

FOOD SECURITY DURING PANDEMIC TIMES: INSIGHTS AND PERSPECTIVES FROM RURAL BIHAR



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Background and Scope of Study

- The COVID-19 pandemic and the consequent government-enforced lockdown have adversely impacted peoples' livelihoods
- In Bihar 90% live in rural area, high incidence of out-migration, the flow of remittances decreased loss of income
- In a state where food insecurity was already high, the incidence is likely to have been exacerbated due to the lockdown
- almost half <5 children in Bihar malnourished and two third anemic. Further 60 percent of the women (15-49) were anemic (NFHS4)
- The present study assesses the impact of lockdown on rural household food and nutrition security

Major research questions of the Study

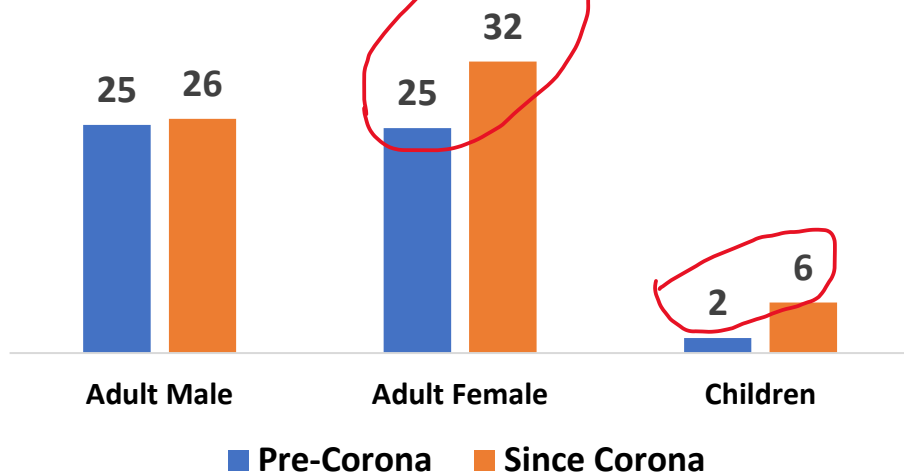
1. To what extent lockdown has affected the availability and access to food of the rural household?
2. To what extent has it affected different segments of the population such as labour households, cultivating households, migrant households and other vulnerable groups?
3. To gauge how effective are the public safety net programmes such as PDS, ICDS, and MDM Scheme in reaching to the beneficiaries.

Sampling and Methodology

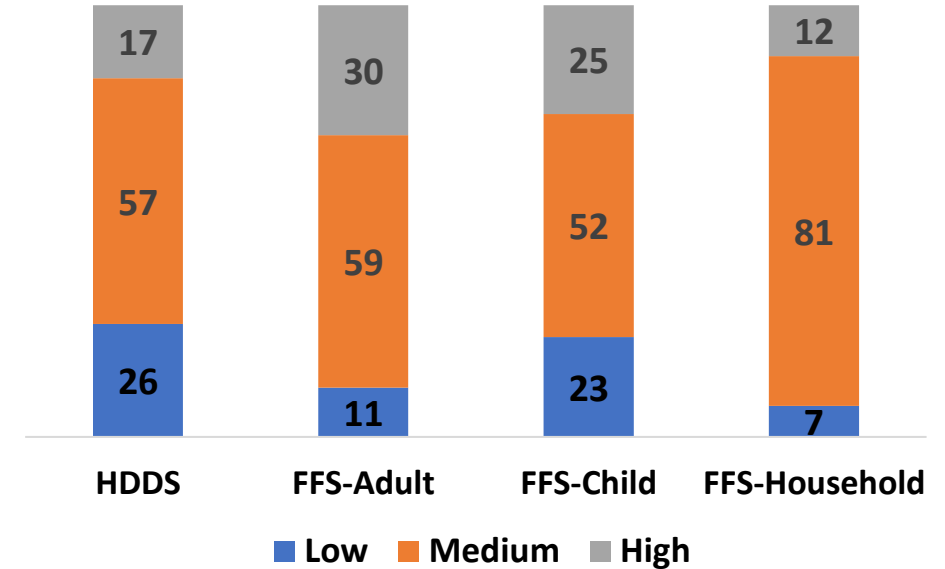
- Telephonic interviews 944 rural households in 12 villages of 7 districts of Bihar (1st round of study 2016).
- Food security was measured based on three indicators:
 - ❖ Dietary diversity score (DDS), (0-12 scale)
 - ❖ Food frequency score (FFS)
 - ❖ Food insecurity experience scale (HFIES). (0-8)
- Ordered Probit model for the determinant of DDS
- Bivariate probit model is used to understand the determinants of food security
- Correlates-Occupational group, caste/religion group, district

Results

% consumed 2 meals or less per day



DDS and FFS (%)



Self Assessed Household Food Insecurity



Correlates of HDDS FFS and HFIES: Household Socio Economic and Demographic Status

- About 1/3 SC/ST remained in the low DDS and 18% high DDS category.
- High DDS is highest among regular wage followed by self-employed in agl and lowest among the casual labour.
- % of households with low FFS is lowest in upper caste and highest in Muslim community.
- % households with low FFS-child is highest among migrant (55%) and lowest among regular salaried households (11%).
- In terms of Self Assessed Food Insecurity 57% casual labour and self-emp in non agl have severe food insecurity whereas 42% migrant severely affected.
- Regular working household least affected.

