

# Agricultural transformation in VDSA villages in Bihar

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## Introduction

- Agriculture contributes about 20% to GSDP and provides employment to about 70% of working force in rural area
- The state economy growing annually by 9.0% (2007-13), with robust growth (4-5%) in agriculture and livestock sector
- Though, agriculture largely depends on monsoon, only one normal rainfall year during last four years in state
- Foodgrain- mostly fine cereals dominate the cropping pattern in VDSA villages
- However, importance of pulse crops growing in the village.

## Objective

- To examine the changes in cropping pattern in VDSA villages in Bihar state.
- to examine the trend of agricultural transformation in the study villages.

## Data and methodology

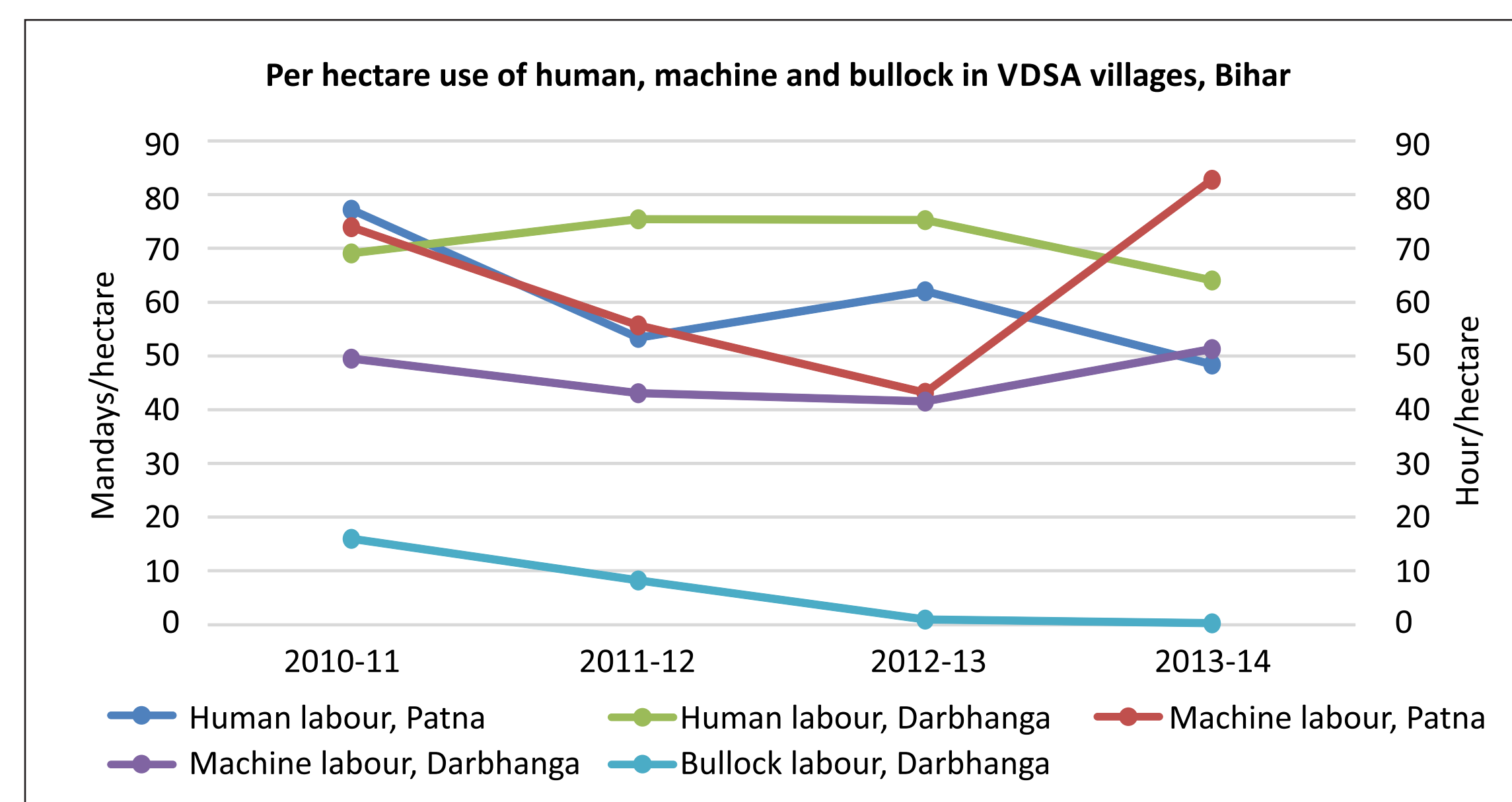
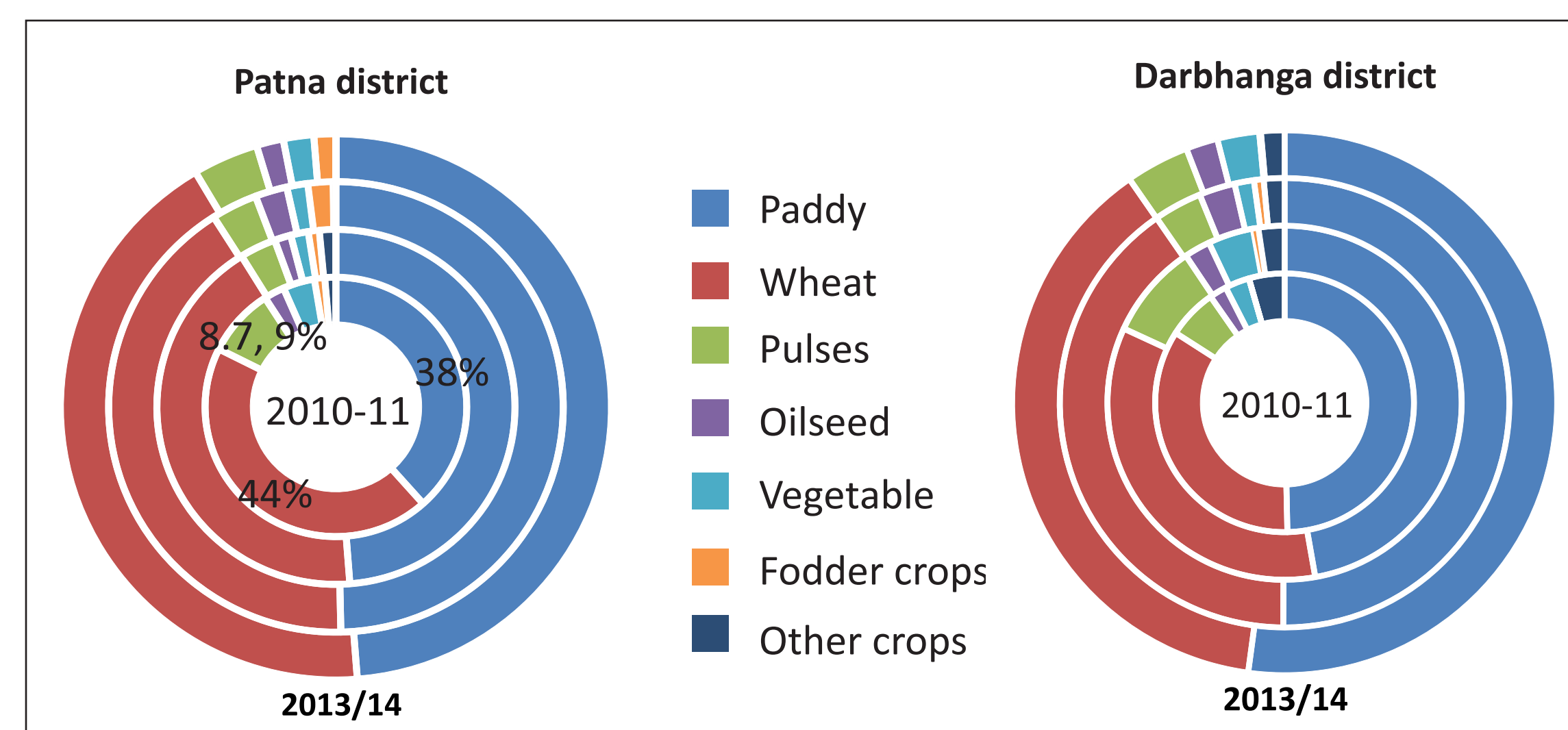
- Survey Area: Two villages each in Patna district and Darbhanga district of Bihar
- Survey year: 2010-11 to 2013-14
- Sampling: Panel survey of 40 households from each village, comprising 10 from each category viz.- labour, small, medium and large category. Total sample size: 160.

