Framing landscape approaches in the context of the Lao Uplands

Patterns of agricultural commercialization, intensification and diversification
Outline

- Changing upland agriculture
- Changing landscapes - changing livelihoods
- Transformative landscape approaches
What are the drivers of livelihood change in the uplands of Lao PDR?

- 10 years action-research in northern Lao PDR
- 30 livelihood and land use indicators

### Case studies (#44 sites)
- 6 months investigation including household surveys and focus groups discussions,
- Land use mapping through participatory approaches and analysis of time series of remote sensing data,
- Scenario exploration with local stakeholders: gaming-simulations

### Secondary data (#25 sites)

- changes in upland agriculture
  - Agricultural changes
    - Return to labor
    - Land rent
    - Forest dependence
    - Market integration
    - Diversity of agricultural productions
    - Diversification of income sources
    - Technological level
  - Natural changes
    - Natural resources available
    - Land quality
    - Land use patterns
    - Forest cover
    - Forest transition
  - Physical changes
    - Accessibility
    - Services and infrastructures
  - Financial changes
    - Indebtness
    - Credit system
    - Living savings
  - Human changes
    - Poverty
    - Income disparity
    - Population density
    - Dependency ratio
  - Social changes
    - Community labor
    - Conflicts
    - Evolution of tenure rules and security
    - Rule enforcement
    - Gender equity
    - Ethnic groups
Understanding land use trajectories

Changing landscapes – changing livelihoods

- Poverty, limited assets, but
- Multifunctional landscapes
- Traditional coping mechanisms
  - alternative food sources in forests,
  - livestock,
  - social solidarity
  - mutual help

- Better-off, better education, but
- Degraded, less diverse environment
- New coping mechanisms
  - crop specialization
  - chemical input use
  - hired labor
  - individualistic behaviors
  - indebtedness

Debunking myths about shifting cultivation

**NO** rice-based shifting cultivation is responsible for deforestation
- Shifting cultivation not possible without forest - no pioneer SC left
- Population increase or policy-imposed reduction of fallow
- Introduction of cash crops (maize, rubber etc.) is responsible

**YES** shifting cultivators will remain poor
- Shifting cultivators are systematically found in the poorest villages
- Capital accumulation is possible only in case surplus labor force
- Those who accumulate capital are not shifting cultivators anymore

**NO** shifting cultivation is a cultural thing
- Shifting cultivators are those who have no other option to meet rice needs
- People move in search of paddies, ready to shift to other practices
- Don’t want their children to become shifting cultivators

- No need to “force” the eradication of shifting cultivation… the practice will disappear anyway in most accessible landscapes,
- Better to invest resources in buffering negative consequences of rapid market integration on people livelihood and the environment
Rice sufficiency vs commercial crops

- Rice sufficiency: upland rice vs lowland rice

<table>
<thead>
<tr>
<th>Crop Type</th>
<th>Return on Labour (LAK/day)</th>
<th>Return on Land (MLAK/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job’s tear</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Maize</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Paddy rice</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Upland rice</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>

- 1ha paddy (3t) equivalent
- 5ha maize (5t) - 3 years rotation
- 10ha upland rice (1.5t) - 5 years rot.
Rice sufficiency vs commercial crops

- **Food crops vs cash crops**

The capacity of farming households to cover their rice consumption from paddy rice determines upland rice areas,

- Rice sufficiency is considered by many remote households as a prerequisite to diversification towards other activities
Patterns of agricultural commercialization, intensification and diversification

*Kham district, Xieng Khouang*

Dense and open forests have been converted to maize, at the exception of a few spots of forest regrowth.

Paddy fields have expanded significantly following conversion of upland crop areas, fallows and forests.
Farmers are well aware of the negative impacts of unsustainable cropping practices on land degradation and economic resilience,

Whenever possible, they reinvest resources from short term strategies into long term goals: terracing paddies and children education.

Transformative landscape approaches

- Participatory land use planning: gaming-simulations to explore land use scenarios
1. INTEGRATED APPROACH TO LIVESTOCK SYSTEM IMPROVEMENT

Living fences and forage production
Set up livestock area with permanent living fences (combination of barbed wire and trees) 6.5 ha in 2015 involved 77 HH. In 2016, expand to additional 7 ha.

Training on forage management
30 people took part in the training to produce silage, hay, and feeding boxes.

Animal healthcare
The project provided training to 36 participants in 2015. 4 village volunteers were selected to form the village vet-service team.

2. SUSTAINABLE CROPPING SYSTEMS IN THE UPLANDS

Fallow management and improvement of upland rice production
The project organized training on fallow.

3. AGRICULTURAL INTENSIFICATION AND DIVERSIFICATION

Vegetable Maize vigna association Forest restoration

Phoutong Village
Viengkham district, Luangprabang province

Managed Use Forest Land Zone
Conservation Forest Land Zone
Protection Forest Land Zone
Livestock raising and grazing land Zone
Upland rotational crop/fallow Zone
Land Reserved for extending production
Private building land
Spiritual areas

Strengthening the village land management committee in implementing the village land use plan
Study tour planned in 2016
Animal healthcare
The project provided training to 36 participants in 2015. 4 village volunteers were selected to form the village vet-service team.

The project provided a refrigerator, revolving vaccination fund, and equipment for the vet. In 2016, the project will further support training and improve the vet pharmacy management.

2. SUSTAINABLE CROPPING SYSTEMS IN THE UPLANDS

Intercropping systems maize/rice with pigeon pea
Introduction of pigeon pea (for stick-lack production) in association with upland rice and maize, 9 households (HH) and 8 ha in 2015. 11 additional HH in 2016.

Introduction of labor saving devices
12 hand jab planters for upland rice and maize sowing were provided to villagers.

Fallow management and improvement of upland rice production
The project organized training on fallow management and improved upland rice varieties in 2015. 48 people took part.

Testing upland rice varieties

3. AGRICULTURAL INTENSIFICATION AND DIVERSIFICATION

Intercropping cassava and stylosanthes

Control of rodent damages
The project provided 400 metal traps in 2016

Rice bank for food security
The project provided 2 tons of rice for the village rice bank in addition to villagers' contribution in 2016.
Transformative landscape approaches

- Improved crop-livestock interactions
- Increased agrobiodiversity
Take home messages

- **Green growth** requires managing **trade-offs**:
  - Boosting economic development
  - Preserving natural resources
  - Buffering risks for vulnerable populations

- **Synergies** can be achieved through **landscape approaches**:
  - Participatory land use planning → next presentation
  - Effective enforcement of local regulations on land management
  - Sustainable intensification of agriculture through agroecology
Take home messages

- **Sustainable intensification** through agroecology
  - Engaging the whole village community
    -> landscape level management of agricultural innovations
  - Local ownership
    -> empowering village communities
  - A continuous learning process
    -> extension agents as communication facilitators, not expert prescriber
Thank you for your attention!

For more information: www.eficas-laos.net