

# Myanmar's Rural Transformation: Evidence from Ayeyarwady & Yangon

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# Outline

- What do we mean by rural transformation?
- Historical context
- A case study of rural transformation in Yangon and Ayeyarwady:
  - Data
  - Migration and wages
  - Mechanization
  - Credit
  - Rural Non-Farm Economy
  - Crop Profitability
- Conclusions

# Why does rural transformation matter?

- Rural transformation refers to the process of growth and diversification of the rural economy, resulting in higher incomes from both farm and off-farm employment
- Agriculture can play a key role as a driver of rural economic growth and poverty reduction in all major SEA countries:
  - A large share of increased smallholder farm incomes are typically spent in the local economy, spurring growth in the rural non-farm economy (RNFE)
  - Increases in smallholder farm incomes come from productivity growth (yields) and a shift from low value food staples to high value enterprises, generating demand for off-farm goods and services (transportation, processing, cold storage)
- The stronger the synergies between growth in the farm and growth in the non-farm components over time the more sustainable the transformation
- Especially important in countries/regions with strong comparative advantage in agriculture
- Public policies and investments have the potential to foster or hinder this virtuous growth cycle -> hence need to know what is actually happening on the ground

# (Recent) historical context

- 70% rural, 38% GDP agricultural
- World Bank Myanmar farm production economics survey (conducted 2013/14, published 2016):
  - “The level of agricultural mechanization in Myanmar is still low... not a surprise given the low wages in rural areas, the excess agricultural labor, and the still-lacking infrastructure and regulatory environment for machinery service providers.”
  - “Farmers in general do not have the access to long-term capital, preventing investments in agricultural machinery”
- BUT, by mid-2016 we find evidence of very rapid change in Ayeyarwady and Yangon regions, close to Yangon...

# The Myanmar Aquaculture-Agriculture Survey

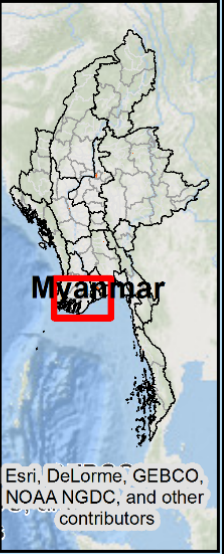
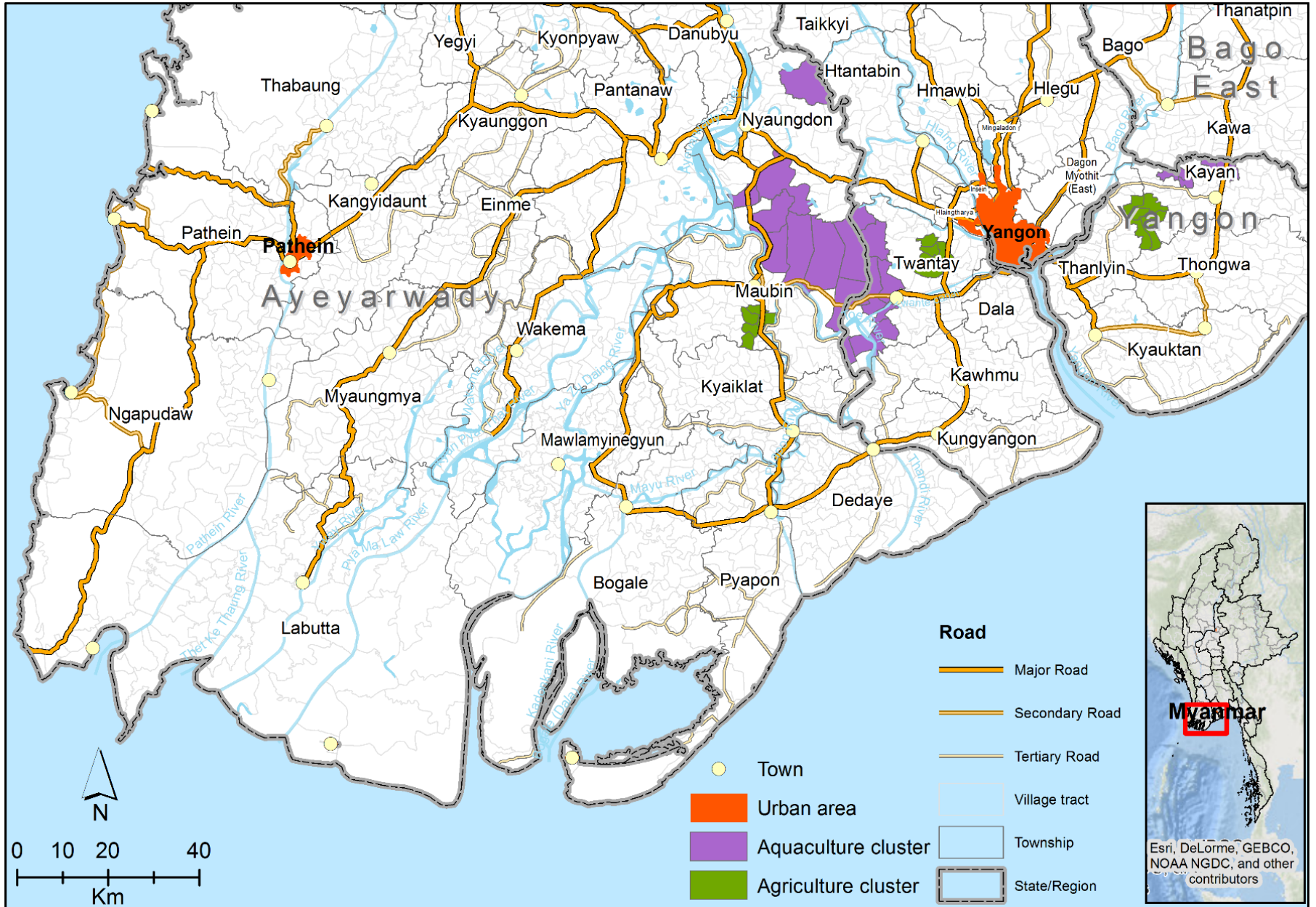
## Aims

- Baseline of information on fish and crop farming sectors
- Quantify and compare spillovers & trade-offs between these
- Explore mechanization, credit, rural non-farm economy

## Methodology

- Purposively selected 2 clusters of 'village tracts' for comparison, based on concentration of fish ponds and prevailing crop farming systems
- Randomly selected communities and households to represent entire population of both clusters (including non-farm households)
- Total sample = 1102 HHs in 40 village tracts
- Community survey (73 villages)
- Survey of agricultural machinery supply businesses

