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## ONE PROJECT TWO DONORS

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Recognizing that

in many cases the constraints to

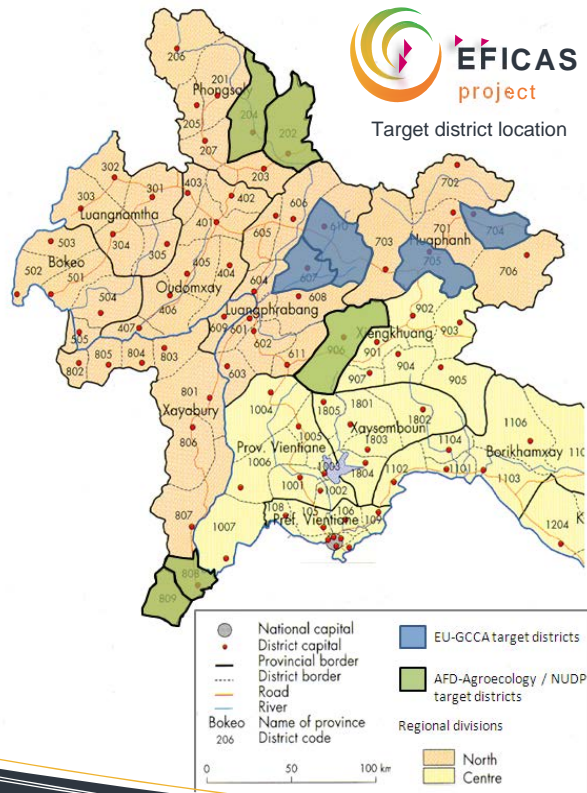
the adoption of innovative cropping practices lie

in the multiple components of the livelihood systems, a landscape approach to sustainable agricultural intensification is promoted by the EFICAS Project in the three target provinces of the **Northern Upland development Program** (NUDP): Luang Prabang, Huaphan and Phongsaly.

Lessons drawn from previous projects on conservation agriculture in Sayaboury and Xieng Khouang Provinces also help adapting agroecological practices to the local contexts of NUDP provinces.

The complex issues faced by upland communities require investing in people as much as in technical solutions.

Northern Upland  
Development Program  
Ministry of Agriculture  
and Forestry, Lao PDR



# ECO- Friendly Intensification and Climate resilient Agricultural Systems

A landscape  
approach to  
sustainable  
agricultural  
intensification  
in Lao PDR



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Management

# Alleviating poverty while preserving fragile upland environments

## THREE WORK PACKAGES:

- Landscape management and climate-smart villages
- Participatory innovation network and conservation agriculture
- Evidence-based policy formulation.



Over the past decades a large range of technical options have been tested successfully in the northern uplands of Lao PDR to support a sustainable intensification of upland agriculture. For example, cropping systems based on agroecological principles have proved effective in restoring degraded soils and improving agricultural productivity while (i) decreasing labor requirements, especially for women who are usually in charge of the time consuming weeding operations, and (ii) limiting soil tillage and use of chemical inputs. Today, soil conservation techniques are well known by most stakeholders, including village communities, but they are not spontaneously adopted. The reasons for low adoption are often not related to the cropping techniques themselves but to external causes, such as the roaming cattle and buffaloes that damage cover crops, the limited knowledge of existing market outlets, or simply because farmers find it less labor consuming to till their land or to use chemical products instead of organic practices. Innovation is not a straightforward process.

## Innovative landscape approaches to enhance resilience to climate change

### LANDSCAPE APPROACHES

Landscape approaches seek to simultaneously contribute to climate change mitigation and adaptation, food security, livelihood opportunities, biodiversity conservation and cultural and recreational needs. Landscape approaches emphasize adaptive management, stakeholder involvement, and multiple objectives. These principles differ from more traditional sectoral and project-based approaches.

### ECOSYSTEM SERVICES

Ecosystem services are the benefits people obtain from ecosystems, including provisioning services such as food, water, timber, and fiber; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling.

