One House, Two Heads: The Role of Gender at the Agriculture-Nutrition Nexus

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Introduction

Over half of the world's poorest population is comprised of smallholder farmers. The unfulfilled potential for agriculture to reduce malnutrition has been repeatedly highlighted at the global, national and community level. Questions still remain, however, on how agriculture can best drive improvements in malnutrition and overall poverty. The role of gender plays an integral part in addressing these questions, as women influence the nutritional outcomes of all household members through several roles; mother, caretaker of the home and significant contributor to the agricultural practices of the household.

Research Significance

Through a mixed methods approach, three specific research aims will be answered in the context of the Ethiopia based, multisectoral intervention program, "ENGINE" (Empowering New Generations in Nutrition and Economic Opportunities). Results from this proposed research help fill a knowledge gap about the appropriateness of certain gender related assumptions within the agriculture-nutrition pathway discourse (See Figure 1 below). They also provide a deeper understanding of the gender specific processes involved in household commercialization decisions and nutrition-related behavior change, all of which can help better inform policymakers and program designers/implementers on ways to improve nutrition through the agricultural sector.

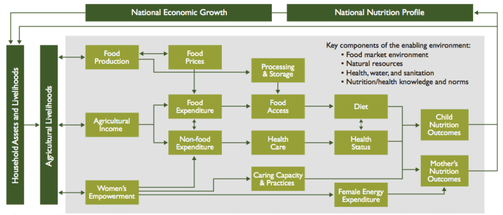
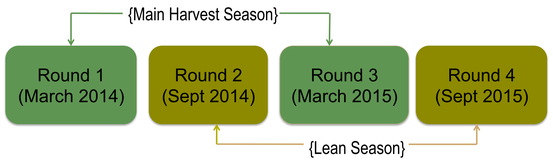


Figure 1: Conceptual Pathways between Nutrition and Agriculture (Herforth and Harris 2014)

Research Context

Research questions for this PhD will be conducted in the context of the Tufts ENGINE Agriculture-Nutrition (AgNut) Panel study. The AgNut study is a panel study comprised of four rounds which collects information on household level agricultural practices, food security, livelihoods situation as well as information about the household's nutrition and health situation.



Specific Aim #1: The WEAI

To assess the internal validity and reliability of the Women's Empowerment in Agriculture Index (WEAI) among Ethiopian smallholder farming households.

Research questions:

- Is the WEAI an internally valid measure of empowerment, and is it relevant in the context of Ethiopia smallholder farmers?
- What salient aspects of Ethiopian culture and social gender norms influence the performance of WEAI as a reliable and valid indicator of Ethiopian women's empowerment?

Background

The WEAI is an index developed in 2012 by IFPRI, OPHI and USAID with the purpose to measure the empowerment, agency and inclusion of women in the agricultural sector. It is currently being implemented in all 19 Feed the Future countries and serves a way to monitor progress towards gender equality (MDG3).

Methods & Analysis

Part I: Qualitative Data Collection (Summer 2013)

- 24 focus groups and 12 cognitive debriefing interviews
- Purposive sampling:
  - SNNPR region: 2 woredas, 4 kebeles/woreda
- Analysis: Deductive content analysis approach with NVIVO software and external coder.

Part II: Quantitative Data Collection (Fall 2015)

- Cross sectional administration of WEAI survey
- Random sampling:
  - Subsample of AgNut panel survey
  - 10 woredas (Oromia and SNNPR region)
  - n= 300 households (600 male and female respondents)
- Analysis: principal component analysis with varimax rotation

Part III: Quantitative Content Validity Index (Fall 2015)

- 8-12 Expert panel members will be selected based on experience/knowledge on women's empowerment, geographic focus and willingness/availability. They will be asked to fill out a survey which will measure agreement on the relevance of scale items.
- Analysis: Inter-rater agreement for both individual domains and the index as a whole will be calculated via the CVI. The degree of agreement will be calculated by consensus and consistency of the raters on the on the criteria of item relevance, representativeness, specificity and clarity.

Specific Aim #2: ENGINE Behavior Change

To compare the barriers and facilitators associated with nutrition specific and nutrition sensitive message access and uptake by adult men and women within the context of the Ethiopian ENGINE program.

Research question: How do smallholder farming women and men differ in their access to and adoption of nutrition specific and nutrition sensitive messages, as disseminated through the agricultural and health sectors ?

Background

Questions still remain on how well, at the programmatic level, nutrition education through nutrition-sensitive platforms (such as agriculture) translates into adoption of nutrition-related behavior change. Women are progressively more targeted in the agricultural sector but a knowledge gap still exists on whether men and women access and adopt nutrition related messages differently channeled through the agricultural sector.

The social behavior change communication strategy implemented by ENGINE focuses on both nutrition sensitive and nutrition specific messages.

Methods and Analysis

Qualitative Data Collection (Summer 2015)

- 32 Focus Groups
- 10 Key Informant Interviews with woreda level ENGINE Livelihood and ENGINE Health Coordinators

Analysis

- Qualitative application of the TRA/TPB (See Figure 2 below)
- Generation of key themes and sub-themes
- Organization of codes back into TRA/TPB constructs
- Complemented by key informant interviews, surveys and desk review

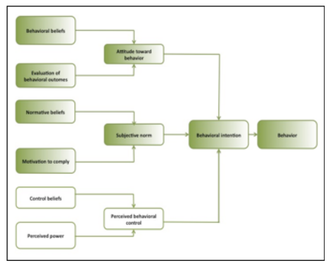


Figure 2: The Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB).The shadowed boxes show the TRA; the entire figure shows the TPB.

Specific Aim #3: Nutritional Effects of Commercialization

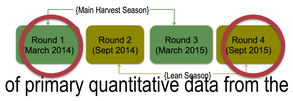
To compare the relationship between smallholder commercialization and nutrition outcomes for adult men and women in the same household .

Research Question: Controlling for fixed house effects, how does intensity and type of commercialization predict adequate women's nutritional status, compared to men?

Background

In order to fully understand the maximum potential that agricultural interventions, such as commercialization, can have on nutritional outcomes, the improvement of women's nutrition related outcomes must be interpreted within the context of her household. How does her improvement compare to the improvement of other household members, particularly the man's? Interpretations and implications of research results can vary greatly depending on this comparison of male vs. female nutritional effect from commercialization.

Methods and Analysis



- 2 timepoints of primary quantitative data from the AgNut study
- n = 1200 households
- 2 questionnaires: Adult Female and Adult Male

Analysis

Main Study Variables for Specific Aim 3

	Variable	Abbreviation	Type	Operationalization
Outcome Variable	Body Mass Index (BMI)	*BMI*	Continuous	Weight (kg to nearest tenths of a kg) / [height (meters to the nearest tenth)] squared
Predictor variables of interest	Commercialization Intensity	*intensity*	Categorical	Value[30] of total crops sold (birr)/Total household income (birr) → and then converted into quartiles
	Commercialization type	*type1, type2, type 3, etc*	Categorical	Dummy variables (YES/NO)

- Predictors for BMI (Control variables): age, education, HH type/size, income wealth
- Potential confounding agriculture related predictors: land size, farm labor, weather, level of crop damage, amount of crops stored, shocks, livestock, homegardening, ENGINE program exposure (type and length)
- Statistical tests: Multiple Linear Regression and Fixed Effects Modeling

Contact Info and Acknowledgements

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