



Eco-Friendly Intensification and Climate resilient
Agricultural Systems (EFICAS) project

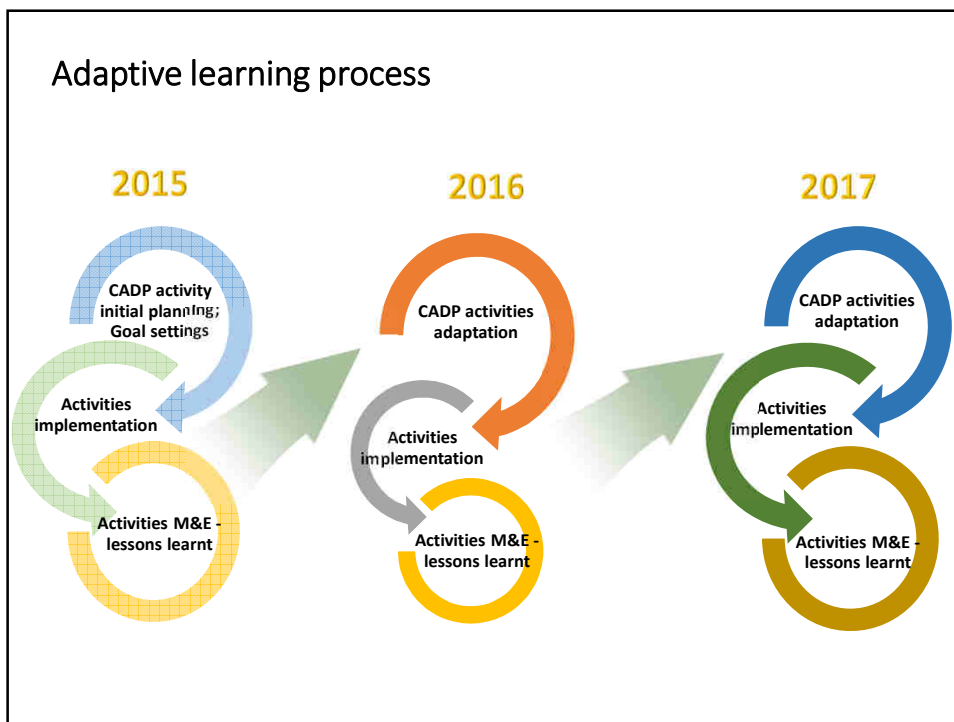
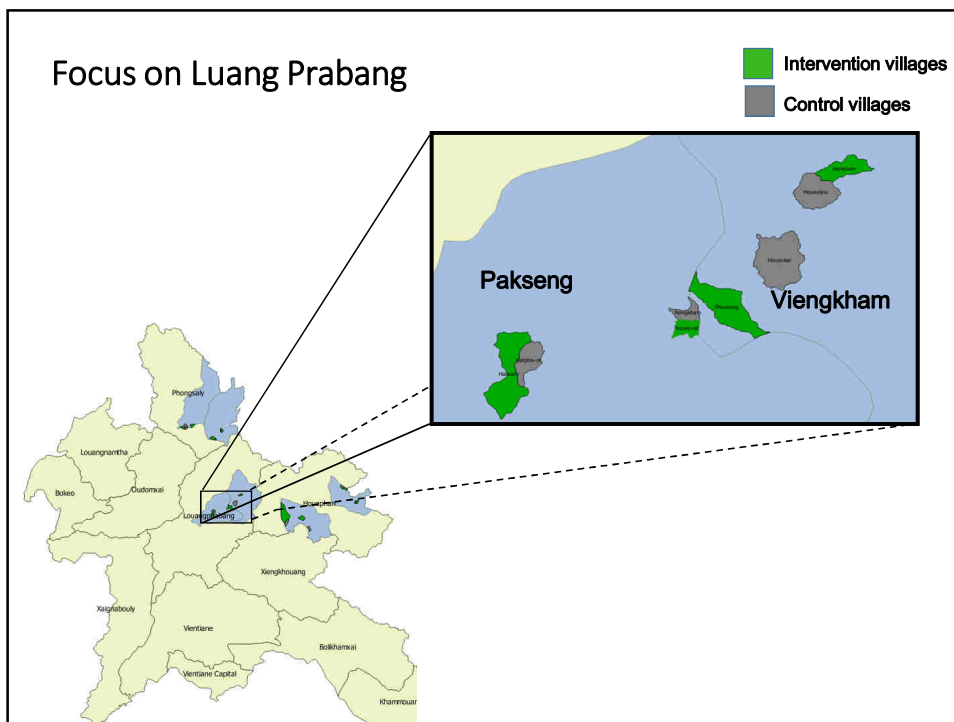
Community-based Agricultural Development Plans
(CADPs) assessment
2015 - 2017



