

ON AGRICULTURAL GREENHOUSE GASES

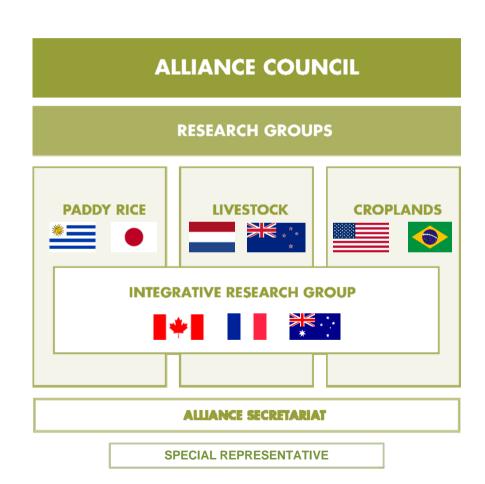
Reflections and future directions



What is the GRA?



- Inter-Governmental Organisation
- Launched in December 2009
- Operationalised in June 2011 at Ministerial Summit
- Governed by a Council of Members
- Guided by a Charter
- Activities undertaken by four Research Groups
- Supported by a Secretariat and Special Representative







Underlining the need for food security, and to promote synergies between adaptation and mitigation efforts, the Members set forth the following Charter for the Global Research Alliance on Agricultural Greenhouse Gases ("the Alliance"). The Alliance provides a framework for voluntary action to increase cooperation and investment in research activities to reduce the emissions intensity agricultural production systems and increase their potential for soil carbon sequestration, and improve their efficiency, productivity, resilience and adaptive **Capacity**, thereby contributing in a sustainable way to overall mitigation efforts, while still helping meet food security objectives.

Membership



46 Member Countries

- Argentina
- Australia
- Belgium
- Bolivia
- Brazil
- Canada
- Chile
- China
- Colombia
- Costa Rica
- Denmark
- Dominican Republic

- Ecuador
- Egypt
- Finland
- France
- Germany
- Ghana
- Honduras
- Indonesia
- Italy
- Ireland
- Japan

- Korea
- Lithuania
- Malaysia
- Mexico
- Nicaragua
- Netherlands
- New Zealand
- Norway
- Panama
- Paraguay
- Peru

- Philippines
- Poland
- Spain
- Sri Lanka
- Sweden
- Switzerland
- Thailand
- Tunisia
- United Kingdom
- United States
- Uruguay
- Vietnam

Partners of the GRA





























Reflecting on last 5 years

- Operationalising the Charter
 - Establishment (and restructuring) of Research Groups and Networks
 - Expanding membership
 - Development of Partnerships
 - Development of work programmes
- Addressing capability within the membership through fellowships and regional training activities
- Generation of knowledge fundamental to underpin future innovations, e.g. rumen census
- Development of best practice guidelines / protocols





The next 5 years?

- More dynamic relationship between GRA Research Groups and Council
- More active and mutually beneficial relationships with GRA Partners
- Identification and articulation of top priorities for GRA
- Mechanisms for coordinating national research programmes and mobilising resources

- GRA Strategic Plan 2016-2020....
- GRA Flagship projects....

GRA Strategic Plan 2016-2020



Key Strategies				
Further Research Collaboration	Foster Outreach, Knowledge Sharing and Information Exchange	Build Effective Partnerships	Leverage Financial and Other Resources	
Strategic Objectives	Strategic Objectives	Strategic Objectives	Strategic Objectives	
The GRA has achieved broad global participation in research cooperation and investments to help develop relevant practices and technologies.	There is broad awareness of the GRA's work, particularly its research results and impacts, through an integrated outreach strategy. There is increased availability	The GRA is well connected with other initiatives that carry out activities relevant to GRA work and objectives.	The GRA has strong and ongoing financial and other resources to support its activities and Research Groups, including through multilateral development banks and private and philanthropic organisations.	
The GRA has built global expertise in relevant knowledge and technologies.	and accessibility of research results to relevant stakeholders, including farmers.		GRA Members and Partners will invest in research and capability building relevant to the GRA mandate, and develop effective	
The work of the GRA is efficient, effective, and coherent.	There is widespread adoption of relevant practices and technologies.		mechanisms for resourcing and coordinating collaborative research.	

