

Lok Ta Dambong Kra Nhoung

The Man behind the
City of Lost Stick

ARDB ACE-GFA MONTHLY BULLETIN

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ARDB ACE-GFA

The APRACA Center of Excellence – Green Finance to Agriculture (ARDB ACE-GFA), established within the Agricultural and Rural Development Bank (ARDB), serves as a regional platform for promoting green finance and sustainable agricultural development. The Center aims to strengthen financial innovation, knowledge sharing, and capacity building to support investments in climate-smart agriculture, renewable energy, and other environmentally sustainable initiatives. Through collaboration with regional and international partners, ARDB ACE-GFA seeks to expand access to green financing while contributing to Cambodia's green growth and climate resilience objectives.

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1-ABOUT AWD RICE PROJECT BATTAMBANG | CAMBODIA

Rice is one of Cambodia's most important agricultural commodities, contributing to the national economy, food security, and rural livelihoods. For many farming households, rice cultivation is a key source of income and employment. However, conventional practices, particularly the continuous flooding of irrigated fields, contribute significantly to methane emissions while requiring large volumes of irrigation water. This creates a key challenge for Cambodia's rice sector: increasing productivity and improving farmers' incomes while reducing greenhouse-gas emissions and enhancing water-use efficiency.

Alternate Wetting and Drying (AWD) offers a potential approach by allowing rice fields to dry periodically before irrigation, rather than maintaining continuous flooding. This bulletin highlights a field case implemented by Thanks Carbon in Battambang, Cambodia, exploring AWD's potential to reduce methane emissions, improve water efficiency, and support more sustainable rice production.

MY FAVORITE SHOTS FROM
Battambang
City



Asia-Pacific Rural and Agricultural
Credit Association (APRACA)



អង្គការអភិវឌ្ឍន៍ជនបទ និងកសិកម្ម
AGRICULTURAL AND RURAL DEVELOPMENT BANK
ដើម្បីកសិករនិងអភិវឌ្ឍន៍សេដ្ឋកិច្ចសង្គម



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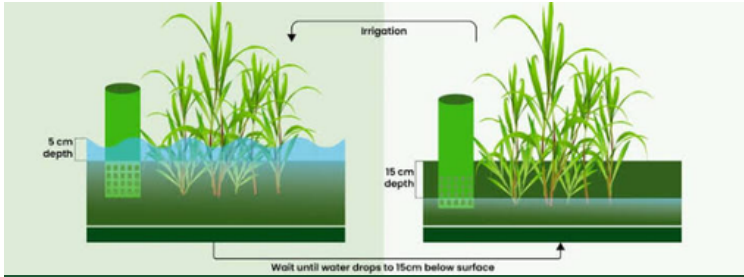


YouTube



2-PROOF OF CONCEPT | THANSCARBON'S MODEL

LOW-CARBON RICE PRODUCTION AWD BATTAMBANG | CAMBODIA



AWD, the field water level is allowed to fall below the soil surface for a controlled period before irrigation is reapplied, rather than keeping paddies permanently flooded. By periodically introducing aerobic (oxygenated) conditions into the soil, AWD interrupts the anaerobic decomposition responsible for methane formation while reducing the number of irrigation events. Thanks Carbon reports that applying AWD draining the field two to three times during the growing season can reduce methane emissions by up to 40% and cut water usage by up to 28% relative to continuous flooding. Improved water and rice-management practices are therefore directly relevant to both climate-change mitigation rice farming is a material methane source and agricultural resilience, through lower irrigation demand and reduced exposure to waterlogging. Thanks Carbon frames AWD not as a stand-alone emissions project but as an entry point for upgrading the wider rice value chain.

PROOF OF CONCEPT | LOW-CARBON RICE THANKSCARBON

ThanksCarbon implemented an AWD rice pilot in Battambang Province in partnership with Cambodia's General Directorate of Agriculture (GDA) and the Royal University of Agriculture (RUA), comparing AWD plots against conventional, continuously-flooded farmer practice.



