



Transformative approaches to agroecology at the landscape level

Jean-Christophe Castella, Pascal Lienhard, Sisavath Phimmasone,
Soulikone Chaivanhna, Guillaume Lestrelin, Chanthasone Khamxaykhay

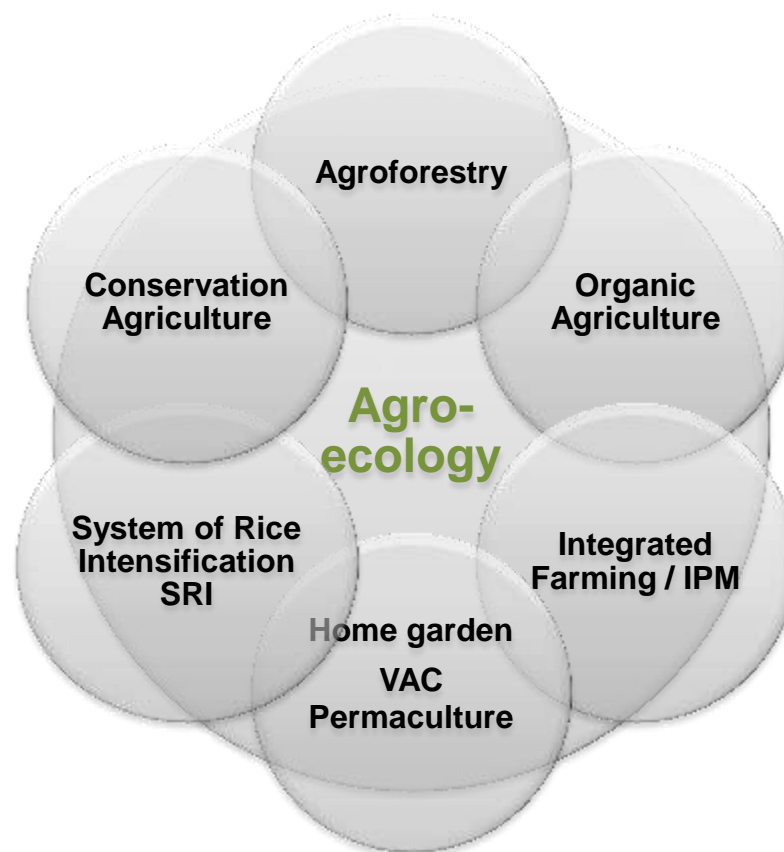
1st National multi-stakeholder workshop on Agroecological Transition in Laos, 2-3 June 2016, Vientiane

Outline

- Issues related to the adoption of agroecology practices,
- Understanding agricultural dynamics and diversity of local contexts to facilitate adoption,
- Designing relevant intervention mechanisms at the landscape level,
- Showcasing the approach: village case studies

Challenges of AE adoption/dissemination

- No straightforward innovation pathway
- Requires adaptations to local contexts



Agrarian changes in the northern uplands

- A continuum of local land use practices between 2 unsustainable extremes situations:



Shifting cultivation

- Shortening fallows 10-12 years -> 3-5 years
- Increased labour requirement for weeding
- Land degradation - decreasing yields

