DRAFT

Oxfam America (VIE 034/07): System of Rice Intensification -- Advancing Small Farmers in Mekong Region

Background

Under a 3-year grant, SRI promotion is being implemented through a partnership among three organizations based in Hanoi, Vietnam: Oxfam Quebec; the Center for Sustainable Rural Development (SRD), a local NGO; and the Plant Protection Department (PPD) under the Ministry of Agriculture and Rural Development (MARD) of Government of Vietnam.

This report covers the first 10 months of Year 1 of implementation, starting in September 2007. The program covers six provinces in the northern Vietnam, namely, Ha Tay, Yen Bai, Phu Tho, Thai Nguyen, Nghe An, and Ha Tinh. Ha Tay province had a head-start in working with SRI due to previous funding provided from Oxfam America to introduce SRI in Dai Nghia commune starting in 2006. The total number of communes involved was 13, as shown in Table 1.

Table 1. Project Area, First Season Project Implementation, Winter-Spring, 2008

#	Commune	Season in implementing SRI	District	Province
1	Dai Phac	1st	Van Yen	Yen Bai
2	An Thinh	1st	Van Yen	"
3	**Dai Nghia**	**3rd**	**My Duc**	**Ha Tay**
4	Te Tieu	1st	My Duc	"
5	Hop Tien	1st	My Duc	"
6	Dong Tien	1st	Pho Yen	Thai Nguyen
7	Hong Tien	1st	Pho Yen	"
8	Cao Xa	1st	Lam Thao	Phu Tho
9	Kinh Ke	1st	Lam Thao	"
10	Hung Tien	1st	Nam Dan	Nghe An
11	Xuan Hoa	1st	Nam Dan	"
12	Kim Loc	1st	Can Loc	Ha Tinh
13	Quang Loc	1st	Can Loc	"

Summary of the SRI Program Progress (Technical Component)

1. General overview

In most locations of northern Vietnam where irrigation systems are available, farmers can make two rice crops per year. Winter-spring season 2008 was the first rice season for this new program to promote SRI in northern Vietnam. Among the 13 communes participating, however, one commune (Dai Nghia, My Duc district, Ha Tay province) was in its third season of implementation, having had SRI practices previously in winter-spring and summer seasons 2007. The other 12 communes were undertaking SRI for the first time this year. It is noted that the majority of farmers were participating in agricultural cooperatives and were using their own paddy land as collateral.

2. Farmers' participation and areas of SRI application (see Table 2)

In September 2007, a SRI curriculum was prepared and subsequently used as key training material in the training-of-trainers (TOT) for all six provinces. The program placed farmers at the center of the initiative in participatory way. We encouraged enhancing farmers' confidence and their capacity for adopting and adapting new techniques in rice cultivation. SRI was promoted as the most advanced and relevant one. We did not follow rigidly the 12 steps of SRI that have been worked out by Cambodian colleagues. Instead, we promoted an "open attitude," adapting these to the local conditions and the ongoing campaign of MARD for sustainable agriculture known as 'the 3 gains and 3 reductions' campaign, namely reduction in seeds, fertilizer, and pesticides and herbicides, with resulting gains in yield, rice quality, and net profit.

Farmer Field Schools (FFS) were organized as the first step of SRI activities at the commune level. In total, 13 FFSs were carried out for **390 core farmers**. Specific field studies were undertaken by the farmers themselves under the technical supervision of PPD local staff. The topics were identified and selected by farmers based on their specific local conditions and needs, however, focused around SRI and IPM (integrated pest management). Majority of farmer field studies focused on soil nutrition management, water management, balanced application of fertilizer (N, P, K), spacing, rice seed selection, soil preparation, and seedling preparation. Farmers learned to prepare simple documents and to demonstrate differences in comparison tables written on big flip charts. In many communes, farmers also tried to make their own simple weeding tools.

