

GLOBAL RESEARCH ALLIANCE

ON AGRICULTURAL GREENHOUSE GASES

Integrative Research Group Annual Meeting Wageningen, Netherlands, March 2-3, 2020

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Outline

- **Context:**
Climate negotiations & agriculture; IPCC reports
KJWA, IPCC Special report on climate change and land
- **IRG vision and scope**
- **IRG networks, collaborations and activities**
- **IRG ambitions**

Climate negotiations & Agriculture

- Renewed interest in land based mitigation options
 - IPCC Special report on climate change and land
 - Korinivia Joint Work on Agriculture
 - ca. 120 countries include the land sector in their NDCs
- NDCs also include adaptation for developing countries
- Soil carbon sequestration (4per1000 Initiative) in the Lima-Paris Action Agenda

IRG vision and scope

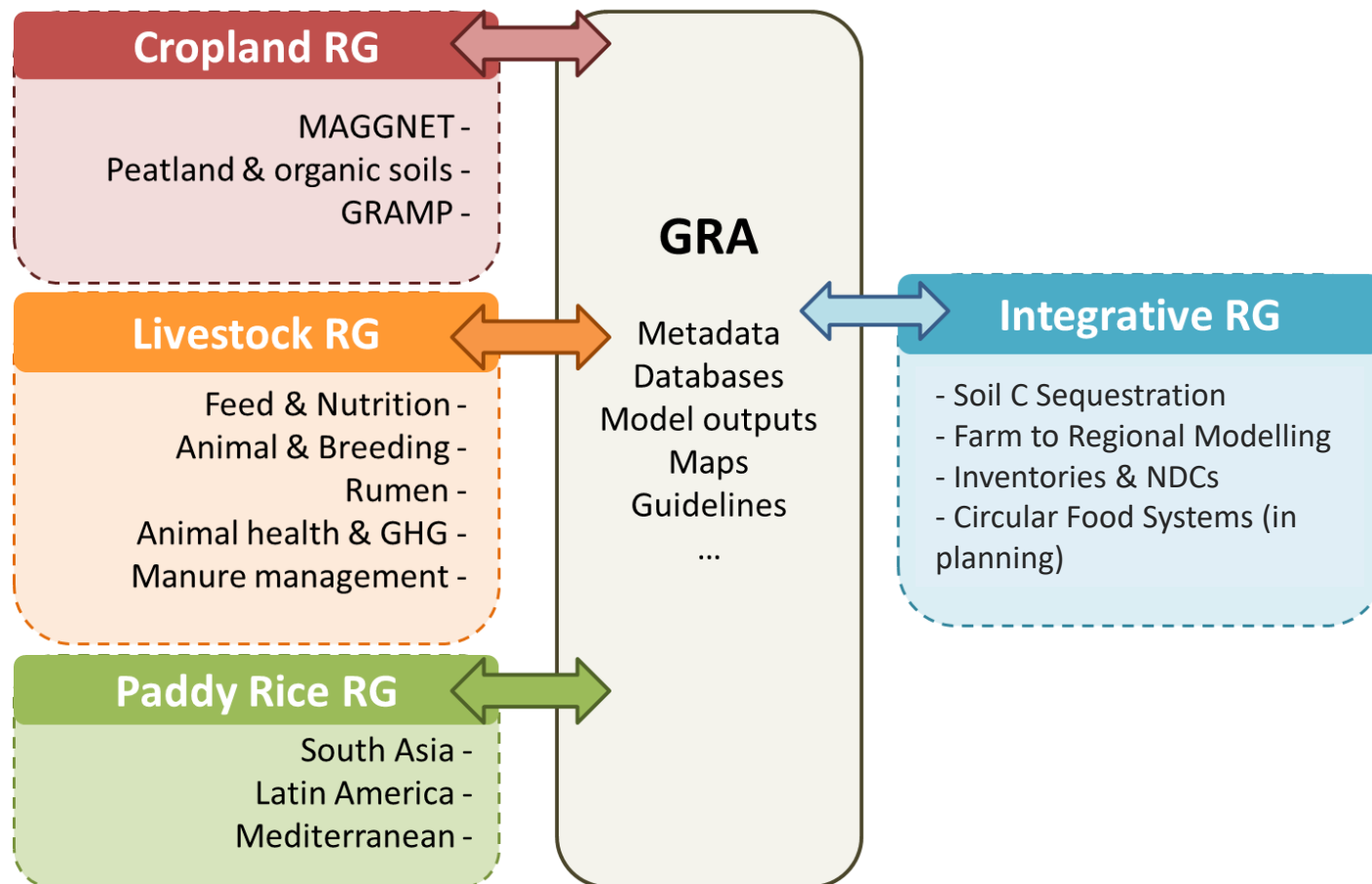
Vision

- Collaborative work to develop the knowledge and capabilities for *estimation, monitoring, and projection* of GHG emissions within and across agricultural systems with focus on soil carbon sequestration

