

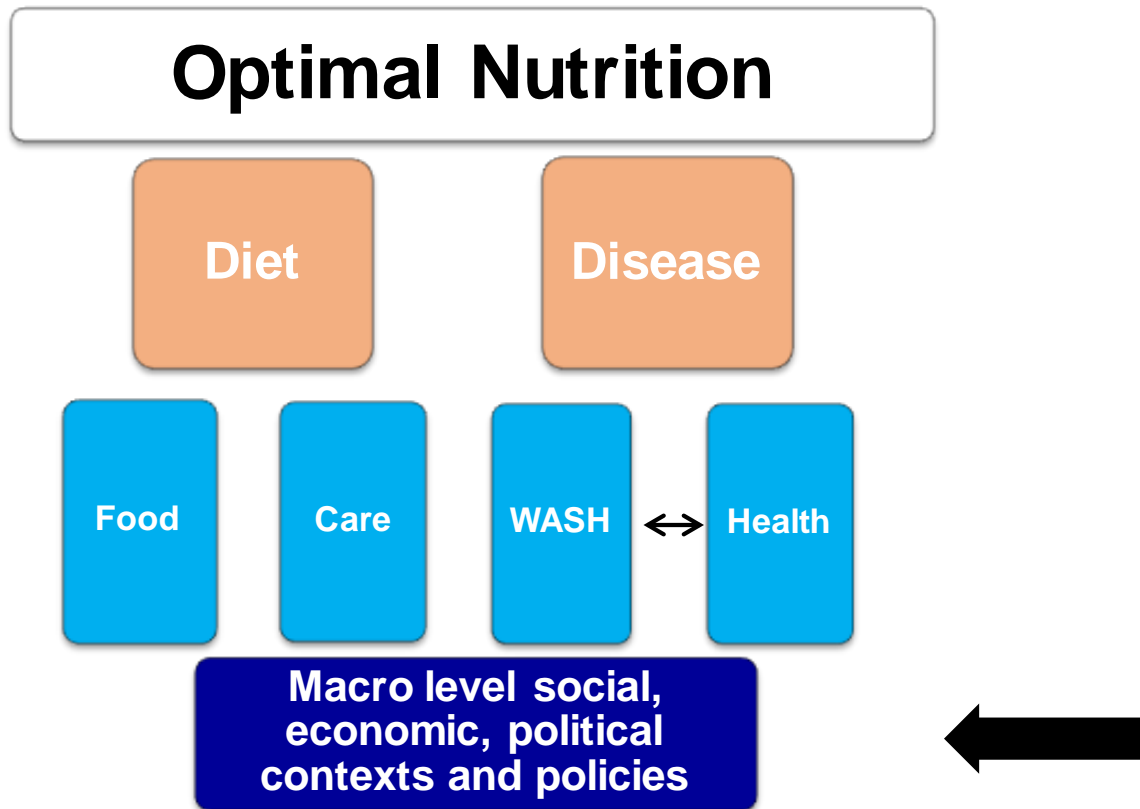
# Income and Nutrition

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# Conceptual framework for nutrition



- *Improving Child Nutrition: The achievable imperative for global progress, United Nations Children's Fund (UNICEF). April 2013;*
- USAID Multi-Sectoral Nutrition Strategy, 2014-2025



# 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 child malnutrition
- Disparity: The magnitude of the effect and its policy implication

