

ASEAN-Japan MIDORI Cooperation Plan Progress report

6th August 2024

Ministry of Agriculture, Forestry and Fisheries of JAPAN

1. ASEAN-Japan MIDORI Cooperation Plan

Characteristics of Asia-Monsoon region's agriculture



- hot and humid
- high proportion of small and medium farmers
- paddy field farming



Asian countries' own best-fit method for mitigation

No "One size fits all" Solution

ASEAN-Japan MIDORI Cooperation Plan

- Japan's experiences: **INNOVATION** through R&D, human resources development and other policy measures
 - Based on Japan's experiences, each country selects **the most appropriate technical cooperation**
 - **building resilient and sustainable agriculture and food systems**

- contribute to **food security and sustainability in the ASEAN region**
- disseminate to the world as an **initiative of the Asia-Monsoon region**

2. ASEAN-Japan MIDORI Cooperation Plan Progress Sheet (as of 7 Aug. 2024)

(ANNEX 2)	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam	All/ several AMS
i) Development, demonstration and dissemination of technologies for building resilient and sustainable agriculture and food systems through innovation, such as technologies enhancing smart/digital agriculture, circular economy, biomass energy ,reducing Green House Gas (GHG) emission and Integrated Pest Management (IPM)											
1 Contributing to the reduction of fertilizers through automatic plotting technology and soil diagnosis of farmland using satellite data.			◇				○		☆		
2 Contributing to increase of productivity and reduction of labor hours through automatic steering technology									○		
3 Launch of a Project on Joint Crediting Mechanism (JCM) to promote climate change mitigation in agriculture (JAPAN-MAFF funded ADB project)							○			○	
4 Promotion on climate change adaptation and mitigation measures through agricultural and rural development in the Asian Monsoon region		○		○						○	
5 Promotion on smart irrigation system technology for fruit trees									○		
6 ASEAN-JICA capacity building project on IUU fishing countermeasures in Southeast Asia											◇
7 Establishing the basic MRV environment to scale up GHG reduction, as well as stakeholder coordination to scale up actions on the ground											◇
8 Reducing GHG originating from livestock sector through optimized feeding by introducing livestock information management system										○	
9 Providing crop and other information using satellite data and agricultural machine that contribute to establishing effective MRV systems		○									
10 Introducing agroforestry practices in coffee production that contribute to increasing profitability of local farmers while preventing deforestation				○							
11 Projects on GHG emission reduction											◇

◇: preparation/ implementation of seminars, etc.

○: preparation/ implementation of local demonstrations, etc.

☆: preparation/ implementation of dissemination to other AMS

◎: completion of the Project

■ : given priority by AMS

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(ANNEX 2)		Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam	All/ several AMS
12	Projects on GHG emission reduction and biomass utilization											◇
13	Projects on GHG emission reduction and fertilizer reduction											◇
14	Projects on climate disaster mitigation											◇
15	Projects on chemical pesticide reduction											◇
16	Projects on labor productivity enhancement											◇
17	Projects on resource management/labor and productivity											◇
18	Projects on food loss reduction											◇
ii) Human resource development for building resilient and sustainable agriculture, forestry and food systems												
19	Japan-MAFF (Forestry Agency) funded ITTO project on sustainable wood use promotion in timber producing countries					◇						
20	Activities to establish circular agriculture through public-private partnerships to train trainers to teach cultivation techniques and to utilize food residues as fertilizer.									○		
21	Capacity building activities of durian farmers in collaboration with local cooperatives					○						
iii) Other supports for the implementation of the ASEAN Regional Guidelines for Resilient and Sustainable Agriculture and in ASEAN												
22	ASEAN-JICA food value chain development project											◇

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3-1. Cooperation Project (#1)

● Contributing to the reduction of fertilizers through automatic plotting technology and soil diagnosis of farmland using satellite data

(1) Overview of technology

- Automatically plotting farmland borders by AI using satellite images.
- Based on the plotting results, diagnosing soil conditions and evaluating crop growth of each farmland compartment.

