



RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
Food Security**



Ministries of Vietnam and Bangladesh produce country work plans for scaling out Alternate Wetting and Drying

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CCAFS Outcome Case

Partner	International Rice Research Institute (IRRI)
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Flagship	Low Emissions Agriculture
Geographic focus	Southeast Asia/South Asia

Summary

Alternate Wetting and Drying (AWD) is a rice production practice which moves away from continuous flooding of rice paddies to periodically draining and wetting the soil, so that the soil does not dry out. The practice reduces the amount of water needed for cultivation by up to 30%, which translates into fuel cost savings for farmers who rely on pumped water. AWD also reduces methane emissions arising from rice production by up to 48% without an adverse effect on yields. This makes AWD a promising practice to enable countries to achieve food security, while reducing water use, increasing profitability and decreasing greenhouse emissions from rice production.

CCAFS scientists at the International Rice Research Institute (IRRI) have been working closely with national partners in Bangladesh and Vietnam to scale up AWD in these countries. Two consortia involving the Ministries of Agriculture for Bangladesh and Vietnam worked with IRRI to produce national workplans for scaling up AWD in rice. They identified ways to engage policymakers, build alliances to train farmers in the technique and to channel technical guidance. IRRI scientists developed maps for the two countries which show where and when AWD would be most suitable, to support scaling up efforts. Countries will use this information to plan how to scale out the technique to farmers. Bangladesh will engage a World Bank USD 214 million agricultural technology program involving 1 million farmers. Vietnam will build on contract farming policy and international development programs to reach more than 1 million farmers.

Key facts

- AWD reduces water use by up to 30% and reduces methane emissions by 48%, without adversely affecting yields.
- Work plans have been developed in Bangladesh and Vietnam, which aim to scale up the practice to reach a 2 million farmers.

Lessons: key elements of success <ul style="list-style-type: none"> • Climatic AWD suitability maps have been developed for Vietnam and Bangladesh together with national partners indicating which areas are climatically suitable for practicing AWD, and during what time of the year. • Stakeholder mapping and analysis was conducted to identify the key stakeholders who influence the adoption of AWD in the two countries.
Further reading <ul style="list-style-type: none"> • Scaling up water saving technology to benefit rice farmers in Bangladesh and Vietnam
Related research outputs <ul style="list-style-type: none"> - Basak R. 2016. Benefits and costs of climate change mitigation technologies in paddy rice: Focus on Bangladesh and Vietnam. CCAFS Working Paper no. 160. Copenhagen, Denmark: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). - Richards M, Sander BO. 2014. Alternate wetting and drying in irrigated rice. Climate-Smart Agriculture Practice Brief. Copenhagen, Denmark: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).

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