GLOBAL RESEARCH ALLIANCE
ON AGRICULTURAL GREENHOUSE GASES

ALLIANCE COUNCIL MEETING

Meeting Room MOA 9, Mercure MOA Hotel, Berlin, Germany

Monday 10 – Tuesday 11 September 2018

OVERVIEW

The eighth Global Research Alliance on Agricultural Greenhouse Gases (GRA) Council meeting took place on Monday 10 and Tuesday 11 September 2018 in Berlin, Germany. The meeting was held concurrent to a scientific conference on agricultural greenhouse gases. Following the meeting a Stakeholder conference was held, jointly organised by the GRA and FACCE-JPI.

Dr Wolfgang Zornbach, Sustainability and Climate Change, Federal Ministry of Food and Agriculture (BMEL) opened the meeting on Tuesday morning and welcomed all delegates to Germany.

This report is a summary of the key discussions and outcomes from the meeting.

PARTICIPANTS

The meeting was attended by 71 representatives from 31 countries and other invited guests:

- **GRA Members attending:** Argentina, Australia, Brazil, Canada, Chile, China, Egypt, Finland, France, Germany, Ghana, Indonesia, Ireland, Italy, Japan, Lithuania, Namibia, the Netherlands, New Zealand, Norway, Senegal, Spain, Sweden, Switzerland, Thailand, Tunisia, United Kingdom, United States of America, Uruguay, Viet Nam, Zimbabwe.
- **GRA Members unable to attend:** Belgium, Bolivia, Colombia, Costa Rica, Democratic Republic of Congo, Denmark, Dominican Republic, Ecuador, Honduras, Malaysia, Mexico, Nicaragua, Panama, Paraguay, Peru, Philippines, Poland, Republic of Korea, South Africa, Sri Lanka.
- **Observer Countries:** Kenya.
- **Invited Partners attending:** CATIE, CGIAR-CCAFS, CCAC, FAO, ISRIC, WFO and NAMA Facility.
- Refer to Appendix 1 for a full participants list.

KEY OUTCOMES OF MEETING

Outcomes
Council
Indonesia accepted at GRA Vice-Chair and host of the 2019 Council meeting.
Members encouraged to include reference to the GRA and its products in national submissions of the Koronivia Joint Work on Agriculture.
Members encouraged to provide continued resourcing for Research Group activities including research, enabling expert participation in Research Groups and Networks, and hosting Research Group and Network meetings.
Members to consider providing additional support for GRA Flagships.
Agreed to the proposal for a Nitrogen Flagship.
Agreed to the proposal for a Circular Food Systems Flagship, and to review the progress at the next Council meeting.
Members were encouraged to support capability building activities e.g. CLIFF-GRADS, Ruforum scholarships and to develop new activities.
Members to provide an update of national activities, by updating country pages on the GRA website.
Research Groups
Request two new Co-Chairs for the LRG
Senegal expressed interest in becoming the 3rd Co-Chair for the PRRG.
Research Groups to identify existing products to support the Koronivia joint work on agriculture.
Research Groups to review the Koronivia timeline and identify new products to support these events.
Research Groups to review the Koronivia timeline and identify experts that may attend workshops.
Secretariat
Secretariat to organise regional teleconferences to discuss the Koronivia Joint Work on Agriculture.
Review the principles of GRA Flagships – including leadership structure of Flagships, Research Groups and capability activities.
Develop a revised ToR for the Special Representative**.** *Working Group: Australia, Brazil, Canada, Ghana, USA, NZ, Indonesia, Germany, and China*
Secretariat to share GRA links and opportunities for capability building with partners and other organisations.
Develop a GRA Communication plan. *Working Group: Argentina, USA, Netherlands, Germany, and Ghana*

SUMMARY OF DISCUSSIONS

OPENING REMARKS

1. Outgoing Chair, Dr Masa Iwanaga, President of JIRCAS, Japan opened the meeting and reviewed the achievements of Japan's term as Council Chair. Japan was pleased to host the 7th Council meeting and a science conference in Tsukuba, Japan and provide support for several observer countries to attend. Japan continues to Co-Chair the Paddy Rice Research Group, and is funding a new project (MIRSA 3) as well as supporting the Flagship reducing the emissions intensity of rice systems. Japan, with New Zealand and Mexico, submitted a successful proposal to the Asia-Pacific Economic Cooperation (APEC) for capacity building activities in Asia and Latin America and helped to strengthen GRA activities with partners and others, hosting a side event at COP23.

2. As Chair of the 8th GRA Council meeting, Dr Wolfgang Zornbach welcomed participants to Germany on behalf of the Federal Ministry of Food and Agriculture. Three new Members have joined the GRA since the meeting in Tsukuba, Senegal, the Democratic Republic of Congo and Namibia were all welcomed to the GRA.

PREVIOUS COUNCIL MINUTES AND IDENTIFICATION OF THE NEXT CHAIR

3. The minutes from the previous GRA Council meeting in Tsukuba, Japan were reviewed and approved. The agenda for the 2018 Council meeting was then adopted by Members.

