When agriculture is getting too uniform: what intervention mechanisms to promote agrobiodiversity and agroecology practices?

Lao Upland Conference,
2.1. Landscape approaches: engaging upland communities in designing their own development pathways
March 13th 2017, Luang Prabang
Outline

- Landscapes and farming systems are getting too uniform in the Lao Uplands
- Why promoting diversity?
- What intervention mechanisms to promote agrobiodiversity?
Landscapes and farming systems are getting too uniform

- Farm level

Adapted from Lestrelin, 2015
Landscapes and farming systems are getting too uniform

- Changes at farm level
  - **Crops specialization**: rice cultivation (lowland/upland) as cornerstone of farming system + 1 major cash crop for capital accumulation (lowland/upland)
  - **Livestock**: Most farmers usually still practice crop-livestock systems in Lao Uplands but large livestock sold in plantation areas (e.g. rubber areas) to avoid crop damages by roaming animals
  - **NTFP collection**: trend to decrease in line with the decrease in fallows and forest areas (conversion into agricultural land) and over-collection of forest resources for trade
Landscapes and farming systems are getting too uniform

- Changes at field level
  - Simplification of weed control strategies
    - Early 2000’s: diversified strategies that include fallow, rotations, staggered sowing, intercropping, combination of S&B and soft tillage (hoeing, ploughing with 2-wheels hand tractor), manual weeding and localized herbicide treatments,
    - ~ 2010s: simplified strategies for maize cultivation based on heavy tillage (tractor-powered disc ploughing) and systematic use of herbicide (pre- and post-)
  - Decrease in Agrobiodiversity in line with:
    - Less cultivated species
    - Less cultivars -> rise of hybrids (maize)
    - Changes from intercropping to monocropping
Landscapes and farming systems are getting too uniform

- Farmers engaged into diversification:
  - Advanced land degradation issues (e.g. increase in weed pressure, soil fertility depletion, soil erosion) that affect crop productivity
  - Market changes that affect crop profitability (e.g. drop in prices or decrease in the product demand)
    - e.g. Distress diversification related to the aftermath of the crop « boom »

⇒ Need to promote landscape and farming system diversification
Why promoting diversification?

- Food security
- Economic resilience
  - Popular wisdom « Don't put all your eggs in one basket »
  - Farmers that sell diverse products on diverse markets are better protected from the frequent price changes, and are not dependent on a single buyer
Diversification of farm activities

Boten district
Sayaboury

Increase in overall HH income

Average cultivated area per crop and per household

Paklay district
Sayaboury

Average income per household

Adapted from Lestrelin, 2015
Why promoting diversification?

- Resources conservation – reducing environmental footprints
  - Diversified farming systems contributes to better nutrients, water, and soils management, provides better pest control and pollination services (Kremen et al, 2012)
What intervention mechanisms to promote agrobiodiversity?

- Build on programs and action plans related to agrobiodiversity
  - Lao NABP II (2015 – 2025)
What intervention mechanisms to promote agrobiodiversity?

- **New assessment criteria and indicators**
  - The performance of agriculture is still measured using the quantities of single ‘commodities’ that are produced and sold
  - Need to incorporate the multiple benefits of agrobiodiversity (e.g. effects on food security, economic resilience, and resources conservation)
What intervention mechanisms to promote agrobiodiversity?

- **Behavior change communication**
  - Predominant farmer mindset: shifting from 1 boom crop to the next one
  - The benefits from diversified vs specialized farming systems could be addressed using participatory simulation games (e.g. EFICAS game)
What intervention mechanisms to promote agrobiodiversity?

- **Put diversity as a key element of participatory planning processes negotiation with farming communities**
  - Diversified farming systems must be adapted to local conditions and can only be effectively planned and managed from the bottom up
  - Diversity of landscapes and farming systems should be set as a key element of this negotiation process

- **Support the access to and the maintenance of diversified genetic resources**
  - Identify with village communities a diversity of genetic resources in support to diversified farming systems, support village seed banks
  - Technical service centers should be associated in the production, conservation, promotion, and distribution of diversified genetic resources at district and provincial levels
What intervention mechanisms to promote agrobiodiversity?

- **Promote ‘Food systems’ concept and not just ‘value chain’ approach**
  - There are many under-utilized vegetables, fruits and nuts which can be processed locally for nutrition or sold for high value products (Loquat, chestnut, Mak Khaen, etc.)
  - Connect and promote Lao local food as source of healthy choice – tourism, chef competitions, etc.
  - Link to knowledge resources such as PhaKhaoLao
Thank you for your attention...