

Milestone carbon credit methodology for rice launched with help from IRRI

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Gold Standard, the global climate security and sustainable development organization has launched a new carbon credit methodology for reducing greenhouse gas emissions in rice cultivation. Developed with inputs from the International Rice Research Institute (IRRI), this new methodology, can help farmers reduce emissions from rice fields, as well as open a new source of income from the sale of carbon credits, incentivizing sustainable rice farming.

Globally, rice cultivation is responsible for around 10% of total man-made emissions of methane, a potent greenhouse gas. Most of these emissions are produced by bacteria in the soil of flooded rice paddies and not by the rice plants themselves. Research and trials have shown that reducing and managing water use can significantly reduce emissions of methane from rice fields by as much as 50%.

The *Methodology for "Methane Emission Reduction by Adjusted Water Management Practice In Rice Cultivation"* comprises instructions to estimate baseline and project emissions, as well as monitoring guidelines and requirements for stratification of reference and project fields. Building on recent efforts to scale carbon market access for smallholder farmers, this methodology can be applied to large, small, or micro-scale projects globally, and can provide a cost-effective, accessible, and practical pathway for smallholder farmers to monetize emissions reductions through carbon credits, increasing the likelihood of achieving carbon reduction outcomes at scale.

Key IRRI scientists involved include climate specialists Dr. Bjoern Ole Sander, Dr. Katherine Nelson, and Dr. Reiner Wassmann. They contributed technical inputs, particularly on the stratification categories that enable grouping based on patterns of cultivation conditions. This improvement addresses an important concern from the global community of the lack of guidance for field stratification that was not included in the previous methodology. Additionally, this new methodology also accounts for changes in nitrous oxide emissions.

“This new methodology improves on some shortcomings of a previous methodology, and can be used from now on to register low-carbon rice farming projects in irrigated rice areas around the globe,” said Dr. Sander. “For this to be effective, it will be important to ensure that rice farmers get a fair share of the carbon credit proceeds.”

Interventions and technologies mentioned in the methodology mitigate anaerobic decomposition of organic matter in rice-cropping soils, particularly through water management. These include: changing the water regime during the cultivation period from continuously to intermittently flooded conditions; a shortened period of flooded conditions; using the alternate wetting and drying method; adopting aerobic rice cultivation methods; and switching from transplanted to direct-seeded rice (DSR).

The methodology was developed as part of a Gold Standard - IRRI partnership funded by the Australian Department of Foreign Affairs and Trade through its Business Partnerships Platform. The German Corporation for International Cooperation (GIZ) provided co-funding and the Eurecat Centre Tecnològic de Catalunya provided additional technical inputs.