4. Prior to the meeting the Council had been informed that Indonesia was willing to become the Vice-Chair and hosting the 2019 meeting of the Council. There was strong support from Members for Indonesia's nomination. Dr Muhammad Prama Yufdy, Indonesian Executive Secretary of the Indonesian Agency for Agricultural Research and Development assumed the Vice-Chair.

5. Indonesia is already experiencing climate change and through this alliance hopes that research solutions may be developed and implemented to meet this challenge. Indonesia has been involved in the Paddy Rice Research Group (PRRG), Livestock Research Group (LRG) and the soil carbon network and activities, publishing much of the work underway nationally. Indonesia is proposing to host the 2019 Council meeting in Bali, Indonesia, and is looking forward to hosting members and partners.

ANNOUNCEMENTS FROM MEMBERS AND PARTNERS

6. This year **Canada's** domestic agricultural greenhouse gas research programme has a focus on aligning federal and academic projects, with a number of new research activities approved in the last funding cycle. At the recent G20 Chief Agricultural scientists meeting (G20 MACS) Canada announced the agro-ecosystems labs programme, bringing together farmers and scientists to improve environmental practices, including greenhouse gases in the agriculture sector. A change in leadership for the Canadian Co-Chair of the Integrative Research Group (IRG) was announced. Dr Pamela Joosse of Agriculture and Agri-Food Canada was welcomed into this role, and Brian McConkey was thanked for his long-term commitment, having been in the role since the GRA was established.

7. The first **USA** GRA team coordination meeting was held to identify ways of strengthening GRA activities across national programmes. The USA continues to offer Borlaug fellowships for developing country scientists and USAID is supporting 10 CLIFF-GRADS fellowships related to the topic of food loss and waste, this call is open for applications until 30 September 2018. The US continues to support the Croplands Research Group and lead the development of the Nitrogen Flagship.

8. **New Zealand** is pleased to see the GRA growing in relevance and importance at the research and policy level. Domestically this area has also become more prominent as New Zealand develops a national 2050 target. New Zealand continues to support capability building activities and is pleased to announce the 2nd call for CLIFF-GRADS applications is now open, supported by the CGIAR Research programme on Climate Change Agriculture and Food Security (CCAFS). New Zealand encourages other countries to also support this mechanism. New Zealand will host the 2018 annual GRA-World Farmers' Organisation (WFO) study tour, inviting participants from Africa and Asia.

9. **Brazil** is pleased to see the GRA work plan and influence continue to mature, with Koronivia and other activities providing future opportunities. Brazil's ABC programme provides an opportunity for farmers to enhance revenue while adapting to climate change and controlling emissions. At the recent G20 meeting Brazil announced the new Climate Intelligence Centre.

10. **China** has announced new policies and actions on greenhouse gas mitigation in the agriculture sector, and is promoting low carbon development to support their Nationally Determined Contribution (NDC). China is involved in many collaborations, participating a project with CCAFS and New Zealand on Tier 2 livestock inventories to develop Monitoring, Reporting and Verification (MRV) guidelines at the provincial level. A project with Wageningen University, Netherlands is assessing the carbon footprint of mitigation options for the China dairy sector. China is also collaborating with the French National Institute for Agricultural Research (INRA) on soil carbon in agricultural systems and the Chinese Academy of Agricultural Sciences is developing a Climate Smart Agriculture project promoting productivity through mitigation and adaptation practices.

11. **Uruguay** noted that collaboration through the GRA is very important to bring together science and policy and the recently agreed Koronivia joint work on agriculture is a milestone. Uruguay's NDC has targets for livestock, rice and crops and it is looking to the GRA to help improve inventory and MRV.

12. **International Soil Reference and Information Centre (ISRIC) – World Soil Information** is an independent science based foundation based in Wageningen with a focus on capacity building of national institutions. Our vision is world where reliable and relevant soil information is freely-available and properly used to address global environmental and social challenges. ISRIC hosts the Soils Data Facility as part of the FAO Global Soil Partnership (Pillar 4). ISRIC wishes to be an active GRA Partner, having submitted proposals to the current CLIFF-GRADS call and are interested in contributing to the Soil Carbon Sequestration Flagship and Reducing GHG Intensity of Rice Systems Flagship.

13. **Australia** invests in the CGIAR and CCAFS programme and is delighted to see the intersection of this with the GRA. Recently a new 10 year strategy was launched elevating climate change as a priority for the Australian foreign ministry. Agriculture faces a greater challenge to reduce emissions as there are not many advanced technologies available compared to other sectors, especially in relation to nutrition and food security goals.

14. **France** is improving linkages between all sectors, including agriculture, and increase efficiency through a national long-term strategy. Topics such as the Intergovernmental Panel on Climate Change (IPCC) and Sustainable Development Goals (SDGs) must consider social science aspects when developing policy. France is aligning national science with the Coordination of International Research Cooperation on Soil Carbon Sequestration in Agriculture (CIRCASA) programme and the European Joint Programming Initiative on Food Security, Agriculture and Climate Change (FACCE-JPI) as well as continuing to support the Co-Chair the IRG.

15. **Ghana** is undertaking soil carbon sequestration research, to improve the resilience of forestry systems.