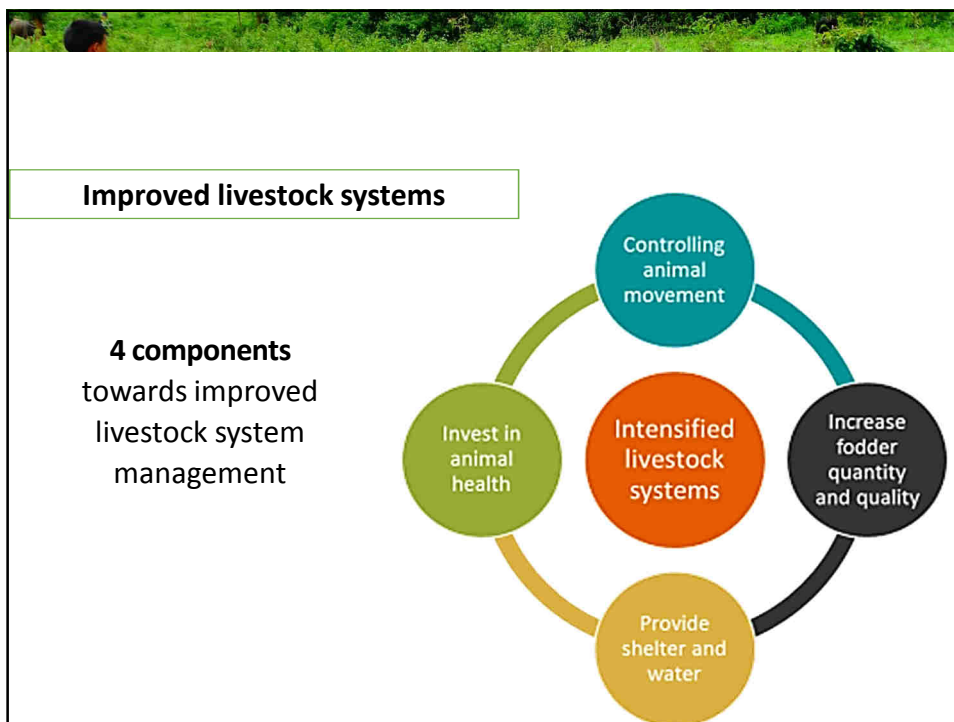
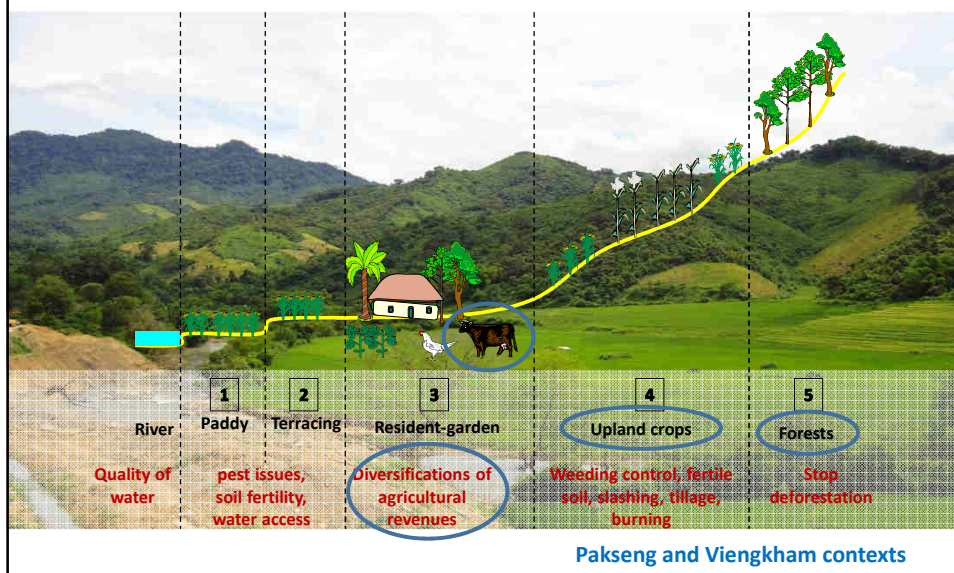
The collage features the EFICAS project logo, several photographs of agricultural fields and community meetings, and a map of the study area in Cambodia. The map labels include Pigeon pea Mr. Leun, Pigeon pea Mr. Boum, Pigeon pea Mr. Boum, Ban Hongsam, Bouhma, and Soybean+Pigeon pea M.

Outline

- Main CADP activities supported
- Partnerships engaged
- Support to capacity building
- Take home messages



Activities supported based on PLUP-CADP priority ranking (negotiation process)



Improved livestock systems

Animal roaming control – permanent fencing of livestock areas

“We are not raising animals but animals are raising us”

Temporary (annual) fencing of cropping areas to protect crops against roaming animals during the cropping season

Permanent fencing of livestock areas

Improved livestock systems

Animal roaming control – permanent fencing of livestock areas

Livestock area (ha) fenced with support from the project

Location	2015 (ha)	2016 (ha)	2017 (ha)
Phoukang	0	40	80
Vangseng	10	10	10
Houaymoun	35	25	0
Naphieng	90	40	0
Samsoom	10	30	0
Phoutong	40	40	110
Houayvat	10	30	0
Hadsam	40	15	0



