

# *"Food prices were high, and the dal became watery"*

Mixed-method evidence on household food insecurity  
and children's diets in India



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# Food security



## **SUSTAINABLE DEVELOPMENT GOAL 2**

End hunger, achieve food security and  
improved nutrition and promote  
sustainable agriculture



# Indian food security challenge

**1 out of 9 undernourished globally (94 million<sup>a</sup>)**

**~60% children under-5 year anaemic<sup>b</sup> and with vitamin-A deficiency<sup>c</sup>**

**38% of children under5 are chronically malnourished<sup>b</sup>**

**2018 National Nutrition Mission  
2013 National Food Security Act**

Source: <sup>a</sup> FAO FAOSTAT (<http://www.fao.org/economic/ess/ess-fs/ess-fadata/en/#.Wa0ns4qQy18>)

<sup>b</sup> International Institute for Population Studies,

<sup>c</sup> WHO Global Database on Vitamin A deficiency ([http://apps.who.int/iris/bitstream/10665/44110/1/9789241598019\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/44110/1/9789241598019_eng.pdf))

<sup>d</sup> NCD risk collaboration (<http://www.ncdrisc.org/index.html>)

# Food insecurity and child development

- 41% of children below 15 years globally live in a household where an adult member is food insecure (Pereira et al 2017)
- Literature (most from the US) has shown that household food security critical for healthy child development (Belachew et al 2011, 2013; Fram et al 2015; Jyoti et al 2005)

# What do we know about children's experiences of food insecurity in LMICs?

## ➤ **Very little!**

- Evidence disproportionately focused on the US, little literature focusing on low- and middle-income countries
  - Lack of mixed method studies
  - Existing literature has focused either on mothers and young children, or adults
- Older children and adolescents defined as the **“forgotten population”** in food security literature (Hadley et al 2009)

# Why we should care?

- School-age children and adolescents **experiences of food insecurity** may differ from those of young children or adults given:
  - Different needs and agency, time use, exposure to public programmes
  - Status within the household
  - In turn, all these factors may vary by age & gender
- Also, evidence gap with regards to children's **mechanisms to manage** food insecurity, as well as **perception of public programmes**
- Experience of food insecurity at home during school-age and adolescence, and related coping strategies to food insecurity, can shape their health, education, labour and fertility transitions
- **Particularly relevant for India**
  - Median age is 27 years, largest youth population globally
  - Investing in youth critical for “demographic dividend”

# What do we do in this paper?



➤ Use **longitudinal mixed methods** to investigate the relationship between **household food insecurity** and **child dietary quality** among two cohorts of children and adolescents in Andhra Pradesh and Telangana (India)

