# Crop Production and Profitability in Ayeyarwaddy and Yangon Regions

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**Sedona Hotel, Yangon**
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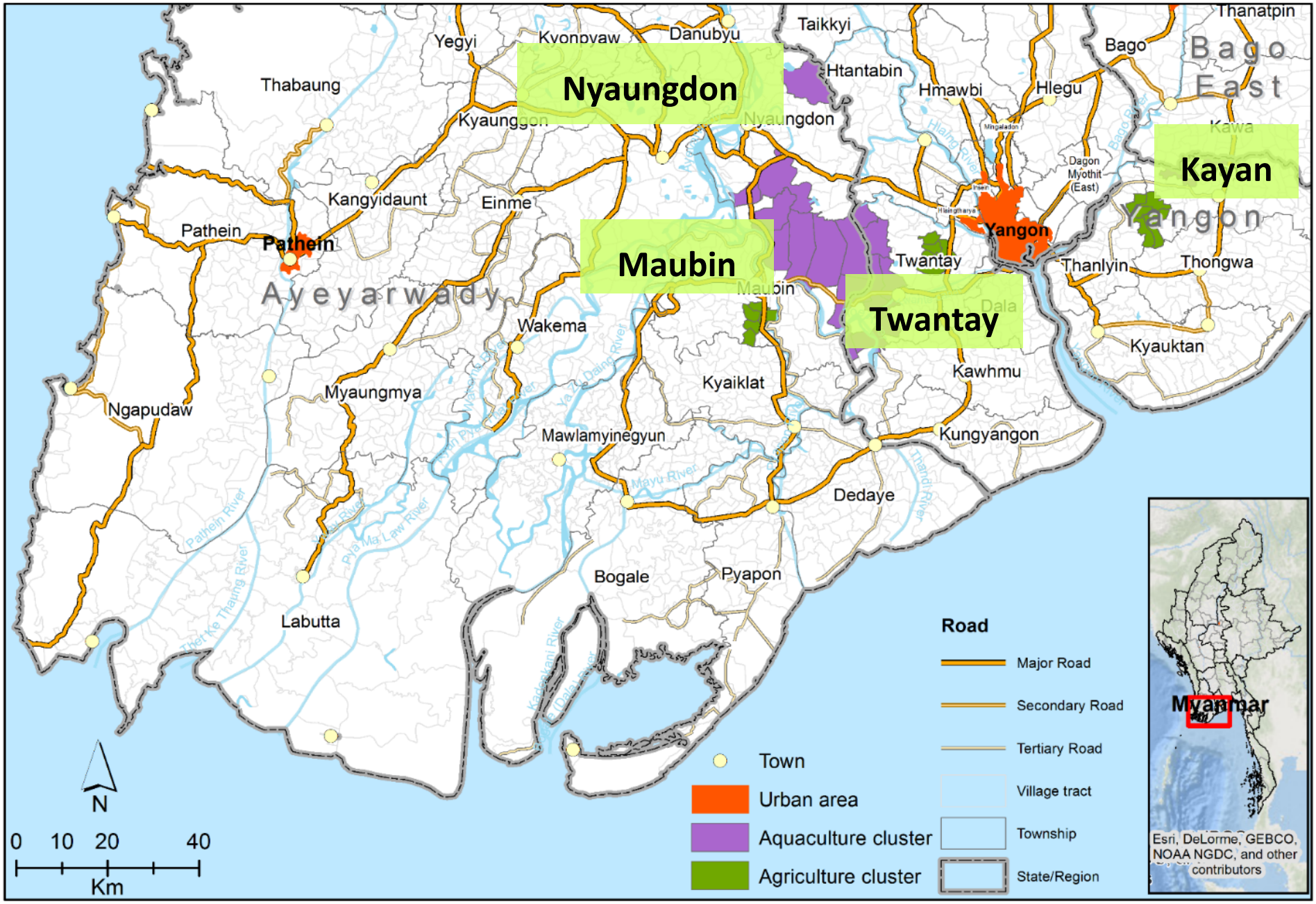
# Outline of presentation

- ✓ Characteristics of sampled households
- ✓ Survey Results
- ✓ Conclusions
- ✓ Recommendations

# Survey Area


Nyaungdon
Maubin
Twantay
Kayan
Thanatpin
Bago
Bago East
Taikkyi
Htantabin
Danubyu
Yegyi
Kyonpyaw
Thabaung
Kyaunggon
Nyaungdon
Hmawbi
Hlegu
Kawa
Mingaladon
Dagon Myothit (East)
Yangon
Kangyidaunt
Einme
Pathein
Ayeyarwady
Twantay
Thanlyin
Thongwa
Maubin
Dala
Wakema
Kyauktan
Kawhmu
Myaungmya
Kyaiklat
Ngapudaw
Mawlamyinegyun
Kungyangon
Dedaye
Bogale
Pyapon
Labutta
Pathein River
Ther Ke Thaing River
Pya Ma Law River
Mayu River
Thandi River
Kaderkhani River
Road
Major Road
Secondary Road
Tertiary Road
Village tract
Township
State/Region
Town
Urban area
Aquaculture cluster
Agriculture cluster
N
0 10 20 40
Km
Myanmar
Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

# Characteristics of sampled households

- 329 Agricultural Households - **30 %** of total sample

- **49 %** - agricultural households operate up to **5 acres**

  - 27 %- farms between 5 and 10 acres

  - 24 % - farms >10 acres

- **66 %** have only **1 parcel** **per household**

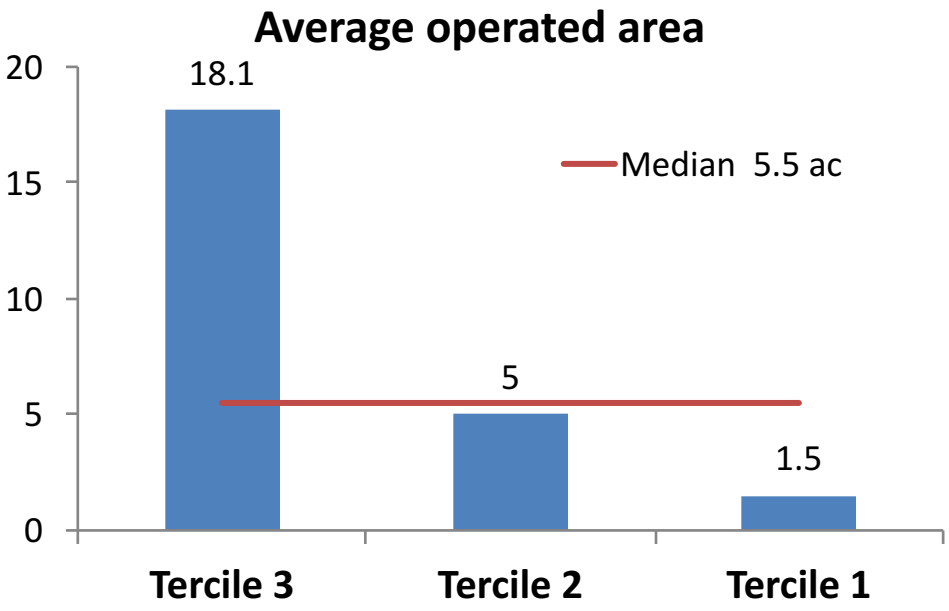
# Characteristics of sampled households (Cont'd)

