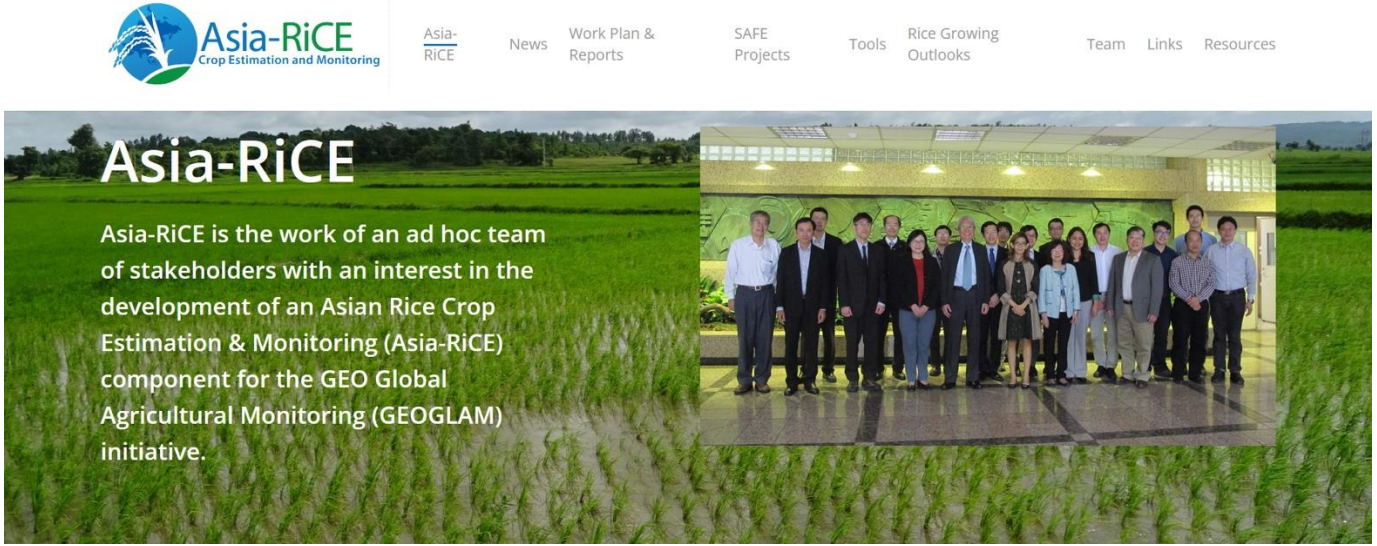
TG5: Agriculture and Food Security (Asia RiCE)
Activity report

AOGEO-16, Tokyo September 5, 2024

Thuy Le Toan (CESBIO), Shin-ichi Sobue (JAXA)



http://asia-rice.org/

Asia-RiCE: a component of GEOGLAM for Rice Monitoring

Strengthen the rice monitoring ability using EO for both **food security** and **sustainable agriculture**

http://asia-rice.org

Asia-RiCE
Crop Estimation and Monitoring

Lead: Dr. Shinichi Sobue (JAXA);
Vice-Leads: Dr. Thuy Le Toan (CESBIO/GlobEO), Dr. Kei Oyoshi (JAXA);

Team Members

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Thatheva Saphangthong (MAF, Lao
Thuy Le Toan (CESBIO/Globeo) *
Tsang-Sen Liu (TARI)
Yih Yeon Kim (Korea)
Yi-Ting Zhang (TARI)
Youg-Sin Cheng (NCU)

TG5 Asia-RiCE meeting at AOGEO 16

September 3, 2024 (15:40-18:30, Tokyo International Exchange Center Japan)

Co-chaired by Shin Ichi Sobue (JAXA) and Thuy Le Toan (CESBIO)

15:40- 16:20 Asia Rice team activity status report (Shinichi Sobue/Kei Oyoshi, JAXA)

16:20 -16:40 ESA/CNES activity for Asia Rice (Thuy Le Toan, CESBIO)

16:40 -17:00 CH4Rice and rice crop activity in Vietnam (Lam Dao Nguyen, VNSC)

17:00 -17:20 CH4Rice and rice crop activity in Indonesia (Parwati Sofan, BRIN)

17:20 -17:40 CH4Rice and rice crop activity in Thailand(Kanjana Koedkurang, GISTDA)

17:40 -18:00 Discussion and way forward including engagement with private company and promote global agenda contribution and emission trading with Earth Intelligence

18:10 -18:30 Wrap up and closing

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TG5 Asia-RiCE meeting at AOGEO 16

Meeting Objectives

1. To discuss EO for climate mitigation /adaptation of rice farming for food security and low carbon strategy in Asia-Oceania region. The focus is on the **reduction of methane emissions** by paddy fields
2. To initiate the **multi-lateral research network** in the region
3. To discuss with various stakeholders including **private sector**

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Summary of the TG5

I. Achievements

1. Rice monitoring in Asia-Oceania region

   Implement platforms for sharing of open data with standard format such as CEOS ARD and tools is being established in Asia-RiCE, contributing to improved agricultural statistics, agricultural policy making and beyond,

2. Multilateral network for agro-meteorological info and rice monitoring

   Provision improved agromet information and rice crop monitoring to Asia Ocean region and promote regional cooperation on data and information sharing using available platform and knowledge sharing.