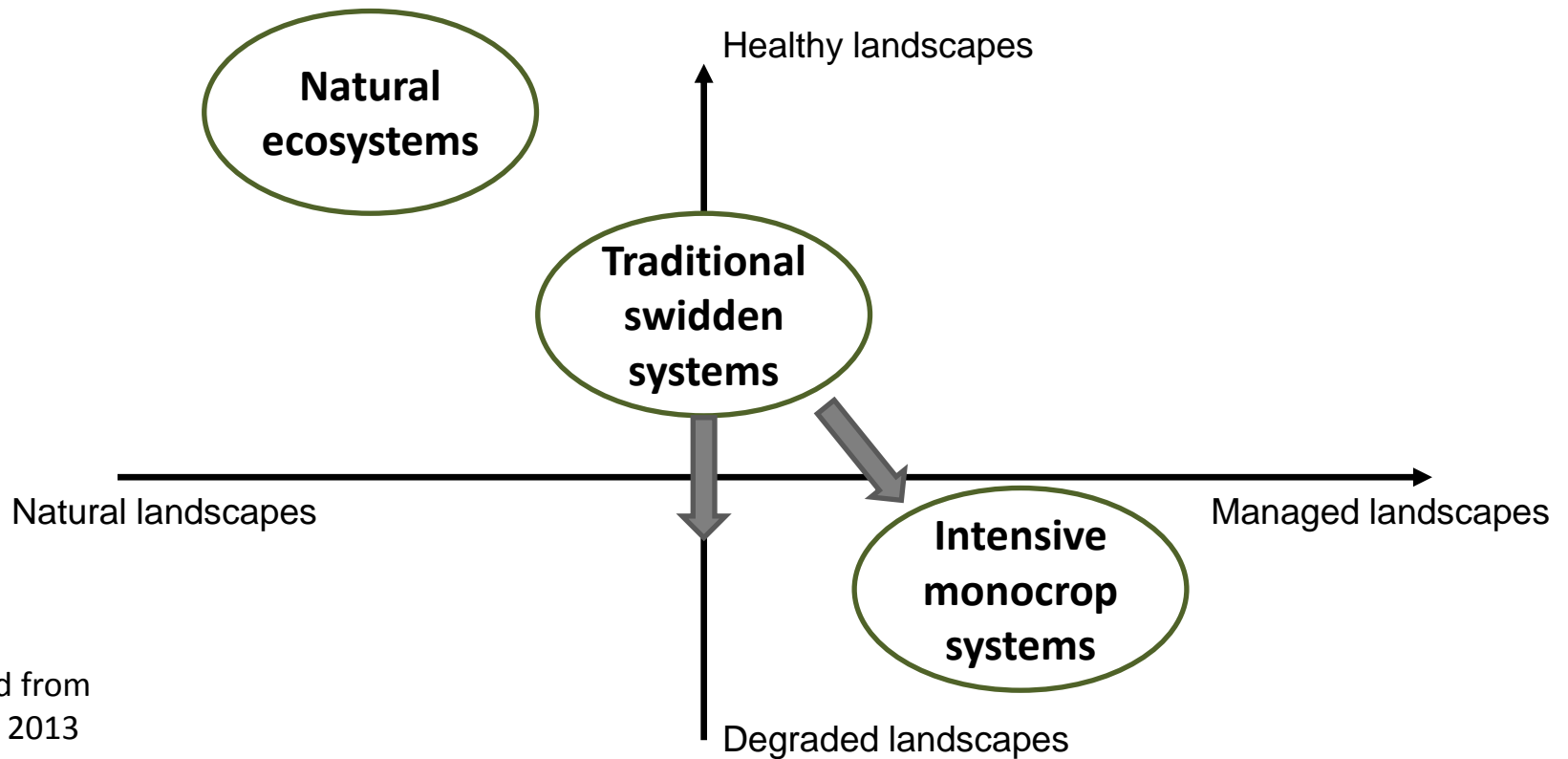
High input monocropping

- Mechanization
- Increased use of chemical inputs
- Land degradation - decreasing yields

- Which alternatives?
- Which intervention mechanisms?

...towards ecological intensification

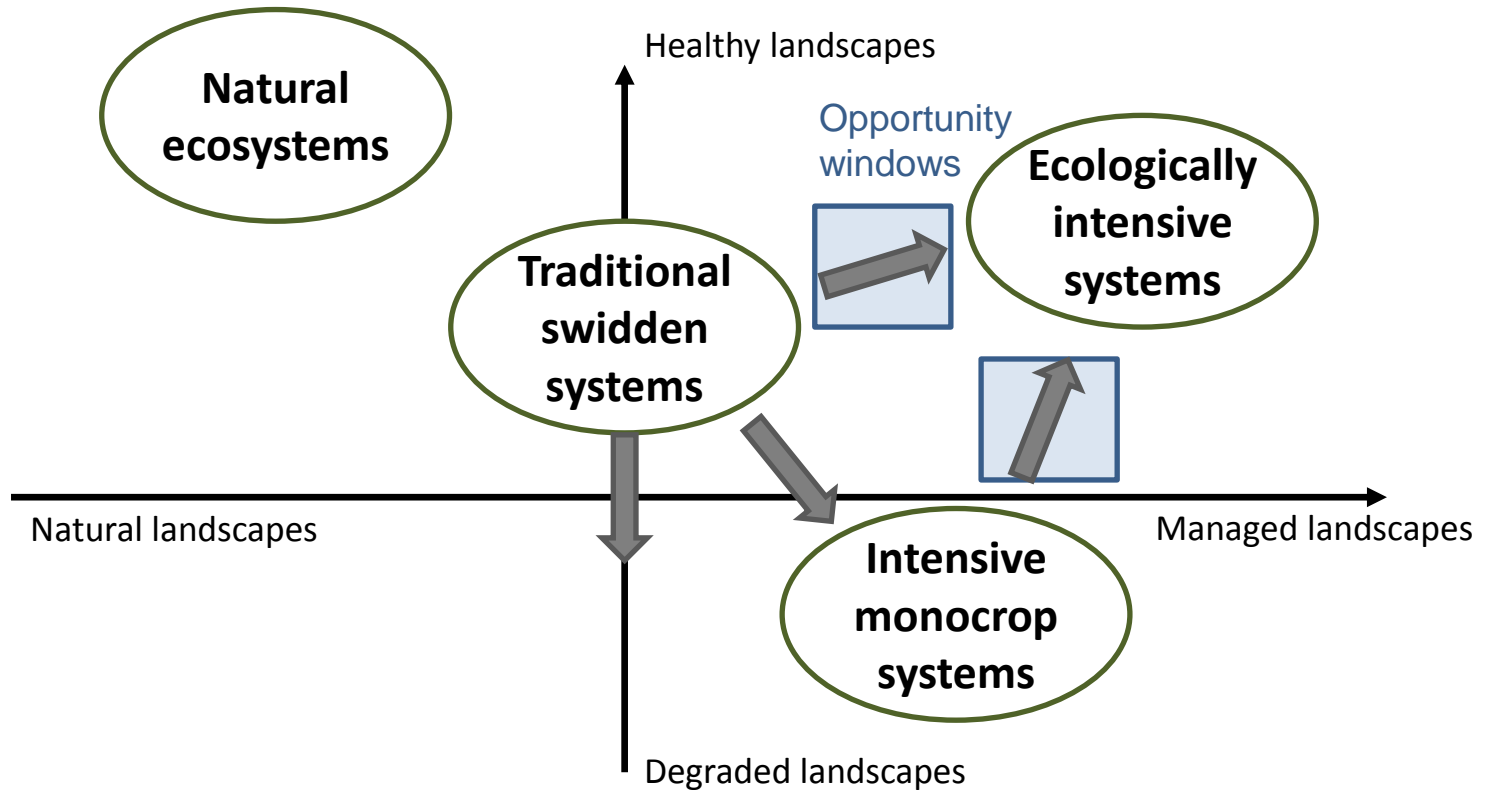
Agrarian changes in the northern uplands