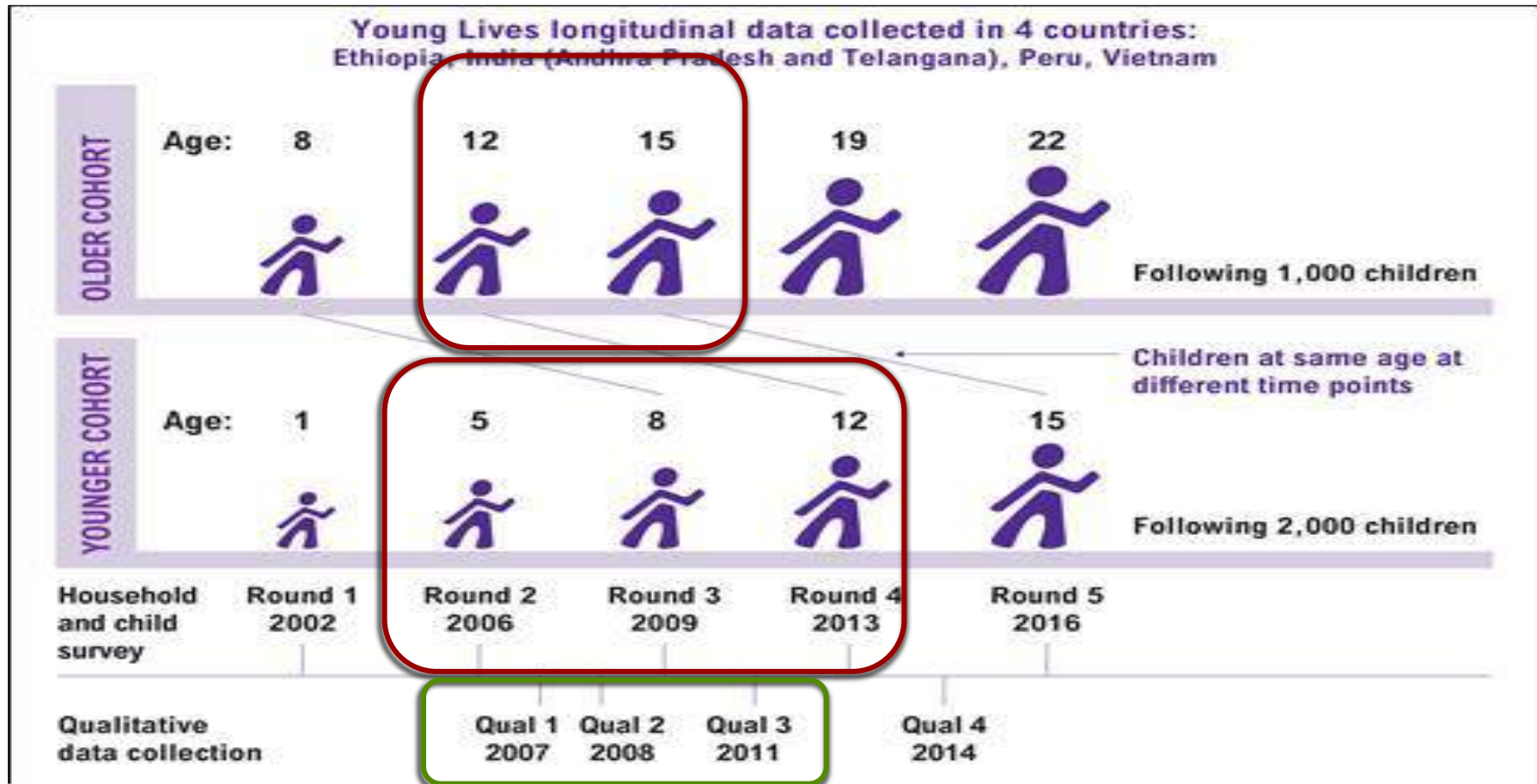
# Young Lives data



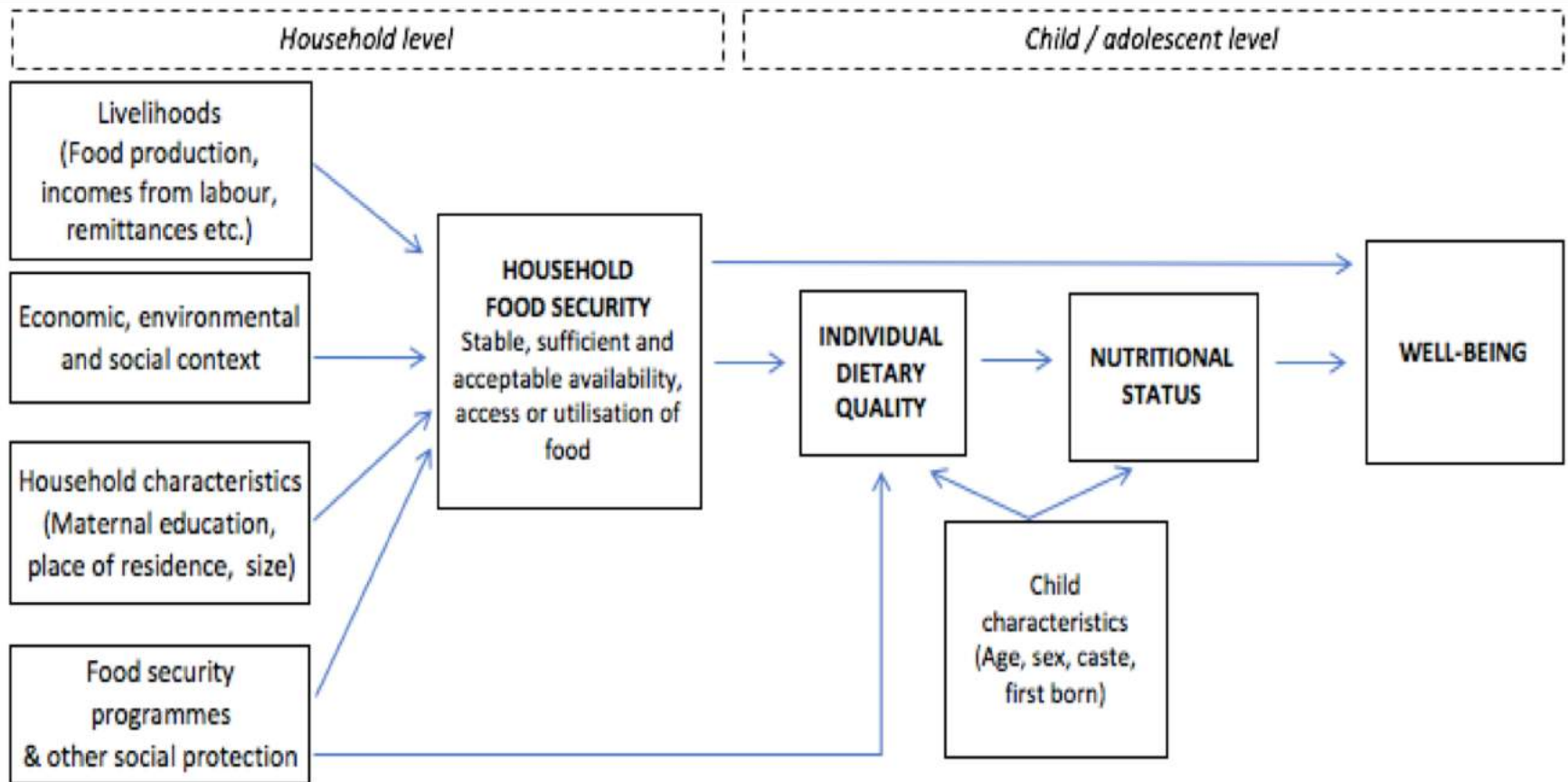
- Longitudinal mixed method study of child poverty
- Ethiopia, **India (Andhra Pradesh and Telangana)**, Peru, Vietnam
- Pro-poor sample
  - 20 sentinel sites in each country
    - Selected to reflect country diversity
- Attrition: 5% YC up to Round 4