# Survey locations





68% of villages surveyed cannot be accessed by car during monsoon season

Average distance to nearest paved road = 3.1 miles

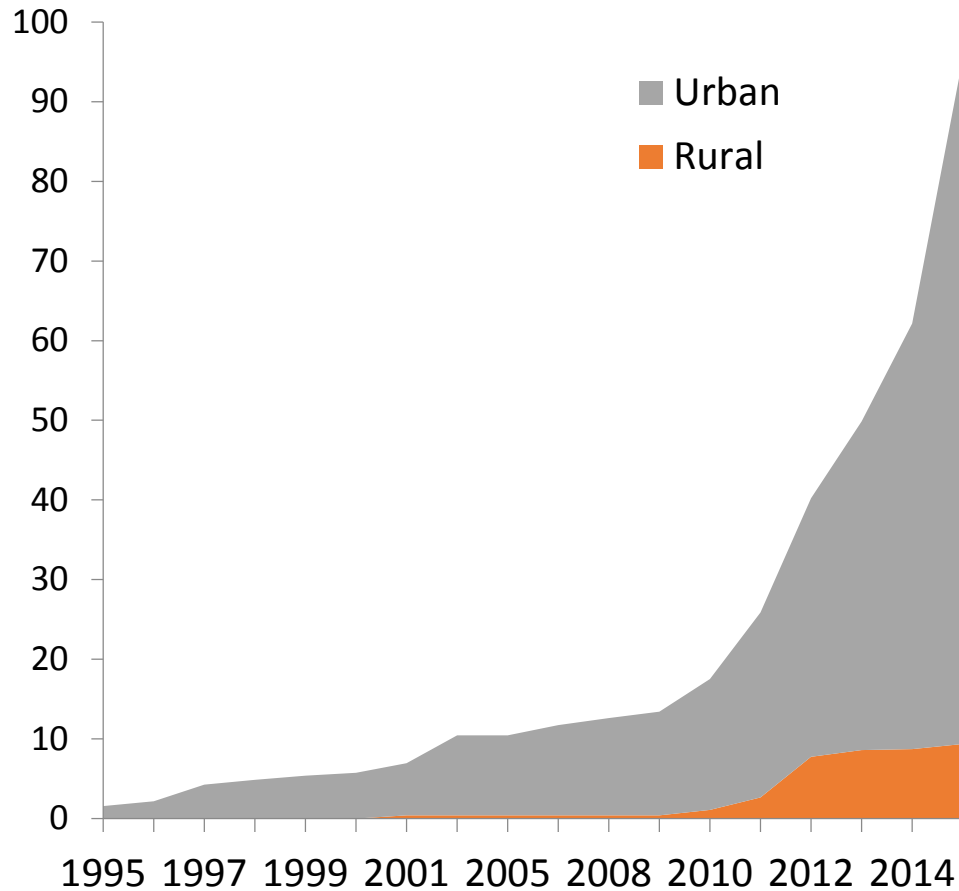


88% of villages have  
no access to public electricity





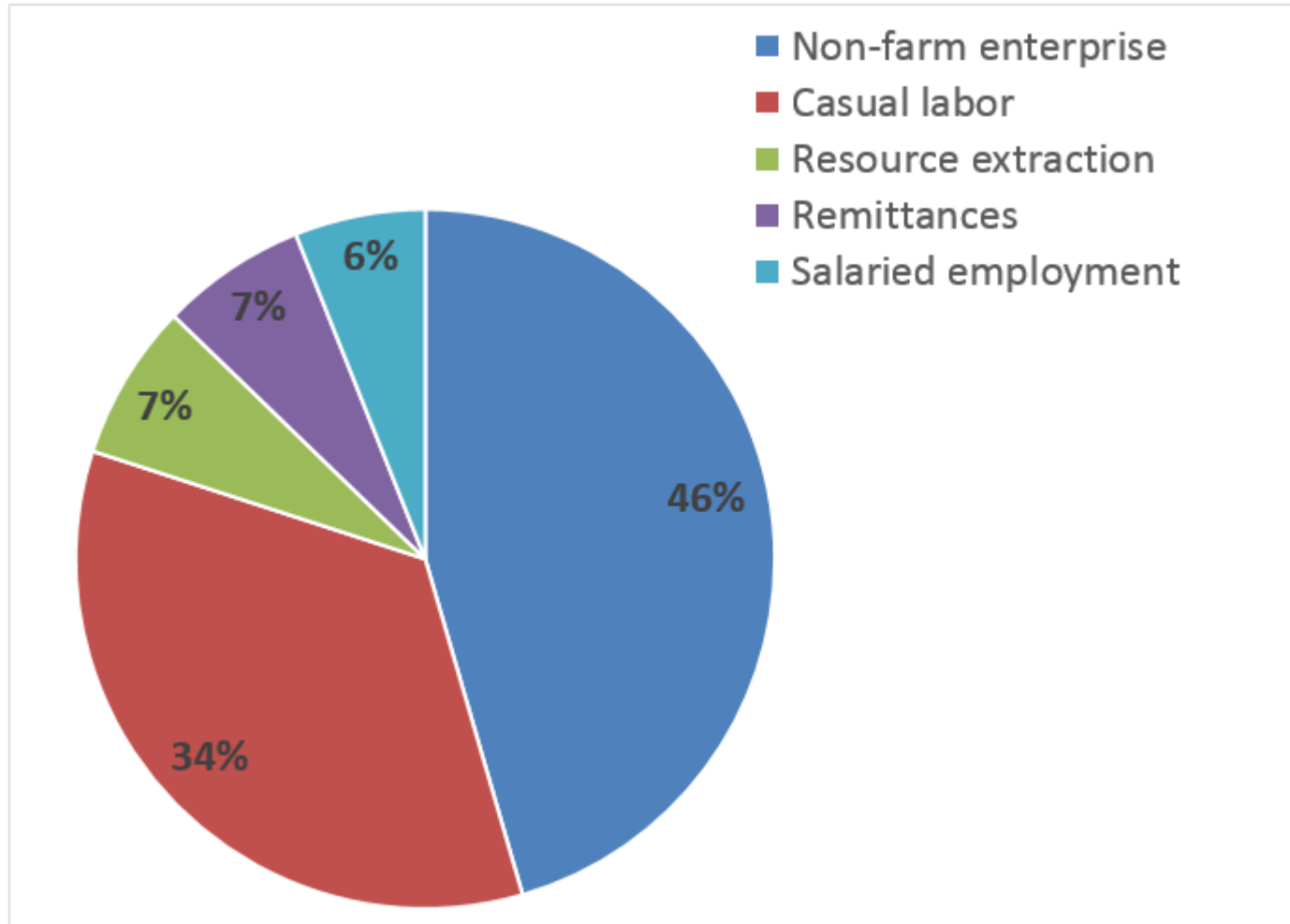
# Rapidly accelerating rural-urban migration post-2010



- 16% of HH have migrants
- 55:45 male/female split
- Average migrant age 21
- 8% international
- 70% employed in manufacturing
- Rural-rural migration from remoter areas for fulltime agricultural work
- 80% of HH with migrants receive remittances

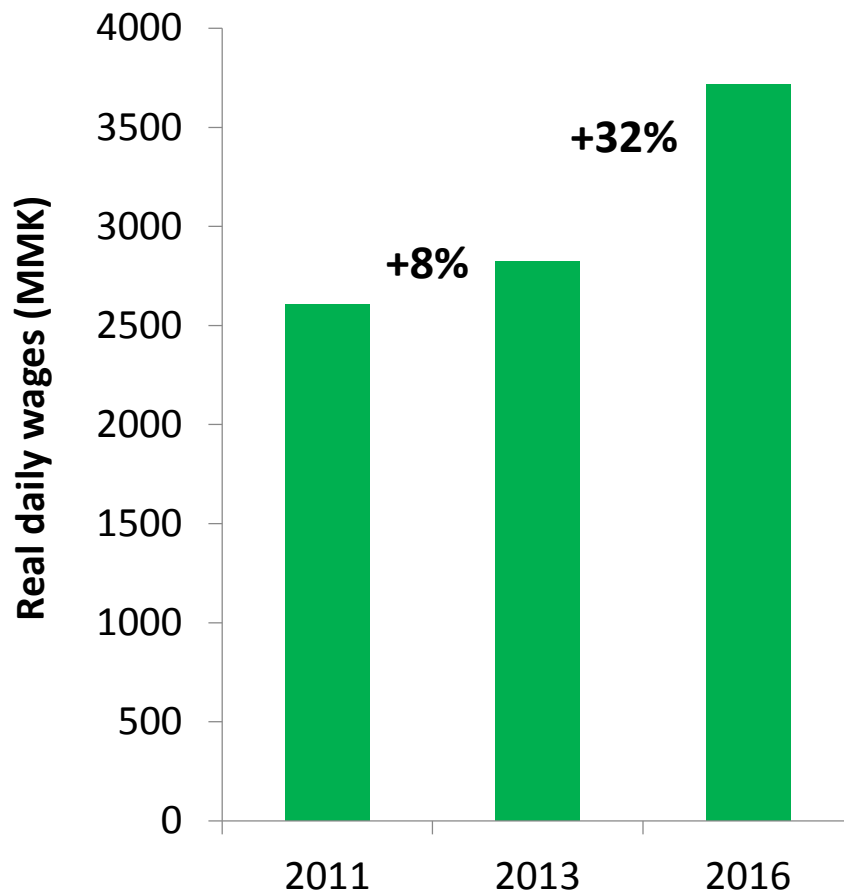
**Cumulative share of current migrants by year migrated (%)**

