



# Forestry and Agro-Ecology in Lao rural Uplands (FORAE)

Viengkham District, Luang Prabang Province,  
RDP Laos.

ALiSEA National Thematic workshop “What performance indicators for assessing agroecology impacts”, the 29<sup>th</sup> of November 2016

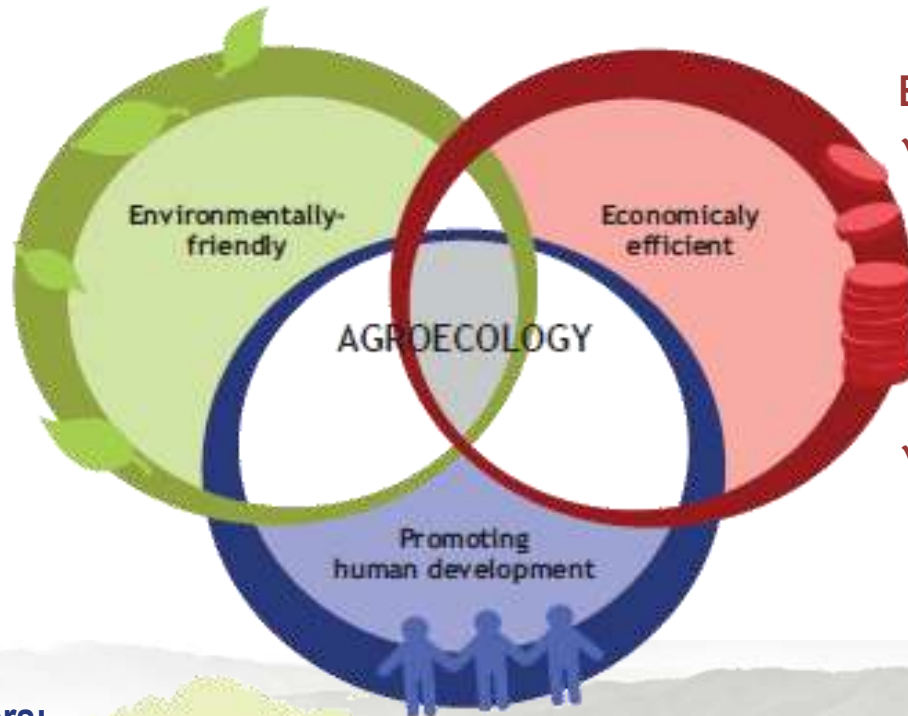


# Indicators are multi-sectoral...

Agro-ecology is a systemic approach to agriculture, taking into account the economics of farms, but also environmental and social impacts of their activities, in order to insure their sustainability. While following up on performance indicators to agroecology practices implementation, three major sectors should be considered:

## Environmental indicators:

- ✓ Land use (agriculture area, forest area...)
- ✓ Variability of soil organic matter (erosion, carbon sequestration capacity...)
- ✓ Vulnerability of the watershed and water resources



## Economic indicators:

- ✓ Characteristics of farm and production systems (type of production, yield, access to inputs and services, transport, market, incomes...)
- ✓ Value-chain studies and market opportunities

## Social indicators:

- ✓ Food consumption score and food consumption habits
- ✓ Socio-economic characteristics of families (composition, labor force, education level, access to goods, health services...)
- ✓ Social organizations and professional organizations

