



Australian Government

Australian Centre for
International Agricultural Research



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Global Research Alliance (GRA) on Agricultural Greenhouse Gas Emissions

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The role of Agriculture

In the Anthropocene, agriculture is the biggest lever humans can pull (3 Fs)

- Biggest employer of people
- Biggest water user (75% of diverted freshwater)
- Causes 78% of eutrophication
- Uses 87% of ice-free, non-desert land
- The main driver of deforestation
- 26% of global greenhouse emissions
 - food on track to be the largest emitting sector

AND

- **The most effective way to lift people from poverty**



The Global Research Alliance (GRA) on Agricultural Greenhouse Gases

- **2009:** GRA initiated by New Zealand at Copenhagen COP15, with 28 member countries
Joint Ministerial Declaration by NZ, USA and Australia
- **2010:** 1st Senior Officials Meeting in Wellington to develop the structure of the Research Groups and establish the New Zealand-based Secretariat
- **2011:** Ministerial Summit in Rome to endorse the Charter, and first GRA Council meeting
Chaired by New Zealand
- **2015:** first GRA Strategic Plan (adopted 2016), Special Representative approved
- **2021:** GRA currently 64 member countries and 24 Partner organisations
 - administratively lean, independent multilateral (no treaty etc)
 - each member funds its own participation
 - enables robust exchange of ideas among scientists, and between scientists and policy-makers
 - international vehicle for building technical capacity within member countries and globally
 - Recent Council meeting hosted from Canberra had 54 member countries – momentum!



Value of international partnerships

- Why collaborate?
- Networks of researchers sharing know-how speeds up learning curve
 - 4 Research groups: Livestock; Paddy Rice; Croplands; Integrative
- Sharing methods
 - GRA collaborations helped AgMIP develop new modelling approaches
- Finding efficiencies
 - GRA members have developed >150 emissions factors associated with livestock, providing opportunity to develop reasonable context-specific estimates without detailed field experiments
- Taking greater risks together
- Learning from experiences at science/policy interface
 - Objective in GRA Strategic Plan 2021 to 2025 to *'increase influence on policy development and practices'*

mitigation/adaptation co-benefits



- Co-benefits are essential for many developing countries to participate in (and benefit from) the global effort
- For example, Fiji contributes just 0.006% of total global emissions, but has an ambitious draft Climate Change Bill:
 - recognise the opportunity to help drive global momentum
 - also need to focus in areas of co-benefit like reducing import costs

mitigation/adaptation co-benefits

- Through ACIAR-supported research and under the Integrative Research Group of the GRA, we have identified a suite of the 'most promising' mitigation options that could deliver co-benefits in Fiji
- Most focus on livestock and include managing health, feed and diets, and manure, delivering production, cost reduction and pollution management benefits.
- Progressing with further research to support policy formation and implementation



Strategic focus on mitigation/adaptation co-benefits

- Co-benefits are also important for developed countries
- Even where national governments have clear ambitions for mitigation, successful implementation may still depend on attractive co-benefits for farmers and businesses
- Finding more of these enlarges the 'safe space' for more ambitious policy and action/achievement



Where to next?

(International Partnerships perspective)



- More *mutual* capacity-building, particularly in understanding how best to operate at the science/policy interface – successes and opportunities to learn come from countries all along the development spectrum
- How to actively expand the co-benefits space – not just understand where co-benefits already exist but change the social and institutional architecture to help create more opportunities for co-benefits
 - For example, index-based insurance – farmers gain support to manage risk but the indexing is tied to animal health measures that reduce emissions
 - How can the technical research on emissions better support these emerging novel mechanisms?

- Nutrition and climate change are the meta challenges for agriculture, and ag and food systems research, this century
- Effective responses will demand innovative partnerships and new coalitions at all levels, across many sectors
- The GRA is a practical multilateral whose time has come



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