FARM-LEVEL PATHWAYS TO IMPROVED NUTRITIONAL STATUS

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Ag2Nut CoP Call
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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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Food security and nutrition concerns

Promote agriculture
Agriculture must be good for FS&N!...

Food security and nutrition concerns

Promote agriculture

...but where is the evidence?
The Source


- 8 Studies + Synthesis
  - 4 national (LSMS-ISA)
  - 3 baselines
  - 1 RCT
The agriculture to nutrition pathways

- Food prices
- Income from agriculture
- Own consumption (market imperfections)
- Gender issues (empowerment, women's time, health and nutrition)

Focus of the special issue

Net-buyer/net-seller, high price lit.

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

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

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