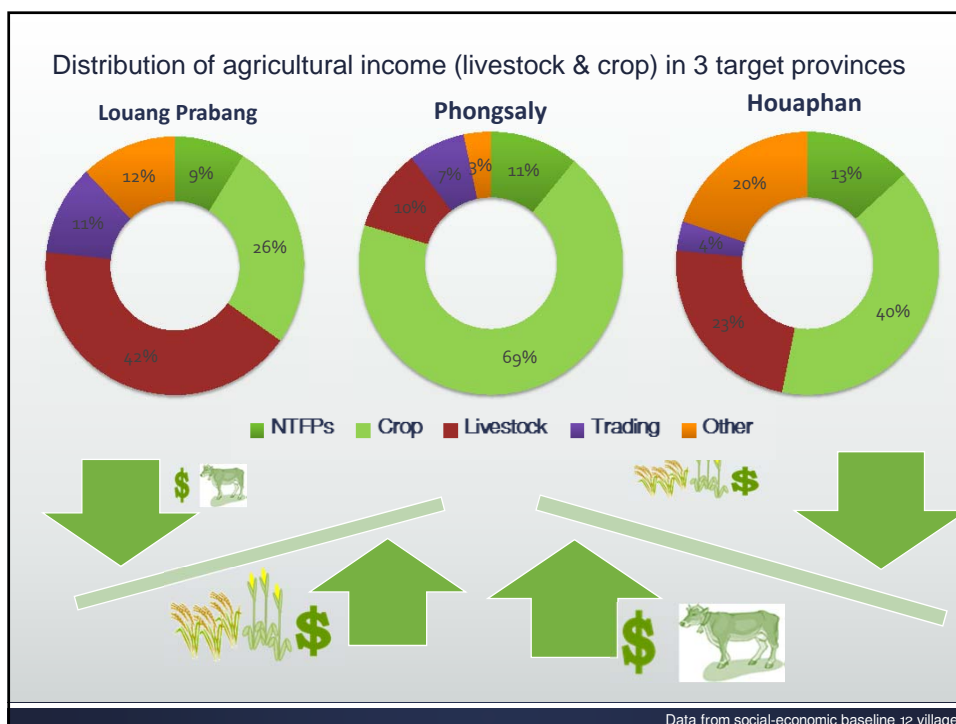
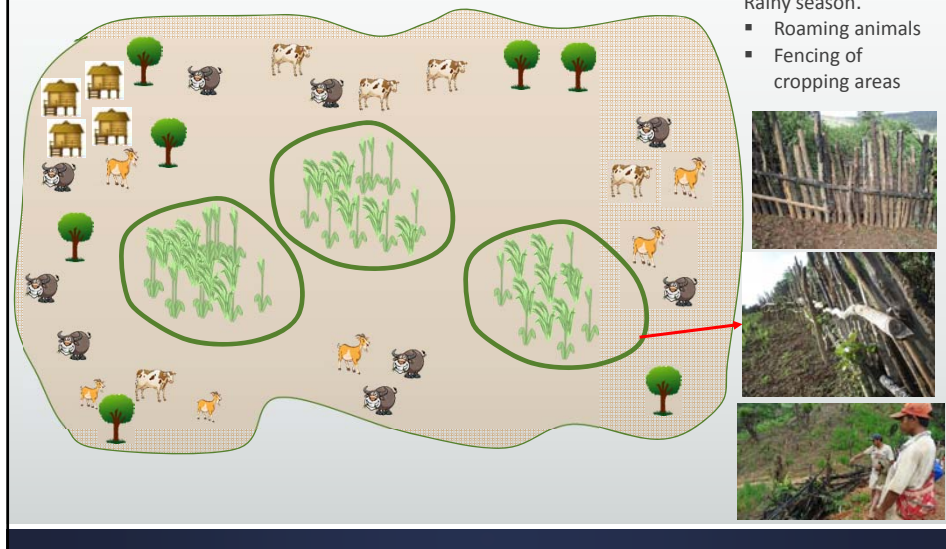