Categories	Reported by Thanks Carbon
Location	Battambang Province, Cambodia (Sangke District irrigation scheme)
Project period	October 2024 – February 2025
Project partners	ThanksCarbon, with the General Directorate of Agriculture (GDA / MAFF) and the Royal University of Agriculture (RUA)
Project area	29.63 ha of AWD rice fields across participating farmer plots
Agricultural practice introduced	Alternate Wetting and Drying (AWD) — controlled drainage during the season, then re-irrigation, replacing permanent flooding
How AWD was implemented	Field water managed on a drain–irrigate schedule; adoption and water status verified digitally by satellite and field data rather than by continuous on-site inspection.
Comparison basis	AWD plots benchmarked against conventional continuously-flooded farmer-practice plots

Alongside the field intervention, Thanks Carbon deployed its digital monitoring stack Aqua Sight (satellite / AI water-management detection), Field Sense (project-area mapping) and the Heimdall field-data appto document that AWD was actually practised and to prepare the data needed for emission-reduction accounting.

The outcomes reported by Thanks Carbon from the Battambang pilot are summarized below. These are the company's reported results; comparisons with conventional practice reflect the AWD vs. farmer-practice benchmark used in the pilot.

+13.9%

HIGHER RICE YIELD VS. CONVENTIONAL

111.5

TCO₂e REDUCED ACROSS 29.63 HA

-97%

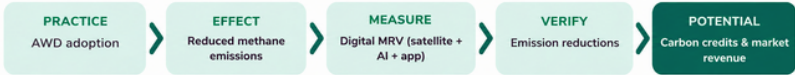
VERIFICATION (MRV) COST VIA DIGITAL MRV

99.6%

PROJECT-AREA MAPPING ACCURACY (FIELDSense)

Dimension	Conventional	AWD
Methane / GHG emissions	Baseline paddy methane from permanent flooding	111.5 tCO ₂ e reduced over 29.63 ha (≈ 3.8 tCO ₂ e/ha); method potential up to 40% lower methane
Water use	Fields kept continuously flooded	Up to 28% lower water use (fewer irrigation events)
Rice yield	Conventional farmer-practice yield	+13.9% higher yield reported
Crop & root health / lodging	Higher waterlogging exposure	Improved root development and lower lodging reported
Pests & diseases	Conventional incidence	Fewer pest and disease problems reported
Verification (MRV) adoption check	Paper logs, random on-site inspection	100% accuracy inferring AWD adoption (AquaSight); 99.6% area mapping (FieldSense)

Reported results from ThanksCarbon’s Battambang pilot. Yield, water, crop-health and pest observations are qualitative/relative comparisons as stated by ThanksCarbon; the 111.5 tCO₂e figure | pilot’s reported emission-reduction.



From Thanks Carbon notes, is that AWD carbon projects were often not financially feasible: conventional measurement, reporting and verification (MRV) could cost around US\$16 per tCO₂e exceeding a carbon-credit value of roughly US\$7 per tCO₂e and credit quality was undermined by exaggerated project areas.

Thanks Carbon reports that a carbon registry rejected 37 AWD rice projects in China in 2024 for such reasons

Cost per tCO ₂ e (reported)	Conventional MRV	ThanksCarb on digital MRV
Measurement & verification (MRV)	≈ US\$16	≈ US\$0.73 (-97%)
Credit-quality assurance	Paper logs, random checks	Digitised logs, geo-tagged photos, satellite/AI triple-check

Note: ThanksCarbon states its approach uses a UNFCCC-recognised AWD methodology and that its digital MRV lowers cost and strengthens credit integrity; these are the mechanisms it reports, not an assured financial outcome.

5-Conclusion

The ThanksCarbon Battambang case illustrates how climate-smart rice practice can align productivity, resource efficiency and emissions reduction and how credible, low-cost digital measurement can connect that practice to climate finance. The result is reported, the carbon-finance potential is real but conditional, and the opportunity for ARDB ACE-GFA lies in financing the pathway responsibly rather than assuming guaranteed returns.

REFERENCES / SOURCE

ThanksCarbon is the sole source for the case information in this bulletin.

1. ThanksCarbon — Cambodia Results: Less Water, More Rice, Lower Emissions. Primary source for the Battambang pilot results.
2. ThanksCarbon — Sustainable Agricultural Transition through Carbon Emission Trading. Carbon-finance and institutional context.
3. ThanksCarbon — From Conference Room to Rice Fields. Scale-up, farmer adoption and provincial cooperation.
4. ThanksCarbon — conference presentation, “Green Finance for Green Fields” (digital MRV: AquaSight, FieldSense, Heimdall; proposed 500,000 ha AWD financing)