

Measuring climate resilience: an example of indicators system in the framework of the NU-PCR project



Gnot Ou district profile



Overview of CCL's actions in Gnot Ou district

2008- 2010:

Improvement of food security in the mountain of Gnot Ou district

- construction of Rice terraces
- agricultural diversification
- villages connectivity
- access to water

food security focus, indicators:

- Paddy rice yield
- Decrease of number of rice deficient families
- Increase of incomes.

2010 - 2014: Sustainable Food Security Development Project

- Agricultural diversification: fruit trees, small livestock, fishponds
- NRM : FCZs, NTFP management (cardamom); food processing
- Health and sanitation improvement: latrines construction, awareness raising campaigns (LANN, mother and child health care)

Food security & Nutrition child focus, indicators:

- Decrease of rice deficient families; increase of food items produced (agri. diversification)
- Anthropometric data (children under five: underweight, stunting)

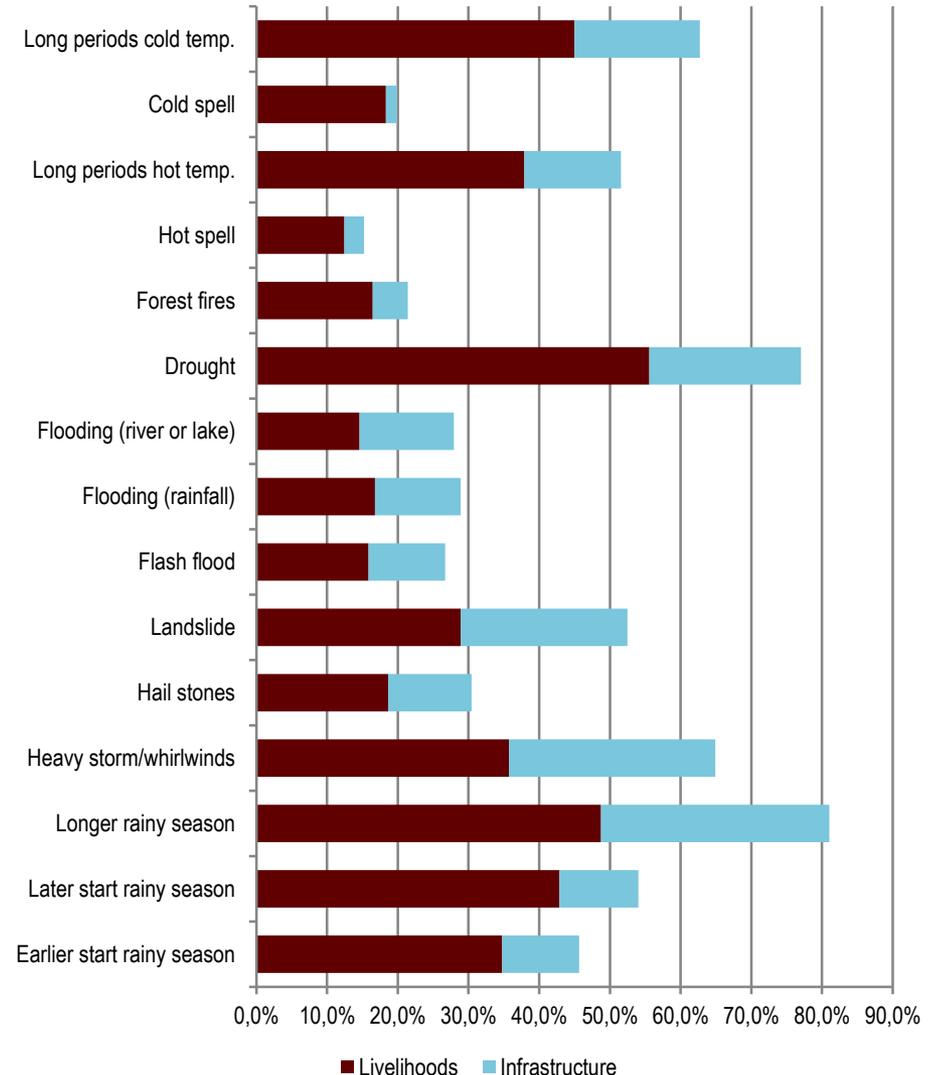


Rationale of NU-PCR Project

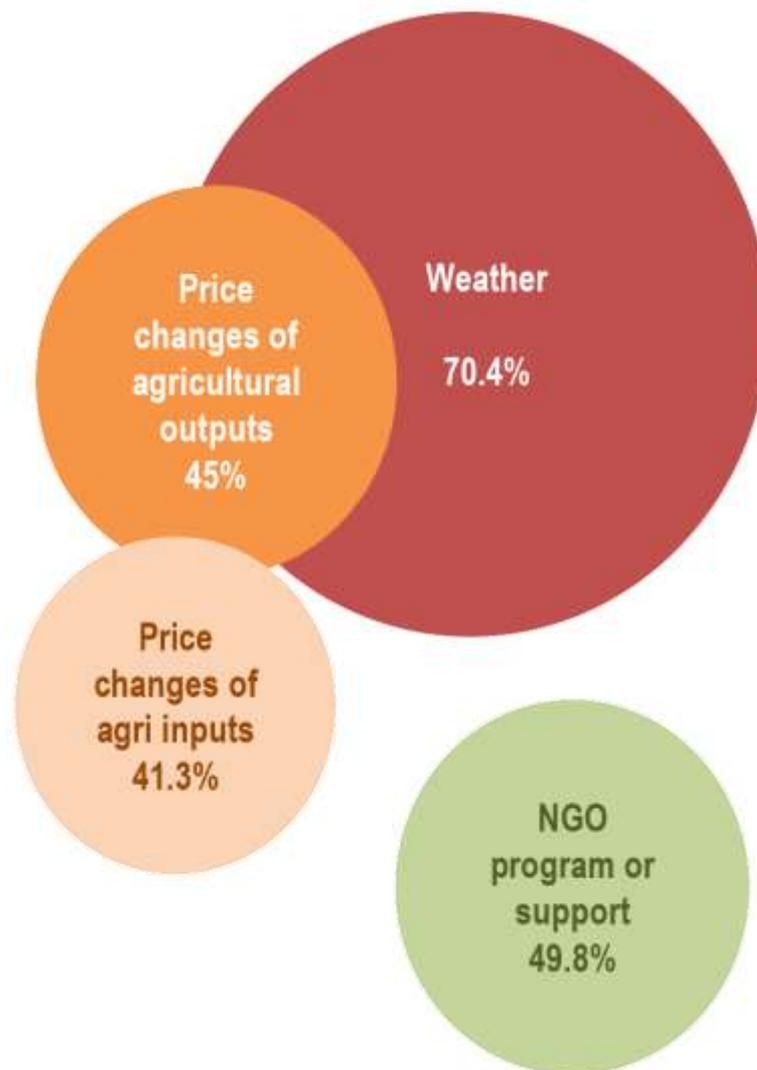
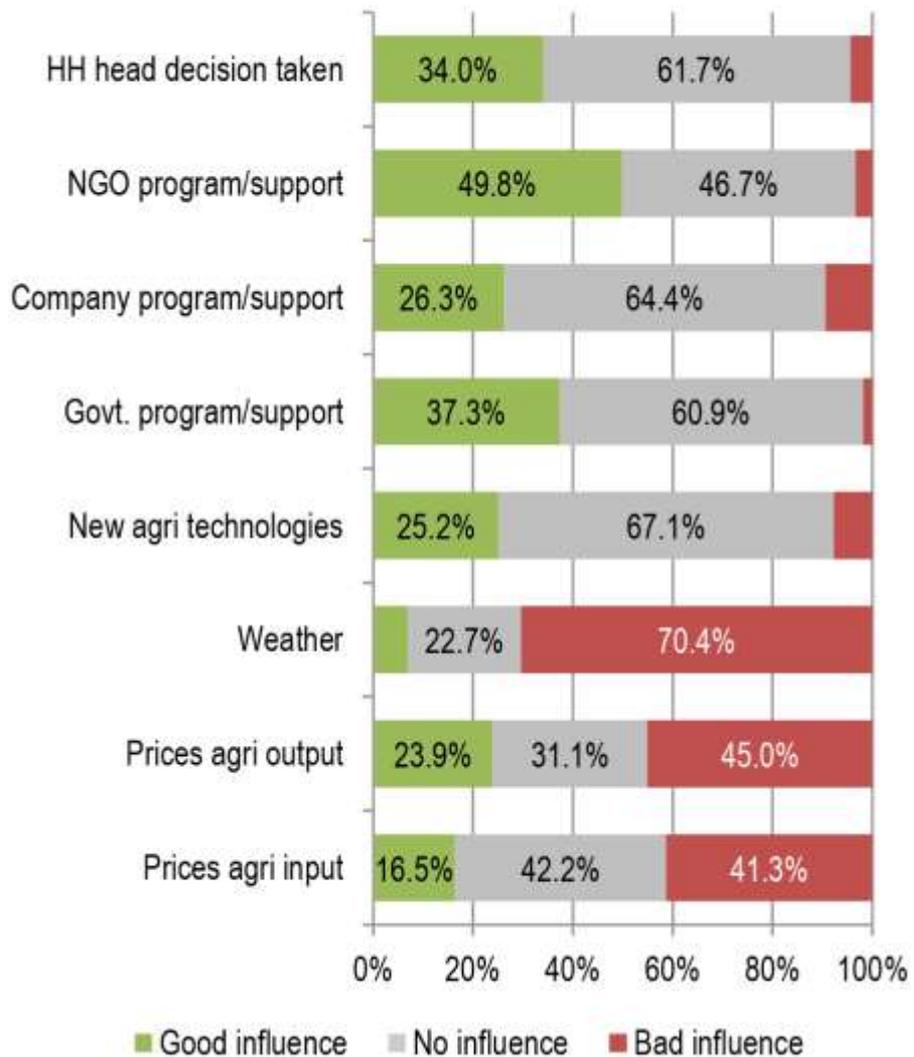
- 1) **Design and develop pilot project** in Laos on CC mitigation
- 2) **Strengthen capacities of local partners** (local CSO, local authorities) on Climate Vulnerability and Capacity Analysis (CVCA).
- 3) **Scale up action** undertaken in Gnot Ou district, especially on NR protection and valorisation

