Income and Nutrition

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Conceptual framework for nutrition

Optimal Nutrition

Diet

Disease

Food

Care

WASH

Health

Macro level social, economic, political contexts and policies

Evidence at the macro level

Different results drawn from studies using similar sources of data (Vollmer et al 2014, O’Connell and Smith, 2016)

• Similarity: Inverse association between national economic growth and child malnutrition
• Disparity: The magnitude of the effect and its policy implication

Consensuses

• Direct interventions are needed
• There are assumptions for economic growth to make substantial contribution to better nutrition


O’Connell and Smith, Economic growth is associated with reduced child undernutrition, USAID Economic Brief, November 15, 2016
Economic growth alone will not improve nutrition fast enough
Conceptual framework for review

Macro level:
Increases in economic growth

Household level:
Increases in average income
Improved access to, and consumption of, goods and services

Individual level:
Improved nutrition and health

Reference: Vollmer et al 2014,
Association between Income & Nutrition

• Components of agricultural household income

• Nutrition outcomes and proxies

Icons thanks to the Noun Project: “Countryside” by Evan Caughey; “Grocery Basket” by Martin Lebreton; “Grocery Stand” by Oliviu Stoian; “Payment” by Mungang Kim; “Short” by Buena Buena, “Student” by Gerald Wildmoser, “Tall” by Buena Buena; “Tractor” by Diego Naïve; and others by OCHA Humanitarian Icons
Evidence

- Controlling for wealth of HH and region-specific factors, 10% increase in the share of on-farm income leads to (Benfica and Kilic 2016)
  - 2.9% increase in p.c. food consumption (value)
  - 1.7% increase in p.c. caloric intake/day
  - 1% increase of food consumption score, but
  - lower share of calories from roots/tubers, vegetables/fruits, oils/fats and meat/fish/milk
Findings from countries

**Bangladesh** (Yosef et al., 2015)
- Some evidence on association between non-grain expenditures and good nutrition
- HH used income from poultry raising to purchase food and agricultural seeds as well as pay for children’s schooling

**Benin** (Alaofè et al. 2016)
- % of Women using Solar-powered drip irrigation and in groups that engaged in vegetable and fruit production significantly increased by 26% and 55%
- Women in groups are 3 times more likely to increase their fruit and vegetable consumption compared with non-group women without technology
- At the endline, % of women who purchased rice and fish is significantly higher in women using technology and in groups
Conditional Cash Transfers

- Meta analysis of 41 programs showed (ODI 2016)
  - positive (yet very varied) effect on dietary diversity
  - Few studies showed statistically significant positive effect on stunting

- Review of conditional cash transfer programs (Leroy, Ruel, and Verhofstadt 2009)
  - quality of the diet improved, as shown in increased spending on animal source foods
  - improved linear growth in 3 countries
  - had modest impact on micronutrient status
Conditional Transfers

**Ethiopia** (Baye, Retta, and Abuye 2014)
- Households receiving cash had better household dietary diversity scores

**Philippines** (Kandpal et al. 2016)
- Program leads to a significant reduction in severe stunting for 6-35 mo, and a marginally significant increase in HAZs

**Mexico – Oportunidades Program** (Fernald, Gertler, & Neufeld 2008 & 2009)
- A doubling of cash transfers was associated with higher HAZ, and lower prevalence of stunting
- Additional 18 months of the program before 3 years improved child growth of about 1·5 cm (for children aged 8–10 years whose mothers had no education)
Cost of Good Nutrition

- Households in low-income countries pay more for fruits and vegetables than those in HICs.

(Miller et al. 2016)
Nutrition is marker and maker of poverty

Investment = $1

Better nutrition

Economic development

Return = $16

HKI nutrition paper 2016
Contribution of Nutrition to Economic Growth

Historic Evidence
• Calorie increase explained about 30% of the British growth in p.c. income from 1800 and 1980. (Fogel 2004)

Guatemala
• Stunted at 2 years was associated with a lower (21%) household per capita expenditure, and an increased (10%) probability of living in poverty 30 years later (Hoddinott et al. 2013)
• Wages of men increased by 46% in those provided with improved nutrition through age 2 (Martorell et al. 2010; Hoddinott et al. 2008)
References


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Cost of Good Nutrition

- Only individuals in high-income countries consume the recommended 5 servings of fruits and vegetables

(Miller et al. 2016)