KORONIVIA JOINT WORK ON AGRICULTURE

16. The Chair presented an overview of the United Nations Framework Convention on Climate Change (UNFCCC) Koronivia Joint Work on Agriculture, adopted at the 2017 23rd Conference of the Parties to the UNFCCC (COP23) in Bonn, Germany.

17. The technical and implementation subsidiary bodies (working groups) of the UNFCCC have been requested to develop activities for agriculture. This will include assessment methods for soil carbon sequestration, water management, nutrients, manure, livestock, as well as the consideration of socioeconomic and food security issues.

18. The development of these activities is an obvious way for the GRA to link into the UNFCCC activities and support the subsidiary bodies. The recent meeting in Bonn (May 2018) concerned the agreement of activities and the development of a roadmap. A timeline of activities outlines when submissions are expected on the identified topics. Workshops will then be held to discuss the topic submissions. The topic areas are:

- Methods and approaches for assessing adaptation, adaptation co-benefits and resilience and improved soil carbon, soil health and soil fertility under grassland and cropland as well as integrated systems, including water management -submissions by **6 May 2019**.
- Improved nutrient use and manure management towards sustainable and resilient agricultural systems submissions by **30 September 2019**.
- Improved livestock management systems, including agro-pastoral production systems and others) and socioeconomic and food security dimensions of climate change in the agricultural sector submissions by **20 April 2020**.

19. The GRA Council is asked to decide if the GRA should support the KJWA, and how we can do this – should the GRA provide comments, experts, and information to members?

Discussion

20. The discussion for this session is summarised below:

- Note that any GRA interaction with Koronivia does not compromise any individual Party's or group of Parties' positions in the Koronivia
- How can the GRA support the Koronivia process :

  a. Mapping activities of Research Groups against the timelines of the Koronivia

  b. Identification of existing knowledge products of GRA relevant to Koronivia

  c. Identification of future knowledge products of GRA that will be relevant to Koronivia

  d. Identify the added value of the GRA for Koronivia and related to its mandate – e.g. scientific focus.

  e. Ensure visibility of GRA capability building activities in Koronivia for benefit of Parties, e.g. GHG inventory training workshops

  f. How to internalise Koronivia within GRA work? How can Research Group's respond to the priorities of Koronivia.

  g. Process for how can GRA products be made available to the Koronivia in timely manner:

     i. Via Parties submissions and participation to the UNFCCC (all GRA members are Parties)

ii. Via other accredited observers of the UNFCCC that are Partners of GRA (FAO, CCAFS, etc.)

iii. Participation of GRA representatives and/or experts in Koronivia workshops?

- Who?

a. Council to agree if it's a priority and to start now

b. Research Group Co-chairs and Research Group activities (but need support of their ministries to ensure resources available to facilitate this)

c. GRA Members as Parties to the UNFCCC

d. Partners

e. Secretariat – help to facilitate via regional teleconferences of Council

Decision

- Agreement for the GRA to support the UNFCCC Koronivia joint work on agriculture.
- The Secretariat will organise regional teleconferences to decide in more detail how the GRA can support the process.

RESEARCH GROUPS REPORT

21. The Research Group Co-Chairs presented the report of their activities along with their joint recommendations to the Council regarding support of Research Groups and Networks, developing flagship projects, supporting capability building and impact of joint activities with Partners. The Co-Chairs team met the day before the Council meeting (Sunday 9 September) to coordinate activities and develop joint recommendations across the Groups.

22. Several new Co-Chairs are attending the meeting this year, with changes in leadership for the Paddy Rice Research Group (Dr Álvaro Roel is the new Co-Chair from Uruguay and Dr Yasukazu Hosen is the new Co-Chair from Japan), Integrative Research Group (Dr Richard Ekard is the new Australian Co-Chair and Dr Pamela Joosse is the new Co-Chair from Canada) and Croplands Research Group (Dr Mark Liebig, will replace Dr Jane Johnson as the US Co-Chair).

Paddy Rice Research Group

23. Two new Co-Chairs of the Paddy Rice Research Group (PRRG), Dr Yasukazu Hosen (NIAES, Japan) and Dr Álvaro Roel (INIA, Uruguay), provided an overview of the group and its activities. The Paddy Rice Research Group is divided into two regional sub-Groups, Asia and America. The Americas sub-Group met on 14 May 2018 in Piura, Peru and the Asia Sub-Group Meeting was held 2 September 2017 in Tsukuba, Japan. The next Group meeting will be 12 October 2018 in Bangkok, Thailand.

24. The PPRG, with funding from Asia-Pacific Economic Cooperation (APEC), are organising regional workshops on the dissemination of water saving technology 'Alternate Wetting and Drying (AWD)' in Asia (Thailand, October 2018) and Latin America (Chile, November 2018).

25. Other activities include the launch of a collaborative project in Latin America, funded by Fontagro, with participation from Colombia, Perú, Chile, International Centre for Tropical Agriculture (CIAT) and the Latin American Fund for Irrigated Rice (FLAR).

