

# Impact of the COVID-19 Pandemic on Agriculture and Food Security in India: Baseline Survey Results

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**HARVARD**  
**T.H. CHAN**  
SCHOOL OF PUBLIC HEALTH

# Study Team

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## India

**54.6%**

People  
dependent  
on farming

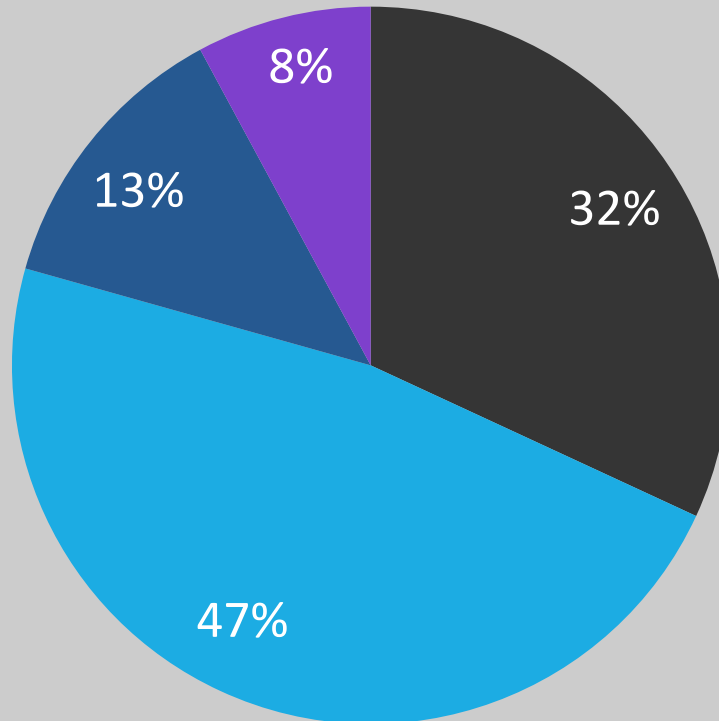
**87.00**

%  
Small and  
Marginal  
farmers

**1.15**

ha  
Average land  
holding

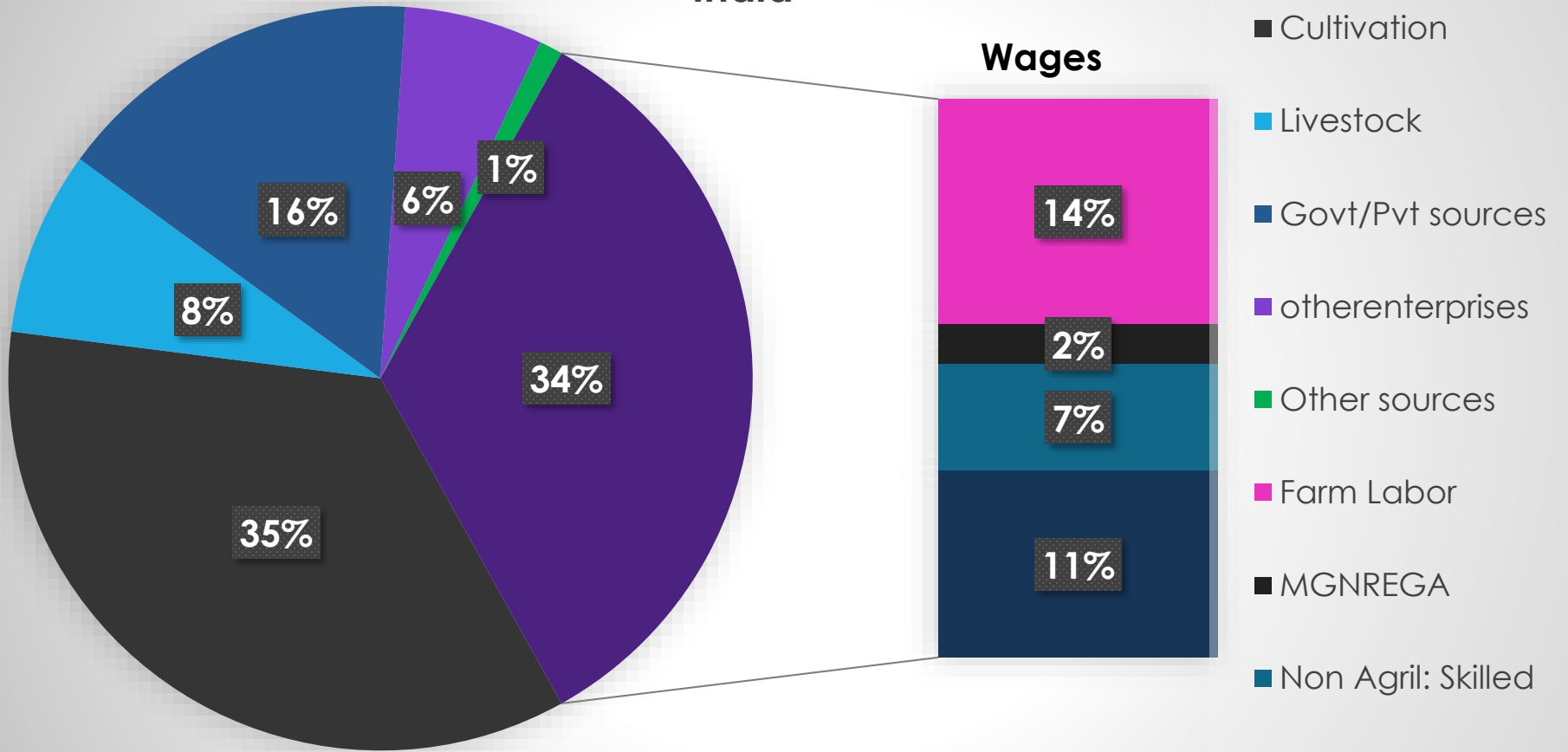
## Incomes of Farm Households in India



- Wages and Salaries
- Cultivation
- Livestock
- Non farm businesses

**Average Income Rs. 77,888/HH  
Per year in India**

# % Sources of Monthly Income for a Agricultural Household in India



Source: NAFIS, 2016



# Objectives



The aim of the study was

- To evaluate the impact of the COVID-19 pandemic, including especially the lockdown, on agricultural production, livelihoods,
- Food security, diet diversity,
- Awareness and receipt of government support during this challenging time
- Barriers to sowing in the coming season



Study team -  
Enumerators

Andhra Pradesh	Suresh Gaddala
Andhra Pradesh	Akhil Ravella
Telangana	Hari Krishna Nuole
Karnataka	Karan Peer
Maharashtra	Rahul Khare
Gujarat	Jahnvi Kanabar
Rajasthan	Pooja Jhorar
Punjab	Vikramjit Singh
Haryana	Diksha Pandey
Uttar Pradesh	Md. Shazib Siddique
Madhya Pradesh	Awadesh Kumar
Bihar	Shakir Ali
West Bengal	Aparna Bhagat
Uttar Pradesh, Madhya Pradesh	Prakash Shukla



# Thank You

- ▶ Foundation for Ecological Security (FES), multiple states
- ▶ SOIL, Karnataka
- ▶ Area Networking and Development Initiatives (ANANDI), Gujarat
- ▶ Satvik Promoting Ecological Farming, Gujarat
- ▶ Sampark Samaj Sevi Sanstha, MP
- ▶ Sangtin Kisan Mazdoor Sanghatan (SKMS), UP
- ▶ Mazdoor Kisan Shakti Sanghatan (MKSS), Rajasthan
- ▶ Sarva Sewa Samiti Sanstha, WB, UP, Bihar
- ▶ Vikas Anwesh Foundation, Gujarat
- ▶ Rythu Swarajya Vedika (RSV), Telangana
- ▶ Kheti Virasat Mission (KVM), Punjab



# Thank you .. continued

- ▶ Andhra Pradesh: Balu Gadi, Rajesh, Rohit Gutta, Jayshree, Sudharshan Rao, Prasad
- ▶ Maharashtra: Sheethal, Sudhir Paliwal, Rahul Maganti, Shatakshi, Hema Vishnavi
- ▶ Karnataka: Nupur, Sajay, Manoj Kumar
- ▶ Uttar Pradesh: Arundharthi Druv, Meera Sangamitra
- ▶ West Bengal: Anil, Anuradha Talwar, Devashish Paul, Sunil Kumar Hembram, Somnath Mukherjee
- ▶ Haryana: Tushar Dhara, Shreshta Sharma, Amith, Aryaman.
- ▶ Rajasthan: Pallavi Laungani,
- ▶ Madhya Pradesh: Sunilam, Mahender
- ▶ Pratap Goswami,, Rohit Parakh,, Nandini, Pardasardhi, Ganesh Chari, Arup Rakshi, Amith, Sharath, Ajay Etikala,

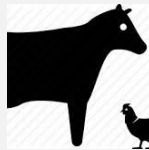


Survey  
on:



Agricultural  
production

Harvest,  
transportation, sale  
Upcoming season



Livestock income



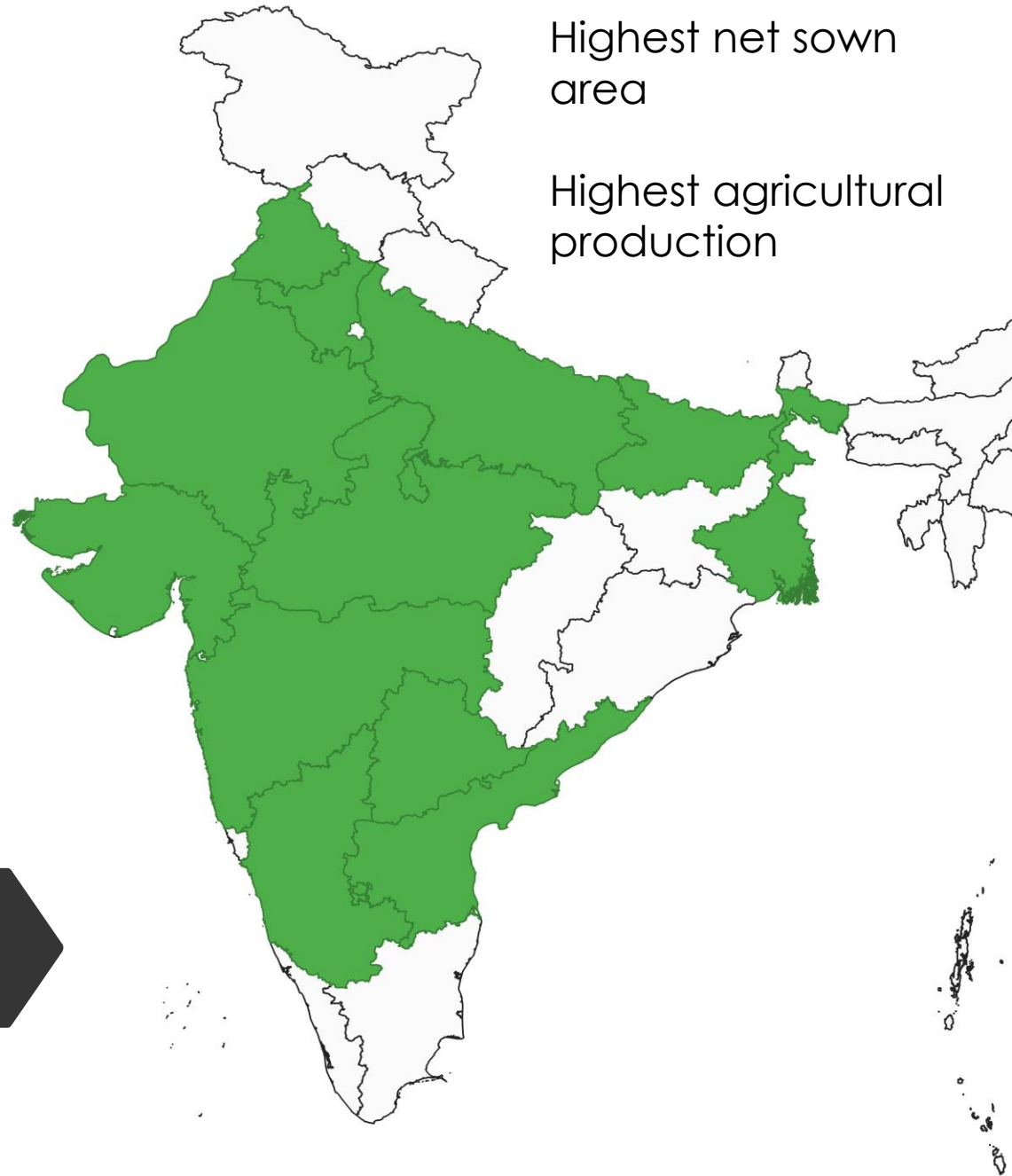
Wage income



Food insecurity and diet  
diversity

Andhra Pradesh  
Bihar  
Gujarat  
Haryana  
Karnataka  
Madhya Pradesh  
Maharashtra  
Punjab  
Rajasthan  
Telangana  
Uttar Pradesh  
West Bengal

**12 states**



## Snowball Sampling



Contacts from civil society networks



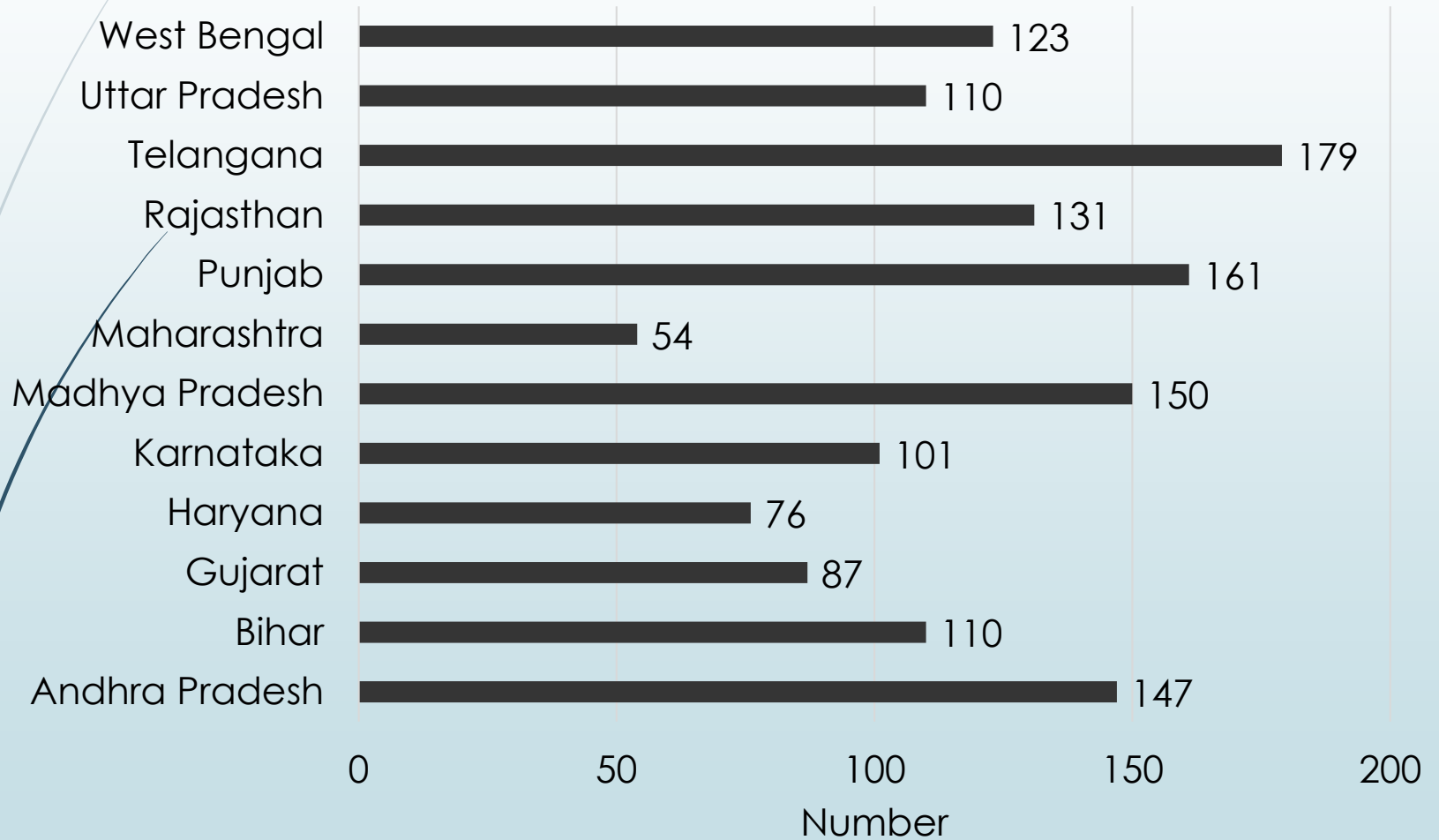
Called up to four additional respondents

Response rate: 76%

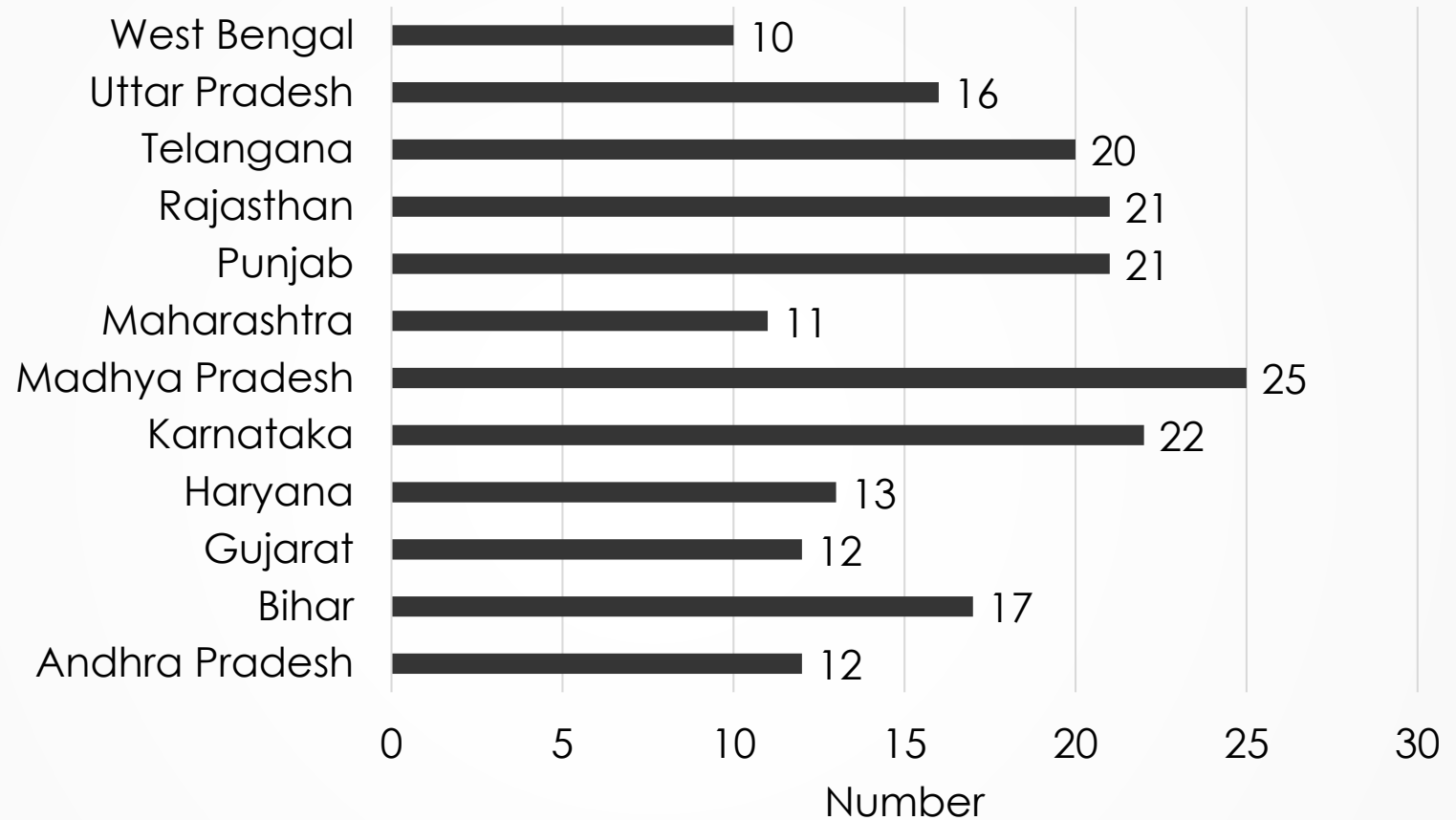
Collected from May 3<sup>rd</sup> to May 15<sup>th</sup>