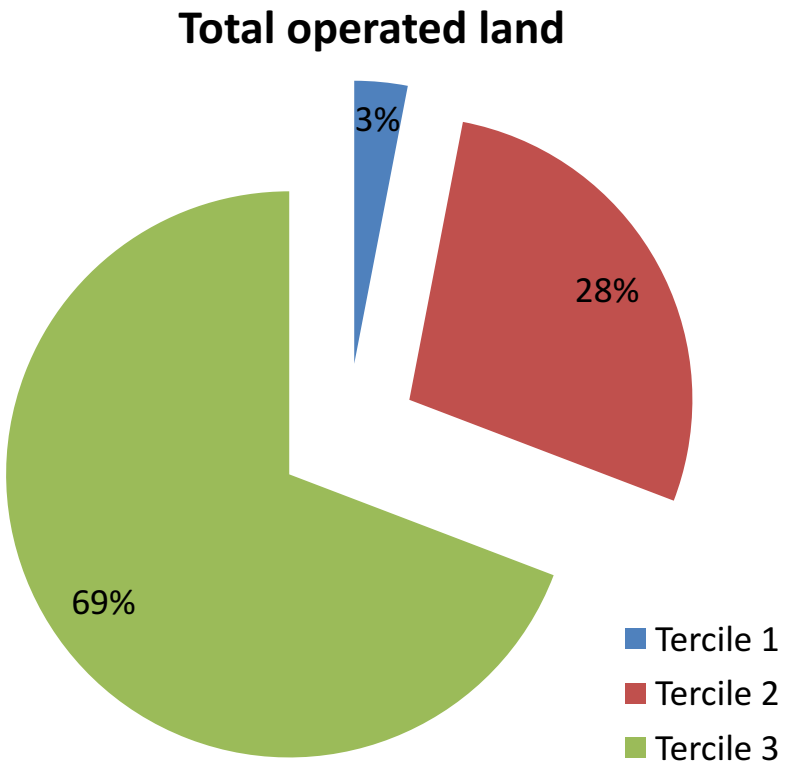
- Cultivated area per household ranges from

  **0.6 to 70 acres**

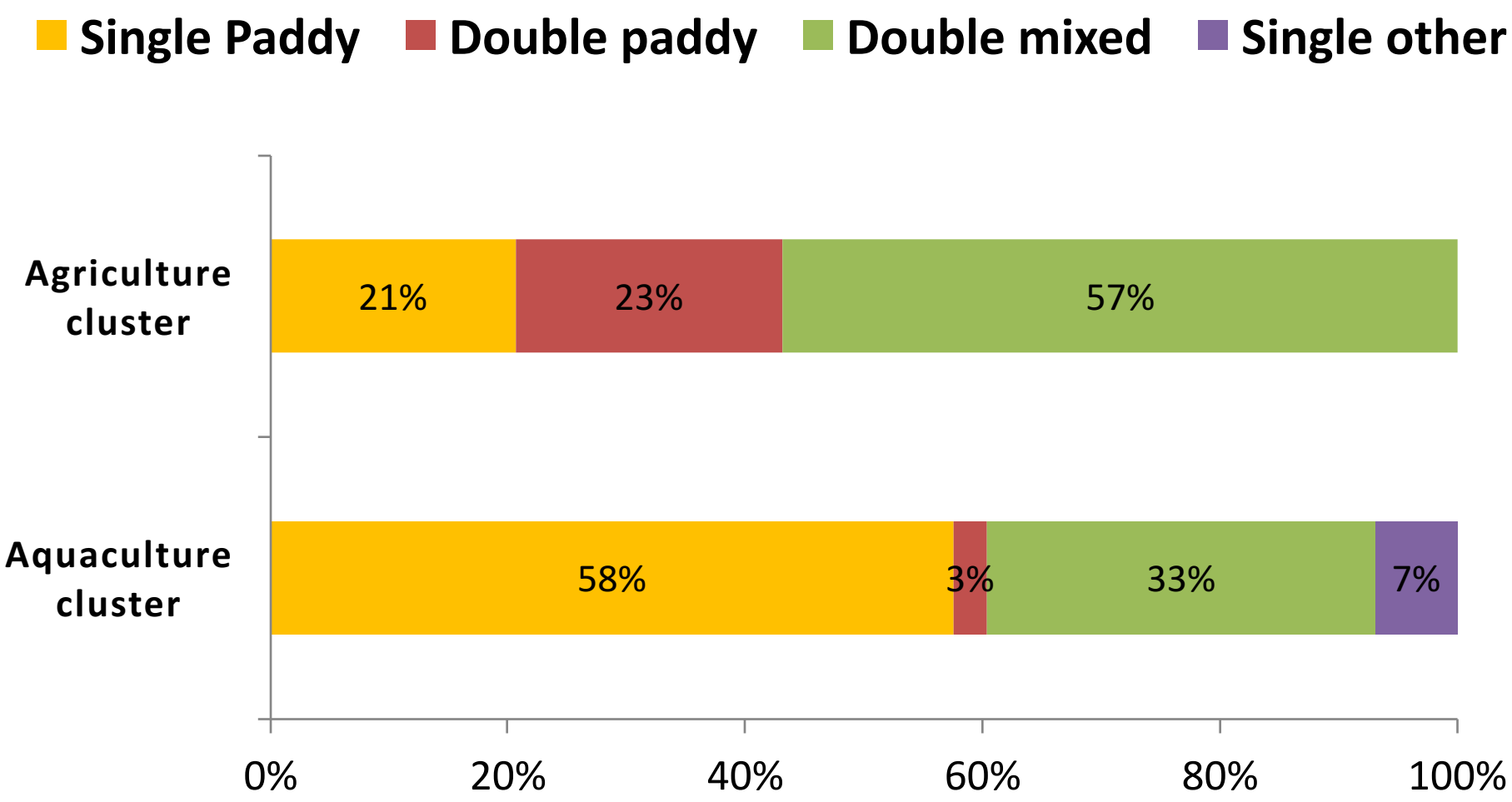
- Median area cultivated is **5.5 acres**