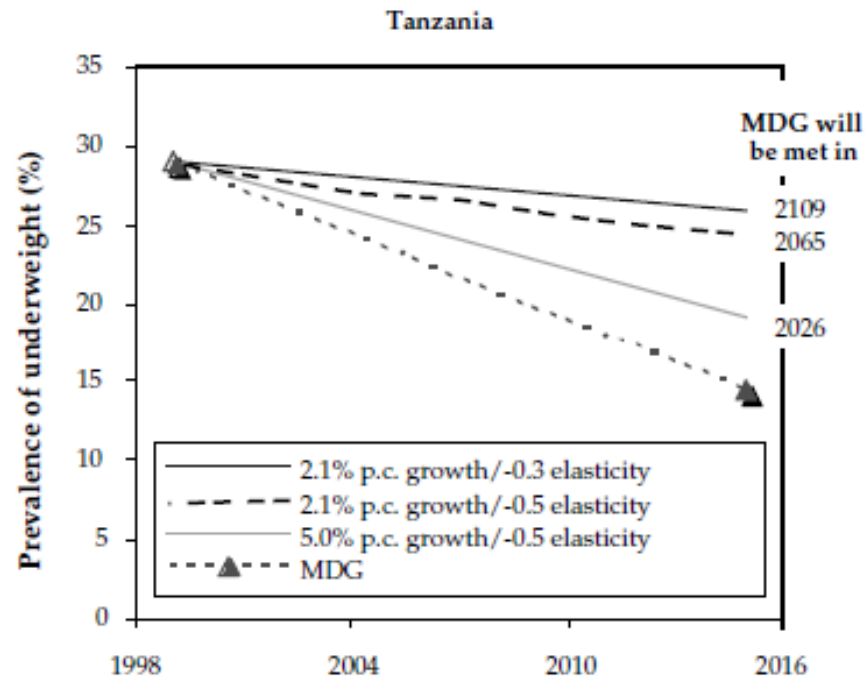
## Consensuses

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

- Vollmer, Sebastian, Kenneth Harttgen, Malavika A. Subramanyam, Jocelyn Finlay, Stephan Klasen, and S. V. Subramanian. 2014. "Association between Economic Growth and Early Childhood Undernutrition: Evidence from 121 Demographic and Health Surveys from 36 Low-Income and Middle-Income Countries." *The Lancet. Global Health* 2 (4): e225-234. doi:10.1016/S2214-109X(14)70025-7.
- O'Connell and Smith, [Economic growth is associated with reduced child undernutrition](#), USAID Economic Brief, November 15, 2016



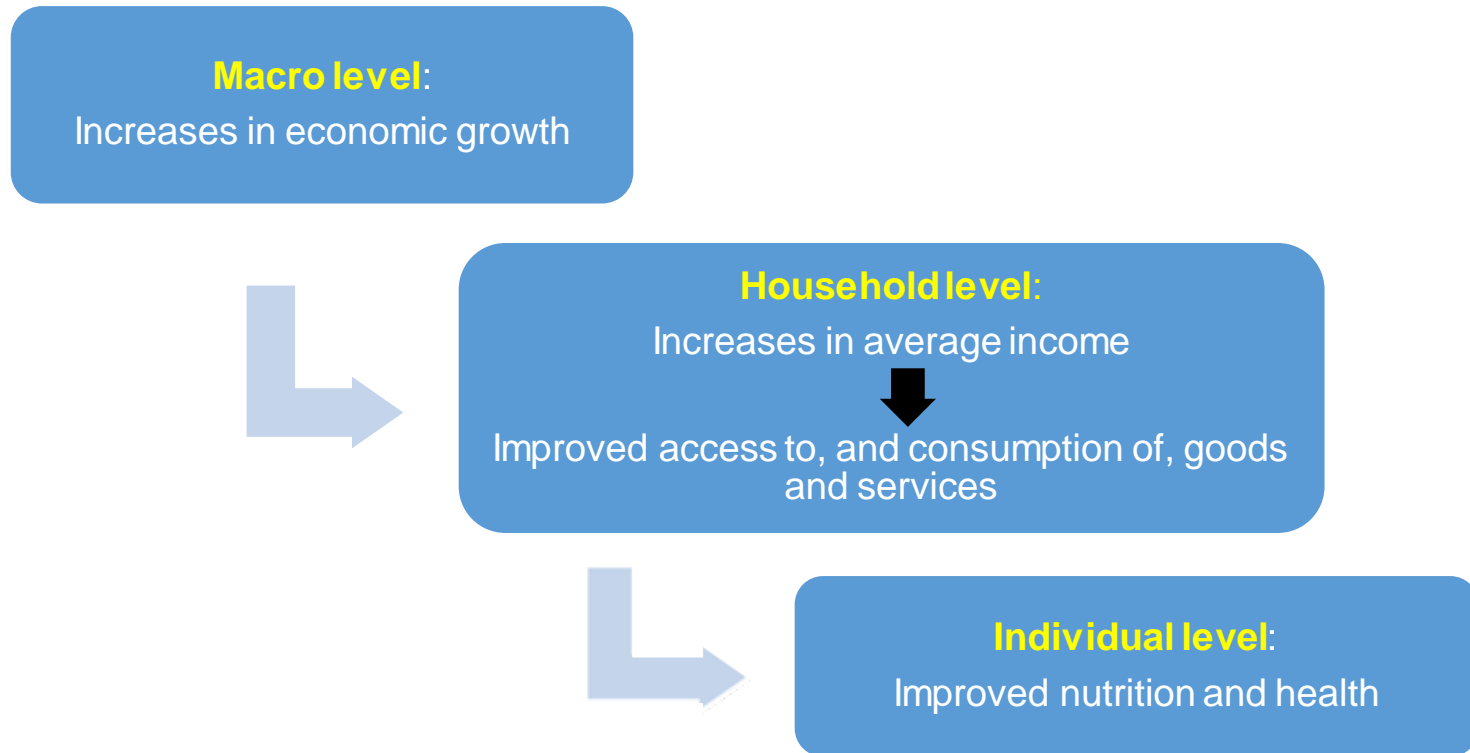
# Economic growth alone will not improve nutrition fast enough