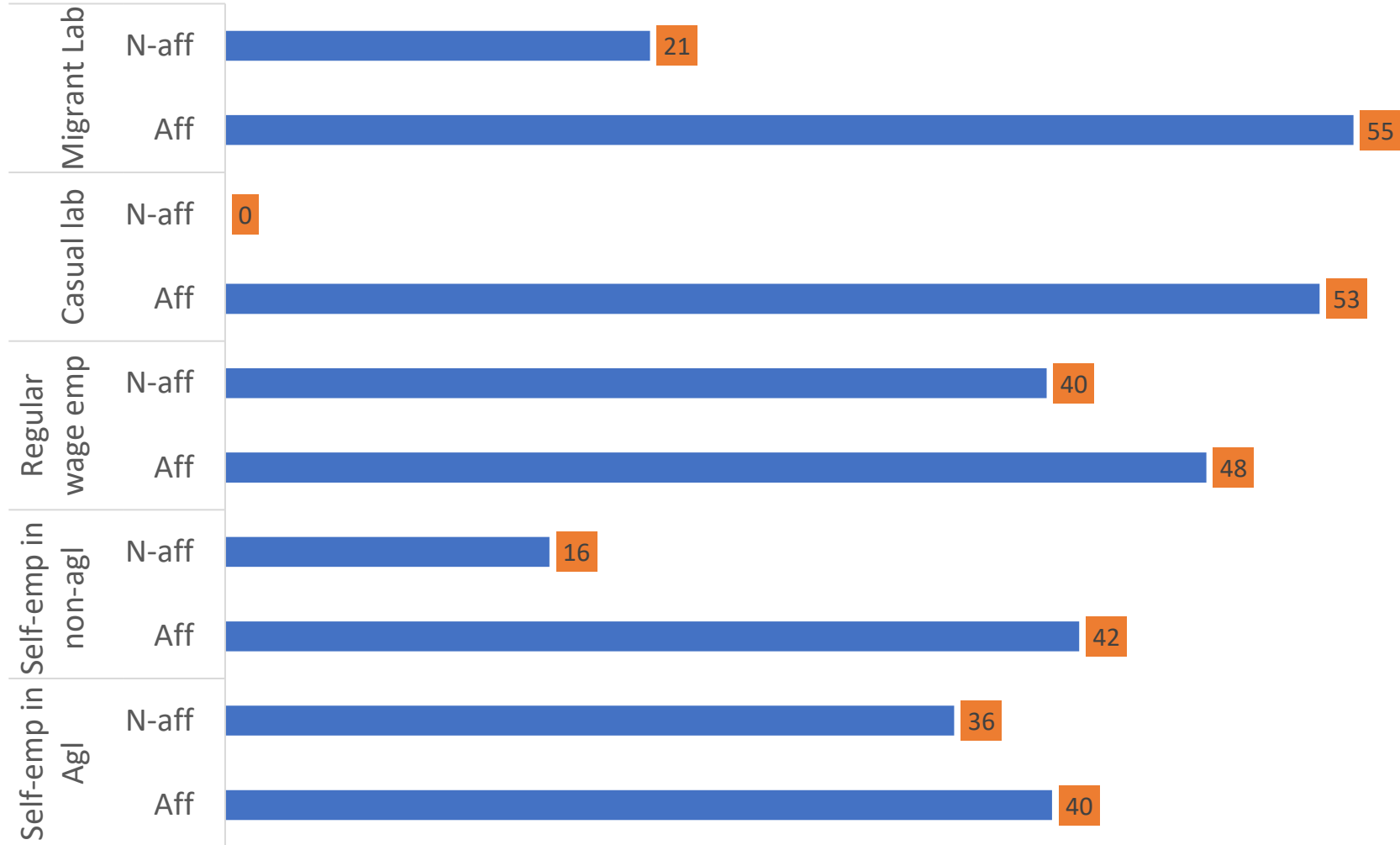
Household DDS and FFS by Type of Livelihood Affected Household

| Main Occupation of Household | Corona Impact | % affected by corona | DDS (%) | | FFS (%) | | | | | |
|------------------------------|---------------|----------------------|---------|------|---------|---------|---------|---------|----|----|
| | | | Low | High | Adult-L | Adult-H | Child-L | Child-H | | |
| Self-employed in Agl | Affected | 40 | 5 | 28 | 14 | 13 | 24 | 8 | 26 | 22 |
| | Not affected | 60 | | 23 | 21 | 9 | 33 | | 18 | 30 |
| Self-employed in non-agl | Affected | 84 | | 32 | 25 | 19 | 18 | | 32 | 16 |
| | Not affected | 16 | 22 | 10 | 31 | 18 | 24 | | 27 | 23 |
| Regular wage employed | Affected | 12 | 36 | 52 | 10 | 11 | 30 | | 10 | 36 |
| | Not affected | 88 | | 16 | 33 | 8 | 42 | | 0 | 68 |
| Casual labour | Affected | 100 | | 56 | 12 | 55 | 11 | | 46 | 13 |
| | Not affected | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 |
| Migrant Labour | Affected | 93 | 22 | 36 | 8 | 22 | 23 | 25 | 47 | 10 |
| | Not affected | 7 | | 11 | 20 | 10 | 24 | | 22 | 21 |

