

# Mutual Learning on Agriculture Sector by Indonesia and Vietnam



**Indonesia:** Dr. Idat Galih Permana, Dr. Muhammad Ardiansyah,  
Mr. Prasetyadi Utomo, Mr. Hiroshi Ito (Rapporteur)

**Vietnam:** Mr. Mong Cuong Nguyen, Mr. Khac Tich Nguyen, Mr. Ly Viet Hung,  
Mr. Quach Tat Quang, Ms. Nguyen Ihanh Hai, Ms. Tran Thi Bich Ngoz,  
Ms. Ta Thi Thu Huong, Ms. Takako Ono

**Secretariat:** Dr. Junko Akagi (Chair), Mr. Kohei Sakai (Co-Chair),  
Mr. Naofumi Kosaka, Mr. Takashi Morimoto

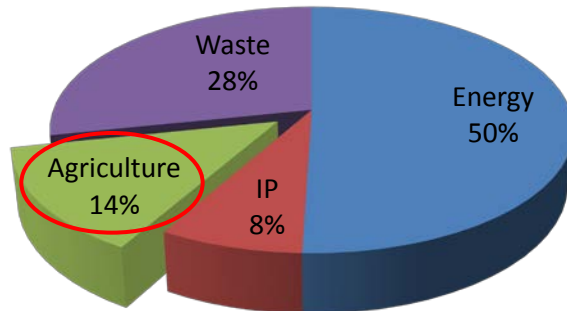
# Materials used

- Inventories subjected to study
  - Indonesia: Inventory for 2000
  - Vietnam: Inventory for 2000 (from SNC in 2011)
- Materials used

Country	Inventory Report	Spreadsheets	Others
Indonesia	GHG Inventory of Agriculture Sector	- Inventory agriculture-2000.xls - Inventory Livestock-2000.xls	
Vietnam	(SNC Chapter 2)	- Worksheet_livestock_2000 mutual.xls - DATA_CALCULATION_EF.xls	- Livestock data_2000.doc (in Vietnamese)

# Sector overview

## Indonesia

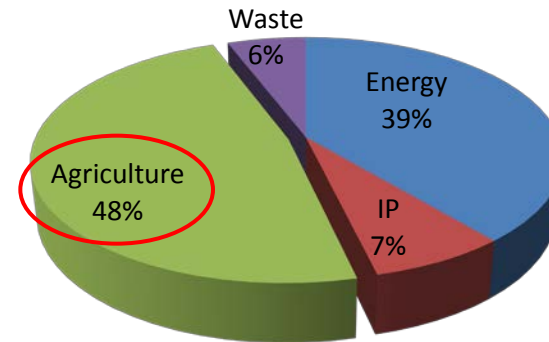


(Source: Table 2.1a in SCN (without LULUCF))

### Agriculture sector (2000)

- **75,419 Gg-CO<sub>2</sub>eq.**
  - Enteric Fermentation (17%)
  - Manure Management (2%)
  - Rice Cultivation (46%)
  - Agricultural Soils (28%)
  - Burning of savannas (2%)
  - Burning of agricultural residues (2%)
  - Other (Liming and Urea Fertilization) (3%)
- **Key categories**
  - Rice Cultivation
  - Direct N<sub>2</sub>O Soils
  - Enteric Fermentation
  - Indirect N<sub>2</sub>O Soils

## Vietnam



(Source: Table 2.17. in SCN (without LULUCF))

### Agriculture sector (2000)

- **65,091 Gg-CO<sub>2</sub>eq.**
  - Enteric Fermentation (12%)
  - Manure Management (5%)
  - Rice Cultivation (58%)
  - Agricultural Soils (22%)
  - Burning of savannas (1%)
  - Burning of agricultural residues (3%)
- **Key categories**
  - Rice Cultivation
  - Enteric Fermentation
  - Agricultural Soils.

# Overview of outcome

## Classification and number of question asked

Classification	Indonesia	Vietnam	Note
Acquisition of activity data	2	2	
Adoption of emission factor	4	1	
Quality assurance & quality control	3	1	
Responsible system structuring	4	1	
Application of guideline	3	1	
Mitigation plan	1	0	

# Issues & solutions (Indonesia)

- Issue ...Enteric fermentation from Beef cattle and Dairy cattle are the most significant subcategory in the 4A category (62.8%)
  - Solution... Trying to develop country-specific emission factors
- Issue... How to apply the correction factor ( $k_{(T)}$ ) of animal population structures is not clear.
  - Solution... It may be better to use corrected EF (CS-EF) for enteric fermentation rather than applying correction factor for animal population.
- Issue ...Transcription error of EF for manure management.
  - Solution...Improving a documentation
- Issue ...How to apply the scaling factor of irrigated rice field is not clear.
  - Solution...Need more clear description, e.g. what is technical irrigation etc.

# Issues & solutions (Vietnam)

- Issue ...CSEF for Enteric Fermentation is lower than IPCC default value.
  - Solution...Yellow cattle is bred in Vietnam, which is smaller than IPCC default of Asia region.
- Issue ...Importing live animals from outside is not calculated.
  - Solution...Collect more data about population.
- Issue ...The fraction of anaerobic manure management system is much increased.
  - Solution...Biogas system is under developing.

# Outstanding issues (Indonesia)

- Issue ...The correction factor ( $k_{(T)}$ ) of animal population structures for beef cattle, dairy cattle, and buffalo can be re-examined.
- Issue ...Systematic data collection is not enough, especially for Urea and Liming.
- Issue ...Amount of Biogas from manure management is not available.
- Issue...There is no scaling factor for each irrigation types for rice field.

# Outstanding issues (Vietnam)

- Issue ...There are some survey for Provincial level Parameter Data for Manure Management, but not enough Activity data for provincial level. Now, summarized average parameter data are used.
- Issue ... Systematic Data collection is not enough.
- Issue ...Amount of Biogas from manure management is not available.



# Good practice

## Indonesia

- Indonesian inventory is in accordance with the IPCC 2006 guidelines
- Most of EFs are IPCC defaults corrected with local conditions
- Most sources of categories are covered for 2000-2005
- Agriculture sector inventory can be regarded as complete in terms of gases and geographical coverage
- Good documentation of methodologies

## Vietnam

- The main activity data are from Government official Statistics, others are only reference use.
- Trial calculation CSEF of dairy cattle to apply country-specific condition
- Manure management has a detailed data to estimate.

# Possible follow-up activities and other information

- Checking for activity data for dairy cattle in 2005 in Indonesia.
- JICA project of each country is developing data collection system and Institutional arrangement for periodical GHG inventory preparation.

# Suggestion for future ML and WGIA

- For ML
  - Adding more time to discuss.
  - Before Question session, it may be better to make presentation for circumstance of each country to warm up meeting.
  - ML is Good practice for each other.
  - Schedule of preparation for ML is enough time.
- For WGIA
  - Sharing our progress of EF for each country, e.g. dairy cattle and rice field.
  - Sharing experience of data collection.