# Study design



# Conceptual framework



# Methodology

- Secondary data analysis of both datasets
- Iterative approach to link quant and qual (Morrow et al 2014, Moran-Ellis et al 2006) in light of a conceptual framework we developed
- Examined the two datasets separately and realised that food insecurity and dietary quality were key sources of variation
  - Two-way process where both methodologies informed each other
- Both components make equal and independent contributions to the understanding of the role of food insecurity on child dietary quality

# Methods: quantitative data

- Only **household food access** measured:
  - Experiential scales of insecurity
  - Household **categorised as food secure/ food insecure** in each round
  
- Child **dietary quality** in each round measured with:
  - Indicators of individual dietary diversity in previous 24 hours (ranging 0-7)
  - Dichotomous variables of consumption of animal-source foods/fruits in previous 24 hours
  - Those indicators chosen for their correlations with child health and nutrient adequacy
  
- Investigate “**food insecurity gaps**” in child dietary quality in standard multivariate setup:

$$y_{ij,t} = \beta_0 + \beta_1 \mathbf{FI}_{ij,t} + X_{ij,t} \beta_2 + \beta_3 \mathit{Cohort}_{ij} + \beta_4 \mathit{Age}_{ij,t} + \gamma_j + \varepsilon_{ij,t}$$

# Methods: qualitative data

- Food security and diets **were not** the focus of the qualitative interviews, but they were spontaneously mentioned by the children very frequently
- Data were analysed by coding them under meta-themes (e.g. diet, food, school meals, etc) to enable consistency and comparability across rounds
- Information on the context of the interview was provided by fieldworkers