**Agricultural land management
for improvement of crop-livestock interactions**

EFICAS workshop, Monday, March 27th 2017, Luang Prabang



Traditional land management crop-livestock interactions during rainy season

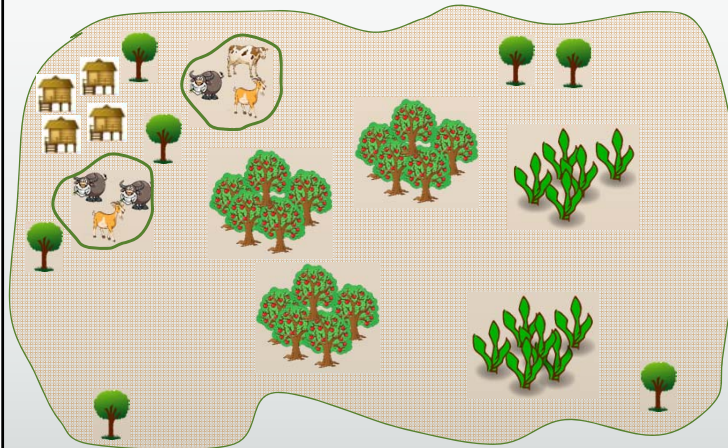


Traditional land management crop-livestock interactions during dry season



Traditional land management crop-livestock interactions in case of market opportunity

Cash crops: e.g. cardamom, tea, coffee, rubber



Negative impacts of traditional animal roaming system

1. Disease outbreaks difficult to prevent/control
2. Domestic animals lost or stolen
3. Crop damages
4. Traffic accidents on rural roads
5. Social tensions between animal and field owners in case of damages (both within and between villages)

Pattern of land management and land use planning

Plan for controlling animal roaming to crop areas and improving livestock feeding, health and reproductive status

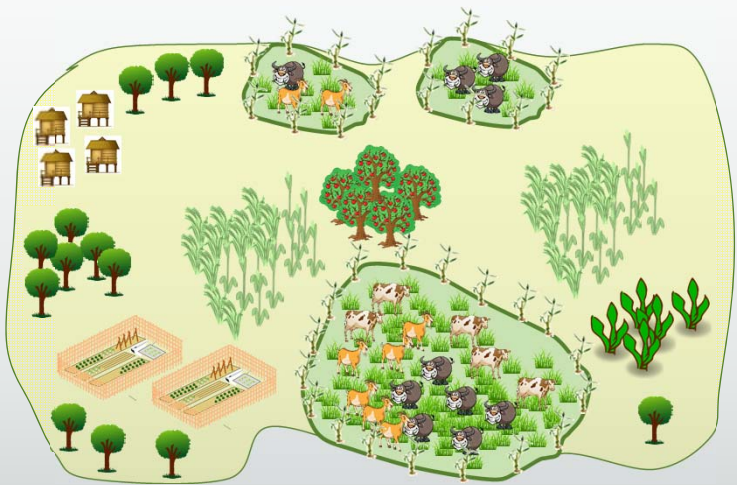
The diagram illustrates land management and land use planning. The left side shows a conceptual map with a 'Crop area' (yellow grid), a 'Livestock area' (green grid), and a 'Forest area' (green trees). The right side shows a map of a region with a legend for 'Land use planning'.

Land use planning

- Yellow: Crop area
- Green: Livestock area
- Dark Green: Forest area
- Light Green: Water area
- Dark Green: Mountain area
- Light Green: Lowland area
- Dark Green: Highland area
- Light Green: Wetland area
- Dark Green: Urban area
- Light Green: Rural area
- Dark Green: Industrial area
- Light Green: Agricultural area
- Dark Green: Forest area
- Light Green: Water area
- Dark Green: Mountain area
- Light Green: Lowland area
- Dark Green: Highland area
- Light Green: Wetland area
- Dark Green: Urban area
- Light Green: Rural area
- Dark Green: Industrial area
- Light Green: Agricultural area

Long term goal

for controlling animal roaming to crop areas and improving livestock feeding, health and reproductive status



Main lessons learnt on controlling animal roaming in Luang Prabang province



- Establishing improved pasture: fencing, sowing grass
- Testing forage production techniques
- Animal roaming



- Pasture managed collectively
- Testing new crop varieties and techniques
- Animal: half in pasture & half roaming



- Pasture: individual plots in collective area
- Cash crop in dedicated fields
- Animal in fenced pasture during rainy season



- Fenced upland fields
- Controlled grazing in cropping areas
- Livestock share time between crop and livestock areas

Year 1

Year 2

Year 3

...