# Contribution of remittances to off-farm income is relatively small



Contributions to total off-farm income, by source of income

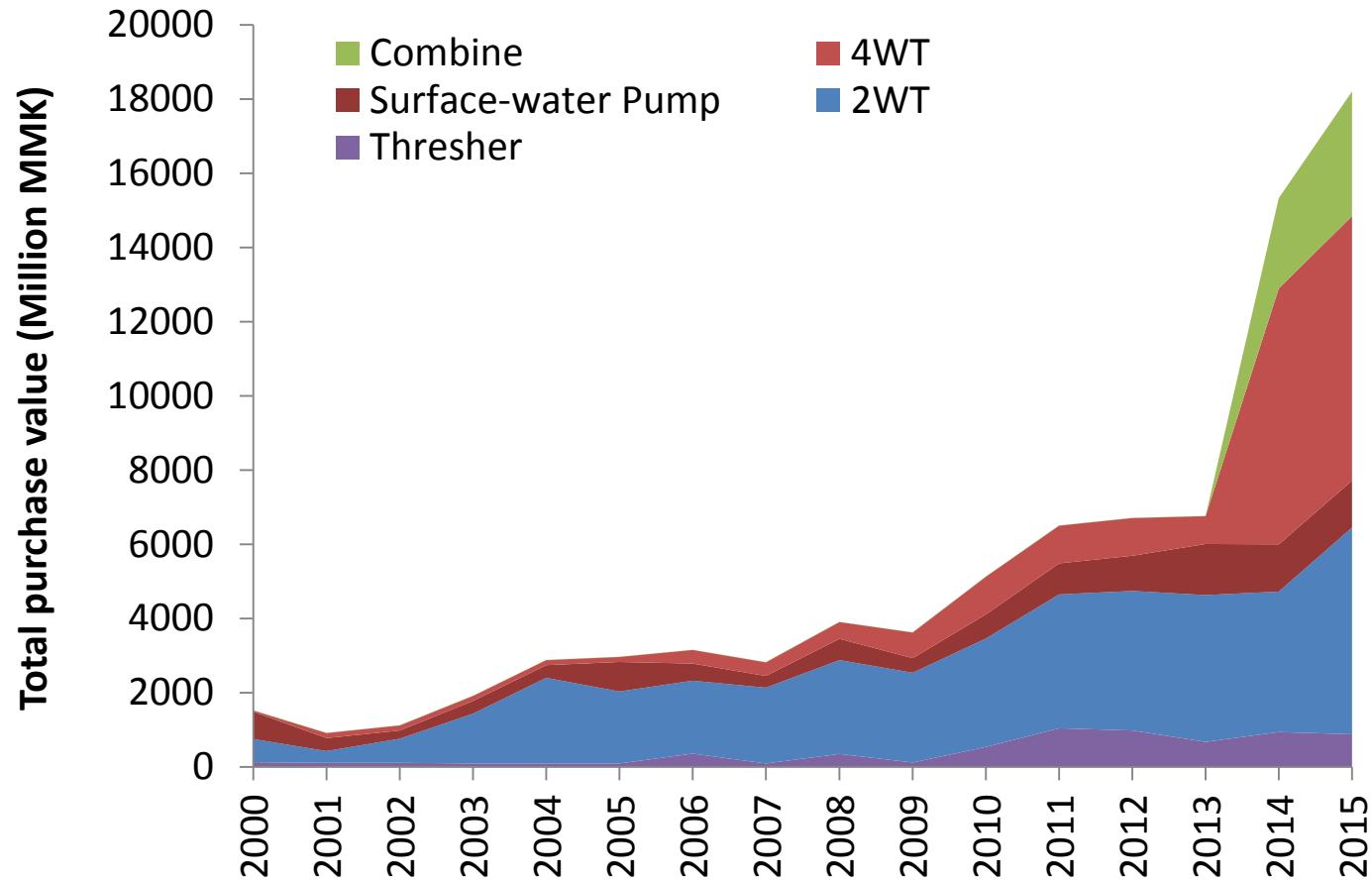
# Real wage increases



Main impact of migration is on rural labour supply and wage rates

**Average real daily wage for male agricultural labour (2011-2016)**

# Labour shortages & rising wages driving mechanization



Real annual value of agricultural machinery sales, by year and machine type (2000-2015)