# 12 states and 1,429 surveys

Number of Surveys by State



## Number of Districts by State

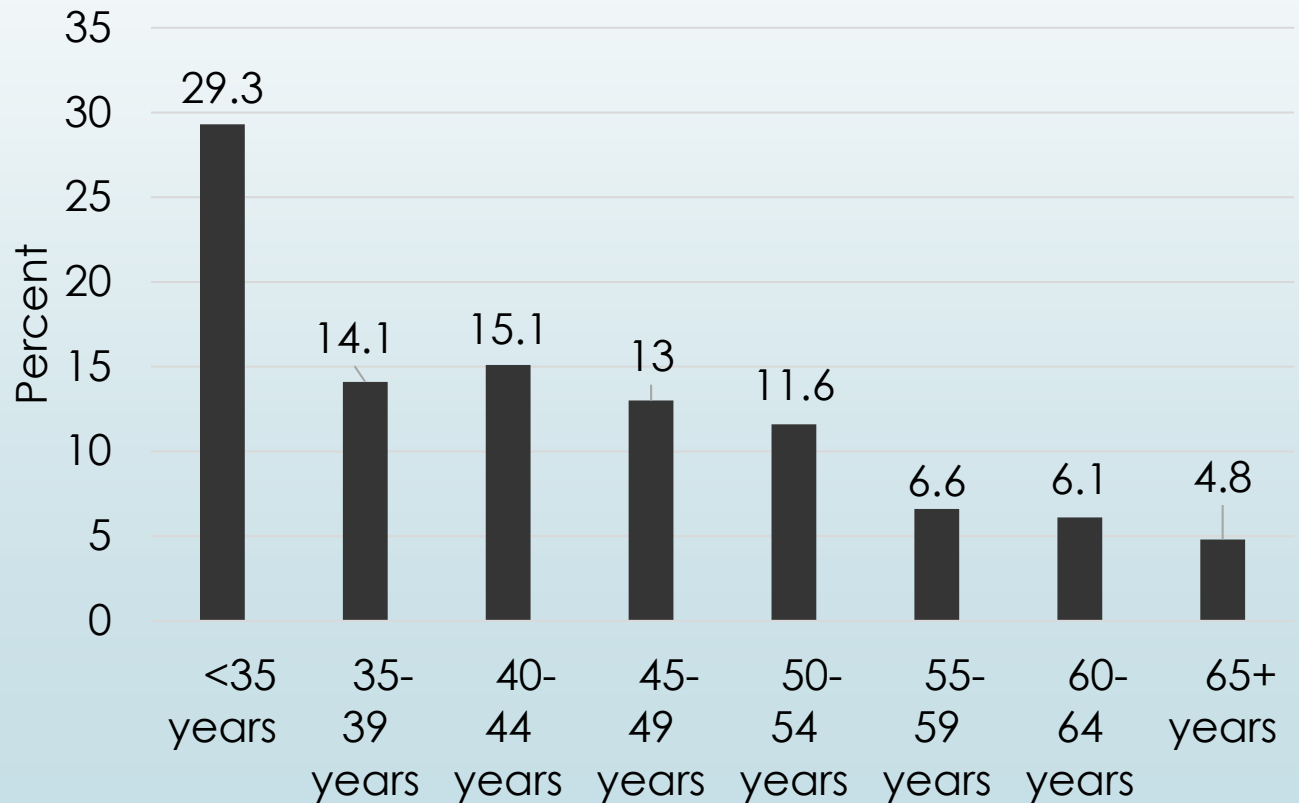


**Participants from 200 Districts**

# Respondent Profile

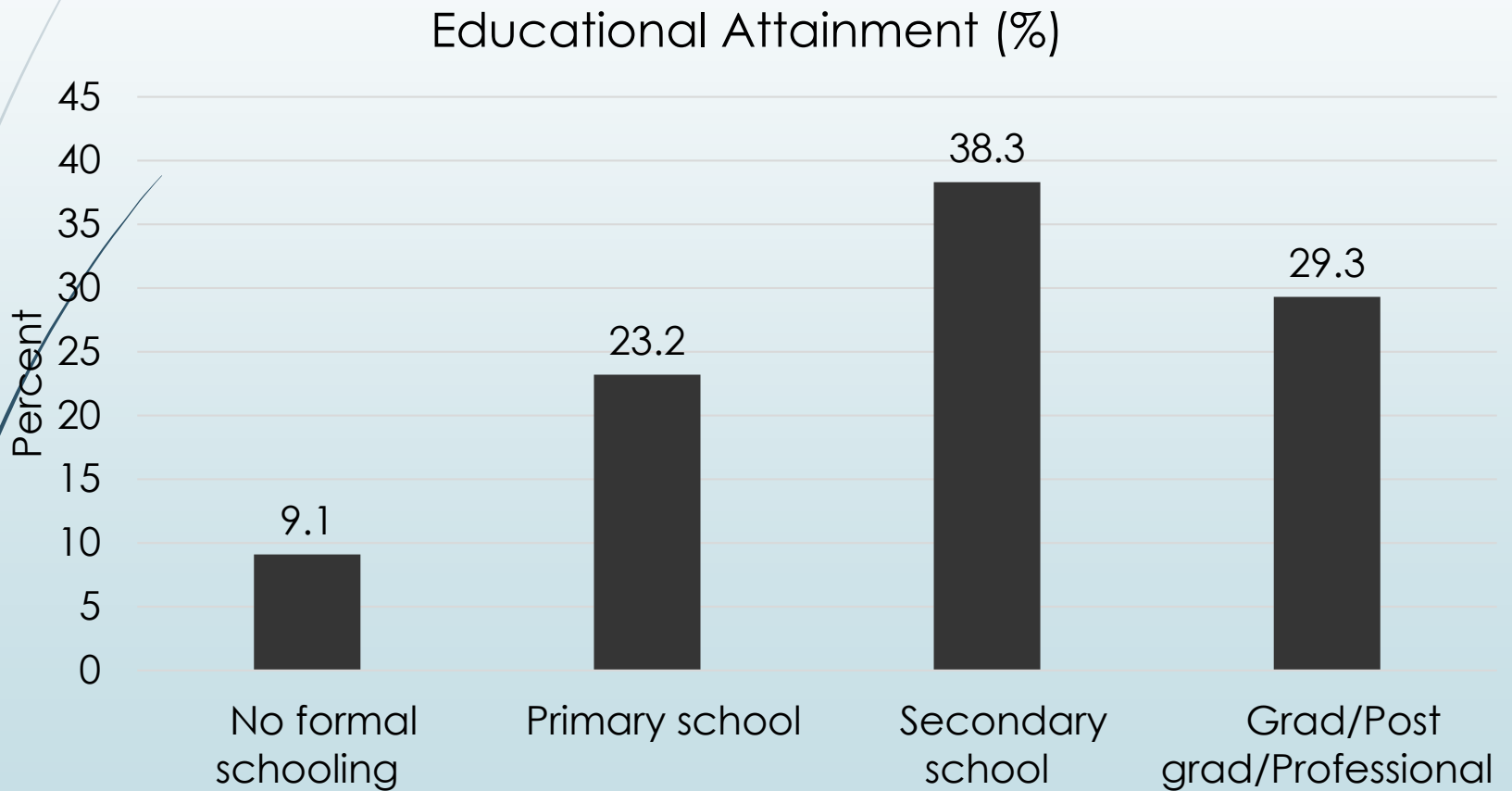
94% Male

Age Groups (%)