Scope: Address identified ***Research, Development, and Knowledge Transfer (R-D-KT)*** opportunities

- Integration of scales (local, subnational, national, and supranational scales)
- Applying, reporting, monitoring, and/or verifying greenhouse gas emission estimates across farming systems
- Communicate and coordinate
- Foster the building of capability of member countries.

Knowledge integration and scaling



INTEGRATIVE RESEARCH GROUP

OBJECTIVES

- Estimate greenhouse gases (GHG) emissions across agricultural systems at different scales, from the field to the region, to mitigate the impact of agriculture on climate change,

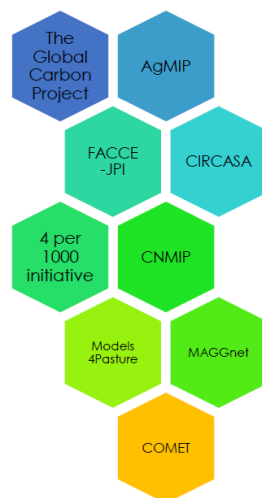
MEANS

- Based on voluntary efforts of countries members of the GRA
- By bringing together efforts of countries that are already supporting research projects
- Rely on activities led by the three other Research Groups of the GRA (Livestock, Croplands and Paddy Rice)

ACTIONS

- Enhance international collaboration
- Facilitate cooperation
- Disseminate knowledge on data, models and assessment tools through members and partners
- Contribute to capacity building (e.g. support mitigation policy design, including Nationally Determined Contributions (NDCs) to meet the Paris agreement on climate change)

COLLABORATIVE PARTNERS AND PROJECTS



Countries contributing to IRG

Argentina, Australia, Belgium, Bolivia, Brazil, Canada, Chile, China, Colombia, Denmark, Ecuador, Egypt, Finland, France, Germany, Ghana, Honduras, Ireland, Italy, Japan, Lithuania, Mexico, Netherlands, New Zealand, Nicaragua, Norway, Panama, Paraguay, Peru, Philippines, Republic of Korea, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Thailand, Tunisia, United Kingdom, United States, Uruguay

Integrative Research Group: Recent achievements (1)

CO-CHAIRS

- Jean-Francois Soussana, INRA, France; Pamela Joosse, AAFC, Canada; Beverley Henry, ACIAR, Australia

Consolidated to 3 Networks + 1 new Network proposed

SOIL CARBON SEQUESTRATION NETWORK

- Claire Chenu (INRA, France)
- 2 more (TBD)

FARM to REGIONAL SCALE INTEGRATION NETWORK

- Petr Havlik (IISA, Austria)
- 2 more (TBD)

INVENTORIES & NDC SUPPORT NETWORK

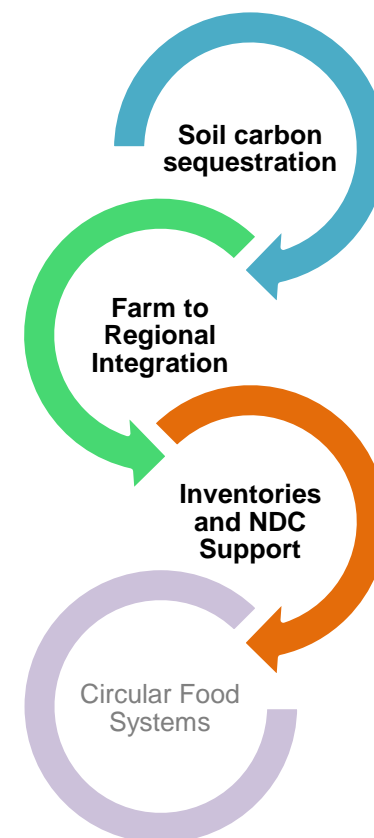
- Andrea Pickering (MPI, New Zealand)
- Richard Eckard (University of Melbourne, Australia)
- Alberto Sanz-Cobena (Spain)
- Marci Baranski (USDA, United States of America)
- Ngoni Chirinda (CIAT, Colombia)

