### GLOBAL RESEARCH ALLIANCE ON AGRICULTURAL GREENHOUSE GASES

Regional Network Meeting of GRA South and South East Asia countries

Vietnam

May 2018



### Welcome & Agenda

Time	Activity	Roles
13:00 – 13:20	Update of GRA South and South East Asia capability building activities	Sinead Leahy
13.20 – 14.20	Country Updates – countries to provide an update of country specific priorities and their next steps Country participants to prepare 1 page slide. 5 min presentation plus Q+A  Followed by open discussion on regional and country specific priorities and next steps and role of GRA in supporting them	Country representatives  All
14.20 – 14.40	Institutional strengthening in Indonesia for mitigating livestock methane emissions (Indonesia/NZ research collaboration)	Indonesia (presented by Sinead Leahy on behalf of Indonesia)
14.40 - 14.45	Update on New Zealand livestock inventory course	Harry Clark
14.45 - 15.00	Summary, next steps and meeting close	Sinead Leahy & Harry Clark

#### Background

 A regional network of GHG inventory practitioners for livestock systems has been established through successive GRA workshops and network meetings

#### **Network Meetings:**

Mar 2012, Bangkok, Thailand Sept 2015, Bangkok, Thailand Aug 2016, Bali, Indonesia Sept 2017, Bangkok, Thailand



- The main countries engaged in this network to date have been Indonesia, Malaysia, Philippines, Sri Lanka, Thailand and Vietnam, supported by technical and policy experts.
- The workshops have sought to demonstrate the benefits of higher Tier GHG inventories for livestock systems, and to identify the steps needed for participating countries individually and collectively to improve their inventories consistent with their national circumstances, priorities and capacities

# Improving GHG inventories from livestock, 11-12 Sept, 2018, Thailand

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21 participants from 6 countries

#### **Objectives:**

- Discuss progress, barriers and enabling factors for improving emissions inventories
- Enable exchange of countries experiences and learn from demonstrated successful examples
- Identify next steps that countries can take individually
- Identify collective regional actions and support mechanisms

Outcome: Workshop participants developed a prioritized and specific action list for their country and identified potential ways in which international organizations such as the GRA could help achieve that action list.



- 1. **Technical training.** This includes
  - a. training on measurement (emissions, intake)
  - b. training on GHG inventory tools such as ALU
  - c. develop regional capacity in expert reviews of inventories (NZ inventory course, UNFCCC training courses, LEARN fellowships) and having expert review teams visit countries and work with inventory teams, including as part of a QA/QC process.
  - d. training on GHG inventory design for manure management (including emissions from soils)
  - e. training for integrated approaches including manure management and paddy rice (crop-livestock systems).
- 2. **Research** collaboration including funding mechanisms. Development of regionally relevant projects. Examples included: pilot projects demonstrating how to get better data on intake and feed digestibility, development of regional feed-specific emission factors.
- 3. Guidance documentation
  - a. on activity data
  - b. on inventory design/methodology including case studies and examples
- 4. Improvement of **institutional linkages**, education of parent ministries and policymakers on the importance and policy benefits of improved agricultural GHG inventories.

### **GRA Activities – Technical training**

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Quality assurance and quality control (QA/QC) of GHG emission inventories for livestock systems, 13-14 Sept 2017, Bangkok

6 countries (Vietnam, Sri Lanka, Thailand, Indonesia, Philippines, Malaysia)

Supported by GRA through the provision of NZ and international climate change expertise and sponsorship of regional participation



### **GRA Activities – Technical training**

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Regional technical training workshop on construction and use of respiration chambers for small ruminant studies, 9-13 April 2018, Malaysia

7 countries (Vietnam, Sri Lanka, Thailand, Indonesia, Philippines, China, Malaysia)

Organized and hosted by Universiti Putra Malaysia

Supported by GRA through the provision of NZ expertise and sponsorship of regional participation



### **GRA Activities – Technical training**

**Purpose:** to provide participants with a better understanding of the pathways of nitrogen (N) loss in manure management systems (in particular direct and indirect losses) and to provide expert advice on the development and improvement of manure management into the national livestock inventory methodology in Thailand.

Hosted by the Department of Livestock Development

Supported by GRA through the provision of NZ expertise

**Outcomes:** The workshop participants developed an action list of how to improve the manure management greenhouse gas (GHG) inventory in Thailand



#### Workshop

Improving Thailand's GHG inventory for nitrous oxide emissions from manure management, 6-8 March 2018, Bangkok, Thailand

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https://livestockemissions.net/

GRA are supporting PhDs and Post-doctoral opportunities from the region

Current awards – LEARN Technical training GRASS awards





#### Indonesia – New Zealand research collaboration



Institutional strengthening in Indonesia for mitigating livestock methane emissions



## **Theme 1:** Development of the inventory structure and sourcing of data

- Training in the use of the ALU software (involves Indonesian and regional representatives)
- · Setting up the inventory structure in the ALU tool
- Obtaining and compiling data from existing/new sources (see Appendix 1)
- Assessing data gaps and developing plans and the resources needed for collection of additional data
- Entering 'best available' data into the ALU tool so that a 'prototype' inventory has been developed by the end of the first year of the project
- Use the 'prototype' inventory to demonstrate the benefits of a Tier 2 inventory by analysing the impact of changed practice on current and future CH4 emissions from beef (demonstrate locally and at the regional scale)
- Comprehensive documentation and development of Standard Operating Procedures

## **Theme 2:** Development of regionally relevant enteric CH<sub>4</sub> emissions factors (Ym)

- Collate results from existing Indonesian experiments and relevant literature to establish preliminary Ym values and identify data gaps
- Examine operation and performance of existing Indonesian CH4 measurement facilities and undertake within and between facility validation exercise; modify existing facilities if deemed necessary
- Increase capacity to obtain more CH4 emissions data that has local and regional utility by purchasing and installing integrated Greenfeed automated CH4 and feed intake measurement equipment
- Training in the use of the Greenfeed system and in the handling and analysis of data (local and regional science and technical staff)
- Cross-validation of the Greenfeed facility with existing measurement systems
- Undertake experiments to obtain updated Ym values for priority feeding regimes (9 additional experiments)

#### **Theme 3:** Additional capability and ancillary activities

- General GHG inventory training for a minimum of two Indonesian staff members (will comprise distance learning and a residential course in New Zealand)
- Co-development of funding applications for further work
- Promotion and demonstrating benefit of the approach at regional and international for a
- Project evaluation and lessons learned, plans for replicating the approach

Regional training and research

#### GRA Activities – Guidance

Measurement, reporting and verification of livestock GHG emissions by developing countries in the UNFCCC: current practices and opportunities for improvement

Initiated and supported by CCAFS, GRA, FAO, NZ government, USAID, World bank

Compiled by UNIQUE forestry and land use GmbH

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- Compendium of experience and practices in livestock MRV and Tier 2 inventories
- 2. Practical guidance on addressing gaps and uncertainty in inventory activity data
- 3. On-line collection for MRV tools and guidance material

### Outputs due by end of 2018

