



GLOBAL
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ON AGRICULTURAL GREENHOUSE GASES

Farms to Regional Scale Integration Network

Pamela Joosse

Presentation to IRG Annual Meeting

Calif, 4 February, 2019

Farm to Regional Scale Integration Network– Status

- Co-Chairs: Richard Eckard (U Melbourne) and Petr Havlik (IIASA)
 - Richard may not be able to continue as co-chair
- 1st Workshop in January 2018:
 - 4 projects carried forward into IRG workplan
 - 4.1 Economics of SCS, typology of activities and barriers
 - 4.2 Global modelling of land degradation, climate change, land use change and NDCs – being completed as part of the CIRCASA project
 - 4.3 Identify farms where there is adequate collection of data to validate models. Shared farm/production system typologies – link to GHG inventories network?
 - 4.4 Training and capability building on modelling

Farm to Regional Scale Integration Network– Next Steps

- GRA Integrative Research Group - Mitigation Modelling Master Class (R. Eckard)
 - planned for 7th Greenhouse Gas and Animal Agriculture Conference in Brazil, Aug 4 2019
 - Purpose - to bring together research scientists with experience in farm systems modelling of GHG mitigation, to share their experiences and encourage those with an emerging interest in this area of work. Share through talks and model demonstrations
 - Outcome - expanded global network GHG modellers, committed to collaborating with the next generation of emerging farm systems modellers around the world in farm systems analysis of GHG mitigation.
 - Invite all those interested in presenting their farm systems modelling research, to contact the organisers, providing a title of their talk and a maximum 100-word abstract of the study they would like to present



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Greenhouse Gas Inventories
Network and GRA Flagship

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GHG Inventories Network– Status

- Co-Chairs: Andrea Pickering (NZ MPI), Jan Verhagen, (WUR), Pamela Joosse (AAFC)
- 4 projects in IRG workplan
 - 5.1 Bottom-up inventories feasibility and comparison with traditional top-down approach
 - 5.2 GRAMP for Tier 3 inventory, using model ensembles - Luke Spadavecchia, ERA-NET?)
 - 5.3 Representing mitigation options in higher tier methodologies
 - 5.4 Analogous systems based on GHG emissions to allow sharing of inventories – link to Farms to Region work?

Inventory Flagship – Overview of potential projects

Enhancing inventory **structure**

For example:

- Regional and source-specific **guidance** for the development of advanced inventories

Building **capability**

For example:

- **Analyses** of experiences of countries in adopting advanced methods
- **Delivery** of targeted technical training to improve emission factors and design inventories that work with existing national and regional data sources

Acquisition and administration of **data**

For example:

- Incorporation of improved emission estimates into emissions (e.g. IPCC-EFDB, GRAMP, SAMPLES, MAGGnet) and activity databases.
- National and regional research projects that validate approaches (measurements and modelling methodologies) to reduce the emissions intensity of food production and ensuring that those gains can be captured in inventories.

Demonstrating **mitigation** in NDCs

For example:

- Provide targeted **support** for countries designing agricultural monitoring, reporting and verification (MRV) within NAMAs or Low Emissions Development pathways based on improved inventories

Inventory Network and Flagship – Status

- Have struggled to find project leaders or resourcing to advance project ideas
- Work on quantification of GHGs is occurring:
 - Livestock Research Group and Integrated Research Group projects supporting Tier 2 livestock inventory work in developing countries
 - Enteric Fermentation, Soil Carbon Sequestration and Paddy Rice Flagships all have quantification of emissions as an area of focus

Inventory Network and Flagship – next steps

- GHG Inventory Flagship work should include efforts from the inventory/quantification projects under other research groups
- Potential activities under this flagship need support and leadership from Member countries
 - Flagship projects could arise from an active GHG Inventories Network
 - **Is someone willing to take on co-chair of inventories flagship and/or network with Andrea Pickering?**
- Role of Partners will be key in capability building
 - research departments in many countries not responsible for inventory development and maintenance or for training
 - Are the right links occurring?



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Principles of a GRA Flagship

- Unique GRA added value
- Inclusive
- Relevant projects that benefit multiple countries
- Solution-focused, linking clearly to mitigation practices
- Multifaceted –co-benefits with improved livelihoods, food security and adaptation
- Build capacity and capability
- Add value to existing efforts and increase the scope and depth of future efforts