

## *REDD+ Academy*

# National Forest Monitoring Systems (NFMS) for REDD+



# Module Outline

1. United Nations Forum Convention on Climate Change (UNFCCC) Methodological Guidance for REDD+
2. Intergovernmental Panel on Climate Change (IPCC) Guidance, Guidelines and Concepts
3. Measurement Reporting and Verification (MRV) for REDD+:
  1. Measurement: Activity Data
  2. Measurement: Emission Factors
  3. Reporting
  4. Verification
4. Forest Monitoring for REDD+
5. Linking NFMS, MRV and IPCC



# Module Objectives

By the end of this module, you should be able to:

1. Identify the main UNFCCC decisions relating to national forest monitoring systems and MRV
2. Identify the components of a national forest monitoring system for REDD+
3. Understand the key principles of the IPCC's guidance and guidelines for measurement, reporting and verification (MRV) for REDD+
4. Understand the steps involved in MRV for REDD+
5. Understand the main objectives and tools for forest monitoring for REDD+



# Module Design

- The Module has been divided into 2 presentations which will be presented in a 30 minute and a 60 minute lecture
  - Presentation 1 to introduce the UNFCCC decisions on NFMS and the MRV function
  - Presentation 2 to introduce IPCC guidance, Activity Data, Emission Factors, and MRV functions and their interaction with the UNFCCC and finally the forest monitoring function
- A 30 minute collaborative exercise will follow Presentation 1 and will re-enforce the lecture material on UNFCCC decisions



# Presentation 1

## Focus on

- Developing an understanding of REDD+ under the UNFCCC process and the important decisions on the technical elements of NFMS and MRV



National Forest Monitoring Systems for REDD+

# UNFCCC METHODOLOGICAL GUIDANCE FOR REDD+



# The UNFCCC: Text of the Convention (1992)

## Article 4: Commitments:

- 1. **All Parties**, taking into account their **common but differentiated responsibilities** and their specific national and regional development priorities, objectives and circumstances, shall:
  - a) Develop, periodically update, publish and make available to the Conference of the Parties, in accordance with Article 12, **national inventories of anthropogenic emissions by sources and removals by sinks** of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties
  - b) Formulate programmes to **mitigate climate change** by addressing anthropogenic emissions by sources and removals by sinks of GHG gases ... and measures to facilitate adaptation to climate change

## The UNFCCC: The Bali Action Plan (2007)

- **Decision 1/CP.13: 1 (b) Enhanced national/international action** on mitigation of climate change, including consideration of:
- Nationally appropriate mitigation actions by **developing country Parties** in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a **measurable, reportable and verifiable** manner
- The **Bali Action Plan** encourages all countries to reduce their GHG emissions, according to national circumstances, in a way that is:
  1. Measurable – i.e. one can make **estimates** of emissions reductions / sink enhancements
  2. Reportable – i.e. one can make an inventory and report emissions in a way that is **transparent, accurate and complete**
  3. Verifiable – i.e. one can make an inventory of emissions **available for review**

## The UNFCCC: The Bali Action Plan (2007)

- **Decision 2/CP.13: Reducing emissions from deforestation in developing countries: approaches to stimulate action**
  - 2. Encourages all Parties, in a position to do so, to support capacity-building, provide technical assistance, facilitate the transfer of technology to **improve, inter alia, data collection, estimation of emissions from deforestation and forest degradation, monitoring and reporting**, and address the institutional needs of developing countries to estimate and reduce emissions from deforestation and forest degradation
  - 6. Encourages the use of the most recent [**IPCC**] reporting guidelines as a basis for reporting greenhouse gas emissions from deforestation, noting also that Parties not included in Annex I to the Convention are encouraged to apply the [2003] **Good Practice Guidance for Land Use, Land-Use Change and Forestry**
- **Annex: Indicative guidance for demonstration activities:**
  - 2. **Estimates of reductions or increases of emissions** should be results based, demonstrable, transparent and verifiable, and estimated consistently over time

## The UNFCCC: Copenhagen (2009)

- **Decision 4/CP.15: *Methodological guidance*** for activities relating to reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
- 1. Requests developing country Parties, on the basis of work conducted on the methodological issues ... in particular those relating to **measurement and reporting**:
  - c. To use the most recent **Intergovernmental Panel on Climate Change guidance and guidelines**, as adopted or encouraged by the Conference of the Parties, as appropriate, as a basis for estimating anthropogenic **forest-related greenhouse gas** emissions by sources and removals by sinks, **forest carbon stocks** and **forest area changes**

