Scaling up alternate wetting and drying (AWD) in Vietnam

CGIAR RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security CCAFS

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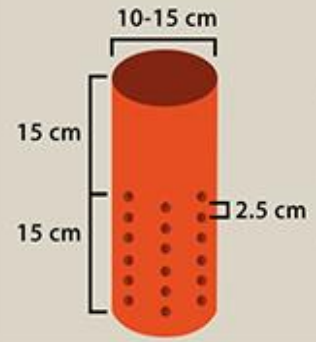
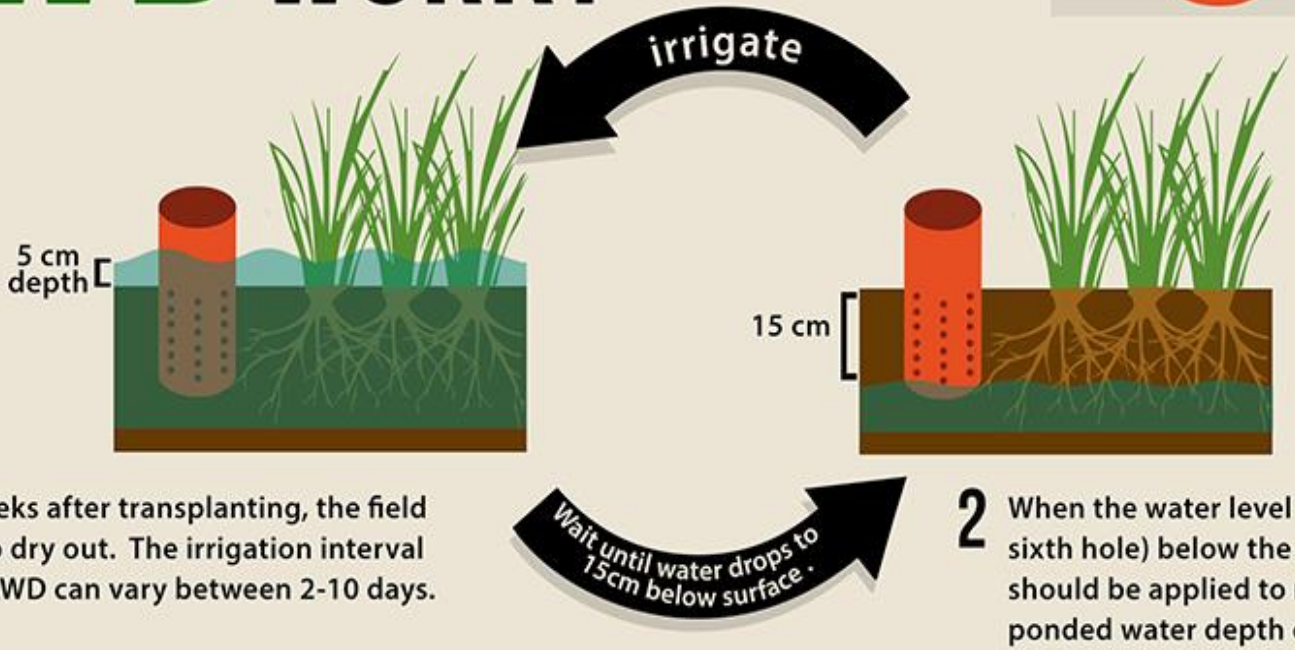
IRRI IAE Ipsard CLIMATE & CLEAN AIR COALITION TO REDUCE SHORT-LIVED CLIMATE POLLUTANTS

HOW DOES AWD WORK?



A perforated field water tube or pani pipe can be used for irrigation scheduling by monitoring the fall in water depth inside the pani pipe.



1 Two weeks after transplanting, the field is left to dry out. The irrigation interval under AWD can vary between 2-10 days.

2 When the water level drops to 15 cm (up to sixth hole) below the soil surface, irrigation should be applied to re-flood the field to a ponded water depth of about 5 cm. Hence the field is alternately flooded and dried.

Note: The field should be kept flooded from 1 week before until 1 week after flowering, topping up to a depth of 5 cm.

Benefits of AWD

Reduce water use

By reducing the number of irrigation events required, AWD can reduce water use by up to 30%.

