

# Agriculture NAMAs and MRV

**Heather Jacobs**

***Climate, Energy and Tenure Division, FAO***

***MICCA Programme***



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# MRV Considerations from United Nations Framework Convention on Climate Change (UNFCCC)

- “...Supported NAMAs will be ***subject to international measurement, reporting and verification*** in accordance with guidelines adopted by the Conference of the Parties...” (Copenhagen Accord, 2/CP.15)
- Domestic guidelines -- The guidelines intend to provide ***general, voluntary, pragmatic, non-prescriptive, non-intrusive and country-driven guidance*** on their design and implementation (1/CP.16 and 2/CP.17)
  - “...*Developing Country parties are encouraged to utilize existing domestic processes, arrangements, or systems; otherwise, they may wish to voluntarily establish domestic processes...*” (FCCC/CP/2013/10/Add.2)



# MRV Considerations from UNFCCC

- No methodologies for MRV have been officially developed
- What MRV could measure:

## 1. NAMA Implementation Status

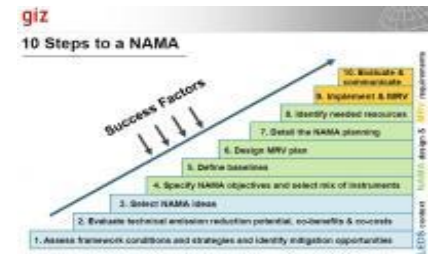
→ Demonstration that NAMAs are in fact being implemented and producing results

## 2. NAMA GHG Emissions Reductions

→ Estimation of emissions at national, regional, and sectoral levels

## 3. NAMA Sustainable Development/co-benefits

→ Tracking environmental, social, and economic impacts



MRV will likely depend on source of funding:

- Internationally-supported NAMAs
- Domestically-supported NAMAs



# What to MRV?

**Measure** -- Emissions reductions, achievement of NAMA and sustainable development goals, flow of finance, and level of implementation achieved

**Report** -- Sectors, activities, institutional arrangements, methodologies used, data sources, forms of finance, status

*\*\*Should designate organisations responsible for reporting to the UNFCCC (BURs), to Donors, and to the national government\*\**

**Verify**– Implement quality assurance and quality control procedures; Apply QA/QC both for data providers and compilers; assess effectiveness of support and cost-benefit impacts

*\*\*At international level, BURs will be subject to the process of International Consultation and Analysis (ICA) performed by technical experts\*\**



# Purposes of MRV

The entire MRV system involves collaboration of institutional, regulatory, technical, and sectoral bodies at many levels of government to check the effectiveness of mitigation actions and support received, as well as the quality of emissions monitoring (GIZ, 2012)

## MRV systems also:

- Provide lessons learned
- Strengthen national GHG data quality
- Help identify national priorities, challenges and future opportunities
- Demonstrate emission reductions and NAMA impacts to donors



GIZ MRV Tool, GIZ NAMA Tool, 2013

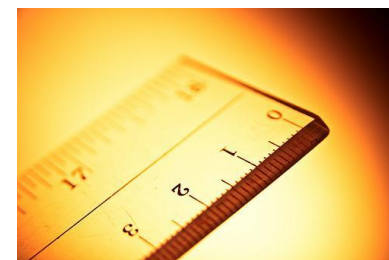


# What is MRV?

The MRV implementation plan should give specific answers to the questions: what to report, how to report, when to report and who should report.

MRV elements ensure *transparency, consistency, comparability, completeness, and accuracy* of information with regard to:

- Recognition and visibility of mitigation achievements
- Attribution of quantified impacts to policies
- Accounting of national and international progress
- Identification of gaps and support needs
- Creation of access to public and private finance



# MRV Data Needs in Agriculture

- Countries in all regions consistently mention the lack of relevant data for the development of emissions baselines and subsequent NAMA MRV systems
- In the context of more fundamental data gaps in ***agriculture***:
  - Difficulty in accessing activity data for agricultural inventory work  
(FCCC/SBI/2010/21/Add.1)
  - Lack of data to estimate emissions factors for agricultural mitigation activities in developing countries (UNFCCC 2008, FAO 2009b)
- Better documentation of agricultural monitoring and evaluation systems is needed, as well as clarified linkage with existing reporting systems
- Countries should use existing MRV systems in agriculture to reduce transaction and monitoring costs (where possible)





# Technical challenges for MRV unique to AFOLU Sectors

## Challenge # 1



## Baselines and additionality

Given the *ecological, social and economic complexity of many agricultural landscapes*, it is difficult to determine the right baseline and the GHG mitigation over time (additionality)

UNEP DTU Presentation , FIRM workshop, April 2014



Food and Agriculture Organization of the United Nations

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# Technical challenges for MRV unique to AFOLU Sectors

## Challenge # 2

### Heterogeneity



In *agricultural landscapes*, land use and soil type varies, so each landscape component will respond differently to management practices

UNEP DTU Presentation , FIRM workshop, April 2014



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# Technical challenges for MRV unique to AFOLU Sectors