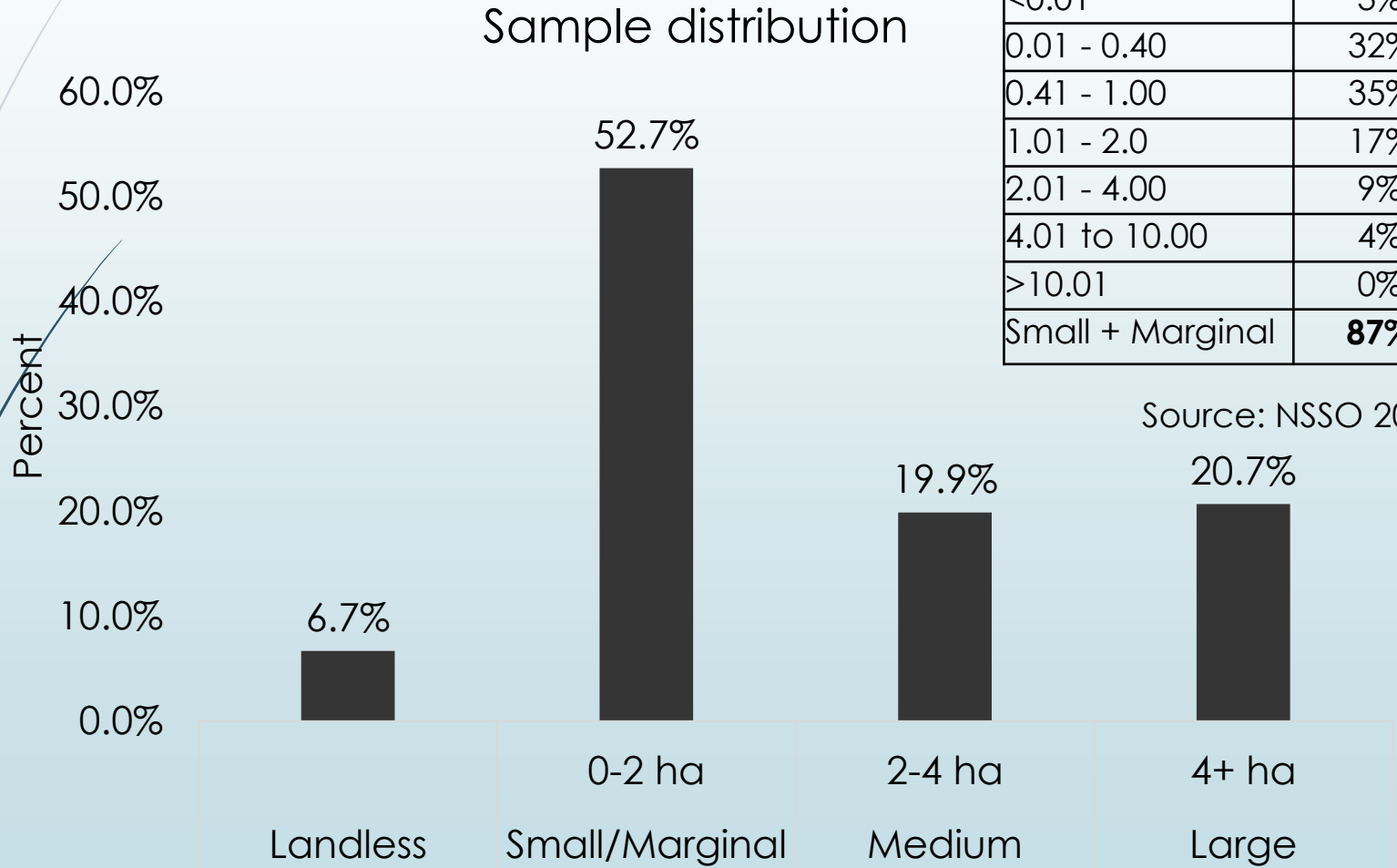


# Respondent Profile

## High educational attainment



# Distribution by land-size



All India	
Size class	Percent
<0.01	3%
0.01 - 0.40	32%
0.41 - 1.00	35%
1.01 - 2.0	17%
2.01 - 4.00	9%
4.01 to 10.00	4%
>10.01	0%
Small + Marginal	<b>87%</b>

Source: NSSO 2014





# Production - Harvest

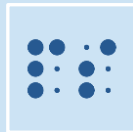
## Harvest related



63% of respondents harvested a crop in the past month



26% reported out of season



10% could not harvest due to lock-down related issues



Reasons

Market price

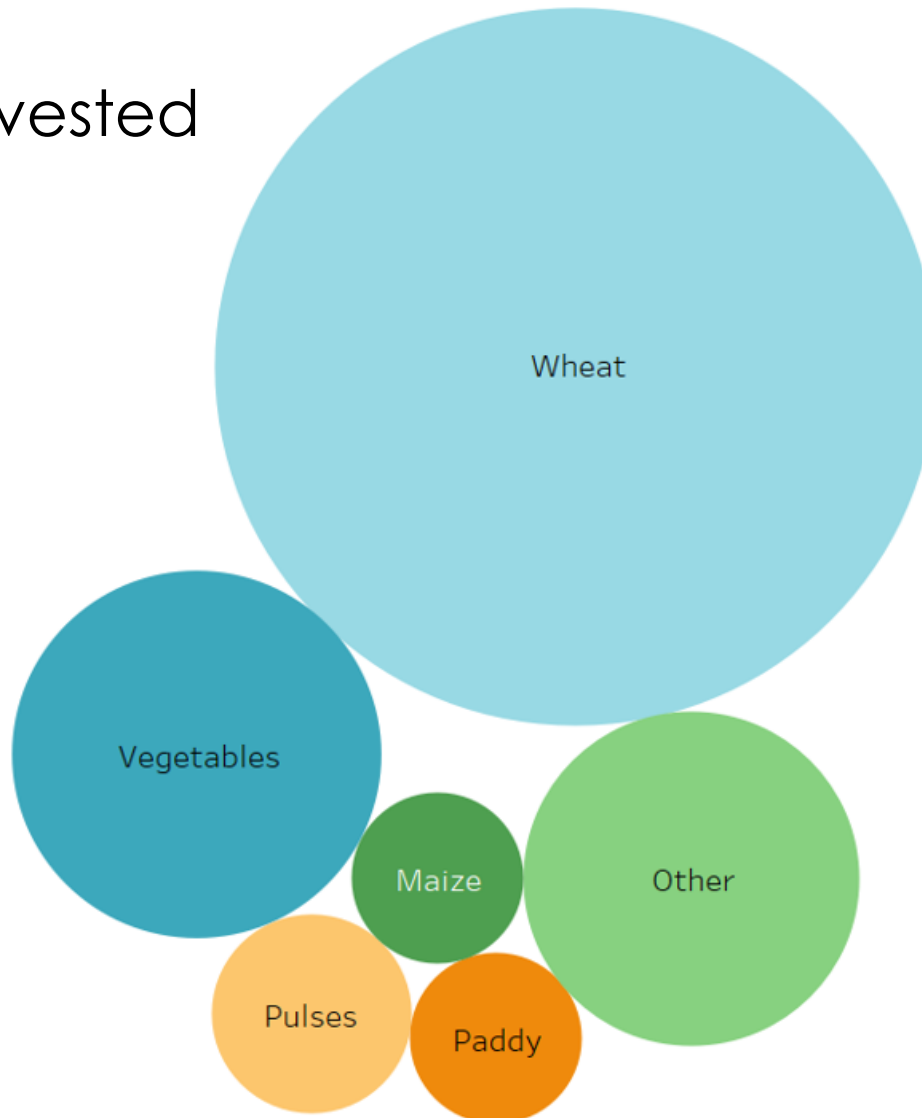
Market access

Government restrictions

Labour and machinery

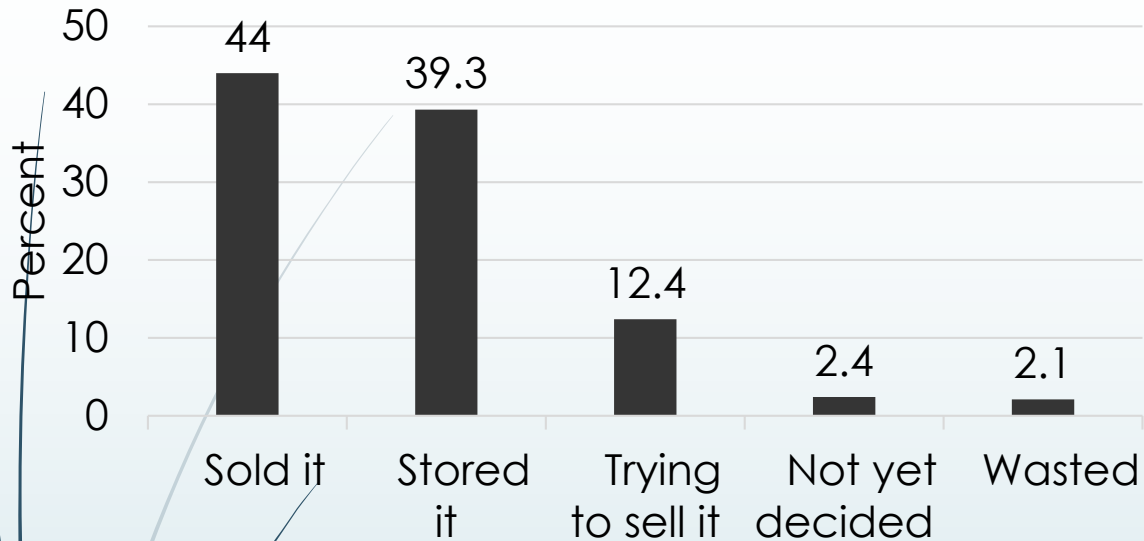
# Primary crops harvested last month

63% harvested



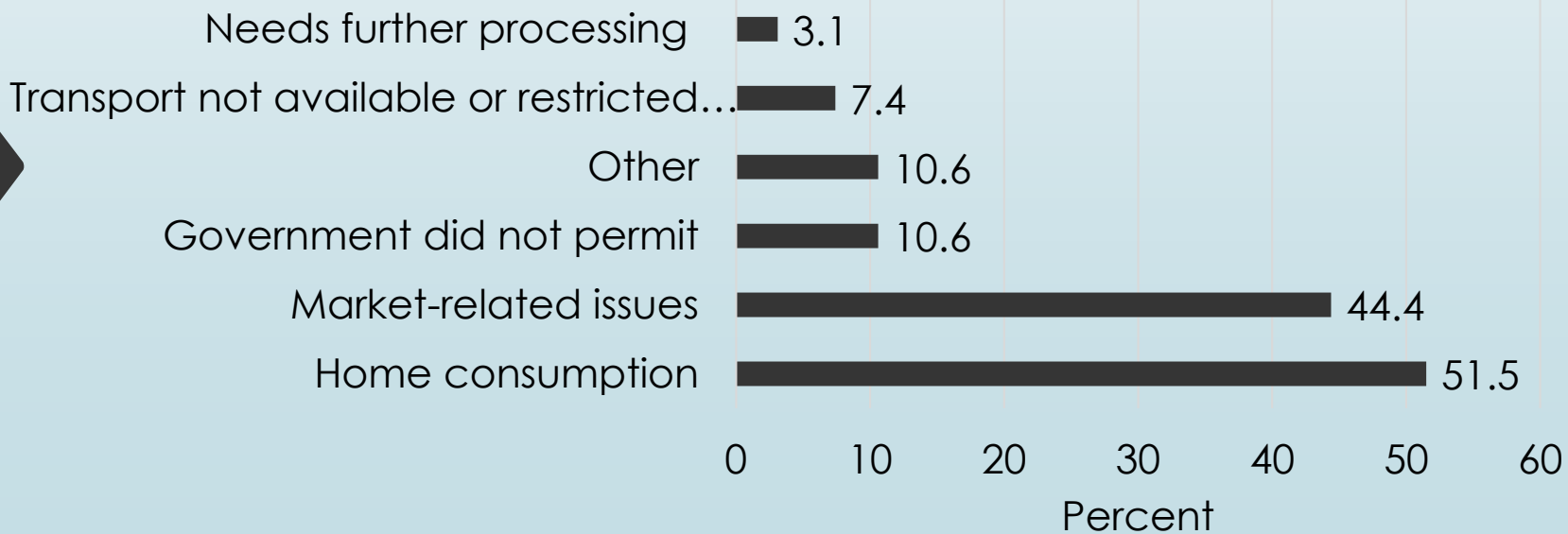
Wheat	59.9
Vegetables	15.7
Pulses	4.6
Paddy	3.4
Maize	3.4
Other	13

