

What do we know of vulnerabilities in the uplands?

3 types of shocks: weather, markets and large scale projects

- farmers are aware of their own vulnerabilities, could list them
- risk of confusion between weather events and climate change

Vulnerabilities are context specific and dynamic (e.g. mega projects)

- interventions and monitoring are difficult and costly
- require combination of top-down and bottom-up approaches

Information systems can help

- Weather forecast can be improved, knowledge and technology is available.
- Market information could be provided locally (e.g. sharing knowledge on existing platforms such as Whatsapp or Facebook).

- **What is required to set this up and make it most useful?**
- **Can it improve the adaptive capacity among upland farmers?**
- **How to offer multiple options instead of a one fits all approach?**

How have vulnerabilities been (or could be) addressed?

ICT based approaches are a way forward

- Opportunities for increased efficiency and lower cost
- Linking farmers to markets through virtual market places, ebay for Lao farmers
- Direct involvement of agricultural firms

Traditional approaches will still be important

- ICT can only provide information but not replace other interventions
 - Hard: infrastructures, e.g. small-scale irrigation scheme, to buffer weather hazards, support to paddy field expansion, river banks reinforcement and
 - Soft: training, participatory design of buffering solutions with farming communities
- Government support is desirable but obstacles exist due to fear of change
- Need to build trust farmers-firms-govt for more reliable collaborations

Building of local knowledge and local dynamics

- Identify relatively High income - Low risk options
- Niche products based markets can be highly stable and successful
- Promoting sustainable development values and pride in local culture

➤ **How to promote grassroots movements using ICT?**

➤ **How to scale-up, widen the range of opportunities?**

➤ **How to overcome obstacles to change due to fear of new ways, technologies?**