# Unequal distribution of agricultural land

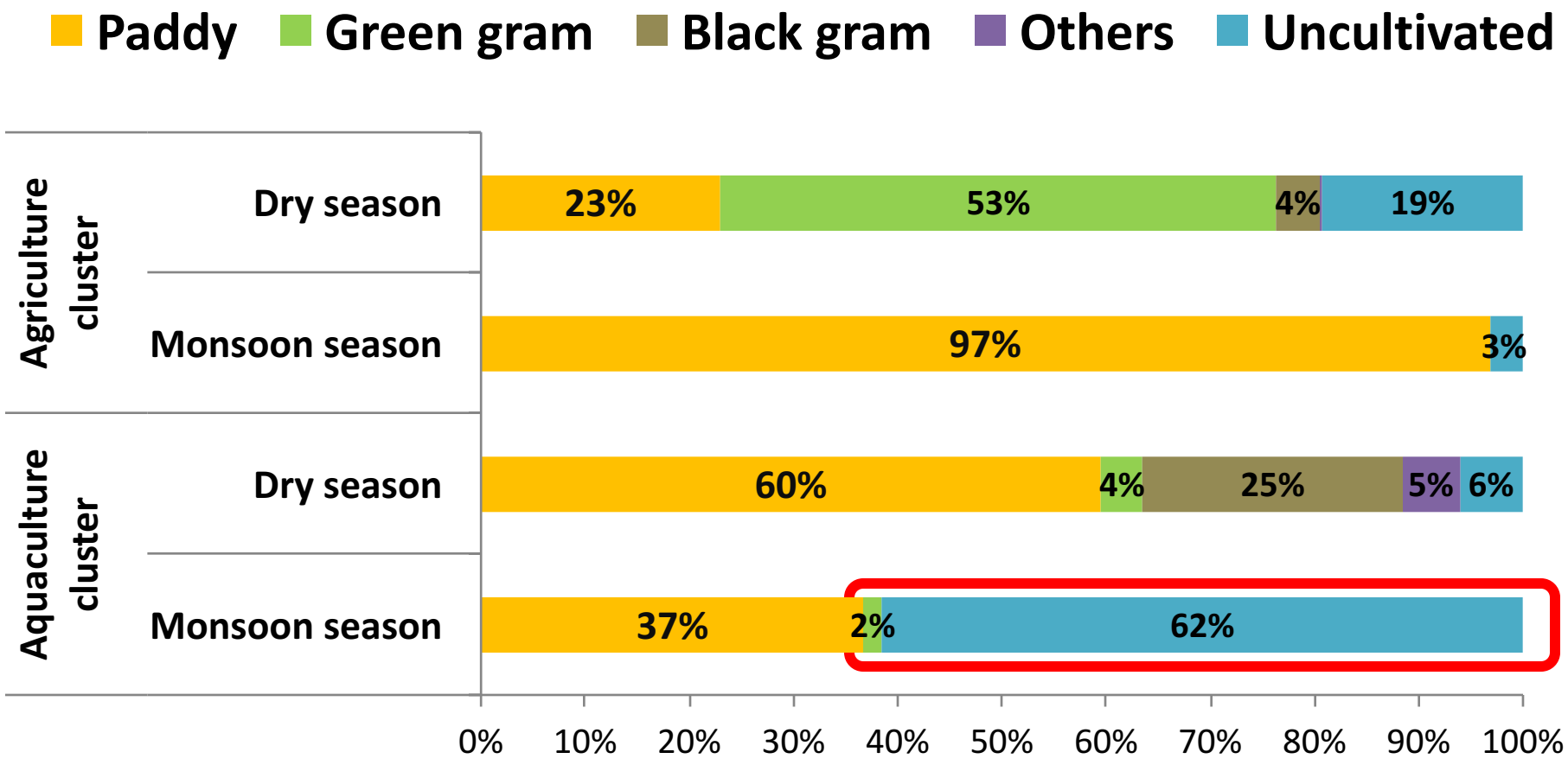


# Household Cropping Patterns



# Cropping patterns by season



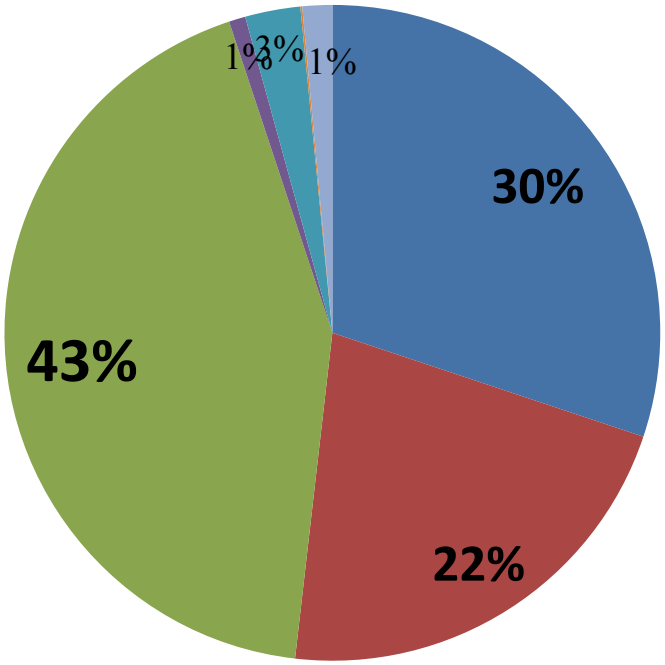
# Crops and livestock income estimation

**Gross margin= Gross revenue – production cost**

- Chose the largest parcel as sample parcel
- Calculated from sample parcel of each household in monsoon and dry seasons
- For whole farm income estimates, used combination of
  - gross margin (GM) for sample parcel crops
  - GM of sample parcel crop * total acres under the same crop
  - median GM of each crop for other non-sample crops for whole sample
  - Reported GM for livestock, vegetables and fruit

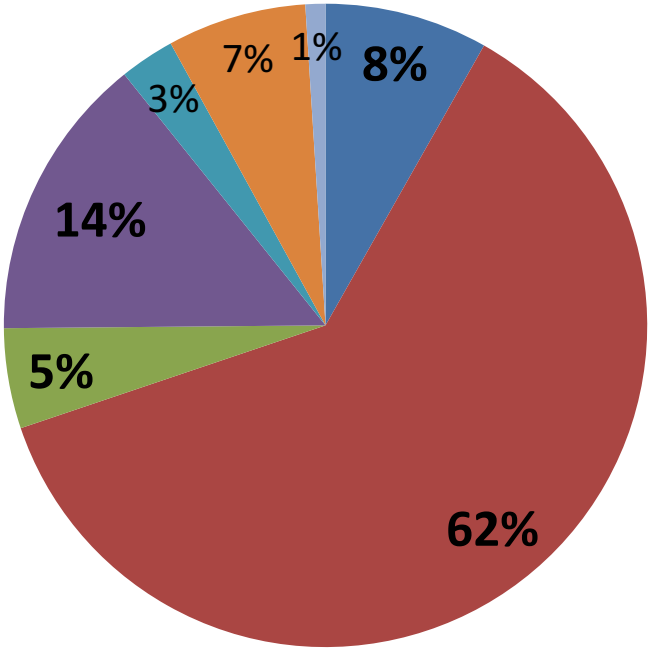
# Composition of Crops and Livestock Income