# What was done with the harvest in past month (%)

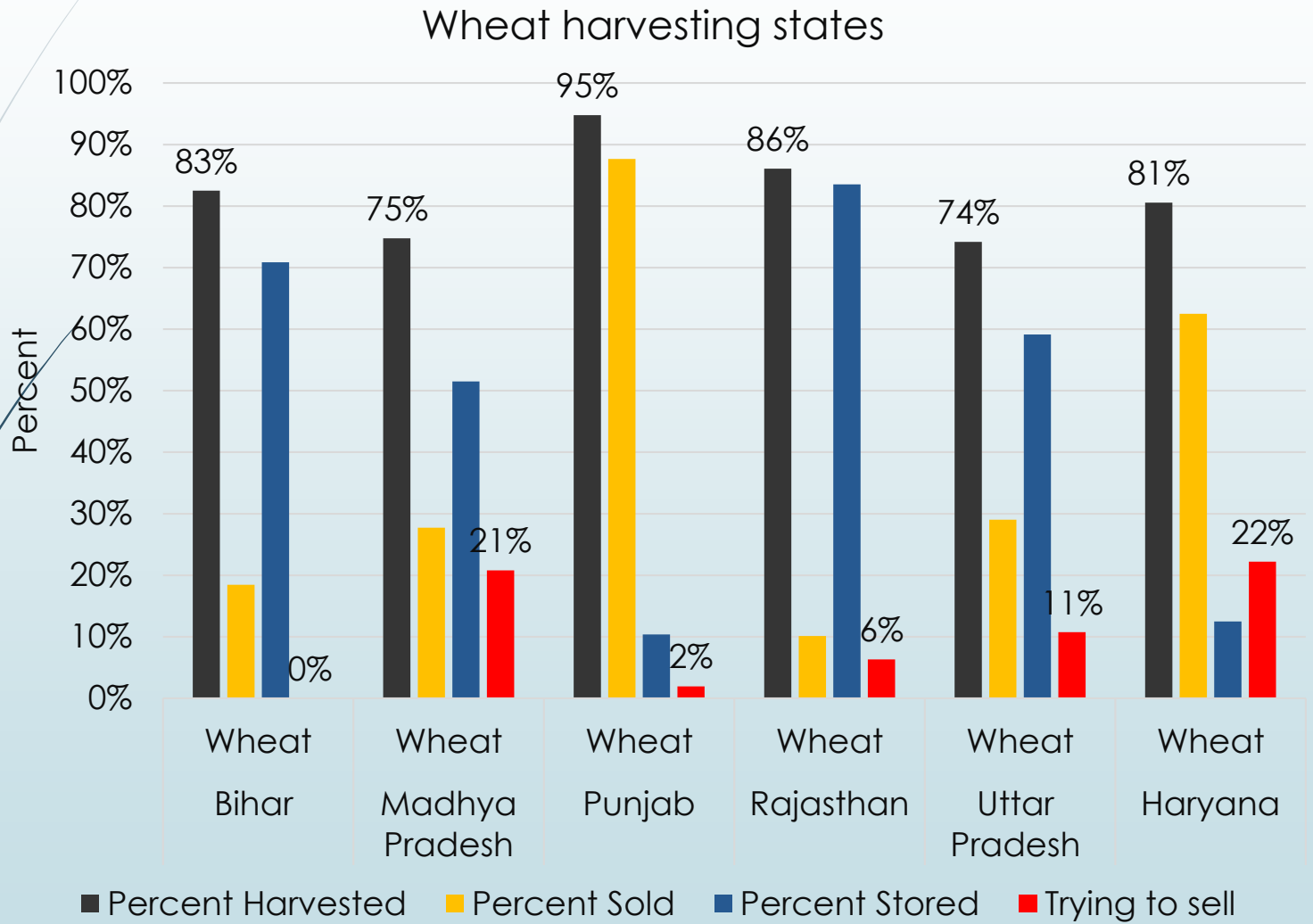


22% stored due to lockdown

## Reasons for storing (%)

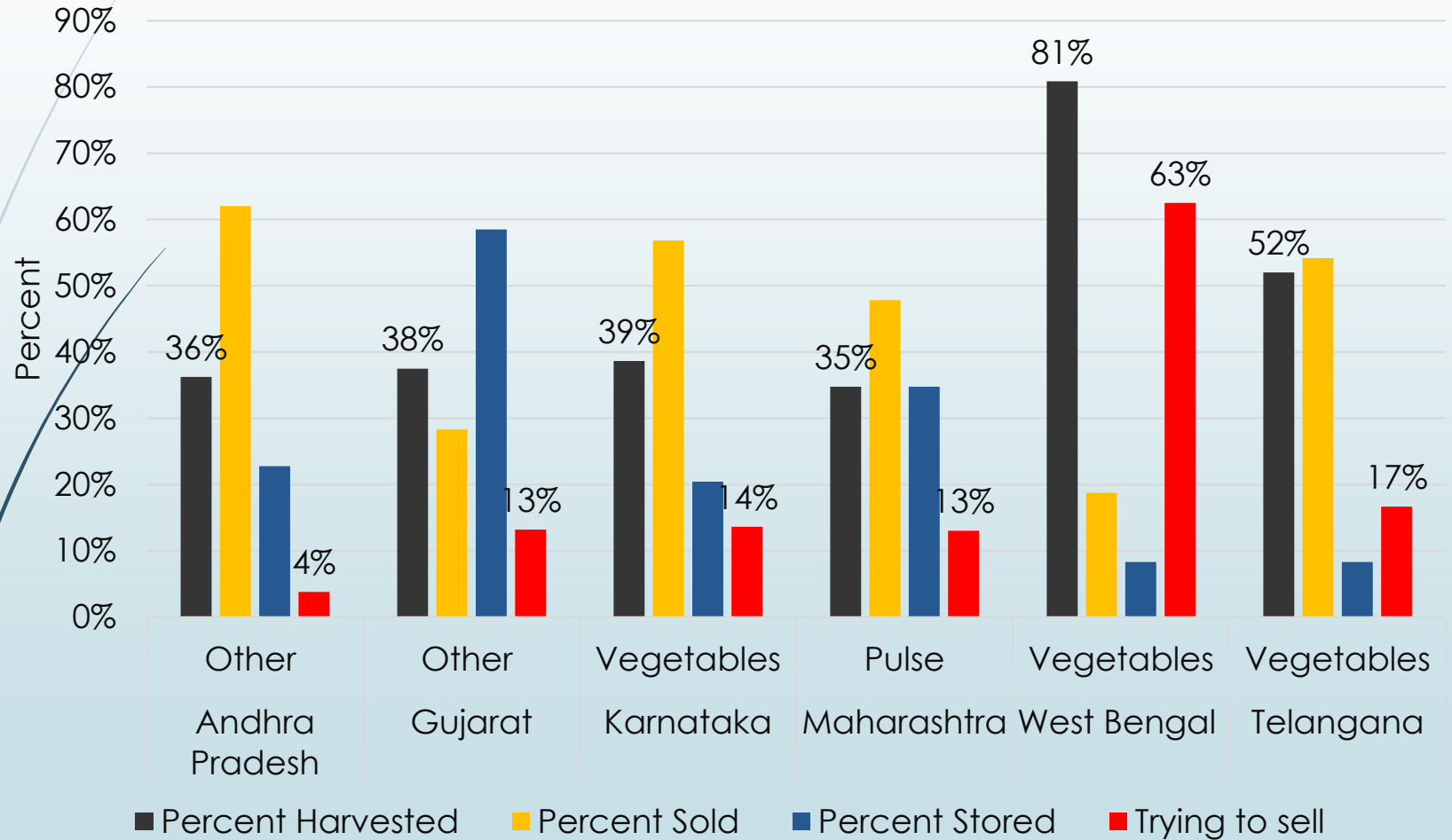


# State-trends



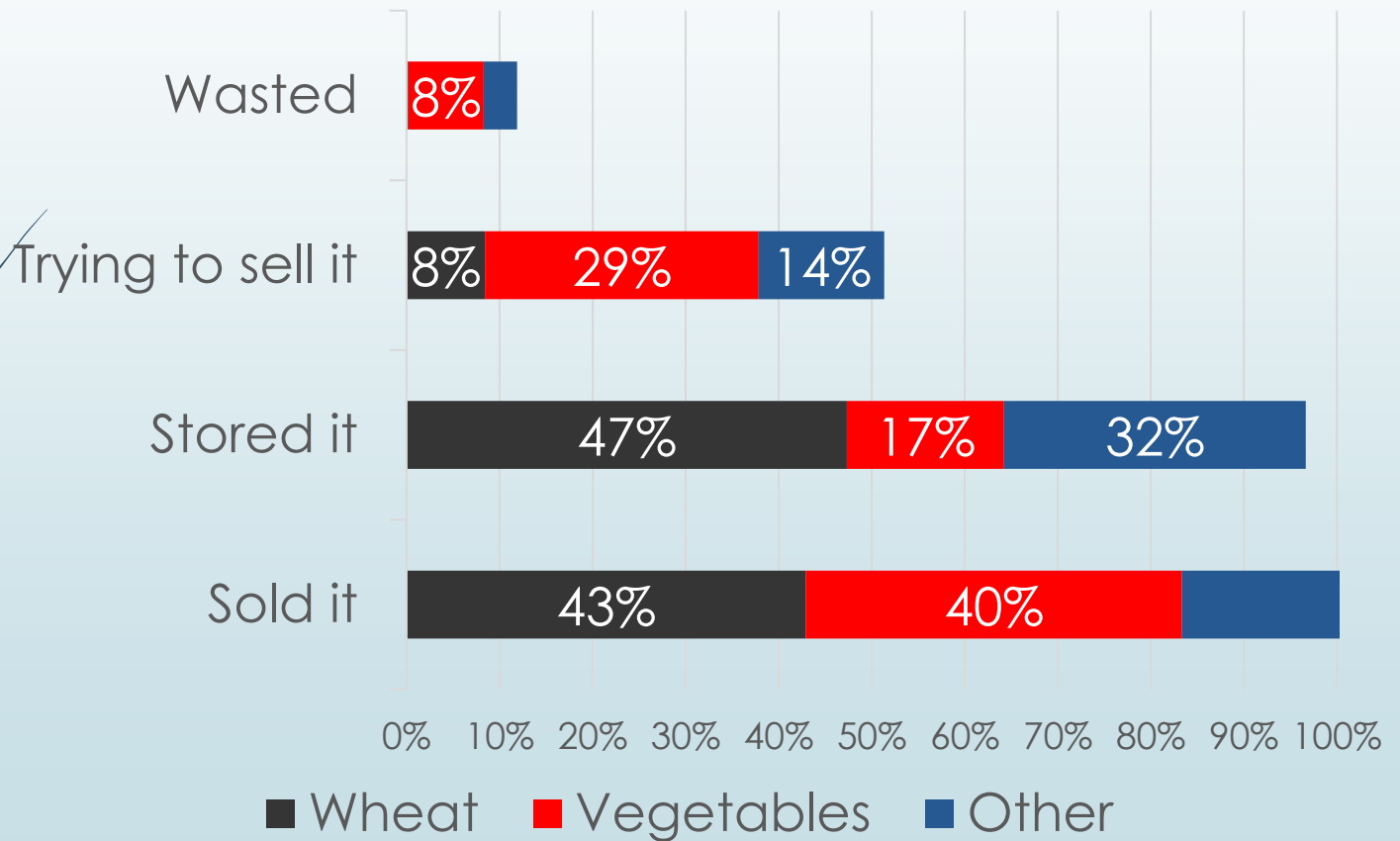
# State-trends

## Non-Wheat States



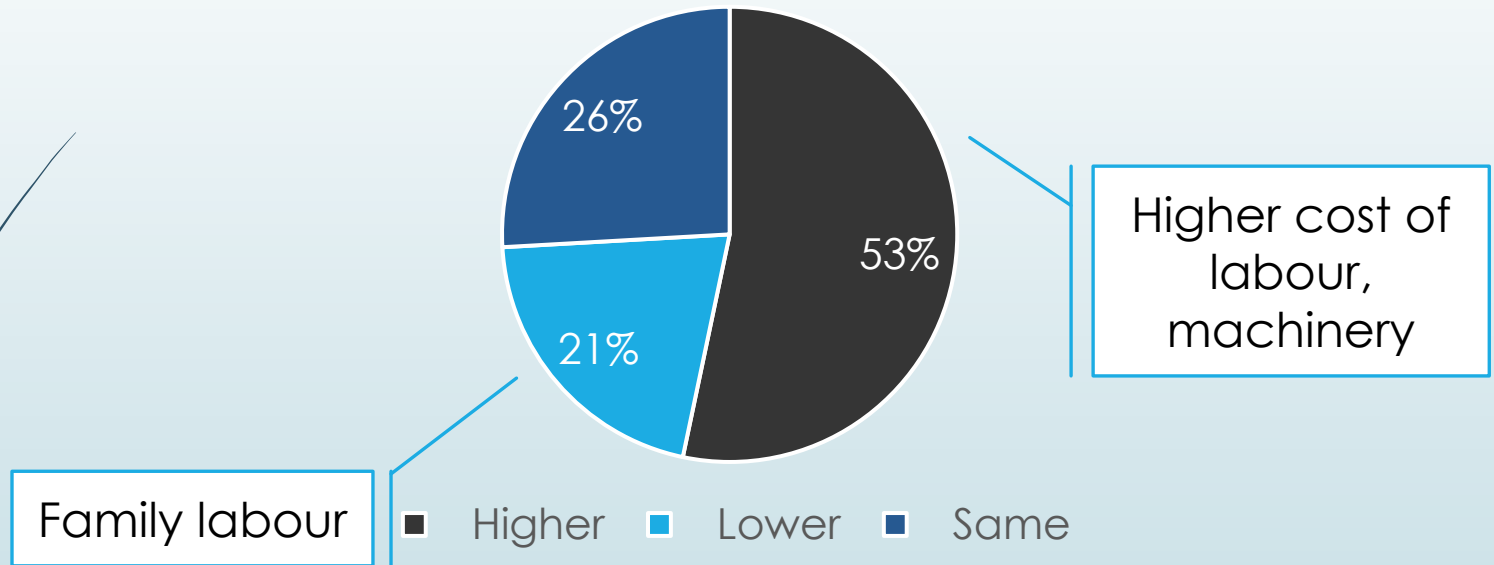
# Crop-wise

## Crop Wise



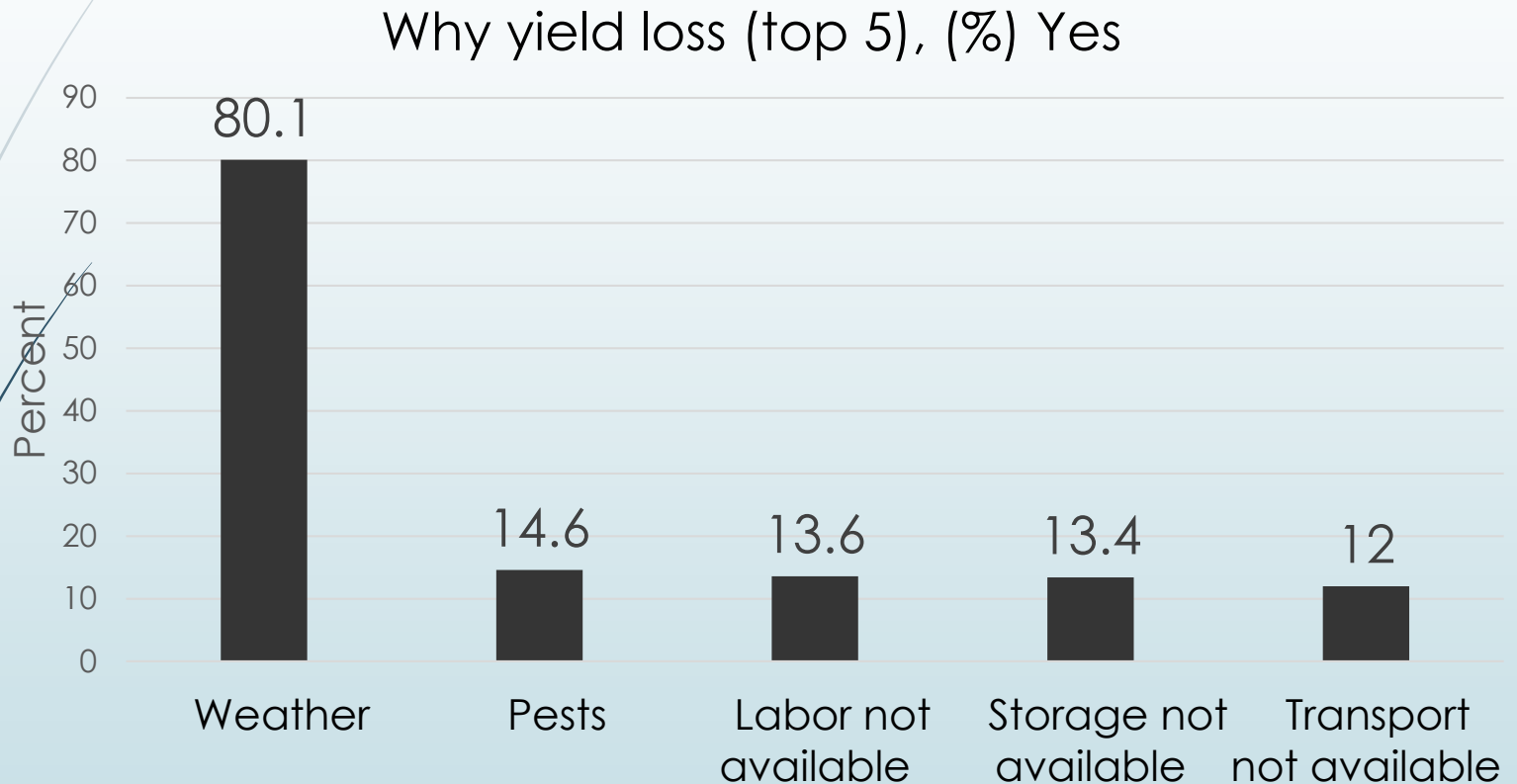
