

# Spotting Trade-offs and Synergies among Sustainable Development Goals related to Food Security in Lao PDR

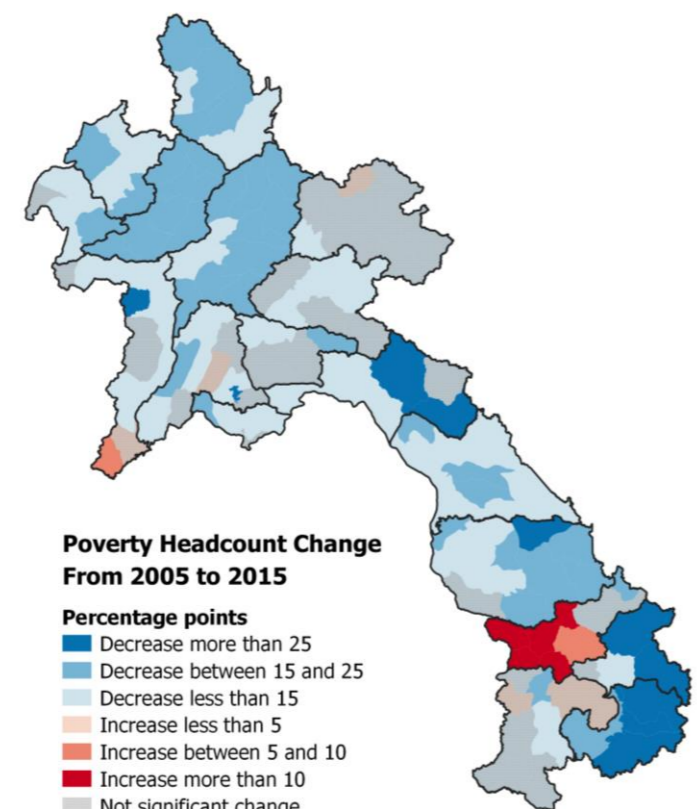
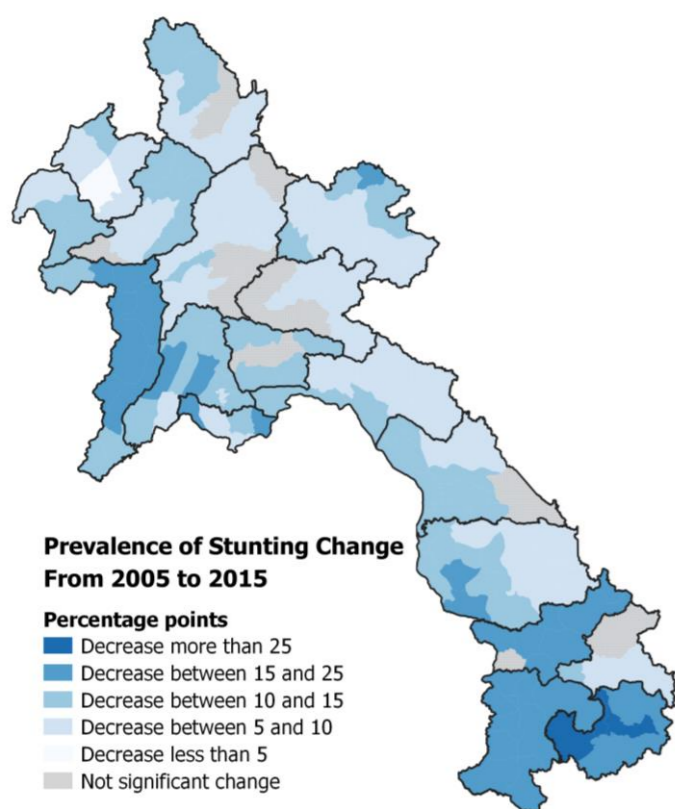
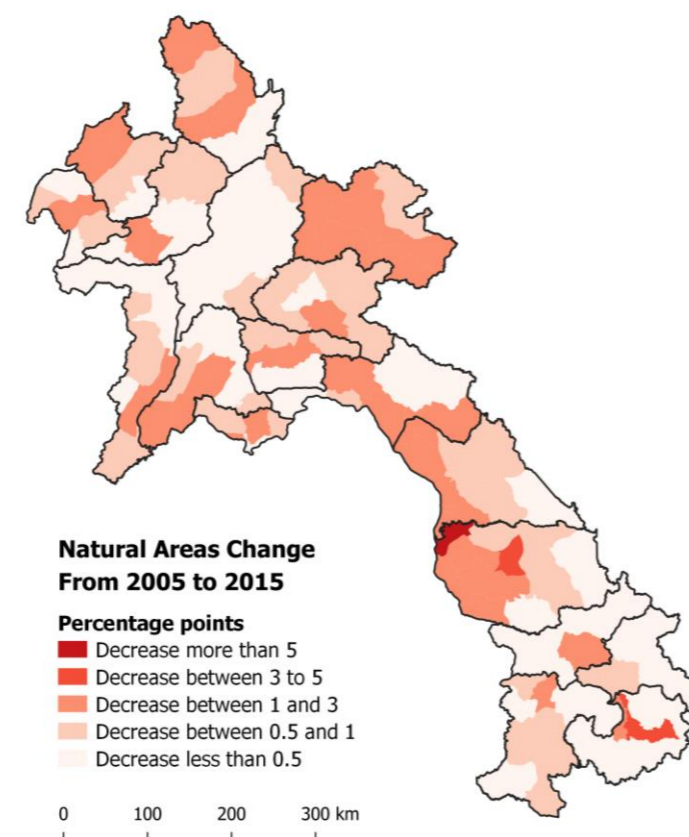