## Agriculture cluster

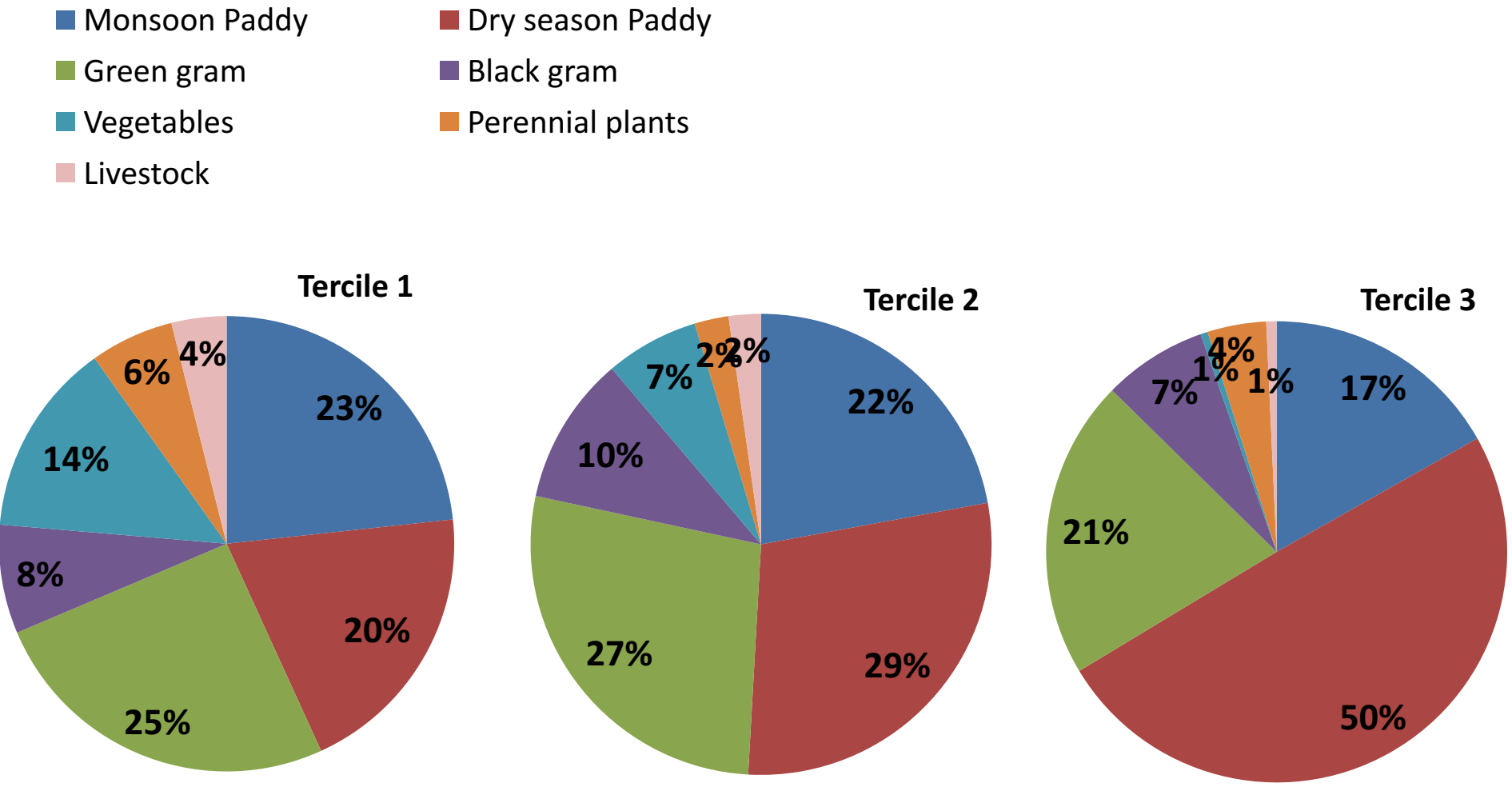



Monsoon Paddy
Dry season paddy
Green gram
Black gram
Vegetables
Perennial plants
Livestock

## Aquaculture cluster



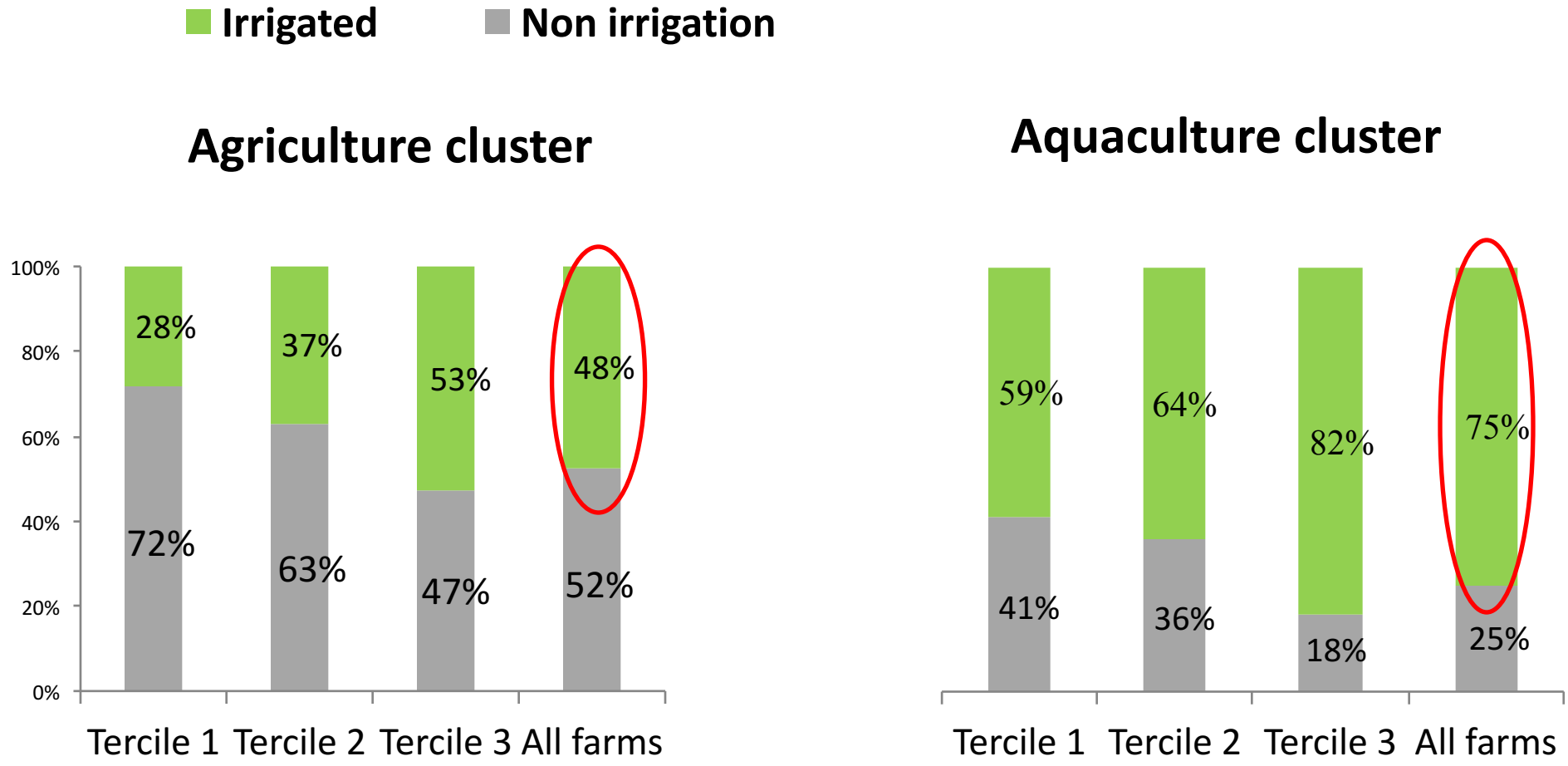
# Crop/Livestock Income by Land Terciles



