

# Agricultural transformation in VDSA villages in Jharkhand

Abhay Kumar<sup>1</sup>, RKP Singh<sup>2</sup>, KM Singh<sup>1</sup>, RC Bharati<sup>1</sup>, Shiv Jee<sup>1</sup> and BP Bhatt<sup>1</sup>

<sup>1</sup>ICAR-Research Complex for Eastern Region, Patna; <sup>2</sup>International Crops Research Institute for the Semi-Arid Tropics, India

## Introduction

- In Jharkhand state, only 18% of area is cultivated, while 28% area is under forest and 31% are fallow.
- Mono-cropping mainly paddy still prevalent
- Less developed irrigation system and poor rainwater management limiting factor
- In recent years, pulses, vegetables and maize are getting attention of the farmers.
- Use of critical inputs in farming- Seed, fertilizer, irrigation are still at very low level. Therefore, crop productivity is also low in the region.

## Objective

- To examine the changes in cropping pattern in VDSA villages in Bihar state
- to examine the trend of input-use in farming and crop yield in the study villages.

## Data and methodology

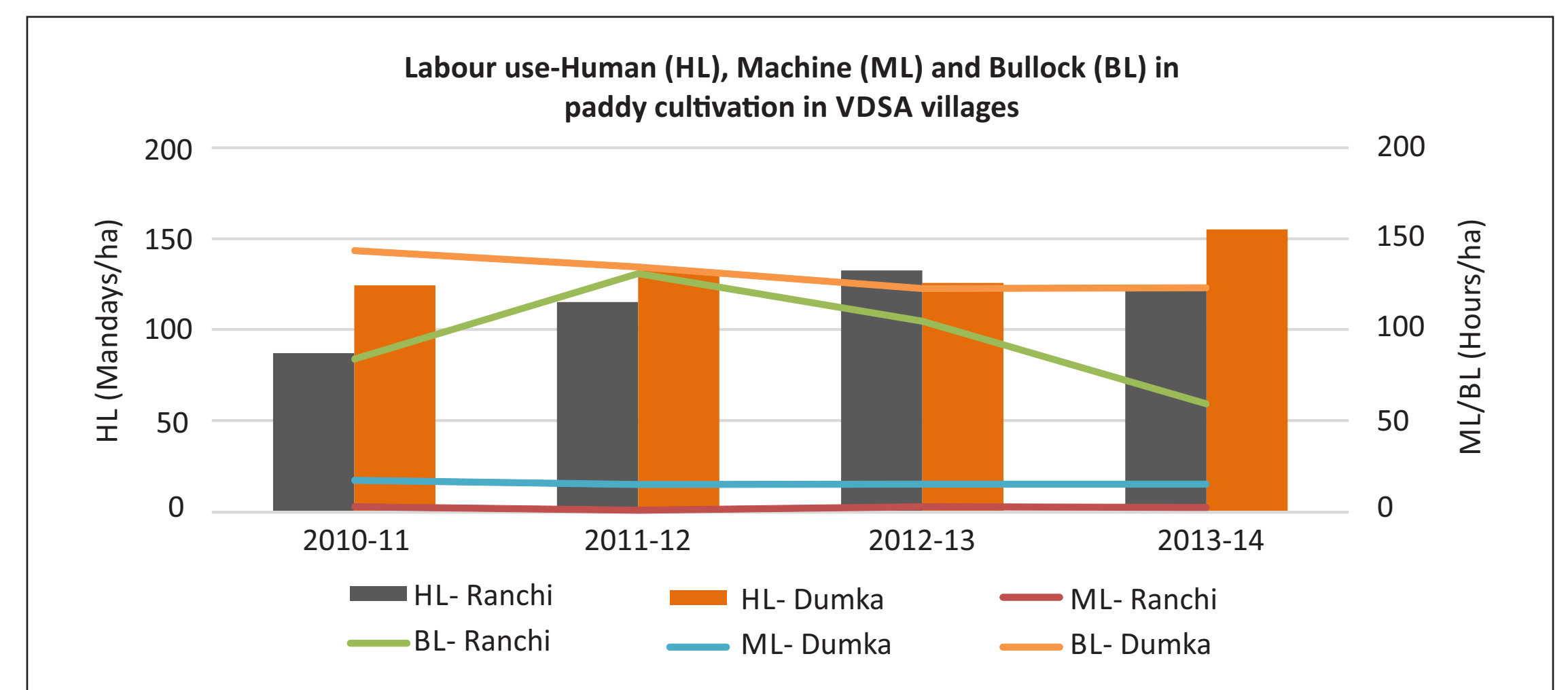
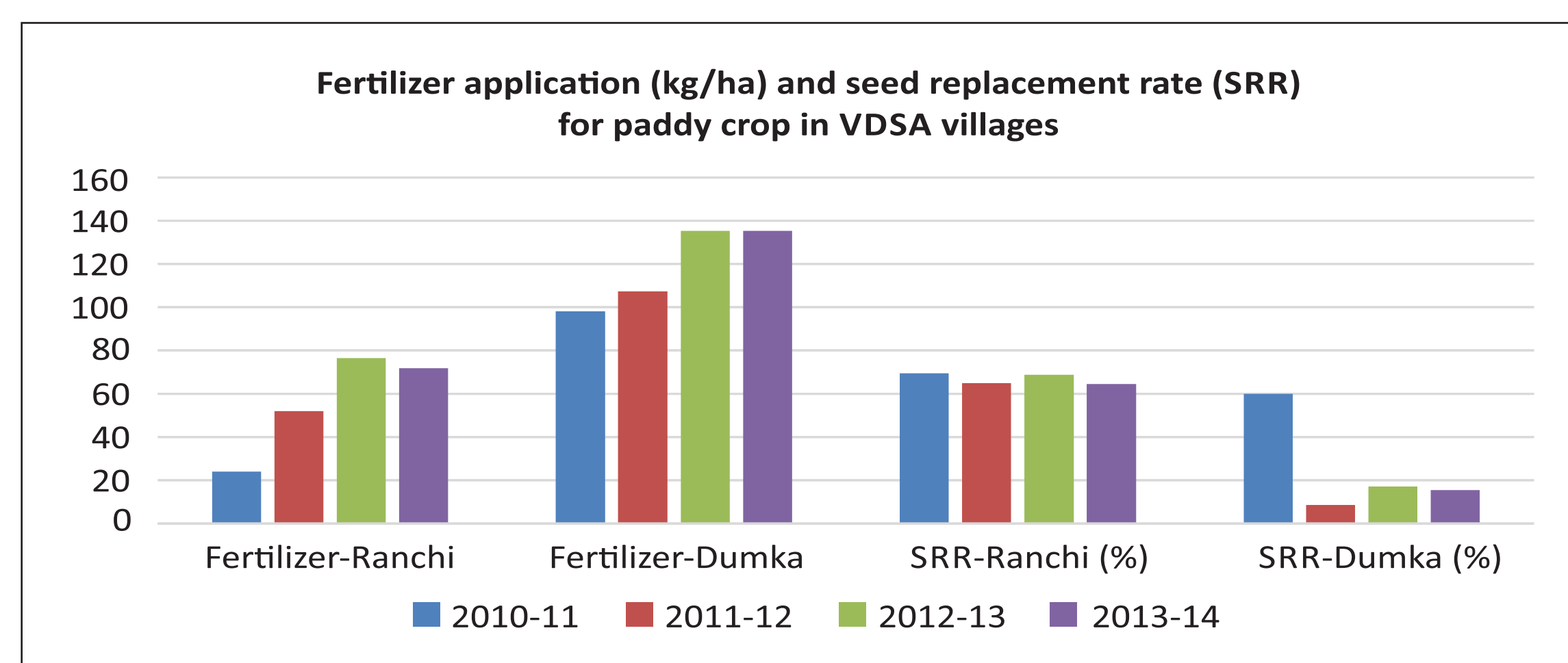
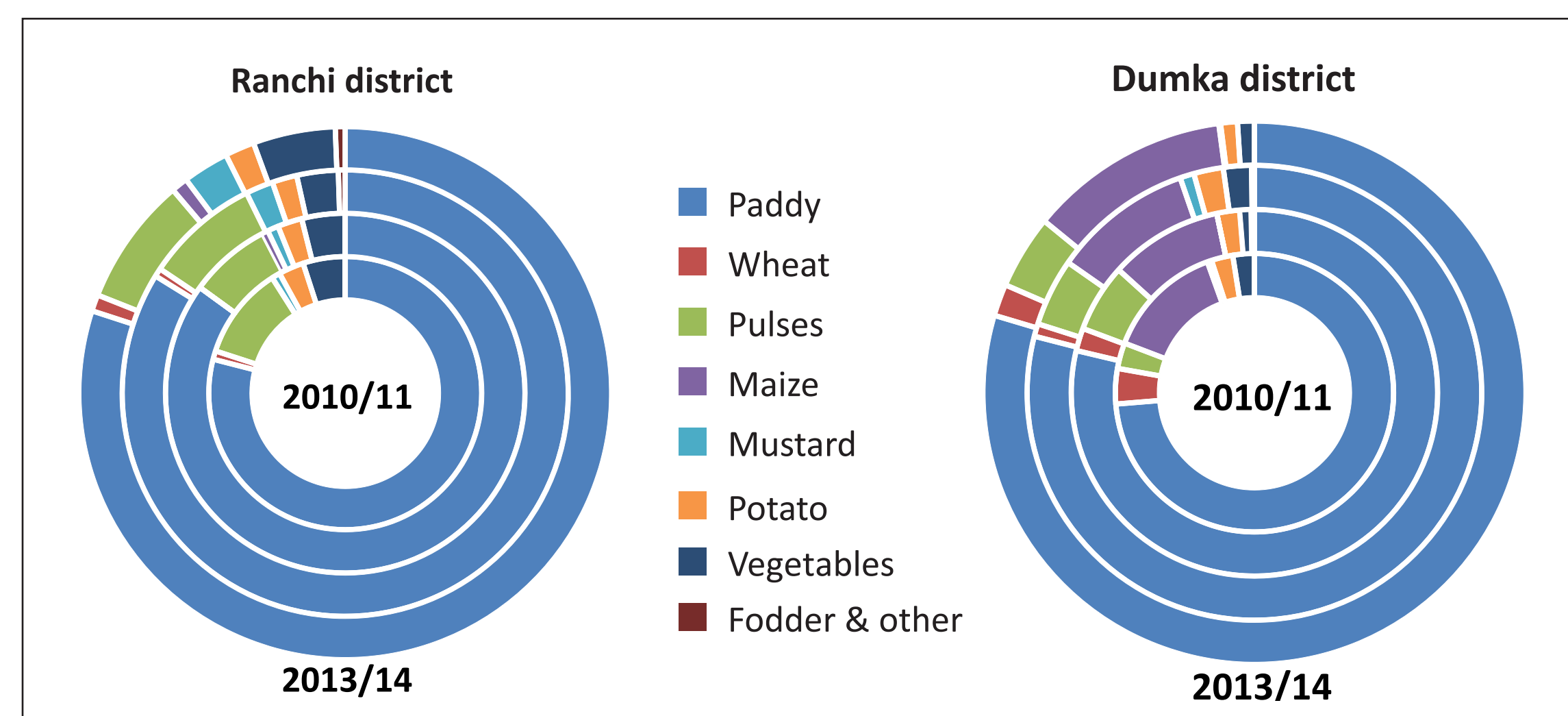
- **Survey Area:** Dubaliya, Hesapiri villages of Ranchi district and Dumariya and Durgapur villages of Dumka district of Jharkhand
- **Survey year:** 2010-11 to 2013-14
- **Sampling:** Panel survey of 40 households from each village, comprising 10 from each category viz.- labour, small, medium and large category.
- **Total sample size:** 160

