

# Agrarian Structural Changes in VDSA Villages of Madhya Pradesh

Madhusudan Bhattarai, Varalakshmi BL, Prem Ratan Pandey, Padmaja P and Bantilan MCS  
International Crops Research Institute for the Semi-Arid Tropics, India

## Introduction

- Madhya Pradesh (MP) occupies 1st rank in the production of Soybean, Gram, pulses and oilseeds at the National level, and ranks 2nd under mustard and 3rd in Sorghum, Lentil and Wheat production
- Mechanization on cereals (wheat) is taking place at high pace in the state.

## Objective

- To analyse the extent of temporal changes in cropping pattern and agrarian performances in VDSA villages of Raisen district of MP.

## Methodology and data

- Micro level data (village and house hold) of two VDSA villages in MP were analyzed for trend on key agrarian performances
- Integration of quantitative and qualitative data analysis, and simple statistical tools were used.

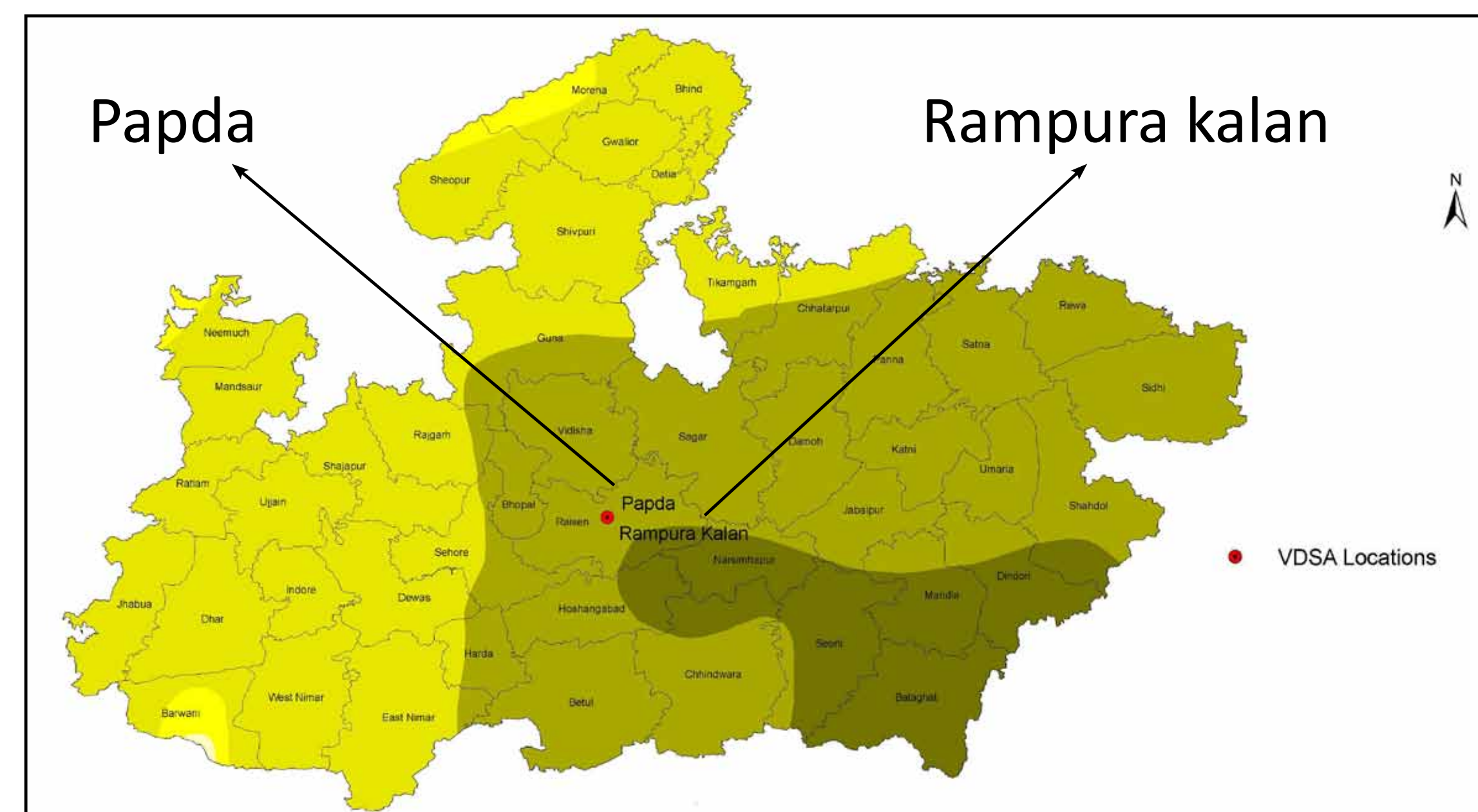


Fig. 1. VDSA villages in Madhya Pradesh (MP).



## Results and discussion

Gross state domestic product of the MP state has grown very fast in the recent past.