Beyond weather, farmers are positively as well as negatively influenced by other socio-economic influences such as infrastructure development, international and local market pressures, modernization of agriculture, hydropower expansion and increased connectivity.

Climatic hazards - major impact on livelihoods and infrastructure



4 - Livelihood drivers of change



Concept of Resilience

Preliminary discussion/question: What aspects/characteristics enable community's resilience to weather hazards and widely enable sustainable livelihoods development?

Resilience definition:

Broad definition: capacity to recover quickly from difficulties; to return to a previous good condition; to spring back.

Adaptation vs. resilience : “adaptation about actors, policies and project while resilience is about system thinking” (Nelson & al 2007)

Resilience vs. vulnerability: resilience emphasize = what communities can do for themselves & how to strengthen their capacities”.

resilience programming should have the goal of positive livelihood outcomes rather than resilience itself (Frankenberger et al. 2014)

Key dimensions of resilience

1) Information & learning;

- ability of humans to have information and act on it
- gaining greater knowledge and awareness of risk or threats faced
- ability to share information with others

2) choice and options;

- having choice and options to modify behavior, with advantages such as being able to switch crops or seeds, finding new income sources

3) flexibility and regulation.

- livelihood strategies should not be dependent on at-risk resources or institutional arrangements

See: *A comparative overview of resilience measurement frameworks. Analyzing indicators and approaches.* ODI Working Paper 422, 2015.

Concept of Resilience (2)

Interest of using the resilience concept:

- Enable to take into consideration many dimensions of outcomes expected in CC projects and widely rural development objectives;
- Holistic approach; parallels with concept of AE.

Resilience indicators criteria:

- Limiting number of dimensions (10 selected in this case)
- Can be measurable in the frame of development project (but should not be driven only by project outcomes) assessment on middle & long term basis.
- “Credibility rather than volume of data”



