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The U.S. Government's Global Hunger & Food Security Initiative

Gender, Climate, and Nutrition Integration Initiative (GCAN)

October 26, 2017, USAID-HQ

Tim Thomas, Carlo Azzarri, Jawoo Koo | IFPRI
Naziha Sultana | International Center for Research on Women
Adan Silverio Murillo | American University

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CGIAR RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security CCAFS

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE IFPRI

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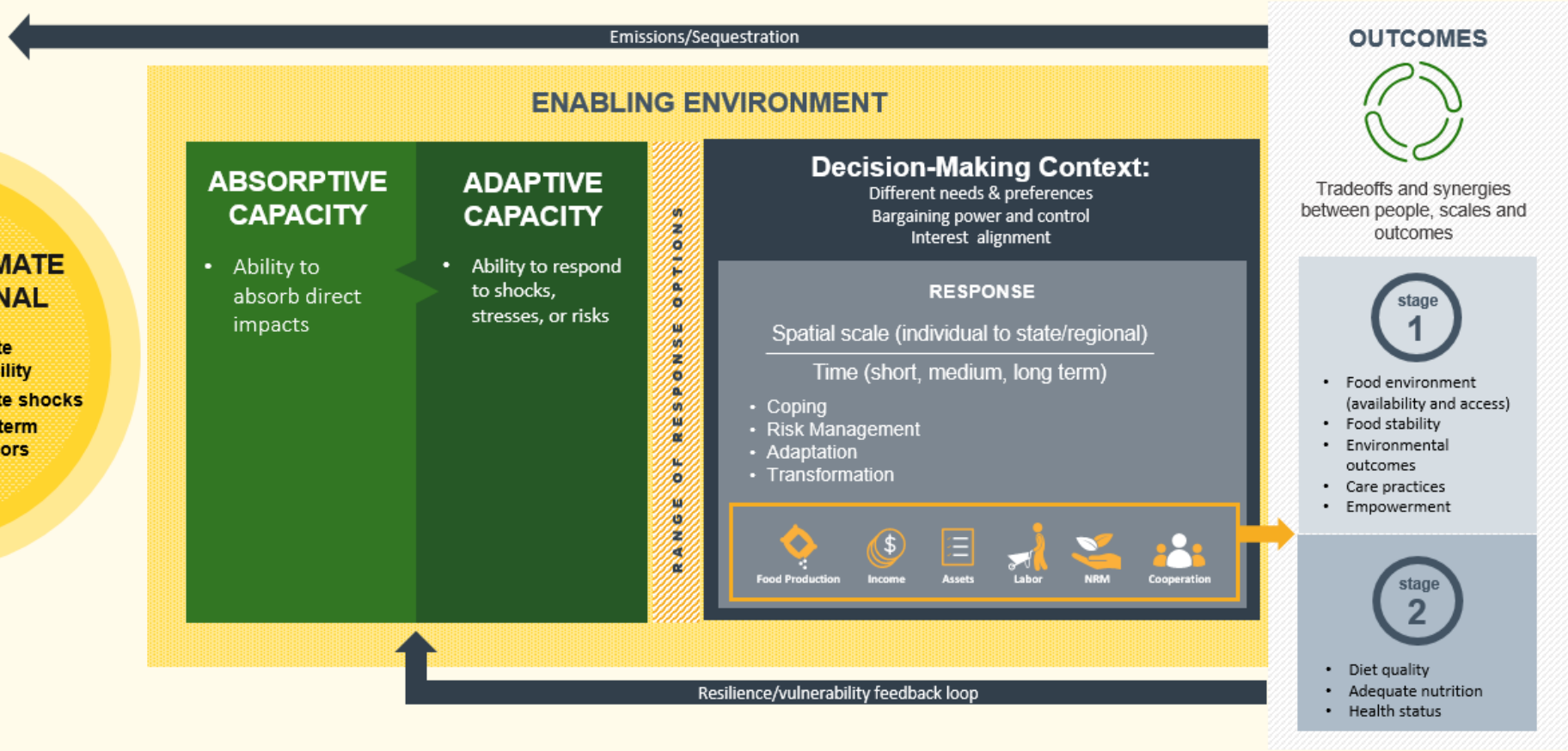
Framework for Climate, Gender, and Nutrition