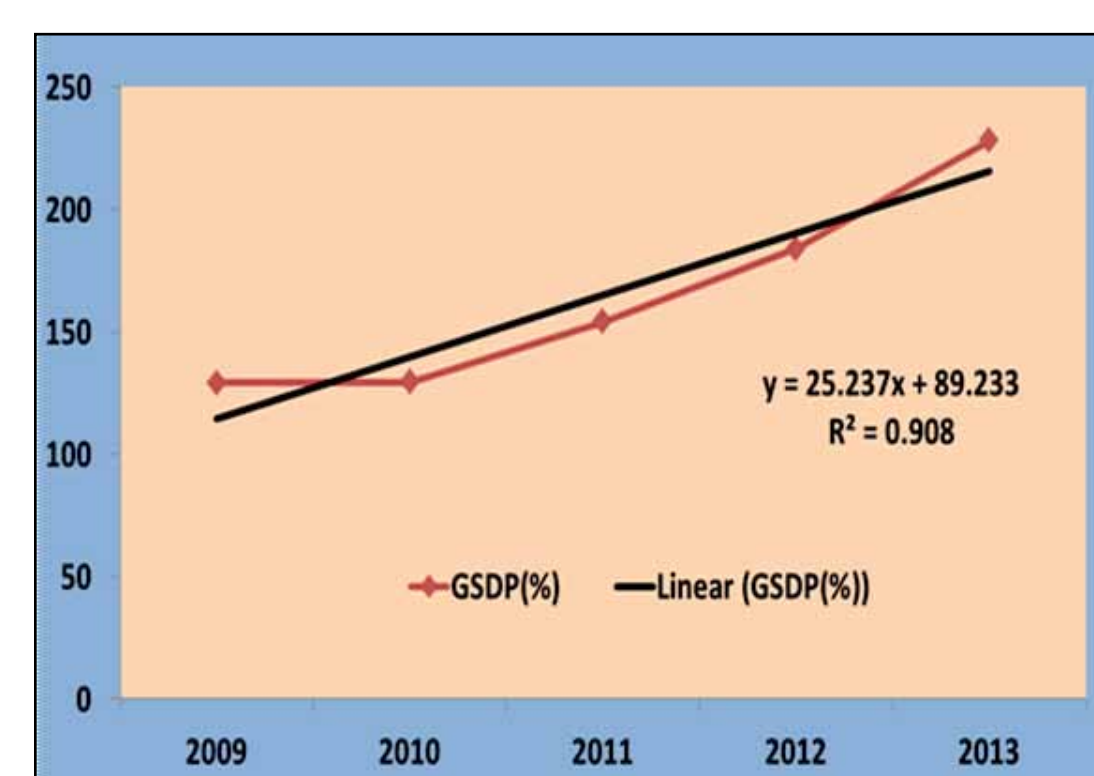


Fig. 2. Gross State Domestic Product (GSDP) of MP (2009-13).



Fig. 3. Land landscape view of Papda village, MP.

## Cropping pattern

- Both kharif and rabi fallow area has been reduced by 25% in 5 years
- Wheat and soybean area has been increased by 30% and 20% respectively in the same period
- Pigeon pea area has been reduced by 1/3rd in the same period (Fig 4).

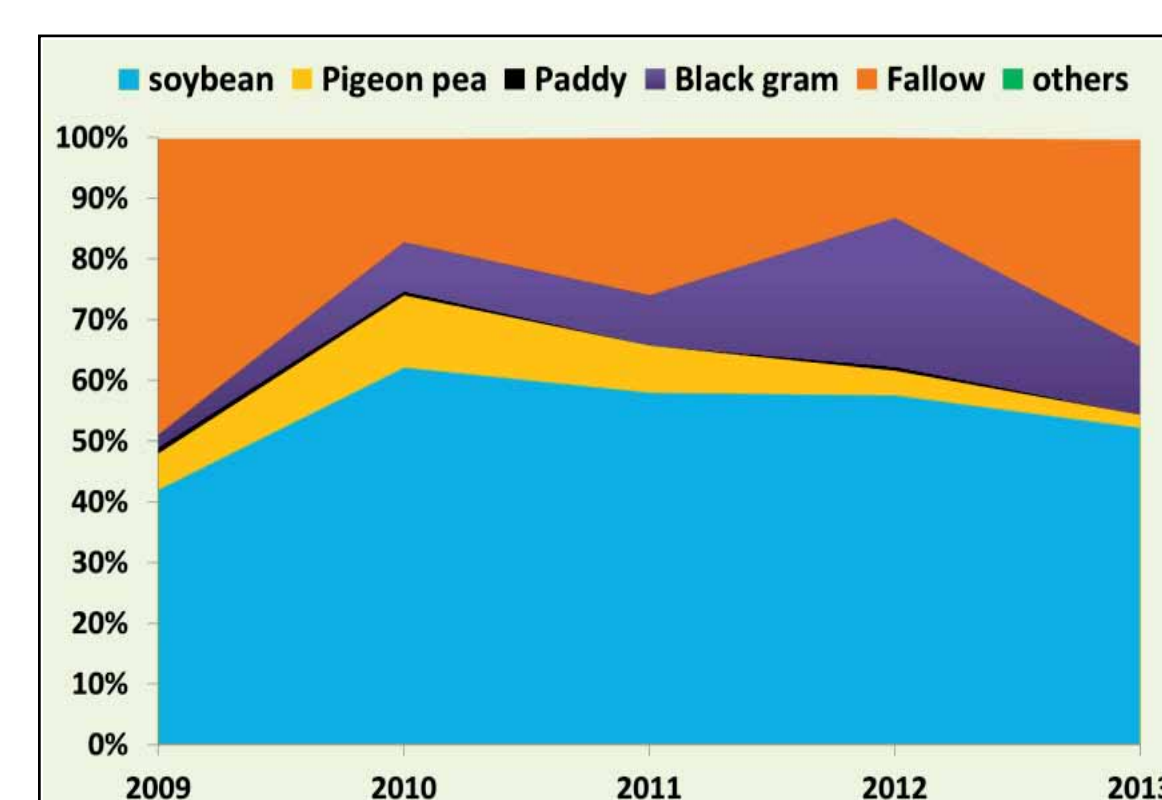


Fig. 4. Cropping pattern in Kharif season in two villages of MP.