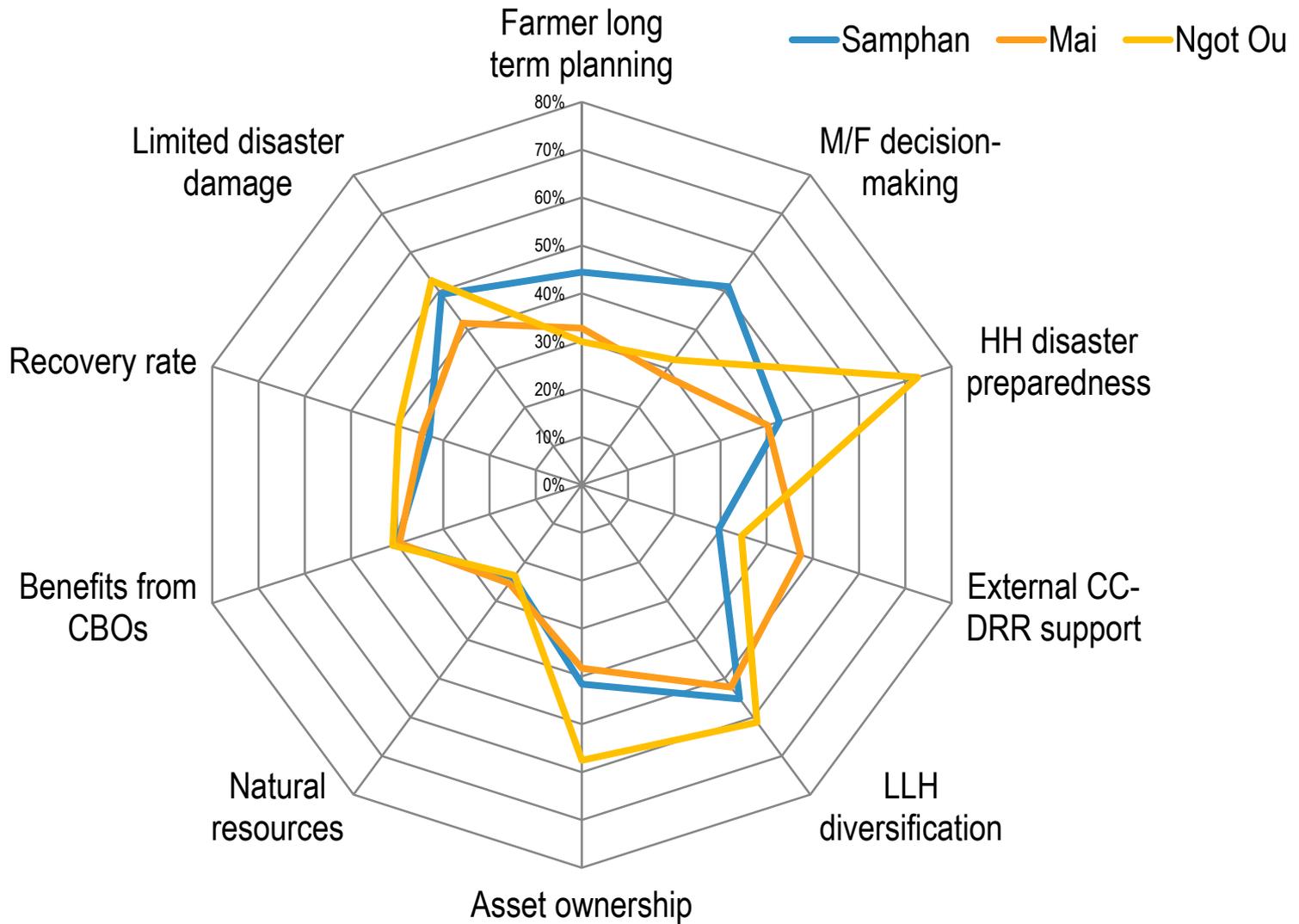
NU-PCR project dimensions on resilience

	1. Proportion of farmers demonstrating long term livelihood planning, informed by weather info		2. Joint decision-making between men and women about household farming decisions
	3. Level of household's disaster preparedness or prevention		4. Proportion of farmers receiving information or support from external stakeholders for dealing with weather and hazards: Govt.; companies, NGOs
	5. Level of livelihood diversification; food crops, cash crops, and processing agricultural produce		6. Asset ownership: electricity, clean water, phone, television, radio, bicycle, motorbike etc.
	7. Availability of natural resources: NTFPs; forest; river fish; (tap) water		8. Proportion of farmers receiving information or support from farmer or community groups for dealing with weather and hazards
	9. Proportion of farmers recovering from weather or hazard impact on livelihoods after one season or less		10. Level of damage or loss, on livelihoods, community infrastructure (roads, irrigation) and human health

Baseline:

- 322 farmers interviewed (49.1% women) in 15 villages in 3 districts
- topics covered: HH socio-economic profile, food security; livelihood & agricultural productivity; impacts of CC on livelihoods; agro-weather info; woman's empowerment.
- Limits: enumerator's influence, heterogeneity of villages profiles (frame. Per village), languages.