26. In Asia a new project, funded by the Ministry of Agriculture, Forestry and Fisheries (MAFF), builds on the MIRSA activities of the past five years. Previous projects have compared practices to reduce CH_4 emissions from rice paddies, this new project will also consider nitrogen and soil carbon

involving participants from Japan, Viet Nam, the Philippines, Indonesia and the International Rice Research Institute (IRRI). The earlier activities led to the development of guidelines on MRV for greenhouse gases in paddy rice which have now been published.

Croplands Research Group

27. The Co-Chairs of the Croplands Research Group (CRG), Dr Jane Johnson (USDA-ARS, USA) and Dr Rosa Mosquera (University Santiago de Compostela, Spain) presented on the work completed by the Croplands Research Group (CRG) over the past 12 months. The Group's third Co-Chair Dr Ladislau Martin (Embrapa, Brazil) was not able to attend. The CRG has held two meetings since the 2017 Council meeting, the first on 8 September 2017 in Hatfield, UK and recently the 11 August 2018 in Rio de Janeiro, Brazil.

28. The CRG Networks are now well established and have a number of activities under development:

- Conservation Agriculture, has produced a factsheet and is preparing a meta-analysis on the impact of management practices on N_2O and CO_2 emissions. A special session has been organised for an international soil science conference in January 2019.
- Peatland Management, held a workshop in Norway with European researchers and are now developing capacity building activities to expand into Baltic and South East Asian regions.
- Landscape Management of Agricultural Systems, implementing a joint project with the Natural Science Foundation of China and United Nations Environment Programme (UNEP), and have published a methodological framework for quantifying greenhouse gas (GHG) footprints.
- Nutrient Management, New leadership from the US with 10 countries involved, a factsheet is being developed to support the Nitrogen Flagship.
- Merging of the Agroforestry and the Integrated Crop and Livestock Systems Networks, as the activities of these two networks are covering a wider continuum of practices.

29. Future activities for the CRG include improving CRG communications by developing a regular newsletter and connecting networks to Flagships. A workshop on N_2O measurement is planned for July 2019 and the next CRG meeting will tentatively be held in the US in November 2019.

Livestock Research Group

30. The Livestock Research Group (LRG) Co-Chairs Dr Harry Clark (NZAGRC, New Zealand) and Dr Martin Scholten (WUR, Netherlands) presented on the activities of the LRG over the last year. The LRG annual meeting was held in Ho Chi Minh City, Viet Nam in May 2018 and the next meeting will be held in Brazil, August 2019.

31. Science collaborations of the five LRG Networks have included:

- Rumen Microbial Genomics publication in Nature, building a reference set of data from ruminants, now being used worldwide.
- Feed and Nutrition published three review papers which will be used as supporting guidance for the Intergovernmental Panel on Climate Change (IPCC) greenhouse gas inventory work.
- Updating technical manuals for the measurement of N_2O and CH_4.
- Developed collaborative activities with CCAFS on MRV and inventory.
- Several projects Network projects were funded through the competitive European Research Area Network call (ERA GAS) and proposals are now being developed for a new joint call.

- Climate and Clean Air Coalition (CCAC) funding has supported a collaborative project on enteric fermentation also involving FAO, CCAFS, and the World Bank.

32. Capability building activities include:

- Training and workshops delivered through regional networks in South/South East Asia and Latin America and the Caribbean.
- East Africa workshop held July 2019 to coordinate regional activities in low emissions livestock.
- Greenhouse gas inventory improvement in Kenya and activity data collection in Ethiopia.

Integrative Research Group

33. Co-Chairs Dr Pamela Joosse (Agriculture and Agri-Food Canada) and Dr Richard Eckard (University of Melbourne, Australia) presented on the activities of the Integrative Research Group (IRG). The Second meeting of this Group was held in Paris, France in January 2018 and the next meeting is planned for February 2019 to be hosted at CIAT in Colombia.

34. The IRG has streamlined its activities, now supporting four Networks and two Flagships, as the Grasslands Network activities have been combined into the Soil Carbon Sequestration Network. The Soil Carbon Sequestration Network and the Greenhouse Gas Inventory Network are each leading the GRA Flagship of the same name, the network activities focus more on the research, and the flagship is more about implementation.

- Farm to Regional Network, held their first workshop alongside the IRG meeting in January 2018 and developed a work plan, including alignment of activities with other international networks such as CIRCASA, The European H2020 programme. The Network models are being used to support the IPCC special report on land and climate change.
- Soil Carbon Sequestration Network, has completed an inter-comparison of soil carbon models with bare fallows, and is planning for systematic review of tropical agriculture practices on soil carbon sequestration.
- Field Integration Network, published a comparison of 24 models for simulating yield, GHG emissions and soil carbon, tested models for their ability to model mitigation options, in collaboration with AgMIP.

35. Future work:

- Developing regional projects;
- Estimating costs of changes in farming practices providing soil carbon sequestration;
- Training and capability building for the next generation of modellers;
- Farm and Regional Scale Network planning a training workshop for soil carbon modellers, held alongside the Greenhouse Gas and Animal Agriculture conference (GGAA) August 2019 in Brazil;
- Comparison between bottom-up and top-down inventory approaches; and
- Characterisation of GHG emissions from analogous production systems.