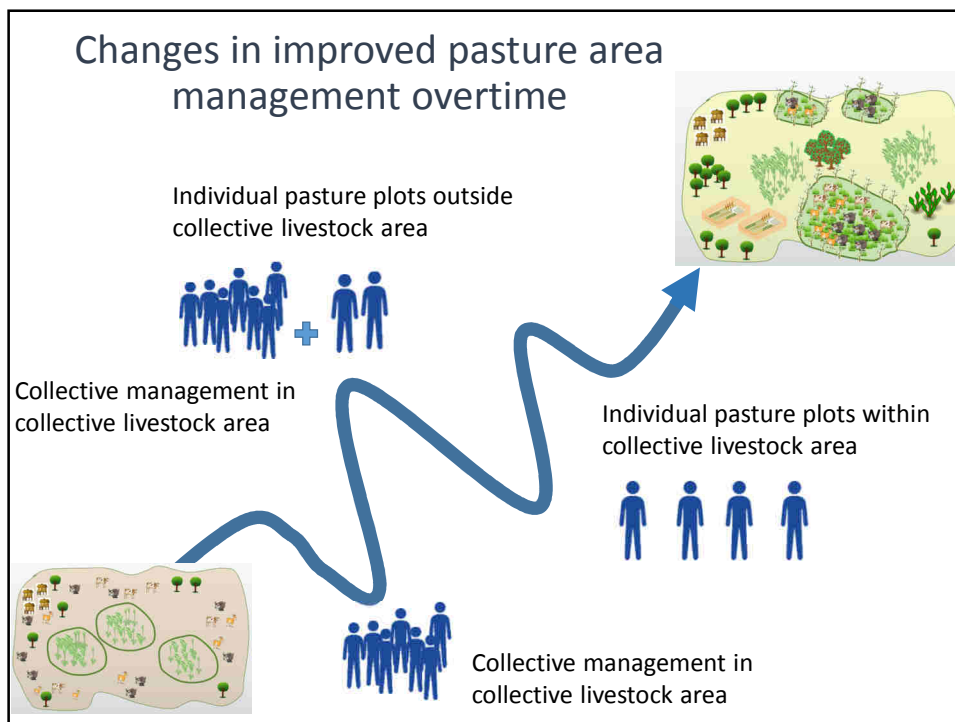
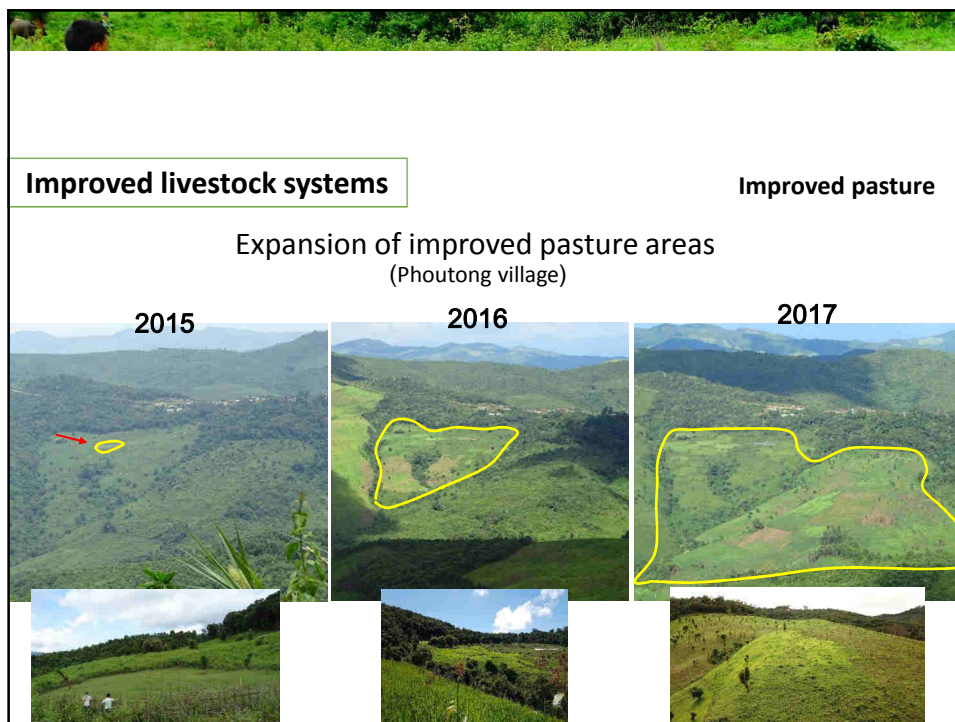
Improved livestock systems **Improved pasture**


(2017)

Villages	No HH volunteered	No HH actually involved	% HH actually involved /volunteered	Area improved pasture planned 2017 (ha)	Area improved pasture done 2017 (ha)	% area improved pasture done/ planned	Area improved pastures outside village livestock area (ha)	% area improved pastures outside village livestock area/ improved pasture done
Hadsam	10	14	140%	12	13.67	114%	5.5	40%
Houayvat	9	17	189%	9	10.25	114%	5.7	56%
Phoutong	70	73	104%	38	43.90	116%	2.3	5%
Samsoom	10	10	100%	8	8.5	106%	5.5	65%

Observations:

- Huayvat: Goat raising activity at Huay Hin Khao area were moved to Huay Houg area due to goats lost (stealing...)
- Phoutong: Improved pasture has been increasing due to high livestock stocking rates
- Samsoom: Improved pasture at Huay Thongdee area difficult to maintain due to imperata grass pressure and farmers preference for individual management
- Hadsam: Collective pasture area was split into individual plots for improved management









Improved livestock systems

Improved animal health

- Sensitization and training of Village veterinary workers (VWW)
- Equipment and animal health revolving fund
- Monthly support from DAFO staffs (veterinary)

Money remaining in revolving funds in 2017

Hadsam	1,150,000
Houayvat	1,175,000
Phoutong	1,159,000
Samsoom	1,519,000




Improved livestock systems

Improved animal health

	% buff+cattle vaccinated/total buff+cattle			% pig+goats vaccinated/total pigs+goats		
	2015	2016	2017	2015	2016	2017
Hadsam	54%	58%	43%	14%	35%	5%
Houayvat	54%	66%	55%	7%	17%	6%
Phoutong	76%	76%	56%	5%	17%	6%
Samsoom	57%	22%	32%	19%	2%	29%