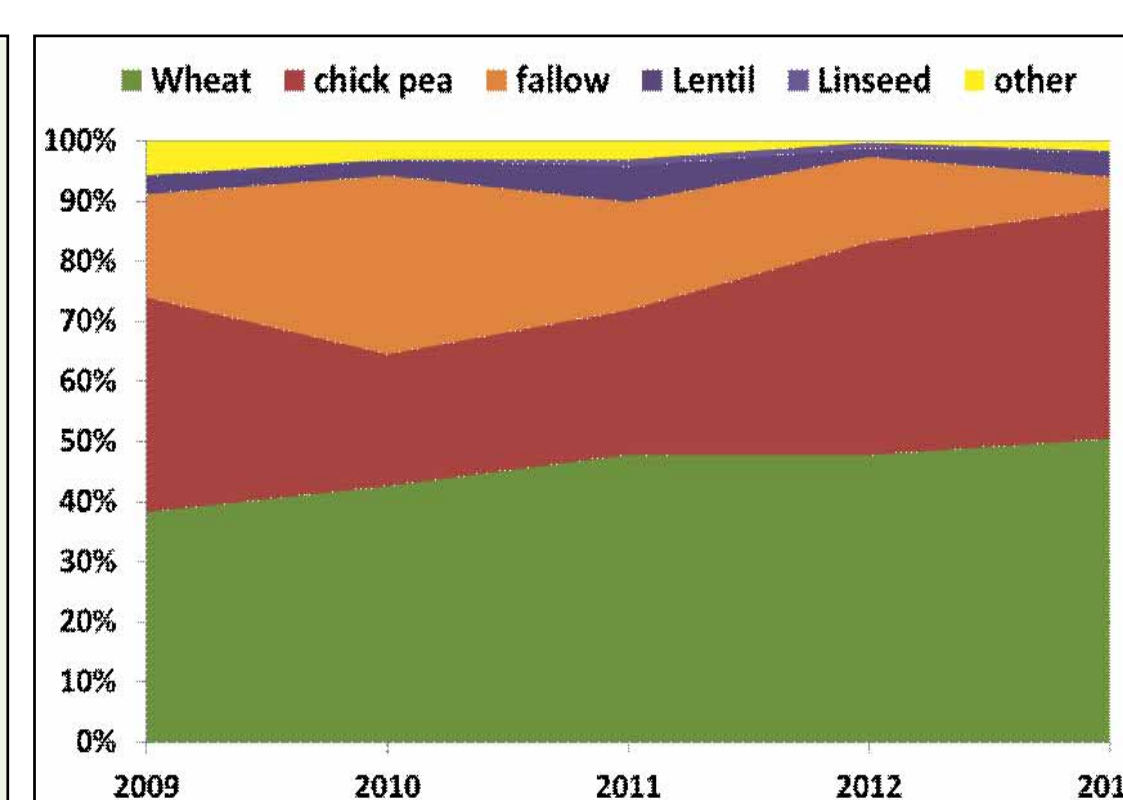


Fig. 5. Cropping pattern in Rabi in two villages in MP.

## Crop productivity (profitability)

- Crop productivity has been decreasing until 2012 and increased in 2013 (Fig 6)
- Productivity is higher in Rampura kalan than Papda.