## Introduction

The analysis of synergies and trade-offs among Sustainable Development Goals (SDGs) has been mainly studied in previous literature using data at the national level. This paper compares changes in socioeconomic and environmental SDGs related to Food Security at the local level in Lao PDR. These indicators are tightly linked with expected sustainable progress in agriculture.

## SDGs at District Level

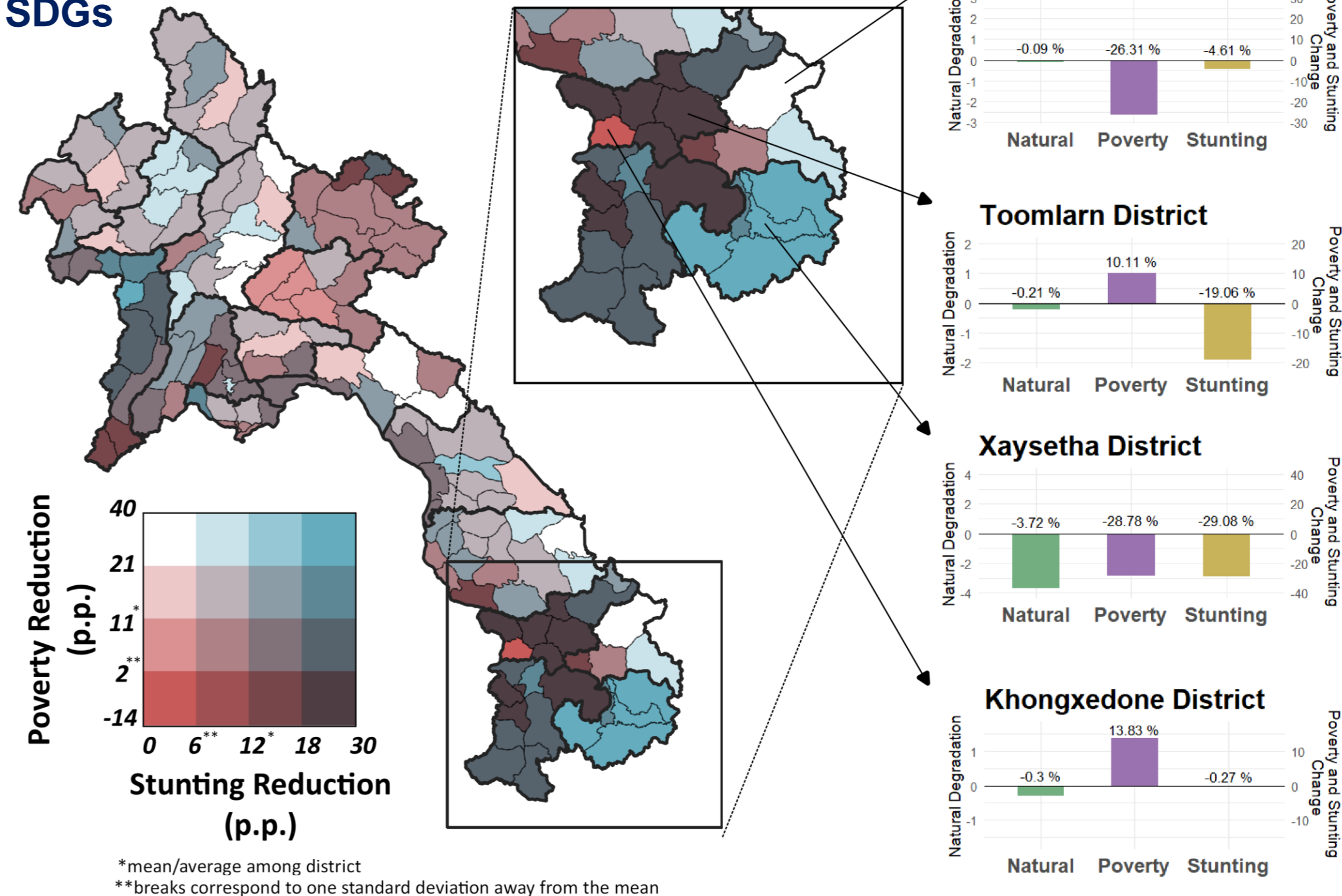
- Mapping of changes in poverty and stunting rates, between 2005 and 2015, was done using a *Small Area Estimation* technique.
- Mapping of change in natural areas (forests and wetlands) was done using land cover data from both years.