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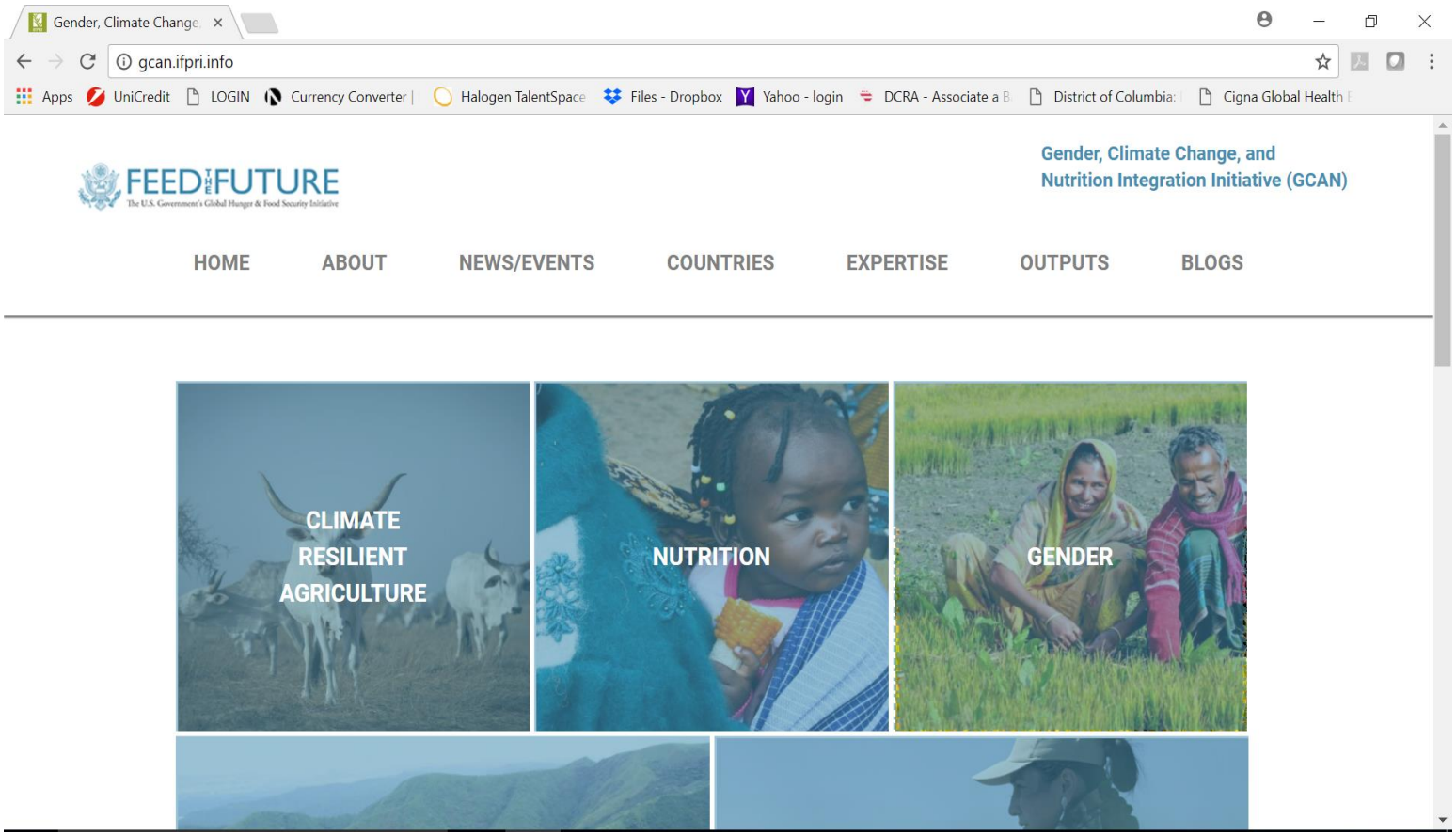

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GCAN IN A NUTSHELL

- **Objective:** Support FTF focus countries to understand and use climate data for climate-smart agriculture (CSA) programming that integrates nutrition and gender, in alignment with new Global Food Security Act
- **Activities include:**
  1. Framework and tools for understanding conceptually the connections between climate change (specifically CSA), gender, and nutrition.
  2. Research and knowledge management to help answer missions' priority questions related to climate, gender, and nutrition
  3. Enhanced use of Feed the Future Open Datasets