Community resilience per district



Conclusion

Resilience framework:

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Holistic approach; capture all dimensions/factors, link with agroecology approach

Flexibility: dimensions can be tailored based on local context

Enable to take a step back from project outcomes

Framework can be tailored based on different data (M/F; ethnic groups)

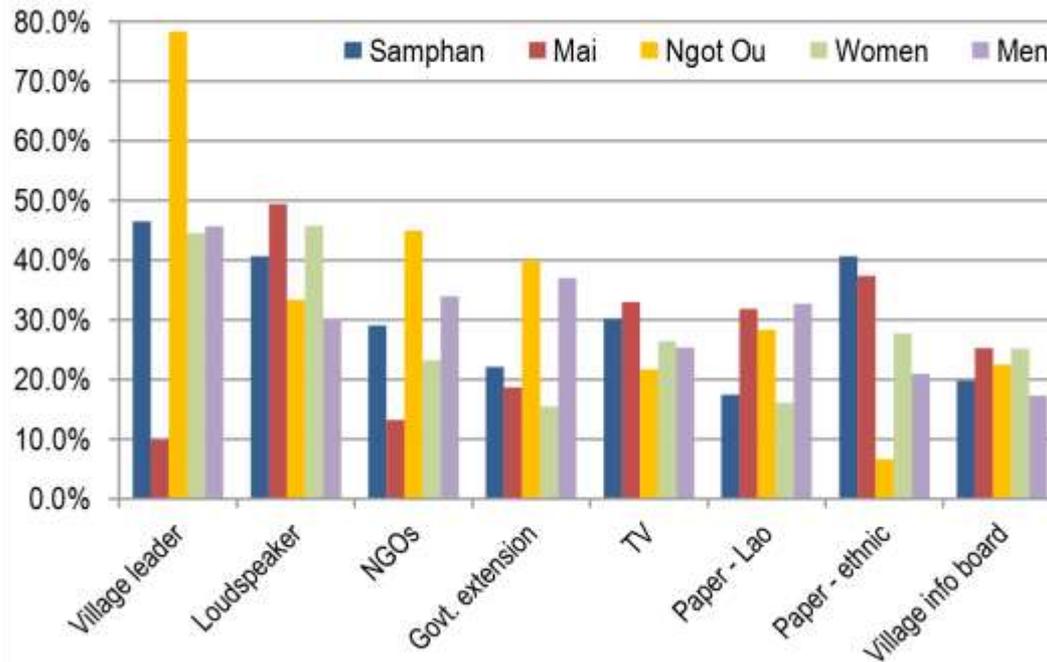
Resilience indicators vs. outcomes indicators.

Gap in interpretation (external assessment of resilience)

Agro-weather information

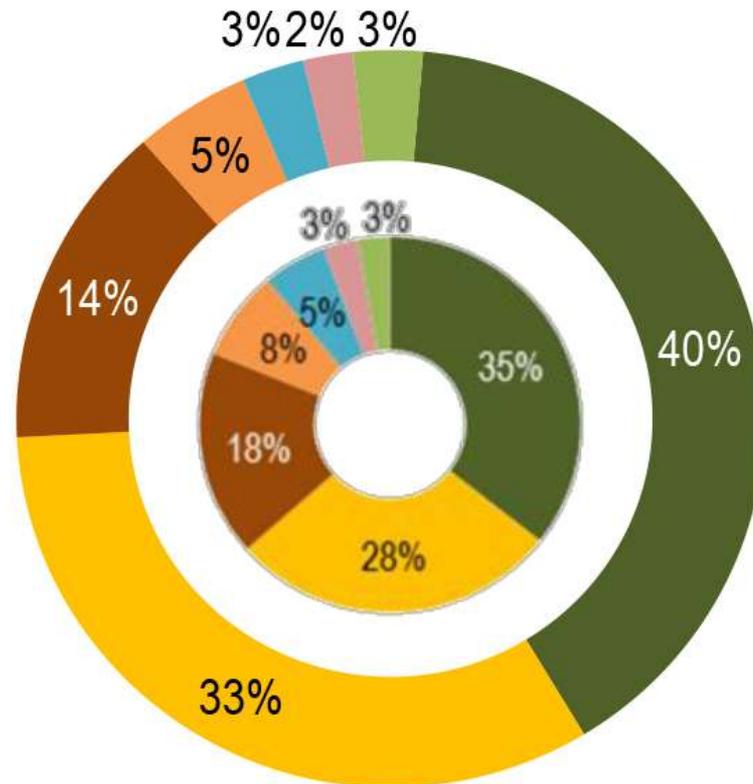
39 - Prioritized formats for agro-advice