World Bank. Repositioning nutrition as central to development: a strategy for large-scale action. Washington DC: The World Bank, 2006.



# Conceptual framework for review



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

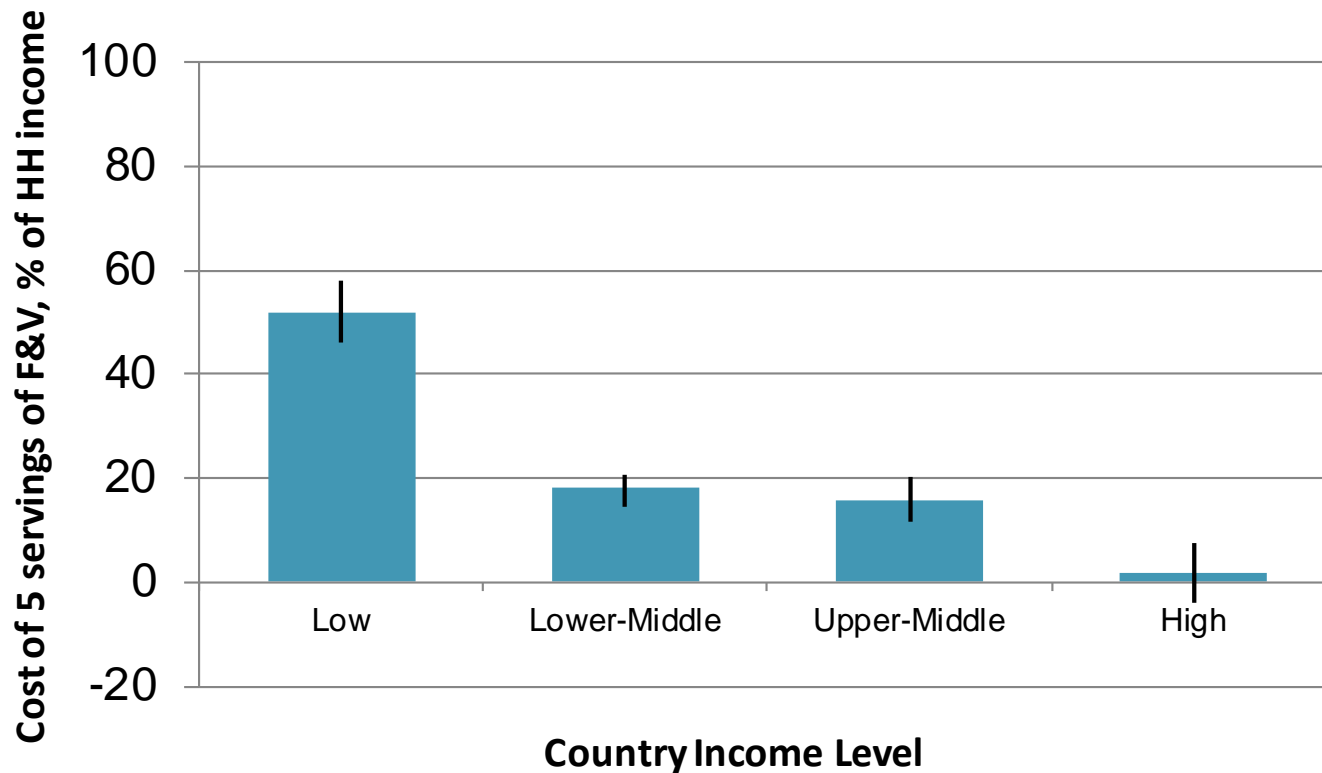
## **Mexico – Oportunidades Program** (Fernald, Gertler, & Neufeld 2008 & 2009)