Joint Recommendations

36. The Co-Chairs acknowledged the support from members to the existing Research Group Co-Chairs, but requested continued support to allow ongoing **leadership and participation** in Research Groups, activities and Networks. The Co-Chairs again requested members consider leading a

Research Group, requesting a third Co-Chair for the Livestock Research Group and the Paddy Rice Research Group.

37. The Co-Chairs noted that **GRA Flagships** are a positive way to highlight GRA priorities, but that the increased workload placed on Co-Chairs to lead Flagships as well as Research Groups is unsustainable. Members are asked to provide direct support to those involved in Flagships. Co-Chairs also recommended that a flagship resourcing mechanism is developed to support these activities and that members make use of existing funding, such as competitive calls to support Flagship proposals.

38. Additional resourcing is critical to support the increased demand for **capability building** activities, and broadening the support and expertise beyond what New Zealand is able to provide. Research Groups are working to develop a more coordinated approach, with support needed for regional workshops covering all aspects of MRV. Members are also asked to support capability building activities by identifying and supporting experts to attend, hosting meetings and workshops, and providing fellowships to link with GRA projects.

39. The Research Groups are pleased to have the increased **involvement of Partners**, as this is critical to the success of capability building and Flagships. New partners should continue to be encouraged, and new joint programmes and activities developed.

Discussion

40. The Council thanked the Research Group Co-Chairs for their continued leadership of the Research Groups and progression of the activities from research to the development of practical technologies and activities. The burden on Co-Chairs to develop Research Group, Flagship and capability building activities was acknowledged, and the Council agreed to re-consider the governance/leadership structure ahead of the next meeting. It was asked if there was a way that the GRA Members or Secretariat could help countries to develop national funding mechanisms to support GRA activities.

41. The Group discussed the importance of linking Research Group priorities to other international initiatives, such as the Koronivia Joint Work on Agriculture, and helping countries to improve GHG inventories, NDCs, and MRV.

Decision

- Senegal offered to become the third Co-Chair of the Paddy Rice Research Group, Rice is a priority crop and Senegal will host the Africa Rice Conference at the end of September 2018.
- Netherlands offered to support the Research Groups and Networks, and is able to host 2-3 meetings per year.
- Agree to review the principles of GRA Flagships, including the leadership structure/requirements with leadership from Germany, as Council Chair.

FLAGSHIP UPDATES

42. The Special Representative provided background to the establishment of GRA Flagships and their progress. The Flagships were agreed to at the 2016 Council meeting in Mexico City, and recognise the flagship research topic as being of the highest priority for the GRA. Flagships should be distinct from Research Groups and Networks in that the activities are owned and led by the Council.

43. Four Flagships were adopted initially: Soil Carbon Sequestration, Reducing GHG Intensity of Rice Systems, Enteric Fermentation and GHG Inventories. Each of the Flagships were developed considering a set of principles to identify how the GRA can uniquely bring value to the topic.

44. The Flagship leads then presented a brief update of activities for each of the GRA Flagships.

Soil Carbon Sequestration Flagship

45. The Soil Carbon Sequestration Flagship covers three main areas – developing a decision support toolbox, understanding methods to certify soil carbon sequestration, and creating an enabling environment for adopting solutions.

46. Funding has been secured through the CIRCASA programme to allow for the coordination of soil carbon sequestration activities across the Flagship and in alignment with other European activities. The Flagship leaders are now identifying synergies to create links with other international activities.

47. The next steps for the Flagship are to:

1. Develop regional projects, e.g. legumes project in Latin America including co-benefits;
2. develop methodologies and guidelines in collaboration with the Global Soil Partnership; and
3. organise a workshops on carbon offsets bringing together related initiatives.

Reducing GHG Intensity of Rice Systems

48. The Reducing GHG Intensity of Rice Systems Flagship has the objective to find practical measures that reduce the emissions from rice production while improving the overall production efficiency. The Flagship has four projects underway:

1. On farm assessment of multi-beneficial improved water management techniques, reducing costs, water use and gas emissions in America´s rice systems.
2. Multi-country on-farm assessment of multi-beneficial integrated management techniques in the rice sector of Asia.
3. Identification of high yielding rice cultivars as related to low methane emissions.
4. Enhancing sustainable rice production in Latin America.

49. Funding for these activities has been secured from a number of different sources including governments, regional funds and CLIFF-GRADS fellowships.

Enteric Fermentation

50. The Enteric Fermentation Flagship has three areas of focus:

1. Development of solutions for reducing enteric CH_4 emissions.
2. Improved quantification of livestock emissions
3. Identification, testing and implementation of mitigation solutions

51. Following a process to identify Flagship activities, including requirements to have an identified project lead and secured funding, four projects were selected. The Flagship currently has two of these projects underway:

1. Rumen Microbiomes to Predict Methane.
2. Feed/Methane Relationships,

52. The third project concept, on forage-based mitigation options, will be incorporated into Project 2. The fourth project concept, looking at interactions between the animal genome and rumen microbiome, is still being developed by the LRG's Rumen Microbial Genomics Network.

GHG Inventories

53. The GHG Inventories Flagship has struggled to identify leaders or resourcing to support the many suggested projects. The IRG's GHG Inventory Network, in collaboration with CCAFS, are currently developing a proposal looking at the idea of 'shared farm systems/production typologies'.

