

ALLIANCE COUNCIL MEETING

WANTILAN 1 - Ballroom, Hyatt Regency Bali, Sanur Bali, Indonesia

Sunday 6 – Monday 7 October 2019

OVERVIEW

The ninth Global Research Alliance on Agricultural Greenhouse Gases (GRA) Council meeting was held on Sunday 6 and Monday 7 October 2019 in Bali, Indonesia. The meeting was held ahead of the 5th Global Science Conference on Climate Smart Agriculture.

Dr Fadry Djufry, Director General of the Indonesian Agency for Agricultural Research and Development (IAARD) opened the meeting on Sunday evening and welcomed all delegates to Indonesia, following a day of visits to agricultural sites around Bali (Antapan Village, Jatiluwih Rice Terraces and Beratan Lake).

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

PARTICIPANTS

The meeting was attended by 66 representatives from 29 countries and other invited guests:

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

KEY OUTCOMES OF MEETING

Outcomes
Council
Australia accepted as GRA Vice-Chair and host of the 2020 Council meeting.
GRA Strategic Plan 2021-25 to be drafted for approval at the 2020 Council meeting. Specific consideration of the synergies between mitigation and adaptation practices and technologies and development of a communications action plan will be addressed in the development of the Strategic Plan. Strategic Plan Working Group - <i>Australia, Canada, China, Germany, Indonesia, Netherlands, New Zealand, Tunisia and Zimbabwe.</i>
Accepted proposal for the re-framing of GRA Flagship Projects.
Decision that the assessment of future GRA Flagship projects to be completed by: Secretariat, Council Chair and Vice-Chair, RG Co-Chairs (subset), other researchers on an ad-hoc and advisory basis.
Research Groups
Ireland and UK confirmed as the new country Co-Chairs of the Livestock Research Group.
Proposal for the Circular Food Systems Taskforce to be established as a Network. The Integrative Research Group to discuss hosting this new Network at the next Meeting (early 2020).
Secretariat
To undertake an assessment of existing Flagships, to check alignment with new framing and take action as appropriate.
Letter to be sent to the Greenhouse Gas Management Institute (GHGMI) inviting them to become a formal Partner.
ToR for Enhanced Secretariat and Special Representative – noting it was approved.
The GRA Strategy operational plan will be updated to reflect completed, new or consolidated actions.
GRA Communications Strategy document will be accepted as amended during the Council meeting.

SUMMARY OF DISCUSSIONS

OPENING REMARKS

1. Outgoing GRA Council Chair Dr Wolfgang Zornbach, BMEL Germany, reviewed the achievements of the GRA since 2018 Council meeting in Berlin, Germany. As Chair, Germany had a strong focus on increasing the visibility of the GRA in various international fora and processes, and was pleased to help develop the GRA Communications Strategy. Germany hosted a side event alongside the 2019 Global Forum for Food and Agriculture in Berlin and was encouraged by good attendance from members and others at this event.

2. At the 2018 Council meeting members agreed to support the inclusion of GRA expertise in the Koronivia Joint Work on Agriculture (KJWA), and many countries referenced the GRA in

submissions to the United Nations Framework Convention on Climate Change (UNFCCC) to request that the GRA be invited to contribute. Subsequently, Dr Beverly Henry, IRG Co-Chair presented the work of the GRA to policy makers at the workshop on “Improved soil carbon, soil health and soil fertility under grassland and cropland as well as integrated systems, including water management” under the KJWA.

3. Germany continues to support the research activities of the GRA, and is hosting two students under the 2018 CLIFF-GRADS scholarship round. Germany has agreed to support a European GRA focal point, based at the Thünen Institute to work with the GRA Secretariat and support science coordination with GRA members in the region.

4. Dr Fadry Djufry then outlined the focus for Indonesia as they take on the role of GRA Council Chair. Indonesia is already experiencing the impacts of climate change and has observed extreme climate and weather events, including increased rainfall and flooding. Agriculture must continue to be productive, and we need to ensure that we can reduce emissions, and ensure resilience. By collaborating on adaptation and research we can reduce greenhouse gas emissions and the impacts of climate change. Indonesia wants to ensure that by 2022 the GRA will become the foremost organisation of its type working on research for adaptation and mitigation.

IDENTIFICATION OF THE NEXT CHAIR

5. Prior to the meeting the Council had been informed that Australia was willing to become the Vice-Chair and host of the 2020 GRA Council meeting. There was strong support from Members for Australia’s nomination.

6. Dr Andrew Campbell, Australian Centre for International Agricultural Research (ACIAR), assumed the role of Vice-Chair during the meeting. Australia has been a supporter of the GRA and contributor to its activities since 2009, including as Co-Chair of the Integrative Research Group. Through ACIAR, Australia has a focus on agricultural development in the Pacific and South East Asia, regions both strongly impacted by climate change.

ANNOUNCEMENTS FROM MEMBERS AND PARTNERS

7. The meeting resumed on Monday 7 October, Dr Husnain, Director of the Indonesian Center for Agricultural Land Resources Research and Development (ICALRD) chairing the GRA Council meeting.

