SUPPORT TO OUT-SCALING OF CA PRACTICES FOR MAIZE-BASED SYSTEMS IN THE NORTHWEST REGION OF VIETNAM

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INTRODUCTION

1. Maize is one of the most important crop in the Northwest Vietnam, contributing a great share of income of a large part of the local households
2. Soil erosion
3. Barriers to adoption → limited adoption


Conventional practices


Severe erosion

MAIN ACTIVITIES AND OBJECTIVES

- Building networks of key farmers applying CA practices to serve as a reference sites for further scaling-out
- Support to scaling-out

→ CA to be largely adopted for soil erosion control while improving both the total and net incomes from maize-based systems

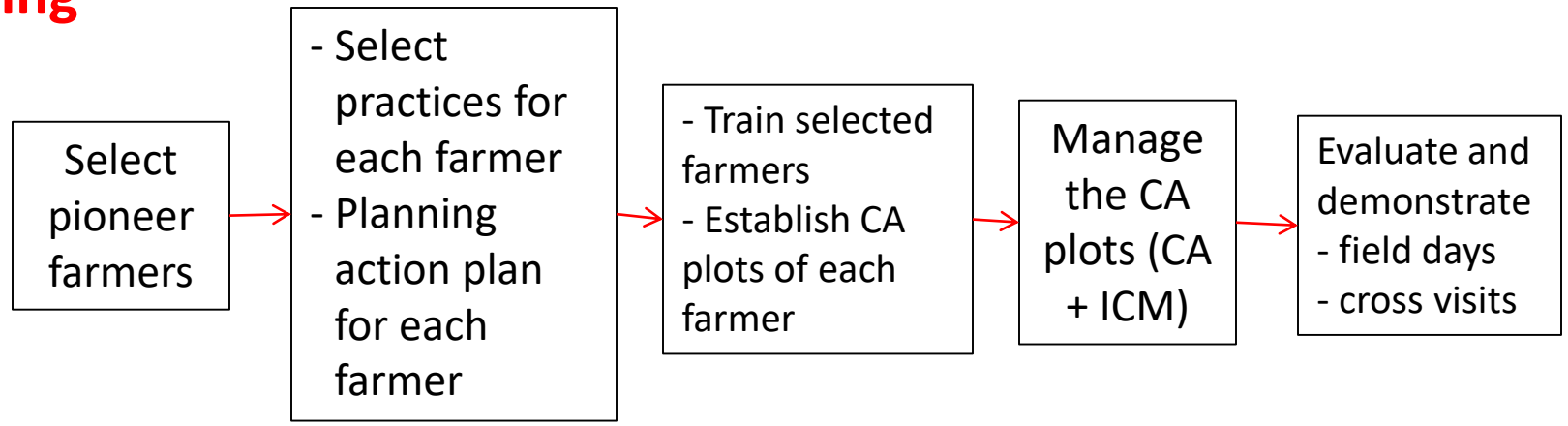
METHODOLOGY

- Start from simple and at small scale:
  - ✓ select and start with pioneer farmers
  - ✓ select practices suitable to local conditions and to each HH needs & conditions
- Communication & capacity building: field days, cross visits, workshops, trainings
- Support to scale-out: link with the local government initiatives (extension programs in particular)

