



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



# Workshop report: National planning for phase 1 of the CCAC paddy rice component in Vietnam

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**January 2015**

**Vu Duong Quynh  
B. Ole Sander**



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### Keywords

Paddy rice; Vietnam; AWD

## Acronyms

AWD alternate wetting and drying

CCAC Climate and Clean Air Coalition for Reducing Short-Lived Climate Pollutants

CCAFS CGIAR Research Program on Climate Change Agriculture and Food Security

DARD Department of Agriculture and Rural Development, Vietnam

DWR Department for Water Resources, Vietnam

IAE Institute of Agricultural Environment , Vietnam

IPSARD Institute of Policy and Strategy for Agriculture and Rural Development

IRRI International Rice Research Institute

MARD Ministry of Agriculture and Rural Development, Vietnam

SNV *Stichting Nederlandse Vrijwilligers*, The Netherlands Development Organization

UWR University of Water Resources

VAAS Vietnamese Academy of Agricultural Sciences

WB World Bank

## Introduction

This workshop was conducted as part of the mitigation strategies in rice production project, implemented with support from the agriculture initiative of the Climate and Clean Air Coalition. The project is carried out in Bangladesh, Columbia, and Vietnam with the CGIAR Research Program on Climate Change, Agriculture and Climate Change (CCAFS), the International Rice Research Institute (IRRI), and leading research and agriculture organizations in Vietnam.

The objectives of this workshop were to 1) share experience on applying and scaling up the AWD technology for paddy rice in the Red River Delta 2) identify key areas and aspects of work that need to be addressed and 3) develop a detailed national plan for phase I of CCAC-Rice component.



## 1. Program

Date	Time	Content	Person in charge
21/1/2015	..	Arrival of participants	IRRI office in Hanoi
22/1/2015	<b>Field trip to Nam Sach, Hai Duong province</b>		
	7h30–9h30	Departure for Nam Sach, Hai Duong province (pick up at <b>Center for Women and Development</b> 20 Thuy Khue, Ba Đình District, Hanoi <b>at 7h30am</b> and at <b>Sofitel Plaza</b> , number 1, Thanh Niên street <b>at 7h45 am</b> )	Dr. Vu Duong Quynh (IAE)
	9h30–11h30	Meeting with stakeholders on lessons learned from applying AWD in An Lam commune, Nam Sach district, Hai Duong province	..
	11h30–12h30	Field visit An Luong village, Xã An Lam, Huyện Nam Sách, Tỉnh Hải Dương	..
	12h30–13h30	Lunch break	..
	13h30–15h30	Back to Hotel in Hanoi	....
	19h00–20h30	Welcome dinner	..
23/1/2015	<b>Workshop in Hanoi (White Lotus meeting room, Center for Women and Development 20 Thuy Khue, Ba Đình District, Hanoi)</b>		
	8h00–8h30	Registration	....
	8h30–8h40	Welcome speech	Dr. Nguyen Hong Son (VAAS)
	8h40–8h50	Introduce objectives of WS & participant introduction	Dr. Mai Van Trinh (IAE)
	8h50–9h05	Introduction on CCAC-rice component	Dr. Ole Sander (IRRI, CCAFS)
	9h05–9h25	Overview of agricultural policy in relation to AWD application	Dr. Tran Dai Nghia (IPSARD)
	9h25–9h45	Lessons learned from SRI demonstration in Binh Dinh and Quang Binh province	Mr. Bui Van Minh (SNV)
	9h45–10h05	Coffee break	....
	10h05–10h25	Summary of all the AWD technology applied in Vietnam	Dr. Vu Duong Quynh (IAE)