Adapted from
Griffon, 2013

Conceptual framework

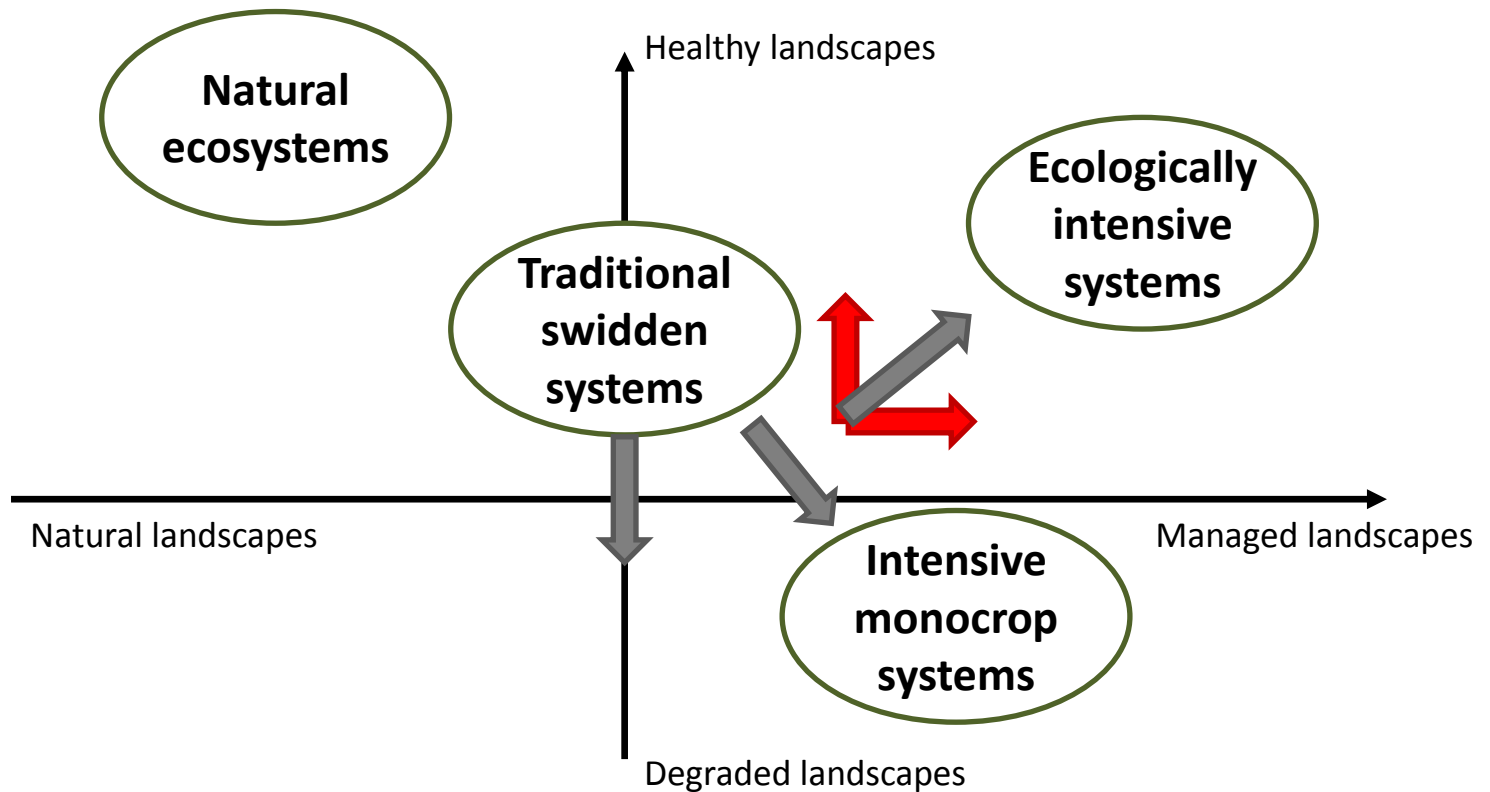
Agrarian changes in the northern uplands