Observations:

- Dynamics are still mainly project-driven (farmers are not yet autonomous on product supply, coordination and planning of vaccination days)
- Not all farmers see the benefits from vaccination (notably for small livestock, with vaccination cost still perceived as too expensive as compared to benefits)
- There is a lack of leadership from village veterinary workers






Improved livestock systems

Animal stall construction

	2015	2016	2017
Hadsam	6	21	6
Houayvat	12	9	14
Phoutong	9	22	41
Samsom	2	4	10


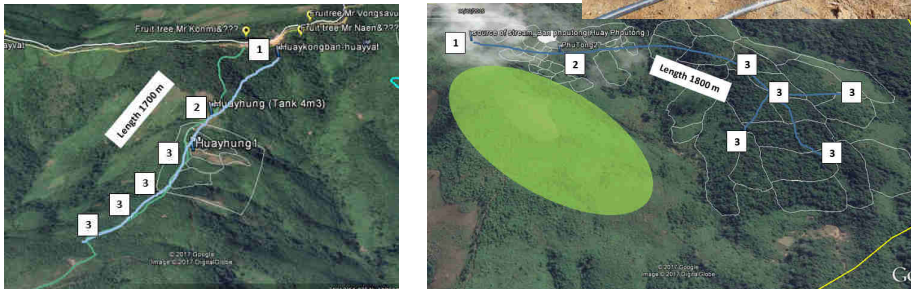
Supported 10 pieces of zincs per one household or animal raising




Improved livestock systems

Support to water tank construction for animals:

- Huayvat-water tank capacity: 16 liters/day
- Phoutong-water tank capacity: 22 liters/day









Improved livestock systems **Animal funding**

Animal fund for poor households who had no livestock (2016)


*9 MLAK (8 million LAK/8 HHs at Phoutong village, at Huayvat village 1 MLAK/1 HH)
Credit for 1,5 years than beneficiary HH has to pass it on to other household*



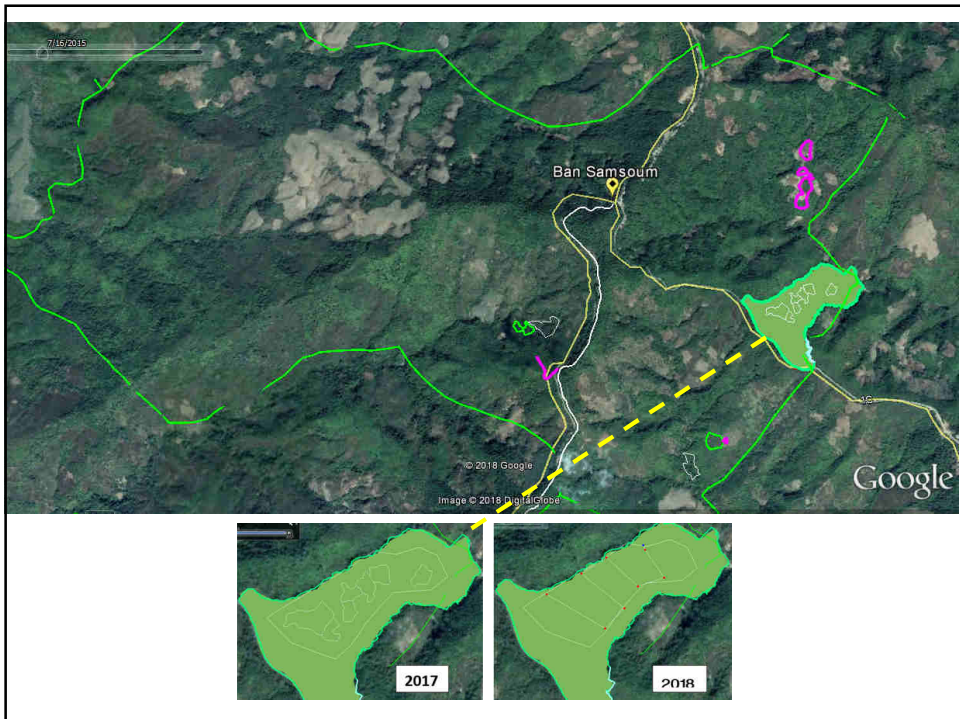


Improved livestock systems **Animal funding**

Supported fattening cattle fund 12.5 MLAK (4 heads of cattle for Huayvat and 2 heads of cattle for Hadsam)





