

# GLOBAL RESEARCH ALLIANCE

ON AGRICULTURAL GREENHOUSE GASES

GRA Council meeting, Tsukuba, Japan

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## Flagship Project on Reducing GHG Intensity of Rice Systems

Gonzalo Zorrilla and Kazuyuki Yagi

# Objectives

Finding practical measures that reduce emission intensity of the rice systems, while sustaining or improving its overall production efficiency

# Task Force

18 scientists – Americas, Asia, Africa, Europe

# Components

- Developing solutions
  - Water management
  - Organic matter management
  - Cultivar selection
- Improving quantification
  - Database compilation
  - Improved emission factors
  - Modelling
- Adopting new solutions
  - Identification of suitable areas for AWD
  - MRV guidelines
  - Promotion
- Building capabilities
  - Workshops
  - Coordinated networks

# Project 1

## Leader – G. Zorrilla, Uruguay

“On farm assessment of multi-beneficial improved water management techniques in America’s rice systems”

- Who: Americas + Europe interested members, regional partners
- What: Improve adoption of AWD by farmers
- Why: research shows great reductions without yield losses, but it is difficult to implement in scale
- How: Validating appropriate AWD in farmer’s fields
- Funding: competitive funds + local counterpart\*

\* Note: Project presented to FONTAGRO approved for full proposal:  
“More rice with less emissions and less water consumption” –  
Colombia, Perú, Chile with CIAT, FLAR and PRRG-GRA

# Project 2

Leader: K. Yagi, Japan

## “On-farm assessment of multi-beneficial integrated management techniques in the rice sector of Asia”

- Who: all PRRG-GRA members in Asia – IRRI, CCAFS, private sector
- What: Improved production with less emissions combining fertilizer and organic matter management with water management.
- Why: interactions between irrigation regimes, fertilizer uses and organic matter management in the soil
- How: Field experiments on effects of water management, chemical and organic fertilizer application on GHG emissions, soil carbon stock, and rice production. Simulation models will be applied.
- Funding: Japan and .....

# Project 3

Leader: K. Yagi, Japan – P. Setyanto, Indonesia

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## “Identification of high yielding rice cultivars as related to low methane (CH<sub>4</sub>) emissions”

- Who: all PRRG-GRA members – IRRI, CIAT, FLAR, CCAFS
- What: selection of high yielding rice cultivars with low methane (CH<sub>4</sub>) emissions
- Why: genetic diversity exists and cultivars are a very efficient tool for adoption
- How: rice plant controlling factors affecting CH<sub>4</sub> emissions will be assessed by meta-analysis and new experiments, and mechanisms causing different emission intensity among rice cultivars will be investigated. CH<sub>4</sub> emissions from newly released cultivars will be quantified
- Funding: competitive funds + in-kind