Adapted from
Griffon, 2013

Conceptual framework

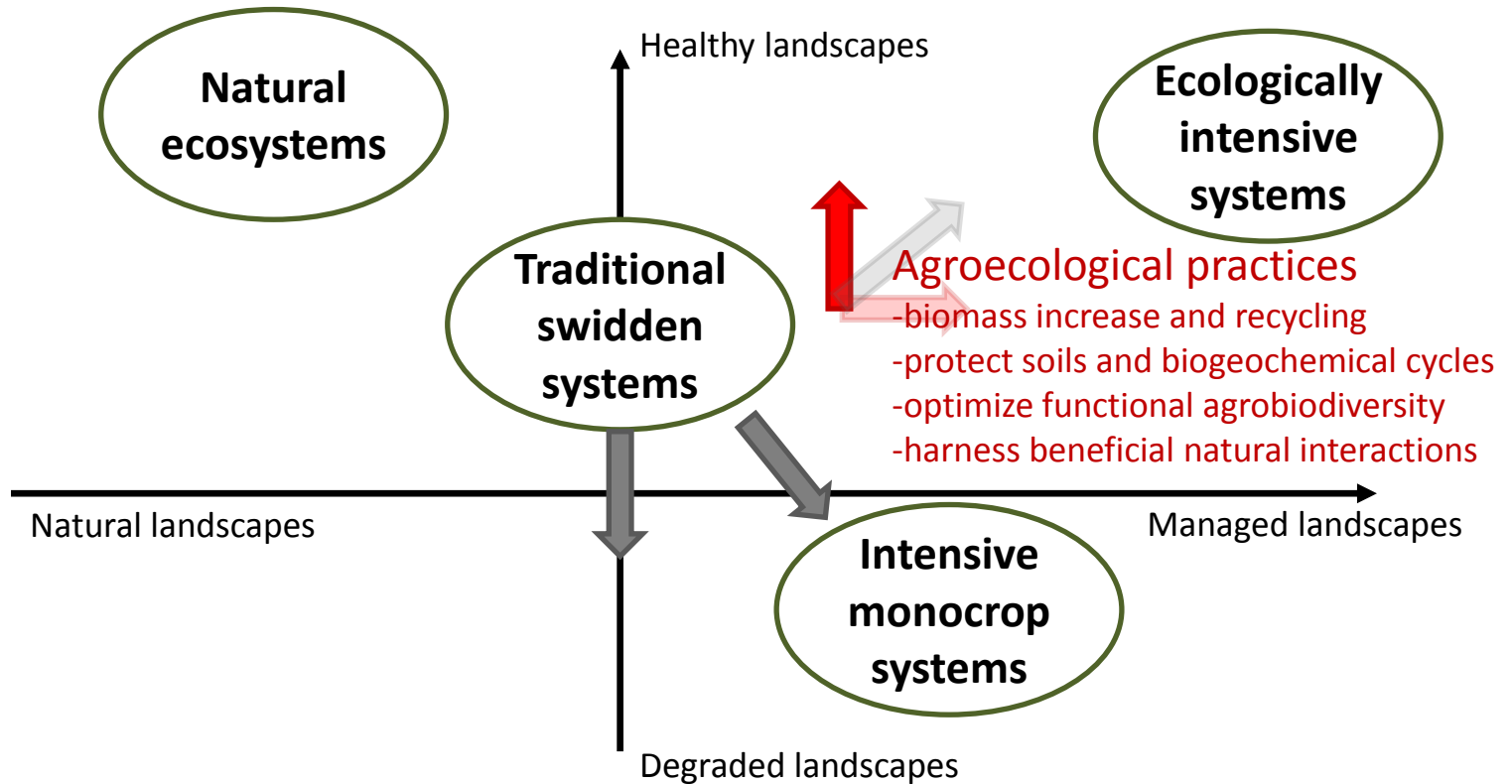
Agrarian changes in the northern uplands