8. Seven new member countries have joined the GRA since the 2018 Council meeting: Cameroon, Eswatini, Ethiopia, Malawi, Mongolia, Turkey, and Uganda. New Partners that have joined include: the European Commission, Agricultural Model Intercomparison and Improvement Project (AgMIP), International Center for Advanced Mediterranean Studies (CHIEAM), and the Caribbean Agricultural Research and Development Institute (CARDI). Those new Members and Partners attending the meeting were offered the chance to speak, ahead of general announcements from the group.

9. **Eswatini** is a small country that is still developing and would benefit from shared skills and support from other countries who have already done a lot of work to develop their agriculture sector. New research activities have just begun, but it is clear that doing it alone will not be enough. Eswatini has a strong focus on agriculture and needs support for its farmers.

10. **Malawi** is dependent on its agriculture sector, which is also responsible for 75% of greenhouse gas emissions. The best possible solutions need to be found to reduce emissions from agriculture, and it is hoped that much can be learned from participating in this meeting and the GRA.

11. **Mongolia's** agriculture sector is responsible for 48.51% of total emissions. Inventory improvements are required, and it is hoped that by joining the GRA the international community will be able to provide advice and experience. Mongolia is willing to collaborate with others.
12. **European Commission** is grateful to accept the invitation for formal participation with the GRA and will continue to build on the 10 years of collaboration already developed through the Research Groups. DG Agri is interested in collaboration across a range of topics including integrated management practices, integrated manure management, and linkages between the agri-sector and the bio-economy.
13. **AgMIP** is pleased to hear the remarks from the Chair and new Vice-Chair regarding the importance of considering adaptation alongside mitigation. AgMIP has research groups focused on livestock, crops, and economics and sees an opportunity to work with the GRA on regional and international modelling to integrate adaptation, mitigation and economics.
14. **Indonesia** is undertaking research on the linkages between adaptation and mitigation, including the development of salt, drought and heat tolerant rice varieties. A cropping calendar has been developed to inform farmers. Other areas of interest include nutrient management, sustainable management and co-benefits with mitigation, improved feed and production of beef cattle, increasing carbon storage in soils, and water management such as alternate wetting and drying (AWD) practices in rice.
15. The government of the **Netherlands** has a national climate target to reduce emissions and become climate neutral by 2050. Agriculture and land use are one of 5 pillars under this national target. The principles of circularity are improving resources use efficiency across all sectors, with each sector developing their own plans. Technological solutions are a preferable approach to reducing livestock numbers.
16. **World Business Council on Sustainable Development (WBCSD) – Yara International** to undertake research collaboration on nitrous oxide research in soils, and soil water level impacts on nitrous oxide emissions, to improve mitigation. Most activities are only with one country, but collaboration through the GRA presents an opportunity to broaden research across soil types and geographies to develop a better data set and improve the quality of tools available.
17. **Canada** has been increasing its involvement in the leadership of GRA research and activities, and has funded 11 new national projects totalling \$4.6 million. This is in addition to existing GRA funding for collaborative projects through the living lab collaborative networks that are now established.
18. **New Zealand** has committed a further \$8.5 million to support activities of the GRA. New Zealand has supported a series of regional workshops on low emissions livestock development over the last 18 months, with 36 countries participating. New Zealand also continues to support the important partnership between the GRA and the World Farmers Organisation hosting the 5th study tour in January 2019 with participants from Indonesia, Uganda, South Sudan, Kenya, Ethiopia and South Africa.
19. **Australia** is developing research collaborations to identify capacity gaps in developing countries for agricultural inventories. Currently there is a lot of overlap, and not much understanding of country needs and capability. The hope is that other countries can join or support these activities and bring in a greater level of collaboration and cooperation into this space. Australia is supporting Dr Beverly Henry, as a Co-Chair for the Integrative Working Group, to lead on these actions.
20. The **UK** remain committed to supporting the GRA, and will provide at least 2 years of funding to support a Livestock Research Group Co-Chair. The person taking up this role will be announced soon. UK is the first major economy to have set a net zero target by 2050, including commitment to deeper reductions of emissions from agriculture, with a new environmental land management

scheme to progress this. A new focus for research is the balance between food security and net zero, which is relevant to the work of the GRA.

21. **Uruguay** is supporting the work of the GRA Secretariat by providing a regional representative for Latin America and the Caribbean, part time from the Ministry of Livestock, Agriculture and Fisheries (MGAP) in Uruguay. Nicolas Costa will be the regional representative and has just returned from two weeks in New Zealand, developing a programme of work with the Secretariat. Uruguay has launched a new national adaptation plan for agriculture, mainly focused on livestock and including climate-smart livestock production.

22. **The Climate and Clean Air Coalition (CCAC)** recent ministerial meeting identified agriculture and food systems as a priority area. Collaborative activities are underway with the Livestock Research Group and Paddy Rice Research Group to increase climate action and ambition under Nationally Determined Contributions (NDCs). A new activity has been launched for Africa bringing together researchers and government to discuss integrated solutions for short lived climate gases. The CCAC has funding available for developing countries that supports technical actions or may be used to advance policy activities (<https://www.ccacoalition.org/en>).