	10h25–10h45	Overview of irrigation infrastructure in relationship with AWD application	Dr. Le Van Chinh (DWR, MARD)
	10h45–11h05	Map of water demand for rice plants in the Red River Delta in Vietnam.	Dr. Nguyen Van Thiet (IAE)
	11h05–11h45	Group discussion on <ul style="list-style-type: none"> <li>The Opportunities for scaling up AWD</li> <li>Adoption barriers of applying AWD and how to upscale implement AWD, especially in the North</li> </ul>	Dr. Mai Van Trinh, Dr. Tran Dair Nghia
	11h45–13h30	Lunch break	.....
23/1/2015 afternoon Internal meeting	13h30–13h45	Group 1 presentation (AWD on fluvisol)	
	13h45–14h00	Group 2 presentation (AWD on sodic & ferric soil)	
	14h00–14h45	Group discussion on <ul style="list-style-type: none"> <li>Collecting necessary data (Climate data, topography, soil map, irrigation infrastructure and management, AWD applied in SRI, 3R3G, 1 must-5 reductions): scale of the data and person in charge of data collection</li> <li>Building website and Web-GIS</li> <li>Developing GIS maps for AWD+ suitability assessment</li> </ul>	Dr. Mai Van Trinh
	14h45–15h00	Group presentation	Dr. Vu Duong Quynh (IAE)
	15h00–15h45	<ul style="list-style-type: none"> <li>Identification stakeholders</li> <li>Choosing 3 of the most mitigation potential provinces and GIS map is developed (small field demonstration)</li> <li>Design implementation mechanisms for knowledge sharing, innovation, and provision of enabling conditions for different regions and types of farmers</li> <li>Design network of on-farm innovation sites</li> <li>Writing proposal for phase II</li> </ul>	Dr. Ngo Dang Phong (IRRI)
	15h45–16h00	Group presentation	Dr. Le Van Chinh
	16h00–16h15	Closing remarks	Dr. Mai Van Trinh



## 2. Presentation summaries

**Dr. Ole Sander (IRRI):** Introduction of CCAC-rice component

- Objectives of CCAC-rice component
- How to build AWD suitability map in Vietnam (example from Philippines)
- What is the input requirement for AWD suitability maps?

**Dr. Tran Dai Nghia (IPSARD):** Overview of agricultural policy in relation to AWD application

- Review of policies/decisions on GHG mitigation in the agricultural sector in Vietnam

**MSc. Bui Van Minh (SNV):** Lesson learned from SRI demonstration in Binh Dinh and Quang Binh province

- Introduction of SSC-SRI project (sowing seed for change)
- SRI reduced 15% seed, 5% fertilizer, 38% pesticide and 25% water used as compared with farmers' practices
- SRI reduced lodging ratio and also reduced pests & diseases as compared to farmer practice
- SRI increased weed and rat problem in comparison to farmer practice
- SRI reduced GHG emissions

**Dr. Vu Duong Quynh (IAE):** Summary of all AWD technology applied in Vietnam

- List experience, opportunities, and barriers in applying AWD in An Giang, Bac Lieu and Hai Duong

**Dr. Le Van Chinh (DWR, MARD):** Overview of irrigation infrastructure in relationship to AWD application

- Review of irrigation schemes in Vietnam
- Current AWD applications in Vietnam
- Barriers for AWD application
- AWD perspectives in Vietnam

**MSc. Nguyen Van Thiet (IAE):** Map of water demand for rice plants in the Red River Delta in Vietnam

- Introduction of CROPWAT model

- Results from calculation of water demand of rice plants
- Map of rice water demand

### 3. Group discussion summary

#### **Opportunities for scaling up AWD**

- AWD reduces pests and diseases, reduces lodging and reduces water used as compared with farmers' practice (continuous flooding)

#### **Adoption barriers of applying AWD**

- AWD does not increase rice grain yield as compared to farmer practice (continuous flooding)
- Irrigation system comprised of a well and water is always available and free of charge for farmers in the north of Vietnam. The farmers therefore think that they do not need to save water by applying AWD.
- The average size of smallholder farms in the north is very small compared to southern Vietnam (average of 1-3 plots totalling 0.2 ha of rice cultivation per household in the north)
- Farmers who live in provinces near big cities also lack the labour needed for monitoring the water level in the rice fields

#### **How to upscale implement AWD**

- The DARD said that they want to apply/upscale AWD, but they need the protocol for application and for scaling up AWD from MARD
- AWD should be applied together with other measures such as integrated nutrient & pest management to increase rice grain yields. The farmers then might adopt AWD.