Adapted from
Griffon, 2013

Conceptual framework

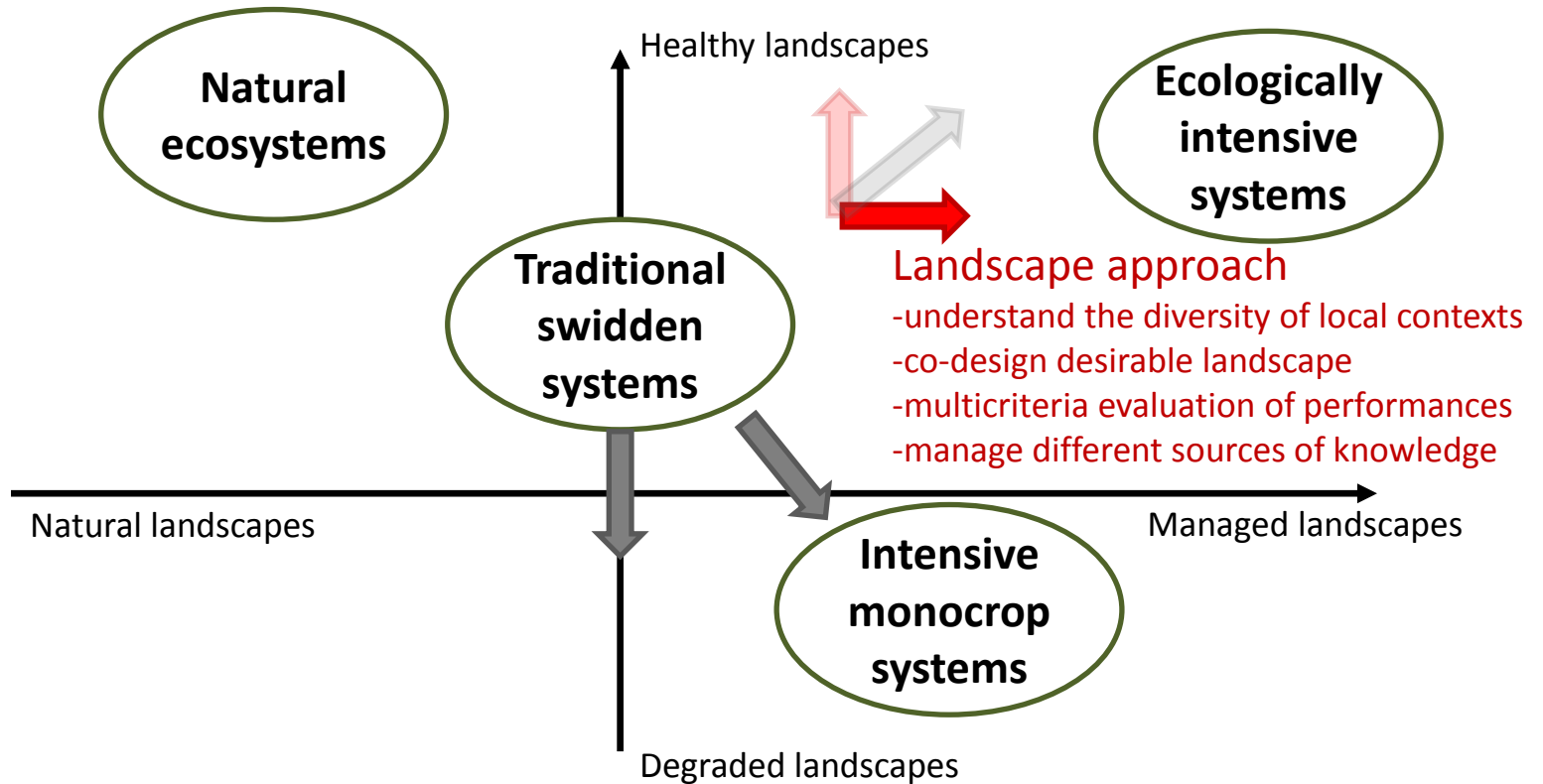
Agrarian changes in the northern uplands



