



Australian Government

Department of Foreign Affairs and Trade



Vietnam Low Carbon Rice Project

The Vietnam Low-Carbon Rice Project (VLCRP) seeks to significantly reduce GHG emissions from rice cultivation, an activity responsible for more than 16% of Vietnam’s overall GHG emissions,¹ while improving livelihoods for the rice farmer community through decreased costs and enhanced yield as well as providing supplemental farmer income through the sale of carbon credits. By focusing on a coequal mandate of promoting rural development while enhancing food production, building resilience to climate change, and reducing environmental impacts – VLCRP exemplifies the “triple win” approach to agriculture.

The Mekong Delta makes up 12% of Vietnam’s land area, but produces more than 50% of the country’s rice, including more than 90% of the rice for export. Rice cultivation is the main source of income for 80% of farmers in the Mekong Delta. These farmers face great challenges in creating sustainable livelihoods due to the high cost of inputs, prices that can fall precipitously in years of good harvests, and a risk of extreme weather events that is only expected to rise due to climate change. By adopting VLCRP’s farming techniques, 1 Must 6 Reductions (1M6R)², rice farmers reduce their input costs while maintaining or improving yields, decreasing greenhouse gas emissions and delivering other environmental co-benefits, such as reduced water pollution. In response to Vietnam’s Green Growth Strategy and with the support of the Australian Government, VLCRP was launched in November 2012 in Kien Giang and in December 2012 in An Giang. VLCRP completed 10 crops as of December 2014 and trained Department of Agriculture Rural and Development (DARD) staff, Extension System, Women Union and directly supported more than 4,000 farmers in 500 households in using the sustainable 1M6R rice cultivation technique. The project has actively focused on improving the capacity of Women’s Unions and Local Authorities in both Kien Giang and An Giang in order to share knowledge of the 1M6Rs farming technique with women within and beyond VLCRP project sites.

Key Achievements

Achieved encouraging results on economic, social and environmental impacts

VLCRP’s package of practices was chosen to provide both economic and environmental benefits to participating farmers and their communities. VLCRP’s introduced 1M6R farming technique help farmers use significantly less inputs (50% reduction in seed, 30% reduction in fertilizer, 40-50% reduction in water, 30% reduction in pesticide while improving yields 5-10%, leading to an increase in profit from 10% to as high as 60% per hectare. The project also reached agreements with export companies to arrange for the purchase of project farmers’ low-carbon rice at higher than market prices. Preliminary results indicate that 1M6R practices have led to approximately 40-65% reductions in greenhouse gas emissions, equivalent to 4 tons of CO₂e/ha/yr in An Giang and 35 tons³ of CO₂e/ha/yr in Kien Giang. Meetings with leading Vietnam companies are ongoing in the search for buyers of the generated carbon credits.

Community Development with a specific focus on gender empowerment

VLCRP developed curricula on 1M6R to train Farmer Group Leaders and for them in turn to train the larger farmer community. Rice farmers in Kien Giang and An Giang have been organized into 10 Production Groups, led by Farmer Group Leaders who provide technical training and assistance to farmers in implementing 1M6R techniques and keeping accurate farm records, with a special focus on poor and female farmers. Area Women’s Unions have integrated 1M6R into their regular meetings and are championing/advocating its adoption outside the project area. In An Giang, during crop 1 and 2 in 2013, five training sessions reached a total of 502 farmers, and two sessions were delivered to 61 representatives from the local women’s unions including disability groups. Similarly, in Kien Giang, ten training sessions reached approximately 1,000 farmers, with three additional

¹The Initial Biennial Updated Report of Vietnam to the UNFCCC. 2014 (<http://unfccc.int/resource/docs/natc/vnmbur1.pdf>)

²1Must: must use the Quality Seeds, and 6 Reductions: reduction of: seed density, fertilizer, herbicide, water, post-harvest lost and GHG emissions.

³The GHG reduction rates in KG are very high and still under investigation.

sessions held for a total of 73 members of the area's women's unions and disability groups. From crop 3 onward, each crop farmer group leaders organize 7 on-farm training and community meetings to assist farmer households within their Production Group with nutrition, pest and water management and recording of each farmer household's dairies. At the end of December 2014, more than 1,200 women directly benefited from the project's capacity building activities for increasing their family's income from rice cultivation. Women in single head of households were able to reduce 2 million Dong (\$90 USD) of input costs/ha, increase yield 1.3 tons/ha, thereby increasing net income from 1.6 to 2.2 million Dong/ha (\$80 - \$100 USD/ha).

