Diversification of rice-based farming systems in Tonle Sap Lake Region, Cambodia

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Rice based farming systems in Tonle Sap Lake Region

- Rainfed/irrigated systems: low productivity
- Importance to cattle breeding but general under nourishment

Agroecology practices: opportunities and challenges

Promising practices

- Cover crops
  - Soil fertility
  - Cattle feed
- No-till planters
- Permanent forage crops

=> *Successful on-farm tests*

Challenges

- Cattle grazing
- Organize a « demand » and an « offer » for no-till planters and for seed production

Objective of ACTAE initiative

Accompany farmers in:

- understanding the opportunities enabled by agroecological practices;
- exploring how these innovations could be specifically used given their farming systems and their own priorities;
- assessing the constraints for implementation and how to address them.

Working areas

Battambong Province

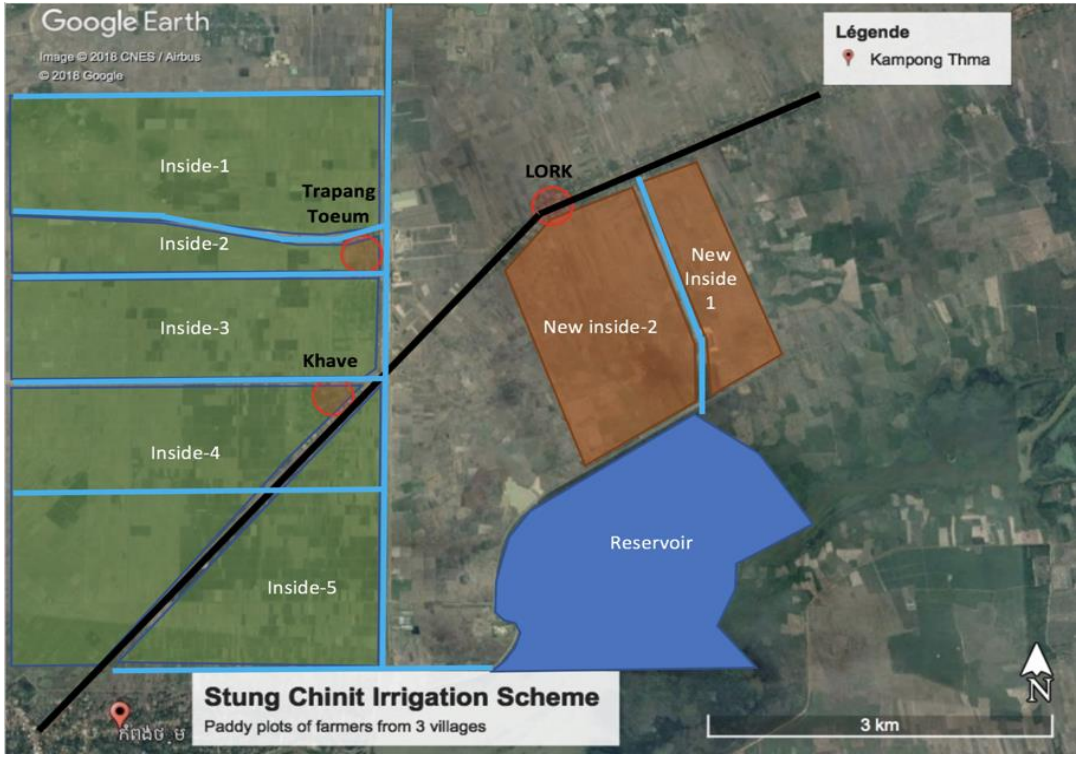
4 villages

- Mostly rainfed areas
- Some villages: almost no cattle (focus on rice farming)
- Other villages: importance to cattle farming (on average 5 cows per household)

Kampong Thom Province

3 villages

- Most area within irrigated area (Sting Chinit)
- On average 6 cows per household



Method

- Step 1. Preliminary assessment (Jan-March 2018)
  - Farming systems, typology of farms
  - Data to prepare the game (eg, economics)
- Sept 2. Games (April – June)
  - Virtual environment, but general similarities with actual villages (upland, irrigated areas, etc.)

