

02023 TARI-TLRI-TNDARES-NARO-FFTC Workshop  
**Developing Low-carbon Farming for Smallholders in the Asian and Pacific  
 Region: Options, Mitigation Potential and Challenges**

## Workshop Program

October 17-19, 2023

Hybrid Mode

Venue: GIS Taichung Xinwuri Convention Center  
 No. 26, Gaotie E. 1st Rd., Wuri Dist., Taichung City 414, Taiwan

Oct. 16, 2023 (Monday): Overseas Participants' Arrival Day

Oct. 17, 2023 (Tuesday), **09:00 – 17:20 (GMT+8) Workshop**

Time (GMT+8)	Topics and speakers
08:30 – 09:00	Onsite registration and online login
<b>Opening Ceremony</b>	
09:00 – 09:20	<b>Welcome Remarks</b> <i>Director General, Department of International Affairs, Ministry of Agriculture, Taiwan</i> <i>Dr. Kazuo Kyuma</i> <i>President, National Agriculture and Food Research Organization (NARO)</i> <i>Dr. Su-San Chang</i> <i>Director, Food and Fertilizer Technology Center for the Asian and Pacific Region (FFTC)</i>
	09:20 – 09:30
<b>Keynote Session</b> Moderator: Dr. Tomonari Watanabe, Deputy Director, FFTC	
09:30 – 10:10	<b>Keynote lecture 1</b> <i>Carbon and nitrogen management for climate-resilient crop production and SDG achievement</i> <b>Dr. Jagdish Kumar Ladha</b> Adjunct Professor at UC Davis, Former IRRI Principal Scientist, Science committee member of 4 per 1000, US
	10:10 – 10:50
10:50 – 11:10	Tea Break/ networking/ poster
<b>Session 1</b> <b>Reduce GHG emissions from crop fields and livestock</b> Moderator: Dr. Jeng-Fang Huang, Director General, TLRI	

11:10 – 11:40	<i>Reduction of greenhouse gas emissions from livestock waste treatment processes (online)</i> <b>Dr. Yasuyuki Fukumoto</b> Leader, Institute of Livestock and Grassland Science, NARO, Japan
11:40 – 12:10	<i>Reduction of GHG emissions and electricity production from farm-scale piggery wastewater treatment systems in Taiwan</i> <b>Dr. Hsing-Lung Lien</b> Professor, National University of Kaohsiung, Taiwan
12:10 – 13:00	Lunch break
<b>Session 1 (Continual.)</b> <b>Reduce GHG emissions from crop fields and livestock</b> <i>Moderator: Dr. Tsang-Sen Liu, Division Director, TARI</i>	
13:00 – 13:30	<i>GHG emission reduction in paddy rice production through AWD water management with a livestock biogas effluent</i> <b>Dr. Keiichi Hayashi</b> Program Director, Environment Program, JIRCAS, Japan
13:30 – 14:00	<i>Field crop output from Thailand and its perspectives on carbon capture and sequestration in agricultural land</i> <b>Dr. Natthapol Chittamart</b> Associate Professor, Kasetsart University, Thailand
14:00 – 14:30	<b>Poster presentations (2 min each)</b> <i>Moderator: Dr. Ray-Yu Yang, Food System Specialist, FFTC</i>
14:30 – 15:15	Tea break/ networking/ poster
<b>Session 2</b> <b>Increase Soil Carbon Sequestration</b> <i>Moderator: Dr. Hsu-Sheng Lur, Distinguished Professor, Department of Agronomy, NTU, Taiwan</i>	
15:15 – 15:45	<i>Evaluation of the soil organic carbon sequestration from long-term studies of cropping systems</i> <b>Dr. Yu-Wen Lin</b> Researcher, Taiwan Agricultural Research Institute, Taiwan
15:45 – 16:15	<i>Strategies in developing low carbon technologies toward sustainable agriculture (Online)</i> <b>Dr. Wahida Annisa Yusuf</b> Head, Indonesian Agricultural Environment Standardization Institute, Indonesian Agency for Agricultural Standardization, Indonesia
16:15 – 16:45	<i>Mitigation of greenhouse gas emissions and carbon sequestration for croplands: research cases in south Korea</i> <b>Dr. Sun-Il Lee</b> Agricultural Researcher, National Institute of Agricultural Sciences, RDA, Korea
16:45 – 17:15	<i>Assessment of inherent SOC sequestration potential: a key step in the recarbonization of soils</i> <b>Dr. Karen S. Bautista</b> Chief Science Research Specialist, the Bureau of Soils and Water Management (BSWM), the Philippines

17:15 – 17:25	The first-day wrap up <i>Dr. Tomonari Watanabe, Deputy Director, FFTC</i>
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Oct. 18, 2023 (Wednesday), **09:30 – 17:00 (GMT+8) Workshop**