54. There are activities on the quantification of GHGs happening across a number of GRA Research Groups, especially the LRG and the three other Flagships. This work is being done, but it is more disparate, across a range of activities and topics rather than under the GHG Inventory Flagship heading. The next step for the Flagship will be to bring together the inventory/quantification projects from across the GRA. However, leadership and support from members with be required to achieve this.

NEW FLAGSHIPS

56. Two proposals for new Flagships were presented for the Council's consideration, a Nitrogen Flagship and a Flagship on Circular Food Systems. The Flagships had been discussed at the 2017 meeting and the Council agreed that proposals should be developed for further discussion at this meeting.

Nitrogen Flagship Proposal

57. Dr Jane Johnson presented the Nitrogen Flagship proposal on behalf of the taskforce. The key question for this Flagship is how to reduce and mitigate nitrous oxide emissions, as these are projected to increase 83% between 2005-2050.

58. The components of the Flagship will be to:

- develop **solutions**; such as fertiliser and water management, nitrification inhibitors, use of cover crops and other crop management practices to understand the interdependence of nitrogen and carbon in the soil, and better understand the soil microbiome.
- Improve **quantification** of N_2O emissions and mitigation options by developing better emissions factors, moving cropland and pasture inventories to Tier 2 / Tier 3 and improving activity data.
- **Implement** mitigation solutions and help identify locally appropriate mitigation actions.

59. The next job for the taskforce is to select the projects that have the most relevance across members and where funding and project leads has been identified. There is a lot of ongoing work across all member countries and the Flagship projects will build on these activities.

Discussion

60. The Council agreed to support the proposal for a Nitrogen Flagship, noting that the Flagship needs to address the whole of the nitrogen cycle to consider trade-offs and indirect emissions.

61. Members noted two existing projects funded under the European Research Area Network call (Monitoring and Mitigation of Greenhouse Gases from Agri- and Silvi-culture (ERA GAS)) that have direct relevance to this topic and should be included as part of the Flagship.

1. Dataman a project on manure management.
2. ResidueGas project on crop residue use.

Circular Food Systems Flagship Proposal

62. The Netherlands and Uruguay are co-leading the taskforce to develop the Flagship proposal on Circular Food Systems. The taskforce met ahead of this meeting (Sunday 9 September) to develop the proposal.

63. Taking a circular approach to agri-food systems can improve food security, increase productivity and incomes. The aim of the Flagship will be to understand the effect of circular systems on greenhouse gas emissions, to identify the best practices and how these can be scaled up. The Flagship will be systems based, requiring the contributions and experience from across the wider GRA community.

64. Components of the Flagship:

1. Describing and understanding the existing concepts of circular agri-food systems, their impact on each scale and the possible benefits (create an economy on by-products);
2. Assessing the feasibility and potential of decrease GHG emissions;
3. Identifying the gaps within research and involving partners to transfer the new knowledge to stakeholders;
4. Developing a strategy to accelerate the transition including identifying enablers and barriers; and
5. From the concept to the practice: identify and develop showcases of practice.

Discussion

65. The Council was broadly supportive of the circular agriculture approach, many countries currently have work programmes in this area. However, many were concerned that the scope of the proposal may be too broad and suggested it may need to be more focused to the existing activities of the GRA. It was also noted that JPI-FACCE is currently considering a new research area network on sustainable food systems, which could present an opportunity to jointly resource these activities.

66. The proposal was for the taskforce to continue to develop the Flagship for the next year, with resourcing provided by the Netherlands. A report on progress, including the scope of activities, will be presented to the Council next year, providing further opportunity for input.

Decision

- Agree to the proposal for a Nitrogen Flagship
- Agree to the proposal for the Taskforce to develop the Circular Food Systems Flagship, and review the progress and scope at the 2019 meeting.

SPECIAL REPRESENTATIVE REVIEW

67. At the 2015 Council meeting in Des Moines, Iowa the Council agreed to New Zealand's proposal to enhance the Secretariat and create representative role for the GRA. This role was funded by New Zealand, initially as a two year trial, and filled by Hayden Montgomery in April 2016. The Council was asked to review their support for this position and the benefits this has brought to the GRA. Members were also asked to consider how they could better support the Special Representative in this role, with a list of questions for discussion provided to members ahead of the meeting.

1. Should the Special Representative continue with the priorities as originally listed in the Term of Reference? Any suggestions for new or different priorities?
2. Can the Special Representative better support you as a Council member?

3. What can members do to assist the Special Representative e.g. provide material fit for social media, and identify opportunities for Special Representative's participation (national and international)?
4. Are the quarterly regional teleconferences and their reports sufficient to keep members updated on Special Representative activities?
5. Other suggestions?

Discussion

68. The Council was appreciative to New Zealand for resourcing and hosting this position over the past two years, it was felt that GRA would not have advanced as far without someone dedicated to increasing partnership, membership and resourcing for activities. In particular all members strongly supported Hayden's dedicated efforts in making connections to progress the work of the GRA.

69. The Council did agree that after two years, now was a good time to review the priorities of the Terms of Reference for this role for example, the GRA now has a stronger focus on capability.

