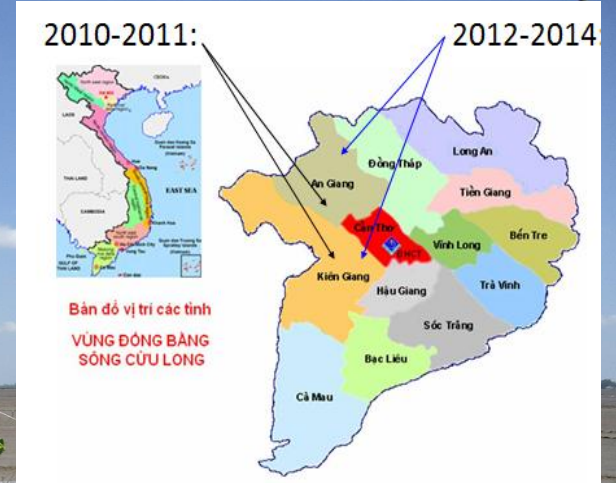


Vietnam Low Carbon Rice Project – VLCRP

Triple Wins: Economic, Environment & Social Development

Funded by the Australian Government's Aid program under the Community-based Climate Change Action Grants



Tran Thu Ha
Director, VLCRP- EDF

Rationale: Why low carbon rice farming?

