Second Circular

MARCO/GRA Joint Workshop on Paddy Field Management and Greenhouse Gases

September 1-3, 2010
Tsukuba, Japan

September 1, Wednesday
– Scientific symposium for oral presentations of research
Venue: *Epochal Tsukuba (Tsukuba International Congress Hall), Room 200*

September 2, Thursday
– Meeting of GRA paddy field management research group
Venue: *Epochal Tsukuba (Tsukuba International Congress Hall), Room 404*

September 3, Friday
– One day Excursion

Jointly organized by:

National Institute for Agro-Environmental Sciences (NIAES)
and
Global Research Alliance on Agricultural Greenhouse Gases (GRA)

Rationale:

Paddy fields are recognized as an important source of atmospheric greenhouse gases (GHGs) mainly through the emissions of methane (CH_4) which is specific to flooded ecosystems. Globally, over the last 70 years there has been a rapid increase in the harvest area of rice to meet increasing demand for rice which has resulted in increased emissions of CH_4. In addition, it is suggested that by introducing high-yielding varieties, together with new cultivation technologies, it has brought about an additional increase in CH_4 emissions because of accelerating carbon turnover in the rice-soil system, caused by adding more organic matter to the soil in the form of crop residues. The rate of global CH_4 emissions from rice fields is also expected to increase further in the next decade in order to meet expected consumption rates.

Reducing CH_4 emissions from paddy fields is very important to stabilize atmospheric concentration of the greenhouse gas, which can contribute significantly to mitigate global warming. Because of the possibility of controlling the emissions by agronomic practices, paddy field management must be one of the most likely means of mitigating CH_4 emissions. Actually, it is demonstrated that a number of traditional or improved management practices can mitigate CH_4 emissions, providing a “win-win” outcome rather than a conflict between different economic, environmental and social goals. Those studies also suggested that some mitigation options for CH_4 may promote an increase in the emissions of nitrous oxide (N_2O) or a curb of soil carbon sequestration. Therefore, it is necessary to consider those trade-offs with the fluxes of other GHGs.

Over the last three decades, scientific knowledge for paddy field management and GHG emissions has been accumulated from a series of process studies, field monitoring, and modeling approaches. Major promising options to mitigate GHG emissions from paddy fields, such as improved management of water and rice straw, are proposed. However, there is still a need to improve knowledge sharing of the mitigation options among researchers and policy makers in different regions of the world. Because the systems of rice cultivation are widely diverse depending on climate, social and economical conditions, the options often need to be developed in accordance with those regional conditions. Also, implementation strategies to extend the options successfully to local farmers and communities are needed.

This workshop will provide an opportunity to bring researchers and policy makers from different countries together to exchange the latest information on paddy field management and GHG emissions. The workshop will be jointly supported by the Monsoon Asia Agro-Environmental Research Consortium (MARCO) and the Global Research Alliance on Agricultural Greenhouse Gases (GRA).

Objectives:

This workshop will address:

(1) Overview of the issues related to paddy field management and GHG emissions in monsoon Asian countries and the world,
(2) Monitoring and measurements of GHG emissions from paddy fields,
(3) Mitigation options for GHG emissions from paddy fields,
(4) Compilation and analysis of databases for GHG emissions from paddy fields, and
(5) Modeling GHG emissions from paddy fields.

This workshop aims;

(1) To summarize the stock-take of research activities in each country,
(2) To identify gaps in knowledge at each country, and
(3) To discuss future research needs and possible forms of cooperation.

Official Language:

The official language of the Workshop will be English. However, voluntary services of simultaneous translation for any monsoon Asian languages are welcome, in particular during the discussion sessions.