- 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

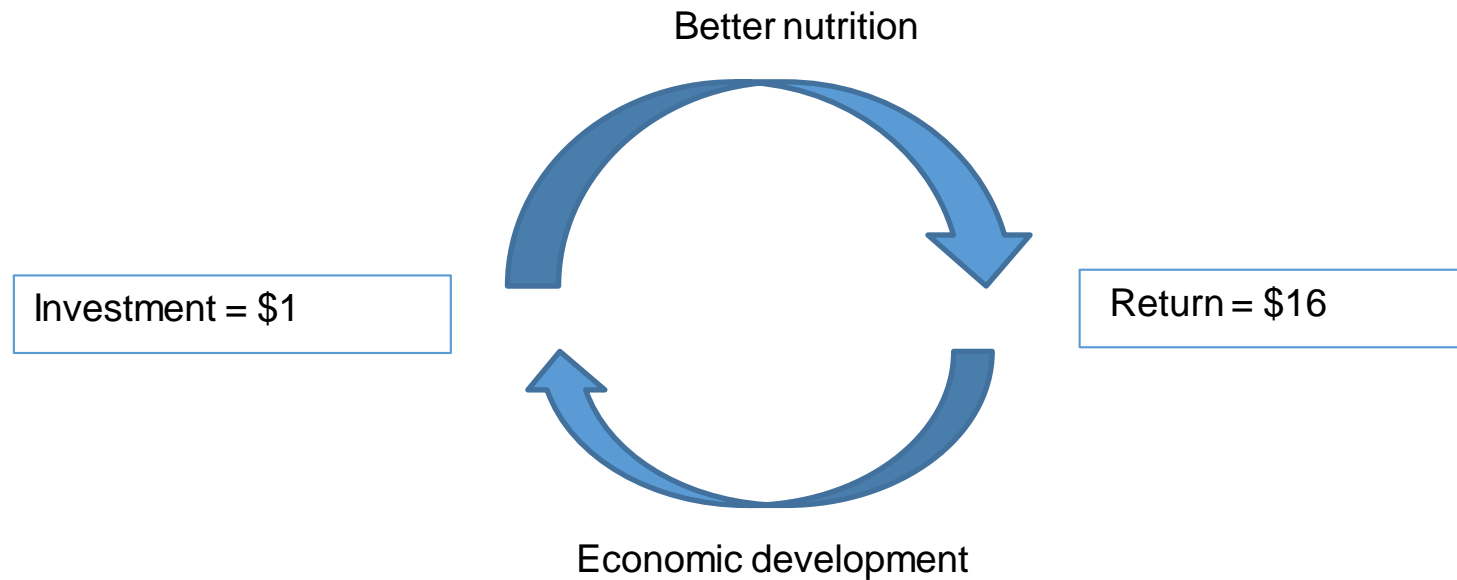
- Households in low-income countries pay more for fruits and vegetables than those in HICs.