Mitigate GHG

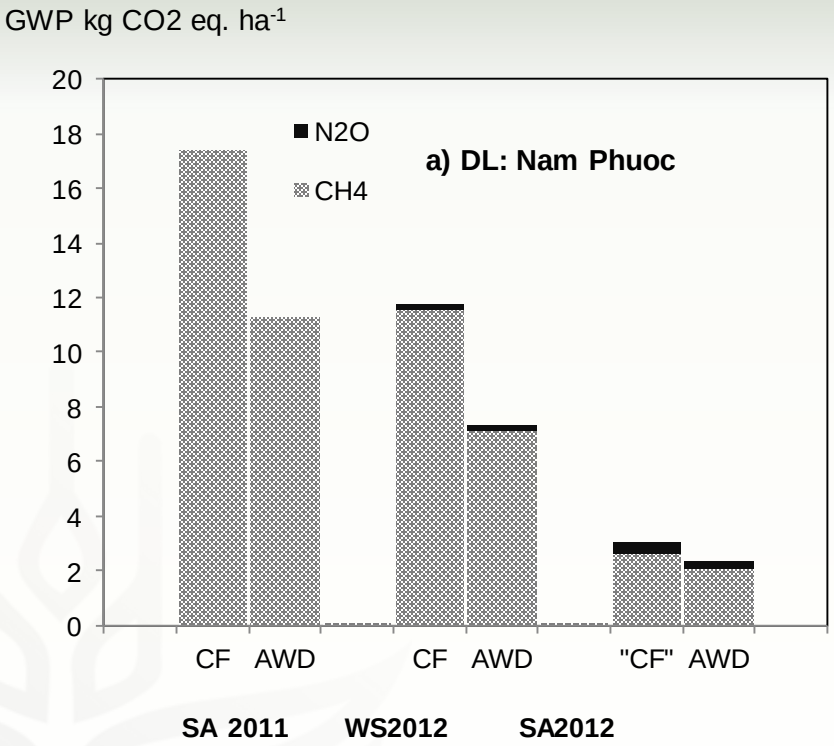
AWD is assumed to reduce CH_4 emissions by an average of 50% compared to continuous flooding.

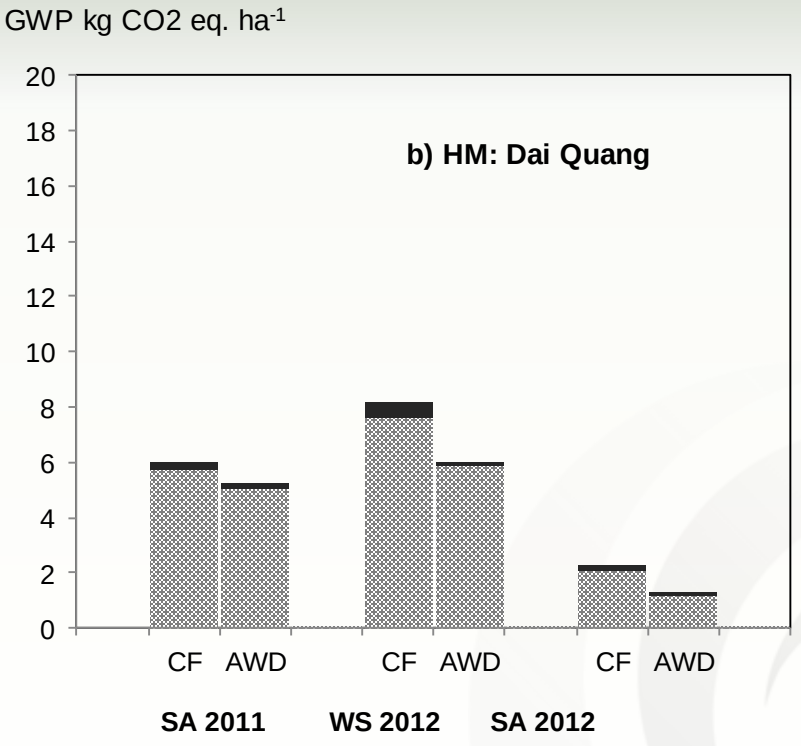
Increase returns

AWD does not reduce yields compared to continuous flooding. Farmers can save money on irrigation costs.

GHG emissions and AWD mitigation potential in Central Vietnam

- GHG measurements in Quang Nam province, 3 seasons
- Developed region-specific Emission factors and AWD mitigation potential (~ 30%)
- Close collaboration with Hue University

