



## PROJECT IMPLEMENTATION PLAN

Reference No.: 701

<b>Date of Issue</b>	24 September 2025
<b>Project Code</b>	24-RC-23-GE-COE-C-JP02
<b>Title</b>	Workshop on Meta-analysis of Soil Nitrous Oxide (N <sub>2</sub> O) Emissions and Carbon Credit Methodology for Biochar
<b>Timing</b>	10 November 2025–28 November 2025
<b>Hosting Country(ies)</b>	Japan
<b>Venue City(ies)</b>	Tsukuba and Sakura
<b>Modality</b>	Face-to-face
<b>Implementing Organization(s)</b>	National Agriculture and Food Research Organization and APO Secretariat
<b>Participating Country(ies)</b>	Bangladesh, Republic of China, India, Indonesia, Republic of Korea, Malaysia, Pakistan, Philippines, Thailand, and Vietnam
<b>Overseas Participants</b>	Not Applicable
<b>Local Participants</b>	Not Applicable
<b>Closing Date</b>	Not Applicable
<b>Remarks</b>	The project will comprise 10-day data analysis conducted by one APO-assigned RP and the chief RP from NARO from 10 to 21 November 2025, followed by a four-day workshop with up to 11 international RPs from 25 to 28 November 2025. There will be no participants in this workshop. Please refer to the details outlined in the Implementation Procedures.

<b>Objectives</b>	Address the pressing need for improved visualization and analytical tools for managing agricultural N <sub>2</sub> O emissions; build the capacity of APO members by enhancing their understanding of N <sub>2</sub> O emission mechanisms, meta-analysis, and impacts of various management practices; and equip participants with the knowledge and technical skills to effectively apply simulation tools.
<b>Rationale</b>	N <sub>2</sub> O is a potent greenhouse gas (GHG), and agricultural emissions vary widely across regions due to differences in climate, soil, and management practices. Yet national inventories often overlook this spatial heterogeneity, resulting in inaccurate estimates. Regionally focused meta-analyses that integrate peer-reviewed and gray literature are essential, particularly for Asian agricultural systems where diverse conditions strongly influence N <sub>2</sub> O dynamics. Improving accuracy requires collecting local data, analyzing it regionally, and applying advanced visualization tools. Equally important is training international experts to effectively use models and data, thereby strengthening GHG reporting and supporting more targeted mitigation strategies.
<b>Background</b>	Launched in 2023, the APO COE on Climate-smart Agriculture (CSA) hosted by the National Agriculture and Food Research Organization (NARO), Japan set among its first objectives the visualization of agricultural GHG emissions and the strengthening of APO members' capacity to design and implement effective mitigation strategies. In 2024, efforts centered on CO <sub>2</sub> , with a focus on soil carbon sequestration modeling, yielding significant progress in knowledge and capacity building. For 2025, the COE on CSA will address N <sub>2</sub> O, a major GHG predominantly from agriculture. A pilot project will include a workshop on meta-analysis of soil N <sub>2</sub> O emissions and biochar carbon credit methodology to evaluate model performance regionally. India, a major N <sub>2</sub> O emitter with extensive available data, was selected as the focus country.
<b>Topics</b>	Overview of the current situation regarding soil N <sub>2</sub> O emissions from the agricultural sector of each country; Hands-on sessions on setting up and using the visualization tool; Data meta-analysis and interpretation; Discussion on integration of the model at the regional level and further R&D needs; Update on the soil carbon visualization and carbon credit methodologies for biochar; and Agricultural residue burning in each participating APO member.
<b>Outcome</b>	Capacity to understand the mechanisms of agricultural soil N <sub>2</sub> O emissions and to quantify the impacts of related management practices are enhanced; participants gain the knowledge and skills necessary to effectively apply N <sub>2</sub> O emission models for regional-scale assessment, meta-analysis, and management; and national inventory methodologies are refined by providing region-specific emission factors and enhancing the overall accuracy of GHG reporting.
<b>Qualifications</b>	Researchers with expertise in CSA technologies and soil N <sub>2</sub> O emission and international resource persons involved in the COE on CSA's previous projects committed to pre- and postworkshop data collection, preparation, and analysis.

Please refer to the implementation procedures circulated with this document for further details.

A handwritten signature in black ink, appearing to be 'Indra Pradana Singawinata', written in a cursive style.

Dr. Indra Pradana Singawinata  
Secretary-General