Time (GMT+8)	Topics and speakers
<b>Keynote Session</b> <i>Moderator: Dr. Keiichi Hayashi, JIRCAS, Japan</i>	
09:30 – 10:10	<b>Keynote lecture 3</b> <i>Near real-time multi-stream multi-model digital soil carbon and GHG predictions: A step towards NetZero</i> <b>Dr. Jagadeesh Yeluripati</b> Senior Scientist (Ecosystem Modelling), Group Leader, Human and Environmental Modelling group, Information and Computational Sciences Department, The James Hutton Institute, UK
10:10 – 10:50	<b>Keynote lecture 4</b> <i>Challenges of promoting low-carbon farming in smallholder countries in the Asia-Pacific region - taking Taiwan as an example</i> <b>Dr. Tsang-Sen Liu</b> Director, Taiwan Agricultural Research Institute, Taiwan
10:50 – 11:10	Tea Break/ Networking/ Poster
<b>Session 3</b> <b>Smart agriculture toward net-zero with the focus on digital solutions</b> <i>Moderator: Dr. Karen S. Bautista, BSWM</i>	
11:10 – 11:40	<i>Monitoring and incentivizing of low-emissions rice farming (Online)</i> <b>Dr. Bjoern Ole Sander</b> Senior Scientist - Climate Change Specialist, Lead, Asian Mega-Deltas Initiative, IRRI c/o Agricultural Genetics Institute, Vietnam
11:40 – 12:10	<i>Reducing agricultural greenhouse gases – a New Zealand perspective</i> <b>Dr. Sinead Leahy</b> Principal Science Advisor, Grassland Research Centre, Agricultural Greenhouse Gas Research Centre, New Zealand
12:10 – 12:40	<i>Web-based visualization tool for agricultural C sequestration and GHG emissions</i> <b>Dr. Nobuko Katayanagi</b> Principal Scientist, Institute for Agro-Environmental Sciences, NARO, Japan
12:40 – 13:30	Lunch Break
<b>Session 4-1 Business models and success cases</b> <b>Approaches to increase farmers' incentives to adopt low-carbon practices</b> <i>Moderators: Dr. Yasuhito Shirato, Research Division leader, National Institute for Environmental Studies (NIAES) &amp; Dr. Su-San Chang, Director, FFTC</i>	
13:30 – 14:00	<i>"COOL VEGE®": Pioneering eco-brand for biochar soil carbon sequestration in the real world</i> <b>Dr. Ayaka Kishimoto-Mo</b> Principal Scientist, Institute for Agro-Environmental Sciences, NARO,

	Japan
14:00 – 14:30	<i>The decarbonized business model of circular agriculture</i> <b>Mr. Yen-Ming Chen</b> Hanbo Livestock & Farming Products Co., Ltd, Taiwan
14:30 – 15:00	Tea break/ networking/ poster
<b>4-2 Panel discussion</b> <b>Approaches to increase farmers' incentives to adopt low-carbon practices:</b> <i>Moderators: Dr. Yasuhito Shirato &amp; Dr. Su-San Chang</i>	
15:00 – 16:20	Challenges and solutions for building a business model that promotes the introduction of agriculture-related carbon credit calculations and low-carbon labeling into farm management (1) Dr. Lao-Dar Juang, Director General, Department of Resources Sustainability, MOA, Taiwan (2) Dr. Yu-Chu Chen, Deputy Director, TNDARES, Taiwan (3) Dr. Kenya Kuwahata, Principal Scientist, Development Strategy Center, NARO, Japan (4) Dr. Ayaka Kishimoto-Mo (5) Mr. Yen-Ming Chen (6) Dr. Sinead Leahy
16:20 – 16:30	Two days' wrap-up <i>Dr. Tomonari Watanabe, Deputy Director, FFTC</i>
16:30 – 16:40	<b>Closing ceremony</b> Dr. Lao-Dar Juang Director General, Department of Resources Sustainability, MOA, Taiwan Dr. Su-San Chang Director, FFTC

Oct. 19, 2023 (Thursday): Field Trip Day (Invited Only)

Time (GMT+8)	Topics and speakers	Note
09:00	Gather in the lobby of the National Hotel, Check out	
09:00-10:00	Transport to Nextland (良作工坊)	
10:00-11:30	Nextland (631 雲林縣大埤鄉豐田路 57 號)	
11:30-12:30	Transport to the restaurant (議蘆會館) for lunch	
12:30-13:30	Lunch time (41341 臺中市霧峰區中正路 734 號 民主議政園區內)	
13:30-13:40	Transport to Taiwan Agricultural Research Institute (TARI)	
13:40-15:40	Taiwan Agricultural Research Institute (TARI) (413 臺中市霧峰區中正路 189 號)	
15:40-15:50	Transport to Wu-Feng's Association Distillery	
15:50-16:30	Wu-Feng's Association Distillery (413 臺中市霧峰區中正路 345 號)	
16:30-16:50	Transport to Taichung HSR Station	

16:50-17:00	Drop off people who directly return to Taipei at Taichung HSR station	
17:00-19:00	Taichung HSR Station to City Suites Taoyuan Gateway	
19:00	City Suites Taoyuan Gateway (No. 442, Zhongzheng East Road, 337 Dayuan, Taiwan)	

Oct. 20, 2023 (Friday): Overseas Participants' Departure Day