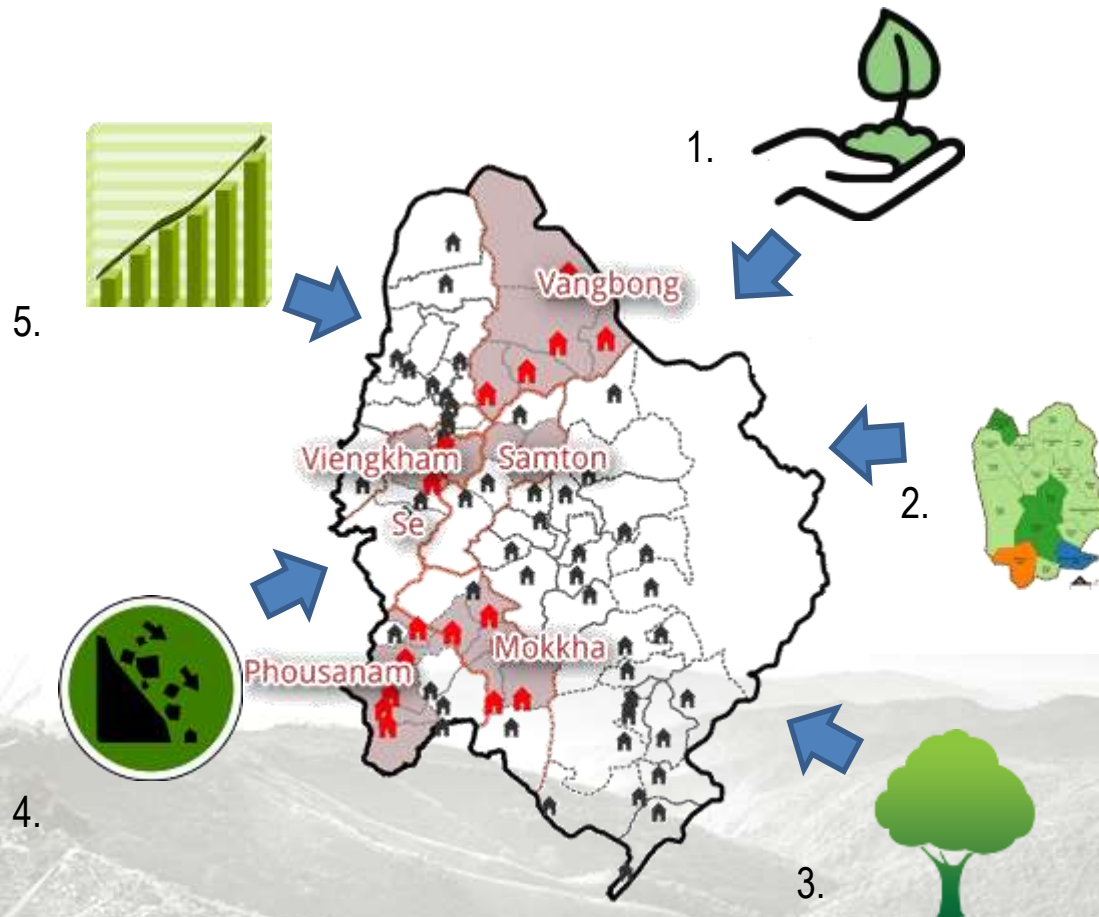
# Focus on...Environmental indicators

Indicators	Data collection protocol
Land use	<ul style="list-style-type: none"><li>- Observations and surveys on land use patterns,</li><li>- Landscape boundaries,</li><li>- Pre-processing of satellite data;</li><li>- Establishment of the typology of land use;</li><li>- Mapping</li></ul>
Carbon sequestration in soil	<ul style="list-style-type: none"><li>- Bibliography in Northern Laos,</li><li>- Typology of farms,</li><li>- Selection of a sample of farms for soil analysis,</li><li>- Stock and carbon flux survey,</li><li>- Soil analysis...</li></ul>
Carbon sequestration in biomass	<ul style="list-style-type: none"><li>- Inventory carbon biomass (tree, species, height, diameter, density)</li></ul>
Soil loss and erosion	<ul style="list-style-type: none"><li>- Device for measuring soil losses</li></ul>
Quantity of water	<ul style="list-style-type: none"><li>- Water source flow records;</li><li>- Rainfall readings</li></ul>
Biodiversity	<ul style="list-style-type: none"><li>- Forest inventory</li><li>- Agro-biodiversity inventory</li></ul>



# In brief, to summarize...

In Viengkham District, the FORAE project has taken the task to collect data to follow-up on some environmental indicators, using various tools to collect information.



## Agro-environmental measures

1. Soil fertility analysis: carbon, NPK, pH, density...
2. Land use mapping using remote sensing
3. Forest inventory, biomass and biodiversity analysis
4. Soil vulnerability and soil erosion analysis
5. Water resources vulnerability: quantity of water at the sources, pluviometry



**ຂຽບໃຈ  
ມີ ຄຳຖາມ  
ບໍ່ ?**