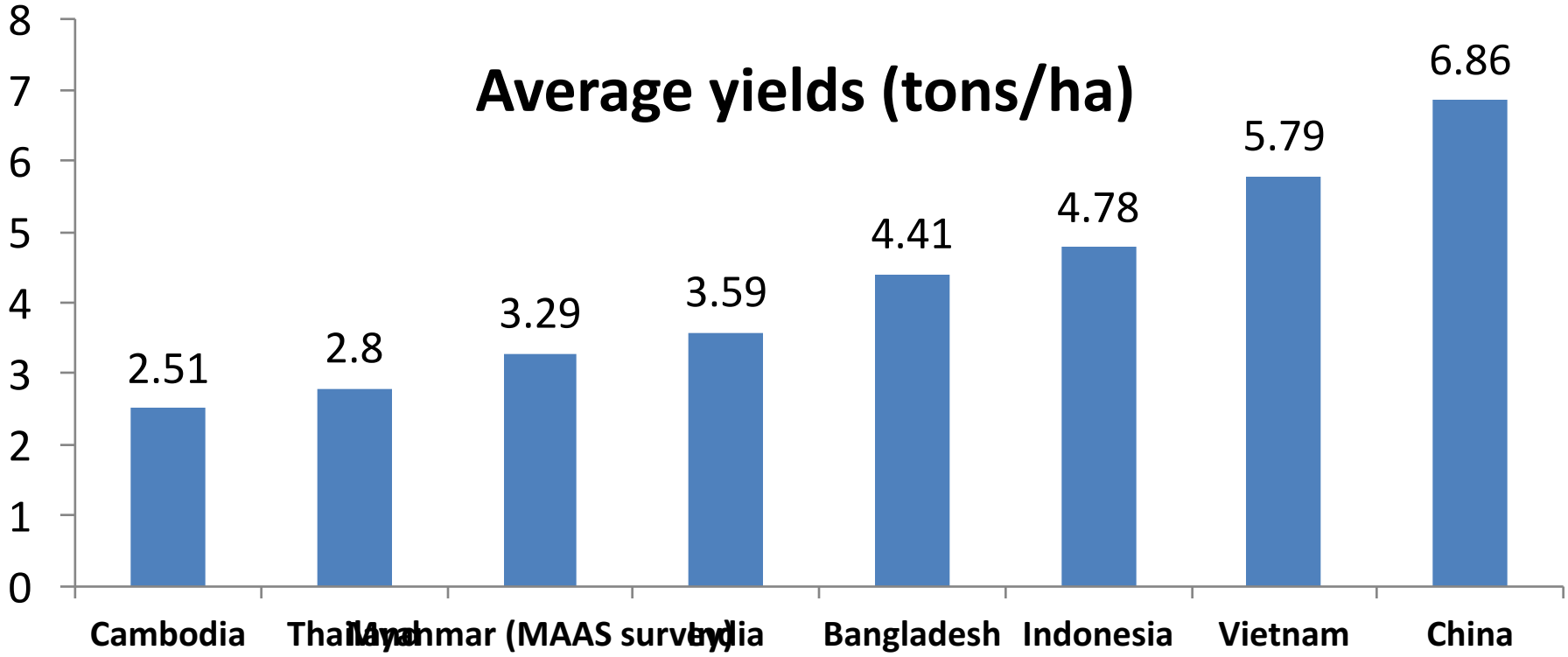

**"Dry season paddy relatively more important for large farms"**

**"Green gram and other crops relatively more important for small farms"**

# Irrigation in dry season

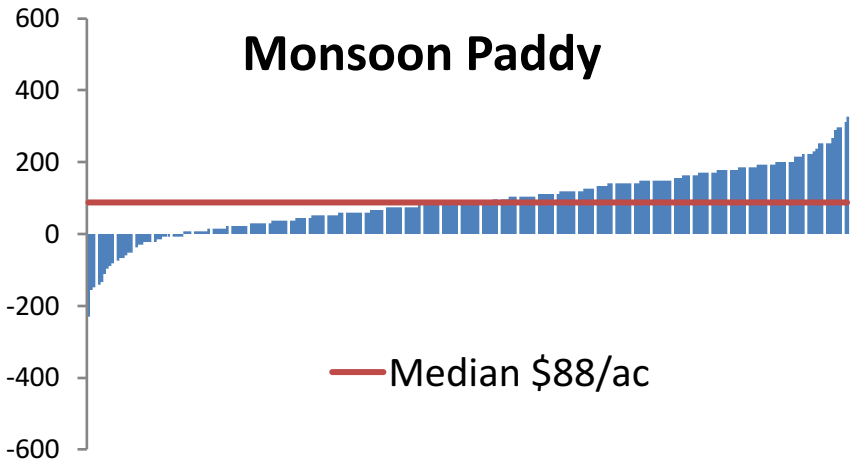


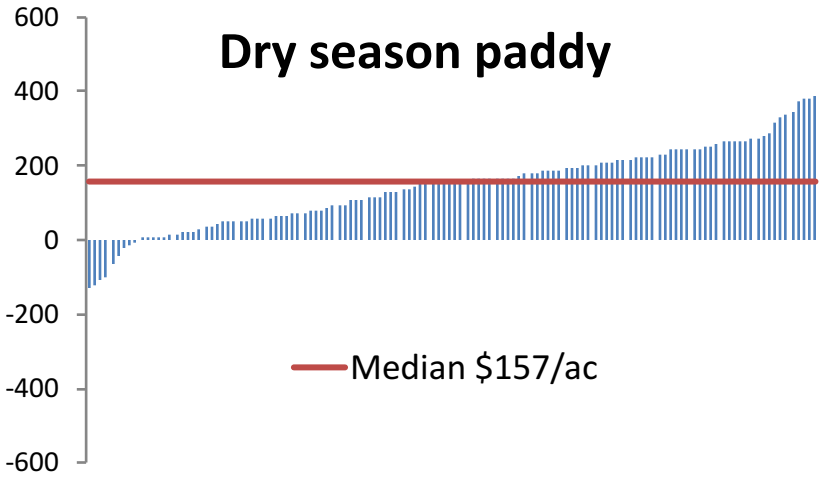
# Low productivity of paddy compared to some Asia countries