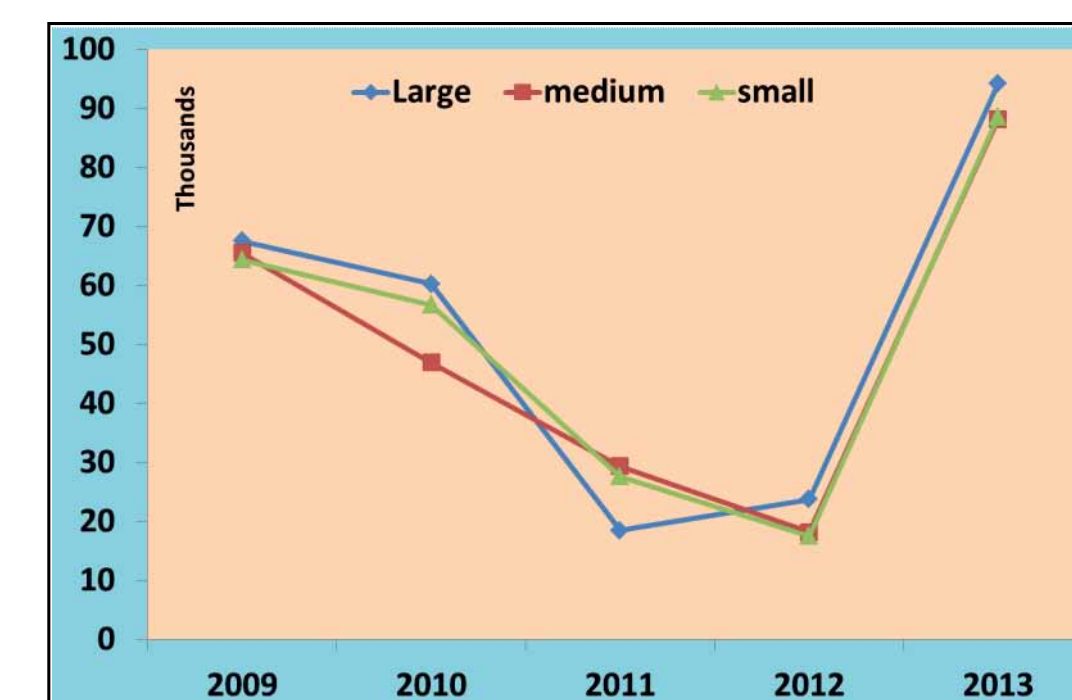


Fig. 6. Crop Productivity in Papda, MP (const. price 2009-10).

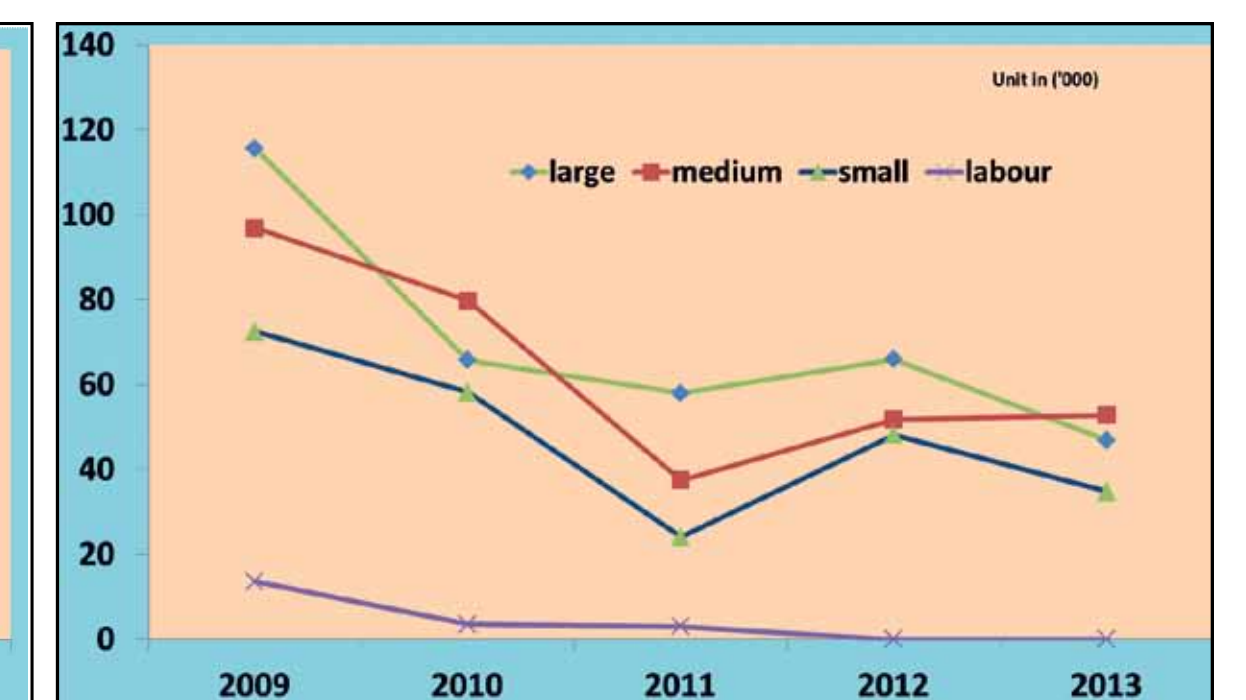


Fig. 7. Crop productivity in Rampura kalan, MP (const. prices 2009-10).

## Cropping intensity

- Despite high pace of mechanisation, small scale farm size is more productive than large size farm in the study villages.