Consumption of Food Groups on Average no of Days/Month

| Food Items | Pre-Corona | Since Corona | Food Items | Pre-Corona | Since Corona |
|--------------------|------------|--------------|-----------------|------------|--------------|
| Cereals | 30 | — 0 — 30 | Eggs | 8 | 75 2 |
| Roots & tubers | 19 | — 32 — 13 | Meat/chicken | 6 | 83 1 |
| vegetables | (P↑ 75) 17 | — 18 — 14 | Fish (P↑) | 8 | 38 5 |
| Ripe fruits | 8 | — 75 — 2 | Pulses | 10 | 80 4 |
| Sweets | 3 | — 100 — 0 | Oils/fats/ghee | 29 | 29 |
| Beverages & Drinks | 4 | | Spices | 30 | 29 |
| Milk | 25 | ↑ 8 - 27 | Item outside HH | 10 | 90 1 |

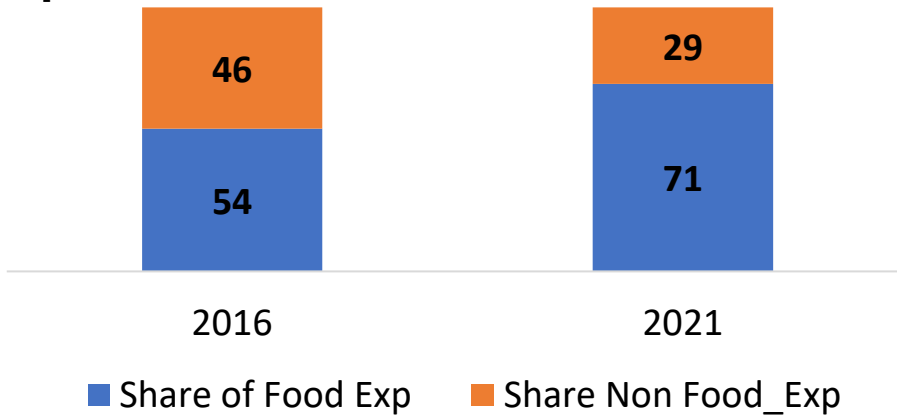
% having Severe Food Insecurity among Affected and not Affected



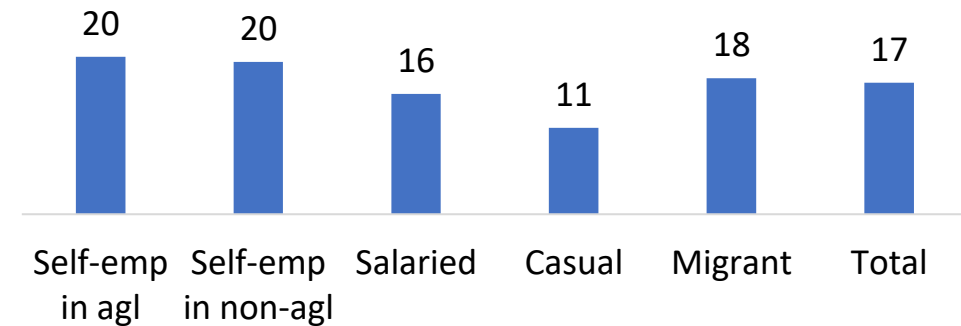
Monthly Per Capita Consn Expenditure 2016-21

| | Mean (Rs) |
|-----------------------|-----------|
| MPCE_2016 | 1533 |
| MPCE_2021 | 1622 |
| Monthly food_2016 | 3815 |
| Monthly food_2021 | 6078 |
| Monthly non food_2016 | 4961 |
| Monthly nonfood_2021 | 2838 |

Share of Food and Non-Food Consumption Expenditure



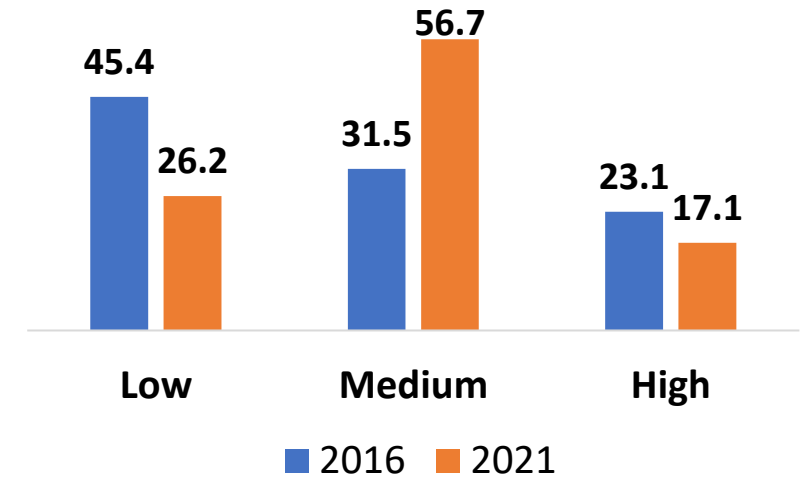
% point increase in food consn exp between 2016 to 2021