-  1/ Village leader
-  2/ Loudspeaker
-  3/ NGOs
-  4/ Extension



-  5/ TV
-  6/ Paper Lao
-  7/ Paper ethnic
-  8/ Village info board

38 - Current agro-advice (inside circle) and needs for agro-advice (outside circle)



- Cardamom
- Upland rice
- Livestock
- Maize
- Broomgrass
- Galangal

Household task division

Domestic and caring work

1/ Buying or finding food Mo-M; So-F	Ko-M; Ti-F	Ko-F				15/ Fishing and hunting wild animals Th-F	Ti-F; Ko-M
2/ Cooking Mo-M; So-F; Th-F	Ku-M/F; Ko-M/F; Ti-F	Se-M/F; Ho-M; Na-M/F	Mo-F		Ho-F	16/ Cooking – when wife is away So-F	
3/ Collecting water Se-F; Ho-F			Mo-M/F; So-F; Th-F		Ti-F		
4/ Making alcohol Mo-M/F; So-F; Th-F	Na-F					17/ Drinking alcohol Mo-F; So-F; Th-F	Ku-F; Ko-M/F; Se-M/F; Ho-M/F; Na-M/F
			Family planning Mo-M; Th-M				
5/ Taking care of the children Mo-M; So-F;	Ku-M/F; Ko-F; Ti-F	Se-M/F; Ho-M/F; Na-M/F	Mo-F; Th-F			Ko-M	
6/ Taking children to hospital Ku-F	Na-F		Mo-M; So-F; Th-M	Ku-M; Ko-M	Se-M/F; Ho-F; Na-M	Ho-M	
7/ Taking care of the elderly Mo-M	Ku-M; Ko-M	Ho-M; Na-M				Se-M	
8/ Taking care of guests Ku-F; Ko-F	Na-F		Mo-M		Se-F; Ho-F; Na-M	So-F	Ko-M; Se-M; Ho-M
9/ Cleaning the house Mo-M/F; So-F; Th-F	Ku-M/F; Ko-M/F	Se-M/F; Ho-M/F; Na-M/F				18/ Repairing houses Mo-M; So-F;	Ku-F; Ko-M; Se-M/F; Ho-M; Na-M/F
10/ Washing dishes Mo-M/F; So-F; Th-F	Se-F; Ho-F; Na-F					19/ Masonry Mo-F; So-F; Th-F	Ku-F; Ti-F
11/ Washing clothes Mo-F; So-F; Th-F	Ku-F; Ko-M/F; Ti-F	Se-M/F; Ho-M/F; Na-M/F					
12/ Firewood – cutting and collecting Mo-M/F; So-F; Th-F	Ku-M/F; Ko-F; Ti-F	Na-F	Se-M; Na-M			Mo-M; So-F	Ko-M; Se-F; Ho-M/F
13/ Handicraft – Weaving clothes Mo-M – So-F							
14/ Collecting NTFPs						20/ Making farming tools	

M/F task divisions

Cardamom		
	Selecting and buying seeds Th-M	Th-F Na-F
		Selecting land for growing cardamom Th-M/F
	Slashing or clearing land Th-M	Na-F
	Weeding 1-3 times a year Th-M/F Na-F	Burning Na-F
	Choosing which cardamom to harvest Th-F	
	Harvesting Na-F	
	Collecting harvest Th-M/F Na-F	
Cleaning or sifting harvest Th-F	Processing through drying in the oven Th-M/F	
	Selling harvest – in or near the village ²¹ Th-M/F Na-F	Selling outside the village Th-F
		Finding traders Na-F