# Change in harvest costs (%)

Change in cost to harvest (%)





# 60% reported yield loss compared to last season

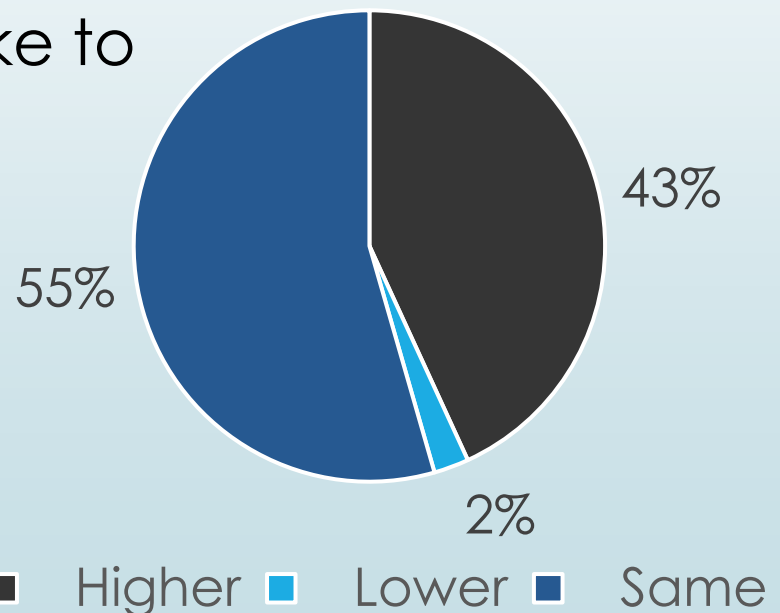


Multiple reasons chosen: Nearly 40% reported lockdown-related issues

# Change in transportation costs (%)

38% incurred transportation costs last year vs. 64% this year (farmers had to take to the market)