HONDA  
WB20XT

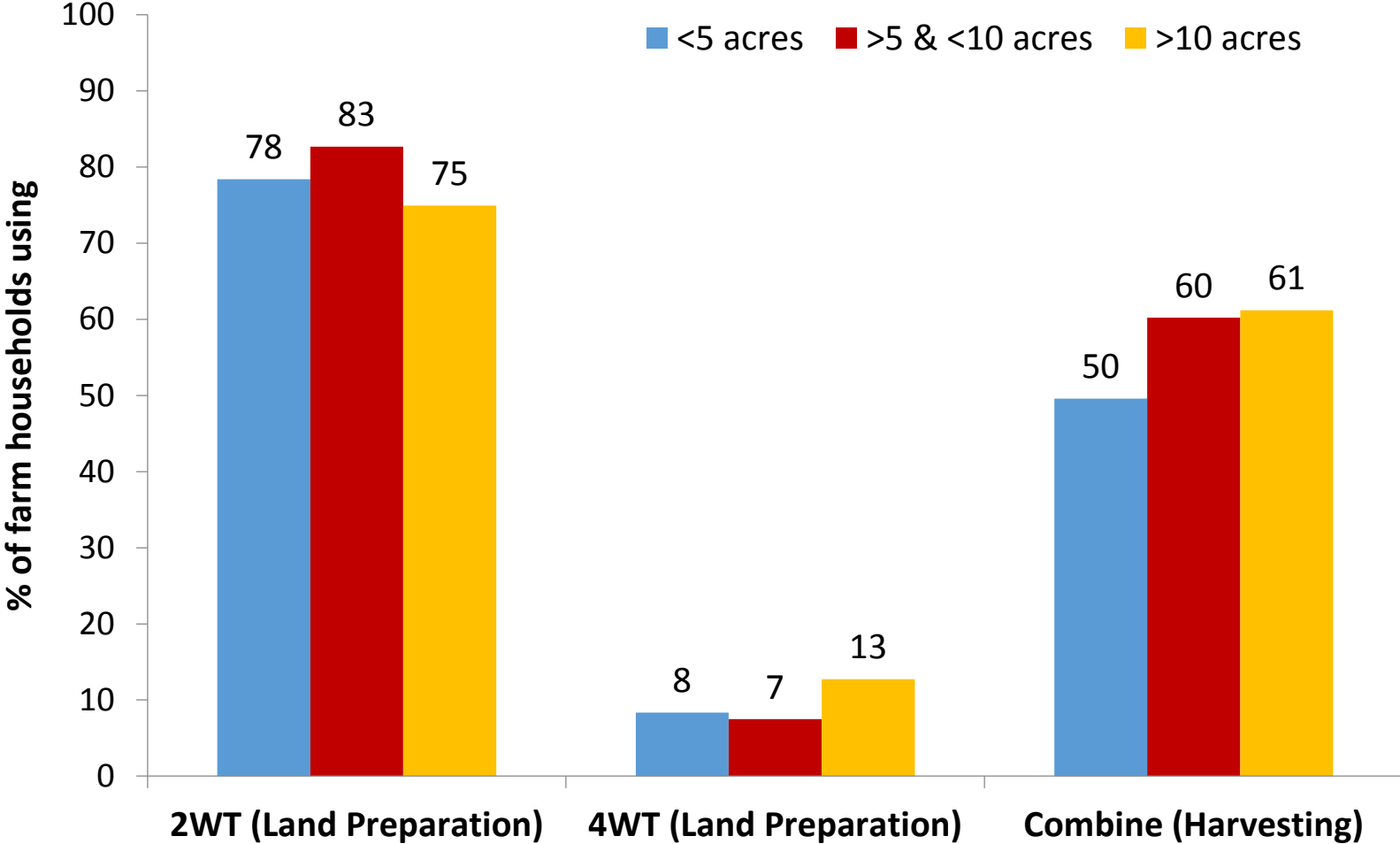








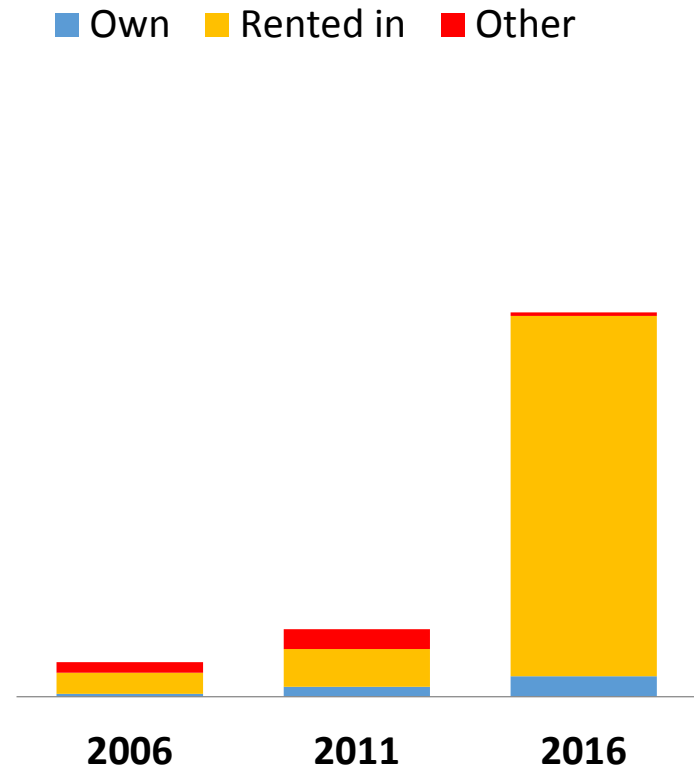
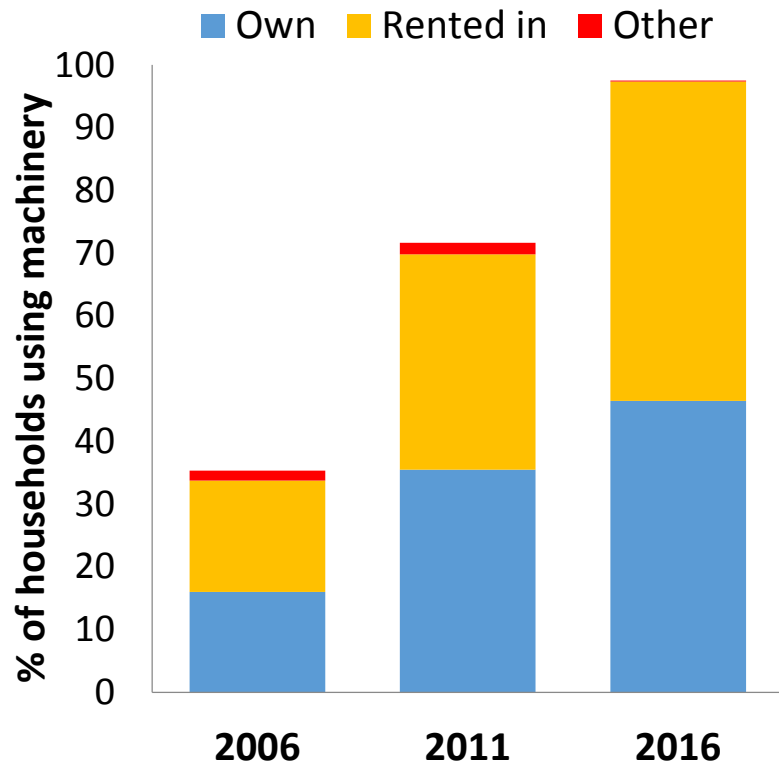
# Scale-neutral technology