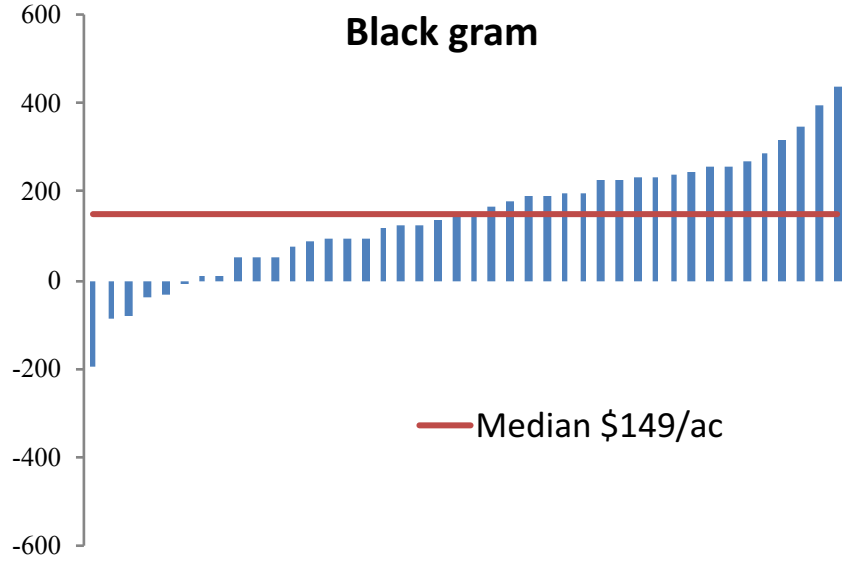


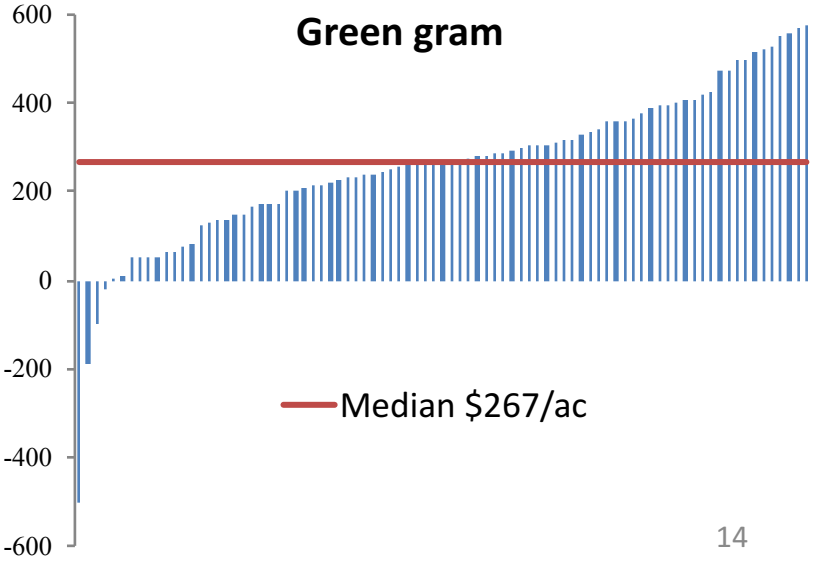

Source: Rice Stat IRRI (2016), MAAS Survey

# Gross margins by crops

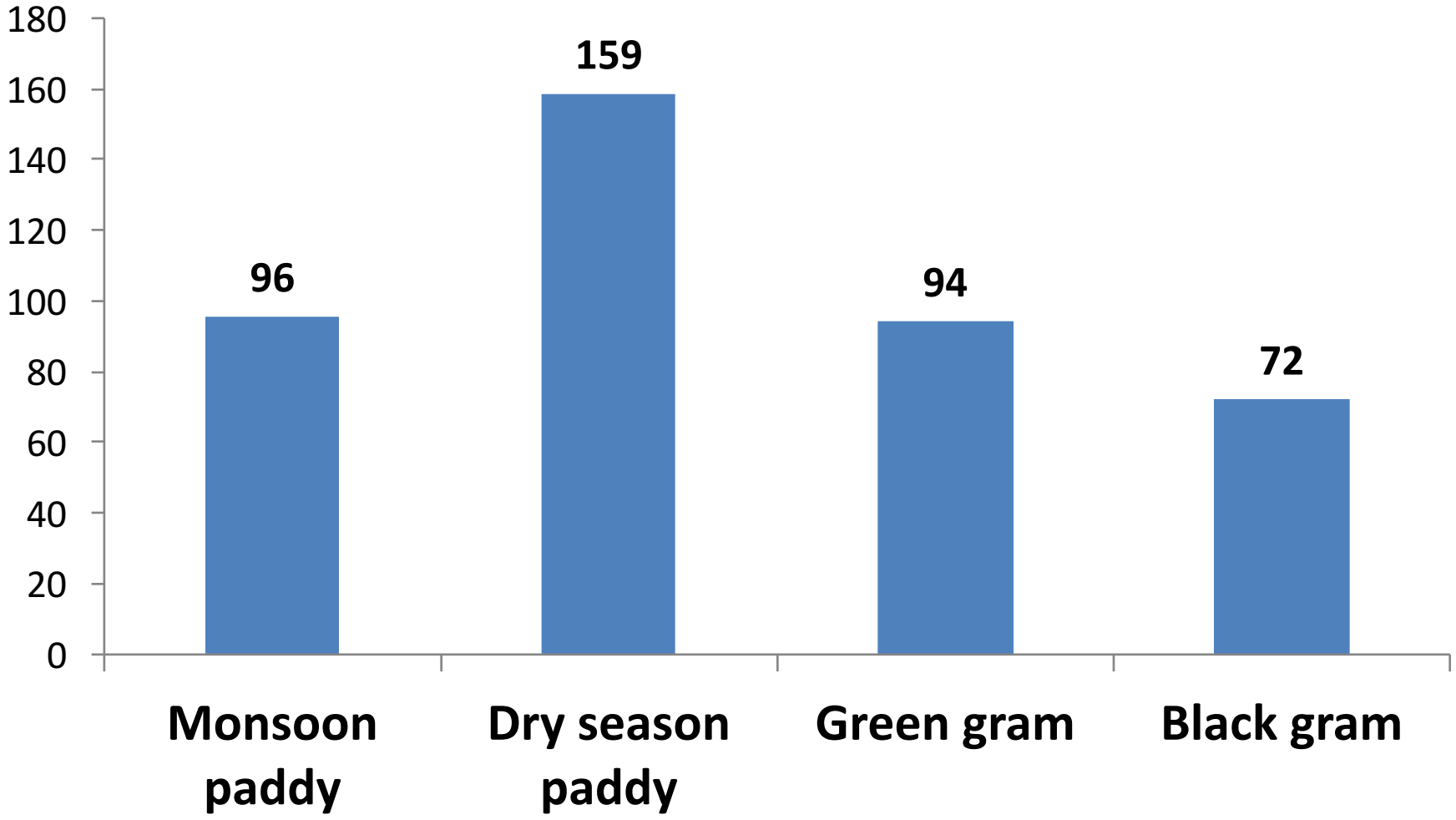


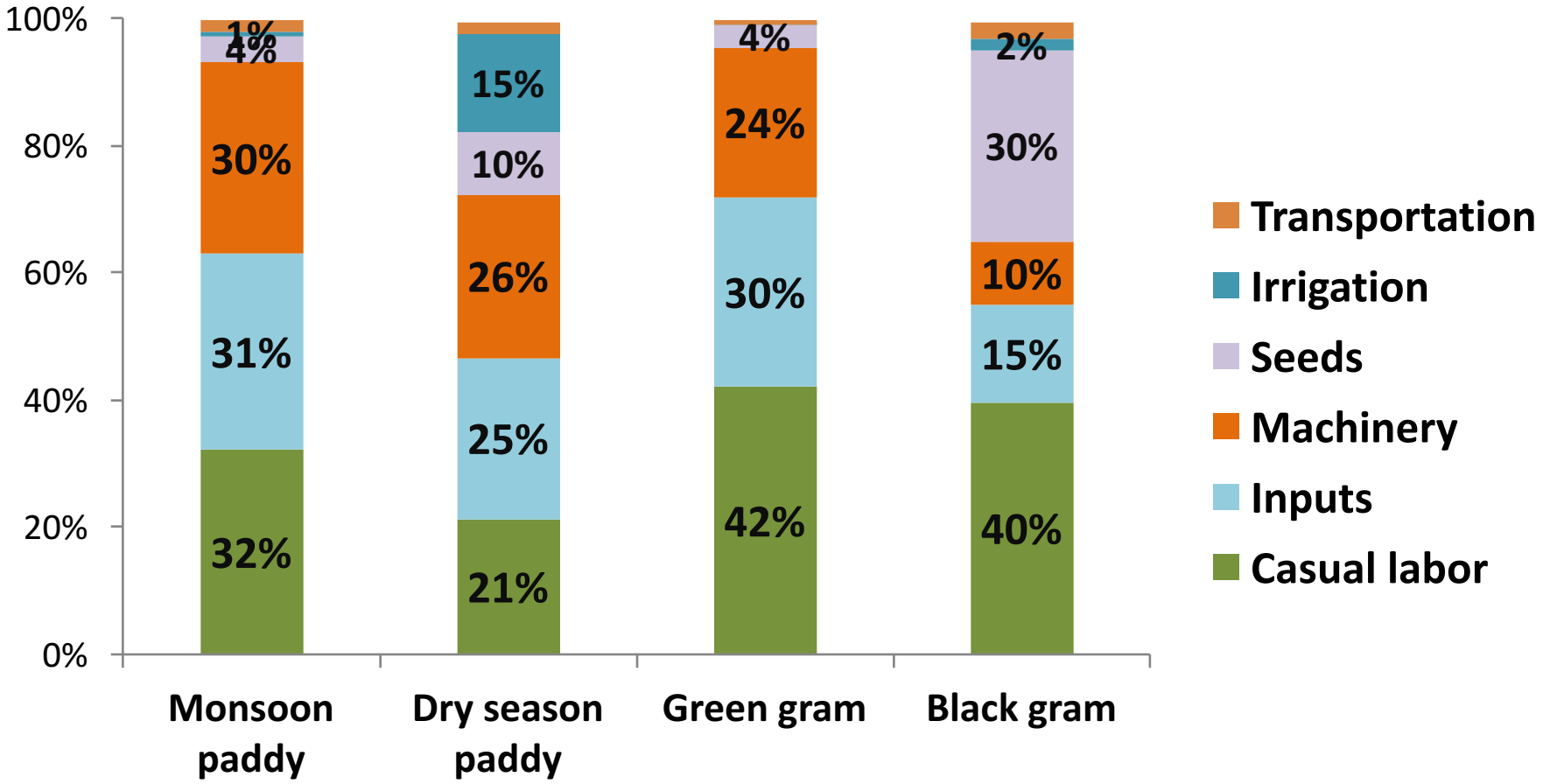