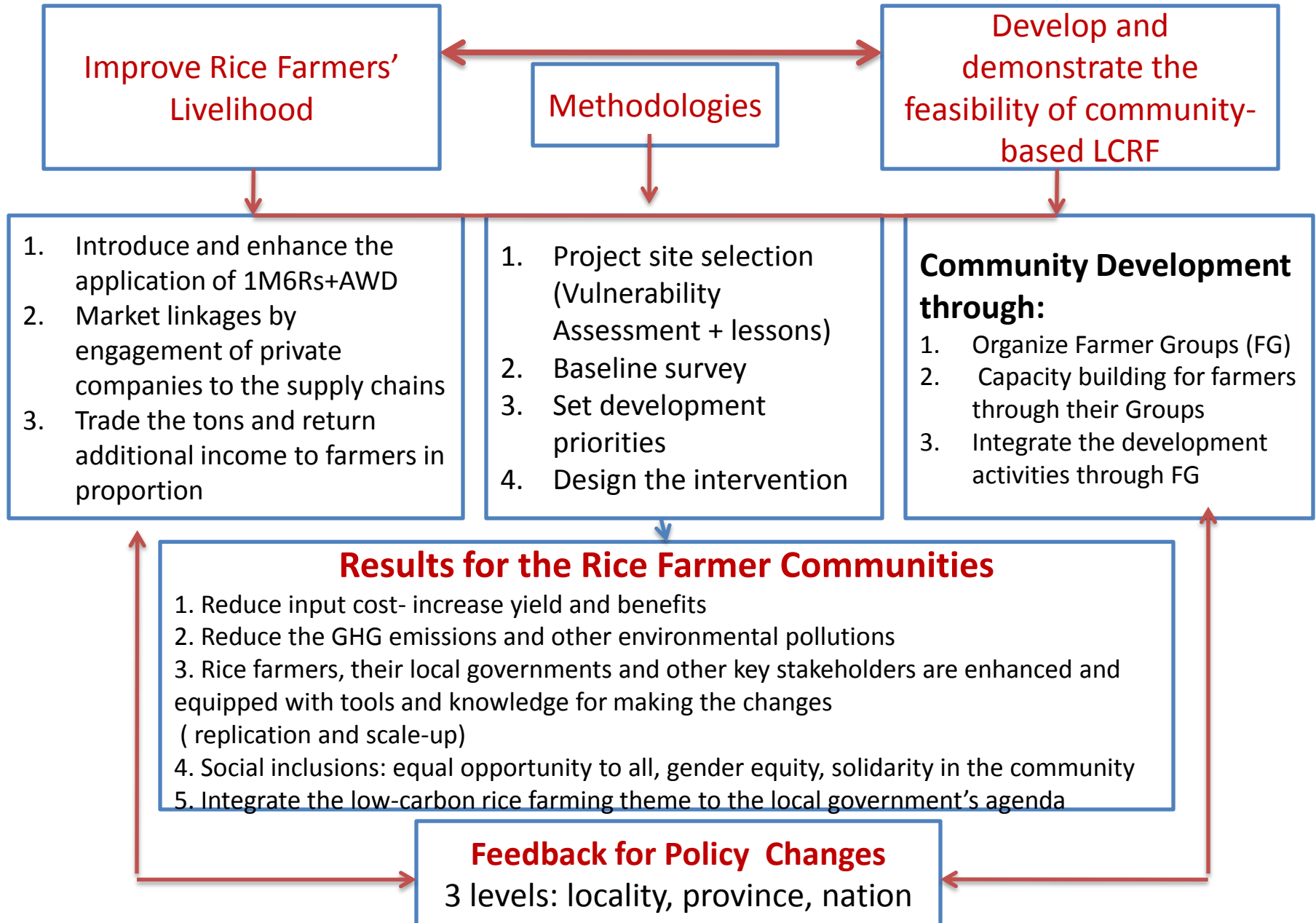
1. Current contexts

- The MKD produces 50% of total rice of Viet Nam
- Agriculture accounts for 50.5% of total GHG emissions in VN
- Rice cultivation accounts for 62.4% of total GHG emissions in agriculture
- Rice farmers over-use the inputs (seeds, fertilizer, pesticide, water) by approximately 30%
- Income for rice farmers getting lower: rice price drops vs. material costs increase

2. Government Development Priorities and Policy Framework

- Key National Target Programs: Sustainable Poverty Reduction and New Rural Development where the Green Growth Strategy are to be integrated in all activities
- Viet Nam's Agriculture Re-structuring Plan towards values added and sustainable development

VLCRP Objectives, Methodologies and Theory of Changes



Major Results and Achievements

VLCRP supports and builds up capacity for more than 500 small farmer households in the area of 540ha/crop (total of 11 crops) in An Giang and Kiên Giang

1. Increase economic effectiveness

- Yield increase by 10%-15%
- Income increase 5%-10%

and save resources through 5 major reductions

50% Seed; 30% Fertilizer, 30-40% Agro-chemical, 40-50% water irrigation, 20-30% Labor cost.

2. Protection of the environment and community public health reduction of average 7.7 metric tons of CO₂e/year (An Giang) and 45 metric tons/ha/year (Kiên Giang), protection of water resource from pollution and the ecological system (habitat for the fisheries and the useful insects).

3. Social inclusions and development

Integration of gender empowerment mainstreaming, inclusion of marginalized groups, community development and organization of Self-help Farmer Production Groups.

4. Create the low-carbon , secure and high quality (bio-rice) and climate resilience rice

5. Formulate and enhance the linkage of “4 key stakeholders” including the PPP model by engaging the collaboration from the private sector

Summary of Preliminary Results

Location/Season (Kien Giang = KG; An Giang = AG)	Model	Preliminary Results of GHG emissions reductions				Preliminary Results of Yield and Net Profit			
		CH4 emissions (CO2e ton/ha)	N2O emissions (CO2e ton/ha)	Combined CO2e ton/ha	Net GHG reductions (CO2e ton/ha)	Yield (ton/ha)	% Increase in Yield	Profit (million VND/ha)	% Change in Profit
AG (Crop 1: Dec 12-Mar 13)	Control	3.9				6.2		31.4	
	AWD	NA			NA	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	11.0		5.8		17.9	
	AWD	4.9	0.25	5.2	5.8**	6.7	15	28.7	60
KG (Crop 1: Nov 12-Feb 13)	Control	5.7	0.08	5.8		6.7		15.9	
	AWD	NA	0.25	NA	NA	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

Comparison of milled rice quality between 1M6Rs and Control

TT	Milled rice properties	1M6R treatment		Control		(α=5%)
		TB	SD	TB	SD	
						ns
1	Brown rice (%)	77.83	0.4	77.85	0.2	ns
2	White rice ratio (%)	62.82	0.7	62.72	0.2	**
3	Head rice ratio (%)	54.92	5.0	50.83	4.5	**
4	Length of white rice (mm)	6.11	0.1	6.21	0.1	ns
5	Width of white rice (mm)	2.08	0.1	2.10	0.1	ns
7	Whiteness degree (%)	52.49	2.9	52.84	2.1	ns
8	Gel consistency (mm)	96.67	1.5	91.67	5.7	ns
9	Amylose content (%)	2.5		2.5		ns
10	Gelatinization degree (level)	5		5		ns