CIRCULAR FOOD SYSTEMS

- (In planning stage)

No true GRA Flagships but key project

- CIRCASA – supporting the Soil Carbon Sequestration Network



Integrative Research Group: Recent achievements (2)

- **Third Annual IRG Meeting**
 - Side-by-side with CIRCASA meeting (CIAT, Cali, February 2019)
- **Regular Phone Meetings**
- **Webinar series (with CIRCASA)**
 - Two successful webinars; ~100 registered
 - *Link with the 4p1000 initiative and the CIRCASA project*
 - *Australian Soil Carbon offset methods: the science, the policy and the practice*
 - Two more in planning
- **Papers published**
 - Smith et al. (2019) *How to measure, report and verify soil carbon change to realise the potential of soil carbon sequestration for atmospheric greenhouse gas removal*

Integrative Research Group: Recent achievements (3)

SOIL CARBON SEQUESTRATION NETWORK

- GRA activities related to soil carbon sequestration presented at KJWA workshop in Bonn (June 2019).

FARM to REGIONAL MODELLING NETWORK

- Mitigation modelling workshop, GGAA Conference, Brazil (4 August 2019).
- Planning for joint modelling framework for co-benefits of mitigation with AgMIIP (GRA partner)

INVENTORIES and NDC SUPPORT NETWORK

- Briefing at Bonn as a side event to the KJWA Workshop (June 2019)
- Newsletter (#1 published April 2019, #2 published December 2019)
- Exploring opportunities for coordination of NDC support for developing country NDCs by GRA members

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Further ambitions for networks

SOIL CARBON SEQUESTRATION NETWORK

- Synthesis of existing indirect carbon budgeting methods estimating changes in SOC stocks (H2020 NIVA project submitted) and of offsetting methods for domestic carbon projects (regional carbon demonstrators, submitted for French ADEME funding)
- Developing regional projects, such as the Latin America project on legumes in grasslands and similar projects in Europe

FARM AND REGIONAL SCALE INTEGRATION NETWORK

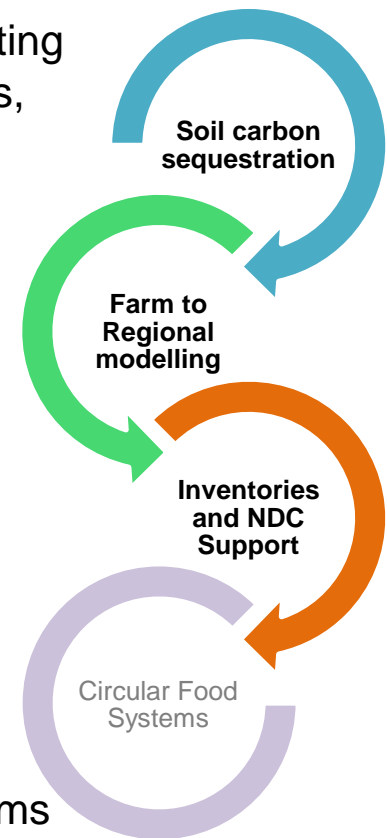
- Estimating costs of changes in farming practices providing SOC sequestration
- Training and capability building for the next generation of modellers
- Workshop with AgMIIP on modelling co-benefits of GHG mitigation

INVENTORIES & NDCs SUPPORT NETWORK

- Comparison between bottom-up and top-down inventory approaches
- GRAMP for Tier3, using model ensembles
- Characterisation of GHG emissions from analogous production systems

CIRCULAR FOOD SYSTEMS NETWORK (PROPOSED)

- Planning and establishment of CFS Network



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Further ambitions for the Group

- Update communication plan (leaflet, website, social media, ...)
 - Continue series of webinars to communicate the activities of the IRG
- Identify partners and network members that can support IRG
- Identify funding opportunities, explore regional projects
- Develop a work plan for training and capability building activities
 - Promote the CLIFF-GRADS program
- Contribute to the science and relevance of climate negotiations (Koronivia process)

Thank you for your attention!