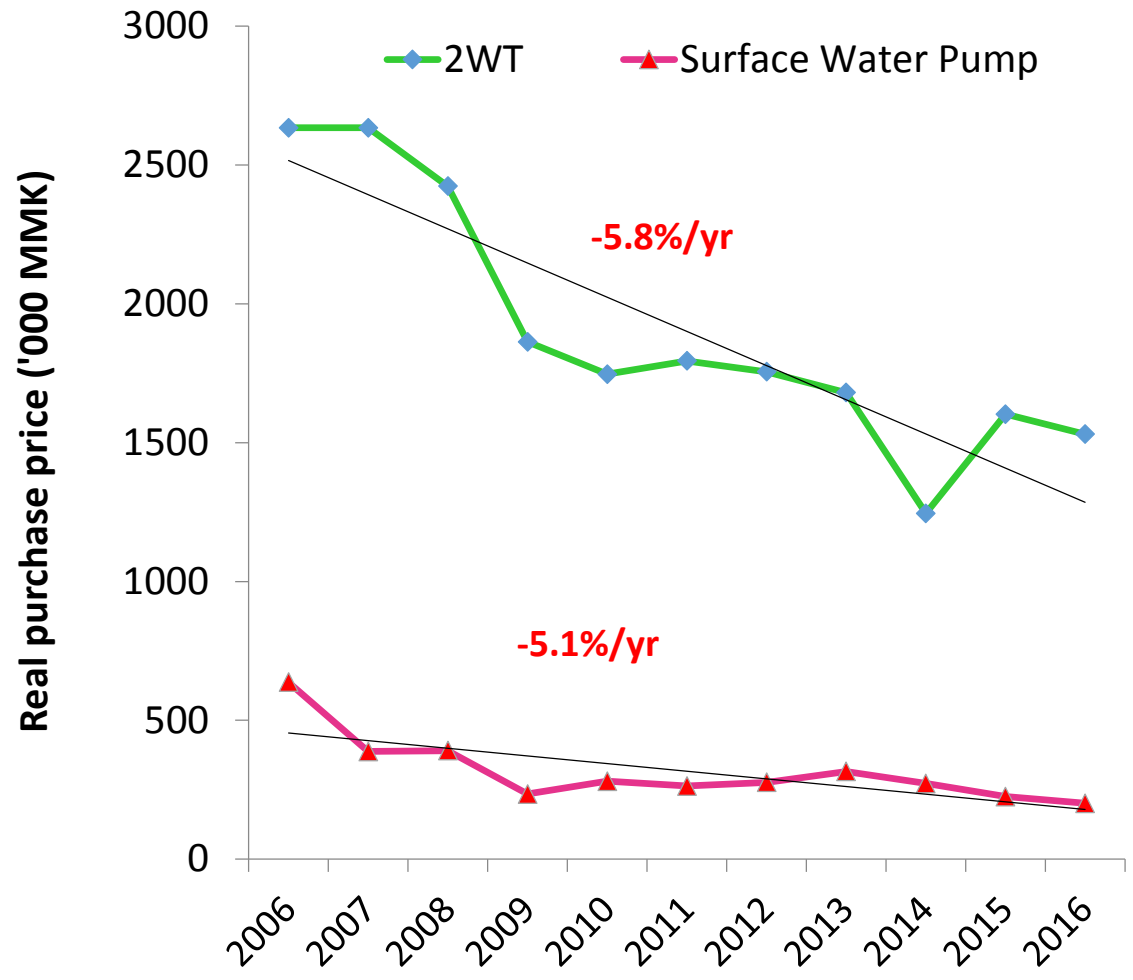
# Adoption supported by rental services

## Machine Use for Land Preparation

## Machine Use for Harvesting

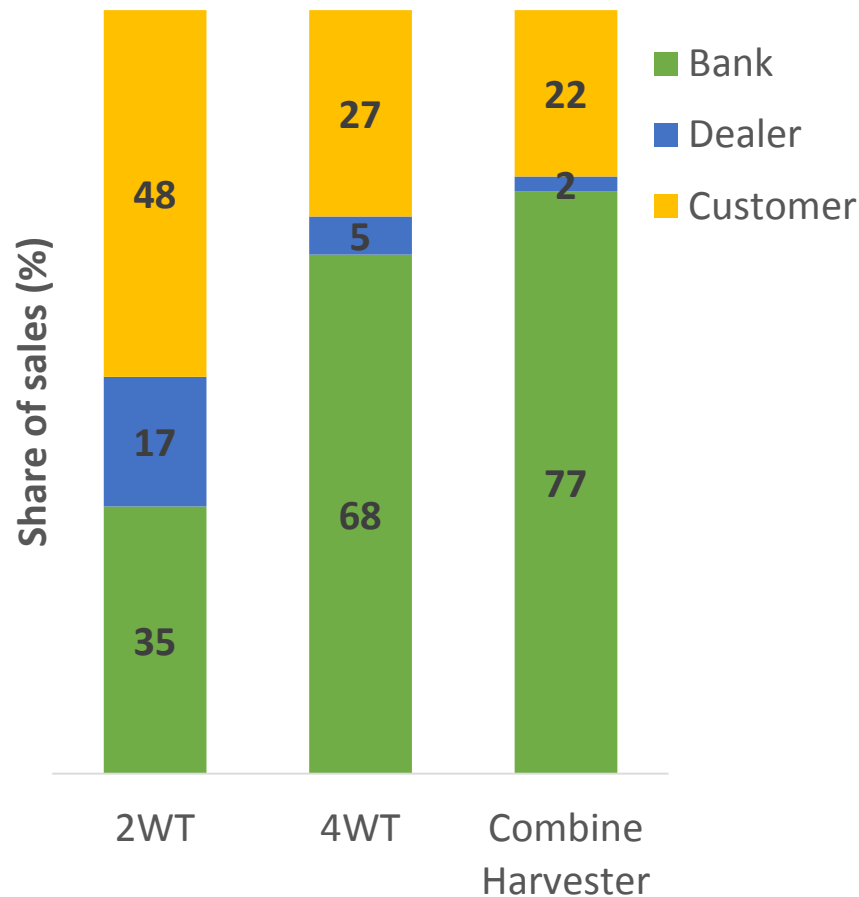


# Mechanization supported by more affordable machines



Real purchase price of two-wheel tractors & water pumps, 2006-2016

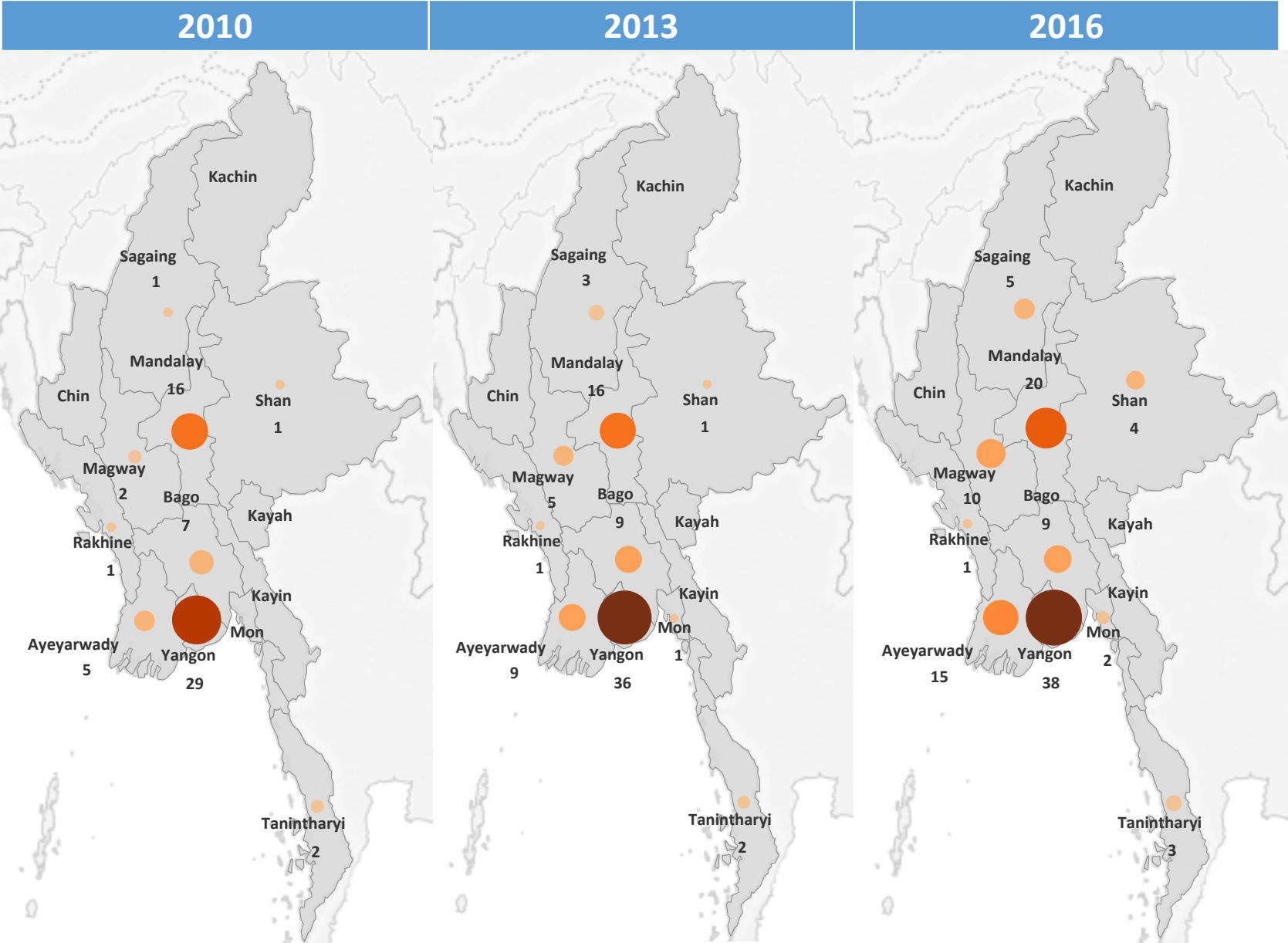
# Improving access to formal financial services



- Hire purchase agreements with commercial banks began in 2013
- Reduced capital constraints for machine suppliers, cost of credit to buyers
- Role of LIFT loan guarantee scheme with Yoma Bank

Source of finance for machinery purchases (2016)