Note: ns=not significant, **= 5% significant; 1M6Rs= VLCRP's introduced model, Control=farmer's conventional practice

Pesticide residue and heavy metal ingredients in 1M6Rs rice

TT	Items	Measured values
1	Propiconazole (mg/kg) LOD=0.01	KPH
2	Tricyclazole (mg/kg) LOD=0.01	KPH
3	Acetamiprid (mg/kg) LOD=0.01	KPH
5	Nitrate (mg/kg)	4.97-6.76
6	Pb ($\mu\text{g}/\text{kg}$) LOD=1.63	KPH
7	Cd ($\mu\text{g}/\text{kg}$) LOD=0.09	KPH
Notes: LOD=limit of detection, KPH: not detection		

Maximum level of nitrate allowed

- In water 50mg/kg (WHO standard)
- In fresh vegetables (300mg/kg)
- In food for children and women (sensitive group) 200mg/kg (EU)

Key intervention and research activities



Land preparation & Seeding



On-farm trial design



Water measurement



Collecting agronomic data



Gas sampling



Harvesting & measuring yield

Capacity Building: in-class ToT Training and Field practices (1M-6Rs)



Strengthening capacity for DARD, Extension, Core-Farmers and Group leaders to implement 1M-6Rs



On-farm practices for farmers at the project sites in AG and KG

Farmer Group Activities



Meeting with farmers and Co-op and the Provincial Project Management Unit for planning and implementing new crop



Periodic meeting of farmer groups at community (7 times/crop) to share the applied practices and fill up the diary record

Community activities



On-farm support to farmers for pest management



Periodic meeting of women at community: integration and training of 1Must 6 Reductions farming tool to the periodical Women Union's meeting

Community activities



Meeting on how to use and record Farmer's Diary Book

Technical support to farmers for analyzing their production costs

Community activities



Farmer Tanh reports the results of AWD-TRI Model at Phu Thuong - AG



Farmer Chieu reports the results of AWD at Kenh 7B - KG



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DIỄN ĐÀN

NÔNG NGHIỆP GIẢM PHÁT THẢI KHÍ NHÀ KÍNH

POLICY DIALOGUE FORUM ON LOW-EMISSION AGRICULTURE

Hà Nội, ngày 17 tháng 9 năm 2014



BAOSON INTERNATIONAL HOTEL



Scale-up: Mobilization of Government Buy-in in 2015

1. Continuation of the interventions and technical support to rice farmers

In the project areas: DARDs of An Giang and Kien Giang used their own fund

- Scale up the application of 1M6Rs protocol from 270 ha/crop to 500 ha/crop in An Giang
- Scale up the application of 1M6Rs protocol from 270 ha/crop to 525 ha/crop in Kien Giang

Outside project areas:

- 1M6Rs farming model have been adopted and replicated in 22 communes of Tan Hiep district of Kien Giang and Phu Tan district of An Giang provinces.
- Other provinces (i.e. Tien Giang, Long An) have contacted VLCRP for their adoptions of the 1M6Rs protocol.

2. Continuation of the research activities for collecting agronomic, economic, social and environmental impacts that including the GHG emissions and net reductions of chemical run-off from the reduction of pesticide/herbicide usage by farmers in order to develop and standardize the low carbon rice farming protocol for wide-adoption.

Policy Recommendations

VLCRP provides evidence, feasibilities, tools/technique of the community-based LCRF model for enhancing the adoption and application of low emission rice cultivation and policy recommendations to MARD and MONRE for realizing the Agricultural Restructuring Action Plan & Green Growth Strategy that include:

1. **Standard protocol LCRF namely 1M6Rs** as an advanced farming tool for enhancing the sustainable agriculture that lower the emissions whilst increasing the economic effectiveness in relevant ecological system in the Mekong Delta.
2. Contribution of rigorous GHG emissions data to the process of developing the **National Guidelines** that include baseline data for GHG emissions from rice cultivation in VN and the development of on-farm GHG measurement and quantification.
3. Development of the **Climate Resilience Bio-rice product**/trade mark for rice produced from the 1M6Rs protocol, create the high quality climate resilience rice production areas and formulate the **PPP model** with the participation of **“4 Key Stakeholders”**



Thank you for your attention!

Further information, contact

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