70. Members agreed that the quarterly calls are useful and should continue. It is the responsibility of Members to attend and help the Special Representative in his role. Countries were also asked to consider other ways they might support the Secretariat and to contact the Secretariat with offers e.g. translation of the website info other languages. Spain offered to assist with translation.

Decision

- Agree for New Zealand to continue hosting the GRA Secretariat and Special Representative until June 2020.
- Agree to revise the Special Representative Terms of Reference, to be considered at the 2019 Council meeting. The small group developing the new Terms of Reference will be: Australia, Brazil, Canada, China, Germany, Ghana, Indonesia, New Zealand, and USA.

CAPABILITY BUILDING

71. Partners were invited to share with the Council the opportunities they provide to build capability, which are available to GRA members. Many of these activities are in collaboration with the GRA or other organisations.

CCAFS

72. Dr Bruce Campbell, CGIAR presented capability building activities of the CCAFS Flagship on low emissions development.

1. Climate Food and Farming - Global Research Alliance Development Scholarships (CLIFF-GRADS) is a joint initiative of CCAFS and the GRA, providing fellowships for graduate students from developing countries. The fellowships are supported CGIAR Trust Fund and bilateral donors, including New Zealand and United States. The second call for applications offering 34 opportunities, and 10 additional fellowships on Food Loss and Waste (funded by USAID), is open until 30 September 2018.
2. MRV of livestock emissions in developing countries, is in collaboration with Unique Forestry, GRA and FAO. The three year programme is reviewing MRV practices and compiling these to provide guidance on MRV best practice and to identify activity data gaps.

3. Support for countries' NDCs, including assessing the feasibility of low emissions development options for rice and an investment plan for alternate wetting and drying (AWD) practices in Viet Nam.
4. Local technical training on agricultural greenhouse gases and soil carbon sequestration supported by CGIAR centres. The Mazingira Centre at the International Livestock Research Institute (ILRI) hosts a laboratory with state-of-the-art equipment to measure livestock emissions, soil carbon sequestration, plant nutrient contents etc. The centre provides training opportunities for scientists from across Africa and also hosts workshops and events for stallholder farmers.

CATIE

73. The Centre for Research and Education in Tropical Agriculture (CATIE) work plan on climate smart agriculture was presented by Dr Hugo Li Pun. CATIE is a higher education, research and development support organization supporting countries in Central and Latin America.

74. Platform for the Sustainable Intensification of Livestock for Latin America and the Caribbean: a strategy for adaptation and mitigation of climate change. The Platform held a regional workshop 16-19 April 2018 in Costa Rica, supported by World Bank, FAO, GRA, CATIE and FONTAGRO. Topics discussed included: livestock and climate change, reduction strategies for greenhouse gas emissions from livestock systems, soil carbon sequestration in livestock systems, and policies to promote the sustainability of livestock

75. Other activities at CATIE include developing methodologies to quantify greenhouse gas emissions in Latin America and the Caribbean, understanding silvo-pastoral systems, quantification of ecosystems services, and supporting Nationally Appropriate Mitigation Actions (NAMA) development.

CCAC

76. The Agriculture Initiative of the Climate and Clean Air Coalition (CCAC) works in four areas for large scale uptake of control measures and substantial reductions of short-lived climate pollutants: open agricultural burning, livestock and manure management, enteric fermentation (with the GRA Livestock Research Group), and paddy rice production.

77. New funding has approved further projects on enteric fermentation and manure management in Kenya, Indonesia and one Central American country. These activities will improve the integration of methane mitigation options in NDCs, NAMAs and national policies through the improvement of inventories, MRV, developing mitigation action plans and funding mobilization. Collaborating partners are the GRA, FAO, and USDA.

78. A new project on paddy rice has also been approved and will engage the private sector on methane mitigation and support the formulation of NAMAs.

79. There is growing interest in the agriculture work under the Coalition. A revised initiative strategy is being developed which will focus on supporting countries in raising ambition on agriculture in their NDCs, mobilising funding for large scale projects, building national capacity. This new strategy is an opportunity for countries to engage.

80. Another opportunity for engagement and support is the CCAC Solution Centre expert assistance, a no-cost service that connects countries to an extensive network of professionals for consultation and advice on a range of short-lived climate pollution issues and policies.

NAMA-Facility

81. Ms Radina Vassileva, from the Technical Support Unit of the NAMA Facility introduced the NAMA Facility to the group and the opportunities offered to support countries. The NAMA Facility is a multi-donor fund established to support developing countries and emerging economies to implement their Nationally Appropriate Mitigation Actions, (NAMAs). NAMAs are considered to be important building blocks for implementing Nationally Determined Contributions (NDCs).

82. The fund is available for the most ambitious actions - ready for implementation, ambitious in terms of mitigation potential, financial leverage and the potential for transformation. Successful NAMA Support Projects (NSPs) typically have a duration of 3-5 years and can receive funding in the order of 5-20 million euros each. The projects funded come from all regions and sectors – with agriculture projects accounting for an increasing amount of funding over the five calls held to date. It is expected that a sixth call for applications will be opened shortly.