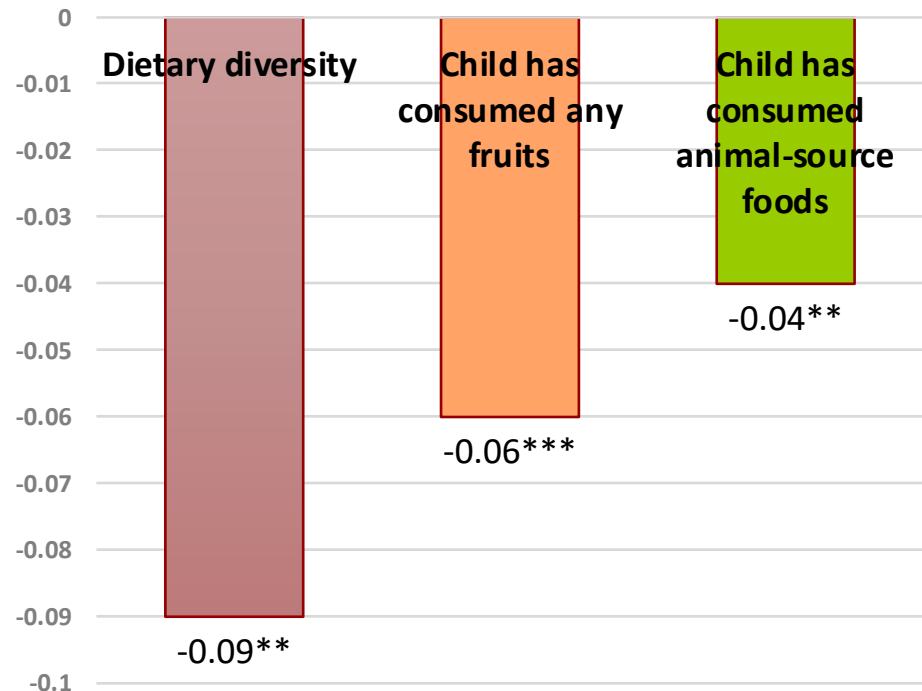
# Key message #1

## Inequalities in children's dietary quality by food insecurity at home

	Household food secure (N=6,118)  Mean (SD)	Household food insecure (N=1,514)  Mean (SD)
<b>Dietary diversity</b>	4.35  (0.92)	4.18  (0.89)
<b>Child has consumed any fruits</b>	42%  (0.49)	26%  (0.44)
<b>Child has consumed any animal-source foods</b>	82%  (0.38)	76%  (0.43)

*Mean dietary diversity, fruit consumption and animal-source foods consumption by household food insecurity, all rounds and cohorts*

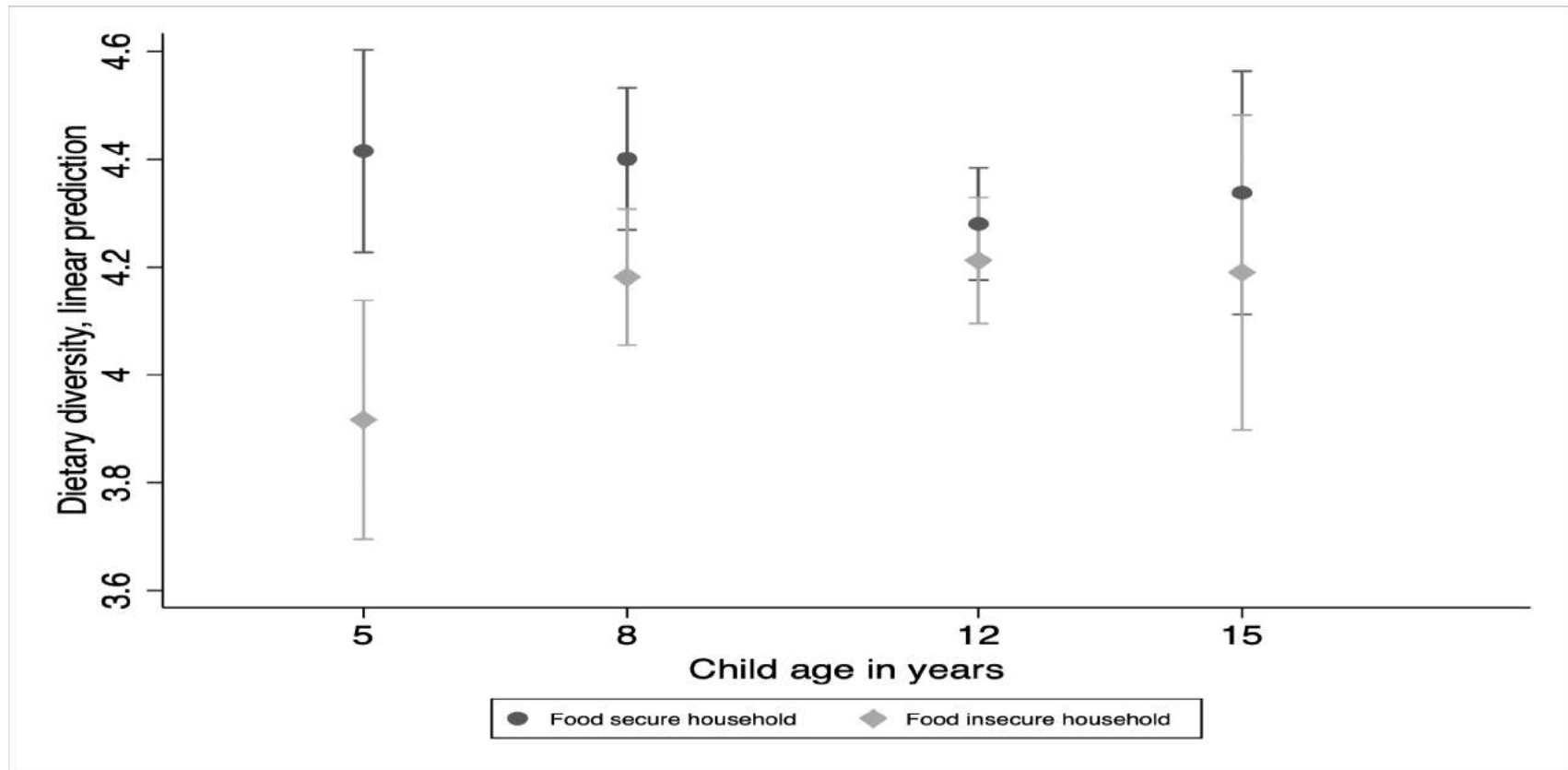
### Coefficient related to household food insecurity in multivariate regressions