23. **China** led the Nature Based Solutions Pillar of the recent UN Climate Summit alongside New Zealand. A key outcome of this is a network on the integration of crops and livestock, as a range of different systems including grasslands and forest will be needed to realise the full potential of agricultural systems to sequester carbon. GRA Members are invited to share knowledge and support this activity.

RESEARCH GROUP REPORTS

24. The Research Group Co-Chairs presented the report of their activities along with their joint recommendations to the Council. The key recommendations covered were for increased support of Research Groups and Networks, approval of the proposed changes to GRA Flagship Projects, supporting capability building and the importance of working with Partners to create more impact for the GRA. The Co-Chairs team met the day before the opening of the Council meeting (Saturday 5 October) to coordinate activities and develop these joint recommendations across the Groups.

25. Several new Co-Chairs attended the meeting following recent changes in Research Group Leadership:

- The Paddy Rice Research Group now has a third Co-Chair, Dr Laure Tall from the Senegalese Institute of Agricultural Research (ISRA). Attending this meeting on behalf of Dr Tall was Dr Mbaye Diop, ISRA.
- The Australian Co-Chair of the Integrative Research Group is now Dr Beverly Henry, ACIAR.
- The USA Co-Chair of the Croplands Research Group is Dr Mark Liebig, USDA-ARS.
- The New Zealand Co-Chair of the Livestock Research Group will change following this Council meeting, Dr Harry Clark from the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC) is stepping down after leading the Group since it was established, and this role will be taken up by Dr Jeroen Dijkman, NZAGRC.

26. Dr Harry Clark of the Livestock Research Group presented the overview of the Research Groups, and the changes from the past year. The UK has announced their intention to become the third Co-Chair of the Livestock Research Group, with a person to be appointed shortly. This means that all Research Groups now have three Co-Chairs.

27. The past year has seen membership of the GRA increase, particularly in Africa, and this is leading to an increased demand from members in capability building activities of the Research

Groups. The Research Groups are ensuring their activities take into consideration broader global objectives, such as the UN Sustainable Development Goals (SDG), to contribute to more sustainable and inclusive agricultural development.

Paddy Rice Research Group

28. The activities of the Paddy Rice Research Group (PRRG) were presented by Dr Yasukazu Hosen (NIAES, Japan). The Co-Chairs from Uruguay and Senegal were not able to attend this meeting. The Asia sub-Group of the PRRG met in Bangkok, Thailand in October 2018 and will meet again on 12 October 2019, after the Council meeting.

29. Recent achievements for the Group include an APEC funded project “*Capacity Building on management Technologies for Climate Smart Rice Cultivation in the South-East Asian and Latin America Rice Sector*” which included two workshops, one in Thailand (10-12 October 2018) and one in Chile (15-16 November 2019). In Asia, the MIRSA 3 project, funded by the Ministry of Agriculture Forestry and Fisheries Japan, held a kick off meeting in January 2019 and will next meet alongside the PRRG sub-Asia Group meeting. In Latin America, the Group is making use of a number of funding sources to undertake activities – through the Inter-American Development Bank’s FONTAGRO fund for a project to improve the adoption of alternate wetting and drying (AWD) techniques, CLIFF-GRADS scholarships to identify high yielding cultivars to reduce emissions and a University of Illinois International Joint Research Program – benchmarking the economic and environmental sustainability of rice production in Latin America using the recently developed Sustainable Rice Platform (SRP).

30. Future activities of the PRRG will include expanding the community to new partners and members. An Africa sub-Group has been established, letters of interest have been sent to 47 countries by ISRA, and formal confirmation received from the Central African Republic, Togo, Republic of Guinea, Nigeria, Gambia, and Cameroon. The first meeting of this group is now being organised.

Croplands Research Group

31. The Co-Chairs of the Croplands Research Group (CRG), Dr Mark Liebig (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.

32. The CRG has not yet met for the 2019 annual meeting, this is scheduled for 14 November 2019, San Antonio Texas. However, the networks of the group have undertaken a number of activities throughout the year. The Landscape Management Systems Network has finalised a model for Landscape management and validated this in a sub-tropical catchment (CNMM-DNDC). The Integrative Crop-Livestock Systems Network has completed greenhouse gas (GHG) mitigation factsheets and the Agroforestry Systems Network has contributed to the Agroforestry systems Handbook developed by AFINET EU (www.agroforestrynet.eu). Special sessions have been organised at related conferences by the Conservation Agriculture Network (SSSA international meeting, San Diego, CA, USA, January 2019) and the Peatland Systems Network (EGU, Vienna, Austria, April 2019).

33. The main ambition for the next year and the upcoming annual meeting will be to reframe the structure of the Group, ensuring the Networks are active and have core activities to engage participation. The CRG has recently launched a newsletter to improve communication of the Group’s activities among members, and now needs to think about outward communication. The Group will also consider how to meet more frequently, and seek sponsorship for focused activities.

Livestock Research Group

34. Livestock Research Group (LRG) Co-Chair Dr Harry Clark (NZAGRC, New Zealand) presented on the activities of the LRG over the last year. The new Co-Chair from Ireland, Dr Sinead Waters, Teagasc was unable to attend this meeting, although recently attended the LRG annual meeting in Brazil (August 2019). The UK has recently committed to supporting a third Co-Chair and will soon have a person confirmed for this role.