# Geographical spread of machine supply businesses





**KBZ BANK** **KBZ BANK**

Good Brothers' Company Limited  
09-5020183, 09 260 352137



**ZOOMLION** 063 23705 09 453350446 09 259924445

**KBZ BANK**  
သုစိဘလမ်း  
Thar Street



**ရတနာ**  
သေးဆိုင်လမ်း







KUBOTA

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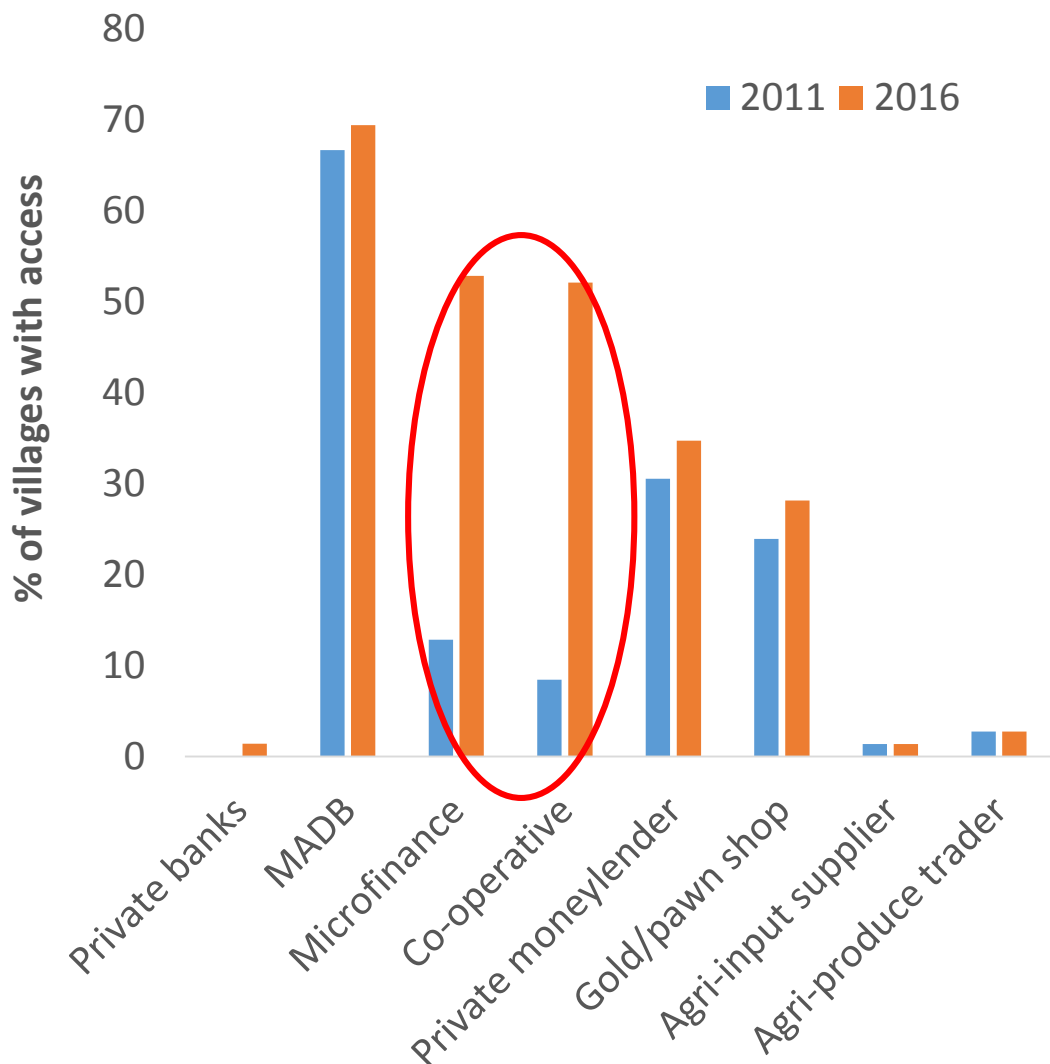
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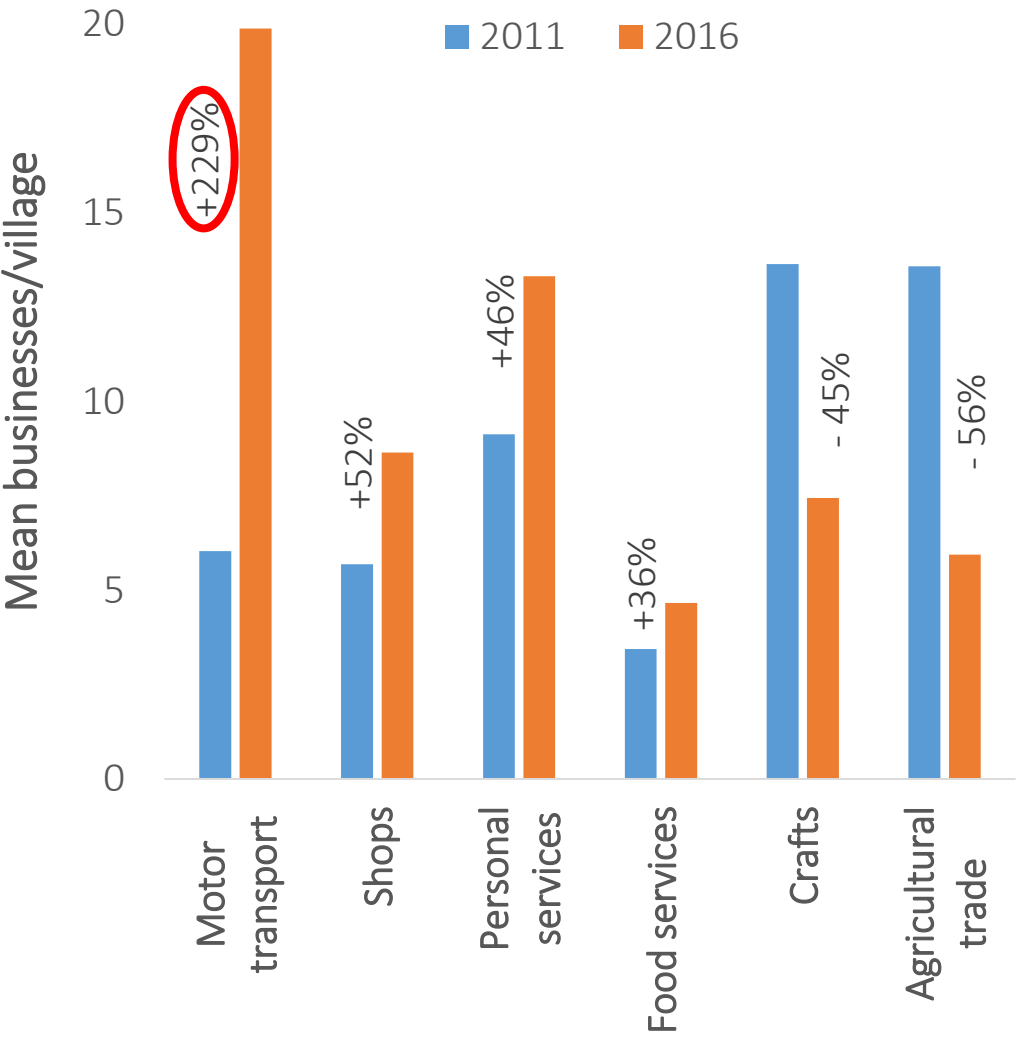
# Sources of credit diversifying



- Access to credit improving due to MFIs and cooperatives
- Average rates of interest paid on informal and semi-formal loans fell from 72% in 2011 to 60% in 2016

Share of villages with credit access by source (2011-2016)

# Rapid growth of non-farm enterprise



- From 2011-2016, motor vehicles replaced boats as main mode of transport: average journey times to fell 20-30%.
- Increasing mobility: 44% of workers in fulltime employment travel beyond local area but remain resident
- Village stores have attained almost total ubiquity (96% of villages)