Adapted from
Griffon, 2013

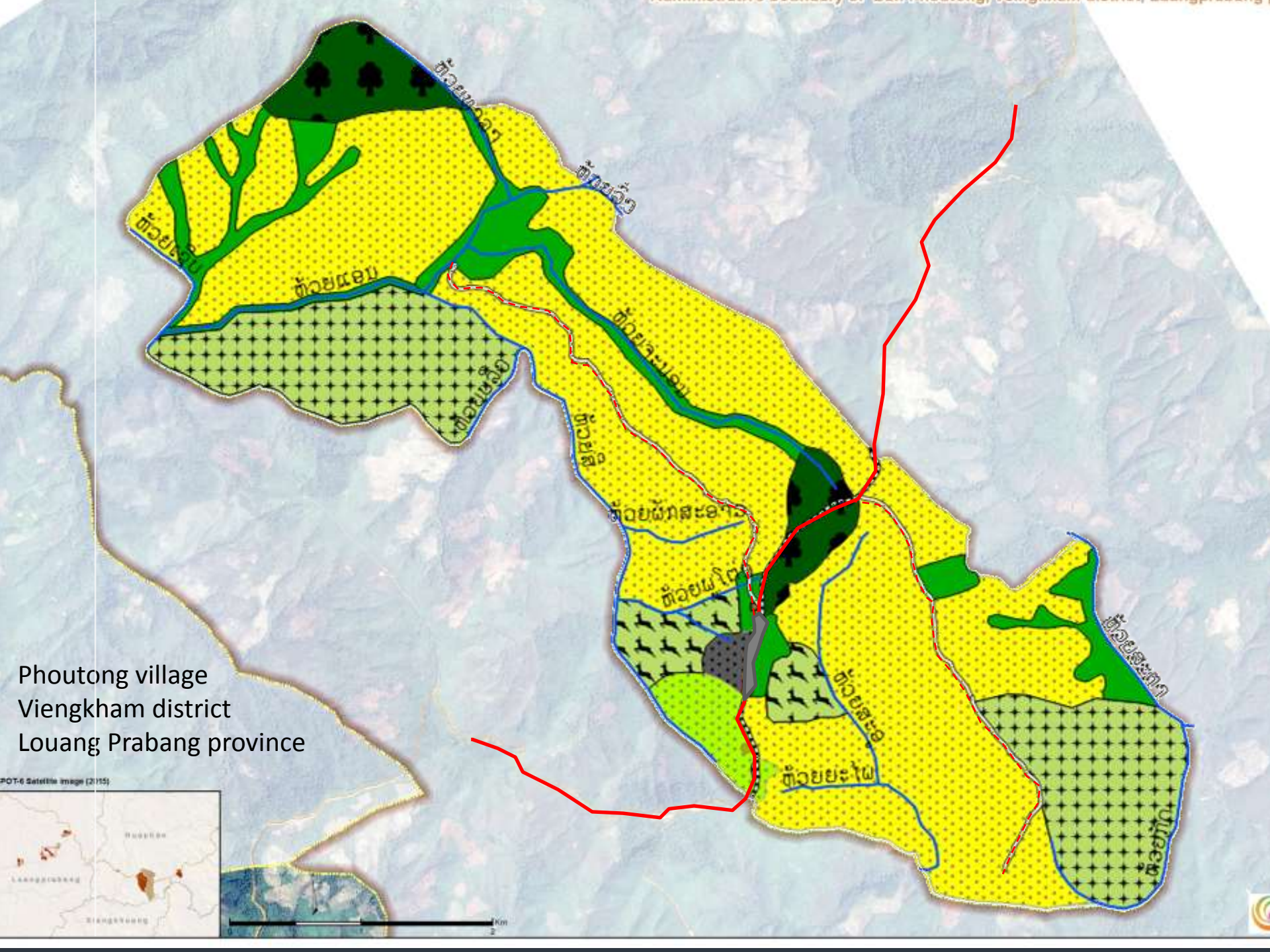
A landscape approach to agroecology

Agrarian changes in the northern uplands



Adapted from
Griffon, 2013

A landscape approach to agroecology



Phoutong village
Viengkham district
Louang Prabang province



Community-based Agricultural Development Plans 2015-2016

Eco
Friendly
Intensification &
Climate resilient
Agricultural
Systems



Phoutong Village

Viengkham district, Luangprabang province



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.