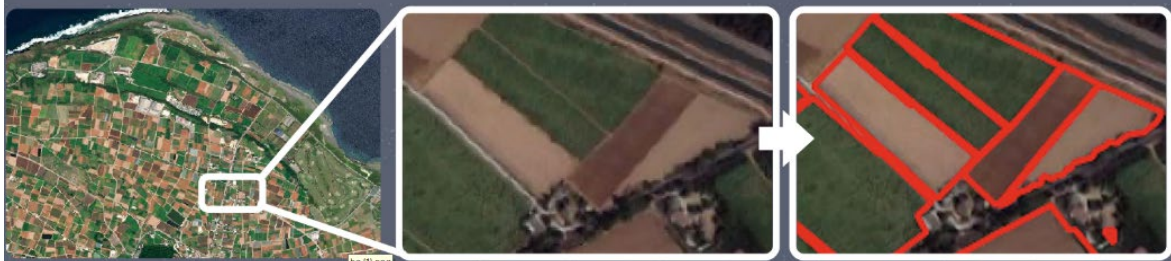
(2) Expected effect

- Able to implement soil diagnosis etc. easily and accurately.
- Contributing to both sustainable production and higher farm income through reducing application of fertilizers.

(3) Progress

- Thailand: In cooperation with Kasetsart University, the volume of estimated GHG reductions through optimization of fertilizer application were calculated, and demonstration results were released and disseminated in February.
- Philippines: Based on the demonstration results in Thailand, the demonstration project is scheduled to be started in this JFY.
- Indonesia: the site is being identified for future demonstration.

Identify farmland plots from satellite images and measure the area



Soil diagnosis by satellite images



3-2. Cooperation Project (#2)

- **Contributing to increase of productivity and reduction of labor hours through automatic steering technology**

(1) Overview of technology

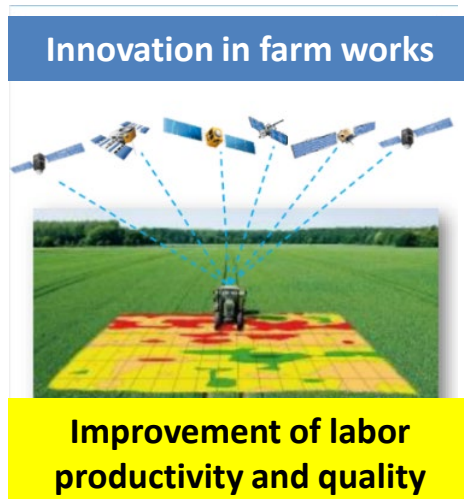
- Operating tractors automatically and accurately (error range : 2 to 3 cm) by the cutting-edge steering system (consisting of a motor steering wheel, GPS, etc.).
- Able to attach the steering system to all kinds of tractors including existing tractors.

(2) Expected effect

- Increasing yields and reducing labor hours, seedlings and other costs through enhanced efficiency of farmwork in small plots
- Low-cost automatic steering tractors for everyone

(3) Progress

- Thailand: Following the demonstration in rice paddies in Suphanburi Province, the demonstration in sugar cane fields started in the same province in April.

