Integrative Research Group Meeting

Berlin, Germany
24 October 2024

Meeting Report

OVERVIEW

The seventh meeting of the Integrative Research Group (IRG) of the Global Research Alliance on Agricultural Greenhouse Gases (GRA) was held in Berlin, Germany on the margins of the 2024 Agri-GHG Symposium. This meeting was chaired by France (Dr Jean-François Soussana, INRAE).

This report is a summary of the key discussions and outcomes of the meeting. The presentation slides used during the meeting are available on the GRA website (here).

PARTICIPANTS

The meeting, convened on short notice, was attended by a delegation of 10 representatives from 7 GRA member countries, concurrently participating in the 2024 Agri-GHG Symposium.

- **GRA Members attending:** Australia, France, Germany, Morocco, Netherlands, New Zealand, Switzerland.

MEETING OUTCOMES

The meeting discussed the following:

- Reports from the five Networks of the IRG.
- Discussion (part 1): Synergies across IRG networks. Steps to be taken.
- Discussion (part 2): Synergies with other Research Group Networks. Possible restructuring.
- Short conclusions and next steps.

SUMMARY OF DISCUSSIONS

DISCUSSION (PART 1)

How do you see the synergies across the IRG networks?
Which steps could be taken to further develop such synergies?

Capacity building

Connect capacities within countries, be facilitators across experts in those countries.
Each funder of projects with low-income countries has different goals. Could GRA help to coordinate these activities from member countries?
How to group questions and be more efficient for capacity building?
How do we interpret the results of calculators and models?
Investing in the people who use the tools, is often more important than investing in the tools.

Duplication of efforts

There is a lot of duplication of efforts. For instance, inventories and farm scale work in the same direction in order to better include mitigation options. Soil carbon is not included in inventories and often also not in farm scale. There is also duplication of efforts about soil carbon inclusion. In some countries, there are different tools for different regions (e.g. French speaking, German speaking, etc.).

Duplication of efforts is also apparent across scales. Including mitigation in emissions equations is a common goal at field/animal, farm and country scales. However, there is not enough communication across scales. The benefit of having an IRG is that there is a continuum of scales with the various networks. Synergies across IRG Networks could significantly reduce the duplication of efforts.

Connect the dots

Systems thinking is the main asset that the IRG needs to promote across its Networks.
There are developments in farm/product-based carbon calculators that need to be connected with developments in national GHG inventories. We need to make these developments compatible. This requires cooperation from farm to regional to national accounting.

The EU CRCF is already asking to connect across scales. For companies, scope 3 calculations is also asking the same thing. Some countries try to harmonize their farm calculators. However, we do not know the degree of consistency of these tools across countries. There is already a strong demand to bridge scales and to harmonize across countries and across scales.

By selecting tools, we create winners and losers

Deciding for a tool is also a political decision, since e.g. emissions per area and per food product do not rank in the same way for conventional vs. organic farms. By selecting tools, we create winners and losers.

Framing is essential. For instance, direct animal emissions may be relatively low per unit product with highly intensive systems, but become relatively high when including emissions from feed. Carbon footprint also has to do with food wastes, etc. so framing has a major importance when recommending options for policies or businesses. There are several complementary dimensions: national inventories is only one part, there is also LULUCF, energy consumption in farms and the footprint of the food consumption.

The IRG can help moderate debates on which tools to use and how to include several dimensions, given the expertise across scales and dimensions in its affiliated Networks.

Nevertheless, there are many measurement gaps and uncertainties which make decision making even more complex.

Standardization, consistency and innovation

Currently, there are numerous companies, startups, foundations, NGOs and research organizations that develop calculators that may also be used for carbon offsets and voluntary projects. There are possibly 45 different standards, including those developed by industries. Hence, there is a clear need to create consistency (see talk by Koen Deconinck, OECD, during the AgriGHG symposium). Discrepancy across tools may ruin the trust of users, industries and governments. Moreover, carbon footprints are also considered in international trade negotiations. Commercial disputes between countries cannot be solved if countries have different tools that have not been harmonized.

However, is progress in innovation needed before we can standardize? This is a legitimate question as some breakthroughs may be needed before a standard emerges.

Transparency

Most of the tools are black boxes, we need to have more transparency. UNFCCC reviewers have access to all country data and can compare emission factors. Transparency and standardization of reporting is essential.