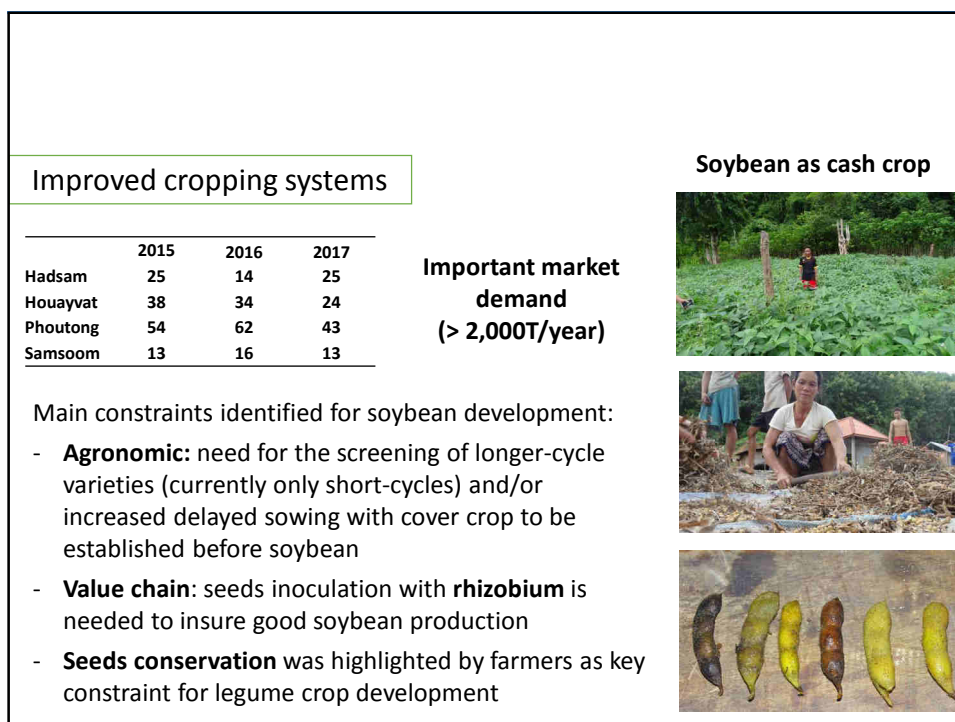
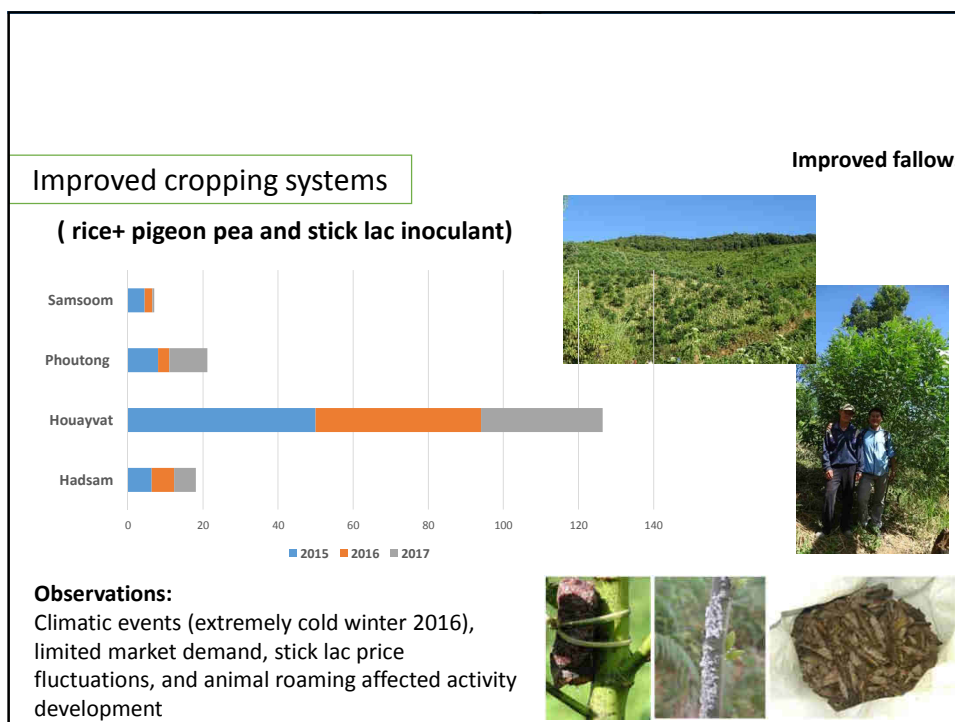


Factors affecting decision-making in livestock management practices

1. Local/district policies (e.g. forage plot needed to get access to livestock support funds, district policy regarding livestock area set-up)
2. Strength of village land management committee and social cohesion level
3. Traditional land use systems and risk aversion
4. Livestock pressure/roaming between villages
5. External supports (project, government, traders....)
6. Aspiration for changes in lifestyle (alternatives to maize)
7. Market opportunities (livestock, cash crops)

IMPROVED CROPPING SYSTEMS










Improved cropping systems

Vegetable gardens

Water tanks not only to benefit to livestock systems but also for vegetable gardening:

- Huayvat village 4000 m², 25 HHs
- Phoutong village: 1000 m², 34 HHs









Improved cropping systems

Upland land rice variety collection

2016

ບ້ານ	ສາມສູມ	ຜູ້ໂຕງ	ຫ້ວຍວັດ
ບ້ານ ສາມສູມ	ເຂົ້າຫິນສູງ	1,89	0,75
	ເຂົ້ານົກ	1,96	0,40
	ເຂົ້າພື້ນເມືອງ	1,71	0,73
	ເຂົ້າໜອນ	1,95	1,04
	ເຂົ້າລາບຸນ	2,05	0,84
ບ້ານ ຜູ້ໂຕງ	ເຂົ້າຫິນສູງ	1,81	
	ເຂົ້ານົກ	1,56	
	ແນວພັນພື້ນເມືອງ	1,75	
	ເຂົ້າໜອນ	2,48	
ບ້ານ ຫ້ວຍວັດ	ເຂົ້າຫິນສູງ	0,75	
	ເຂົ້ານົກ	0,40	
	ແນວພັນພື້ນເມືອງ	0,73	
	ເຂົ້າໜອນ	1,04	
	ເຂົ້າລາບຸນ	0,84	

