

MAGES-Workshop

International Workshop on Monsoon Asia Agricultural Greenhouse Gas Emission Study

December 13-14, 2006

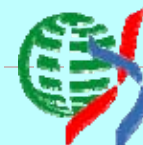
Tsukuba, Japan



MAGE-Workshop

International Workshop on Monsoon Asia Agricultural Greenhouse Gas Emissions

March 7-9, 2006
Tsukuba, Japan



MAGES-Workshop

International Workshop on

Monsoon Asia Agricultural Greenhouse Gas Emission Study

December 13-14, 2006

Tsukuba, Japan

aims;

- (1) To **exchange understanding** of the issues related to agricultural GHG emissions in monsoon Asian countries,
- (2) To **identify gaps** in knowledge, and
- (3) To **discuss future** research needs and possible forms of cooperation.

What we should do NOW?

● Integration

- $\text{CO}_2 + \text{CH}_4 + \text{N}_2\text{O}$ (+ $\text{NH}_3 + \text{NO}_3\text{-N} + \dots$)
- Monitoring-modeling-projection
- Mitigation options with feasibility or cost analysis
- Link with C&N cycles in agroecosystems

● Cooperation

- Most of the existing cooperative research projects are isolated from the other projects
- Therefore, it is needs to have a common research plan as a base of broader cooperation, just like IGBP strategy



MAGES-Workshop
*International Workshop on
Monsoon Asia Agricultural
Greenhouse Gas Emissions*
September 13-14, 2006
Osaka, Japan

Break-out Groups



Break-out Groups

Group 1: Soil monitoring

- review of current knowledge
- list of research needs
- implementation strategies

Group 2: Soil database and modeling

- review of current knowledge
- list of research needs
- implementation strategies

Group 3: Cross cutting

- list of research needs: monitoring & modeling, soil & animals, GHG & CN cycles, etc.
- implementation strategies

MAGES-Workshop: Discussion

Targets

- **To revise national GHG inventories**
- **To estimate potentials of mitigation options, with adaptation strategies that include socio-economical analysis**
- **To integrate GHG impacts with other environmental impacts from C&N cycling in agroecosystems**

MAGES-Workshop: Discussion

Research Gaps

- Knowledge gaps
 - **Processes**
 - **N₂O emission from N inputs**
 - **C budget and CO₂ exchange**
 - **CN cycles linkage and CO₂, CH₄, N₂O**
- Methodology gaps
 - **Uncertainty analysis**
 - **Scaling-up**
- Sources gaps
 - **Animal GHG emissions**
 - **Biomass burning**

Research Needs

- Field measurement data
 - SOC: soil C budget and dynamics, net GWP, time scale
 - Livestock and interaction of soils, wastes, crop residues and animals
- Reduction of uncertainties for GHG inventories and mitigation potentials
 - Issues of scale: large scale more variation?

Implementation Strategies

- How we can realize to extend GHG mitigation options?
 - How we can put incentives to farmers?
 - Needs of including socio-economical analysis for mitigation options.
 - To develop a regional “Show case”
 - That demonstrate recommended agriculture at a county scale: like Chinese “Eco-county”
 - To develop a pilot research project that includes farmers and policy makers
 - To develop an on-line (internet) environmental impact accounting system for farmers

Implementation Strategies

- To integrate GHG impacts with other environmental impacts from C&N cycling in agroecosystems
 - To set an integrated research area, at least catchment scale, where GHG emissions and CN budgets are comprehensively studied
 - More studies on indirect GHG emissions through leaching and run-off: process and biogeochemical model studies are necessary
 - Systematic research approach that includes animal, wastes, crop residue, soil

Implementation Strategies

- Forms of cooperation

- Database compilation, such as revising former APN database is necessary. But how can we get existing data? Or to link existing country databases.
- Joint research under the same project.

- Funding sources

- International capacity building fund, such as APN
- We would like to ask MARCO for supporting our network
- CDM frameworks

- Activities (meetings, training, etc.)

- Periodic meetings are necessary
- Training course for chamber measurements is not high priority
- Training course for modeling is useful