Workshop fees:

We do not charge any fees for registration nor workshop materials. However, we will ask following charges those who participate in the Workshop Reception and the Excursion Tour:

Workshop Reception, on September 1, Wednesday
- 5,000 Yen per person

One Day Excursion, on September 3, Friday
- 2,000 Yen per person (for the cost of lunch)

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MARCO/GRA Joint Workshop on
Paddy Field Management and Greenhouse Gases

1-3 September 2010, Tsukuba, Japan

PROGRAM

As of 4 August 2010

Wednesday, September 1 ***at Epochal Tsukuba, Room 200***

Scientific Symposium for Oral Presentations of Research

09:00 *Participant Registration*

Opening Session *Chair: TBD*

09:30 Opening address
Yohei Sato
President, National Institute for Agro-Environmental Sciences

Welcome address
TBD
International Research Division, Secretariat of Agriculture, Forestry and Fisheries Research Council

09:50 Outline of the Workshop
Kazuyuki Yagi
National Institute for Agro-Environmental Sciences

Keynote Lectures *Chair: TBD*

10:00 The Global Research Alliance: Enhancing agricultural greenhouse gas mitigation research across the world
Meredith Stokdijk
Secretariat of the GRA,
Ministry of Agriculture and Forestry, New Zealand

10:30 Climate change research activities at the International Rice Research Institute
Reiner Wassmann
International Rice Research Institute, the Philippines

11:00 Possible options to mitigate greenhouse gas emissions from paddy fields
Kazuyuki Inubushi
Chiba University, Japan

Reports from Rice Producing Countries *Chair: TBD*

11:30 Integrated greenhouse gas emissions from paddy fields in China
Xiaoyuan Yan
Institute of Soil Science, Chinese Academy of Sciences, China

11:50 Greenhouse gas emissions from Indian paddy fields
Chhemendra Sharma
National Physical Laboratory, India

12:10 *Group Photo and Lunch*

Chairs: TBD

13:30 Greenhouse gas emission from rice field under different crop management practices
Prihasto Setyanto, Helena Lina Susilawati, Rina Kartikawati, Miranti Ariani, and Titi Sopiawati
Indonesian Center for Agricultural Land Resources Research and Development, Indonesia

13:50 Primary results of study on gas emission in paddy rice in Vietnam
Hong Son Nguyen
Institute for Agriculture Environment, Vietnam

14:10 Greenhouse gas emission, mitigation and soil carbon sequestration potential for Thailand paddy fields
Amnat Chidthaisong
Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi, Thailand

14:30 Review of greenhouse gas researches and inventory in the Philippines
Eduardo Jimmy Pua Quilang
Philippine Rice Research Institute, the Philippines

14:50 Rice production practices in Malaysia in relation to GHG emissions
Shuhaimen Bin Ismail
Malaysian Agriculture Research and Development Institute, Malaysia

15:10 *Coffee Break*

Chair: TBD

15:30 Methane and nitrous oxide emissions from eastern Uruguayan rice fields
Pilar Irisarri
University of the Republic, Uruguay

15:50 Interaction of CH_4 and N_2O emissions from a paddy field with AWD water-saving irrigation management
Yasukazu Hosen
Japan International Research Center for Agricultural Sciences, Japan

16:10 Reducing CH_4 emission from rice paddy fields by altering water management
Shigeto Sudo
National Institute for Agro-Environmental Sciences, Japan

16:30 Tier 3 estimation of CH_4 emissions from rice fields
Tamon Fumoto
National Institute for Agro-Environmental Sciences, Japan

16:50 *Closing remark*

18:00 ***Workshop Reception*** ***at Epochal Tsukuba, Restaurant ESPOIR***

Thursday, September 2 *at Epochal Tsukuba, Room 404*

Meeting of GRA Paddy Field Management Research Group

09:00-17:00 *Chair: R. Suzuki & K. Yagi*

- **Overview of results of stock-taking exercise (presentation of completed template)**
- **Analysis of research group stock-take including further elaboration of research activities from each country if required**
- **Discussing future activities of the research group**

(detailed time schedule will be announced later)

Friday, September 3

One day Excursion

09:00 Leaving Hotel(s) at downtown Tsukuba

09:40 Rice-FACE experiment site at Tsukuba-mirai city

11:00 GHG flux monitoring paddy field at Tsukuba city

12:00 *Lunch*

14:00 National Institute for Agro-Environmental Sciences
- Presentations of research topics
- GHG monitoring facility
- Natural Resources Inventory Museum

17:00 Return to Hotel(s) at downtown Tsukuba