Change in average number of businesses per village, 2011-2016

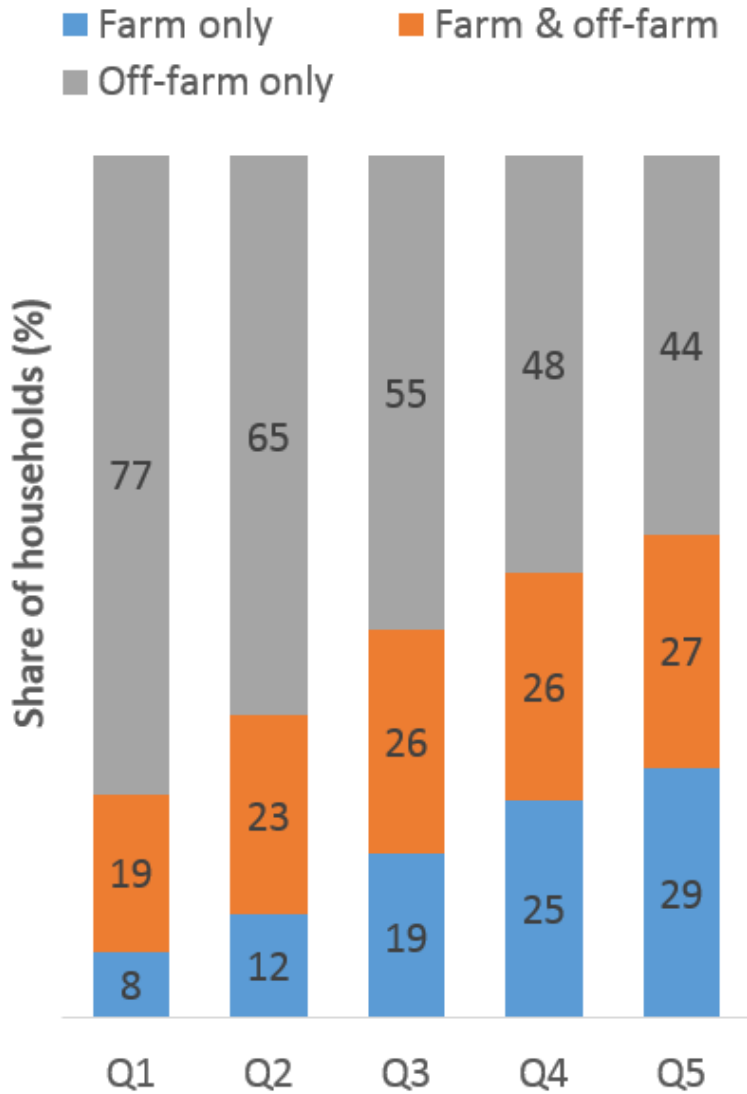
# Gendered employment characteristics

Workforce participation, by occupation & gender



Gender income ratio, by occupation

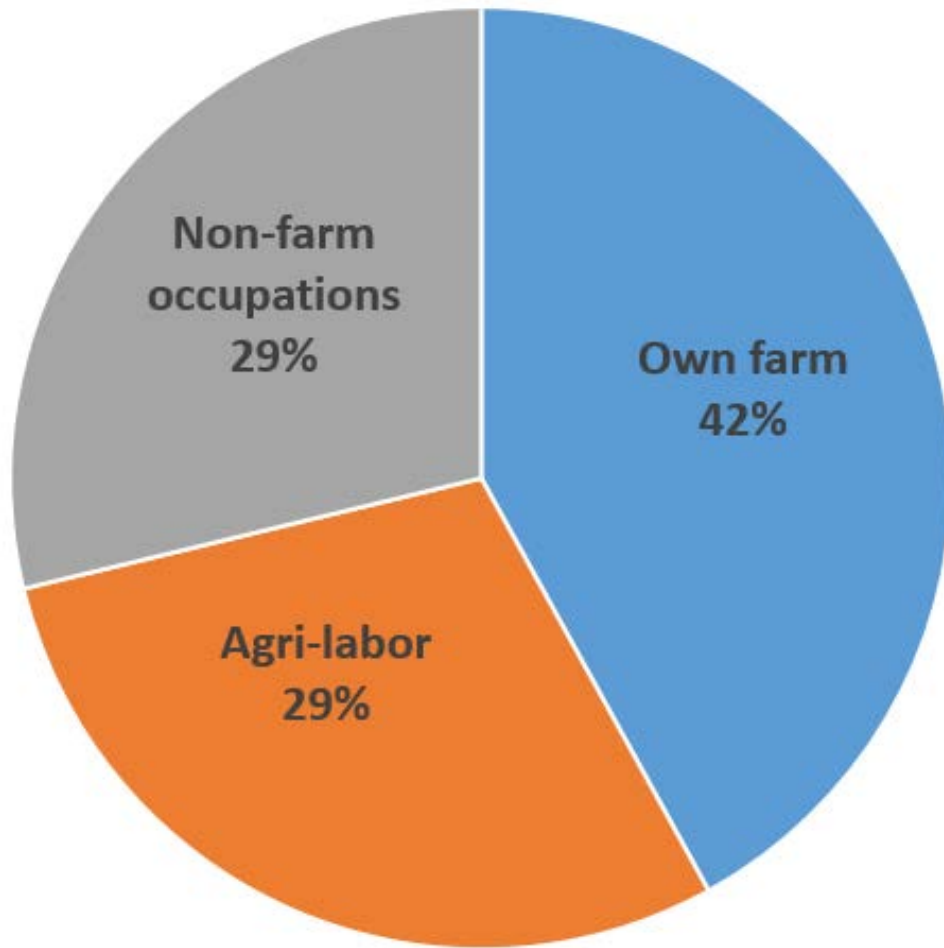




Off-farm employment plays a major role in livelihoods for households in all income and landholdings groups

**Household participation in farm and off-farm employment by expenditure quintile**

# Agriculture still the major source of primary employment

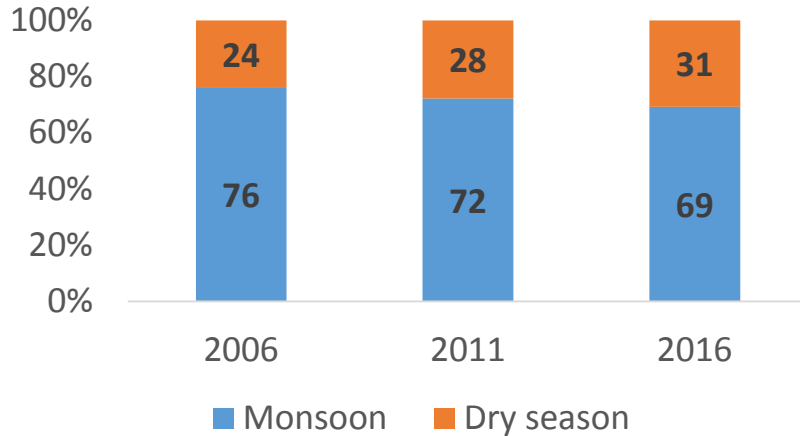


Agriculture directly provides >70% of primary employment, plus indirect employment in value chains

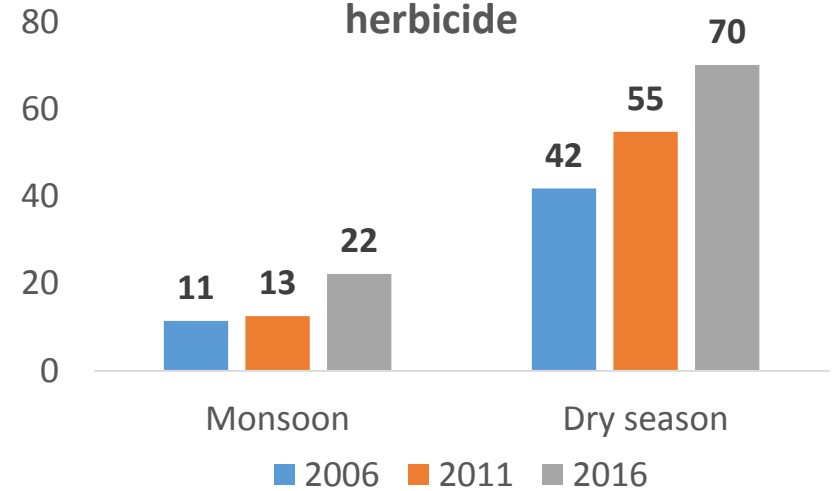
Share of individual primary employment, by type