## Challenge # 3



### Low signal-to-noise ratio

A particular *challenge for soil carbon* is that the magnitude of annual changes is usually small relative to the size of existing carbon stocks ( i.e., a low ‘signal-to-noise ratio’)

UNEP DTU Presentation , FIRM workshop, April 2014



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# Technical challenges for MRV unique to AFOLU Sectors

## Challenge # 4

### Permanence



AFOLU mitigation efforts require mechanisms to address the *risk of events such as fire, disease, or human intervention causing a loss of carbon to the atmosphere*

UNEP DTU Presentation , FIRM workshop, April 2014



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# Country Experience with MRV for Agriculture NAMAs

## Costa Rica Livestock NAMA

- MRV will enable the generation of national emissions factors for CH<sub>4</sub> and N<sub>2</sub>O
- MRV data will enable assessment of technological risks and evaluation of 36 indicators, determining which are viable on-farm

## Costa Rica Coffee NAMA

- MRV will serve as a tool to improve national data
- MRV will include the status of implementation by mills/farmers
- Interviews with farmers will take place during pilot phases to assess the best methods for MRV data collection



# Country Experience with MRV for Agriculture NAMAs

**Chile:** The pilot MRV for the *Platform for the Generation and Trading of Forest Carbon Credits NAMA* will **include indicators related to biodiversity, gender equality, and adaptation issues**

**Mongolia:** The *Grassland and Livestock Management NAMA* will develop a results-based M&E system to collect data that could better form the basis of a **credible MRV system**

Sources: NAMA Registry 2014;  
FAO, 2013, *National Planning for GHG Mitigation in Agriculture: A Guidance Document*;  
Mitsubishi UFJ Morgan Stanley Securities Company



# Country Experience with MRV for Agriculture NAMAs

**Kenya: Agri MRV+ System:** The Ministry of Agriculture is designing Agri MRV+ to bridge the gap between current agricultural monitoring and the national level cross-sectoral MRV

**Philippines Rice Sector NAMA:** MRV started from the development of a standardized baseline for the rice sector (CDM); A holistic MRV system is planned for both sustainable development (co-benefits) and GHG mitigation through monitoring of compliance by farmers and co-benefits

Sources: NAMA Registry 2014;  
FAO, 2013, *National Planning for GHG Mitigation in Agriculture: A Guidance Document*;  
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# Country Experience with MRV for Agriculture NAMAs

**Vietnam Integrated Food-Energy Systems:** Selection of one sub-sector for MRV pilot design; prepare guidelines and implement a pilot model for MRV system

**Ethiopia:** Agroforestry NAMA MRV components will include **Vulnerability reduction/ livelihood improvement, GHG Emissions Reduction, and MRV of activities against their indicators**

Sources: NAMA Registry 2014;  
FAO, 2013, *National Planning for GHG Mitigation in Agriculture: A Guidance Document*;  
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# Sample metrics to track impacts on GHGs and SD

## **Example: Forestry NAMA**



**Action:** Policy strategy to scale up from small pilot projects

**Progress:** Z% of forested land protected

**GHGs:** Hectares protected x CO<sub>2</sub> sequestered annually/hectare

**Economy:** Incremental economic value compared to deforestation

**Cost-Effectiveness:** Cost per acre protected

**Sustainable Development:** Income levels near protected areas

Source: *MRV for NAMAs: Tracking Progress while Promoting Sustainable Development* (Center for Clean Air Policy, 2011)

[http://ccap.org/assets/MRV-for-NAMAs-Tracking-Progress-while-Promoting-Sustainable-Development\\_CCAP-November-2011.pdf](http://ccap.org/assets/MRV-for-NAMAs-Tracking-Progress-while-Promoting-Sustainable-Development_CCAP-November-2011.pdf)



# Sample metrics to track impacts on GHGs and SD

## *Example: Agriculture NAMA*

### Low Emissions Livestock NAMA

**Action:** Pilot (x% of farms) to scaled-up (y% of farms)

**Progress:** Additional carbon storage through rotational grazing, live fences, and improvement of pasture

**GHGs:** Methane emissions reductions from improved fertilization plans and decreased enteric fermentation

**Economy:** Private-sector alliances

**Cost-Effectiveness:** Increased livestock efficiency

**Sustainable Development:** Strengthened producer capacities and increased livelihoods



# Conclusions

- MRV is at early stages in all sectors, but agriculture faces deeper challenges
- MRV systems are likely to vary from country to country
- AFOLU sectors present unique challenges and specific needs, and MRV knowledge and methodologies are not necessarily transferrable from other sectors
- Consistency with existing national processes, including the potential role of GHG inventories and sustainable development impacts, needs to be investigated and clarified
- Governments should not allow the lack of guidance and as-yet “lessons learned” on MRV to hinder their will and effort toward NAMA preparation and development!



# Thank you!

Contact: [MICCA@fao.org](mailto:MICCA@fao.org)

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