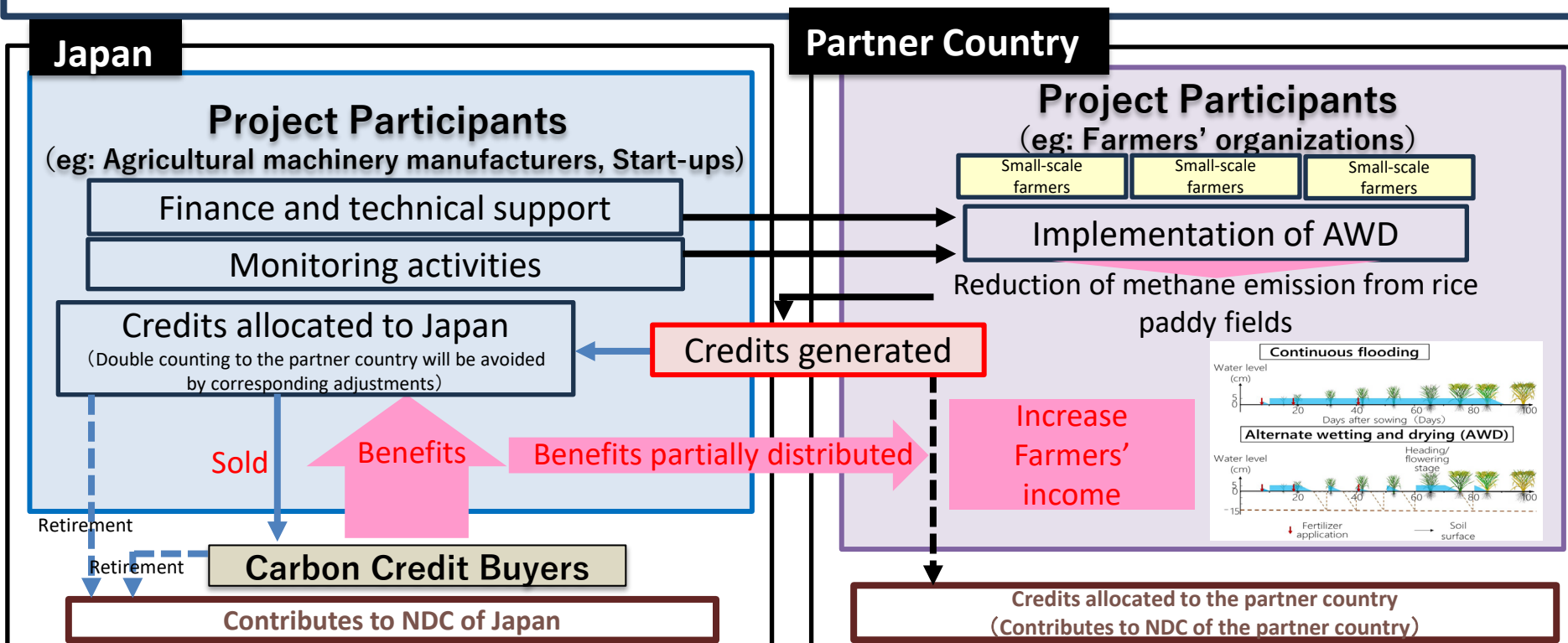


3-3. Cooperation Project (#3)

- Launch of a project on Joint Crediting Mechanism (JCM) to promote climate change mitigation in agriculture

Joint Crediting Mechanism (JCM) in the Agricultural Sector

- Japanese private companies support the implementation of Alternate Wetting and Drying (AWD) in partner countries in accordance with their registered projects.
- This results in both the reduction of greenhouse gas (GHG) emissions and the increase in farmers' incomes in the partner countries. This contributes to the achievement of reduction targets (NDCs) under the Paris Agreement in both countries.



Credit retirement: The process of permanently removing a carbon credit from circulation after it has been used to offset/neutralize emissions. This action finalizes the offsetting process, ensuring that the credit cannot be reused or claimed by another entity.

3-3. Cooperation Project (#3)

I. Objective

- Introducing a JCM in accordance with the Article 6.2 of the Paris agreement, this project, in collaboration with the Asian Development Bank (ADB), aims to develop a methodology to formulate and implement a concrete JCM project with reliable and transparent carbon credits and contributes to reducing GHG emissions and increasing farmers' incomes.