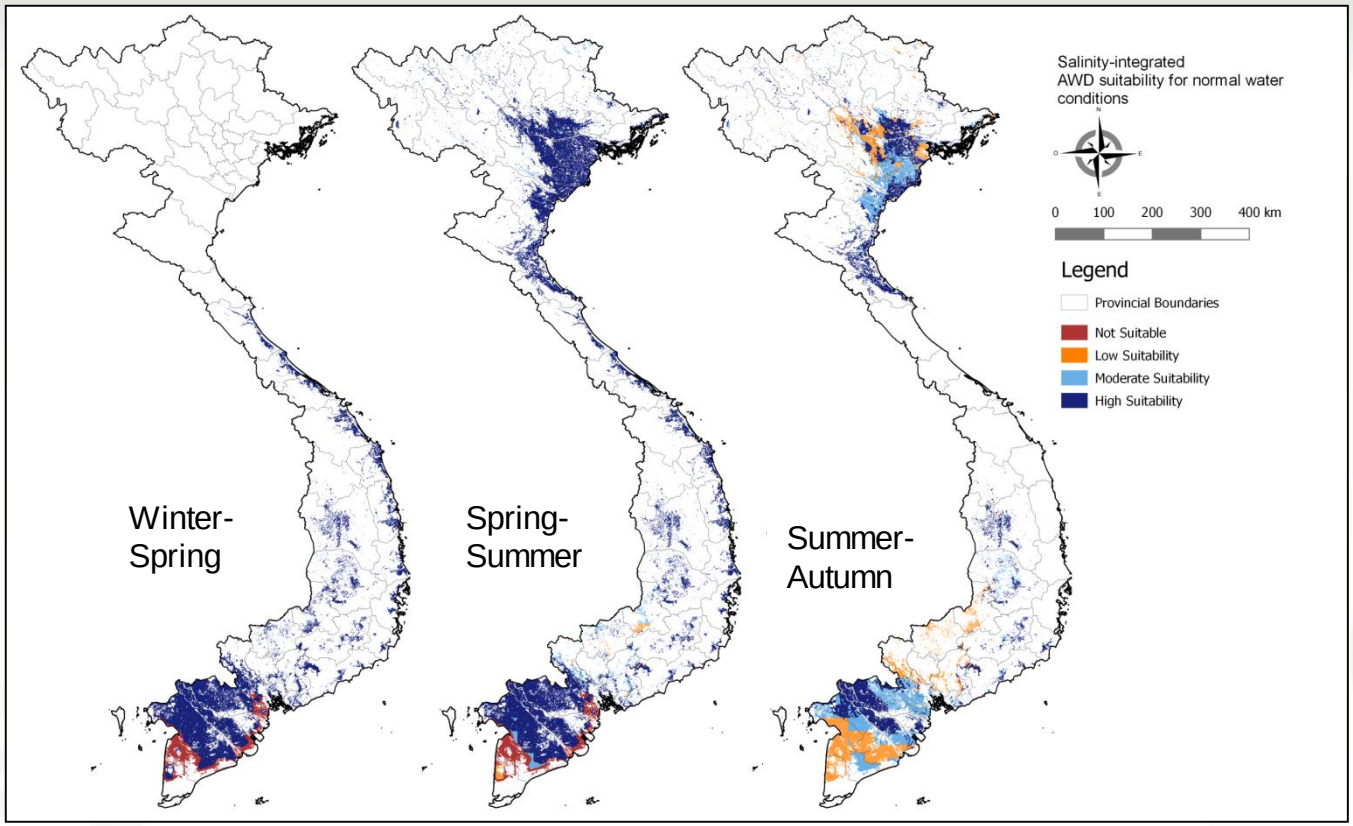




Tirol-Padre et al., 2017, accepted

Climatic AWD suitability maps

- Based on cropping calendar, rice extent and water balance
- Information on salinity is crucial, i.e. saline soil and seasonal salinity intrusion
- Close collaboration with Institute f. Agricultural Environment



Stakeholder influence mapping - NetMap

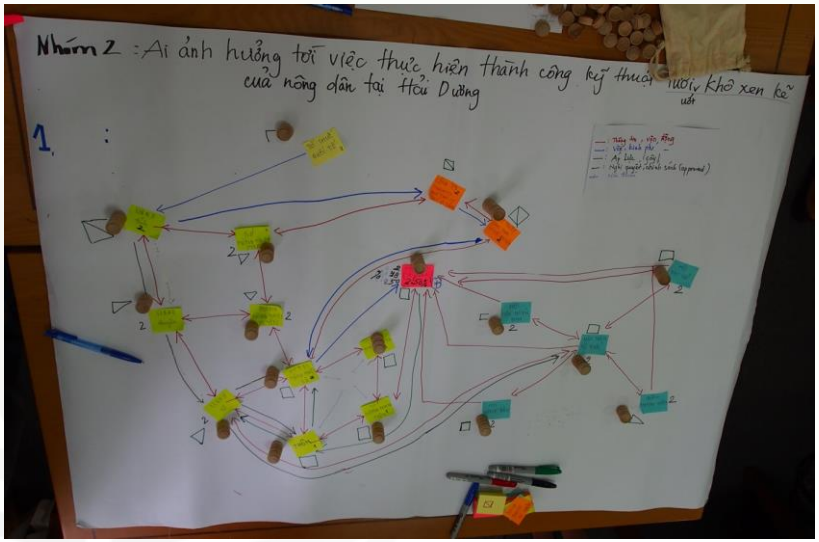
Participatory approach to identify key influencer in complex stakeholder networks