# Production costs by crops ($/acre)

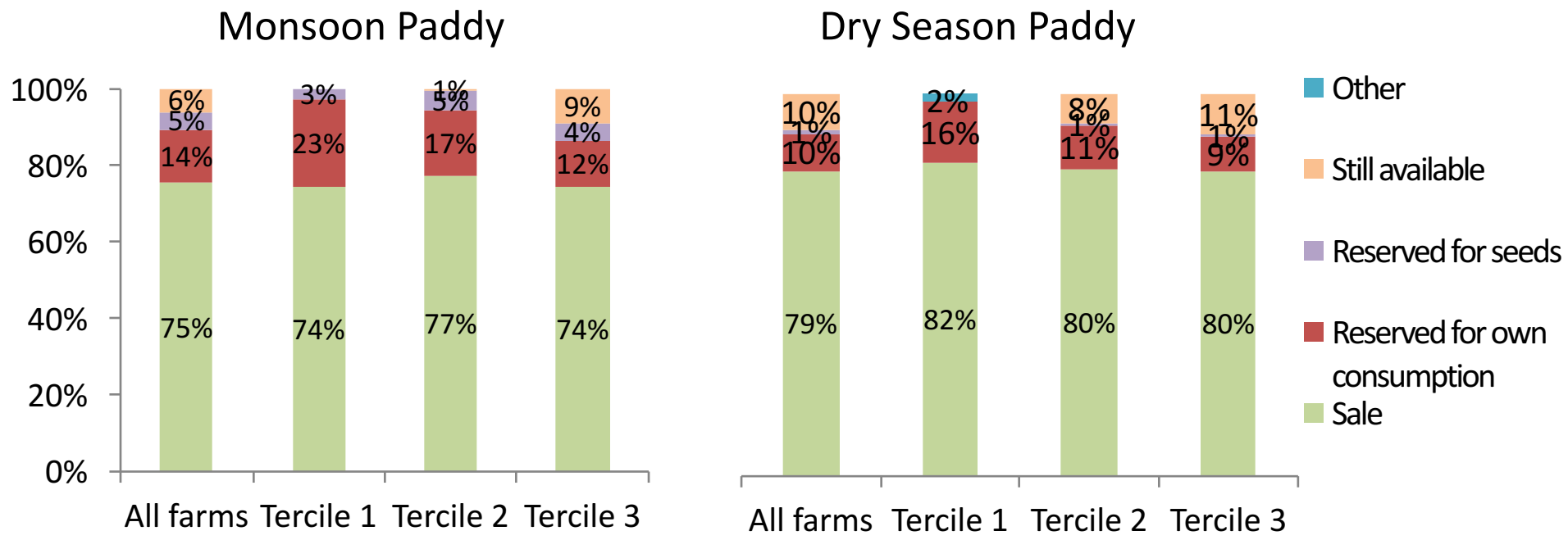


# Share of production costs



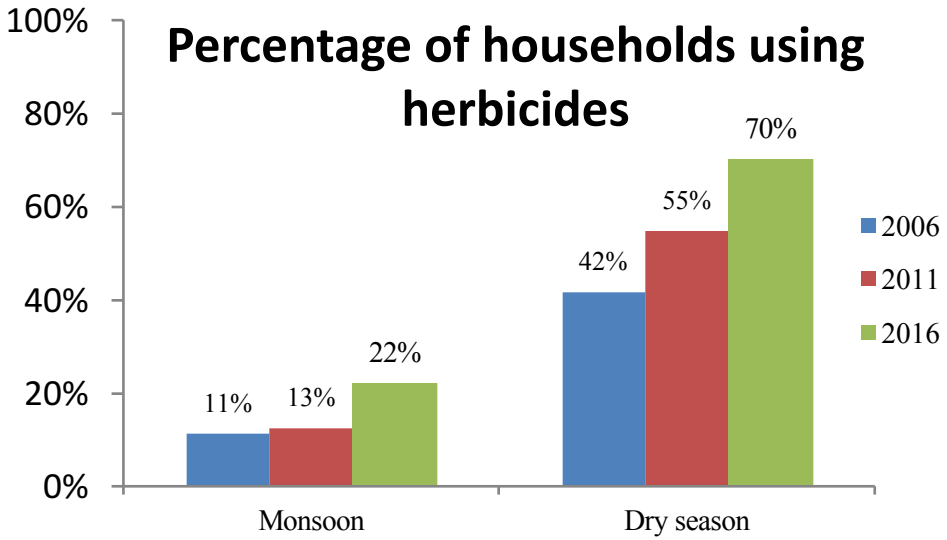

✓ **Casual labor, Inputs and Machinery costs contribute larger share of production costs in all crops**