Year 5

Timing

Expansion of improved pasture areas (Phoutong village)

2015



2016

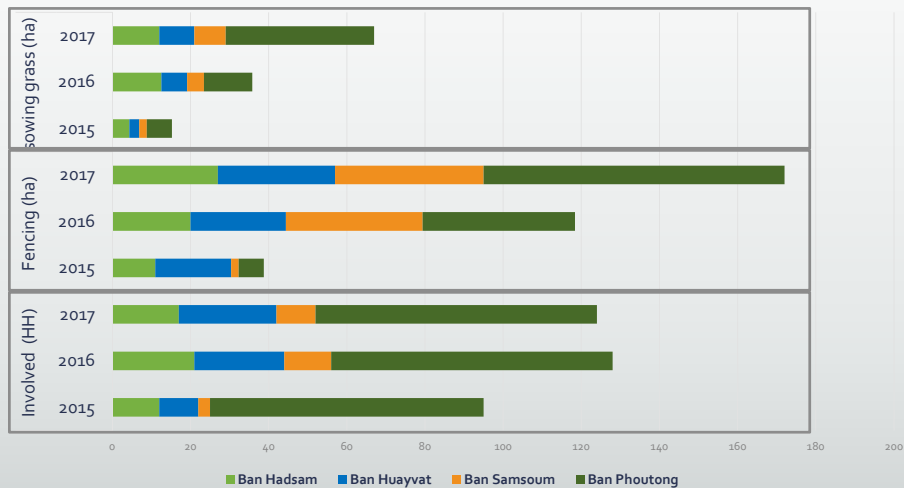


2017

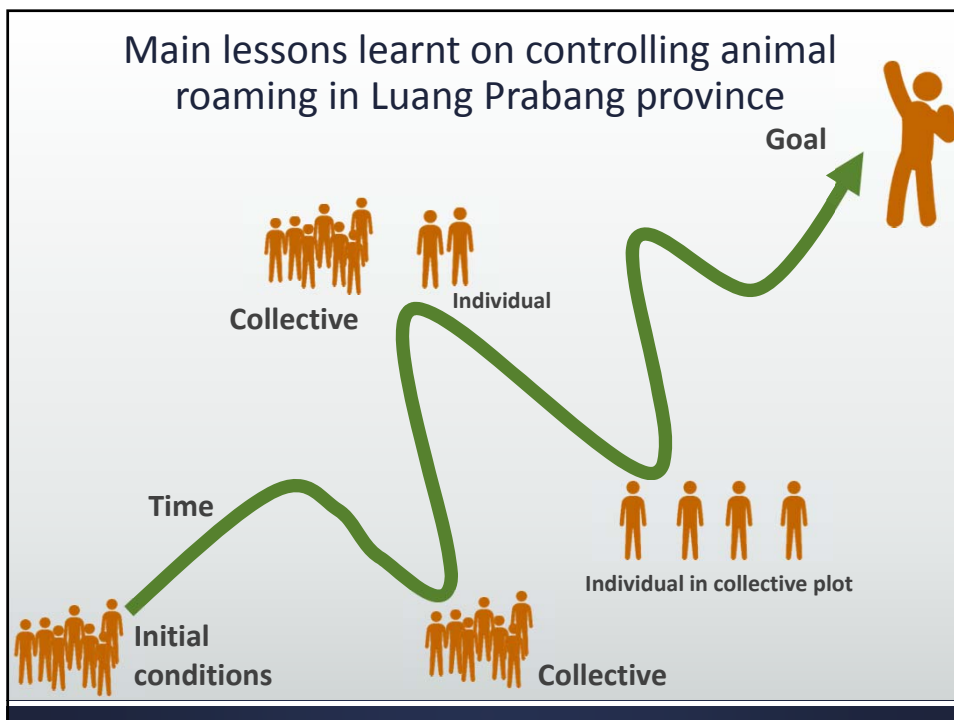


Main lessons learnt on controlling animal roaming in Luang Prabang province

Pasture improvement

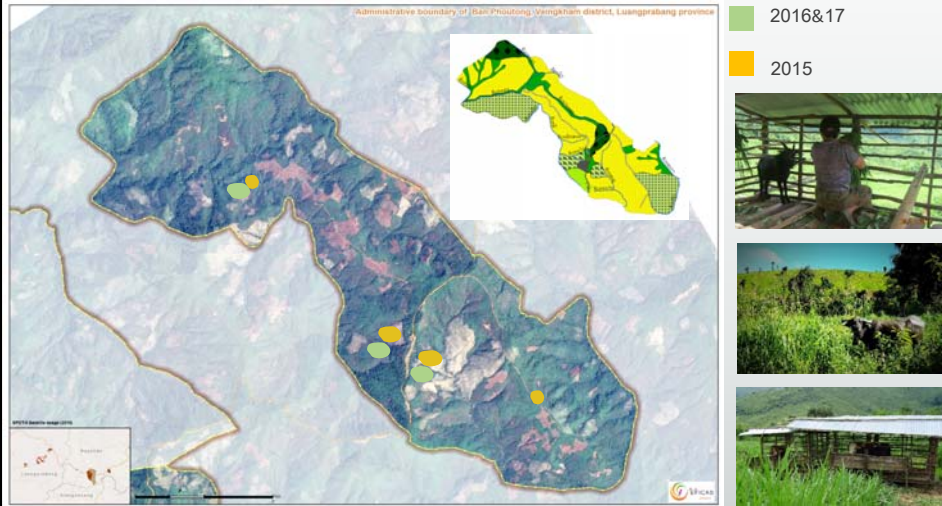


Main lessons learnt on controlling animal roaming in Luang Prabang province



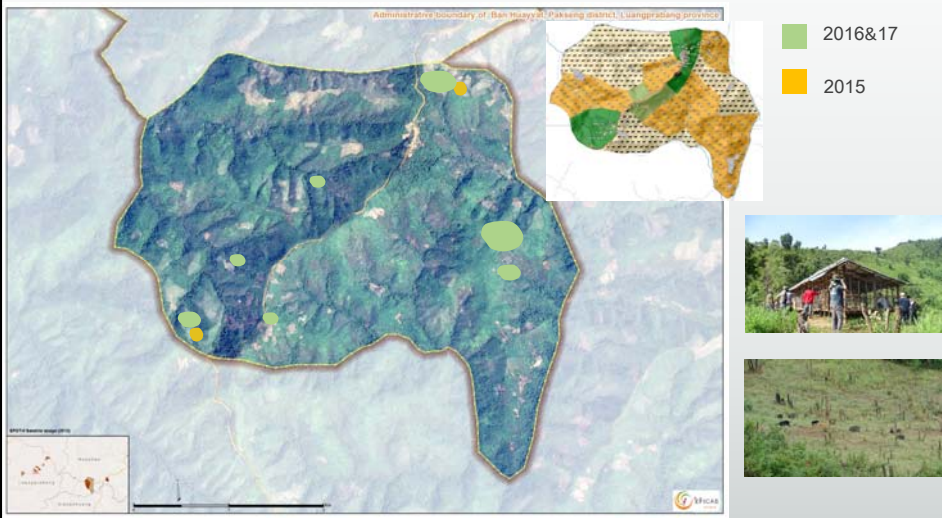
Main lessons learnt on controlling animal roaming in Luang Prabang province

Livestock management at Phoutong village



Main lessons learnt on controlling animal roaming in Luang Prabang province

Livestock management at Huayvat village



Factors affecting decisions in livestock management practices

1. Local policies (e.g. access to livestock support funds, district defined livestock area),
2. The strength of village community and/or social problem in the village,
3. Traditional land use systems and risk aversion,
4. Livestock roaming between villages,
5. External supports (project, government, trader....),
6. Aspiration for changes in lifestyle,
7. Secure market for cash crops (legume, stick lac...)

Way forward

1. Improve **understanding** of village communities and district staff of the **land management system as a whole**, i.e. beyond disconnected sectoral perspectives on crops, livestock, forest.
2. **Social dimension of land use change is as important as technical dimension**: capacity building of district staff to facilitate multi-stakeholder negotiations.
3. Consider **long term development perspectives** beyond the 3 or 4 years of each individual project: long term support by district staff.