## The UNFCCC: Copenhagen (2009)

- **Decision 4/CP.15**

d) To establish, according to national circumstances and capabilities, **robust and transparent national forest monitoring systems** and, if appropriate, sub-national systems as part of national monitoring systems that:

i. Use a **combination** of **remote sensing and ground-based forest carbon inventory approaches** for **estimating**, as appropriate, anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes **MEASURABLE**

ii. **Provide estimates** that are transparent, consistent, as far as possible accurate, and that reduce uncertainties, taking into account national capabilities and capacities **REPORTABLE**

iii. Are transparent and their results are available and **suitable for review** as agreed by the Conference of the Parties **VERIFIABLE**

**MRV**

## The UNFCCC: Cancun (2010)

- **Decision 1/CP.16:** Section C: *Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries*
- 71: Requests developing country Parties aiming to undertake REDD+ activities to develop:
  - (c) A robust and transparent **national forest monitoring system** for the monitoring and reporting of REDD+ activities, with, if appropriate, subnational monitoring and reporting as an interim measure, in accordance with national circumstances, and with the **provisions contained in decision 4/CP.15**, and with any further elaboration of those provisions agreed by the Conference of the Parties;

## The UNFCCC: Cancun (2010)

- **Decision 1/CP.16: Section C**
- 73: Decides that the activities undertaken by Parties referred to in paragraph 70 above should be **implemented in phases**, beginning with the development of national strategies or action plans, policies and measures, and capacity-building, followed by the implementation of national policies and measures and national strategies or action plans that could involve further capacity-building, technology development and transfer and results-based demonstration activities, and **evolving into results-based actions that should be fully measured, reported and verified**;

## The UNFCCC: Warsaw (2013)

- **Decision 11/CP.19:** Modalities for national forest monitoring systems
- 2. Decides that the development of Parties' national forest monitoring systems should take into account the guidance provided in **decision 4/CP.15** and be guided by the most recent **IPCC guidance and guidelines**, as adopted or encouraged by the COP, as a basis for estimating anthropogenic forest-related greenhouse gas emissions by sources, and removals by sinks, forest carbon stocks, and forest carbon stock and forest-area changes;
- 3. Also decides that robust national forest monitoring systems should provide data and information that are **transparent, consistent over time, and are suitable for 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 REDD+ activities, taking into account paragraph 71(b) and (c) consistent with guidance on **measuring, reporting and verifying nationally appropriate mitigation actions** by developing country Parties agreed by the COP, taking into account methodological guidance in accordance with **decision 4/CP.15**;

## The UNFCCC: Warsaw (2013)

- **Decision 11/CP.19:** Modalities for national forest monitoring systems
- 4. Further decides that national forest monitoring systems should:
  - (a) Build upon existing systems, as appropriate;
  - (b) Enable the assessment of different types of forest in the country, including natural forest, as defined by the Party;
  - (c) Be flexible and allow for improvement;
  - (d) Reflect, as appropriate, the phased approach as referred to in decision 1/CP.16, paragraphs 73 and 74;

## The UNFCCC: Warsaw (2013)

- **Decision 14/CP.19:** Modalities for measuring, reporting and verifying
- 3. Decides that the data and information used by Parties in the estimation of anthropogenic forest-related emissions by sources and removals by sinks, forest carbon stocks, and forest carbon stock and forest-area changes should be transparent, and consistent over time and with the established forest reference emission levels and/or forest reference levels;
- 4. The **results** of the implementation of REDD+ activities, measured against the forest reference emission levels and/or forest reference levels **should be expressed in tCO<sub>2</sub>e/year**;
- 5. Encourages Parties to **improve the data and methodologies used over time**, while maintaining consistency with the established or, as appropriate, updated, forest reference emission levels and/or forest reference levels;

## The UNFCCC: Warsaw (2013)

- **Decision 14/CP.19:** Modalities for measuring, reporting and verifying
- 6. Decides that the data and information referred to in paragraph 3 [the data for REDD+] above should be provided through **the biennial update reports** by Parties;
- 7. Requests developing country Parties seeking to obtain and receive payments for results-based actions, when submitting the data and information referred to in paragraph 3 above, through the biennial update reports, to **supply a technical annex**; *[on a voluntary basis, so if a country is not seeking REDD+ payments it does not have to prepare FREL/FRL or submit a technical annex]*
- 10. Also decides that, upon the request of the developing country Party seeking to obtain and receive payments for results-based actions, **two land use, land-use change and forestry experts from the UNFCCC roster of experts**, one each from a developing country and a developed country Party, will be included among the members selected for the technical team of experts;

