

Assessing food security status among urban and rural vulnerable groups of Sri Lanka during COVID-19: Preliminary findings from a longitudinal study

Kate Sinclair¹, Quinn Marshall², Renuka Silva³, Mairiann Sun¹, Andrew L. Thorne-Lyman², Jessica Fanzo⁴

¹ United Nations World Food Programme; ² Bloomberg School of Public Health, Johns Hopkins University; ³ Department of Applied Nutrition, Wayamba University of Sri Lanka; ⁴ Nitze School of Advanced International Studies, Johns Hopkins University

Introduction

Rationale

- Measures to contain the spread of the Covid-19 virus have important consequences for food security and livelihoods of populations in many countries.
- These measures have varied considerably by country, and understanding the landscape and consequences at a country level is important to shape responses, particularly for poor populations at greater risk. Yet, little evidence exists for evidence based response.

Objective

- To assess food insecurity among three of Sri Lanka's most vulnerable population groups and better understand how these groups have been impacted by COVID-19

Methodology

- Longitudinal study design
- Purposive sampling was used to target three vulnerable sub-populations: urban poor, estate communities, and rural smallholder farming households



Data collection

- Telephone surveys across 12 districts

Baseline	1 st Follow-up
September through October 2020	March through April 2021
N=1,020 household surveys	N=711 household surveys

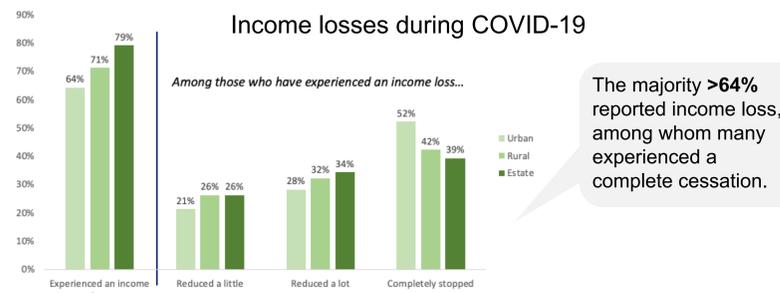
Questionnaire modules included:

- Sociodemographic characteristics
- Perceived impacts of COVID-19
- Food Insecurity Experience Scale (FIES)

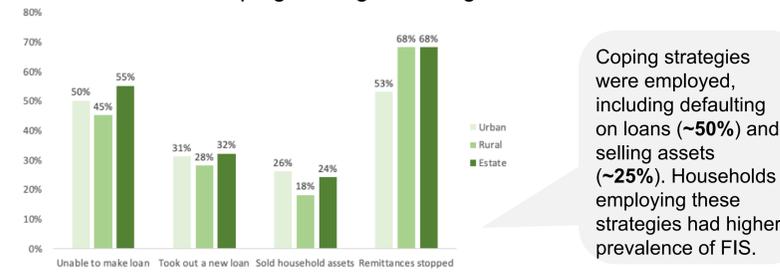
- To assess changes since COVID-19, retrospective questions were used with time frames aligning with the severity of the pandemic and the implementation of mitigation initiatives