In addition, in September 2014, VLCRP organized Consolidated Training Workshops for Provincial Women Union systems in both An Giang and Kien Giang provinces for integration of the low carbon rice farming technique into their curriculum.

Creation of a replicable, scalable model for implementing low-carbon rice farming practices from community level

The success of the 1M6R model, including its implementation via on-farm assistance provided by Farmer Group Leaders and local extensions services, makes a powerful case for its adoption and scalability across other regions. The economic, agronomic, and emissions data that VLCRP has collected demonstrates the benefits of the practices, and can help national authorities such as the Ministry of Agriculture Rural and Development (MARD), local authorities and DARD quantitatively assess the impacts of 1M6R and support its inclusion in upcoming strategic plans.

VLCRP has actively used its scientific data for advocacy activities at community, provincial and national levels for promoting low carbon agriculture policy changes. At the national level, VLCRP succeeded in organizing the first Low Carbon Agriculture Policy Dialogue Forum under the MARD sponsorship in September 2014. In December 2014, VLCRP and DARD of An Giang organized the Consolidated Technical Training Workshop for more than 50 key officials of People's Committees, local authorities, women's unions, agriculture experts and farmer associations of Phu Tan District, An Giang. At the international level, Training of the Trainers Instructional Workshop and Field Practices Workshop were held for the National Agriculture Extension Centre at the formal request from USDA EC-LEDS program in July 2013. At MARD's formal request, VLCRP supported and provided technical training on low carbon rice farming technique to international participants from 10 Mekong-Sub Regional Countries in August 2015 in Can Tho.

Developing and demonstrating the viability of multi-stakeholder approaches in improving agriculture

VLCRP has been successful in demonstrating a multi-stakeholder approach that involves the close collaboration of farmers, scientists, government agencies, and the private sector in researching, developing, and applying sustainable rice farming techniques that can create real benefits for farmers and their surrounding communities. Strong buy in from such a diverse set of stakeholders lends itself to project strength and sustainability.

Annex 1: Summary of Preliminary Results of VLCRP

Location/Season (Kien Giang province = KG; An Giang province = AG)	Model	Preliminary Results of GHG emissions reductions				Preliminary Results of Profit in terms of Yield and Net Profit for farmers			
		CH ₄ emissions (CO ₂ e ton/ha)	N ₂ O emissions (CO ₂ e ton/ha)	Combined CO ₂ e ton/ha	GHG emissions Reduction (CO ₂ e ton/ha)	Yield (ton/ha) - Dry	% Increase in Yield	Profit (million VND/ha)	% Increase in Profit
AG (Crop 1: Dec 12-Mar 13)	Control					6.2		31.4	
	AWD					6.6	7	36.4	16
AG (Crop 2: April - July 13)	Control	3.5	0.1	3.7		5.9		26.1	
	AWD	1.1	0.5	1.6	2.1*	6.7	14	37.1	42
AG (Crop 3: Aug-Nov 13)	Control	2.2	0.5	2.7		6		20.7	
	AWD	1.2	1.1	2.6	No reduction	6.5	8	27.3	32
AG (Crop 4: Dec 13-Apr 14)	Control	5.3	0.11	5.4		8.2		17.9	
	AWD	2.9	0.18	3.1	2.3	9.4	15	28.7	60
AG (Crop 5: May-Aug 14)	Control	10.9	0.14	11		5.8		10.8	
	AWD	4.9	0.25	5.2	5.8**	6.7	16	22.6	52
KG (Crop 1: Nov 12-Feb 13)	Control					6.7		15.9	
	AWD					7.2	8	20.8	31
KG (Crop 2: Mar-Jun 13)	Control	1	0.15	1.1		5.9		12.9	
	AWD	0.2	0.18	0.4	0.7**	6.3	7	20.4	58
KG (Crop 3: Jul-Oct 13)	Control	22.4	0.4	25.5		4.8		11.1	
	AWD	7.2	0.2	8.2	17.3***	5.3	10	17.3	56
KG (Crop 4: Nov 13-Mar 14)	Control	26.8	0.11	26.9		8.2		34	
	AWD	9.3	0.13	9.4	17.5	9.6	17	45.7	34
KG (Crop 5: Mar-June 14)	Control	32.2	0.09	32.2		4.9		11.6	
	AWD	7.5	0.12	7.5	24.7**	5.6	13	19.3	40

P: *=0.06; **=0.03; ***=0.01

For more information, contact:

**Joe Rudek, VLCRP Technical Lead (jrudek@edf.org)
Trần Thu Hà, VLCRP Director (ha668888@gmail.com)**