

O bjectives

The MARCO Symposium 2012 will include:

1. field excursion
2. plenary sessions to report and discuss problem status and the latest results of studies on agriculture and environment in monsoon Asia
3. parallel or satellite workshops to exchange information and discuss research plans for specific topics
4. a wrap-up session to discuss the directions for future research and ways to strengthen the MARCO collaboration

The MARCO Symposium 2012 will focus on:

- exchanges related to problem status and the latest results of agricultural and environmental studies in monsoon Asia
- discussions of future research directions and ways to strengthen collaboration to meet agro-environmental challenges in monsoon Asia

S chedule

Date	Time	Program
Sep.24 Mon.	9:00 ~ 17:00	One day Excursion
Sep.25 Tue.	10:00 ~ 17:00	Opening Ceremony
		Plenary Sessions 1
Sep.26 Wed.	17:30 ~ 19:00	Reception
	9:00 ~ 17:30	Workshop 1
	9:00 ~ 17:00	Workshop 2
	9:30 ~ 17:00	Workshop 3
Sep.27 Thu.	9:00 ~ 12:00	Workshop 1
	8:30 ~ 12:00	Workshop 2
	9:00 ~ 12:00	Workshop 3
		Workshop 4
	13:00 ~ 16:00	Plenary Sessions 2
		Closing remarks

B ackground

Monsoon Asian countries are blessed with natural resources for agriculture by the warm and seasonal humid climate, and can therefore sustain about 60% of the world's human population within only about 16% of the Earth's land surface. The dominance of rice cultivation and family-owned small-scale agriculture in this region has led to the development of agro-ecosystems with long-term sustainability of food production and biodiversity conservation. On the other hand, the agro-ecosystems in monsoon Asia have been intensively disturbed or managed by human activities for many centuries and are now suffering from rapid economic, social, and environmental changes. As a result, drastic deterioration of some of these ecosystems has been observed recently due to the combined effects of climate change, urbanization, pollution by toxic chemicals, or invasion by alien species. Therefore, it is imperative that the researchers, engineers, and administrative authorities of this region develop close international collaborations to meet the region's growing agricultural needs while harmonizing these human systems with the natural systems that support them.

To meet this requirement, the Monsoon Asia Agro-Environmental Research Consortium (MARCO) was organized through an agreement among the participants from 15 countries at an international symposium entitled "Evaluation and Effective Use of Environmental Resources for Sustainable Agriculture in Monsoon Asia: Toward International Research Collaboration".

The symposium was held from 12 to 14 December 2006 in Tsukuba, Japan. Since then, MARCO has promoted international collaboration to advance research on agricultural and environmental issues in monsoon Asia by hosting international symposia or workshops every year, setting up a Web site as a venue for exchanging information, and helping train the people who will carry on the activities proposed by the consortium.

The MARCO Symposium 2012 will provide a venue for exchanges about the current situation for various problems and the latest results of studies, and for discussing the direction of future research and ways to strengthen collaboration to meet agro-environmental challenges in monsoon Asia.

S ecretariat

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MARCO Symposium 2012

Strengthening Collaboration to meet
Agro-Environmental Challenges
in Monsoon Asia

2012.9/24_[mon]–27_[thu]

Epochal Tsukuba

(Tsukuba International Congress Hall)

Tsukuba, Japan

Organized by:

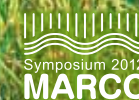
National Institute for Agro-Environmental Sciences (NIAES)

Monsoon Asia Agro-Environmental Research Consortium (MARCO)

Supported by:

Ministry of Agriculture, Forestry and Fisheries

College of Agriculture, Ibaraki University



[Excursion 1] Date: September 24, 9:00 – 17:00

- The rice-FACE experiment site at Tsukuba-mirai city
- An experimental field of the College of Agriculture, Ibaraki University, in Ami town
- Agro-environmental landscape at Tsukuba and surrounding area

[Plenary Sessions 1] Date: September 25, 10:00 – 17:00
Venue: Epochal Tsukuba, Convention Hall 200

Opening Ceremony

Keynote Lecture

Accommodating agricultural production, water resources and environmental services in Monsoon Asia with modeling approach

Changsheng Li [University of New Hampshire, USA]

Lectures

Is collaboration needed for the agro-environmental challenges in the climate change context?

Toshihiro Hasegawa [National Institute for Agro-Environmental Sciences, Japan]

Securing healthy soils for a growing population: the Global Soil Partnership

Ronald Vargas Rojas [Land and Water Division, FAO]

Nitrogen budget in China: Its agronomic benefit and environmental impacts

Xiaoyuan Yan and Chaopu Ti [Institute of Soil Science, Chinese Academy of Sciences, China]

Reduction of persistent organic pollutants (POPs) residue in cucurbits

Nobuyasu Seike and Takashi Otani [National Institute for Agro-Environmental Sciences, Japan]

Current and promising technologies to reduce the cadmium contamination in rice

Satoru Ishikawa, Tomoyuki Makino and Masaharu Mirakami [National Institute for Agro-Environmental Sciences, Japan]

Regulatory and development issues of genetically modified crops: Diverging world and its implications to monsoon Asia

Masashi Tachikawa [Ibaraki University, Japan]

Positive and negative relationships between agricultural activities and biodiversity in rice paddy landscapes of Japan

Hiroaki Ikeda and Shori Yamamoto [National Institute for Agro-Environmental Sciences, Japan]

Properties and management of damaged soil by the 2011 huge tsunami in eastern Japan

Masami Nanzyo [Tohoku University, Japan]