35. The LRG has three very active Networks, Animal Selection Genetics and Genomics, Feed and Nutrition, and Rumen Microbial Genomics all producing useful guidance for building science capability. The networks are committed to sharing the knowledge of the groups, through annual network meetings and increasingly using social media to share outcomes.

36. Several successful African workshops and national capability building activities have taken place on low emissions livestock development. There has been an increased level of requests to the LRG for training and support to improve livestock GHG inventories. Recent examples include improving Kenya's dairy inventory, working with Indonesia on the inventory for beef cattle and inventory, and Hebei County, China.

37. The 11th annual LRG meeting, was held in Brazil, 9-10 August 2019. Representatives attended from 31 countries and a number of partner organisations. The group discussed other options for meeting together, such as the establishment of regional networks, as the annual meetings are becoming very large. The strength of the LRG is in the partnerships it has formed with other organisations, many key activities of the LRG are developed as part of a collaboration with partners.

38. Ambitions for the future include:

- Increase global nature of dialogue, networks, partnerships and knowledge sharing.
- Establish 'roster' of countries and organisations.
- Offering to share relevant GHG inventory Monitoring, Reporting and Verification (MRV) and NDC expertise.
- Explore the set-up of LRG Regional / thematic chapters.
- Further development of tools for assessment of livestock emissions and mitigation options.
- Prepare science-based document on the role of livestock in sustainable agri-food systems.
- Explore establishment of facility to ensure climate action in livestock sector investment projects.

Integrative Research Group

39. Co-Chairs Dr Pamela Joosse (Agriculture and Agri-Food Canada) and Dr Beverly Henry (ACIAR, Australia) presented on the activities of the Integrative Research Group (IRG). The third Co-Chair Dr Jean-François Soussana (INRA, France) was not able to attend the meeting. The third meeting of this Group was hosted at CIAT, Colombia in February 2019 and the next meeting is planned for early 2020 (location to be decided).

40. The IRG structure has been consolidated into three Networks, Soil Carbon Sequestration, Farm to Regional Scale Integration and the Inventories and NDC Support Network. The Farm to Regional scale Network currently has only one coordinator, Petr Havlik from IISA, Austria and the group would welcome additional leadership for this Network. The Inventories and NDC Support Network has expanded its activities to cover NDCs, and in doing so has increased both the

membership and the leadership of the Network in the last year. The Inventories and NDC Network is led by coordinators from New Zealand, Australia, Spain, USA and CIAT.

41. The IRG Co-Chairs noted that although this group has been responsible for the Soil Carbon Sequestration and GHG Inventories Flagships, in light of the proposal to re-frame GRA Flagship Projects, these activities are not considered GRA Flagship Projects. However, the activities that sat under these previous Flagships are still key projects of the Networks.

42. Recent achievements of the IRG include a series of webinars held in 2019, with more planned for the future, these will be announced through the Secretariat and on the website. Webinars held to date have been:

- *Link with the 4p1000 initiative and the CIRCASA project.*
- *Australian Soil Carbon offset methods: the science, the policy and the practice.*
- *Soil carbon monitoring, reporting and verification methods.*

43. Other activities of the Group include participation, and presentation of GRA activities at the KJWA workshop on soil carbon sequestration (Bonn, June 2019), and a mitigation modelling workshop held ahead of the Greenhouse Gas and Animal Agriculture Conference (Brazil, August 2019).

44. Future activities planned will include the establishment of an international research consortium, alongside the CIRCASA Project as part of the Soil Carbon Sequestration Network. The Farm to Regional Network has submitted a research proposal to the European Horizon 2020 fund, and is interested in developing a collaboration around modelling with AgMIP. The Inventories and NDC Network is developing a global stocktake to identify research gaps and to better coordinate use in inventories and NDCs.

Joint Recommendations

45. The Co-Chairs presented a number of joint recommendations to the Council that they had discussed during the coordination meeting on 5 October. The Co-Chairs acknowledged the increased support for Research Group leadership, all Groups now have three Co-Chairs. However, provision needs to be made to allow Co-Chairs to travel to annual meetings of the Research Group and Council, and for additional support through a Co-Chairs 'team'. Experts and research organisations from member countries should also be encouraged to join networks and lead activities.

46. The Co-Chairs are supportive of the suggested changes to GRA Flagships Projects, having been involved in this discussion. They would encourage the Council to actively endorse GRA Flagships and promote these projects, endorsement should not only be a tick-box exercise. Further to the changes proposed the Co-Chairs also recommend that GRA Flagship Projects are assessed by an external review panel before being presented to Council for endorsement.

47. The Co-Chairs are supportive of the new initiatives for capability building, such as RUFORUM in Africa and ongoing opportunities through CLIFF-GRADS. The Council is asked to ensure these activities are integrated with on-going in country capability activities. There is also a need for further investment to develop GHG inventories and MRV to support NDC implementation, the growing membership and participation in Research Groups means there is an increased demand for these activities.