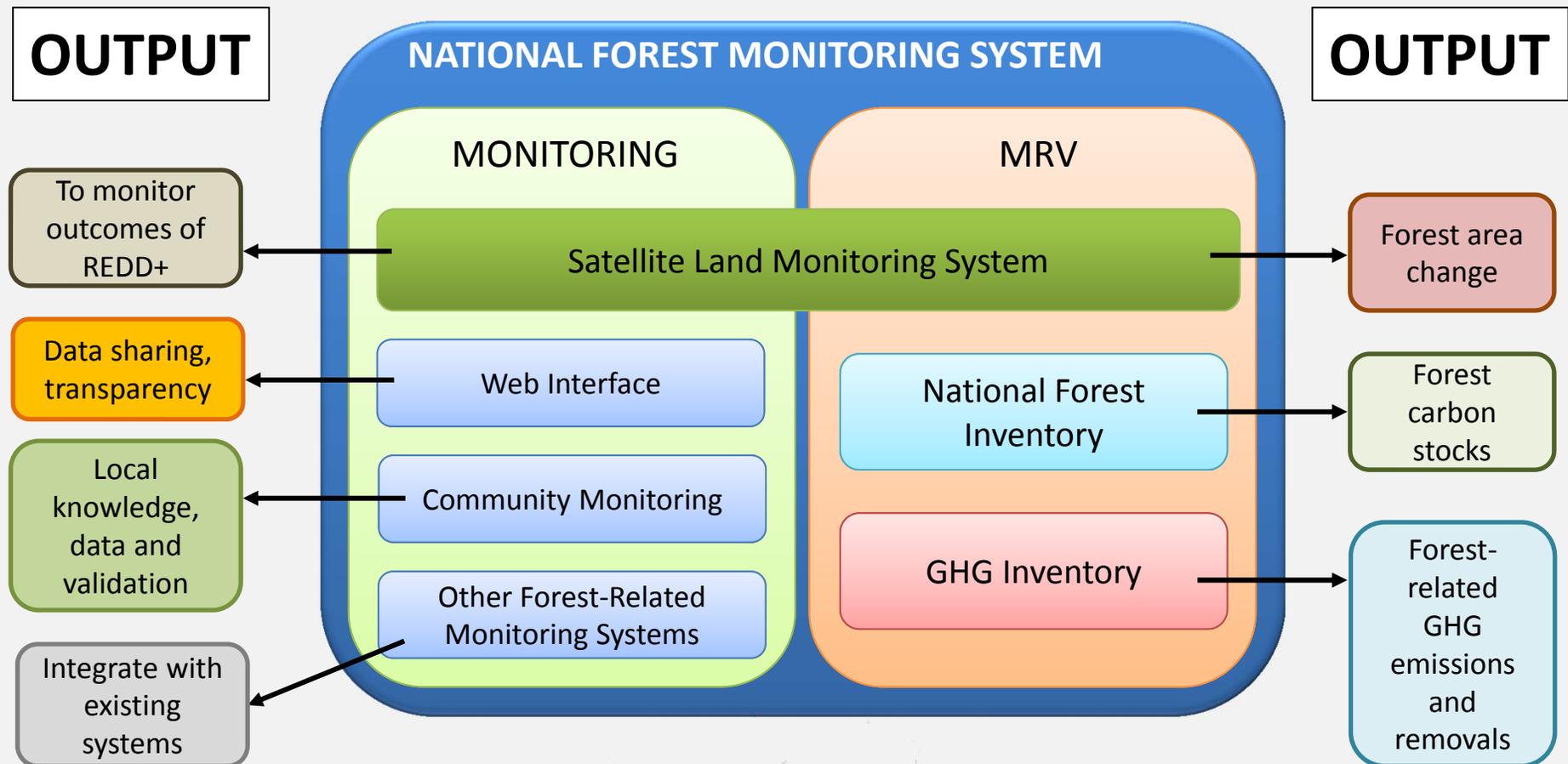
## The UNFCCC: Warsaw (2013)

**Decision 14/CP.19:** Modalities for measuring, reporting and verifying

*Annex: Guidelines for elements to be included in the technical annex*

1. Summary information from the final report containing each corresponding **assessed FREL/FRL**
2. **Results in tCO<sub>2</sub>e/year**, consistent with the assessed FREL/FRL
3. Demonstration that the **methodologies are consistent** with those used to establish the assessed FREL/FRL
4. A **description of national forest monitoring systems** and the institutional roles and responsibilities for measuring, reporting and verifying the results
5. Necessary information that allows for the **reconstruction of the results**
6. A description of how the elements contained in decision 4/CP.15, paragraph 1(c) and (d), have been taken into account