FTF OPEN DATASETS

- Population Based Surveys for 11 FTF countries publicly available on the USAID Development Data Library:

- Bangladesh*
- Ethiopia
- Ghana
- Malawi*
- Mozambique
- Nepal*
- Kenya
- Rwanda*
- Tajikistan
- Uganda*
- Zambia*

*Baseline and follow-up available

GCAN ACTIVITIES & TIMELINE

2016	October	**Zambia Mission Visit**
2017	January	**Bangladesh Mission Visit**
	March	**Cambodia GLEE**
	May	**Nigeria Mission Visit**
	June	**"Climate Change and Variability: What are the Risks for Nutrition, Diets, and Food Systems"** DP, PN
	August	**Feed the Future DATATHON in DC** **"Research Priorities in Bangladesh"** PN **"Support to USAID Programs in Nigeria"** PN
	September	**"Research Priorities in Cambodia"** PN **"Role of Agricultural Insurances"** PN **"Selection of the student challenge winners"**

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DATATHON

OPEN DATA → INSIGHTS

12-5 PM
August 11, 2017

IFPRI
1201 Eye Street, NW
Washington, DC 20005

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DATATHON

Why?

Key challenges still exist in processing raw gender data, reconciling them to make interoperable with other thematic data, and documenting them to help data users correctly interpret and further analyze the findings.

Objectives

1. Increase public awareness and the use of gender datasets in agricultural research and development
2. Use of granular sex-disaggregated datasets to make gender-sensitive policy decisions and monitor impacts

DATATHON IN DC | AUGUST 2017

Data: Harmonized data in Bangladesh (BIHS 2011 and 2015) across four key food security-relevant domains (climate, agriculture, nutrition, and gender)

Participation: About 90 (including 30 remotely connected)

Topics

1. Historical trends of climate shocks and their impacts on the livelihoods of female farmers and their empowerment in agriculture
2. Spatial representation and historical dynamics of gender inequality in agriculture
3. Relationships between WEAI (women's empowerment in agriculture) and nutritional outcomes

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CGIAR Research Program on Climate Change, Agriculture and Food Security

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PARTICIPANTS AT WORK

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DATATHON WINNERS!

- **Adan Silverio Murillo**
  American University
- **Naziha Sultana**
  International Center for Research on Women
- **Angela Garcia**

