


# FARM-LEVEL PATHWAYS TO IMPROVED NUTRITIONAL STATUS

Alberto Zezza
Development Research Group
The World Bank

Ag2Nut CoP Call
15 December 2015

LSMS
Living Standards Measurement Study

azezza@worldbank.org

# Outline

- Motivation and context
- Empirical challenges
  - Measurement
  - Identification
- Synthesis of results
- Conclusions and implications

# Agriculture must be good for FS&N!...

Food security and nutrition concerns

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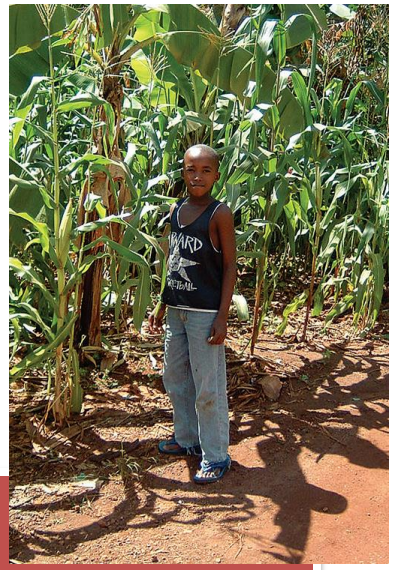

Promote agriculture

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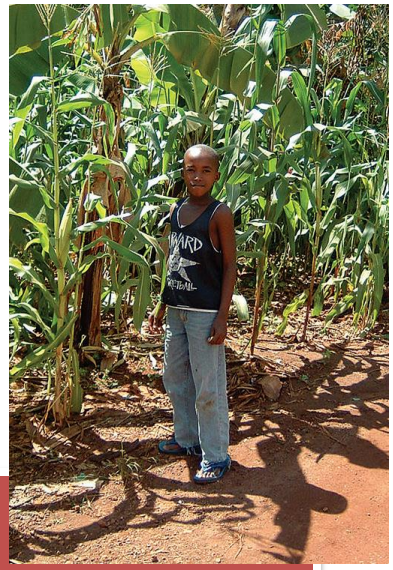
Food security and nutrition concerns



Promote agriculture

…but where is the evidence?

# The Source

- Carletto, Ruel, Winters and Zezza (eds.), **Farm-Level Pathways to Improved Nutritional Status**, Special Issue, *Journal of Development Studies*, Vol. 51, Issue 8, 2015
- 8 Studies + Synthesis
  - 4 national (LSMS-ISA)
  - 3 baselines
  - 1 RCT

# The agriculture to nutrition pathways

- Food prices → Net-buyer/net-seller, high price lit.
- Income from agriculture
- Own consumption (market imperfections)
- Gender issues (empowerment, women's time, health and nutrition)

Focus of the special issue

Ruel & Alderman (2013), *Lancet* Series

# Empirical Challenges: Measurement

- **Nutrition**: Inputs, Outcomes, Unit of analysis
- **Agriculture**: Prod. diversity; type of products (e.g. livestock, sweet potato); Ag income, value of production; WAEI
- **Data**: National vs case study; observational – x-section or panel, experimental
- **Estimation method**: IV; OLS with robustness (placebo) test; Panel with random effects; OLS, logit

# Synthesis of Results

| | |
|---|---|
| Ethiopia<br>(Hoddinott et al.) | • **Positive**, quite large : 16–29% higher probability of consuming dairy (6-24 months)<br>• HAZ up by 0.2 SD<br>• Probability of stunting down 5.5% (up to 13% in some age brackets) |
| Nigeria<br>(Dillon et al.) | • **Positive**<br>• Ag revenues up 10% >> 1.8% more DD<br>• Crop diversity up 10% DD up 2.4% (but no valid IV) |
| Mozambique<br>(de Brauw et al.) | • **Positive**<br>• Vitamin A density up with bio-fortification<br>• Higher impacts with intensity of participation<br>• Differences by program components |
| Tanzania<br>(Slavchevska) | • **Positive**<br>• Crop value >> anthropometrics for preschoolers and 5-9 yrs<br>• Crop production >> adolescent BMI<br>• Livestock >> preschooler stunting; adolescent BMI |

# Synthesis of Results

| | |
|---|---|
| Uganda<br>(Azzarri et al.) | • **Positive**<br>• Livestock ownership>>ASF consumption (except cattle/beef)<br>• Small ruminants>>wasting & underweight (24-59 months)<br>• **Negative for large ruminants**>>hygiene? |
| Zambia<br>(Kumar et al.) | • **Positive;** DD up (HH and 6-23 mo)<br>• Stunting down (24-59 mo) |
| Nepal<br>(Shively et al.) | • **Positive;** Association between ag and nutrition for all children<br>• Association between ag commercialization and nutrition for younger children |
| Nepal<br>(Malapit et al.) | • **Positive;** Diversity associated with mother and child DD, child WHZ<br>• Empowerment>>better maternal nutrition, HAZ, children diets and nutritional status<br>• Mitigates impact of low production diversity |

# Conclusions: Findings

- Overall, we find evidence of a linkage
- Magnitude varies:
  - Nature of the studies
  - Context
    - Commodities (e.g. livestock)
    - Program participation
    - Remoteness of location
- Data and research
  - Keep investing in national (panel) data
  - More (experimental) studies for more external validity, better understanding of differences between contexts, options, circumstances

# Conclusions: Implications

- Policy:
  - Nutrition argument for ag promotion might be justified but under specific circumstances
  - Bio-fortification can work, but needs measures to foster program participation
  - Livestock matters, but market development can substitute for own production
  - Pathways (commercialization, women empowerment) need to be understood for more effective policy design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