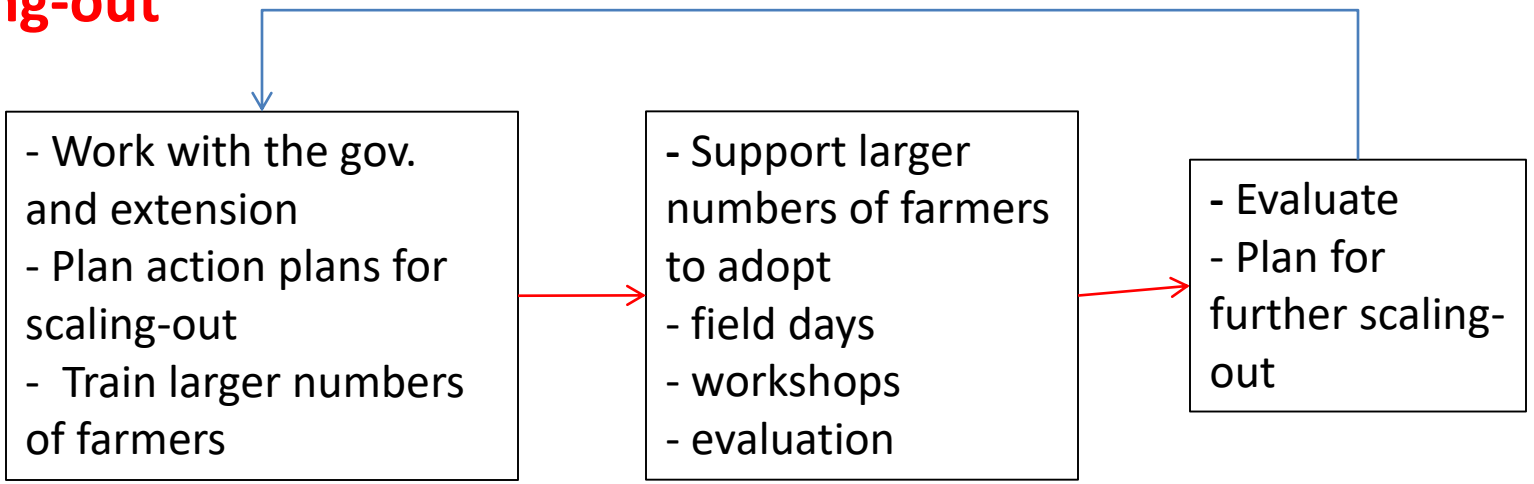
❖ **Participatory approach**

Participatory working approach

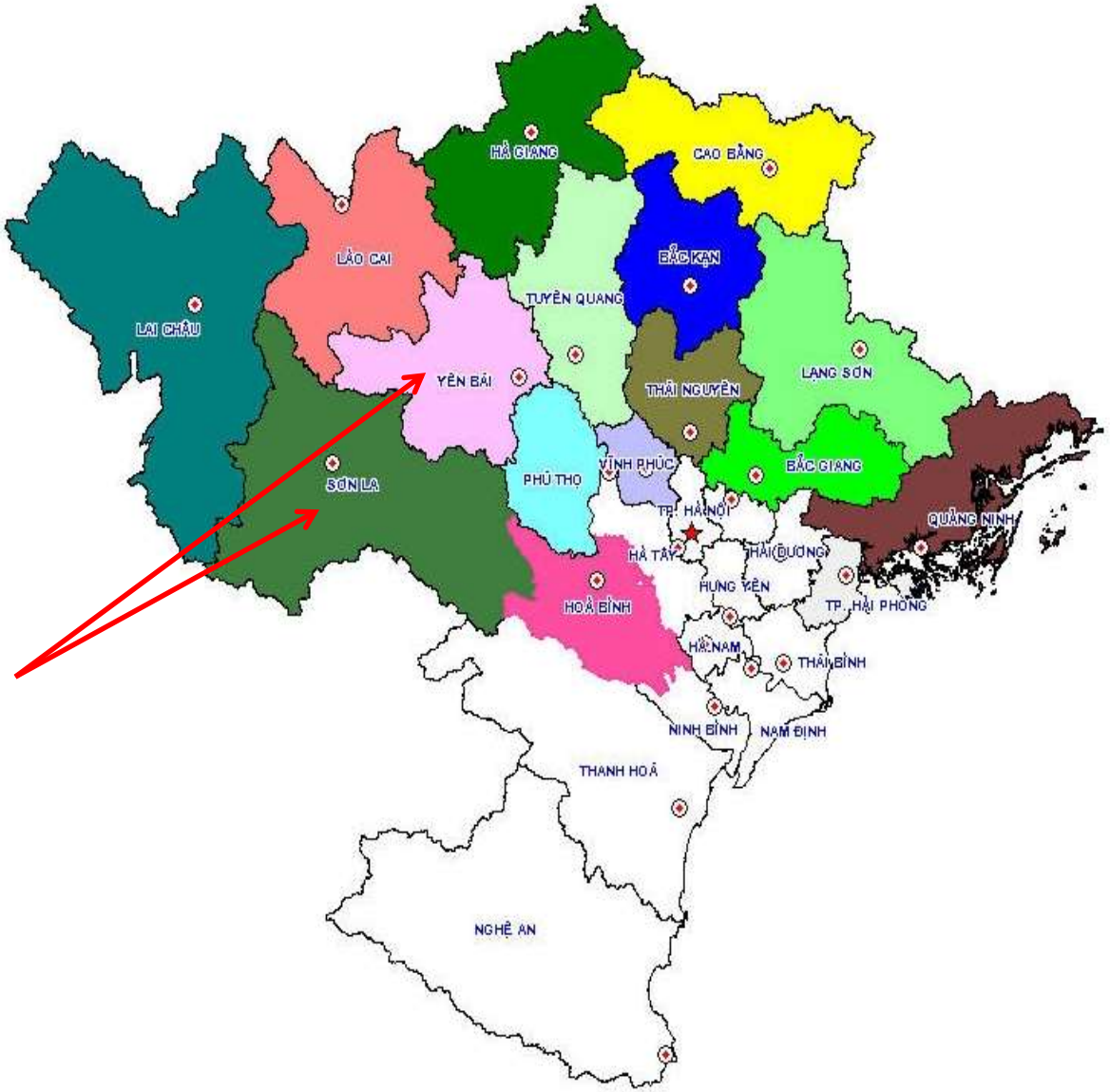