→ Development of engagement strategies

→ Target information campaigns

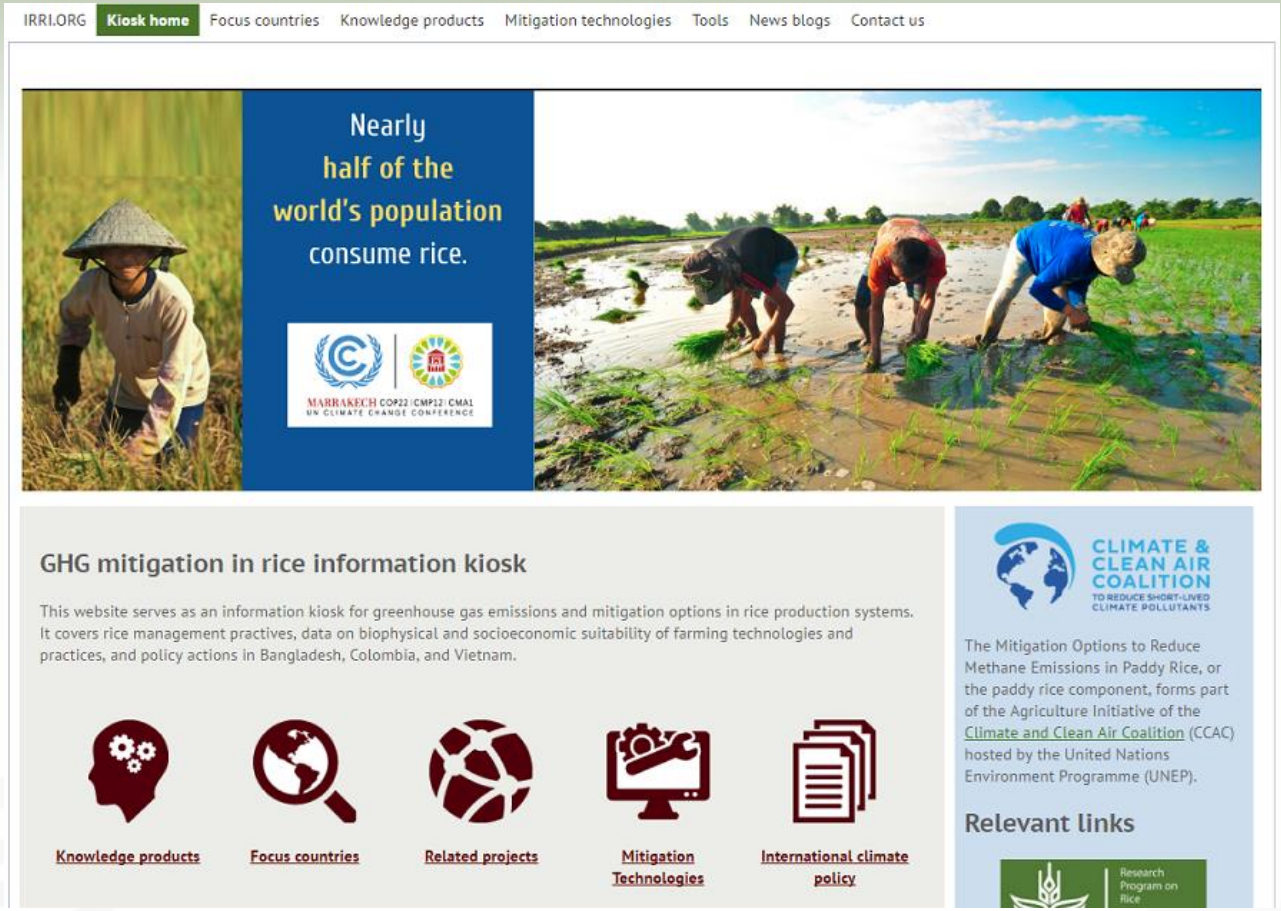
Question: Who influences the adoption of AWD?

Collaboration with Inst. for Policy and Strategy of MARD



Online Information Kiosk

- http://GHGmitigation.irri.org
- Comprising key info of rice production in focus countries
- Facts on mitigation options in rice production



Outcomes

- MARD supports outscaling activities in IRRI projects
- AWD has been identified as key mitigation technology for Ag sector and integral part of Viet Nam's NDC
- MARD set goals for outscaling of AWD (200k ha/ 500k ha) and refines mitigation potential (0.94/ 2.34 mio t CO_2-eq/yr)

Next steps for implementation

- Identify most suitable 500k ha for AWD
- Identify high priority provinces, develop plans w/ provincial governments
- Engage more strongly w/ private sector, integrate low-emissions rice production in contract farming

Lessons learnt

Close and regular contact with key national partners, trust, inclusive research

Flexibility to adjust work plans according to new policy directions and opportunities

Sufficient, relevant and specific science-based data and information material

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THANK YOU!