# Incipient agricultural intensification

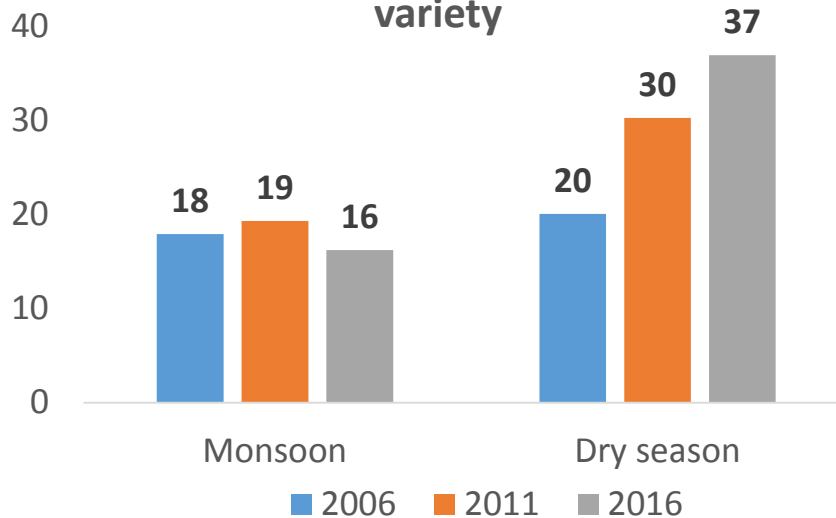
### Main paddy crop (% of HH reporting)



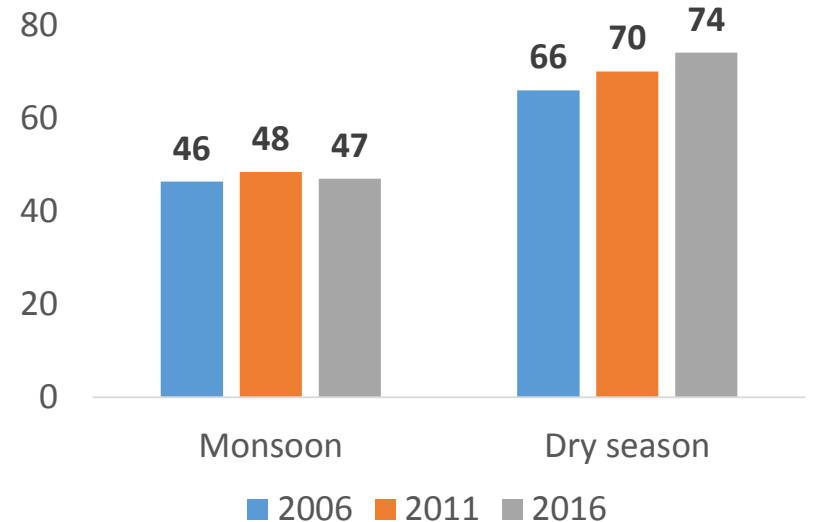
### % of paddy farms applying herbicide



### % of HH planting improved rice variety

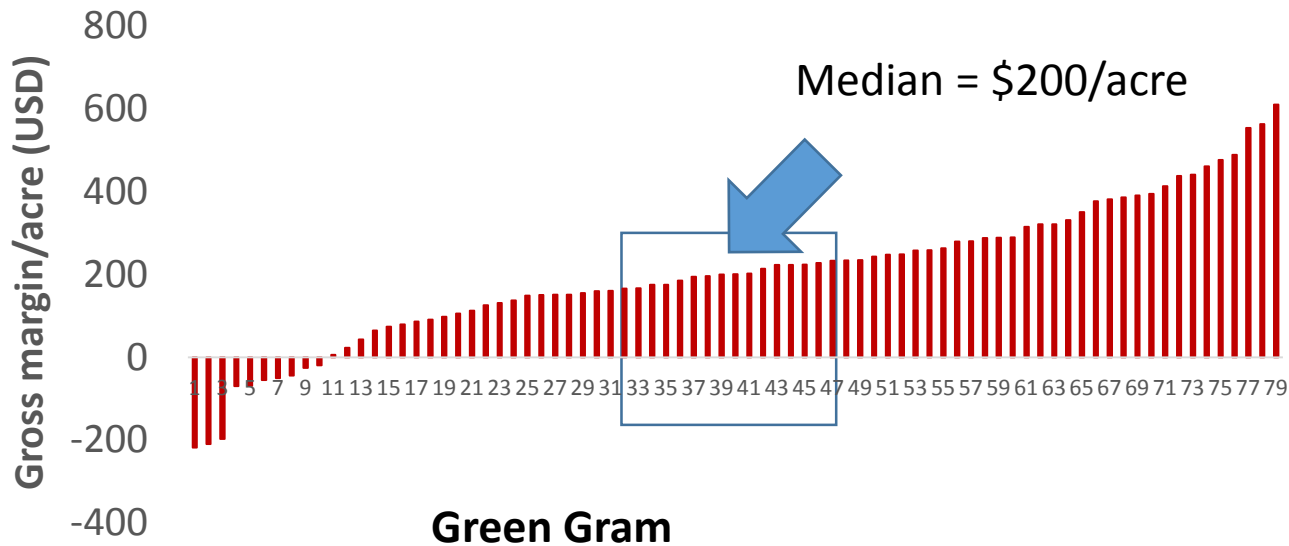
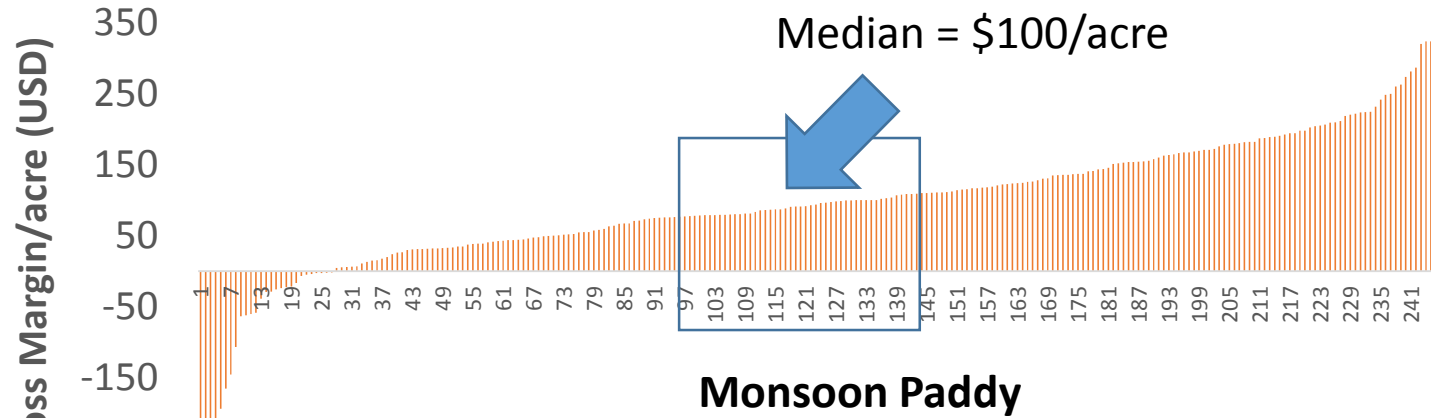


### Paddy yield (baskets/acre)





# Agricultural productivity still low



**Median  
agricultural land  
= 5.5 acres;  
Typical annual  
agricultural  
income =  
\$1650/HH, or  
\$330/capita**

# Conclusions

- Rapid rural transformation taking place close to Yangon, driven by migration
- Migration driven by urban growth & industrialization post 2012
- Leading to: Labor shortages, rising wages → Mechanization of agriculture, growth of RNFE
- Growth of RNFE, supported by: Greater mobility (transport services), deeper market integration (labour, inputs, outputs), improving access to and terms of credit
- Mechanization supported by: Expansion of formal finance, falling machine costs, thriving rental markets, scale neutrality
- Many households 'stepping out' and 'hanging in' – Need support for 'stepping up' productivity & diversification in agriculture