## 4. Discussion of developing a detailed national plan for phase I of CCAC-Rice component

Activities	Who	When
Scale of AWD suitability map: 3 maps (South, Center, and North maps)	IAE, IRRI, DWR, IPSARD	July 2015
<b>Data Collection</b>		
Rice map (area, cropping, calendar)	IRRI and IAE	End of March 2015
National soil map	IAE	End of March 2015
Climate map (10 years data)	IRRI (Micahel)	End of March 2015
Irrigation map & pumping station data	DWR (Chinh)	End of March 2015
Salinity map	Mekong River Delta (Phong) Red River Delta and Center (Trinh, IAE)	End of March 2015
Policy map /documentation	Nghia (IPSARD) to be confirmed	End of March 2015
Water lost from different soil types	IAE	End of March 2015
Status of AWD, IM5R, SRI in Vietnam	Chinh (DWR) & Quynh (IAE) & Ha (EDF)	End of March 2015
Workshop on AWD & MRV	IAE, IRRI, DWR, IPSARD, EDF	May 2013
Develop AWD suitability standard	IAE, IRRI, DWR, IPARD, EDF, MARD	2015
Communication strategy: <ul style="list-style-type: none"> <li>• Media (AWD video)</li> <li>• Training</li> <li>• Bulletin</li> </ul>	IAE, IPSARD, IRRI...	2015
AWD Suitability map	IAE (Trinh & Thiet)	July 2015
Proposal writing workshop for phase II	IAE, IRRI, DWR, IPSARD, EDF, MARD, DARD	August 2015
Submit proposal for phase II	IAE, IRRI, DWR, IPSARD, EDF, MARD, DARD	November 2015

## 5. Field trip

Farmers in An Luong village, An Lam commune, Nam Sach district, Hai Duong province reported that AWD decreased the need for the following: pumping times per season, amount of water, labour, and cost for irrigation monitoring staff. AWD also reduced irrigation fees, presence of pests and diseases, and lodging. Importantly, AWD increased rice grain yield by 10%. However, AWD also increased the occurrence of weeds and rats.

An Luong village farmers expressed a positive experience with AWD for several reasons. The main reason is the cooperation among cooperatives, farmers and the pumping station (irrigation service). A new automated irrigation system is also being tested in this place; the system stops irrigation when a certain water level in the field is reached.



## Annex 1: List of participants by organization

**CCAFS:** Ngo Duc Minh

**DARD, Hanam Province:** Bach Van Huy

**DWR, MARD:** Le Van Chinh

**Extension Center, Binh Din Province:** Nguyen Thi To Tran

**IAE:** Mai Van Trinh, Bui Phuong Loan, Vu Duong Quynh, Nguyen Van Thiet, Vu Dinh Tuan, Dang Anh Minh

**IPSARD:** Tran Dai Nghia

**IRRI:** Ngo Dang Ohong, Michael Adair Sheinkman, Bjoern Ole Sander

**MARD:** Le Hoang Anh

**Media:** Bui Thi Thury (Communist Party of Vietnam online newspaper, Anh Tho (Rural Economy newspaper),

Tran To Nhu (Vietnam News) and Nguyen Thao Bguyen (Dan tri News)

**VAAS:** Nguyen Hong Son Minh

**SNV:** Bui Van Minh

**UWR:** Nguyen Viet Anh

**Vietnam National University:** Pham Van Cu

**WB:** Cao Thang Binh

