



GIZ and Rice Department Launch ‘Agro-Met’ App to Transform Thai Rice Seeding



As erratic rainfall patterns and extreme weather increasingly threaten Southeast Asia’s agricultural backbone, a new digital tool aims to rewrite the playbook for Thai rice farmers.

GIZ Thailand through the Thai Rice: Strengthening Climate-Smart Rice Farming Project (Thai Rice GCF) has joined forces with the Kalasin Provincial Rice Seed Center under the Department of Rice to launch the “Agro-Met” Rice Direct Seeding (RDS) web application. This innovative field tool is designed to help farm extensionists and small-scale farmers to predict suitable dry direct seeding dates up to seven days in advance, bringing scientific precision to traditional cultivation.

Tackling Climate Vulnerability from the Ground Up



Dry direct-seeded rice farming is widely promoted for its resource-saving potential, but it carries inherent financial risks. In northeastern Thailand, unseasonal downpours or sudden heavy rains frequently wash away newly sown seeds, forcing farmers into costly, repetitive planting cycles.

To mitigate this challenge, Mr Ekachai Pakdeerat, Director of Kalasin Provincial Rice Seed Center, conceptualised the RDS Scoring Matrix Model to evaluate environmental risks and pinpoint optimal sowing windows. “Dry direct-seeded rice farming in northeastern Thailand often faces risks from heavy rain or seed washout following planting, leading to redundant investments and significant cost losses,” he said.

This agronomic model was subsequently scaled into a sleek, accessible web application through a collaborative effort by Dr Atthawit Watcharapongchai, Head of Operations for the Thai Rice GCF project, and Ms Metta Kongphan-apirak, Project Advisor at GIZ Thailand, in collaboration with Gemini AI.

Designed for both Climate Smart Officers (CSOs) and Climate Smart Farmers (CSFs), the app bridges the gap between complex meteorological data and daily field decisions. It is user friendly and supports access via both smartphones and computers.

Inside the Agro-Met Ecosystem

Built to function seamlessly across smartphones and desktop computers, the application is tailored for practical, on-the-ground execution through several core features:



- Streamlined 3-Step Workflow: Users simply input or automatically pull plot coordinates via GPS, select soil types (clay, loam, or sand), specify seed quality, and define seeding machine depth.
- Real-Time Satellite Integration: The platform automatically syncs 7-day rainfall forecasts via the Open-Meteo API, complete with an offline mode for remote areas with limited internet connectivity.
- Intuitive Traffic Light Indicator: Actionable insights are delivered via a color-coded interface—● Green for optimal planting conditions, ● Yellow for caution, and ● Red to halt operations—accompanied by plot-specific soil and planning guidelines.
- Data Privacy Standards: Operating under stringent General Data Protection Regulation-aligned frameworks, the system processes coordinates directly within the user’s web browser without permanently storing personal farmer data.

Paving the Way Forward

By harmonising digital innovation with climate-resilient farming strategies, the Agro-Met initiative marks a crucial step toward modernising Thailand’s rice sector, safeguarding farmer livelihoods, and securing long-term food security.

Agricultural officers, farm extensionists, farmers and those interested can access the Agro-Met web application for free at asean-agrifood.org/agro-met

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<https://asean-agrifood.org/giz-and-rice-department-launch-agro-met-app-to-transform-thai-rice-seeding/>