(Miller et al. 2016)



# Nutrition is marker and maker of poverty



HKI nutrition paper 2016

Global Nutrition Report (2016);

John Hoddinott, "The economics of reducing malnutrition in Sub-Saharan Africa," May 13, 2016, produced for the Global Panel on Agriculture and Food Systems for Nutrition.



# 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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## Acknowledgement:

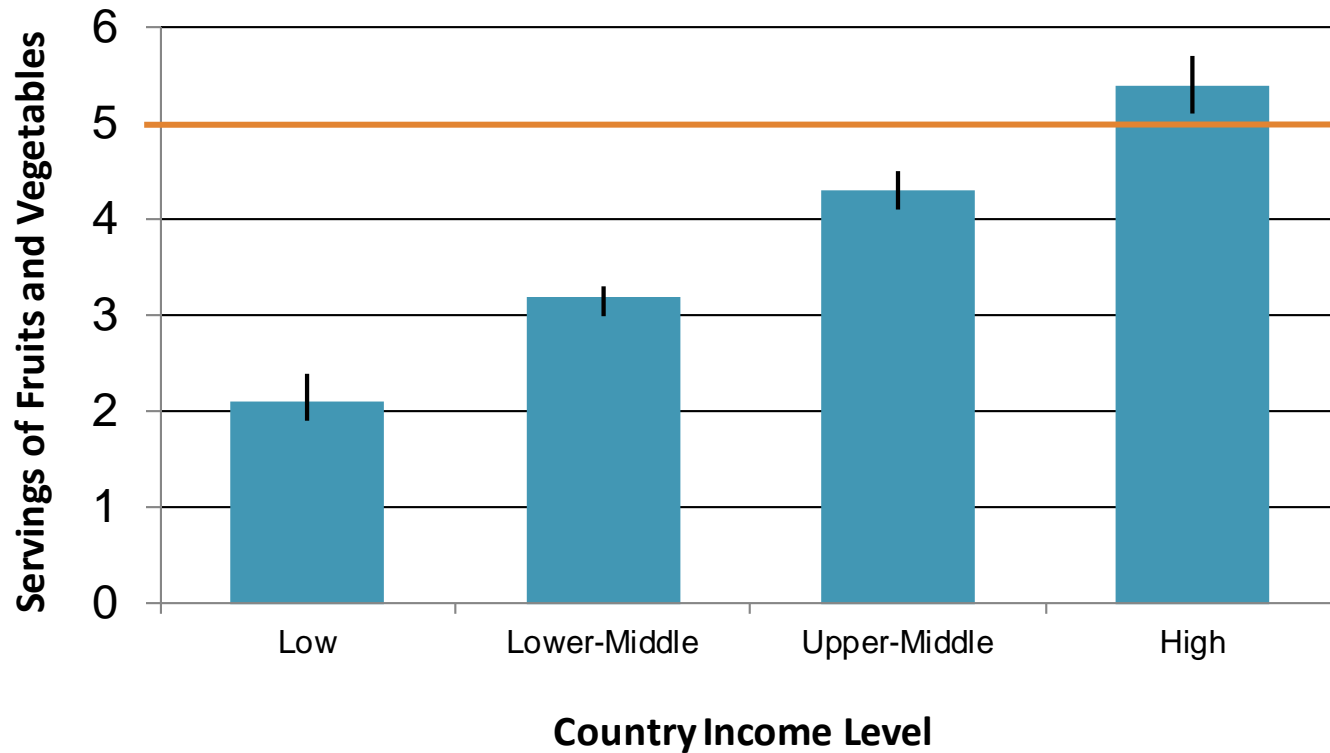
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[www.spring-nutrition.org](http://www.spring-nutrition.org)

# Cost of Good Nutrition

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



(Miller et al. 2016)