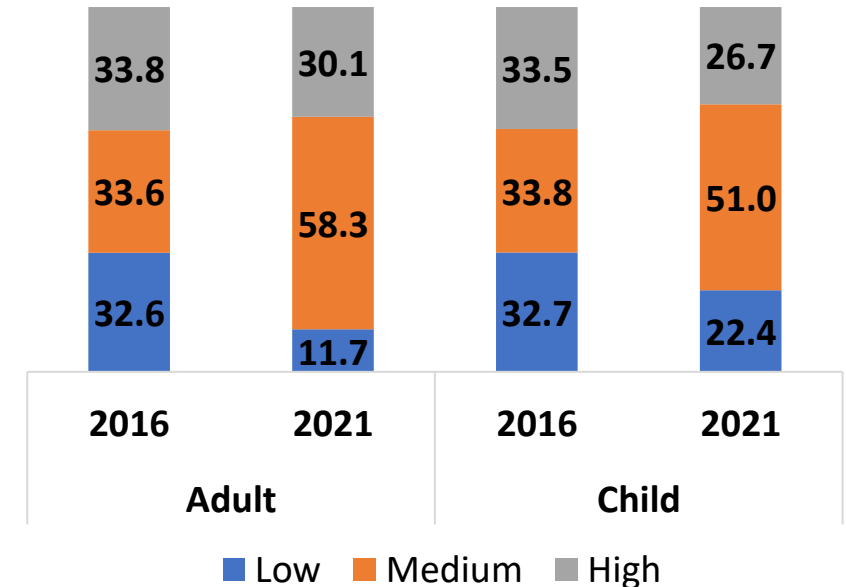
Change of Diet Diversity of Households in Rural Bihar before and during COVID-19 Outbreak

| | Incr ease | Decr ease | No change |
|------------------------------------|-----------|-----------|-----------|
| Cereals | | | 100 |
| Roots & tubers | 18 | 6 | 76 |
| Dark green/Yellow leafy vegetables | 5 | 42 | 53 |
| Ripe fruits | 3 | 10 | 87 |
| Sweets | - | 5 | 95 |
| Beverages & Drinks | - | 2 | 98 |
| Milk | 10 | 50 | 40 |
| Eggs | 12 | 7 | 81 |
| Meat | 7 | 5 | 88 |
| Fish | 9 | 8 | 83 |
| Pulses | 15 | 32 | 53 |
| Oils/fats/ghee | | | 100 |

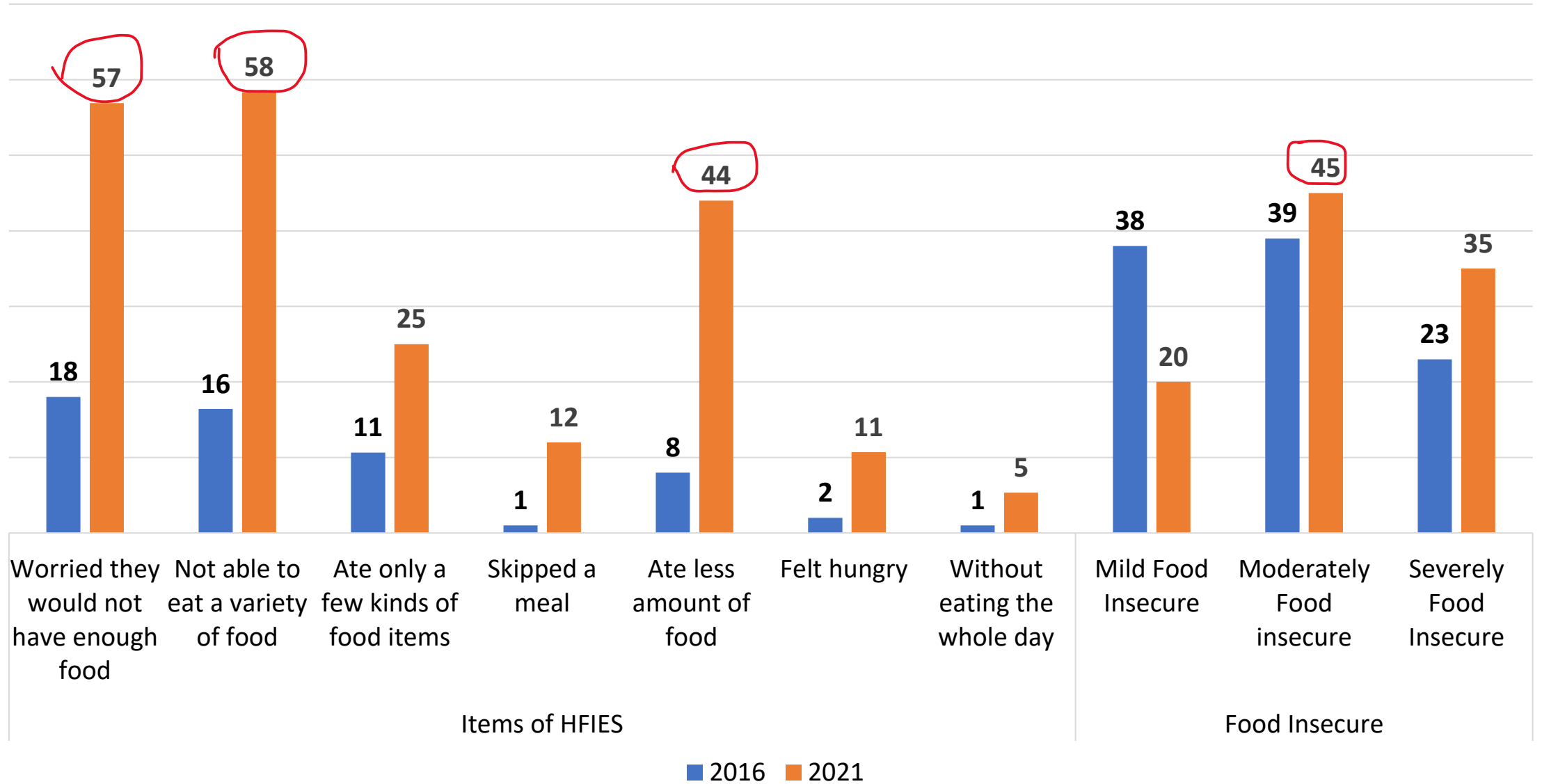
HDDS in 2016 and 2021 (in %)



