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

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Study Team

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People dependent on farming: 54.6%
Small and Marginal farmers: 87.00%
Average land holding: 1.15 ha

Incomes of Farm Households in India
- Wages and Salaries: 32%
- Cultivation: 47%
- Livestock: 13%
- Non farm businesses: 8%

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

Source: NSSO, 2014
% Sources of Monthly Income for a Agricultural Household in India

- Cultivation: 35%
- Livestock: 16%
- Govt/Pvt sources: 6%
- Other enterprises: 1%
- Other sources: 34%
- Farm Labor: 14%
- MGNREGA: 2%
- Non Agril: Skilled: 7%
- Non Agril Unskilled: 11%

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
<table>
<thead>
<tr>
<th>State</th>
<th>Enumerator</th>
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</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>Suresh Gaddala</td>
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<td>Andhra Pradesh</td>
<td>Akhil Ravella</td>
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<tr>
<td>Telangana</td>
<td>Hari Krishna Nuole</td>
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<tr>
<td>Karnataka</td>
<td>Karan Peer</td>
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<tr>
<td>Maharashtra</td>
<td>Rahul Khare</td>
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<td>Gujarat</td>
<td>Jahnavi Kanabar</td>
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<td>Rajasthan</td>
<td>Pooja Jhorar</td>
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<td>Punjab</td>
<td>Vikramjit Singh</td>
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<td>Haryana</td>
<td>Diksha Pandey</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>Md. Shazib Siddique</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>Awadesh Kumar</td>
</tr>
<tr>
<td>Bihar</td>
<td>Shakir Ali</td>
</tr>
<tr>
<td>West Bengal</td>
<td>Aparna Bhagat</td>
</tr>
<tr>
<td>Uttar Pradesh, Madhya Pradesh</td>
<td>Prakash Shukla</td>
</tr>
</tbody>
</table>
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 Sanghataan (SKMS), UP
- Mazdoor Kisan Shakti Sanghathan (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
- 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
12 states

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

Highest net sown area

Highest agricultural production
Snowball Sampling

Contacts from civil society networks

Called up to four additional respondents

Response rate: 76%

Collected from May 3rd to May 15th
12 states and 1,429 surveys

Number of Surveys by State

- West Bengal: 123
- Uttar Pradesh: 110
- Telangana: 179
- Rajasthan: 131
- Punjab: 161
- Maharashtra: 54
- Madhya Pradesh: 150
- Karnataka: 101
- Haryana: 76
- Gujarat: 87
- Bihar: 110
- Andhra Pradesh: 147
Participants from 200 Districts

Number of Districts by State

- West Bengal: 10
- Uttar Pradesh: 16
- Telangana: 20
- Rajasthan: 21
- Punjab: 21
- Maharashtra: 11
- Madhya Pradesh: 25
- Karnataka: 22
- Haryana: 13
- Gujarat: 12
- Bihar: 17
- Andhra Pradesh: 12
Respondent Profile

94% Male

Age Groups (%)

- <35 years: 29.3%
- 35-39 years: 14.1%
- 40-44 years: 15.1%
- 45-49 years: 13%
- 50-54 years: 11.6%
- 55-59 years: 6.6%
- 60-64 years: 6.1%
- 65+ years: 4.8%
Respondent Profile

High educational attainment

Educational Attainment (%)

- No formal schooling: 9.1%
- Primary school: 23.2%
- Secondary school: 38.3%
- Grad/Post grad/Professional: 29.3%

Percent
### Distribution by land-size

#### Sample distribution

<table>
<thead>
<tr>
<th>Size class</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;0.01</td>
<td>3%</td>
</tr>
<tr>
<td>0.01 - 0.40</td>
<td>32%</td>
</tr>
<tr>
<td>0.41 - 1.00</td>
<td>35%</td>
</tr>
<tr>
<td>1.01 - 2.0</td>
<td>17%</td>
</tr>
<tr>
<td>2.01 - 4.00</td>
<td>9%</td>
</tr>
<tr>
<td>4.01 to 10.00</td>
<td>4%</td>
</tr>
<tr>
<td>&gt;10.01</td>
<td>0%</td>
</tr>
<tr>
<td>Small + Marginal</td>
<td>87%</td>
</tr>
</tbody>
</table>

Source: NSSO 2014

**Landless**

- 6.7%

**Small/Marginal**

- 52.7%

**Medium**

- 19.9%

**Large**

- 20.7%
Production - Harvest
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
- Maize: 3.4
- Other: 13
What was done with the harvest in past month (%)