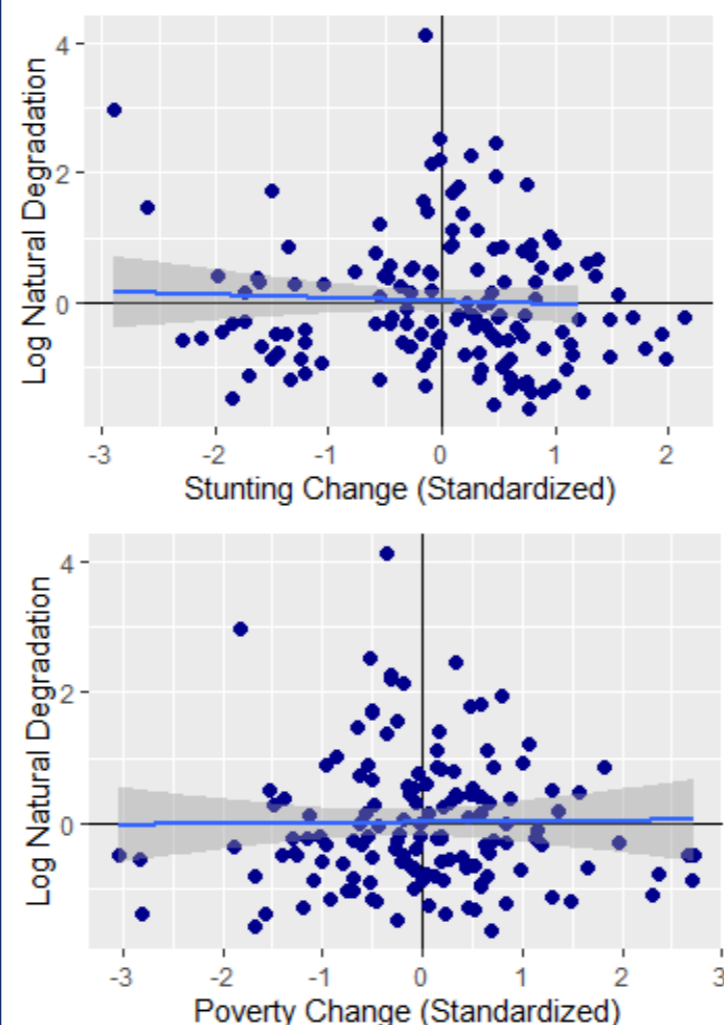
## Trade-offs/ Synergies

- Laos has had a reduction of poverty and stunting rates, as well as degradation of natural areas, in most/all districts.
- Changes in poverty and stunting rates vary considerably among districts.
- Only few districts had simultaneously high poverty and stunting reductions (synergies) or opposite progress (trade-offs).

## Comparison changes of SDGs



## Correlation SDGs



- There is no clear correlation between poverty/stunting and natural degradation.
- Nonetheless, the few districts with high natural degradation had average-to-high reduction of poverty and stunting.
- Xaysetha district can be further studied to understand key SDG interactions.

## Focus on Local Analysis

We hypothesize that improvements towards food security and poverty reduction will come at a cost of natural areas or biodiversity. Yet, there is no evidence of correlation between changes in these socioeconomic and environmental indicators at the local level in Lao PDR. Further study is needed within key small areas in which synergies and trade-offs might be found. Future research on SDGs interactions should consider the local, instead of only the national, approach.