FFS in 2016 and 2021 (in %)

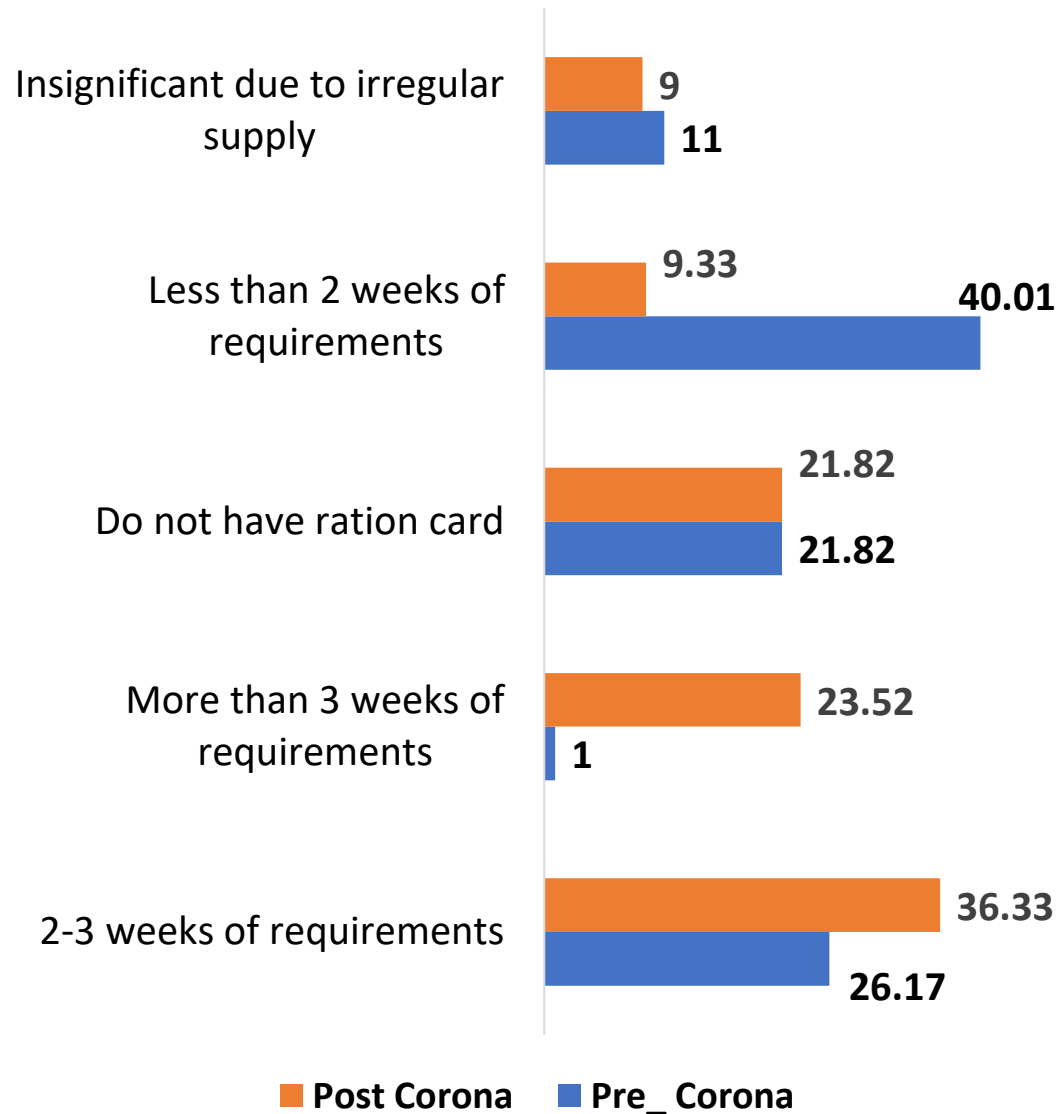


Food Security Situation in before and during Covid-19 Period (in %)