## Results

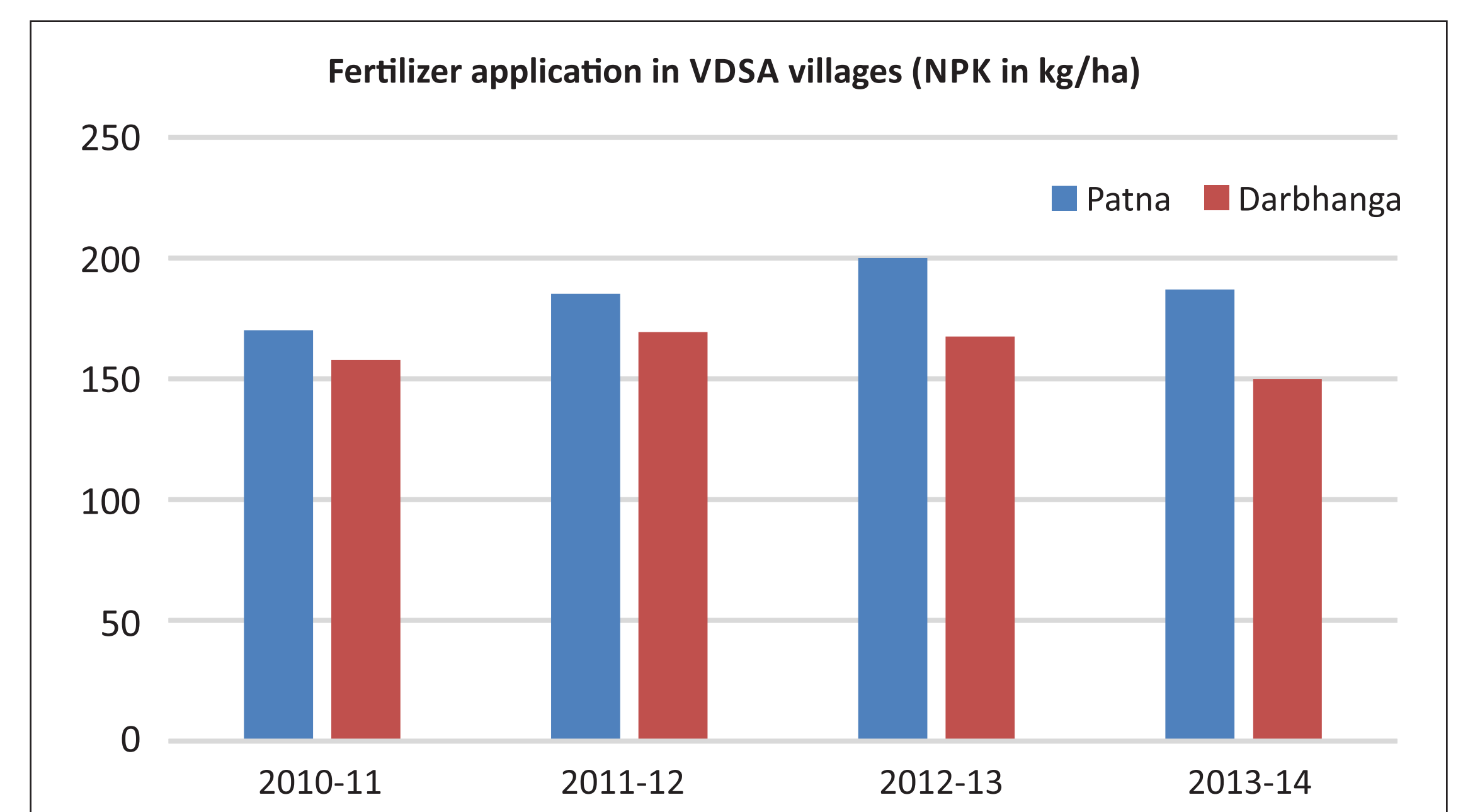
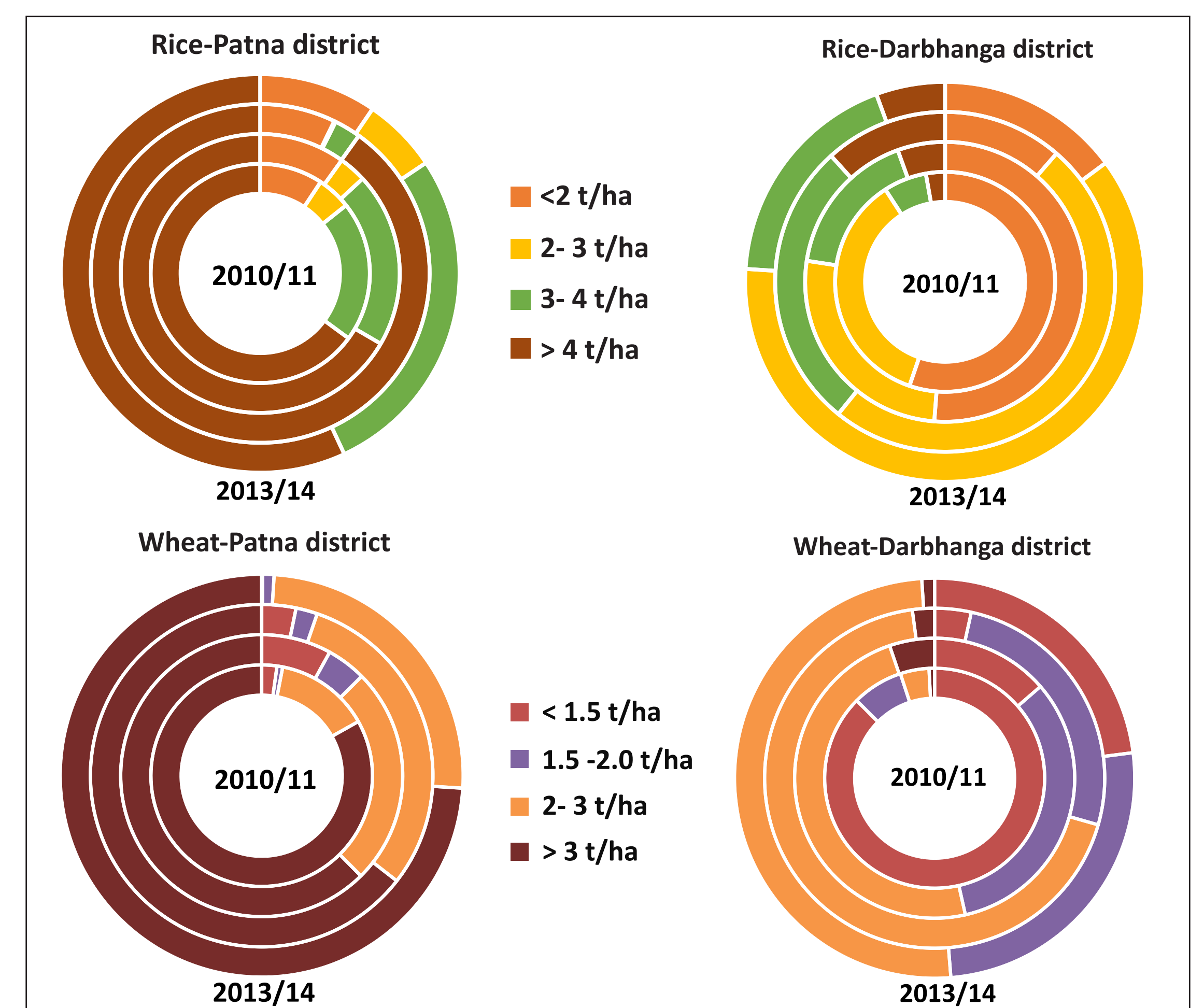
### Change in Cropping pattern