## Results

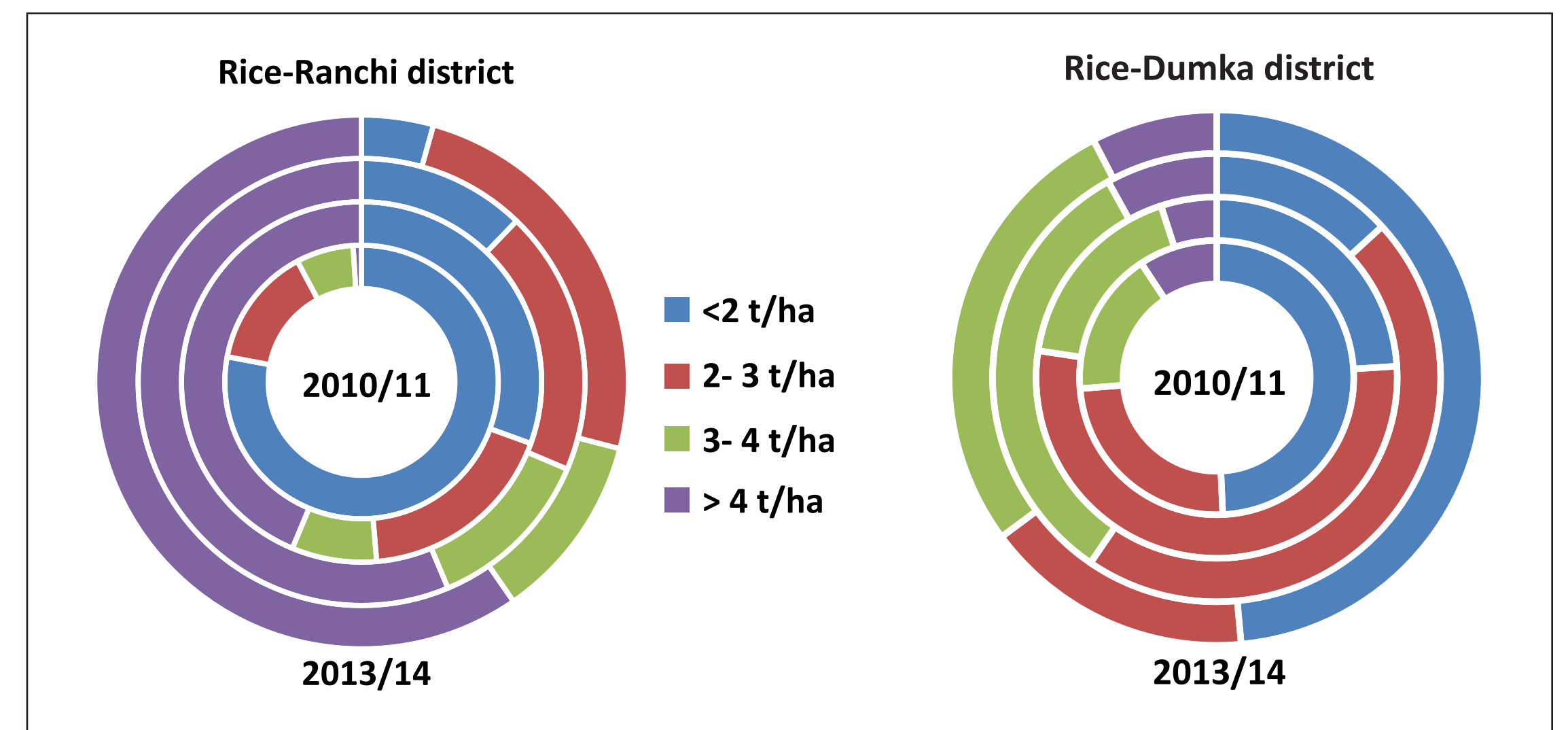
### Change in Cropping pattern

- Change in cropping pattern visible, but the changes mainly within food grain crops
- Paddy and Pulses constituted about 90% of gross cropped area, while wheat is not an important crop
- Maize an important multi-purpose crop in Dumka villages
- Potato and other green vegetable crops preferred in Ranchi district to cater the demand in city
- Low milk-yielding livestock mostly depend on open grazing, as milk consumption not preferred
- Area under fodder crop - negligible.

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



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



### Rice- for consumption and making local alcoholic drink, preferred by local natives



### Input-use and crop yield

- Fertilizer application in paddy crop significantly higher and growing in Dumka district
- Availability of quality hybrid paddy seed better in Ranchi villages- due to vicinity of state capital
- Use of human labour still very high in agriculture in both the districts, mainly due to availability of family labour
- Use of machine labour still at very low level
- Rice yield improved significantly in Ranchi district due to adoption of hybrid seed

## Conclusions

- Huge opportunity to bring more crop area by rainwater management
- Pulses- crop of hope for rabi fallow
- Hybrid paddy- game-changer for rice growers in Ranchi district
- Popularization of horticultural crops and small ruminants can improve rural economy
- Low preference for milk and milk products- one of the major constraints in diversifying the income earning opportunities in the region.