Selected 4 HHs/village in 3 villages (Samsoum, Phoutong and Huayvat) did the experiment of upland rice variety collection (4 glutinous improved varieties)

Better off yields of 10-45% with varieties introduced

■ ສະມັດຕະພາບ(ໂຕນ/ຮຕ)

Improved cropping systems

Upland land and lowland rice variety collection

		ស្រូវស្រះស្រី	ស្រូវស្រះស្រី	ស្រូវស្រះស្រី	ស្រូវស្រះស្រី
ស្រូវស្រះស្រី	ស្រូវ	2.96	2.4	2.6	3.00
	ស្រូវ	2.2	1.65	2.2	2.18
	ប្រ. ៗ	2.1	2	2.55	2.07
	សរុបស្រូវស្រះស្រី	2.8	2.1	2.1	2.73
ស្រូវស្រះស្រី	ស្រូវ	2.35	2.15	2.45	2.27
	ស្រូវ	1.9	1.8	2.25	1.87
	ប្រ. ៗ	2.2	1.95	2.4	2.27
	សរុបស្រូវស្រះស្រី	2.65	2.6	2.65	2.73
ស្រូវស្រះស្រី	ស្រូវ	1.6	1.8	1.75	1.93
	ស្រូវ	2.1	2	2.25	2.33
	ប្រ. ៗ	1.95	2.05	2.4	2.27
	សរុបស្រូវស្រះស្រី	2	1.75	2.1	2.07
ស្រូវស្រះស្រី	ស្រូវ	1.5	1.65	1.45	1.63
	ស្រូវ	2.25	2.3	2.9	2.33
	ប្រ. ៗ	2.25	2.3	2.6	2.27
	សរុបស្រូវស្រះស្រី	1.8	1.65	2.45	1.93
ស្រូវស្រះស្រី	ស្រូវ	1.65	2.85	2	1.53
	ស្រូវ	1.9	2.9	2.7	1.80
	ប្រ. ៗ	2.2	2.95	2.85	2.33
	សរុបស្រូវស្រះស្រី	1.85	2.85	2.4	2.00



- Farmers at Huayvat and Phoutong much preferred to Khao Non than other varieties.
- Farmers at Samsoum and Hadsam liked Khao Nok much better

Improved cropping systems

Upland land rice variety collection

Village ភូមិ	No HH actually involved	Kg of improved upland rice varieties sown	Kg of improved upland rice varieties harvested
Hadsam	2	40	2,400
Houayvat	5	80	4,840
Phoutong	17	390	16,430
Samsoum	4	32	345



Good dissemination of Khao Non rice variety, notably in Phoutong village

Improved cropping systems

Paddy land registration

- Land registration as a key factor to facilitate farmers' engagement into soil fertility sustainable management
- Within mandate of DALaM/MAF
- Paddy land registration done for 10 HHs (3 ha) in Hadsam village



Agroforestry and forest preservation

Planting Cardamom

Many households interested in planting medicinal Cardamom Guangdong varieties because of:

- High price (up to 420,000 LAK/dry kg in PGY)
- High demand (under-supply of chinese market demand)

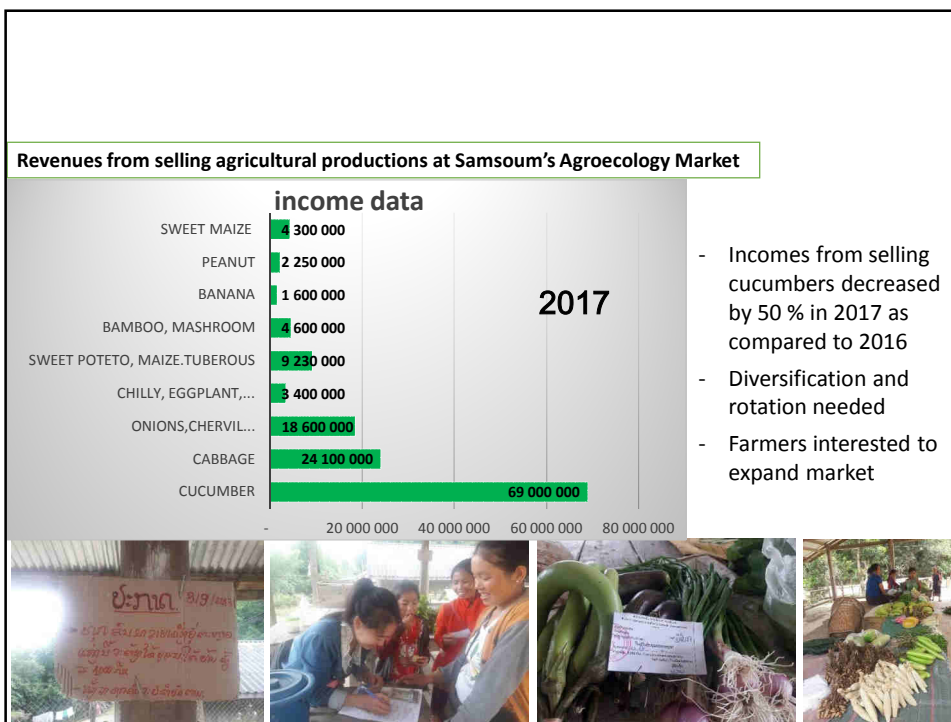
54 households engaged in 2017 in the multiplication and testing of Cardamom Guangdong (8,000 seedlings brought from Phongsaly)