II. Activities

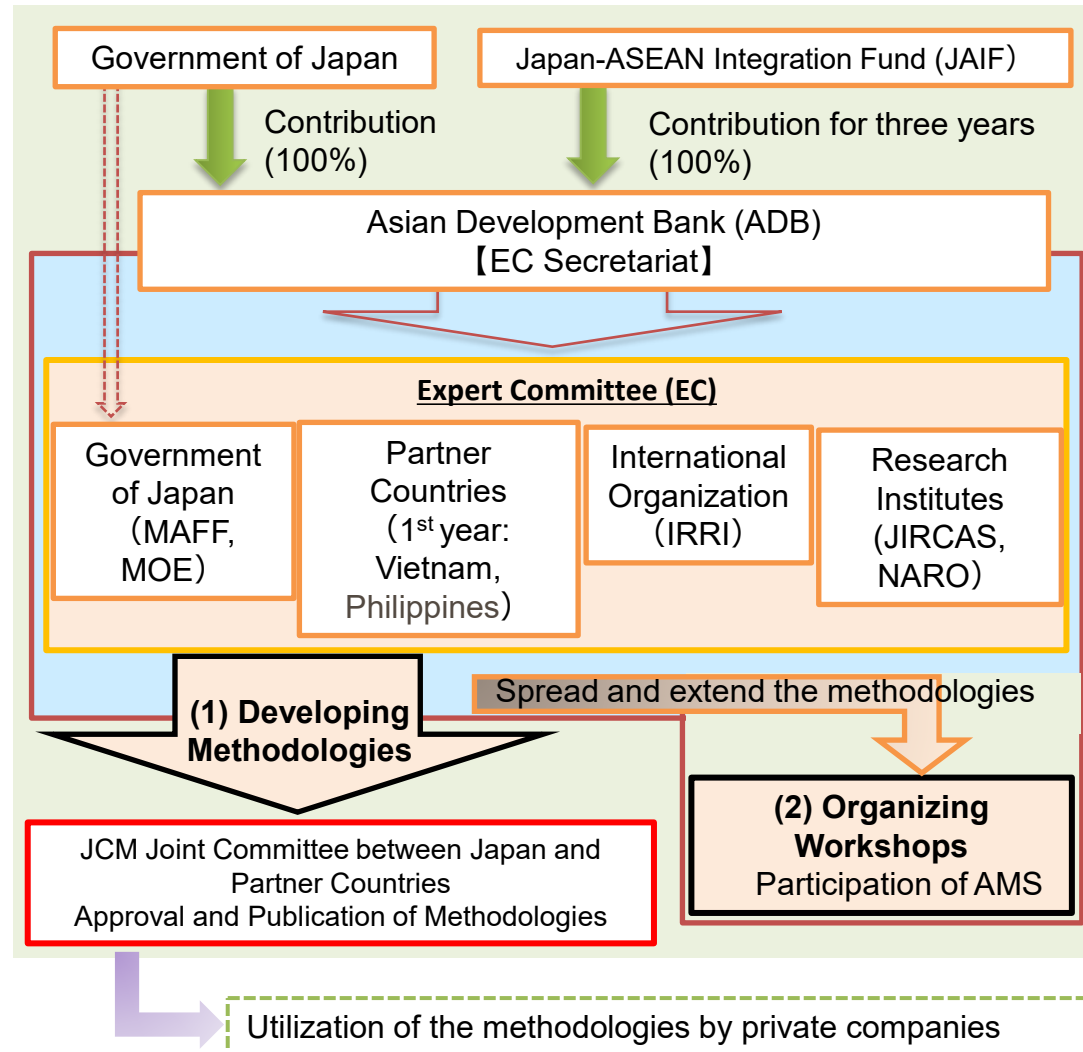
- In 2024, ADB serving as a secretariat with MAFF Japan, established an Expert Committee consisting of experts from partner countries, the Government of Japan, international organizations and research institutes.
- A draft JCM methodology for Alternate Wetting and Drying (AWD) in the Philippines was completed in June 2024. Subsequently, the methodology in Vietnam is currently under review.
- In the 2nd year in 2025 the EC will work with the other different partner countries (to be determined).

III. Period

- 2023 – 2026

IV. Participating countries

- ASEAN member states etc. (AMS)



3-4. Cooperation Project (#4)

● Promotion on climate change adaption and mitigation measures through agricultural and rural development in the Asian Monsoon region

(1) Overview of technology

- Introducing advanced agricultural water management such as AWD using ICT-based water management.
- Improving rainwater storage in paddy fields by installing runoff adjustment outlets as "Paddy Field Dam".

(2) Expected effect

- AWD reduces GHG emissions from paddy fields.
- ICT-based water management reduces agricultural labor and water usage.
- "Paddy Field Dam" reduces flood damage in downstream areas.

(3) Progress

- The following demonstrations are scheduled to start later this year:

- **Cambodia** (Kampong Chhnang Province)

(i) AWD using ICT-based water management

(ii) "Paddy Field Dam" by installing runoff adjustment outlets

- **Lao PDR** (Vientiane City)

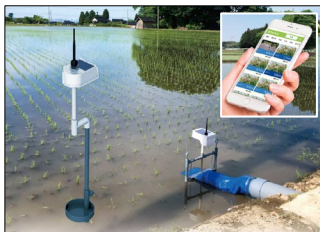
(i) AWD using irrigation faucet with a float valve

(ii) "Paddy Field Dam" by installing runoff adjustment outlets

- **Viet Nam** (Hai Phong City)

(i) AWD using ICT-based water management

(ii) Underground drainage improvement using "Cut Drain"



ICT-based Water Management system