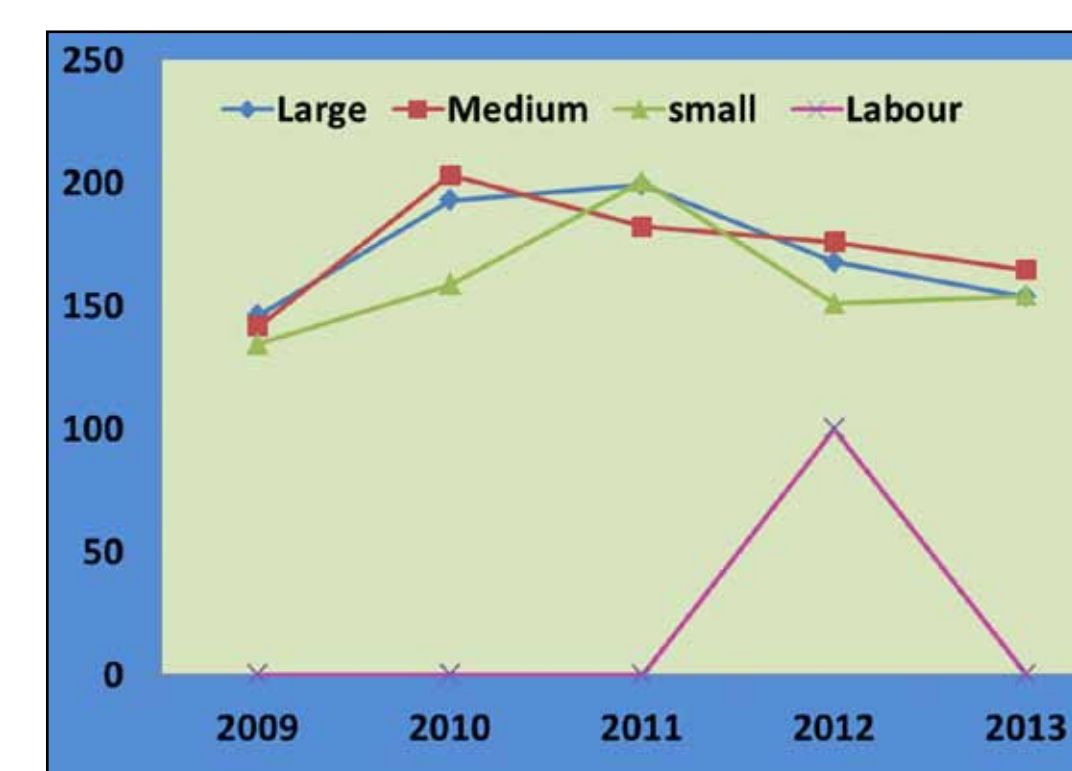


Fig. 8. Cropping intensity in Papda.

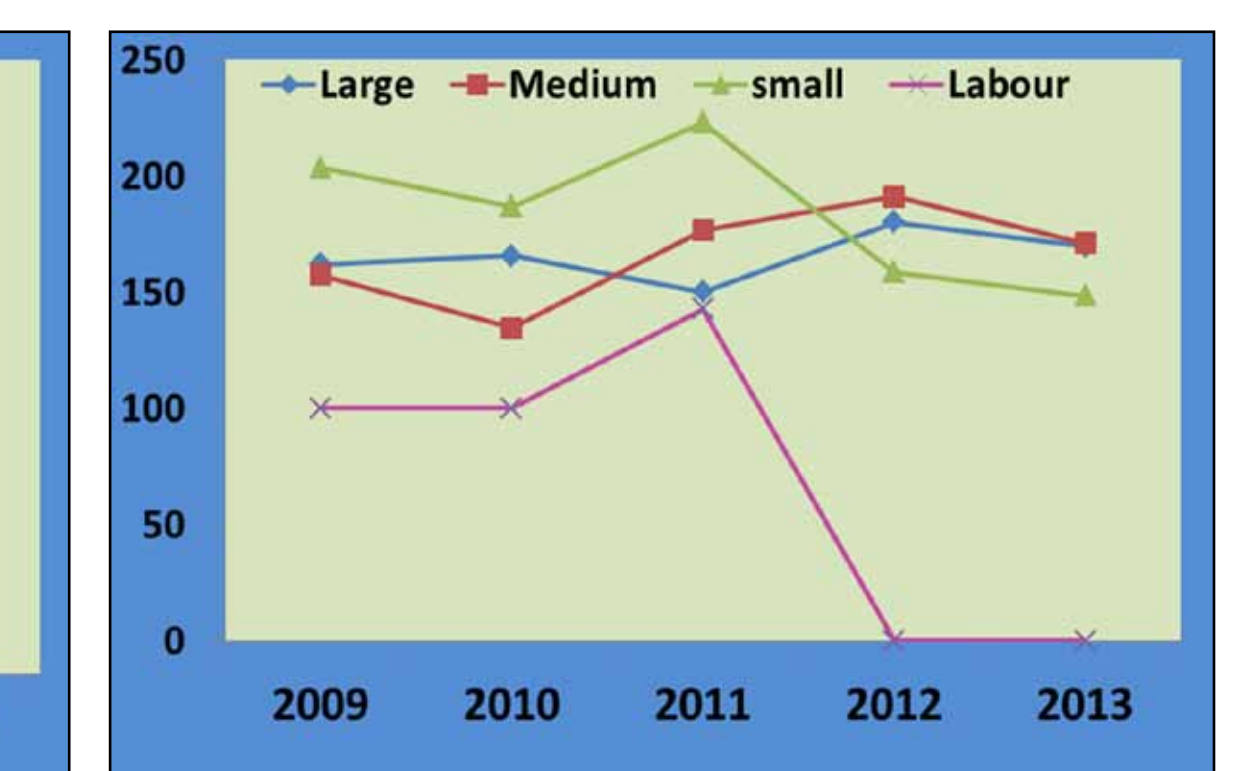


Fig. 9. Cropping intensity in Rampura kalan.

## Labour wages

- Compared to other villages, agriculture wage rate in the two villages has been stagnant, this may be due to high pace of mechanisation in MP.