*Coefficients associated with household food insecurity in separate regression models for dietary diversity, fruit consumption and animal-source foods consumption. All models control for child and household covariates, cohort, age and cluster fixed effects*

## Key message #2

Younger children's dietary quality tends to be more affected by household food insecurity as compared to older children



*Notes: This graph plots the predicted values of dietary diversity by child age and household food insecurity. These values were obtained as the interaction of food insecurity and child age in a multivariate regression model, controlling for child and household controls, age, cohort, community fixed effects*

# Key message #3

Food security and healthy diets considered as key to a “good life”

- Dietary quality and household food security emerged as a **critical dimension of well-being for children**
- Varied diets were often mentioned as a **marker of social status** and **ability to participate** in the community life
  - *“Rich people eat by cooking different varieties of foods every day”* (Boy, 11 years old)
  - *“Those who have money cook delicious foods during festivals, while the poor not so”* (Girl, 15 years old)
- Children mentioned clearly the **linkages between dietary quality and health or education**
  - *“If we eat well, we can study”* (Boy, 9 years old)
  - *“My health is not well, I should take proper food. Food alone can do me good”* (Girl, 9 years old)



# Key message #4

Children understand their household food security challenges and act upon it



Source: Young Lives/Sarika Gulati

- Children spontaneously referred to the **food security situation** at home and how it changed over time
  - *“Seeds did not grow in the first year, and the second year rains have not come . . . so we didn’t harvest. . . . We did not have money to buy vegetables and other things to celebrate festivals, so it was not well at home.” (Boy, 17y)*
  
- They clearly described the **strategies** undertaken by the household in face of food insecurity
  - *“Mother provides food for the children by fasting herself” (Girl, 15y)*
  
- Older children were often **part of those strategies**
  - E.g. enrolling in MNREGS, dropping out from school

# Key message #5

Children valued social protection, but sometimes criticised implementation

- Social protection (e.g. school meals, public distribution system (PDS), and employment guarantee scheme (MNREGS)) was generally perceived as **protective** in face of shocks and as a vehicle for better diets
  - *“We did not have good-quality rice, we only had inferior-quality rice prior to the commencement of this relief work [MGNREGS]”, Boy, 17 years old*
  - [The PDS allowed ] *“to lead life without starvation and children are able to eat full meals regularly” (Girl, 15 years old)*
- Implementation issues (e.g. food safety and quality, corruption) were however often flagged by children



Source: Young Lives/Sarika Gulati

# Lesson learnt

- **Mixed methods** and a **lifecourse** perspective uncover **valuable insights** on children's experiences of food insecurity, their strategies to manage it and their perception of public programmes in different contexts and at different ages
- In turn this evidence can **support implementation** of existing social protection to increase its **“child-sensitivity”**

# Thanks for listening! Questions?

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