Implementation through Priority Actions and the Council, Research Groups, Partners, Special Representative and Secretariat

GRA Strategic Plan – some Priority Actions



- Research agenda:
 - Identify and promote research priorities that contribute to and support the 2030 Agenda for Sustainable Development and the UN Framework Convention on Climate Change.
 - Identify synergies between mitigation and adaptation practices and technologies.
- Linking with relevant organisations
 - Seek to be admitted as an observer to IPCC
- Capacity building
 - Increase the number and types of scholarships for studies and training available to GRA Members
 - Assist Members to develop improved GHG Inventories in order to recognise sustainable productivity increases, in accordance with nationally defined priorities and policies.
- Resourcing
 - Undertake joint programming to support collaborative research, including GRA Flagships.
- Knowledge transfer
 - Link with pilot development projects and demonstration farms to facilitate the diffusion and adoption of relevant technologies and practices.



GRA Flagship Projects

- Addresses a critical research and/or capability building need of the GRA.
- Makes a major contribution to:
 - Reducing greenhouse gas emissions while supporting food security
 - ❖ Advancing global knowledge through collaboration
 - Supporting countries in their developing and implementing solutions
 - Promote synergies between mitigation and adaptation
- Facilitate engagement by a broad range of GRA Members and Partners.
- Excellent opportunity to align Council members' domestic research programmes and Partner activity to the Flagships and to utilise upcoming research calls, both of the GRA and of GRA.
- Establishment of Task Forces to transform each of the proposals into fully scoped projects ready to be implemented.

1. On-farm assessment of multi-beneficial water management techniques in the rice sector



FOCUS: Validating alternate wetting and drying (AWD) irrigation in farmers' fields confirming no yield penalties.

- Research around the globe confirmed that AWD sharply reduces CH4 emissions, water consumption, production costs and arsenic in the grain
- Going from research to massive adoption
 - Identifying appropriate AWD for each rice system
 - Validation plots installed in commercial fields of innovative farmers in different countries
 - Emissions, water consumption, costs, arsenic in grain and yields recorded
 - Results documented and shared
 - Regional networks expand the techniques to other countries and regions



2. Improved GHG inventories: Making them count



FOCUS: Supporting countries to advance their GHG inventories for agriculture

- Improved quantification of mitigation actions
- Summary of current inventory practices and country experiences of adopting improved methodologies
- Develop guidance for improving inventories
- Targeted training and technical support for inventory improvement and for using inventory to support national climate change actions
- Dissemination & development of emissions data and factors to improve inventory development

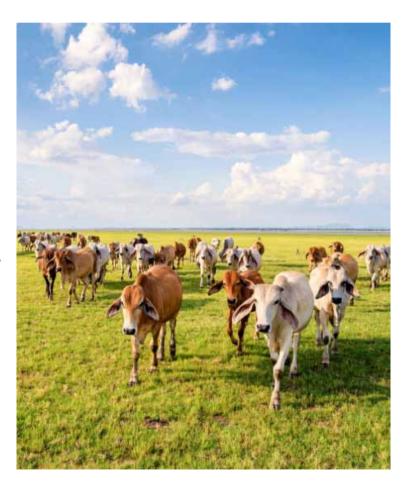


3. Enteric fermentation mitigation hub



FOCUS: Practices that increase the productivity and reduce enteric methane emissions intensity of ruminant livestock

- Assess potential for productivity-based interventions to reduce emissions intensity
- Links science to farm-level implementation
- Assess options, barriers and enabling factors
- Implement appropriate interventions in demonstration sites
- Demonstrate success in supporting policy
- Supported by open global databases for wider benefits:
 - Database on feed options and their effects on productivity, GHG, costs
 - Influence of rumen microbial communities on productivity under different feeds
 - Etc...



4. Soil carbon sequestration



FOCUS: Agricultural practices that sequester carbon and restore soil quality



- Assess potential and dynamics of carbon sequestration in crop and pasture systems and interactions with nitrogen
- Identify practices for soil C sequestration
- Assess co-benefits for yields, water balance, and non-CO₂ greenhouse gases
- Monitoring, verifying and reporting soil organic carbon stocks
 - Improvement of technical tools (e.g. maps) through and carbon calculators
 - Improving national GHG inventories by integrating soil organic carbon stock changes
- Development of web-based knowledge hub to support national action plans



Concluding remarks

- Opportunity to align major work areas of multiple initiatives should attempt to do so where possible. Resources are scarce.
- Complementary nature of different organisations and initiatives needs to be exploited.
- Already very good alignment between some, e.g. 4/1000, CGIAR, and GRA.
- Flagships are one useful vehicle common to GRA, CGIAR.
- Short-term opportunity to align national research programmes to deliver common objectives of GRA, 4/1000, GACSA, GSP, etc.

