

Climate-Resilient Agriculture and Low-Carbon Food Systems in the ASEAN Region

2nd Expert Committee Meeting Technical Implications for AWD Methodology Development

1. Opening

Dr. Hideki Hagiwara, Deputy Assistant Minister, the Ministry of Agriculture, Forestry and Fisheries of Japan gave the opening remarks and emphasized that this project is one of the major activities under the Strategy for Sustainable Food Systems, MIDORI. Dr. Hagiwara summarized the findings of the first Expert Committee (EC), which concluded that the project combining alternate wetting and drying (AWD) technique with a carbon crediting mechanism in accordance with Article 6.2 of the Paris Agreement, is one of the most promising ways to enhance greenhouse gas emission reductions while increasing farmers' incomes. He also emphasized that the second EC will focus on conducting interviews with a wide range of stakeholders, including AWD project developers and carbon credit buyers, in order to develop a credible methodology for AWD.

2. Interview of private companies and discussion

The interviews were conducted with five different stakeholders which are implementing or planning to implement AWD projects and carbon credit buyers. Each participant first presented the activity and the EC members then conducted interviews, from the point of view of developing a reliable methodology, in order to draw implications from practical experience to reflect on the AWD methodology to be developed.

The issues discussed at the second EC can be categorized as the following section 3 to 6.

3. Overall issues

3.1. Practicality

- Accurate methodologies for accounting emission reductions are necessary for the credibility of credits, while accuracy must be balanced with practicality for the methodologies to be usable on the ground.

3.2. Credibility and Price

- In Japan, many companies have recently pledged to become carbon neutral, however, the time available to achieve this is limited. One promising way to help these companies is through the use of carbon credits, but effective credits are not available on the market

in sufficient volume. Those companies are seeking credits that can be used globally.

- It is difficult to set an acceptable price range as carbon tax and other factors affect it, however, in general, removal credits are traded at a higher price than that of emission reduction credits. Credibility is the key.
- Under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), international airlines are required to meet offsetting requirements. The carbon credits that aviation companies are required are CORSIA eligible emission units with corresponding adjustments to avoid double counting. The credits must also be credible and within a reasonable price range.
- As for the Joint Crediting Mechanism (JCM), which is not yet CORSIA compliant, the generation of CORSIA eligible credits has been long awaited and would lead to huge demands.

3.3. Combining similar methodologies

- As there are similar methodologies for AWD, someone should combine them into a combined methodology to avoid confusion. In this case, it is important to decide who will be the proponent of such a methodology.

4. Eligibility criteria

4.1. Irrigation management

- If a project site is covered by a host country irrigation system, independent water management to implement AWD is difficult and should be considered.

4.2. Treatment of straw

- Since straw is carbon neutral and can be a source of nutrients, straw burning should be allowed at the project site. For the first methodology, straw management should be out of scope of a methodology for AWD to develop a simpler one.

5. Baseline

5.1. Baseline setting

- Evidence of baseline practice can be a representative survey of the geographic region covering the project area or data provided by the government.
- To establish a baseline from control plots, the methodology needs to provide instructions to project participants on how many chambers should be installed on the ground.
- The methodology needs to be developed in a way to ensure that the data sampled is representative of the project site.

- Prior to project implementation, the baseline conditions, including farmers' water management, need to be checked to compare the reduction rate in the project case.
- Baseline control plots with similar characteristics and species diversity, 10-20 m² in size, are maintained to compare baseline emissions with project emissions.
- In the Philippines, baseline studies are conducted every 2-3 years and can be shared with methodology developers.

5.2. Additionality

- If a project site is covered by an irrigation system with AWD, the project may not be perceived as additional.

5.2.1. Boundary

- During the project period, fields that have not been previously cultivated for some time may start growing rice or other crops. This may be influenced by the water savings realized by the project, but also by other external factors such as changes in precipitation and improvements in irrigation services.

6. Monitoring

6.1. Measurement method

6.1.1. Direct measurement and sampling

- Since monitoring requirements such as frequency and number of plots to measure methane and N₂O emissions can become barriers to project implementation, a degree of flexibility should be allowed (e.g., flexibility for direct measurement from the second year of project implementation).
- Since many companies require emission reductions to be calculated on the basis of direct measurement method, methodologies should be defined and data collection carried out by research institutions.
- Measuring methane requires expensive equipment, and the number of institutions that can provide measurement with such equipment is limited. Improving the supply of measurement equipment will contribute to the expansion of projects.
- Project fields must be stratified at least by water regime prior to cultivation and organic amendment. For each stratum of project rice fields, at least 2 baseline reference fields and 2 project reference fields shall be identified. The baseline reference field for a stratum shall be managed in the same way as all the fields in that stratum, except for the water management during cultivation.
- For proper monitoring, the sample size for data collection needs to be considered, taking

into account the geographical conditions, site fragmentation, etc.

- The number of samples collected should be consulted with statisticians and the result derived from the sampling should be statistically significant. From the study in the Philippines, 3 samples per site are needed for the data to be statistically significant.
- For practical reasons, a methodology developer wants to reduce the number of samples from 3 to 2 by stratification.

6.1.2. Measurement using satellite data

- To protect project integrity from greenwashing, the use of monitoring technologies such as satellite data or drone footage should be considered for the future.
- Satellite data can be used for CH₄ but may be difficult for CO₂ because the soil organic carbon levels vary from site to site. The other issue with using satellite data is the higher cost.

7. Way forward

Mr. Tatsushi Hemmi, a member of the EC Secretariat, gave a presentation on the summary of the second EC meeting and the way forward. After summarizing the second EC meeting, he stressed the need to develop a credible methodology for AWD at an early stage and the importance of starting with a simpler methodology that can be improved with experience and technology gained on the ground.

8. Conclusion

Dr. Kazuko Ogasahara, Senior Natural Resources and Agriculture Specialist, Asian Development Bank (ADB), gave the closing remarks and closed the meeting.