

MRV Tools and Resources

Measuring, reporting and verifying agricultural greenhouse gas emissions and mitigation

Agriculture contributes around 11% of global greenhouse gas emissions. In addition, agricultural emissions are significant at national levels; agriculture contributes an average of 35% of emissions in developing countries and 12% in developed countries. Technical mitigation potential in the agricultural sector is high; there are many low and no-cost options to reduce greenhouse gas emissions, including by improving the efficiency of production.

Just over 100 countries include agriculture in their Nationally Determined Contributions (NDCs) under the Paris Agreement and are working to identify and implement mitigation solutions. However, many countries cannot document emission reductions achieved through productivity gains and more efficient farm management because national greenhouse gas inventory reporting systems and supporting data are insufficiently developed.

Countries need more robust MRV systems for agricultural greenhouse gas emissions to accurately reflect their national circumstances and transparently demonstrate mitigation. Tools and resources to help countries tailor MRV to their production systems and policy priorities are critical.

The Global Research Alliance on Agricultural Greenhouse Gases (GRA) and the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) are working together to produce a range of resources to help strengthen MRV systems for agricultural greenhouse gas emissions and mitigation actions.

Turn the page to find out more about these resources



RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
Food Security**



**GLOBAL
RESEARCH
ALLIANCE**

ON AGRICULTURAL GREENHOUSE GASES

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MRV Platform for Agriculture: www.agMRV.org

This is a comprehensive web platform containing tools, approaches and case studies for MRV of greenhouse gas emissions and mitigation actions in the agricultural sector. The platform is initially focused on MRV resources specific to livestock but will accommodate MRV for other agricultural sectors and cross-cutting issues. The platform is useful to those developing or strengthening MRV systems for agricultural mitigation actions, including Nationally Appropriate Mitigation Actions (NAMAs) and NDCs.



Tier 2 inventory approaches in the livestock sector: a collection of agricultural greenhouse gas inventory practices

This is a collection of information and examples of how countries have used different data sources, methods, approaches and institutional processes to adopt and continually improve a Tier 2 approach for estimating livestock greenhouse gas emissions in national inventories. It covers six topics relating to Tier 2 livestock greenhouse gas inventories:

1. Understanding Tier 2 approaches for livestock greenhouse gas inventories
2. Planning Tier 2 inventories
3. Data collection and compilation of Tier 2 inventories
4. Implementing QA/QC procedures
5. Assessing the uncertainty of a Tier 2 inventory
6. Continual improvement of Tier 2 inventories

The collection is a core part of the MRV Platform for Agriculture and can be accessed via that website or downloaded as a standalone PDF.



Dealing with data gaps: a guide for improving Tier 2 estimates of national livestock emissions and mitigation

This guide will document practical methods for estimating activity data (e.g. animal numbers, feed intake, etc.) for measurement and reporting of national livestock emissions and emission reductions using the IPCC Tier 2 approach, where data is missing, incomplete or of insufficient quality. Includes:

- Common gaps and shortcomings in activity data and the extent to which they limit effective MRV of agricultural greenhouse gas emissions and mitigation
- Low-cost, robust ways of filling activity data gaps, including options that countries are already using and new options suggested by inventory experts
- Guidance and simple tools for making transparent and traceable decisions about how to handle missing, incomplete or sub-standard data and data uncertainty

The guide will be available in July 2019 via the MRV Platform for Agriculture, as well as the GRA and CCAFS websites.

Making trees count: measurement, reporting and verification of agroforestry under the UNFCCC

A review of how agroforestry is addressed in national MRV systems, with recommendations for improving MRV of agroforestry, including:

- Accessible approaches for representation of lands with agroforestry
- Carbon stock change and emission factor data and databases relevant for reporting requirements
- Research and practical guidelines on linking national and project-level MRV

This review is available from the CCAFS website.

Measurement, reporting and verification of livestock GHG emissions by developing countries in the UNFCCC: current practices and opportunities for improvement

A 2017 publication on current MRV practices available at <http://cgspace.cgiar.org/rest/bitstreams/146542/retrieve>. This report is also available in French (<http://hdl.handle.net/10568/93125>) and Spanish (<http://hdl.handle.net/10568/93127>). A summary brief is available at: <http://hdl.handle.net/10568/80890>.

Livestock development and climate change: the benefits of advanced greenhouse gas inventories

A 2016 publication covering the benefits of advanced greenhouse gas inventories available at www.globalresearchalliance.org.