48. The involvement of GRA Partners in the Research Groups is vital to help the GRA to deliver its objectives, and the Co-Chairs encouraged Partners to continue to work with Research Group to co-create new activities and programmes.

49. Finally, there is a need to better publicise outcomes and outputs of the Research Groups. The Co-Chairs are constrained in the time and resources they have available, and see that the

Council members also have a greater role to play in championing the GRA. The Council should consider what additional mechanisms are required to increase communication between the Research Groups and the Council.

Discussion

50. The Council observed that the GRA and the Research Groups have expanded from research to additional policy activities which is welcomed. There was concern that an increase in activities would lead to more meetings, and not all members would have additional resource to attend these. The group also discussed the importance of communicating in meaningful ways to policy makers and farmers as the needs of each group are very different. A strong relationship between policy and farmers is essential through a bottom up approach to understand what farmers need. Farmers require costs and comparisons for different activities to make informed choices.

51. It was also suggested that countries could more regularly provide information to the GRA on what relevant activity is under way in each country. There is the opportunity to do this through the GRA website, where each country has a page for this type of information to be shared. Country reporting could also be considered if there is enough interest from the membership.

SCIENCE POLICY DIALOGUE

52. The session on science policy provided an update to the Council on a series of international activities underway, and offered an opportunity to discuss how the GRA might best support these processes, including the provision of science information relevant to each.

Intergovernmental Panel on Climate Change – Special Reports

53. The Intergovernmental Panel on Climate Change (IPCC) has recently completed and published three Special Reports of relevance to the GRA. Dr Cynthia Rosenzweig, coordinating lead author of the IPCC Special Report on Land and Climate Change, provided an overview of the key messages related to agricultural greenhouse gases.

54. The Special Report on Global Warming of 1.5°C compared the impacts of a 2°C rise in global temperature with the impacts of limiting global temperature rise to 1.5°C. Every half a degree rise has a significant impact in terms of the effects we will feel from climate change, and in particular for agriculture this includes a smaller reduction in yield for our main food crops.

55. To achieve this 1.5°C target, globally we need to reduce greenhouse gas emissions 45% by 2030, a considerably greater ambition than the 2°C target of 25% global reduction. Net zero needs to be achieved by 2050 and the report sets very clear guidelines for what is needed to achieve this target, including the need for agricultural emissions to be reduced, alongside CO₂ from other sectors and the need to actively remove CO₂ from the atmosphere.

56. The Special Report on Climate Change and Land looked at the role that land can play in reducing emissions. This included key findings on food security using a food systems approach. The report considered:

- Diet and consumption as well as food loss and waste, allowing for feedback from the system.
- Potential for integrated policies to identify the vulnerabilities in the food system and identify food stocks.
- Projections for what future climate change scenarios mean for future food systems.
- The nutritional content of plants, which is negatively affected by a rise in temperature.
- Supply side mitigation, how changing practices in the food system may reduce emissions.

- Demand side change is about the impact of global diets, and would require a worldwide change.
- The contribution of food loss and waste to emissions, 25-30% of all food product is lost.
- The importance of accounting for different contexts and countries.
- The importance of regional differences, finding the effective combinations of solutions across the system.

57. The Special Report on the Ocean and Cryosphere in a Changing Climate identified the risk of climate changes impacting water availability and water quality, which will also have an impact on agriculture production. Many low lying coastal areas and islands are at an increased risk of flooding, and these may be key agricultural areas (e.g. river deltas). Fisheries and seafood are also at risk, and this could impact those communities highly dependent on the oceans for their food security.

United Nations Climate Action Summit

58. The United Nations Climate Action Summit was held 24 September 2019 in New York. The GRA Special Representative, Hayden Montgomery, was invited to attend on behalf of the GRA.

59. The aim of the Summit was to increase ambition across a number of action portfolios. For the agricultural sector, the most relevant portfolio was Nature Based Solutions, with links to cross-cutting discussions across Mitigation, Youth and Public Mobilisation, Social and Political Drivers, Climate Finance and Carbon Pricing.

60. The Nature Based Solutions (NBS) topic was co-led by China and New Zealand and supported by Costa Rica, Fiji, Monaco, Norway, Portugal and Tajikistan, amongst others. The focus of the discussion was the importance of NBS, comprising forests, ocean ecosystems, food and agriculture, to play a part in achieving global reductions of greenhouse gases. Countries are able to play a role by mainstreaming NBS within their national climate change plans. Cooperation of actors across the sector, at the regional and international level was identified as essential, as is the need for increased finance to support the scaling up of identified nature based solutions. Countries and other stakeholders are continuing to sign up to the coalition.

Koronivia Joint Work on Agriculture

61. An update on the progress of the Koronivia Joint Work on Agriculture (KJWA) was provided by Wolfgang Zornbach, the work plan of activities was shared with this group at the 2018 meeting in Berlin.

62. The KJWA is an agreement from UNFCCC members to come together and discuss issues related to agricultural mitigation, adaptation and co-benefits. The first workshop was held alongside COP24, Poland in 2018, and two further workshops were held in June 2019. The activities of the GRA were presented by Dr Beverly Henry at the workshop on improved soil carbon, soil health and soil fertility under grassland and cropland as well as integrated systems, including water management.