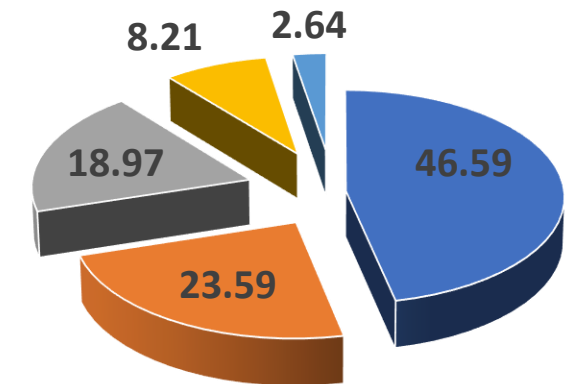
Role of Government Programme to Mitigate Food Insecurity During COVID-19 Outbreak

PDS Supports during COVID-19 Outbreak (in %)

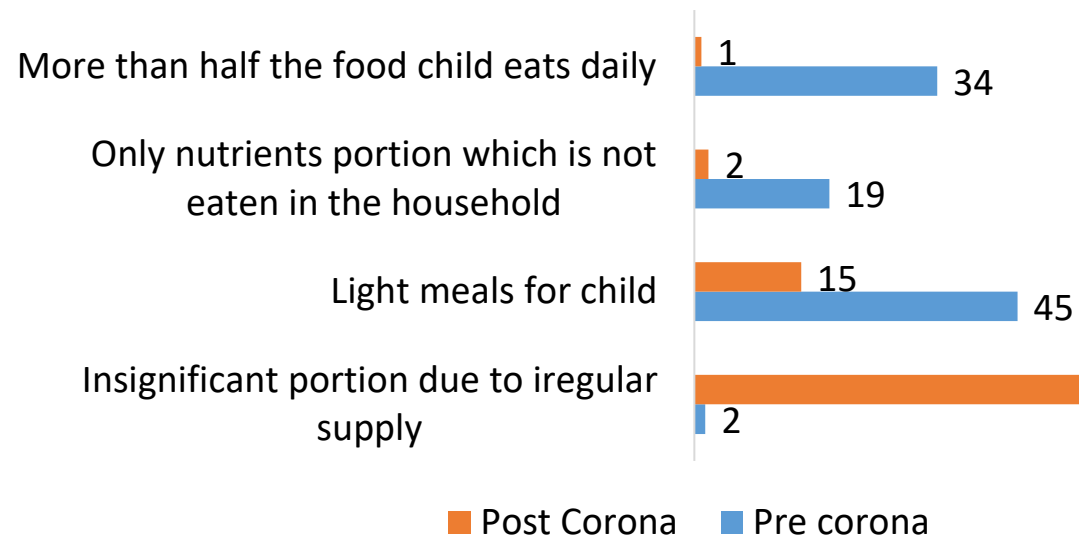


Frequency of Receiving Food Supplement for 0-6 children During Covid-19 Outbreak

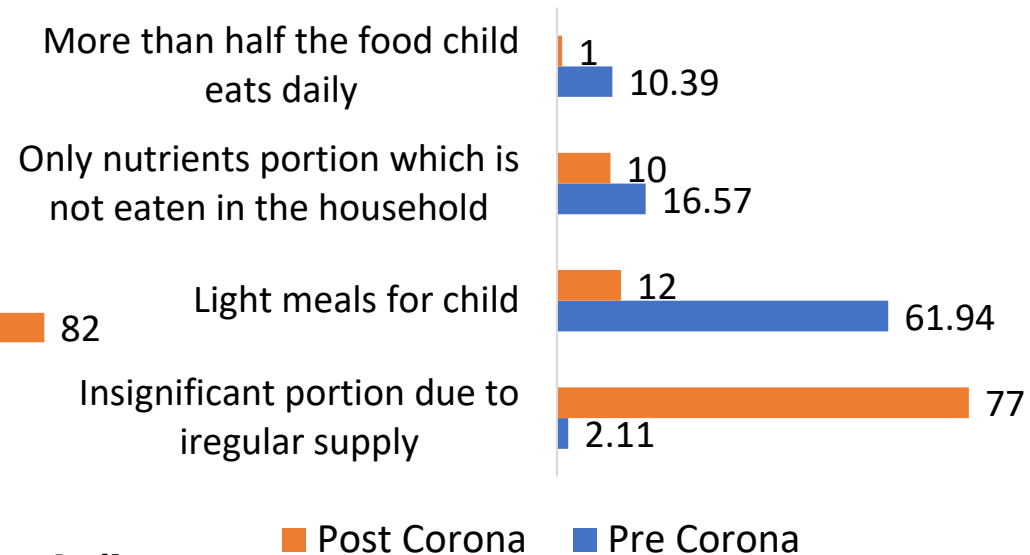
- Not received
- Rarely
- Sometimes
- Mostly
- Received cash transfer