- Sold it: 44%
- Stored it: 39.3%
- Trying to sell it: 12.4%
- Not yet decided: 2.4%
- Wasted: 2.1%

Reasons for storing (%)

- Market-related issues: 44.4%
- Home consumption: 51.5%
- Government did not permit: 10.6%
- Transport not available or restricted: 7.4%
- Other: 10.6%
- Needs further processing: 3.1%

22% stored due to lockdown
State-trends

Wheat harvesting states

<table>
<thead>
<tr>
<th>State</th>
<th>Percent Harvested</th>
<th>Percent Sold</th>
<th>Percent Stored</th>
<th>Trying to sell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bihar</td>
<td>83%</td>
<td>0%</td>
<td>2%</td>
<td>0%</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>75%</td>
<td>21%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Punjab</td>
<td>95%</td>
<td>0%</td>
<td>2%</td>
<td>0%</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>86%</td>
<td>6%</td>
<td>11%</td>
<td>22%</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>74%</td>
<td>11%</td>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>Haryana</td>
<td>81%</td>
<td>22%</td>
<td>22%</td>
<td>22%</td>
</tr>
</tbody>
</table>

- Percent Harvested
- Percent Sold
- Percent Stored
- Trying to sell
State-trends

Non-Wheat States

<table>
<thead>
<tr>
<th>State</th>
<th>Percent Harvested</th>
<th>Percent Sold</th>
<th>Percent Stored</th>
<th>Trying to sell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>36%</td>
<td>4%</td>
<td>13%</td>
<td>10%</td>
</tr>
<tr>
<td>Gujarat</td>
<td>38%</td>
<td>13%</td>
<td>14%</td>
<td>20%</td>
</tr>
<tr>
<td>Karnataka</td>
<td>39%</td>
<td>14%</td>
<td>13%</td>
<td>30%</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>35%</td>
<td>13%</td>
<td>13%</td>
<td>40%</td>
</tr>
<tr>
<td>West Bengal</td>
<td>81%</td>
<td>63%</td>
<td>17%</td>
<td>52%</td>
</tr>
<tr>
<td>Telangana</td>
<td>52%</td>
<td>17%</td>
<td>13%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Legend:
- Black: Percent Harvested
- Yellow: Percent Sold
- Blue: Percent Stored
- Red: Trying to sell
Crop-wise

Crop Wise

Wasted
- 8% (Wheat)

Trying to sell it
- 8% (Wheat) - 29% (Vegetables) - 14% (Other)

Stored it
- 47% (Vegetables) - 17% (Other) - 32% (Other)

Sold it
- 43% (Wheat) - 40% (Vegetables) - 17% (Other)

Legend:
- Wheat
- Vegetables
- Other
Change in harvest costs (%)

- Change in cost to harvest (%)
  - Higher: 53%
  - Lower: 21%
  - Same: 26%

Legend:
- Family labour
- Higher
- Lower
- Same

Higher cost of labour, machinery
60% reported yield loss compared to last season

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

Why yield loss (top 5), (%) Yes

- Weather: 80.1%
- Pests: 14.6%
- Labor not available: 13.6%
- Storage not available: 13.4%
- Transport not available: 12%
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
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**

- Large: 67.3%
- Medium: 59.5%
- Small/Marginal: 52.8%
- Landless: 24.7%
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 (%)

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>63.5</td>
<td>36.5</td>
</tr>
</tbody>
</table>
Percent households reporting loss in wages

Average decline in wages is 76%

- Landless: 90%
- Small/Marginal: 78%
- Medium: 75%
- Large: 71%

35% wage-earning households
Food Insecurity
Food Insecurity

- Worry about food: Large 13.0%, Medium 24.7%, Small/marginal 35.2%, Landless 60.9%
- Skipped a meal: Large 0.7%, Medium 1.7%, Small/marginal 2.5%, Landless 4.4%
- Went to bed without eating: Large 8.7%, Medium 1.1%, Small/marginal 0.7%, Landless 0.0%

82.4% of landless and 59.3% of small/marginal received extra food rations.
Diet diversity

Percent Reporting Consumption in Past Week

- Landless
- Small/marginal
- Medium
- Large

Categories: Grains, Potatoes, Pulses, Vegetables, Fruit, Dairy, Eggs
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.
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 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