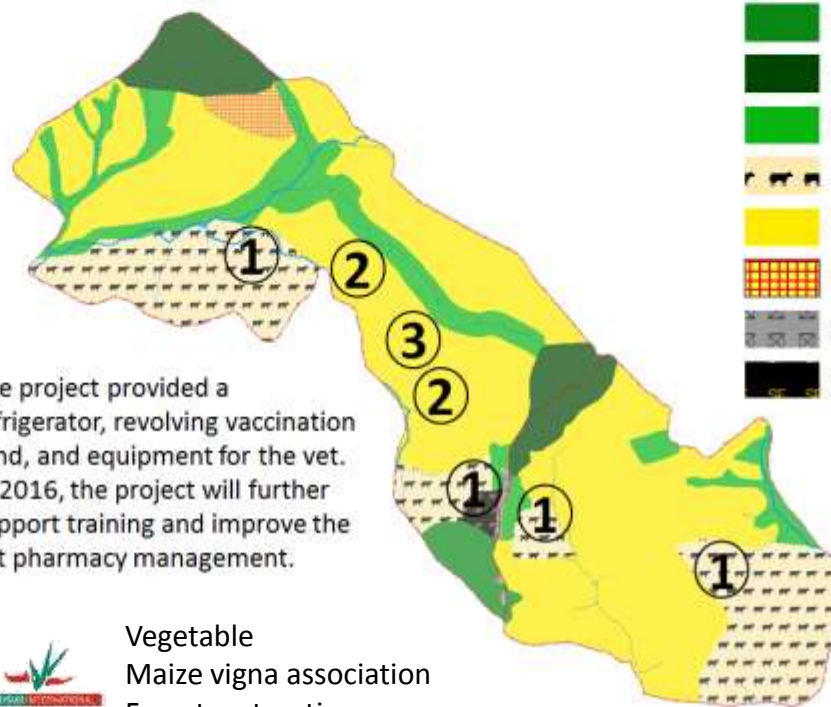
Training on forage management

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.



- 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

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.

Vegetable
Maize vigna association
Forest restoration

Strengthening the village land management committee in implementing the village land use plan
Study tour planned in 2016

2. SUSTAINABLE CROPPING SYSTEMS IN THE UPLANDS

Fallow management and improvement of upland rice production

The project organized training on fallow

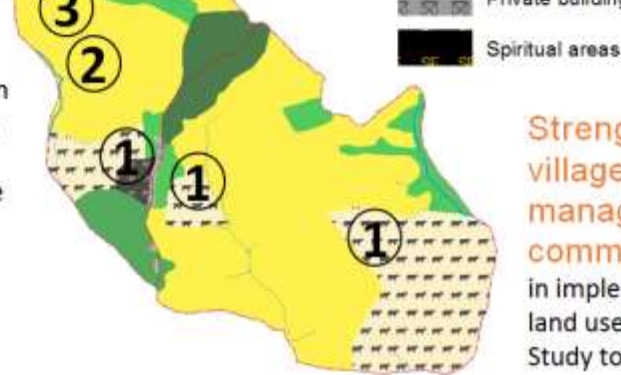
3. AGRICULTURAL INTENSIFICATION AND DIVERSIFICATION

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.



Strengthening the village land management committee
in implementing the village land use plan
Study tour planned in 2016

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.



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.



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.

Community-based Agricultural Development Plans 2015-2016

Eco
Friendly
Intensification &
Climate resilient
Agricultural
Systems



Phoukang Village

Viengxay district, Huaphan province



1. INTEGRATED APPROACH TO LIVESTOCK SYSTEM IMPROVEMENT

Living fences and forage production

Set up livestock area with permanent fences (combination of barbed wire and tree seedlings) on an area of 5 ha. 33 HH participated in 2015.



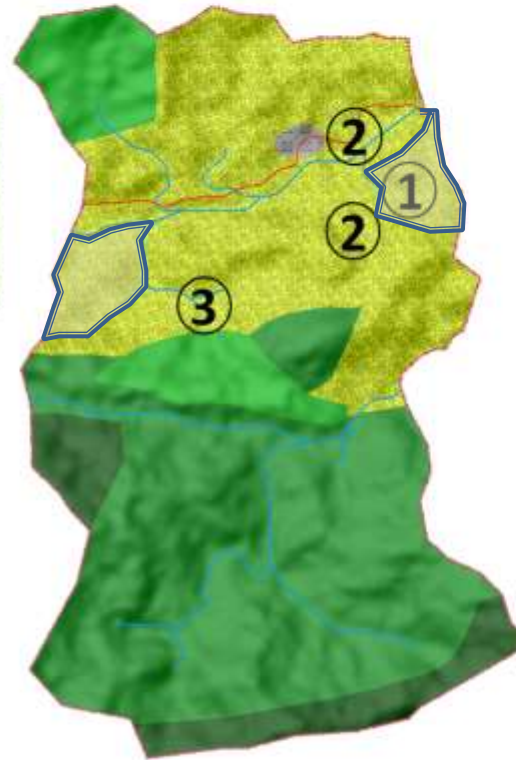
Training on forage management

33 people took part in training to produce silage, hay, and feeding boxes.



Training on animal healthcare

30 people participated in the training. Organized a vet team composed of 3 village volunteers.



Land Use Planning

- Managed Use Forest Land Zone
- Conservation Forest Land Zone
- Protection Forest Land Zone
- Agriculture Land
- Private building land

3. AGRICULTURAL INTENSIFICATION AND DIVERSIFICATION IN PADDY TERRACES

Introduction of vegetable winter crops

The project provided 7 species vegetable seeds to 21 HH to grow on an area 1.2 ha.



2. SUSTAINABLE CROPPING SYSTEMS

Introduction of labor saving devices

Training on animal healthcare

30 people participated in the training. Organized a vet team compose of 3 village volunteers.