63. The GRA was referenced in several country submissions as an expert organisation able to contribute to the discussions of the KJWA. This is an example of how the GRA can provide scientific advice that supports these international dialogues and processes. The GRA is also mentioned in submissions for contribution to the workshop on Youth and Agriculture that will be held in Chile later this year, this may provide another opportunity to speak to the UNFCCC members.

64. The KJWA programme is scheduled to end in late 2020, and will produce an interim report of key findings following this. There will need to be some decision around how the work is taken forward after this time, as there will be ongoing questions and considerations. There will also be a workshop in New Zealand in March 2020, providing another opportunity for the GRA to be involved in the process and the development of ongoing activities.

Discussion

65. The Council noted the importance of referencing the GRA in national submissions, and inviting GRA participation at upcoming KJWA workshops. The UNFCCC Secretariat needs suggestions from members before experts may be invited. There is still a chance for countries to provide submissions, even after the 30 September deadline.

66. The Council agreed that the GRA should proactively contribute to these international programmes, through publications on the current status of agriculture globally and future needs. The GRA is not in a position to communicate directly with farmers, as we are not an extension organisation, but can and should synthesise the science happening at the global level, in a way that is developed for key decision makers to hear.

67. The GRA should develop a more strategic research agenda, identifying what is needed to support these international fora and undertake the research required. It is important that information is available for 2020, so that future research and workshop needs are included in the KJWA discussions.

68. There are a number of new organisations and agencies interested in contributing to the discussion on agriculture and food systems. There is a lack of available evidence and material that can be used to contribute to these discussions, underscoring the importance of identifying effective communication strategies that highlight GRA accomplishments. The Council was reminded that resources need to be provided for this work to happen.

FLAGSHIP UPDATE

69. The Council discussed the proposal to re-frame GRA Flagship Projects into the framework that was developed by the Secretariat following the 2018 Council meeting, taking into account the Council's request for greater clarity around the role of Research Groups, Networks and Flagships. Because of this proposal, an update report was not requested from the four existing Flagships (Enteric Methane, Soil Carbon Sequestration, GHG Inventory and Reducing GHG Intensity of Rice Systems). There was a report on the progress of the Circular Food Systems Taskforce, to understand how the development of this Flagship would fit with the proposed changes to GRA Flagships Projects framework.

Proposal to Reframe GRA Flagship Projects

70. The proposal to reframe the GRA Flagship projects was presented by the GRA Special Representative and provided an overview of the original principles of GRA Flagships. The existing approach to developing Flagships has been to identify research fields, or specific sources of emissions and/or removals within which (in some cases) discrete projects have been developed. The four existing Flagships are:

- Enteric Fermentation
- Soil Carbon Sequestration
- Reducing Emissions in Paddy Rice
- GHG Inventory

71. Taskforces have been set-up to develop Flagships on 1) Nitrous Oxide and 2) Circular Food Systems.

72. To clarify the role of Flagships a further set of Flagship criteria was developed that recognised the importance of identifying a project lead, resourcing for core activities and the need for Council participation. A suggested process to confirm GRA Flagship Projects was also developed.

73. It is proposed that Flagship projects:
- Be specific time-bound projects that are relevant to multiple GRA Member countries, rather than general research areas/topics.
 - Should benefit from GRA-wide collaboration, i.e. be more effective with more contributors.
 - Should provide opportunity for multi-country participation at low cost.
 - Lend themselves to being developed and implemented through Networks under Research Groups.
 - Develop new knowledge, high scientific impact, validate approaches, methods or hypotheses.
 - Flagship project leaders should be clearly identified and resourced to complete the project within the specified time-frame.
 - Research Group Co-Chairs should not bear the responsibility of leading Flagship projects, except presenting updates at the annual Council meeting, if required.
 - Should have global relevance, if not global participation in their delivery.
74. Process to identify new GRA Flagship Projects:
- GRA Flagship Project template to be completed by the lead.
 - The GRA Flagship Project must identify at least five Council Champions, Members and Partners, consisting of at least three GRA Member countries.
 - Project proposals to be assessed using criteria, and recommended to Council for endorsement.
 - GRA Flagship Projects will be profiled on the GRA website, and once complete final outcomes will be presented to the Council.

Discussion

75. The Council and Research Group Co-Chairs were generally supportive of the proposed changes to the GRA Flagship Projects, including the need for clear leadership and resourcing. It was noted that a key aim of GRA Flagship Projects is to provide increased visibility for the GRA, thereby attracting more investment.

76. The question of who should complete the assessment of the GRA Flagship against the proposed criteria was discussed, with the Council agreeing that a smaller group would be able to complete the assessment and provide a recommendation to the wider Council. In an effort to keep the bureaucracy low it was agreed that new GRA Flagship Projects would be assessed by the Secretariat, Council Chair and Vice-Chair, a sub-set of relevant Research Group Co-Chairs and other researchers as required, on an advisory basis, depending on the research activity.