Quantum cardamom 2017



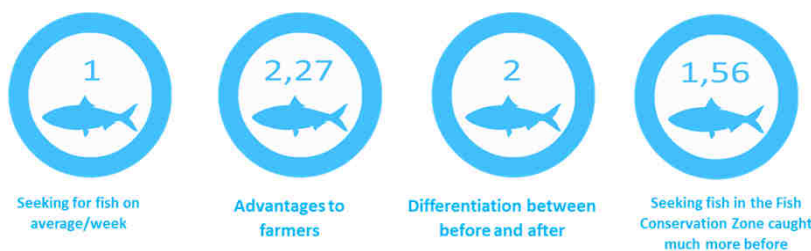
Local cardamom



Established Fish Conservation Zone

- 6,000 fingerlings released in 2015 (e.g. Papak, Pakhom, Panam, Pamang, Pasalienfai)
- Quantitative and perception assessment performed in 2016

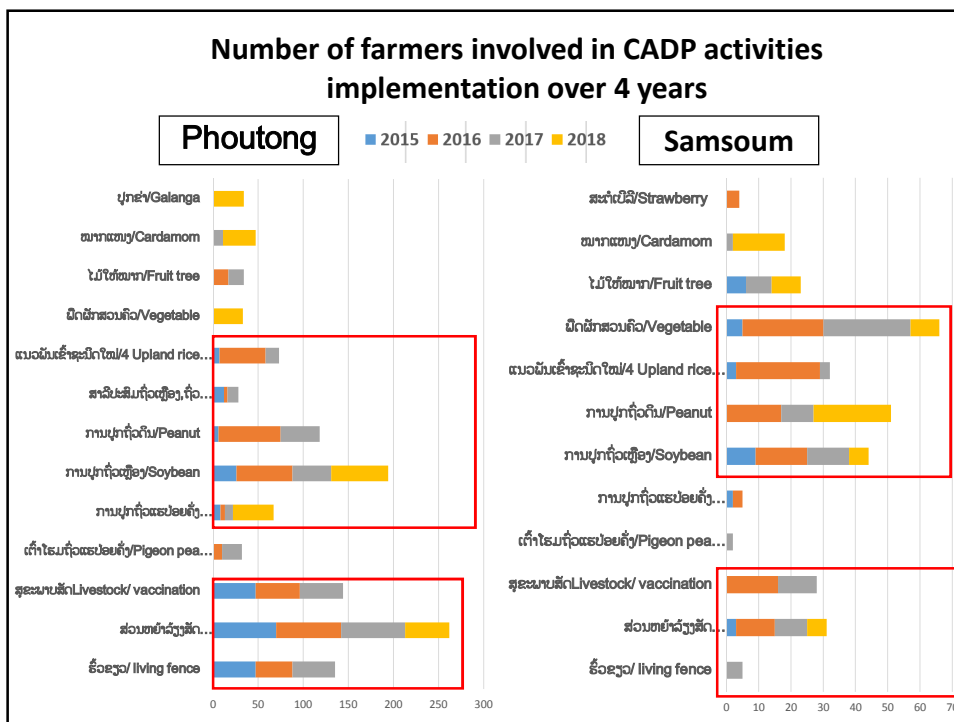
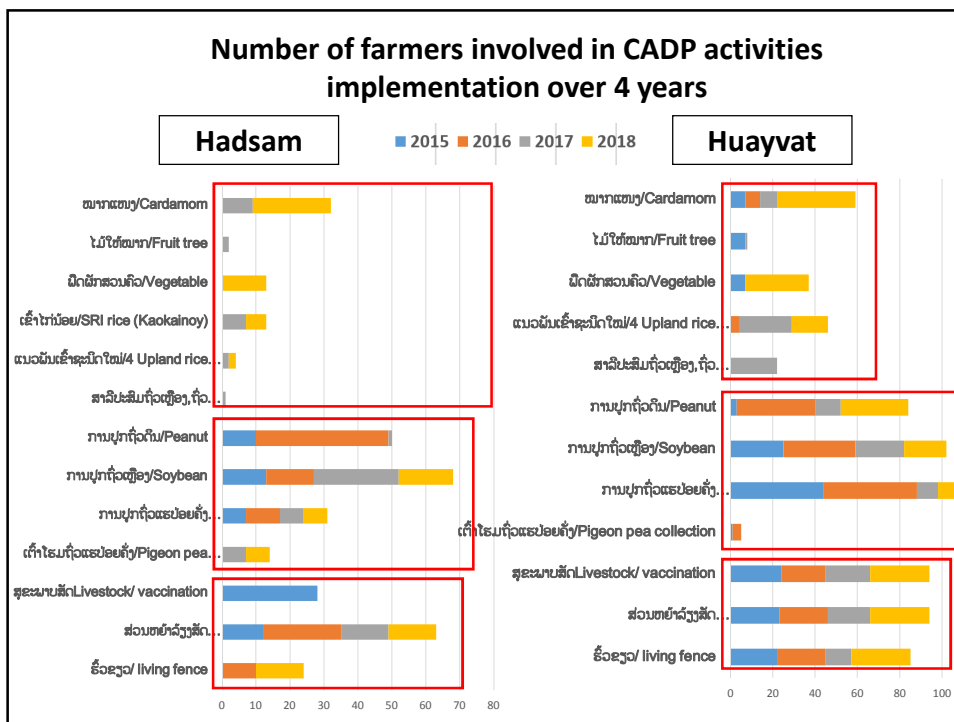
Farmers perception about FCZ (37 HHs) (0=none, 1= Low, 2= medium, 3= much more fish)