FAO

83. Mr Henning Steinfeld, FAO provided a brief overview of the FAO activities underway, with a particular focus on publications and events to inform the Koronivia process:

- Developing a fact sheet synthesis of submissions made on the Koronivia process, final version to be available at the end of the month;
- Presenting at COP24 on the Koronivia and FAO;
- Developing additional methods and tools that are required to support the process, for livestock (soil carbon and nutrient efficiency);
- Strengthen partners moving agricultural greenhouse gas inventories to Tier 2 and Tier 3;
- Organising multi-stakeholder workshops of the Global Agenda on Sustainable Livestock; and
- Meeting in Latin America and the Caribbean to develop a roadmap, recommending the region concentrate on low carbon livestock development.

Review of capability building opportunities

84. The Special Representative provided an overview of ongoing an upcoming capability building activities that the GRA is involved in, and encouraged members to take advantage of these opportunities. There is now a greater connection between these activities – we are seeing a move towards a coordinated, common agenda. Platforms (such as the Livestock Platform for Latin America and Caribbean) are helping to align activities of multiple actors within a region. The challenge for the GRA is how to have influence. We are not a legal entity so we rely on members and partners to act on our behalf – the GRA Secretariat can facilitate these connections.

85. Many networks – all related to GHG inventory improvement, we know this is a great need, often hard to get the resources members need. GRA is trying to identify the organisations that can help to resource these activities. Many entities with resources available to members (e.g. CCAC, NAMA Facility, Climate Technology Centre and Network (CTCN), Capacity Building Initiative for Transparency (CBIT)). Our desire is to bring together GRA expertise and partners' funds to support members.

86. We have started regional engagement on low emissions livestock in Africa – starting with a workshop in East Africa to identify the needs for that region. We are now working to replicate this approach in West and Southern Africa. We will make information available when known so additional GRA members and partners can become involved.

87. Linked to this engagement in Africa is a new relationship we are developing with Ruforum – a regional network of agricultural universities. Ruforum's biennial conference will take place in Nairobi during the last week of October. New Zealand and Netherlands have agreed to support a graduate research grant process on GRA priorities and country needs – hope to build on this in future, and build capability of junior scientists. We welcome support from other GRA members and partners.

88. We have been successful in securing APEC funding to support capability building in rice – we'd like to extend these types of funding mechanisms to IRG and CRG activities.

89. CLIFF-GRADS scholarships – thanks to all for responding to the call. We rely on the host institutions to support this programme as well as funding. Thirty seven opportunities have been advertised for PhD students to be placed in a host institute for 4-6 months. We'll also look to identify where multiple scholarships, if connected, can form larger projects. Do continue to welcome money to support this call – will struggle to fund all available opportunities with existing level of funding. Note also that a CLIFF-GRADS call on food loss and waste was recently launched thanks to generous funding from USAID.

STRATEGY UPDATE

90. The Special Representative reviewed the GRA's progress against the GRA strategy, identifying the strategic objectives where we need to make greater progress and reviewing the achievement of priority actions over the last year. The Strategy has four high level objectives:

1. Further Research Collaboration;
2. Foster Outreach, Knowledge Sharing and Information Exchange;
3. Build Effective Partnerships; and
4. Leverage Financial and Other Resources

91. It was noted that we are progressing well in the first three areas, with the GRA increasing in membership, expertise and continuing to seek active partners that support our objectives. We still need to achieve more to finance our activities, particularly capability building projects which can bring about the greatest change in some regions. However, we are seeing increased national coordination and alignment of priorities across GRA members.

92. A revised Strategy will be circulated to members after the meeting, to remove any completed activities and include the new objectives agreed at this meeting.

Discussion

93. The Council members asked if we should consider different partners to support the work of the GRA for example those more involved in climate issues, such as the World Wildlife Fund (WWF), rather than traditional agriculture partners.

94. The US mentioned a new website 'Ag Data Commons' developed to centralise information such as standards for meta-data and open data, as a way to make progress on objectives relating to the dissemination of data (https://data.nal.usda.gov/).

95. There are good opportunities for members to share more of the results from national programmes on the countries pages of the GRA Website, which can also help to communicate the wider GRA activities at the national level.

96. Members also ask how we can encourage the uptake of good practices, using science outcomes to equip members and stakeholders and understand the elements of adoption.

97. The Group agreed to the development of a communication plan, so that countries are aware of their responsibilities. Existing communication channels will be included in the plan, including Research Group communications, for the working group build on.

Decision

- Develop a GRA Communication Plan, Members involved in the working group are: Argentina, USA, Netherlands, Germany, and Ghana.

2019 COUNCIL MEETING

98. Indonesia announced that the 2019 GRA Council meeting would be held in Bali, Indonesia alongside the fifth Climate Smart Agriculture science conference. Indonesia has a strong focus on the effect of climate change on agricultural production systems and several national programmes underway to cover intermittent irrigation, manure management and feed supplements for cattle. Indonesia welcomes collaboration from other agencies to hold this meeting.

99. The meeting will be held **10-12 October 2019**, directly after the science conference held 8-10 October. The theme of the 5th Climate Smart Agriculture Science conference is transforming agriculture under climate change.

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