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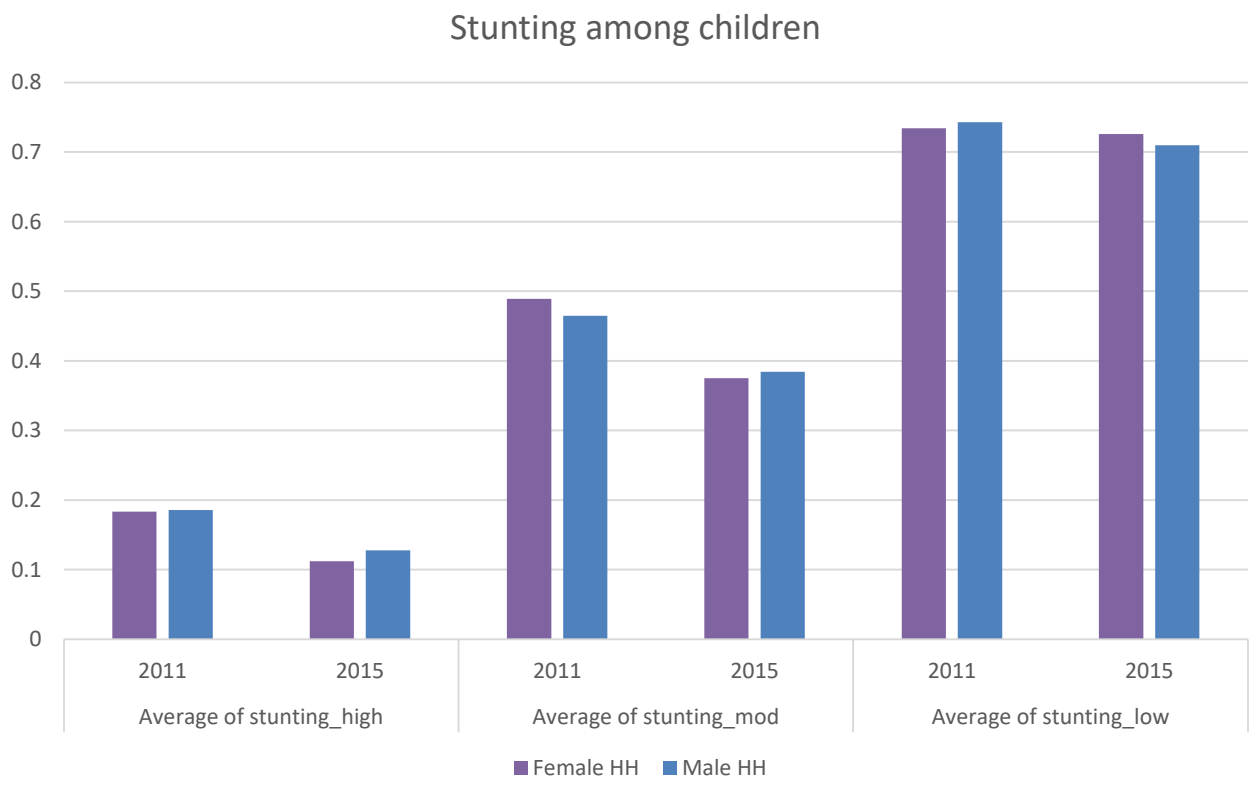
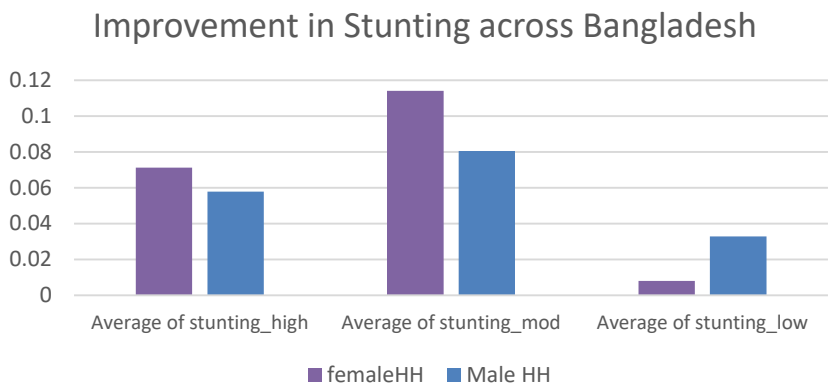
Gender and Children’s health outcomes

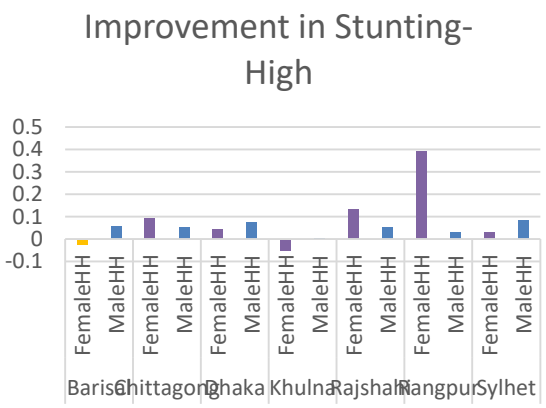
OCTOBER 26, 2017

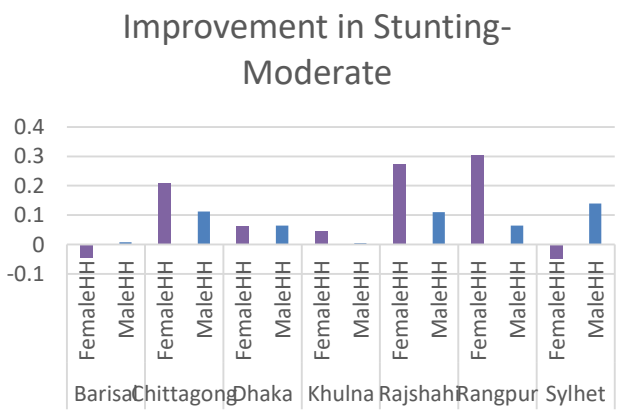

Stunting among children
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2011
2015
2011
2015
2011
2015
Average of stunting_high
Average of stunting_mod
Average of stunting_low
Female HH
Male HH