57% of wheat farmers and 35% of vegetable farmers reported higher cost



# Upcoming (summer) season

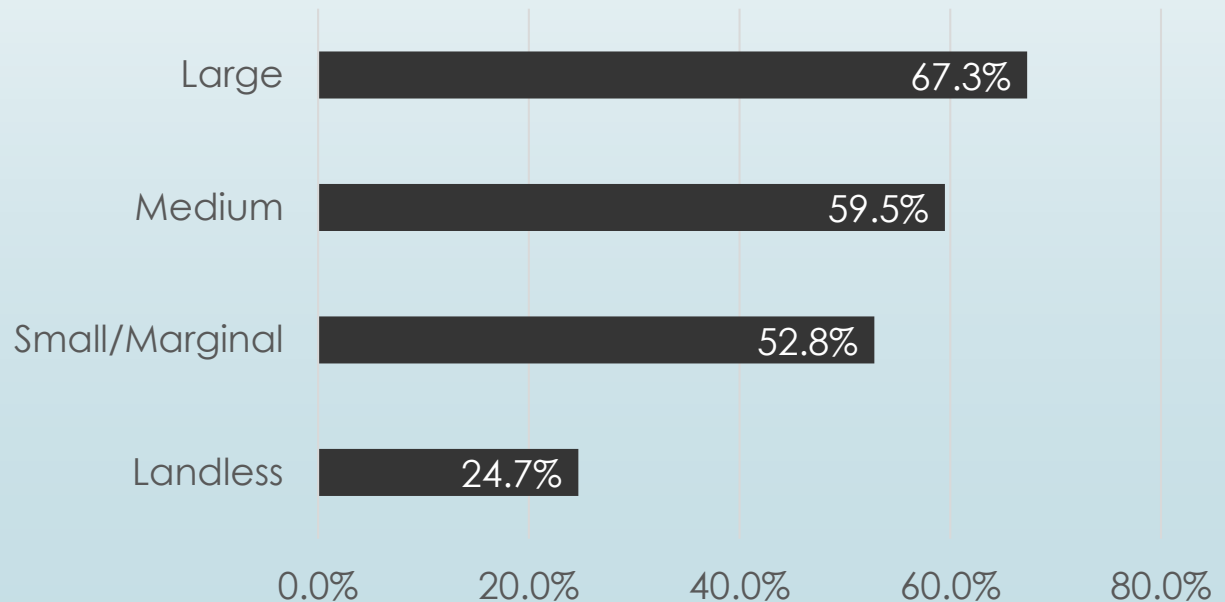
- 56% reported that they anticipate problems for sowing in the upcoming season

High cost of seed and fertilizer (50%)

Unavailability of seed and fertilizer (21%)

Labour shortages (37%)

Lockdown impacting ability to sow next season





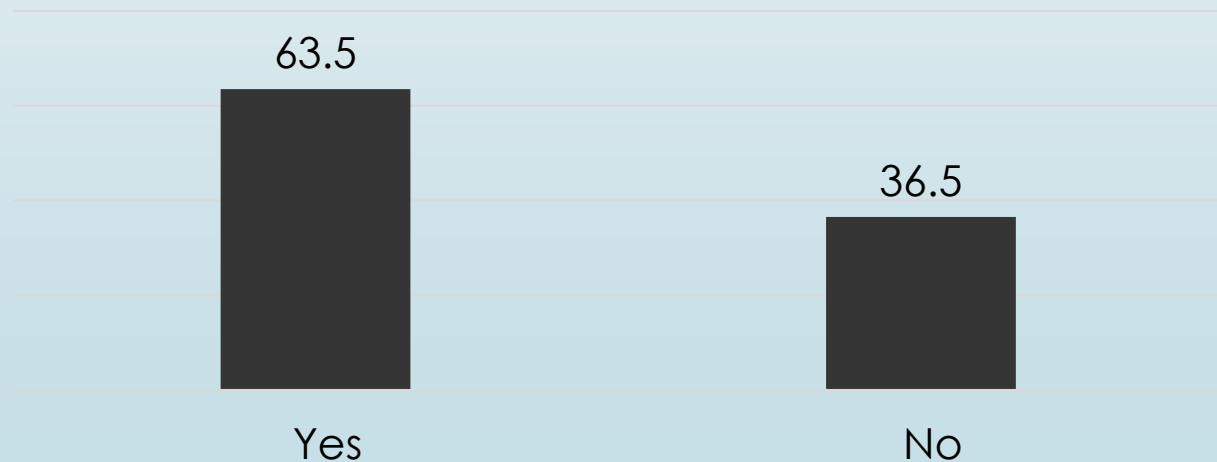


# Other sources of Income

# Livestock

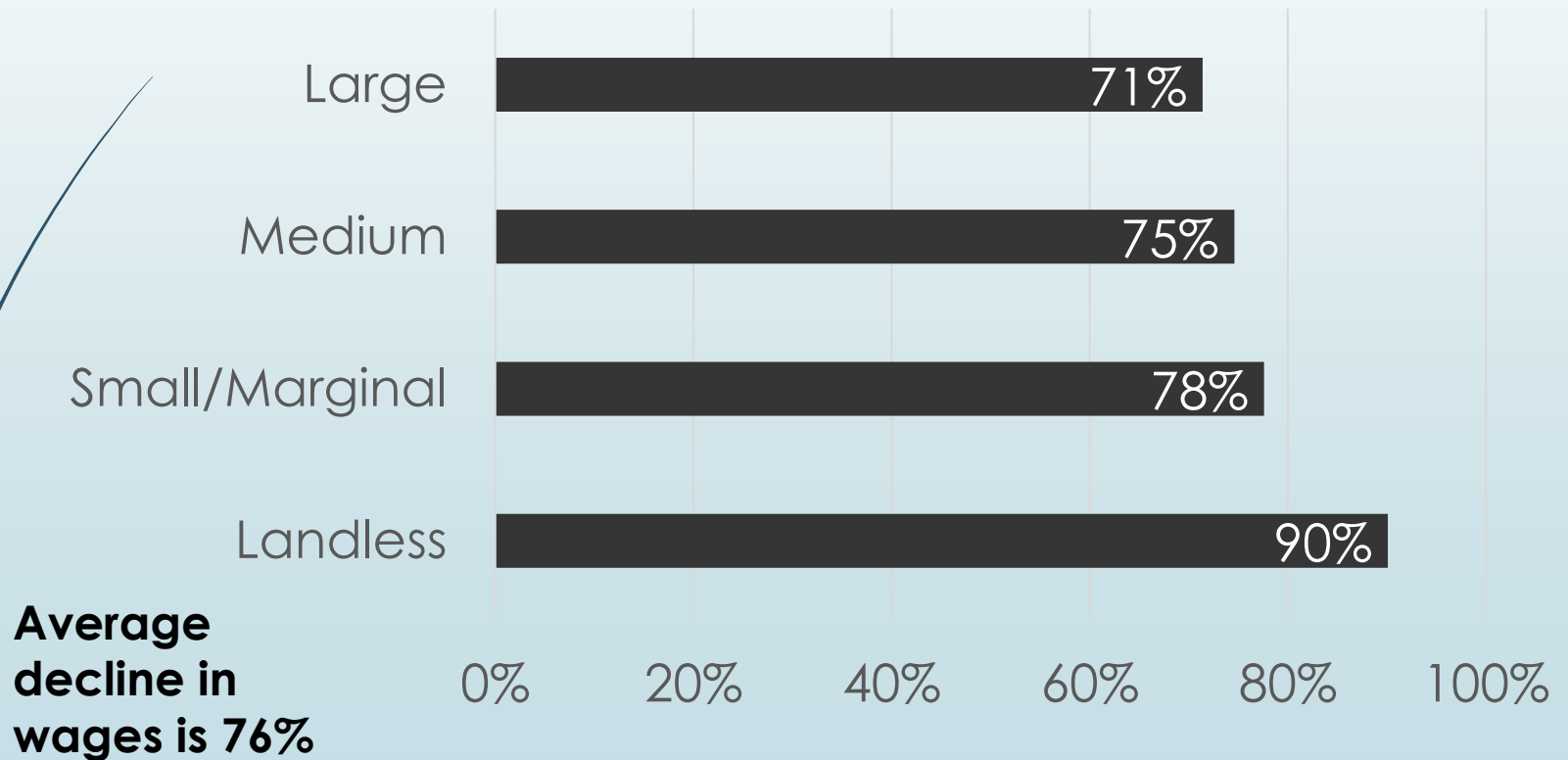
- ▶ 77% reported owning livestock
- ▶ 72% only used for home-consumption, 28% earn income
- ▶ Of those earning an income, more than 60% reported a decline, with an average decline of 36% compared to January/February

Decline in income from livestock since  
January/February (%)



