



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



# ‘No regret’ mitigation strategies in rice production

**Duration:** January 2015 – December 2018  
**Fous areas:** Vietnam, Cambodia, and Lao PDR

**T**he project aims to develop an innovative approach based on highlighting co-benefits of mitigation options, integrating alternate wetting and drying (AWD) into a farming strategy, as opposed to approaches focusing only emissions reductions.

This project will provide an innovative methodology for assessing and strengthening co-benefits of mitigation to address the problem of slow uptake of AWD and other mitigation options. The advantages

will emphasize not only the water-saving feature but also better crop performance that as yet has no empirical basis but is reported to have a wealth of anecdotal evidence.

A broad range of activities will be conducted in this project to achieve target outcomes. Field experiments will be implemented to enable data collection on additional incentives of water-saving technologies to proceed from mere anecdotal evidence to science-based facts. The

co-benefits of AWD will be quantitatively evaluated (specifically on reduced lodging, less fungal disease, better soil condition for mechanization). An inventory of AWD and other mitigation technology projects implemented in satellite sites will be done to obtain supplemental data confirming the co-benefits of mitigation.

The project will also assess the agronomic advantages in crop performance through participatory field testing in Climate-Smart Villages (CSVs). Here, both women



and men farmers will be given the same opportunity to be involved in field testing and evaluation of the technologies. Comprehensive data analysis will be done on crop performance vis-a-vis mitigation potential. Economic input/output ratios of different mitigation options will be analyzed. Gender- and socially-differentiated knowledge and perceptions toward climate change and several mitigation options will be collected and examined. These will be useful in understanding how households process the decision to adopt a technology.

Trainings and workshops will be participated in by both women and men farmer from various social groups. Gendered patterns of interaction and gender-disaggregated data on access to information and level of participation will be collected and analyzed to adjust training materials and support decision making. By recognizing that perceptions and attitude toward mitigation options vary across gender and social groups, participatory approaches to communicating the information may be modified for better social acceptance.

## Expected outcomes

The project will accelerate scaling up of mitigation by tackling different

stakeholder levels, from farmers and extension services to national policymakers. The agriculture sector may integrate its mitigation objectives into its modernization campaigns and rehabilitation programs, e.g., for irrigation infrastructure. This project will also undertake an analysis of national climate change actions plans and the development of a 'rice component' that will be integrated into the national adaptation and mitigation action (NAMA). It will also analyze the bio-physical suitability of different mitigation options for Lao PDR and Cambodia and the synergy creation between mitigation technologies and modernization.

## Expected outputs

- Datasets and decision support tools for identifying and prioritizing low emissions climate-smart agriculture (CSA) options, including synergies and tradeoffs with development objectives.
- Research report (i.e., workshop report, consultant's reports, discussion paper, project report, student thesis, etc.).
- Policy briefs and discussion papers on low emissions CSA options.
- Maps (i.e., CCAFS Sites Atlas, cropland, etc.).

- Incentives and innovations for upscaling low emissions practices and avoiding deforestation by agricultural commodities.
- Reference materials like booklets and training manuals for extension agents, etc.
- Capacity building activities.

## Project team

Lead Organization: International Rice Research Institute

Partners:

- Vietnam: Can Tho University, District Agriculture and Forestry Extension Offices–Phonhong District, Aphivat Strey, and Vietnamese Academy of Agricultural Sciences
- Lao PDR: National Agriculture and Forestry Research Institute
- Cambodia: Department of Agricultural Extension
- James Hutton Institute

## Project leader

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### International Rice Research Institute (IRRI)

The International Rice Research Institute (IRRI) is the world's premier research organization dedicated to reducing poverty and hunger through rice science; improving the health and welfare of rice farmers and consumers; and protecting the rice-growing environment for future generations. IRRI is an independent, nonprofit research and educational institute founded in 1960 by the Ford and Rockefeller foundations, with support from the Philippine government. The institute, headquartered in Los Baños, Philippines, has offices in 15 rice-growing countries in Asia and Africa, and about 1,000 staff members.

Working with in-country partners, IRRI develops advanced rice varieties that yield more grain and better withstand pests and disease as well as flooding, drought, and other destructive effects of climate change. More than half of the rice area in Asia is planted to IRRI-bred varieties or their progenies. The institute develops new and improved methods and technologies that enable farmers to manage their farms profitably and sustainably, and recommends rice varieties and agricultural practices suitable to particular farm conditions as well as consumer preferences. IRRI assists national agricultural research and extension systems in formulating and implementing country rice sector strategies.

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