Expected impacts		Agroecological mechanisms
Resistance to climate change	Resistance to drought events	Increased surface mulch improves soil moisture retention Increased organic restitutions to soils improve soil organic matter hence water holding capacity
	Reduced risk of erosion during heavy rains	Anti-erosion practices e.g. increased surface mulch, grass strips, agroforestry
Resilience to climatic events	Reduced yield fluctuations between dry and wet years	Increased soil moisture retention Integrated weed management
	Reduced profit fluctuations between dry and wet years	Diversification of farm and off-farm activities
	Enhanced capacity to cope with the emergence of new pests and diseases	Increased functional biodiversity Integrated pest management (IPM)

## OBJECTIVES

The EFICAS Project aims at developing innovative methods and intervention approaches to support farmers' adoption of climate smart agricultural systems based on conservation agriculture. Community livelihoods and resilience to climate change are improved through:

### ► VILLAGE LANDSCAPE MANAGEMENT

Engaging village communities in designing low-carbon emission strategies,

### ► PARTICIPATORY INNOVATION NETWORK

Engaging development stakeholders in testing agroecological practices adapted to local contexts,

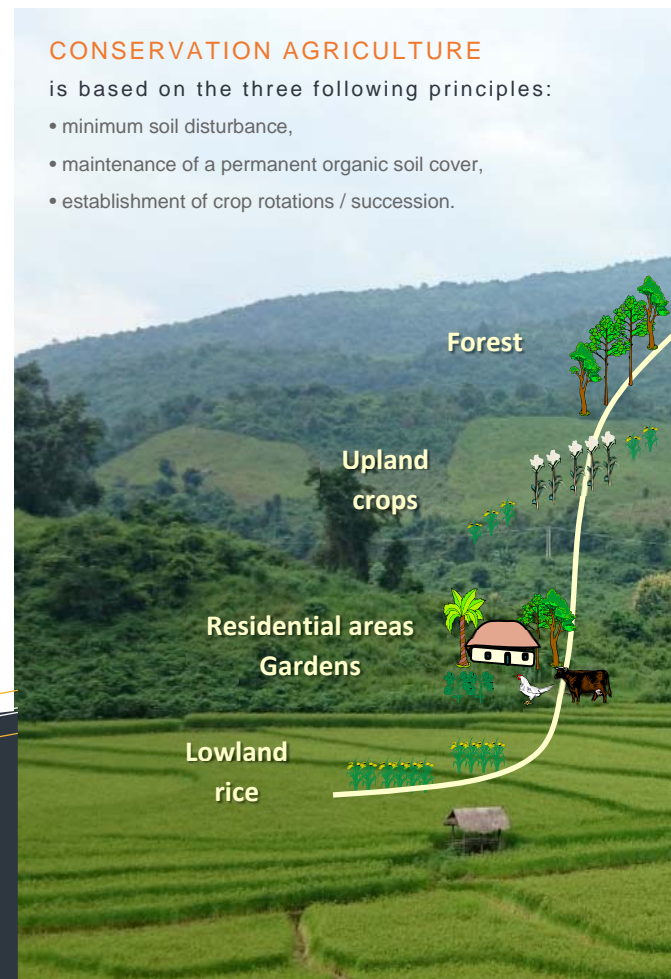
### ► MULTI-STAKEHOLDER COMMUNICATION PLATFORM

Creating an enabling environment to broad scale dissemination of alternative production systems through participatory learning approaches, and formulation of evidence-based policies.

## CONSERVATION AGRICULTURE

is based on the three following principles:

- minimum soil disturbance,
- maintenance of a permanent organic soil cover,
- establishment of crop rotations / succession.



IDENTIFYING 'WINDOWS OF OPPORTUNITY' FOR GREATER IMPACTS ON LIVELIHOODS, ECOSYSTEM SERVICES, AND RESILIENCE TO CLIMATE CHANGE

'windows of opportunity' = suitable timing and enabling institutional environment for the dissemination of innovations.