Starting



Scaling-out



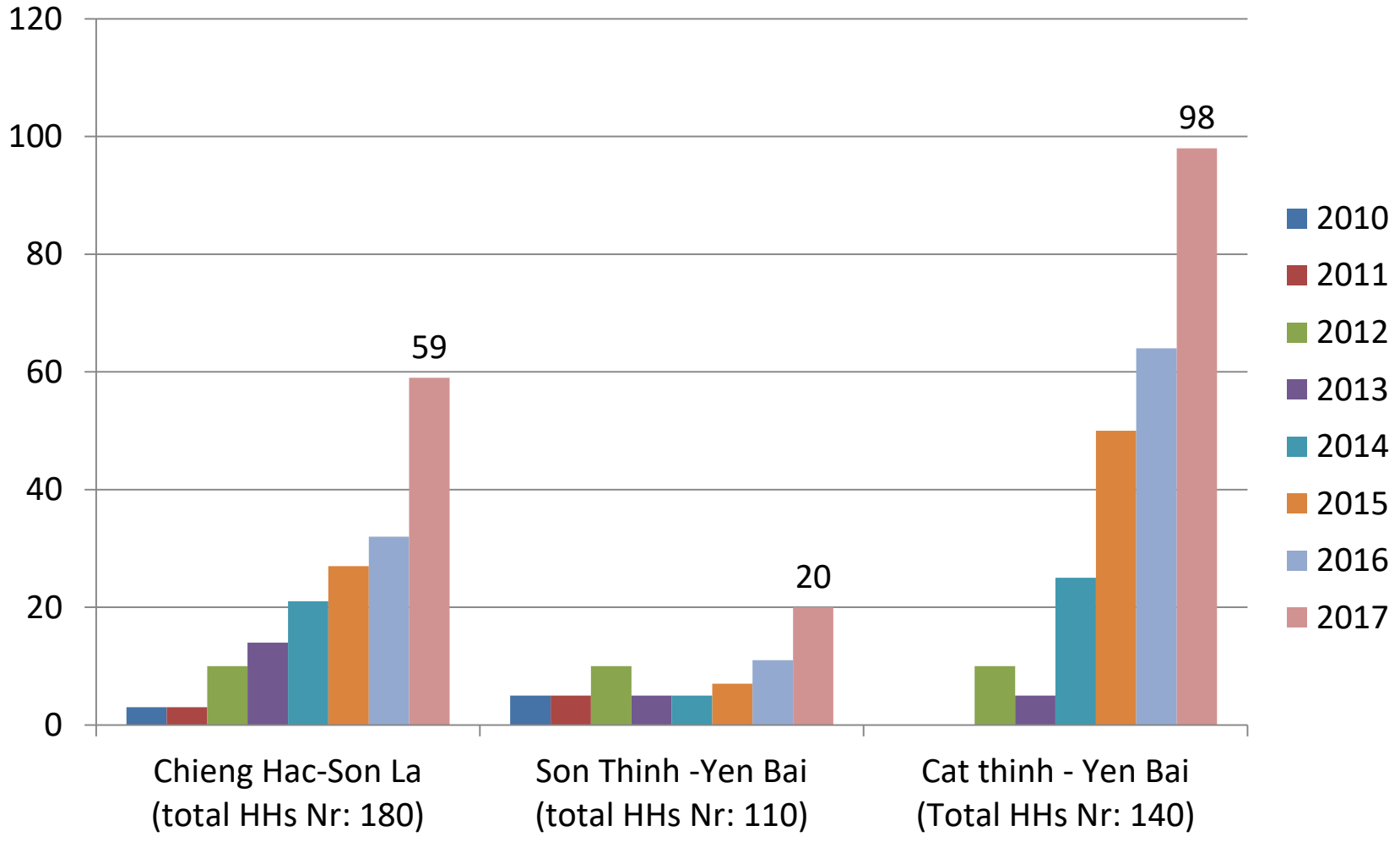
Initial target sites:
- Van Chan, Yen Bai
- Mai Son, Moc Chau Son La



