forest covered; assess changes in natural forest

Identify uncertainties

May provide information on safeguards

# Bonn Elements for National Forest Monitoring Systems

National; sub-national contemplated as interim

Use IPCC methods

Data and information provided to be transparent, consistent, complete, subject to QA/QC

Based on existing systems, be flexible and allow for improvement, reflect phased approach

All forest covered; assess changes in natural forest

Identify uncertainties

May provide information on safeguards

# Bonn Elements for National Forest Monitoring Systems

National; sub-national contemplated as interim

Use IPCC methods

Data and information provided to be transparent, consistent, complete, subject to QA/QC

Based on existing systems, be flexible and allow for improvement, reflect phased approach

All forest covered; assess changes in natural forest

Identify uncertainties

May provide information on safeguards

# Bonn Elements for National Forest Monitoring Systems

National; sub-national contemplated as interim

Use IPCC methods

Data and information provided to be transparent, consistent, complete, subject to QA/QC

Based on existing systems, be flexible and allow for improvement, reflect phased approach

All forest covered; assess changes in natural forest

Identify uncertainties

May provide information on safeguards

# Bonn Elements for National Forest Monitoring Systems

National; sub-national contemplated as interim

Use IPCC methods

Data and information provided to be transparent, consistent, complete, subject to QA/QC

Based on existing systems, be flexible and allow for improvement, reflect phased approach

All forest covered; assess changes in natural forest

Identify uncertainties

May provide information on safeguards

# Bonn Elements on MRV

Use IPCC methods and MRV guidance agreed by COP; request IPCC to provide additional GPG

Data on emissions, removals, stocks,  $\Delta$  stocks, areas to be TCC[C]A, consistency applies over time and WRT RLs

Stepwise approach and conservativeness may be useful

Access to RS data to be facilitated

International verification process contemplated

What's MRV'd?

SBSTA to continue work

# Draft text of IPCC request

*Invites* the IPCC to elaborate methods and provide good practice guidance on measuring, reporting and verifying anthropogenic forest related emissions by sources and removals by sinks, forest carbon stocks, and forest carbon stock and forest-area changes resulting from the implementation of the activities referred to in decision 1/CP.16, paragraph 70 [and taking into account paragraph 71(b)], to be submitted for consideration and possible adoption by the COP at a future session



# Bonn Elements on MRV

Use IPCC methods and MRV guidance agreed by COP; request IPCC to provide additional GPG

Data on emissions, removals, stocks,  $\Delta$  stocks, areas to be TCC[C]A, consistency applies over time and WRT RLs

Stepwise approach and conservativeness may be useful

Access to RS data to be facilitated

International verification process contemplated

What's MRV'd?

SBSTA to continue work

# Bonn Elements on MRV

Use IPCC methods and MRV guidance agreed by COP; request IPCC to provide additional GPG

Data on emissions, removals, stocks,  $\Delta$  stocks, areas to be TCC[C]A, consistency applies over time and WRT RLs

Stepwise approach and conservativeness may be useful

Access to RS data to be facilitated

International verification process contemplated

What's MRV'd?

SBSTA to continue work

# Draft characterisation of *stepwise*

[*Agrees* that [, subject to adequate and predictable financial support in all phases] a stepwise approach to [acquire more and/or] [measuring, reporting and verifying may be useful, enabling countries to incorporate] better data for the relevant pools and /or gases and to improve methodologies [may be useful], [and where appropriate, incorporate additional pools and gases,] as appropriate, recognizing that conservative<sup>3</sup> [treatment of] estimates for some of these pools may be necessary to account for financial, technical, and/or technological constraints, while maintaining consistency with the established forest reference emission level[s]/forest reference level[s]; [noting the importance of adequate and predictable support as referenced by decision 1 /CP .16, paragraph 71;]];

# Bonn Elements on MRV

Use IPCC methods and MRV guidance agreed by COP; request IPCC to provide additional GPG

Data on emissions, removals, stocks,  $\Delta$  stocks, areas to be TCC[C]A, consistency applies over time and WRT RLs

Stepwise approach and conservativeness may be useful

Access to RS data to be facilitated

International verification process contemplated

What's MRV'd?

SBSTA to continue work

# Bonn Elements on MRV

Use IPCC methods and MRV guidance agreed by COP; request IPCC to provide additional GPG

Data on emissions, removals, stocks,  $\Delta$  stocks, areas to be TCC[C]A, consistency applies over time and WRT RLs

Stepwise approach and conservativeness may be useful

Access to RS data to be facilitated

International verification process contemplated

What's MRV'd?

SBSTA to continue work

# Bonn Elements on MRV

Use IPCC methods and MRV guidance agreed by COP; request IPCC to provide additional GPG

Data on emissions, removals, stocks,  $\Delta$  stocks, areas to be TCC[C]A, consistency applies over time and WRT RLs

Stepwise approach and conservativeness may be useful

Access to RS data to be facilitated

International verification process contemplated

What's MRV'd?

SBSTA to continue work

# Bonn Elements on MRV

Use IPCC methods and MRV guidance agreed by COP; request IPCC to provide additional GPG

Data on emissions, removals, stocks,  $\Delta$  stocks, areas to be TCC[C]A, consistency applies over time and WRT RLs

Stepwise approach and conservativeness may be useful

Access to RS data to be facilitated

International verification process contemplated

What's MRV'd?

SBSTA to continue work

# IPCC and REDD+

<b>Activity</b>	<b>Source/sink categories</b>	<b>Probable Methodological approach</b>	<b>Stratification required</b>
Deforestation	$\Sigma$ (transitions from forest to other land uses)	Stock difference	Forest ecosystems (Natural, primary, secondary etc)
Conversion of natural forest to plantations	Forest remaining forest	Stock-difference, or stock difference then gain-loss	Forest ecosystem (as above)
Degradation	Forest remaining forest	Gain-loss or stock difference	Forest management practice
Conservation , Sustainable management of forests and enhancement of forest carbon stocks	Forest remaining forest and other land converted to forest	Gain-loss or stock difference	Forest management practice
Other LULUCF activities related to drivers of REDD+	Relevant land-use	Gain-loss or stock difference	Land-use practice



# Relationship between GOFC-GOLD, IPCC and GFOI

- GOFC-GOLD: continuously updated review of applicable science and technologies relevant to IPCC and GFOI.
- IPCC: operational guidance for greenhouse gas inventories
- GFOI: operational guidance for users and suppliers of RS data for use in greenhouse gas inventories consistent with IPCC guidance

# Challenges

Identification of REDD+ activities (including conversion of natural forests to plantations)

Mapping IPCC methods onto activities

Optimum relationship between RS and ground-based data, not only for deforestation, but also for degradation and other activities; extension to non-forest drivers.

Estimation reference levels and benchmarks on a basis consistent with the inventory

National system to deliver TCCCA, QA/QC

Nesting sub-national interventions within national estimates

Basis for conservative estimates