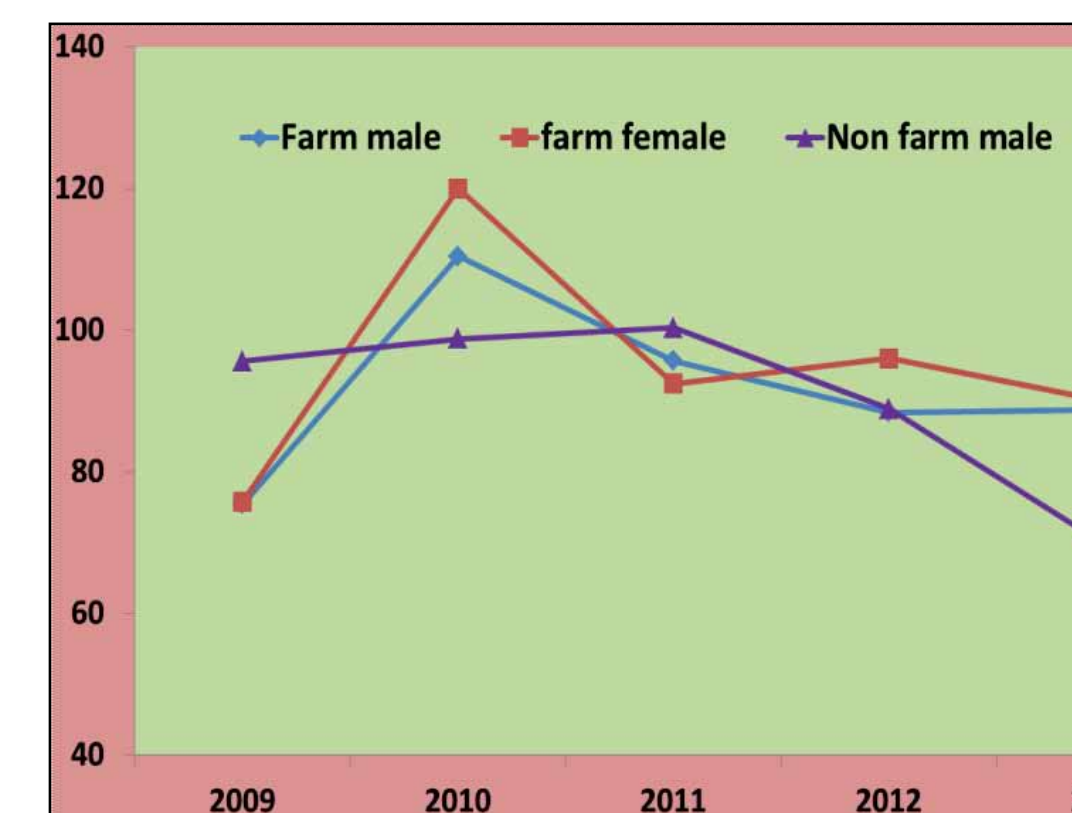


Figure 10. Farm and non farm wages Trend in Papda, MP (const. prices).