AI

Using AI to compare data and tools may become the new norm in the future. In NZ, a standardized process with APIs is used to increase efficiency of the data reported by farmers. There is something similar in Australia. In the EU, the payment system for CAP is already using LPIS (Land Parcel Identification System) uses also remote sensing and APIs to report farmer's activities. AI will presumably be used in the future also to deliver estimates of emissions and removals of GHGs in an interactive way. However, an AI is as good as the data used to train it and it can also be manipulated. So, going this way sounds very technocratic and could provide the wrong policy framing.

Social and ethical dimensions

Farmers need to be involved in the design of the tools. This is critical for adoption and for impact.

Reflect on critical issues, what are the guiding principles. Do we push some farms out of the game if we recommend one method or another? Equity issues need to be considered and this ties in with socio-economics and policy dimensions

Circularity and mitigation

Circularity is associated with mitigation, this is addressed at Wageningen University & Research. Circularity is both a cause and a consequence of mitigation. It can be addressed at different scales. However, it remains difficult to express circularity with only one indicator, the Dutch government selected three indicators.

Note. The Circular Food Systems Network looks for other co-leads, the same is true for the Farm to Regional Network

Way forward for the IRG and its Networks

Mutual learning is needed. We need to exchange methodologies, so much knowledge is available.

Could we have a workshop presenting the tools of each Network and understanding what are the synergies and what are the gaps? This could also take place through a series of online meetings, or webinars provided that we can identify some champions willing to commit time to the organization of these workshops or webinars. Online meetings would involve the EU CRCF (carbon removals and carbon farming) network.

Work also on an opinion piece to reflect on this issue. However, is a new document needed? Several good papers are available. Let's see after the workshops.

Farm to Regional Scale Network would be quite interested to join our online meetings and possibly webinars with the approaches by different countries.

A perspective which emerges in several countries (e.g. Germany, with Von Thuenen institute) is to develop APIs to convert the data so that they can be used by different tools. This sort of approaches (also remote-sensing and AI) could help to create a harmonized landscape of methods across scales, and to use technical/biophysical data as inputs in economic models and in national inventories.

More support from the Secretariat of the GRA would be greatly helpful to support this process.

DISCUSSION (PART 2)

Synergies with networks from other GRA research groups. How to collaborate with these networks? Should research groups' structure evolve to improve the efficiency of the GRA?

Within the GRA, several Research Groups (e.g. CRG) are also interested by issues studies by the IRG Networks, including soil carbon (e.g. see Croplands Research Group's Networks on organic soils and on agroforestry), farm scale (the Livestock Research Group, LRG, has interest for instance in manure management at farm scale), and circularity (e.g. through agroecological practices, also studied by the CRG). A review will take place to assess the benefits and drawbacks of changing the RG structure (e.g. have a soil centered RG and a farm-scale RG).

Participants felt that the current structure is not so bad, although it requires some adjustments. What is lacking is a clear demand by the GRA and more support from the Secretariat. Since the IRG topic is by definition broad (requiring integrative research), the degree of support required may be higher than with other RGs to build a highly interdisciplinary community bridging knowledge across scales. When the topic is large we need more support and more occasions to work together.

Being better involved, having more awareness across Research Groups and Networks would stir new perspectives. The AGRIGHG2024 Symposium has been very useful, but is not enough. Obviously, newsletters and resources in the GRA website. GRA annual highlights are very useful.

Periodically Research Groups should work together and create a table of interactions.

APPENDIX 1: Participants List

Members	
Australia	Leann Palmer, deputy to Nadia Bouhafs, IRG Co-Chair, DAAF
France	Jean-Francois Soussana, IRG Co-Chair, INRAE Suzanne Reynders, Soil carbon network co-chair, INRAE
Germany	Claudia Heidecke, Farm to Regional network co-chair, Thuenen Institut
Morocco	Ngonidzashe Chirinda, INDC network co-chair, UM6P
Netherlands	Flavia Casu, Circular Food Systems network co-chair
New Zealand	Ben Morrow, Ministry for Primary Industries
Switzerland	Daniel Bretscher, Agroscope Cyrille Zosso, Agroscope
GRA Secretariat	
Darran Austin, Ministry for Primary Industries, New Zealand	