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Summary of the TG5

II. Ongoing Issues

1. Provide earth intelligence using EO data with ground based data including automatic measurement by IoT for Asia-Rice,
2. Satellite based water monitoring in paddy fields - CH4Rice:
   Need to study water management of rice field (drainage –AWD Alternate Wetting and Drying) using remote sensing and ground based data, in order to reduce methane emission (CH4) from paddy fields,
3. Yield estimation and damage assessment:
   Need to assess damages caused by climate change including floods, droughts, salinity intrusion, subsidence etc. and rice yield estimation and forecasting by integrating remote sensing and models with weather forecast and climate predictions,
4. Derive adaptation and mitigation measures for stakeholders (e.g. using dashboard)

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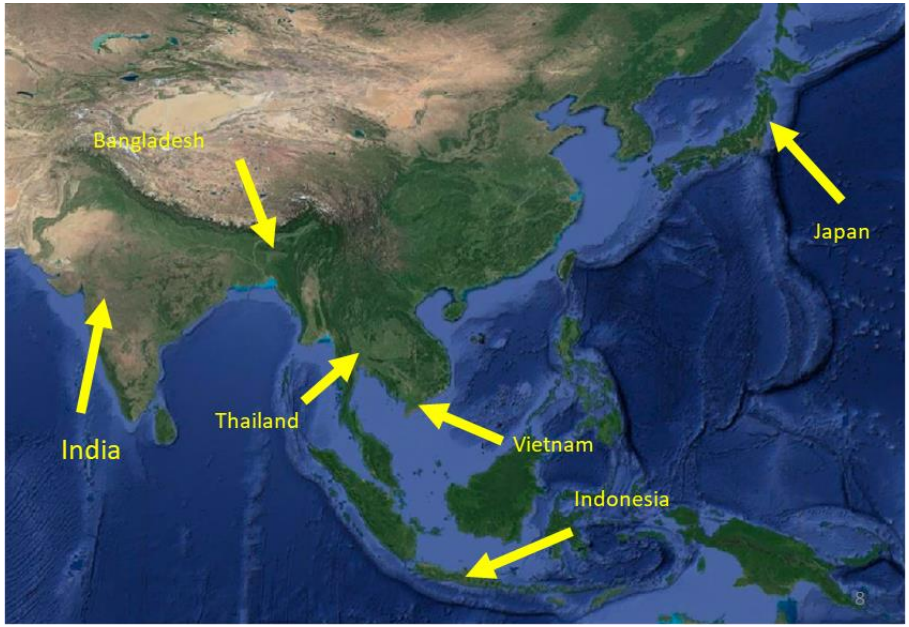
To initiate multi-lateral research network in the region

ALOS-2 PALSAR2 (L-band, Full-Pol SAR) observation
in-situ water-level/inundation measurement

Asia-RiCE Super Sites

BRIN Indonesia: Indramayu
GISTDA Thailand: Chainat, Suphan Buri
ISRO India: Nawagam
JAXA Japan: Miyagi, Miyagi, Akita, Niigata, Ibaraki
PhilSA Philippine: Bulacan
PUST Bangladesh: Rajshahi
VNSC Vietnam: An Giang, Bac Lieu