Core farmers were chosen by the agricultural cooperatives themselves, based on the condition that at least one-third of the core famers must own their own paddy fields. It was agreed that the demonstration fields must be in accessible areas and must represent the main soil types for the commune. Field days/workshops were used as the main follow-up training method for core farmers, and also for farmer-to-farmer training. Core farmers provide training for another **1,274 farmers** in their neighborhoods and encouraged them to apply SRI for a total of **302.3 hectares**, mostly as trials/demonstration fields in this first season.

In Ha Tay province, as an outcome of Oxfam America's previous support, the operations were quite different. Based on previous experience and outcomes, the provincial authorities have endorsed and encouraged SRI using their own resources to scale the methods up to **33,000 ha** with **95,000 farmers** involved. Since the average landholding in Ha Tay is around 0.4 hectare per household (4-5 people), this means that in Ha Tay, SRI methods are being applied to almost 100% of the land area for these SRI farmers. Other provinces should learn from Ha Tay's extraordinary effort in scaling SRI up so rapidly. We plan to conduct an internal assessment as a case study.

The total area in which SRI was applied in the 6 provinces in this winter-spring season, with all sources of support including Oxfam program support and local funds, was **33,306.4 Ha** with **96,544** farmer participation as seen in Table 2.

3. Specific gains/benefits in SRI promotion program (see Tables 3 & 4)

In comparison to the conventional practice, farmers using the new methods managed to reduce their seed use **by 75%** and their pesticide use **by 50-100%** in their SRI fields. Consequently, their rice yields went up **between 13% and 29%**, and their net profits were increased in a range **from 8% to 32%.** Specific details are given in the tables below. [These tables still need some completion.]

Table 2. Area and number of farmers utilizing SRI of first season of project implementation, winter-spring, 2008

	Area of field study in project sites (ha)	Area of farmers utilizing SRI in project sites (ha)	Area of farmers utilizing SRI in non-project sites (ha)	# of farmers attending SRI FFS/field study in project sites	# of farmers utilizing SRI in project sites	# of farmers utilizing SRI in non-project sites (ha)	SRI area from all sources in provinces, including project sites (2+3+4)	# of farmers implementing SRI from all sources in province, including project sites (5+6+7)
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Yen Bai								
An Thinh	0.2	0.4		30	45			
Dai Phac	0.2	0.4		30	45			
Total	**0.3**	**0.7**		**60**	**90**		**1.0**	**150**
Ha Tay								
Hop Tien	0.4	120.0		30				
Te Tieu	0.3	0.0		30				
Dai Nghia	1.0	180.0		30				
Total	**1.7**	**300.0**	**33,000.0**	**90**	990	**95,000**	**33,301.7**	**96,080**
Thai Nguyen								
Hong Tien	0.1	0.2		30	30			
Dong Tien	0.1	0.3		30	30			
Total	**0.2**	**0.5**		**60**	**60**		**0.7**	**120**
Phu Tho								
Cao Xa	0.2	0.2		30	5			
Kinh Ke	0.3	0.3		30	9			
Total	**0.5**	**0.5**	**0.7**	**60**	**14**		**1.8**	**74**
Nghe An								
Hung Tien	0.2	0.2		30	30			
Xuan Hoa	0.2	0.2		30	30			
Total	**0.3**	**0.3**		**60**	**60**		**0.6**	**120**
Ha Tinh								
Can Loc	0.2	0.2		30	30			
Kim Loc	0.2	0.2		30	30			
Average	**0.3**	**0.3**		**60**	**60**		**0.6**	
		302.3	**33,000.7**	**390**	**1,274**		**33,306.4**	**96,544**

Table 3. Production inputs and outputs with SRI utilization, first season of project implementation, winter-spring, 2008