Tea (plantation)		
	Selecting seeds Se-M/F	Preparing the land Se-M/F
	Maintaining the nursery Se-M	Se-F
	Weeding Se-F	Se-M
	Pruning tea braches Se-M/F	
Harvesting Se-M	Se-F	
Carrying harvest home Se-F	Se-M	
	Frying the tea Se-F	Se-M
Treat the tea after frying Se-M/F	Drying - Select good quality leaves Se-M/F	
	Storage Se-F	Findings traders and price negotiation Se-M
	Selling harvest in the village Se-M/F	Selling harvest abroad in China Se-M/F

external Support

43 - External support to farmers

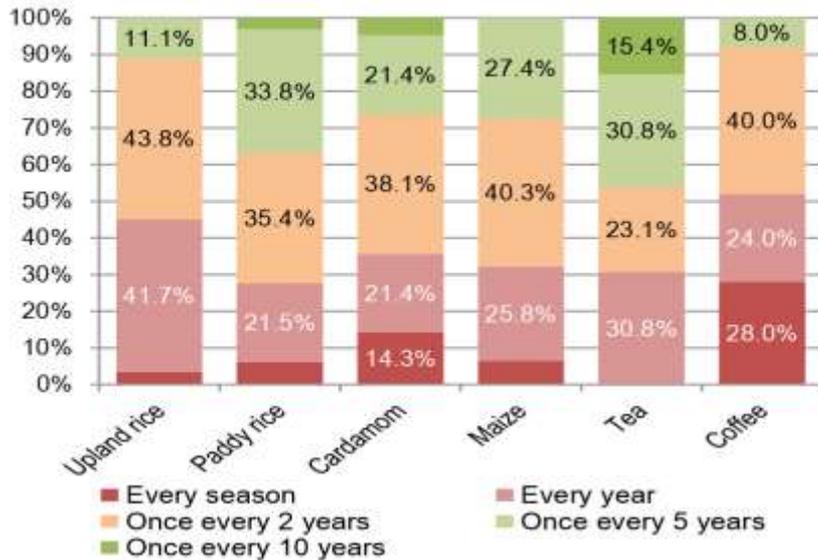
% of farmers stating that they...	Samphan	Mai	Ngot Ou	Women	Men
Receive <u>weather</u> information from Government extension workers:	13.9%	17.1%	6.7%	7.9%	16.4%
Receive weather information from traders:	2.5%	4.5%	1.7%	2%	3.8%
Receive <u>agricultural</u> advice from Government extension workers:	53.9%	41.8%	59.2%	42.9%	60.1%
Receive agricultural advice from Government mass organizations (Women Union, Youth Union):	14%	30%	14.2%	27.2%	12.3%
Receive agricultural advice from agri input providers, middlemen or private companies:	12%	10.9%	16.7%	13.2%	13.5%
Receive agricultural advice from NGO workers:	62.9%	32.7%	80%	49.4%	68.1%

42 - Farmer-to-farmer support

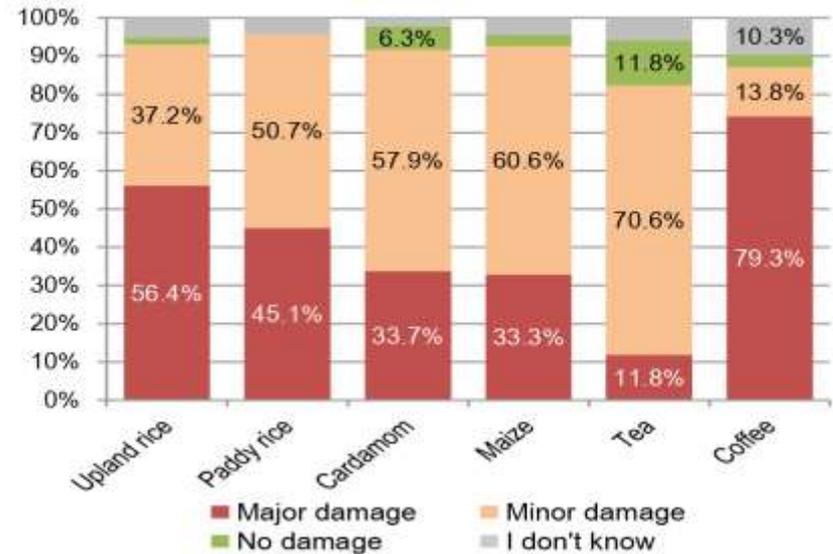
% of farmers stating that they...	Samphan	Mai	Ngot Ou	Women	Men
Receive <u>weather</u> information from other farmers :	39.2%	26.1%	44.2%	37.1%	35.8%
After receiving, <i>share</i> weather information with other farmers:	73.3%	51.9%	48.6%	57.4%	51.7%
Receive <u>agricultural</u> advice from other farmers:	34.8%	20.5%	22.9%	27.2%	23.6%
After receiving, <i>share</i> the agricultural advice with other farmers:	57.1%	50.5%	43.3%	48.7%	50.6%