As of 09/05/2024



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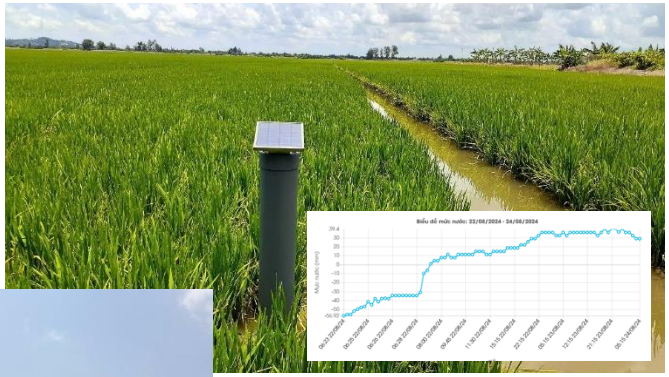
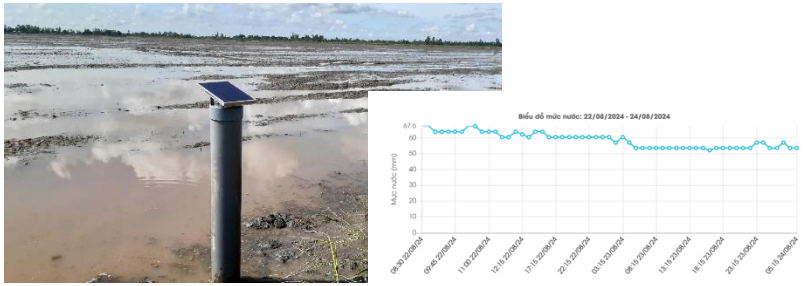
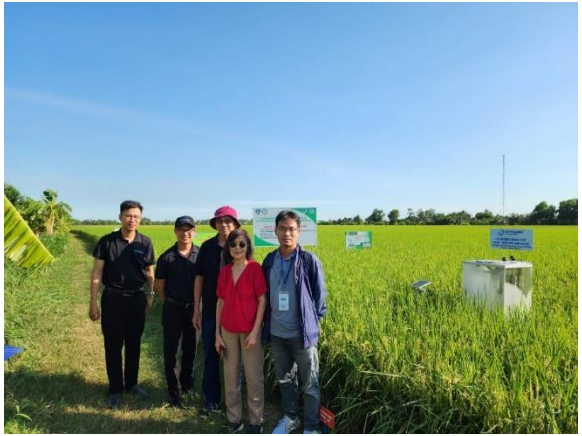
Automatic measurement of water level IoT implemented in Asia-RiCE countries: Vietnam, Thailand, Indonesia, Japan,..







Methane measurement chamber

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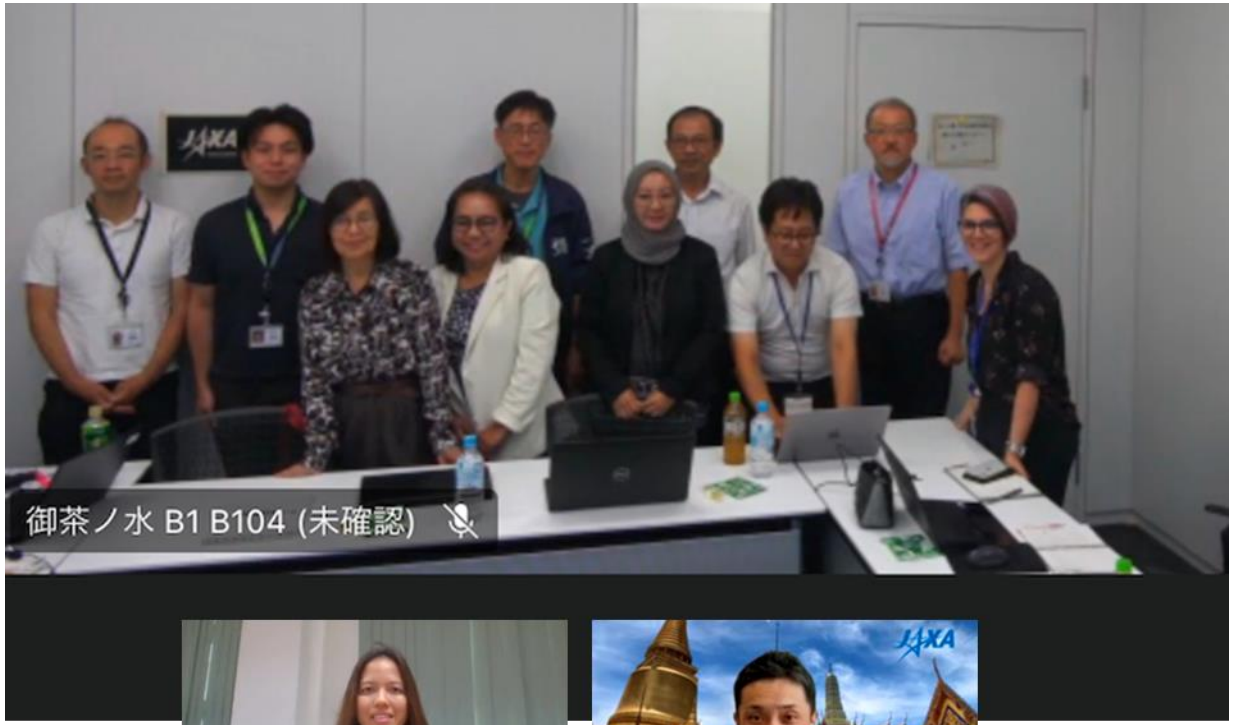
Working meeting on 04/09/2024



Summary of the TG5

III. Way forward for post-2025

1. To discuss EO for food security and climate adaptation/mitigation in Asia-Oceania region with ongoing issues described previously,
2. To seek international guidelines, especially for carbon trading regarding methane emission from paddy fields,
3. To strengthen cross comparison between different countries and sharing methodologies and validation results,
4. To promote collaboration with various stakeholders both public and private sectors for the operational use of these achievements,
5. To promote continuous capacity building, young researchers support and field survey using available funds such as international donors and governments etc.

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Capacity building and joint works in the rice fields

Thanks !