THR supports child nutrition during Pre and Post Covid period (in %)



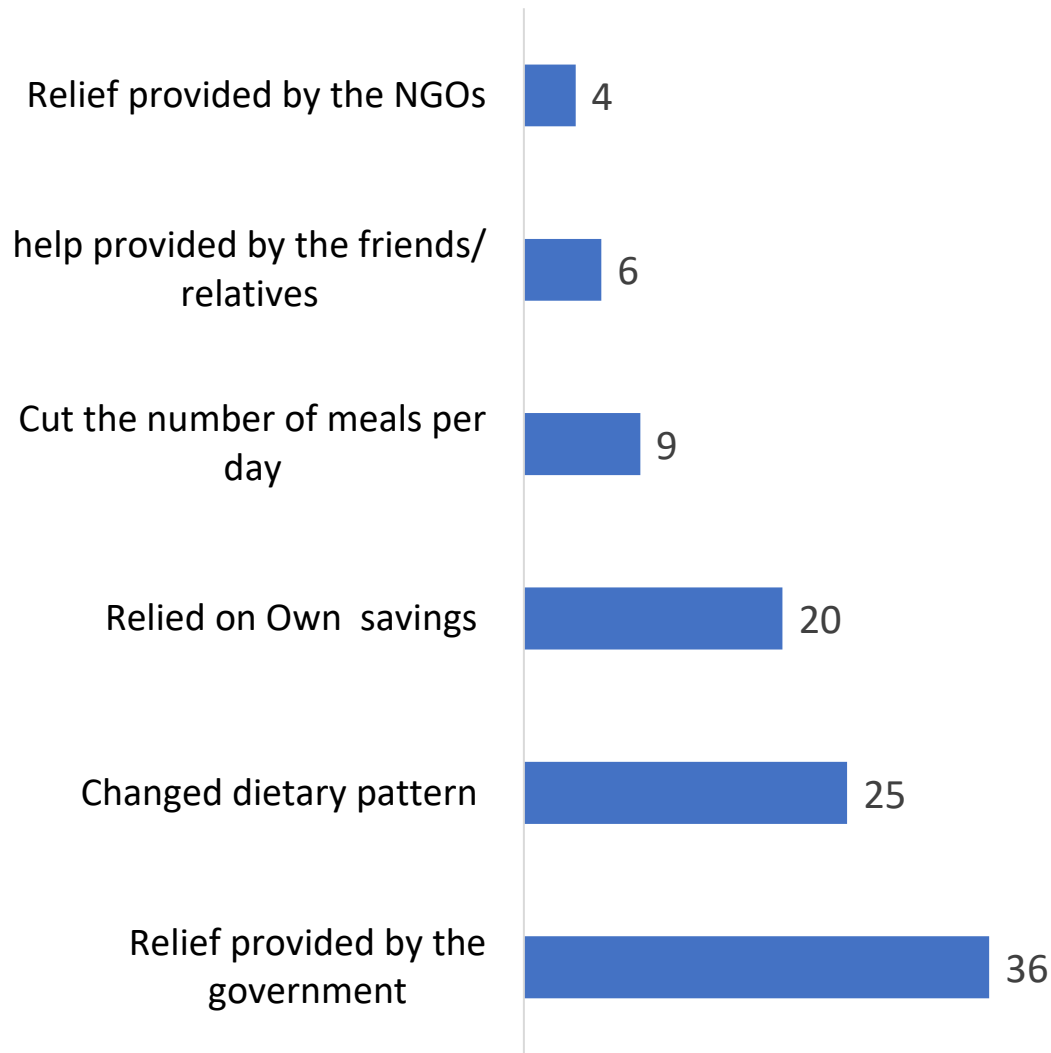
MDM supports for school going child nutrition during Pre and Post Covid period (in %)