Results

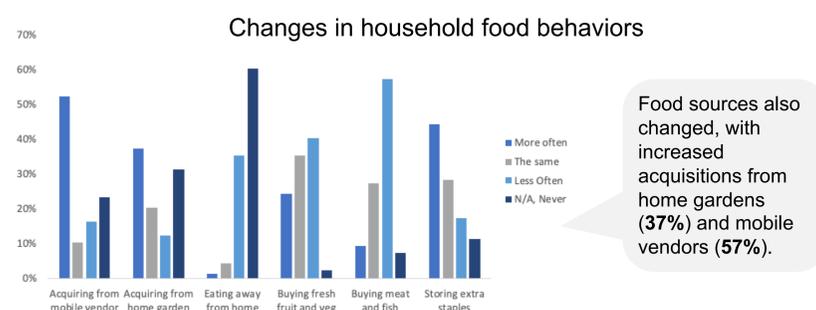
Income losses during COVID-19



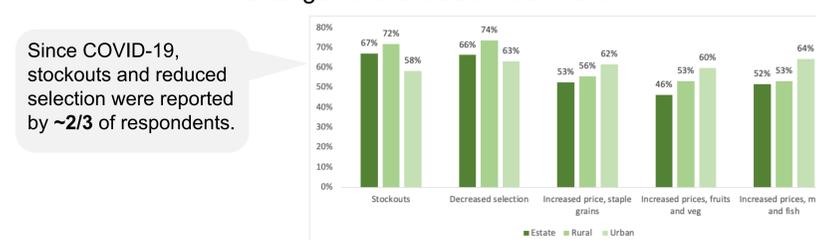
Coping strategies during COVID-19



Changes in household food behaviors

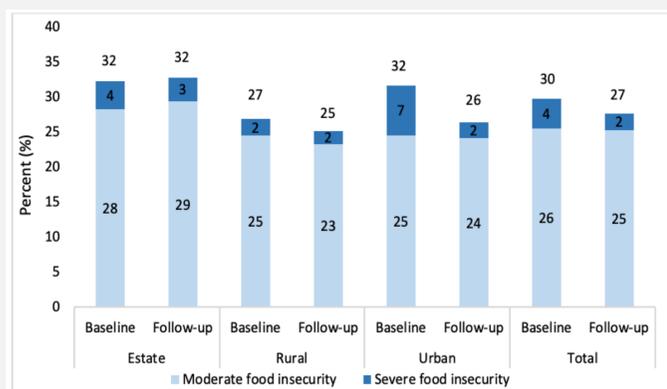


Changes in the food environment



Longitudinal Analysis

Prevalence of moderate and severe food insecurity



- Analyzed using the Food Insecurity Experience Scale
 - Across sub-populations, **nearly one-third of the sample was food insecure at baseline and was highest among the urban poor and estate households**
 - Food insecurity **remained relatively stable from baseline to follow-up**
 - Moderate food insecurity remained ~25%, while severe decreased from 4 to 2%
- Transitions into or out of food insecurity from baseline to follow-up:
- Of those *food insecure* at baseline (n = 157), **51% stayed food insecure at follow-up**; 49% transitioned out of food insecurity
 - Of those *food secure* at baseline (n = 521), **88% remained food secure**; 12% transitioned into food insecurity

Key preliminary findings from logistic regression models, using generalized estimating equations (GEE) to estimate the odds of being food insecure at baseline and follow-up

Compared to those with no income change, households with a:



- complete stoppage** in their income had **7.16 times** higher odds of food insecurity (OR 7.16, CI: 4.57 - 11.2)
- large decreases** in their income had **5 times** higher odds of food insecurity (OR 5.01, CI: 3.12 - 8.06)
- small decreases** in their income had **1.72 times** higher odds of food insecurity (OR 1.72, CI: 1.00 - 2.95)



- Female respondents, younger individuals, and heads of household with lower levels of education** were significantly more likely to experience food insecurity

Limitations

- Sample size was smaller than desired – overall non-response was 34%, with higher rates in urban and rural sectors
- Selection bias is possible (people responding to the SMS may be more likely to have experienced food insecurity)
- Duration of baseline data collection longer than planned
- Delays in attaining phone numbers may lead to recall bias as the time since the initial outbreak and lockdown increased
- Drop out in follow-up (~30%)

Conclusions

- The COVID-19 pandemic, including its mitigation measures, are adversely affecting food availability and access
- Sustained high prevalence of food insecurity among these populations requires timely and effective intervention
- Reduction in income and subsequent coping mechanisms employed have the potential to amplify the pre-existing nutrition and health challenges in Sri Lanka
- Findings can inform policy and program interventions to protect food security and address existing inequities within food systems to better support high-quality diets and nutrition
- Phone surveys were an effective method for collection of food security information, despite some challenges



Acknowledgements

We are grateful for the funding received from the Johns Hopkins Alliance for a Healthier World Launchpad Grant as well as the World Food Programme. We extend a sincere thank you to all the enumerators from Wayamba University for their diligent data collection efforts.