32 - Impact of climatic hazards on crop productivity ²²

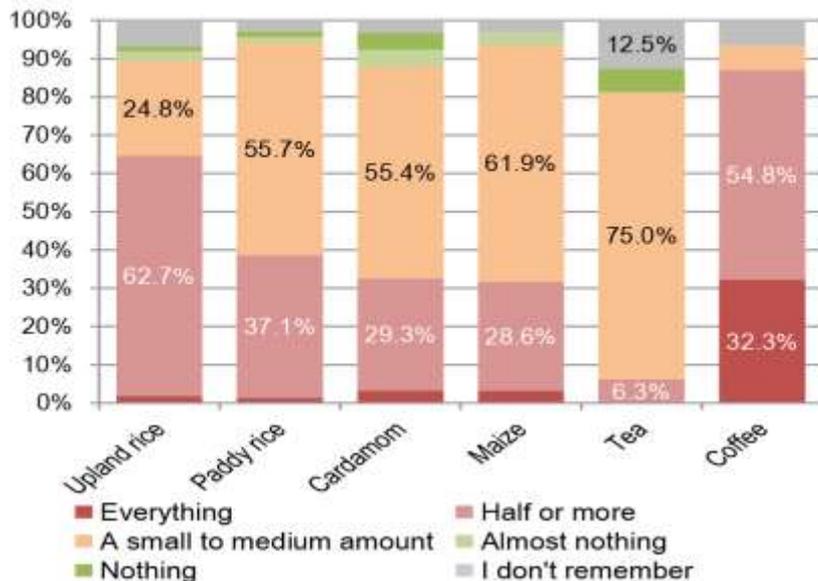
Frequency - how often does it happen



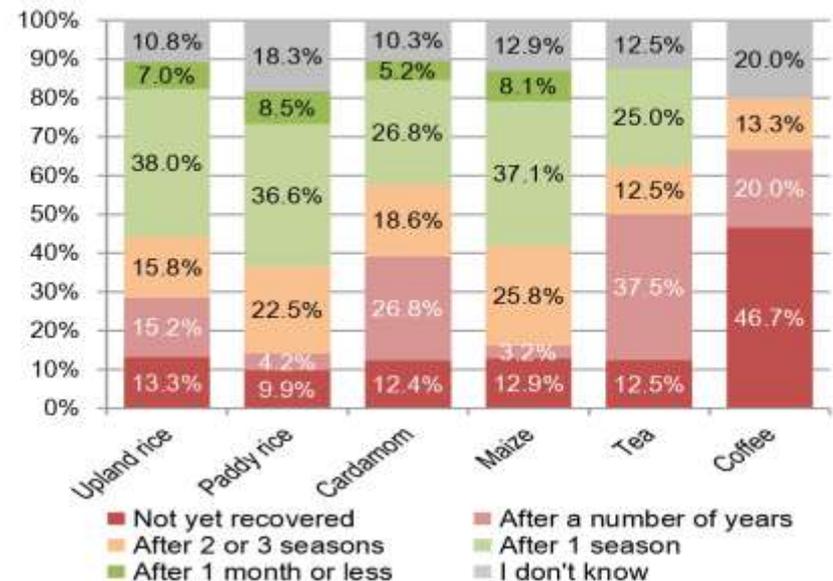
Intensity or extent of the damage



Average income or yield loss



Recovery rate



THANKS