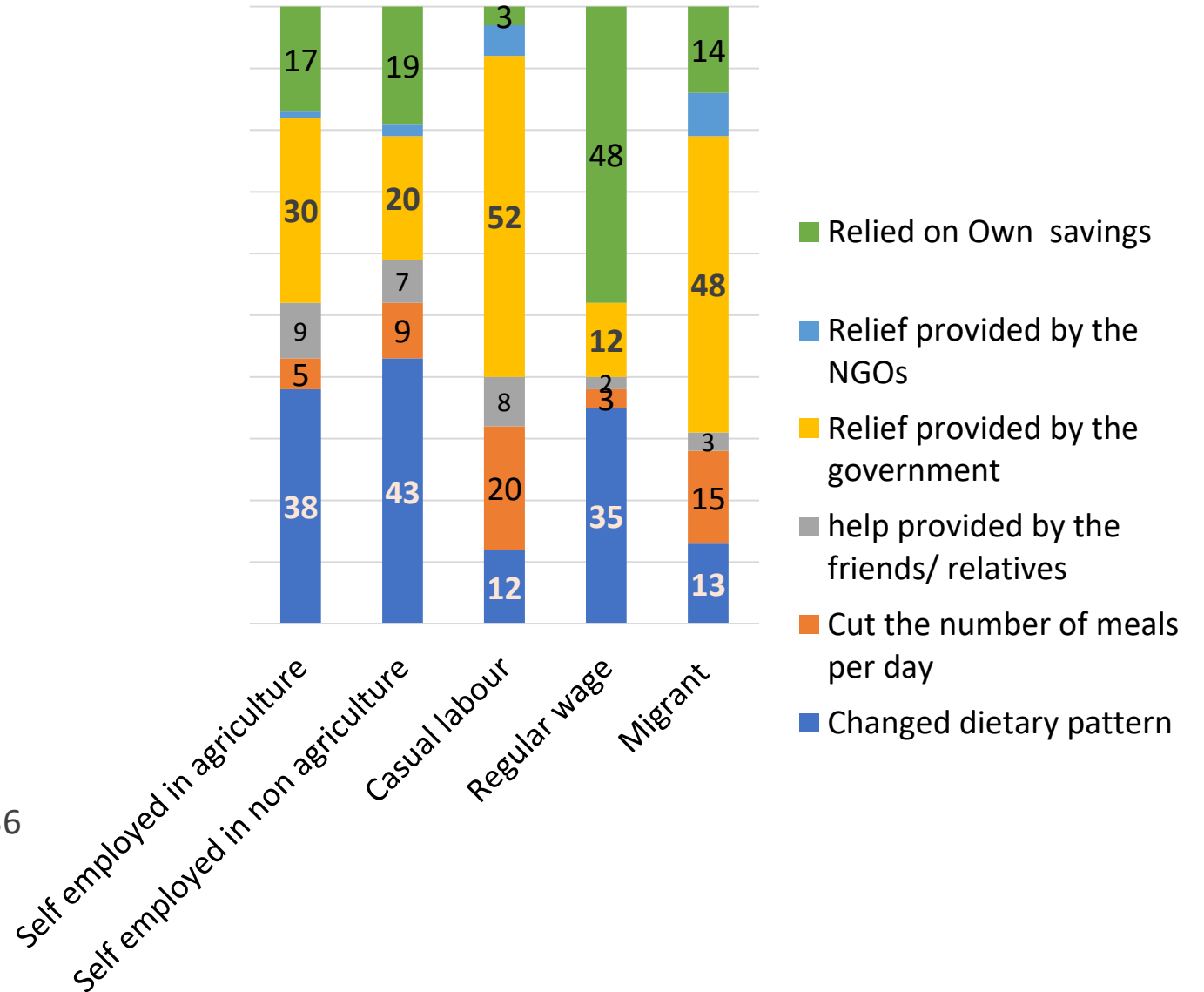
Regular Services Available at AWC During COVID-19 Outbreak (in %)

| | Pre-Corona | Since Corona |
|------------------------------------|------------|--------------|
| Take Home Ration | 61 | 23 |
| Cooked Hot Meal at AWC | 66 | 0 |
| Growth monitoring | 60 | 10 |
| Health Check-up at AWC | 65 | 42 |
| Health facilities for SAM children | 6 | 0 |
| MUAC measurement | 12 | 5 |
| Immunization at AWC | 80 | 65 |

Coping Strategy Opted by the Households to smooth the Consumption (in %)



Coping Strategy To Smooth Consumption by Households Main Sources of Livelihood(in %)



- Relied on Own savings
- Relief provided by the NGOs
- Relief provided by the government
- help provided by the friends/relatives
- Cut the number of meals per day
- Changed dietary pattern

Findings from Marginal effect from Ordered Probit Model

- ❑ If migrant HH affected since Corona, then it was 9 percentage points more likely that they would have low DDS
- ❑ If migrant HH not affected 17 percentage points more likely that they would have high DDS
- ❑ If the HH received in PMJDY account, it was 11 percentage points more likely that the households would have high DDS
- ❑ If the HH received in PMJDY account 8 percentage points less likely for such households to have low DDS.
- ❑ Households in Gopalganj and Rohtas were likely to have higher DDS while Purnia and Araria were likely to have low DDS than Gaya district.

Policy Recommendation

- Cash transfer to beneficiaries for ICDS/MDM/School
- Increase of manpower at AWCs for routine work
- Revival of the economy through more employment opportunities that indirectly ensure the food security
- Improving the last mile connection for PMJDY transportation restrictions/ obstacles in accessing banks/awareness.
- PMGKY is helpful but regular ration for some HH decreased

Policy Recommendation

- A large of migrant households excluded from 'lists' of PDS beneficiary due to lack of documents, or not making the eligibility criteria.
- Government should plan for the programmes like 'nutrition bar' that is rich in iron, calcium and protein implemented in Kerala which may cater to the nutrition deficiency among underweight children.
- In the long term to improve the dietary diversity in food consumption government should encourage the kitchen garden among the rural households. This model has successful in some part of India.

Thank You