3. AGRICULTURAL INTENSIFICATION AND DIVERSIFICATION IN PADDY TERRACES

Introduction of vegetable winter crops

The project provided 7 species vegetable seeds to 21 HH to grow on an area 1.2 ha.



2. SUSTAINABLE CROPPING SYSTEMS IN THE UPLANDS

Intercropping systems maize/rice with pigeon pea

Improved fallow management with pigeon pea (for stick-lack production) in upland rice and maize; 18 HH implemented on a 10 ha area.



Introduction of labor saving devices

10 hand jab planters for upland rice and maize sowing



Introduction of soybean and peanuts for replacing drought-damaged crops

The project helped villagers adapting to climate change by providing soybean and peanut seeds to 14 HH who got affects from the drought.



Fruit tree plantation

The project test fruit tree plantation in the village with 90 seedlings, provided to 2 HH to grow on 0.7 ha. Later on, many households show an interest in growing fruit tree.

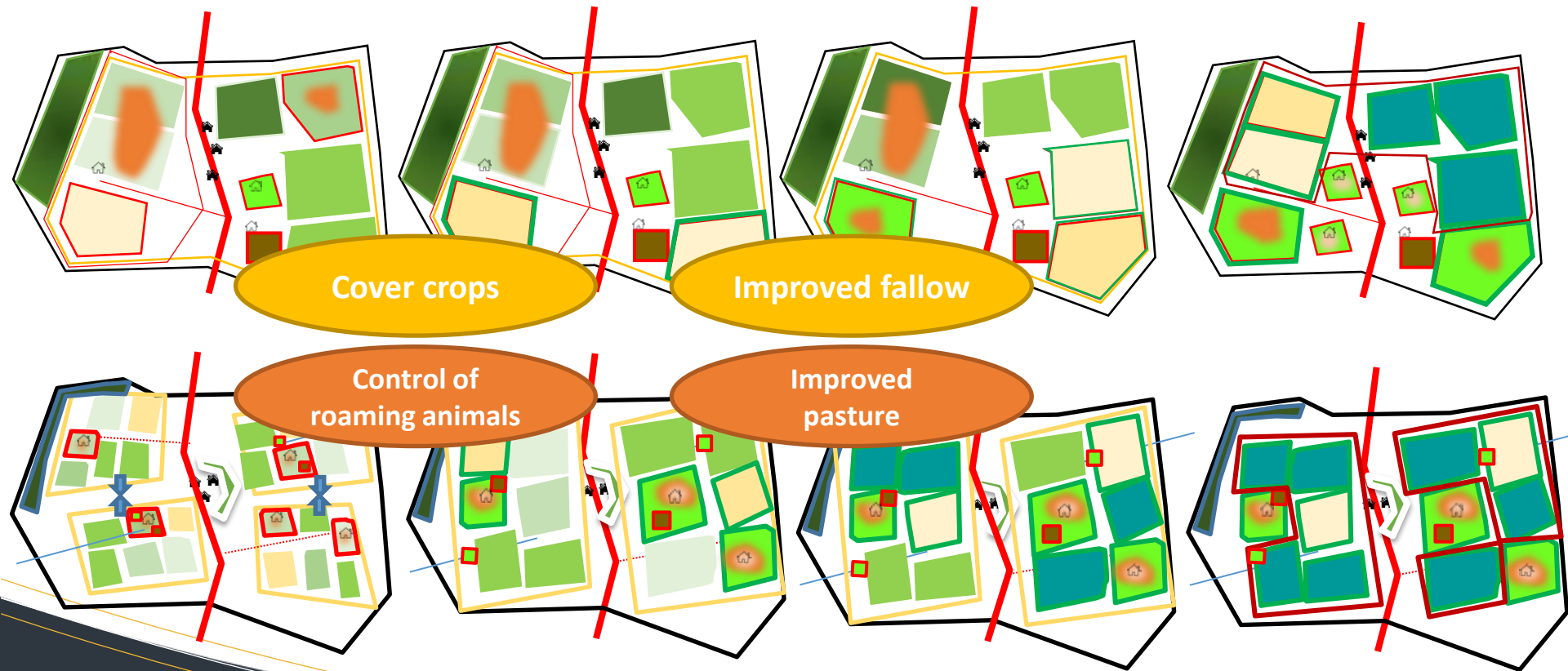
CADP expected impacts

2015

2016

2017

2025



Improved crop-livestock interactions

Take home messages

- Diversity of local contexts in the uplands
-> engaging in a landscape approach to agroecology



Take home messages

- Local ownership – uncertain outcomes
 - > empowering village communities



Take home messages

- A continuous learning process with
-> extension agents as communication facilitators, not expert prescriber



Thank you for your attention...