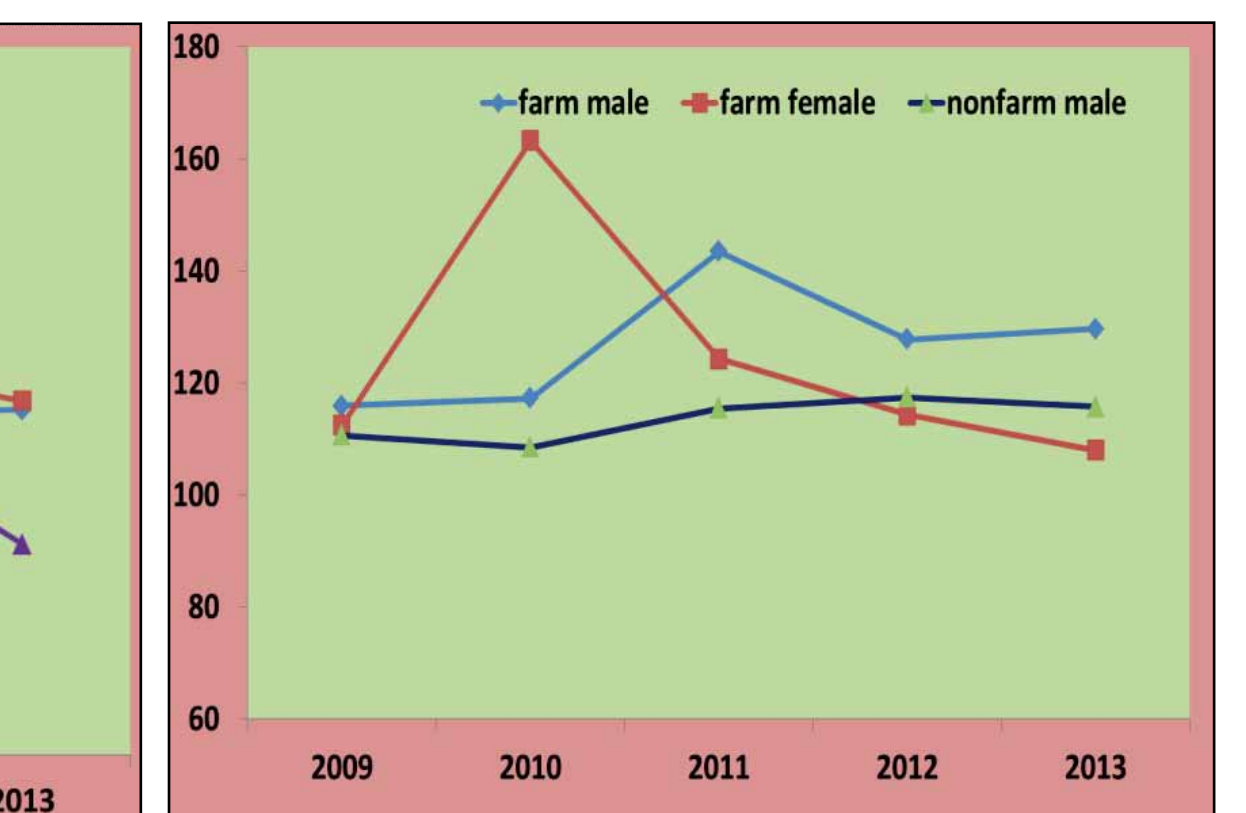


Figure 11. Farm and non farm wages in Rampura kalan (const. prices).

## Farm and non-farm income

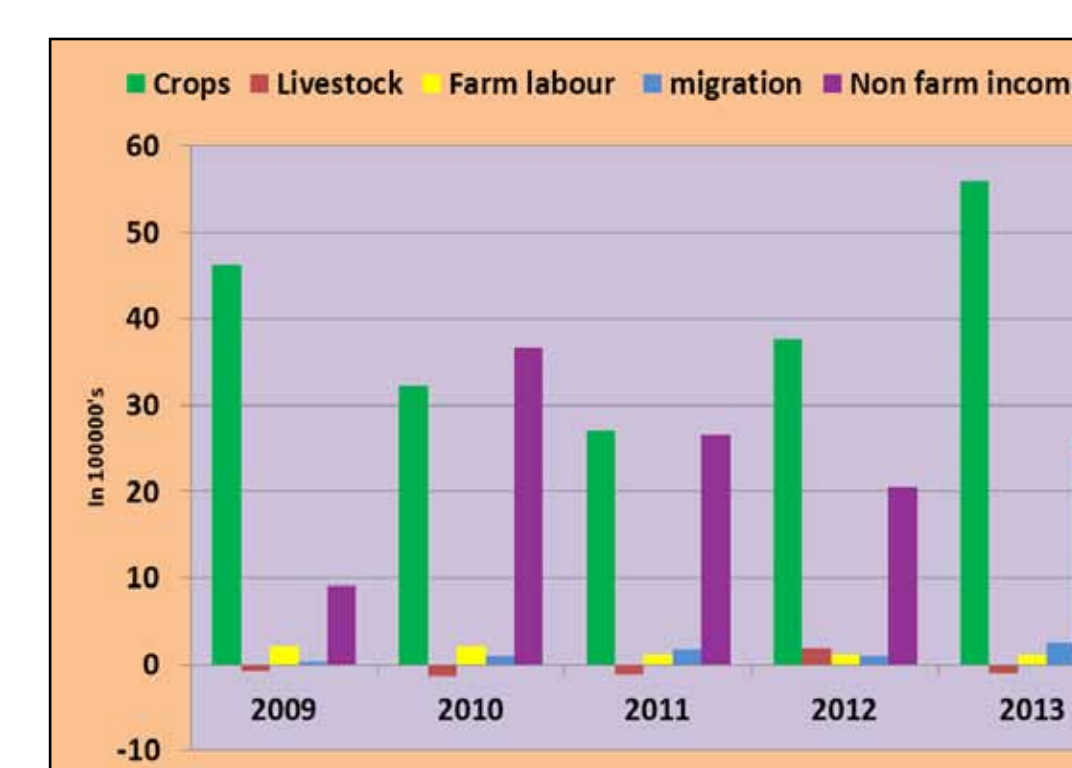


Fig. 12. Farm and non farm income for large and medium farm size in Raisen district.