# Percent households reporting loss in wages

35% wage-earning households



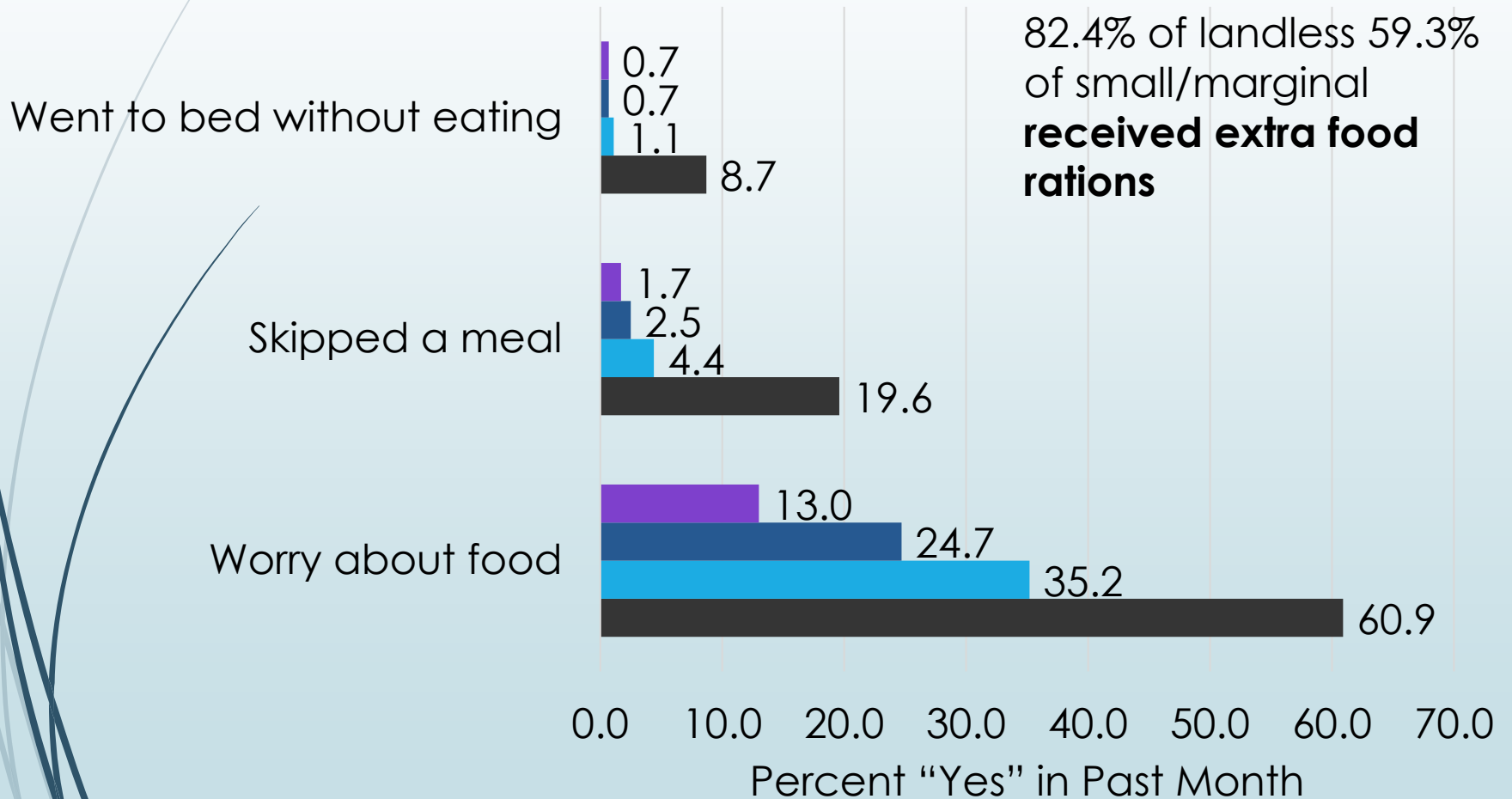


# Food Insecurity

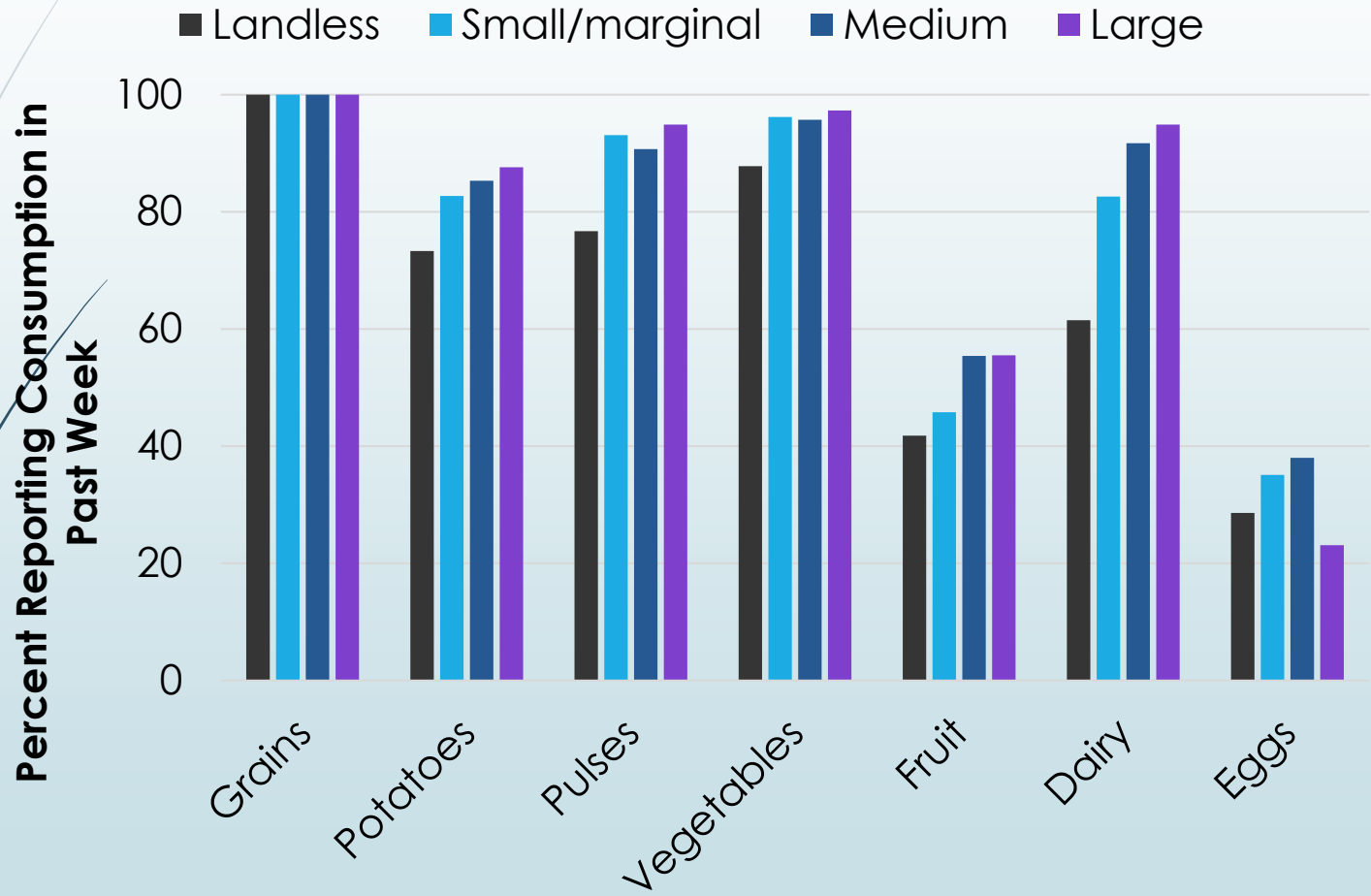


# Food Insecurity

■ Large ■ Medium ■ Small/marginal ■ Landless



# Diet diversity





# Compared to other study

- ▶ Vikas Anvesh Foundation and seven well-known NGOs
- ▶ 5000+ surveys, 47 districts. Mostly lower-income regions
  - ▶ 68% reported reduction in 'items consumed'
  - ▶ 50% reported eating fewer meals
  - ▶ 84% reported Public Distribution System (PDS) support

# Limitations

- ▶ Phone survey
  - ▶ Socio-cultural barriers (wages, livestock)
  - ▶ Length of survey (quantity of food, etc.)
- ▶ Sample size
- ▶ Diverse regional conditions
- ▶ Agriculture is a state subject: root-cause analysis or policy recommendations



# Conclusions- Income loss

- ▶ Income loss from cultivation and livestock
  - ▶ 10% couldn't harvest
  - ▶ 22% stored due to lockdown. Small/marginal farmers had greatest difficulty
  - ▶ Reduction in yield – nearly 40% of participants cited lockdown as a factor
  - ▶ 63% suffered income loss from livestock
  - ▶ Increase in harvest and transportation costs
- ▶ Livestock and wages
  - ▶ 36% reduction in livestock based income
  - ▶ 80% wage-earning households reported reduction in wages
  - ▶ 76% decline in wage income
- ▶ 53% foresaw barriers to sowing in the coming season due to the lockdown



# Conclusions-Nutrition Security

- ▶ Landless farmers were 10 times more likely to skip a meal and small/marginal farmers nearly 3 times more likely as compared to large farmers
- ▶ A majority reported receiving extra food rations from the government, which has likely prevented more severe food insecurity
- ▶ More than 75% of all farmers regardless of size reported consuming grains, pulses, and vegetables in the past week and more than 50% reported consuming dairy and potatoes



## Policy implications

- Marketing was a huge problem and access to market is still restricted. Needs to be eased quickly and effectively
  - Government announced 50% subsidy for transportation and storage expenses
  - Administrative hurdles for small-scale aggregators need to be removed
- Considering this as a national disaster additional 'Input support' for seed and fertilizer is required
- Depressed demand for Fresh fruits and vegetables, animal products may continue. Processing for milk, adding eggs to take-home rations, etc. will help to increase demand
  - Government has already announced
- Access to credit – renewal of bank loans
  - Three-month moratorium
  - Timely issuance of fresh loans



# Continued..

- ▶ NREGA
  - ▶ Increase in NREGA spending is timely. However, families without job-cards need to be issued cards
  - ▶ Wages can be provided in advance
  - ▶ Need to expand the scope of NREGA (into agriculture, etc.)
- ▶ PDS system is effective and needs to be diversified as much as possible and additional ration distribution should continue
- ▶ PM-Kisan funds should be given in a single installment before Kharif to cover income loss
  - ▶ Five states have direct income support measures should also extend the same



We would like to  
express our sincere  
gratitude for the  
time farmers took  
to respond to this  
survey.....

**Thank you**