Step 2 (continued)

Game session

- Discussion of parameters of the game
- Round 1: current situation
- Presentation and discussion of proposed innovations
- Round 2 and 3: participants test innovations

Implementation

- 88 farmers participated to 11 simulation games, in the 7 villages

- Step 3. Post-game interviews (July-August)

- Step 4. Support to implementation (Sept-Nov)

Results

Proposed practices		Objectives for farmers implementing the practices	Tested practices in Round 3 of the game	Planned implementation (update end of October)
No till planter for rice without cover crops		Reduce production costs, increase rice yields	37 farmers (54 ha)	33 Farmers(88 ha)+87ha new
Cover crop (plus no till planter)	Used for cattle feed	Provide easily available feed	31 farmers (40 ha)	19 farmers(15.96 ha)+1new farmers(1 ha.)
	Used for seed production	Selling and availability of seeds for next season	20 farmers (26 ha)	4 farmers(11ha)+ 1 new farmer(4 ha)
	Improve soil fertility (without use for cattle and seed production)	Increase rice yield	34 farmers (55 ha)	36 farmers /(54.5 ha) +33 new farmers (68.3ha)
	Cut for sale	Potentially profitable	1 farmer (1 ha)	No farmer
Permanent forage crop		Easily available feed on land not at risk of flooding	24 farmers (27 ha)	16 farmers/ (2.78 ha)+1 new farmers(0.5ha)

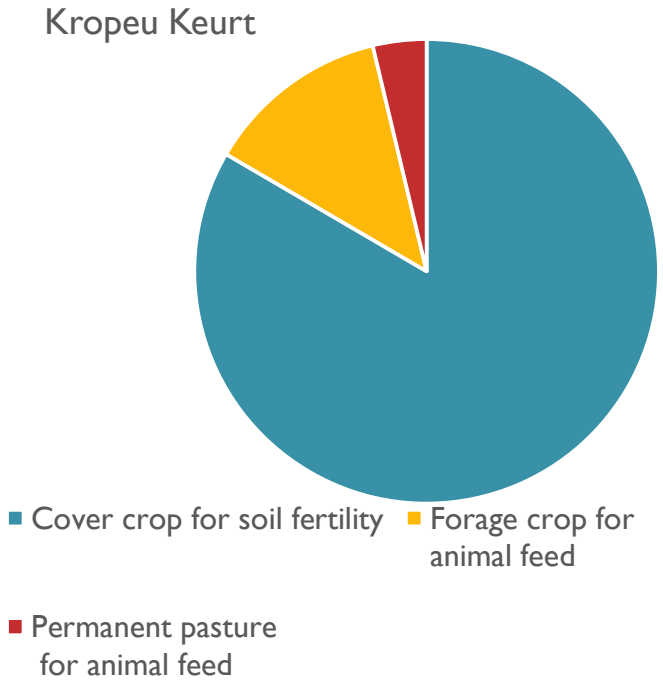
- Farmers understood the game and tested various possible practices

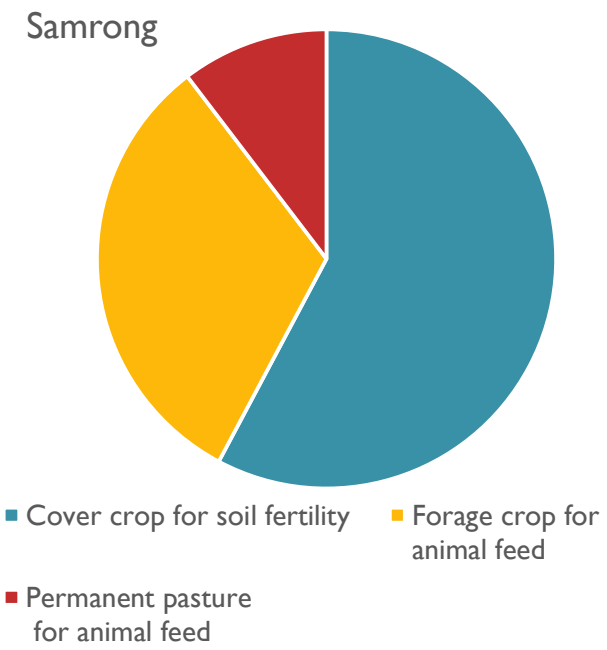
- Learning outcome: there are ways to handle cattle grazing (Electric fence, Natural fence, Wire fence...)

- As soon as cattle feed increase, willingness for many farmers to develop cattle breeding

Planned implementation

- Approx 150 ha of cover crop scheduled to be planted in Nov/Dec
- A diversity of objectives





- Challenge: collective actions for controlling cattle grazing

Lessons learnt on agroecology practices

- « Make sense » given farms characteristics and farmers' objectives in rainfed/flood plain areas

  => need for accompany a twin development of demand and offer

- Still a challenge in irrigated areas where farmers have shifted to 3 rice crops per year (flooding) => how to enable such practices in irrigated areas?

Thank you