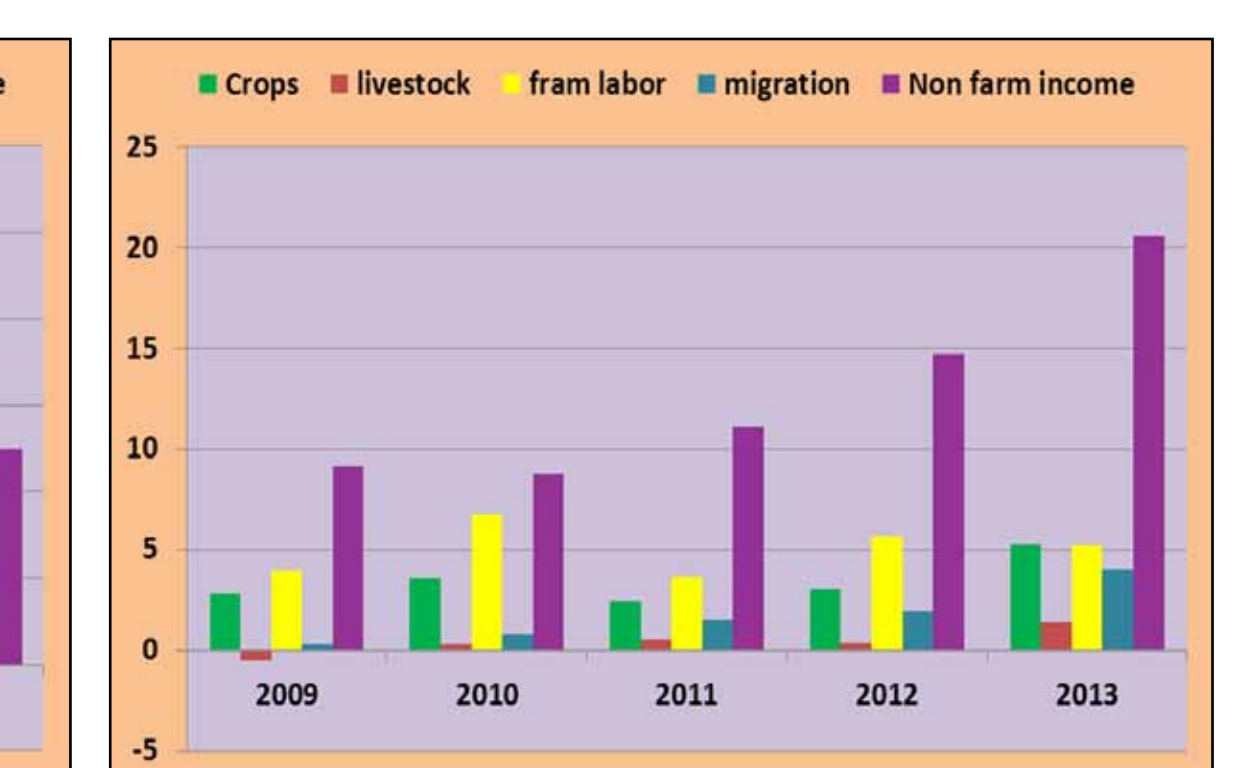


Fig. 13. Farm and non farm income for small and labour farm size in Raisen district.

- Crop income is the major sources of livelihood for large farmers and non-farm income is for agricultural labours and small holding farmers (Fig 12 and 13).

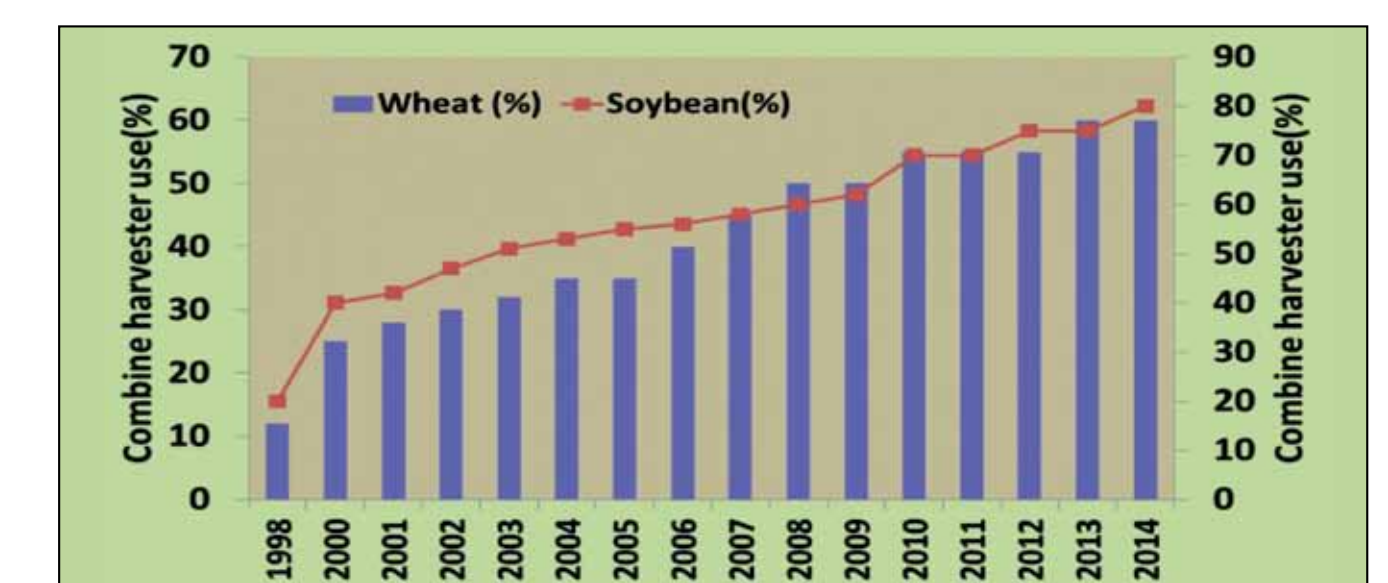


Fig. 14. Combine harvester use (%) in wheat and soybean in Papda village, MP.

## Conclusions and implications

- Even in short period of 5 years, cropping pattern has shifted drastically. Wheat and Soybean acreage have been increased
- Non-farm income has provided cushion to the rural poor household in the pace of increasing fluctuation of income
- Combine harvester use is increasing rapidly in studied villages.