Name of provinces/ communes	Spacing (number of seedlings/m^2)	Yield (theoretical or harvested)	# grains/panicle	Grain filling (%)	Nitrogen (urea)	Pesticide use (# of sprayings)	Net benefit (VND/ha)
Yen Bai							
An Thinh	32	6,160.0	148	89	167	3	29,677,000
Dai Phac	32	6,390.0	100	90	167	3	32,760,000
Average	**32**	**6,275.0**	**124**	**89**	**167**	**3**	**31,218,500**
Conventional	*126*	*5,420.0*	*103*	*87*	*167*	*5*	*24,536,000*
Difference compared to conventional practice (%)	**-75**	**+13.6**	**+16.9**	**+2.5**	**0.0**	**-66.7**	**+21**
Ha Tay							
Hop Tien	25	**6,814.0**	190.1	93.4	111	0	22,155,000
Te Tieu	25	**6,596.0**	214.3	81.3	111	0	33,407,000
Dai Nghia	25	6,562.0	177.9	97.6	111	0	31,867,000
Average	**25**	**6,657.3**	**194**	**91**	**111**	**0**	**29,143,000**
Conventional	*100*	*5,230.0*	*139.6*	*65.4*	*111*	*0*	*19,838,333*
Difference compared to conventional practice (%)	**-75**	**+21.4**	**+28**	**+28**	**0.0**	**--**	**+32**
Thai Nguyen							
Hong Tien	39	8,556.0	164	*91*	*139*	*1*	14,270,000
Dong Tien	42	5,489.0	106	*91*	*166*	*1*	12,395,000
Average	**40**	**7,022.5**	**135**	**91**	**152.5**	**1**	**13,332,500**
Conventional	*210*	*4,970.0*	*82*	*85*	*166*	*4*	*10,833,000*
Difference compared to conventional practice (%)	**-81**	**+29**	**+39**	***+7***	***-9***	***-75***	**+19**
Phu Tho							
Cao Xa	25	*6,580.0*	158	*90*	*167*	*1*	16,603,000
Kinh Ke							
Average							
Conventional	*150*	*6,421.2*	*139*	*39*	*250*	*2*	*15,200,000*
Difference compared to conventional practice (%)	**-83**	**+2**	**+12**	**+57**	**-33**	**-50**	**+8**

Nghe An							
Hung Tien	25	6,930.0	210	90	140	*1*	31,380,000
Xuan Hoa	25	7,860.0	186	81	168	*1*	36,680,000
Average	**25**	**7,395.0**	**198.0**	**85.4**	**154.0**	**1**	**34,030,000**
Conventional	*115*	*5,990.0*	*128*	*88*	*220*	*4*	*23,000,000*
Difference compared to conventional practice (%)	**-78**	**+23.5**	**+65**	**+3**	**-30**	**-75**	**+32**
Ha Tinh							
Can Loc	30	6,409.2	152	78.1	140	*1*	14,840,000
Kim Loc	30	7,159.6	144.5	79.7	150	*1*	18,200,000
Average	30	6,784.4	148.3	78.9	145	1	16,520,000
Conventional	*126*	*6,017.2*	*144.2*	*79.6*	*150*	*3*	*12,080,000*
Difference compared to conventional practice (%)	**-76**	**+11**	**+3**	**-1**	**-3**	**-67**	**+27**
Unweighted average difference for all provinces (I%)	**-78**	**+16.7**	**+27.3**	**+16**	**-12.5**	**-55.6**	**+23.3**

Note: 1 USD = 16,500 VND

Table 4. Reported changes in insect/pest resistance

Provinces	Changes observed in insect/pest resistance
Yen Bai	Pests less in SRI compared to conventional: - Plant hopper reduced by 60% - Bacterial disease reduced by 68% - Sheath blight reduced by 32% - Pesticide applications reduced by 60%
Ha Tay	Pests less in SRI compared to conventional: - Leaf folder reduced by 70% - Blast disease reduced by 56% - Sheath blight reduced by 42% - Pesticide applications reduced by 60%
Thai Nguyen	Pests less in SRI compared to conventional: - Leaf folder reduced by 48 % - Sheath blight reduced by 90 % - Pesticide applications reduced by 67%
Phu Tho	Pests less in SRI compared to conventional: - Leaf folder reduced by 50% - Sheath blight reduced by 48% - Pesticide applications reduced by 83%
Nghe An	- Sheath blight reduced by 50%
Ha Tinh	Pests less in SRI compared to conventional: - Plant hopper reduced by 90% - Sheath blight reduced by 50% - Pesticide applications reduced by 67%

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