Decision

- Accepted proposal for the re-framing of GRA Flagship Projects.
- Decision that the assessment of future GRA Flagship projects to be completed by: Secretariat, Council Chair and Vice-Chair, RG Co-Chairs (subset), other researchers on an ad-hoc and advisory basis.
- The Secretariat and Research Group Co-Chairs will undertake an assessment of existing Flagships, to check alignment with new framing and take action as appropriate.

Circular Food Systems Flagship

77. The Report from the Circular Food Systems Flagship Taskforce was provided by Carla Boonstra, Ministry of Agriculture, Nature and Food Quality, the Netherlands. The Taskforce is led by the Netherlands, Uruguay and Indonesia and aims to contribute to food security with lower GHG emissions by improving resource use across the entire agri-food system, based on the principles of circularity. The taskforce activity for the year included identifying the best practices and potential for circular food systems to reduce agricultural greenhouse gases at various scales, and identifying research topics that would demonstrate circular practices. A strategy and timeline of activities was also developed for the Council to review.

78. A stocktake of activities was circulated to members earlier in the year to understand the interest in circular food systems and the related policies and activities countries already had in place. Thirteen countries responded to the stocktake, and generally showed support for the concept and recognising the importance of further collaboration to develop circular systems.

79. A timeline of further activities was proposed to the Council:

1. Q4- 2019: Extend and enforce the Task Force, linked to GRA Research Groups, produce a “white paper”.
2. Q2/3 – 2020: Roadshow to collect commitment and support by various countries, organisations and funds.
3. GRA Council 2020: Programme arrangement.
4. Q4-2020: Recruitment of a community of experts, linked to GRA networks.
5. 2021: Organise a seminar alongside a global conference.
6. 2021-2022: Running the 1st phase of the programme, with shared and joint projects.

Discussion

80. There was a strong interest from members with regards to continuing to develop an activity on circular food systems. A number of countries have activities underway, or see this as an area of future importance. However, following the discussion to re-frame Flagships to become more project rather than thematically focussed, it was noted that this activity may fit better within the GRA structure as a Network rather than a GRA Flagship Project. There would be an opportunity for the Network to develop a GRA Flagship Project once more concrete research activities were identified.

Decision

- The Council proposed that the Circular Food Systems Taskforce become a Circular Food Systems Network, and suggests that this would fit best under the Integrative Research Group.
- The Integrative Research Group is asked to consider this proposal at the next group meeting (early 2020).
- The Network will maintain the work plan proposed for the Taskforce.

DECISION SUPPORT TOOLS

81. Dr Yiyi Sulaeman showcased the Cropping Calendar produced by the Indonesian Agricultural Land Resource Research and Development Agency. This is the largest decision tool that Indonesia has, bringing together information from a range of sources and making this available to farmers. The Integrated Cropping Calendar Information System (ICCIS) is available to farmers, and

updated each season to provide a list of activities. The calendar can provide information including rainfall and weather forecast, dry or rainy season, recommend varieties, management options, livestock population and feed. Information is also available on suggested planning times for maize and rice crops, the expected growth phase and anticipated harvest date and yield.

82. The website is updated in conjunction with reports from local extension workers and crop growth is monitored through CCTV. The user may also receive information updates through text (SMS) and social media sites.

83. It is hoped that those who use similar systems to inform farmers may be able to share their experiences. The Council members were asked to comment on:

- Improving the accuracy of prediction.
- How to enrich content.
- How to replicate up to the regional level.

Discussion

84. The Council discussed the importance of validation for these type of tools, which is difficult when the information is supporting farmers across different micro-climates and soil types. There was also a discussion around farmer up-take, and framing the information in a way that does not go against local and traditional beliefs, but provides other options to consider. It is important that extension agents are trained to provide the knowledge, especially when literacy in the farming community may be low. The largest benefit of this type of information service is enabling efficient distribution of fertiliser and seed to the sites when required.

CAPABILITY BUILDING

85. The GRA Special Representative provided an update on two GRA capability building activities for science students in developing countries and requested additional support from members.

RUFORUM

86. The Regional University Forum (RUFORUM) for capacity building in Africa was identified as a potential GRA collaborator from their attendance at the East Africa regional workshop in 2018. The organisation works with nearly 100 agricultural universities, mostly across Eastern and Southern Africa, with the aim to strengthen universities and support agricultural development.

87. The Government of New Zealand is signing an agreement that will allow the GRA to contribute to the RUFORUM competitive grant system and deliver GRA relevant training in partner universities. The most relevant grant identified is the masters level grant supporting a supervisor to work with two masters' students and four undergraduates over a two year period. The GRA has the ability to select specific topics that the students will work on, and ensure these align with other relevant GRA capability activities that could be built alongside. The New Zealand Government and the Government of the Netherlands are providing the initial support for the first grants.

88. The grants manual will be circulated for members to identify other grants they may wish to support. Any interest to resource competitive grants through this call from other GRA members is welcomed.

CLIFF-GRADS

89. The joint GRA-CCAFS fellowship programme has now had three rounds under the CLIFF-GRADS (Climate Food and Farming Network – Global Research Alliance Development Scholarships) name, and several previous calls as CLIFF. Developing country students undertaking a PhD are

awarded a short term research stay for a project relevant to their PhD research and the work of the GRA or its Partners. The programme is supported by the government of New Zealand and USAID as well as the CGIAR Centres and GRA Members and Partners that host and supervise the students. The science community has been very supportive of this activity, providing a good range of research opportunities for students.