Model households as an alternative to Farmer Field Schools

Farmer-to-farmer exchanges 2 times/year on model HH farm

The collage consists of six cards, each representing a model household. Each card includes a photo of a farmer, text in Lao describing the household's activities and benefits, and logos for AFD, CIRAD, and EFICAS. The text on the cards includes phrases like 'ຄອບຄົວເປົ້າໝາຍ ສ້າງເປັນຄອບຄົວດິນແບບ' (Target household as a model household) and 'ປັບປຸງທັງໝົດອາຫານສິດ' (Improve all food security).



PARTNERSHIPS ENGAGED

Meuangmuay technical service center

- ❖ Collection and demonstration
 - Collection and maintenance of 53 species/crop cultivars
 - Demonstration intercropping system maize + rice bean (mean maize yield 4,2 t/ha)
- ❖ Service provision to target villages
 - 3,000 seedlings of Quangtong Cardamom
 - 3,000 seedlings for living fences
 - 4 trucks of nepia grass
 - Grass seeds (Mullato, paspalum)
- ❖ TSC involvement still challenging
 - Project-driven activities
 - Limited financial efficiency



PARTNERSHIPS ENGAGED

Private sector, NGOs , and other GoL initiatives

- ❖ Agroforex (Stick lac), XP trading (soybean)
- ❖ Lao Women Union: legume integration into traditional diet (cooking classes)
- ❖ Agrisud: organic vegetable production, courses on Agroecology



Producers capacity building (vocational training)

2015+2016

Topic	Animal health	Village veterinary workers	Forage technology	Improved fallow management	Study tour (Forage,cattle fattening)	soybean cooking classes
Hadsam	49	3	29	27	6	35
Houayvat	33	3	29	35	6	30
Phoutong	36	3	50	48	8	35
Samsoom	24	3	13	17	4	25
Tot No farmers	142	12	121	127	24	125



Producers capacity building (vocational training)

2017

Topic	Study tour (Agroforestry in phongsaly)	Soybean production training	Bio-insecticide	Silage	Improve forage (sowing+processing)
Hadsam	5	15	15	10	18
Houayvat	5	24	18	12	12
Phoutong	5	27	54	49	49
Samsoom	5	15	20	45	45
Tot No farmers	20	81	107	116	124



CAPACITY BUILDING

Samsom high school

- Study tour for 50 students and 15 teachers in Meuangmuay TSC
- Support to vegetable dry season crops and compost making
- Support to cattle fattening



Building capacity for GoL staffs (thematic training)

Topic	No of staffs	No of hours	Comments	Period
PLUP-PALM	9	35	5 district staffs Co-organized	Feb 2015
CADP	5	80	On-the-job training involving 5 staffs during 10 days in target villages	Jan to March 2015
Livelihood and vulnerability to CC assessment	5	80	On-the-job training involving 5 during 10 days in target villages	Jan to July 2015
Soil quality assessment	5	56	On-the-job training involving 5 staffs during 7 days in target villages	April to July 2015
Msc thesis	3	400	At Fac of Nabong during WE (Chanthasone)	Jan to Dec 2015
Training agroecology	2	35	In MM TSC, Viengkham district, organized by Agrisud	14-18 March
Arc GIS 10.4 training	16	56	16 participantes (3DALaM staff, 4PALaM staff, 3MALaM staff-Pakseng, 5MALaM staff-Viengkham with 2 AGISUD staff, 1 NUDP/SARI)	17-24 June 2017
Q GIS	2	40	2 viengkham staff has been trained on QGIS, organized by AGRISUD	
Short video making	6	16	5 staff trained on short film making	12-13 Feb 2018

Conclusions regarding CADP objectives and implementation

- **Good participation** of village communities to the planning (> 85% participation to village meetings) and implementation process (>70% of HHs involved in CADP activities implementation)
- **Good percentage of activities completion** (80 to 110%)
- **Critical mass** is about reached for improved livestock activities; critical mass is still an issue for other activities (e.g. diversification with legume crops)
- **Many outputs and outcomes** (e.g. livestock management) **but still limited impacts** (livelihood, landscape)
- **Need more time** (5-10 years) **and continuous support** to turn these outputs/outcomes into impacts

Take home messages (1)

- **Participatory land use planning, innovative agroecology practices and value chain approach** need to be combined into a common framework
 - **Diversity** as a basic principle for action (agrobiodiversity, maintain landscape mosaics)
 - **Lowland paddy** expansion and intensification to be considered as a major pathway towards poverty eradication and shifting cultivation stabilization
 - An **integrated approach** is needed **towards improved livestock systems** (animal control roaming, improved animal health, improved access to shelters and water, improved fodder systems)
 - **Agroforest systems** should be promoted in the uplands; current opportunities with domesticated NTFPs (Cardamom spp, rattan, galangar etc.), tea and coffee

Take home messages (2)

- A **strong investment in extension agents capacity building** to support changes in intervention methods
 - Pointing **knowledge gaps** and creating space for action-research
 - **Participatory simulations** for exploring possible options with village communities
 - Change posture from lessons givers to **facilitator** in multi-stakeholder negotiations



Thank you for your
attention