Public Inputs: BD_PM006 "Methane Emission Reduction by Water Management in Rice Paddy Fields in Bogura District and Joypurhat District" (Bangladesh)

From 8 April to 22 April 2026

Input #1

Name	Morshed Hossain
Affiliated Organization	
Country	

Regarding the BD_PM006 proposal, we noticed the methodology is currently limited to the Bogura and Joypurhat districts.

To maximize the utility of this framework, it would be highly beneficial to include other areas with similar soil types and rice varieties (such as Boro). Expanding the scope now would avoid the need for separate methodologies later, significantly saving time, cost, and resources for future projects.

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Input #2

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- Part of the document (Cover sheet/A/B/C/etc): Appendix C, Section 4

- Page of the document: from 29

- Comment on the page (including justification of the change):

We thank the methodology proponents and the Joint Committee for advancing this proposal.

The methodology provides a sound operational basis for AWD-based methane mitigation in Bangladesh, and we welcome in particular the provision in Appendix C, Section 4, which already recognizes remote sensing as a potential option for monitoring water existence (>0 cm) and non-existence (≤0 cm), subject to demonstrated accuracy and reliability.

From recent peer-reviewed literature, we have confirmed a solid degree of feasibility in using Synthetic Aperture Radar (SAR) analysis to identify paddy flooding status above or below the soil surface.

Relevant findings include:

- Arai et al. (2018) demonstrated the capability of L-band SAR to monitor heterogeneous field inundation status at high spatial resolution in the Mekong Delta, including under cloud cover and rice canopy.[1]
- Rahmi et al. (2025) established SAR-based inundation thresholds validated against in-situ IoT water-level sensors in Indonesian AWD paddies, and integrated the results into IPCC-compliant CH4 emission estimation.[2]
- Segami et al. (2025) characterized the influence of planting geometry, incidence angle, and observation direction on L-band backscatter from paddy fields, providing a physical basis for robust inundation classification.[3]
- Segami et al. (2026) reported inundation/non-inundation classification accuracies of up to 88% using full-polarimetric L-band SAR, and explicitly noted the relevance of the results to carbon-credit verification.[4]

Together, these studies indicate that SAR analysis can credibly support the binary water-level determination central to this methodology.

In light of the existing provision in Appendix C, and with the aim of strengthening the long-term scalability and MRV efficiency of the methodology, we would respectfully like to ask:

Would the Joint Committee and the proponents be open to officially considering SAR-based analysis as a supplementary or complementary data source to the physical pipe water-level observations currently specified for confirmation of drainage?

We would also welcome guidance on:

A transparent pathway by which proponents could demonstrate "sufficient accuracy and reliability" to independent experts;

The possibility of keeping the methodology's language on remote sensing technologically neutral, referring broadly to SAR data and analysis techniques, so it remains robust as the global SAR observation capacity continues to expand.

We view SAR-based monitoring as complementary data that can enhance the reliability and scalability of AWD crediting under the JCM, to the benefit of farmers, project developers, and verifiers alike. We would be pleased to engage in further technical discussion as appropriate.

References

Arai, Hironori, et al. "Estimation of methane emissions from rice paddies in the Mekong Delta based on land surface dynamics characterization with remote sensing." Remote Sensing 10.9 (2018): 1438.

Rahmi, Khalifah Insan Nur, et al. "Utilization of Multisensor Satellite Data for Developing Spatial Distribution of Methane Emission on Rice Paddy Field in Subang, West Java." Remote Sensing 17.13 (2025): 2154.

Segami, Go, et al. "Planting and Observation Geometry Effects on L-Band SAR for Water Management Monitoring in Paddy Fields." IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing 18 (2025): 28234-28245.

Segami, Go, et al. "Characterizing L-Band Backscatter in Inundated and Non-Inundated Rice Paddies for Water Management Monitoring." Remote Sensing 18.2 (2026): 370.