90. Dr Lini Wollenburg (CCAFS) provided an overview of the two day CLIFF-GRADS alumni workshop taking place in Bali at the same time as the GRA Council meeting. Attending the workshop were 38 students from 30 countries taking part in sessions on modelling, GHG inventories, career and professional development, and collaborative and future activities. CCAFS really values the development of these support groups, the students often go on to undertake research together, and collect valuable data.

91. Members were encouraged to continue supporting this programme, both through hosting students but also by identifying additional funding that could be directed to this activity, perhaps as part of a broader agricultural development package.

Decision

- The GRA Secretariat will share the RUFORUM grants manual, for GRA Members to identify support and resourcing.

STRATEGIC PLAN: REVIEW AND UPDATE OF PRIORITY ACTIONS

92. The GRA Strategic Plan was reviewed, and decisions were taken related to priority actions or other discussion documents.

93. The Special Representative reviewed progress against the Priority Actions of the GRA's Strategic Plan, identifying the actions where we need to make greater progress as well as identifying those priority actions which had been completed over the last year.

94. The updated Priority Actions will be circulated by the GRA Secretariat. Completed priority actions will be removed and new actions identified during this meeting will be included.

PROPOSAL FOR NEW PARTNER

95. Ahead of the meeting the Secretariat shared a completed partnership template proposing that the Greenhouse Gas Management Institute (GHGMI) become a partner of the GRA. The GHGMI has strong expertise in the area of inventory systems and the reporting of greenhouse gas emissions and removals. The GHGMI operates globally, and has a good record of achieving funding to support capability development. The benefits of partnership would include support from the GHGMI to help the GRA build regional networks of experts in GHG inventory, and training on building systems to manage inventory data.

Decision

- The council agree to invite GHGMI to become a Partner of the GRA.

COMMUNICATIONS STRATEGY

96. The GRA Communications Strategy was developed by a working group of Members, with the aim to identify existing and future ways of communicating activities of the GRA. The final draft was shared to the Council ahead of the meeting, and members were invited to provide any further comments before this document was finalised.

97. Final changes suggested during the Council meeting were approved by Members and the Strategy was adopted as amended. The final version will be shared by the Secretariat.

98. The Council noted that actions should now be developed to sit under this Strategy, and that priority actions will be developed as part of the new GRA Strategic plan discussions.

Decision

- The Council agree to adopt the Communications Strategy, once the final amendments have been made and the document circulated by the GRA Secretariat.
- Priority actions on GRA communications to be developed as part of the new GRA Strategy.

Development of the 2021-2025 Strategic Plan

99. The term of the current GRA Strategic Plan will end in 2020, therefore the Council were asked to consider the development of a new Strategic plan to cover the period 2021-2025. The new plan is expected to be developed over the coming year and adopted at the 2020 GRA Council meeting.

100. In order to develop the structure of the new Strategic Plan, and identify any priorities not covered in the existing plan, the Council was divided into four breakout groups and asked to consider three questions:

1. Are changes to the existing key strategies needed for the GRA to meet its objectives for 2021-2025?
2. What new strategic objectives need to be considered?
3. What are the measurable priority actions to help the GRA achieve this strategy?

Breakout group report back

101. The groups felt that the existing four key strategies are about right, and do not need much revision. The strategic objectives will need some revisions, in particular the Council felt there should be a stronger focus on communicating the activities of the GRA and a better reflection of the importance of adaptation. The language in the strategy should consider that the activities of the GRA go beyond research, reflect the discussions about the need to develop science briefs for policy makers and consider the socio-economic context. A summary of the report back from the breakout groups is reflected below:

- Celebrate successes and review lessons learned.
- Shorter list of priority actions, better aligned with the strategic objectives and with interim milestones.
- Targeted engagement to align with specific events (e.g. UNFCCC), so that Research Groups and countries can see where and when to engage.
- Involvement of young scientists (e.g. CLIFF-GRADS) – would be valuable to have some attend meetings of the GRA Council and Research Groups.
- Include the leaders of GRA Flagship projects in the Council meetings.
- Facilitate connections between members and experts, such as the LRG concept of a roster of experts.
- Council responsibilities should not just be an individual but a team, to increase participation.
- Develop an action plan for the communications strategy.

- Science based research briefs for policy makers to share research knowledge rather than to advocate development of specific policies.
- Pilot project on the integration of adaptation and mitigation models with regional economic models (AgMIP and IRG).
- Evaluation of adaptation strategies, including environmental impacts, costs, and mitigation co-benefits.
- Members to provide information ahead of the Council meeting on relevant activities.

Decision

- GRA Strategic Plan 2021-25 to be drafted for approval at the 2020 Council meeting. Working Group - *Australia, Canada, China, Germany, Indonesia, Netherlands, New Zealand, Tunisia and Zimbabwe.*
- The development of the Strategic Plan should include specific consideration of the synergies between mitigation and adaptation practices and technologies, and development of a communications action plan.

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