# Two functions of a National Forest Monitoring System for REDD+



# Introduction to exercise 1: Online Quiz on UNFCCC guidance on NFMS

- Please spend 5 minutes reading the 2 UNFCCC decisions on NFMS and MRV
  - **Decision 11/CP.19**
  - **Decision 14/CP.19**
- When you have finished reading, connect to internet, or share a laptop
- Please spend 15 minutes completing the multiple choice questionnaire through online link: [http://bit.ly/NFMS Quiz 1](http://bit.ly/NFMS_Quiz_1)
- We will then have a discussion on the results: note that your submissions can be anonymous...

## Decision 11/CP.19\*

### Modalities for national forest monitoring systems

*The Conference of the Parties,*

*Recalling decisions 2/CP.13, 4/CP.15, 1/CP.16, 2/CP.17 and 12/CP.17,*

1. *Affirms that, consistent with decision 1/CP.16, paragraph 71, the activities referred to in this decision are undertaken in the context of the provision of adequate and predictable support, including financial resources and technical and technological support to developing country Parties;*
2. *Decides that the development of Parties' national forest monitoring systems for the monitoring and reporting of the activities,<sup>1</sup> as referred to in decision 1/CP.16, paragraph 70, with, if appropriate, subnational monitoring and reporting as an interim measure, should take into account the guidance provided in decision 4/CP.15 and be guided by the most recent Intergovernmental Panel on Climate Change guidance and guidelines, as adopted or encouraged by the Conference of the Parties, as appropriate, as a basis for estimating anthropogenic forest-related greenhouse gas emissions by sources, and removals by sinks, forest carbon stocks, and forest carbon stock and forest-area changes;*

FCCC/CP.20

## Decision 14/CP.19\*

### Modalities for measuring, reporting and verifying

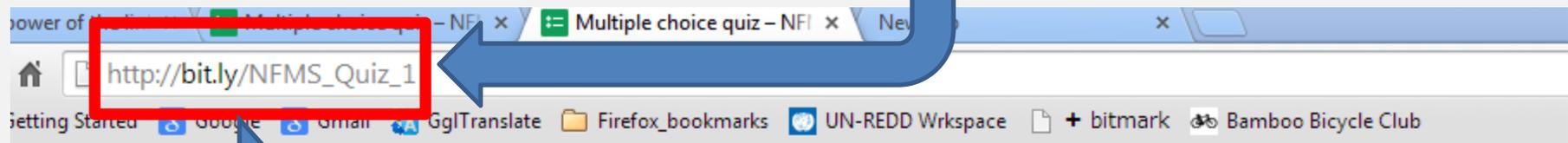
*The Conference of the Parties,*

*Recalling decisions 2/CP.13, 4/CP.15, 1/CP.16, 2/CP.17 and 12/CP.17,*

*Also recalling the relevant provisions of decisions 17/CP.8 and 2/CP.17 related to the provision of support for reporting,*

1. *Decides that 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, taking into account paragraph 71(b) and (c) of that decision, is to be consistent with the methodological guidance provided in decision 4/CP.15, and any guidance on the measurement, reporting and verification of nationally appropriate mitigation actions by developing country Parties as agreed by the Conference of the Parties, and in accordance with any future relevant decisions of the Conference of the Parties;*

Please complete the form on-line  
Type into web-browser: [http://bit.ly/NFMS\\_Quiz\\_1](http://bit.ly/NFMS_Quiz_1)



Your form  
should look  
like this

## Multiple choice quiz – NFMS and MRV under the UNFCCC Decisions 11/CP.19 and 14/CP.19

Refer to the text for Decision 11/CP.19 (Modalities for national forest monitoring systems) and 14/CP.19 (MRV) answer the following questions (complete the exercise individually then compare your answers with your neighbor). An asterisk (\*) means the question is compulsory.

\* Required

### 1) A National Forest Monitoring Systems should be guided by: \*

Multiple choice quiz – Please see the handout Decision text from UNFCCC Warsaw Decision 11/CP.19.

- a. Intergovernmental Panel on Climate Change
- b. The Kyoto Protocol
- c. The United Nations Convention on Biodiversity and Desertification
- d. All the above

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# Review of the results from exercise 1 on UNFCCC guidance on NFMS



- We will go take 10 minutes to review the group responses online
- How well did we do?
- What questions were difficult?
- Any remaining questions/issues?