- Rice and wheat still dominating- due to home consumption and assured market
- Lower rainfall- triggered diversion of crop area to pulses & potato, but only temporarily
- Prosperous villages (in Patna dist) allocating more area to fodder crop
- Rainfall still plays key role in determining gross cropped area, cropping pattern and intensity of cropping in Bihar.

### Share of different crops in Gross Cropped Area in VDSA villages



## Distribution of crop area across different yield category, %



## Changes in input-use and crop yield

- Use of Tractor, thresher and diesel pumps increased many fold and a sharp decline in use of human and bullock labour observed
- Fertilizer application increased, though there is significant difference in both the districts
- This is clearly reflected in the crop yield of two major crops i.e. rice and wheat
- Proportion of irrigated area increased to more than 70%, mainly through diesel engine operated private tube wells
- Inadequate irrigation applied by poor farmers in Darbhanga district
- Area producing more than 4.0 t/ha rice and more than 3.0 t/ha of wheat increased in VDSA villages
- However yield realisation in Darbhanga district is very low as compared to that in Patna district.

## Conclusions

- Pulses and vegetables find place in unfavourable weather condition
- Irrigation- costly input due to high dependence on fossil fuel for groundwater irrigation
- Lack of institutional support in providing cheaper credit and modern technology (seed) in remote villages
- Four years is very short period to notice agricultural transformation. The study should continue to understand the extent and causality of agricultural transformation.