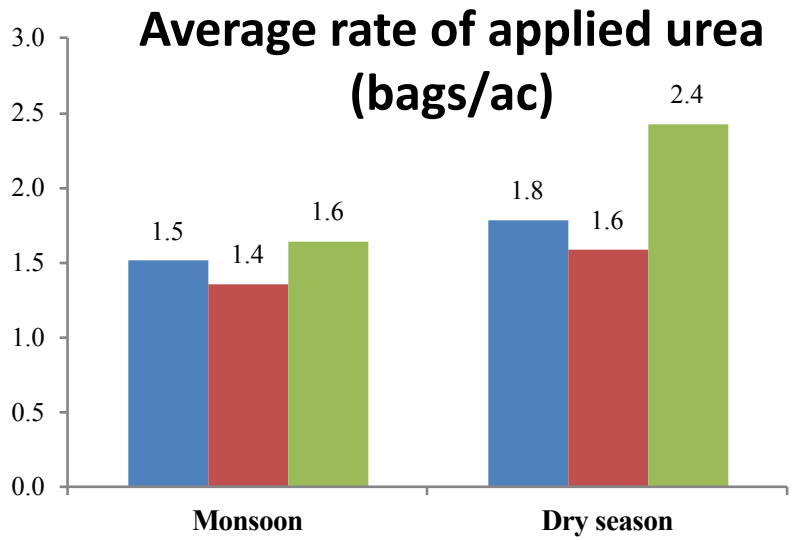
# Uses of harvested crop

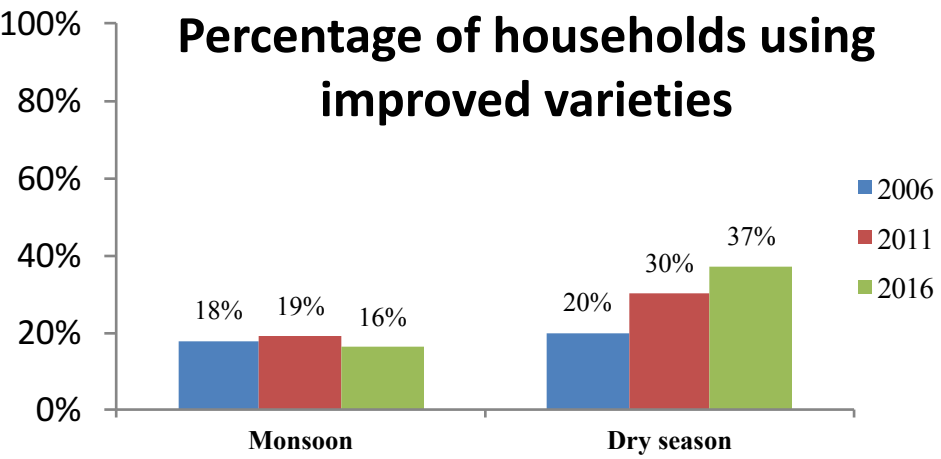


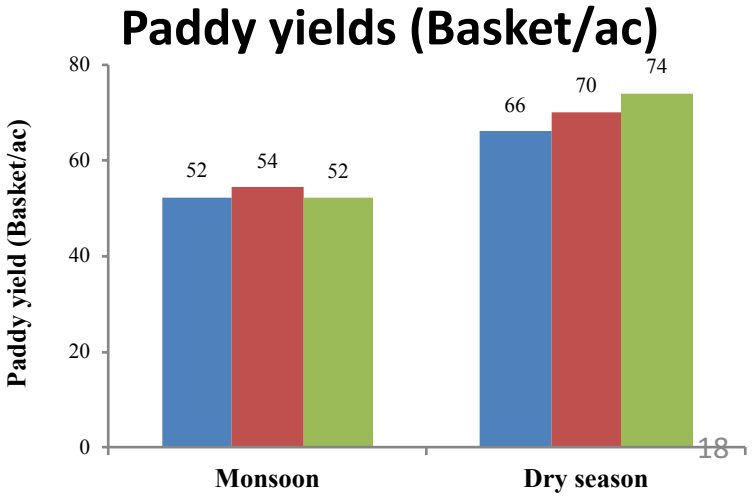

- ✓ **94 % of green gram & 98 % of black gram sold**
- ✓ **Majority of production sold in all crops**
- ✓ **Highly commercial farming even for smallest farmers**

# Technological Change (2006-2016)

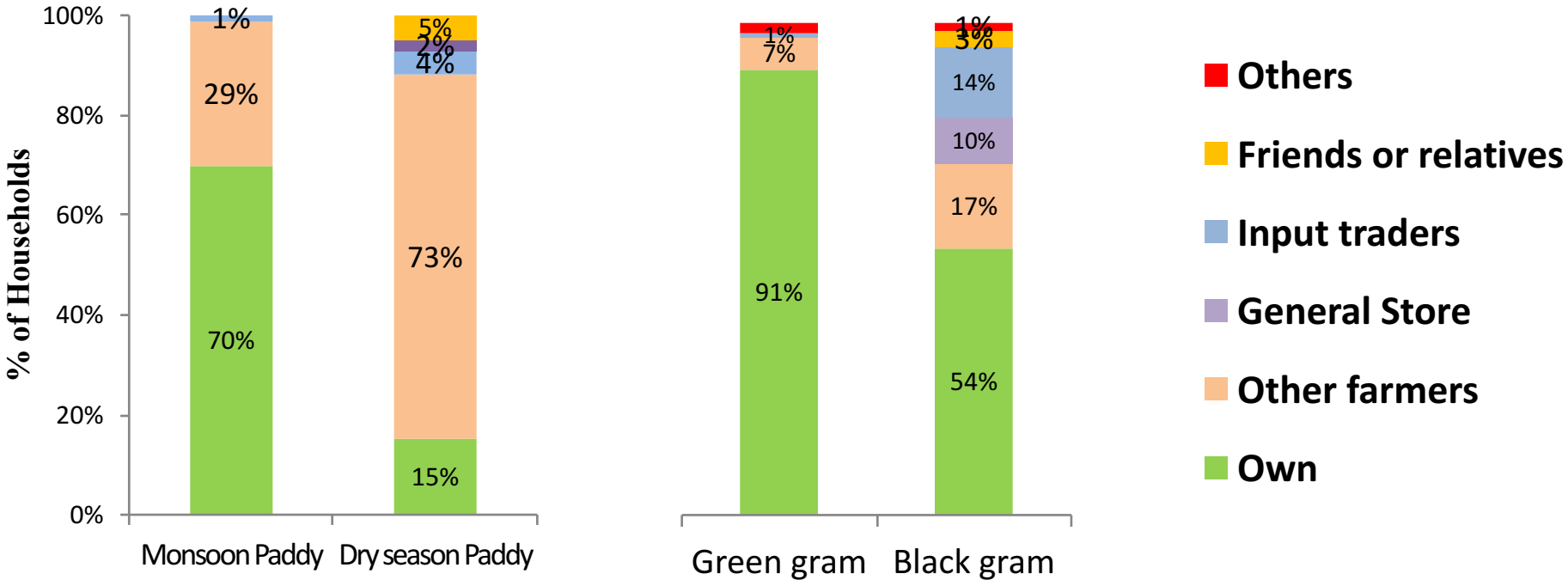


# Sources of seeds




- Purchase from commercial sources is very limited
- Reserved seeds – low quality & impurity

# Conclusions

- Access to land and irrigation is very unequal
- Crop diversification is limited
- Smallest farmers are the most farm diversified
- Productivity and profitability of all the main crops are low and variable
- Use of improved varieties is still low for all crops, though improving gradually for dry season paddy
- Lack of mechanized harvesting for pulses resulted in higher share of labor cost.

# Recommendations

- Undertake benefit-cost analysis of improved drainage to allow increased paddy cultivation in monsoon season
- Increase access to irrigation for dry season crops cultivation
- Enhance access to improved varieties for all major crops
- Identify pulses varieties that allows mechanized harvesting
- Encourage crop and livestock diversification
- Improve the productivity & profitability of green gram production (varieties, irrigation access, IPM)

# Thank you for your kind attention

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