RESULTS & DISCUSSIONS

CA practices selected by farmers

- Reduced tillage (no burning + mulching): Son La, Yen Bai
- Intercropping with rice bean: Son La, Yen Bai
- Intercropping with cowpea: Yen Bai
- Grass strips: Son La, Yen Bai
- Additional crop (before the main maize crop) legumes (cowpea, mung bean: Son Thinh, Van Chan, Yen Bai
- Additional crop (after main maize crop) cowpea, pumpkin: Son La



Number of HHs applying CA practices

Table 1: *Double cropping systems in Yen Bai (Cat Thinh commune, Van Chan district)*

	1st crop		2nd crop		
	Control	**RT&M**	**Control**	**RT&M**	**Mucunna**
Yield (tons/ha)	6.53	7.28	5.74	6.32	6.12
Gross return (000vnd)	32,650	36,400	28,700	31,600	30,600
Total material cost (000vnd)	15,730	16,400	15,430	16,350	16,850
Total labor (working days)	130	141	124	137	152
Net Returns (000vnd)	16,920	20,000	13,270	15,250	13,750
Net returns per working day (000vnd)	130.15	141.84	107.02	111.31	90.46
Net return per 1vnd spent (vnđ)	2.15	2.22	1.86	1.93	1.82

Maize + cowpea

Maize +mucuna

Table2: Single cropping system in Yên Bai (Sơn Thinh Commune, Van Chan District)

	Control	RT&M	Mucunna	Rice bean	Mini-terrace	Grass trips(*)
Yield (tons/ha)	3.96	4.46	4.21	4.34	4.93	4.01
Gross return (000vnd)	19,800	22,300	21,050	21,700	24,650	20,050
Total material cost (000vnd)	8,800	9,100	9,500	9,400	9,000	9,100
Total labors (working days)	122	131	148	145	149	152
Net Returns (000vnd)	11,000	13,200	11,550	12,300	15,650	10,950
Net returns per working day (000vnd)	90.02	100.76	78.04	84.83	105.03	71.04
Net return per 1vnd spent	2.250	2.45	2.22	2.31	2.74	2.20

Additional return from grass as 15.2 tons/ha/year

Mini-terrace

Mulch, 2nd crops

Table 3: Additional crop (before main maize crop) in single cropping maize lands in Son Thinh commune, Van Chan district

	Only maize	Only cowpea	Cowpea + Maize	Mung bean + Maize
Yield of maize (t/ha)	0.71	-	0.32	0.34
Yield of legume (000vnd)	-	3.8	0.25	0.15
Gross return (000vnd)	3.905	13,300	10.510	5.620
Total material cost (000vnd)	5.920	3,895	4.225	3600
Total labor (working days)	100	143	140	137
Net Returns (000vnd)	-2.015	9,405	6,290	2,020
Net returns per working day (000 vnd)	-20,15	65,77	44,9	14,74
Net return per 1vnd spent (vnd)	0,66	875	2,49	1,56

Table 4: Single cropping system in Son La (Chieng Hac commune , Moc Chau District)

	Control	RT& M	Intercropping	
			Maize	Rice bean
Yield (tons/ha)	4,55	5,12	5,04	0,33
Gross return (000vnd)	22.750	25,600	25,200	8.250
Total material cost (000vnd)	14.693	13.191	12.682	300
Total labor (working days)	63	62	63	51
Net Returns (000vnd)	8.057	12.409	12.518	7.950
Net returns per working day (000vnd)	127,889	200,145	196,807	
Net return per 1vnd spent	1,550	1,940	2,576	

Maize with rice bean, grass strips

Further scaling-out

In linkage with the local extension programs, tranings were organized for many farmers:

- In Son La: more than 4500 farmers in 12 districts
- In Yen Bai: more than 1000 farmers in 3 districts

This, together with field days and cross visits, helped scale-out CA practices outside of the initially target villages by our projects; in many other villages and districts in Son La and Yen Bai provinces farmers adopted reduced tillage and intercropping.

- In Moc Chau (Son La): about 40% of no longer burn their fields. maize farmers nowadays

- In Van Chan: about 80% maize farmers adopt reduced tillage

CONCLUSIONS

With participatory working approach in linkage with local initiatives we succeeded in promoting scaling-out of CA adoption in Yen Bai and Son La provinces.

From 2010 – 2017:

- the number of farmers adopting CA practiced increased significantly
- in some villages over 80 % of farmers adopt (mainly reduced tillage, intercropping with rice bean and grass strips)
- we worked with 3 villages in Yen Bai province and 4 villages in Son La, but local government included CA as one of the main objectives in their extension program; they have trained and supported farmers in many other villages and districts to adopt CA practices.


THANK YOU
FOR YOUR ATTENTION!