Radioactive contamination of Japanese agricultural soil and plant caused by the Fukushima nuclear accident

Ichiro Taniyama [National Institute for Agro-Environmental Sciences, Japan]

Reception Date: September 25, 17:30 - 19:00
Venue: Restaurant “ESPOIR”, 1st floor
inside the Tsukuba International Congress Center
Fee: 5000 yen

[Work Shop 1] Date: September 26, 9:00 – 17:30/September 27, 9:00 – 12:00
Venue: Epochal Tsukuba, Room 201

Agriculture and Climate Change in Monsoon Asia: Adaptation, Mitigation, and Forecast

Convener : Tsuneo Kuwagata and Tamon Fumoto, National Institute for Agro-Environmental Sciences, Japan

Agriculture in monsoon Asia faces growing challenges created by global climate change. Agriculture is not only susceptible to climate change, but also contributes to climate change by acting as a source for greenhouse gases (GHG). Variations in temperature and precipitation due to climate change will strongly influence agricultural crop and GHG production in monsoon Asia. Farmland in monsoon Asia is a major source of GHG emission (particularly methane and nitrous oxide) from the land into the atmosphere. To secure the food supply and the environment, adaptation to climate change and mitigation of GHG emission are therefore central themes for today’s agricultural science.

Undoubtedly, adaptation and mitigation strategies will be enhanced by regional predictions based on process-based modeling, remote sensing, and information technology. This workshop aims to promote exchanges and interactions among scientists related to recent research progress in these areas in monsoon Asia.

Organized by: National Institute for Agro-Environmental Sciences (NIAES)
Supported by: Strategic International Research Cooperative Program (SICP), JST-MOST
Green Network of Excellence - environmental information (GRENE-ei), MEXT

[Work Shop 2] Date: September 26, 9:00 – 17:00/September 27, 8:30 – 12:00
Venue: Epochal Tsukuba, Convention Hall 200

Biosafety and Issues Facing the Development of Genetically Modified Crops in Monsoon Asia: Current Status and Future Prospects

Convener : Kazuhito Matsuo, National Institute for Agro-Environmental Sciences, Japan

Asia has experienced the most conspicuous population growth in the world. Food security in this region is therefore an extremely important problem. To solve this problem, there has been an increasing tendency to introduce genetically modified (GM) crops both in domestic production and in imported food and feed crops, such as rice, soybean, and maize. In 2011, 16.7 million farm producers were growing GM crops in 160 million ha in 29 countries around the world. However, only five countries in monsoon Asia (China, the Philippines, India, Pakistan, and Myanmar) currently grow GM crops domestically, although GM crops are expected to soon make their appearance in many other countries of monsoon Asia. Each country has been improving its management and approval systems while making extensive research progress in developing GM crops and biosafety assessment. This workshop offers a place to exchange information on research, development and utilization of GM crops in monsoon Asia from various perspectives and using a range of strategies and tactics. In this workshop, we aim to develop a common recognition of the criteria for biosafety of GM crops in monsoon Asia through discussions of the current situation and future prospects for the utilization of GM crops. The following points will be emphasized:

1. What kinds of GM crops and traits are being studied?
2. What is the current situation for import and export of these crops and their domestic cultivation?
3. How can we assess the impact of GM crops on biodiversity from a biosafety perspective?

Organized by: National Institute for Agro-Environmental Sciences (NIAES)
Supported by: Research project for Genomics for Agricultural Innovation GAM
(GMO–Assessment/Management), MAFF

[Work Shop 3] Date: September 26, 9:30 – 17:00/September 27, 9:00 – 12:00
Venue: Epochal Tsukuba, Room 303

New Phase for the Development and Utilization of a Soil Information System in East Asia

Convener : Hiroshi Obara, National Institute for Agro-Environmental Sciences, Japan

MARCO and its members have become major providers and users of soil information in Asia, and are entering new era of constructing a regional and global soil information system. The Global Soil Partnership developed by FAO is enhancing the quantity and quality of global soil information with the goals of achieving food security and carbon sequestration, combating land degradation, and promoting climate-smart agriculture. The purposes of the workshop are to build a partnership that will lead to the launch of the Asia Soil Information Network, to exchange information on the current situation and on the problems related to soil information and soil carbon estimation in Monsoon Asia, and to utilize soil information for climate change mitigation.

Organized by: National Institute for Agro-Environmental Sciences (NIAES)
Supported by: The Food and Agriculture Organization of the United Nations (FAO)
Institute of Soil Science, Chinese Academy of Sciences
The Council on Soil Function Monitoring for Global Warming

[Work Shop 4] Date: September 27, 9:00 – 12:00
Venue: Epochal Tsukuba, Room 302

Possible Ways to Strengthen Collaboration to meet Agro-environmental Challenges in Monsoon Asia

Convener : Kazuyuki Yagi, National Institute for Agro-Environmental Sciences, Japan
Xiaoyuan Yan, Institute of Soil Science, Chinese Academy of Sciences, China

The Workshop 4 invites delegates from current and potential member institutions of MARCO for a round-table discussion. The topics of discussion are the current situation of the research issues for agriculture and the environment in monsoon Asia, the direction of future research for the issues, and ways to strengthen collaboration to meet agro-environmental challenges in monsoon Asia.

Organized by: National Institute for Agro-Environmental Sciences (NIAES)

[Plenary Sessions 2] Date: September 27, 13:00 – 16:00
Venue: Epochal Tsukuba, Convention Hall 200

- Reports from parallel and satellite workshops
- Wrap-up discussion on the direction of future research and ways to strengthen collaboration
- Closing remarks