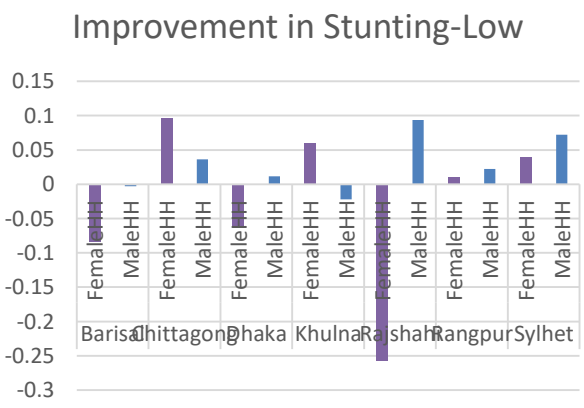
Improvement in Stunting of Children*

*Improvement: Average stunting 2011- Average stunting 2015

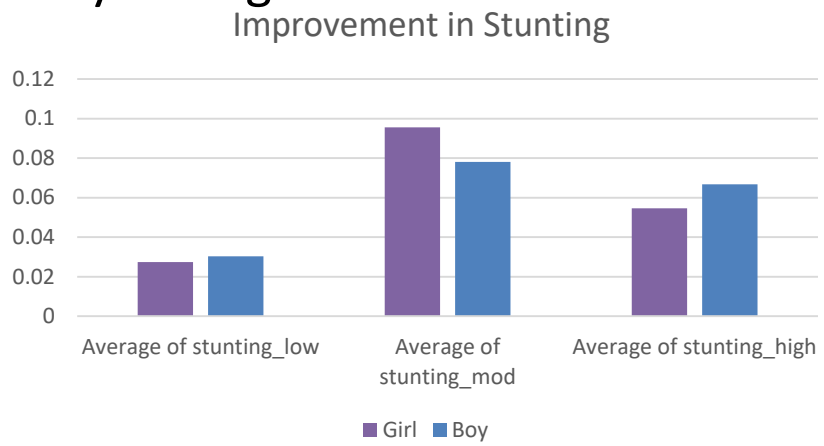


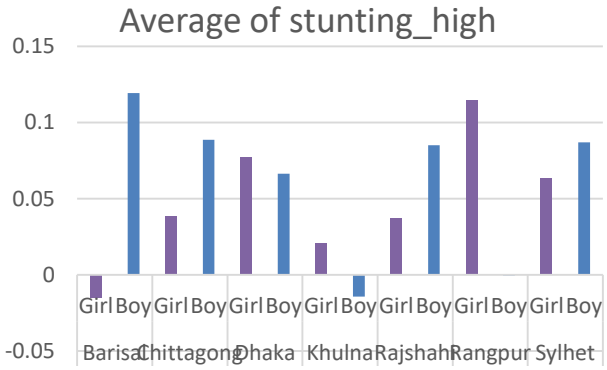


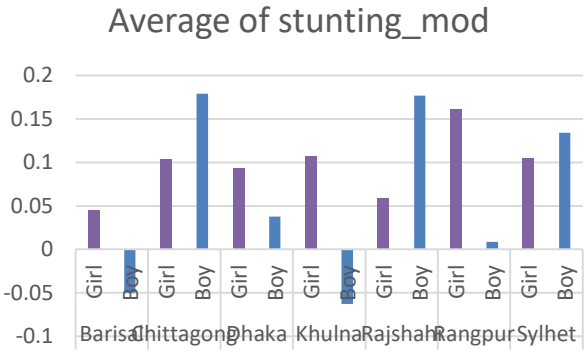


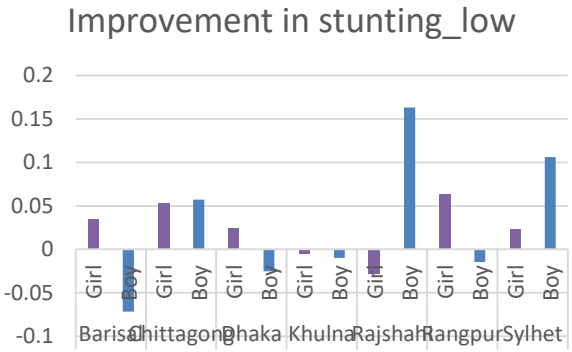


Improvement in stunting of boys and girls







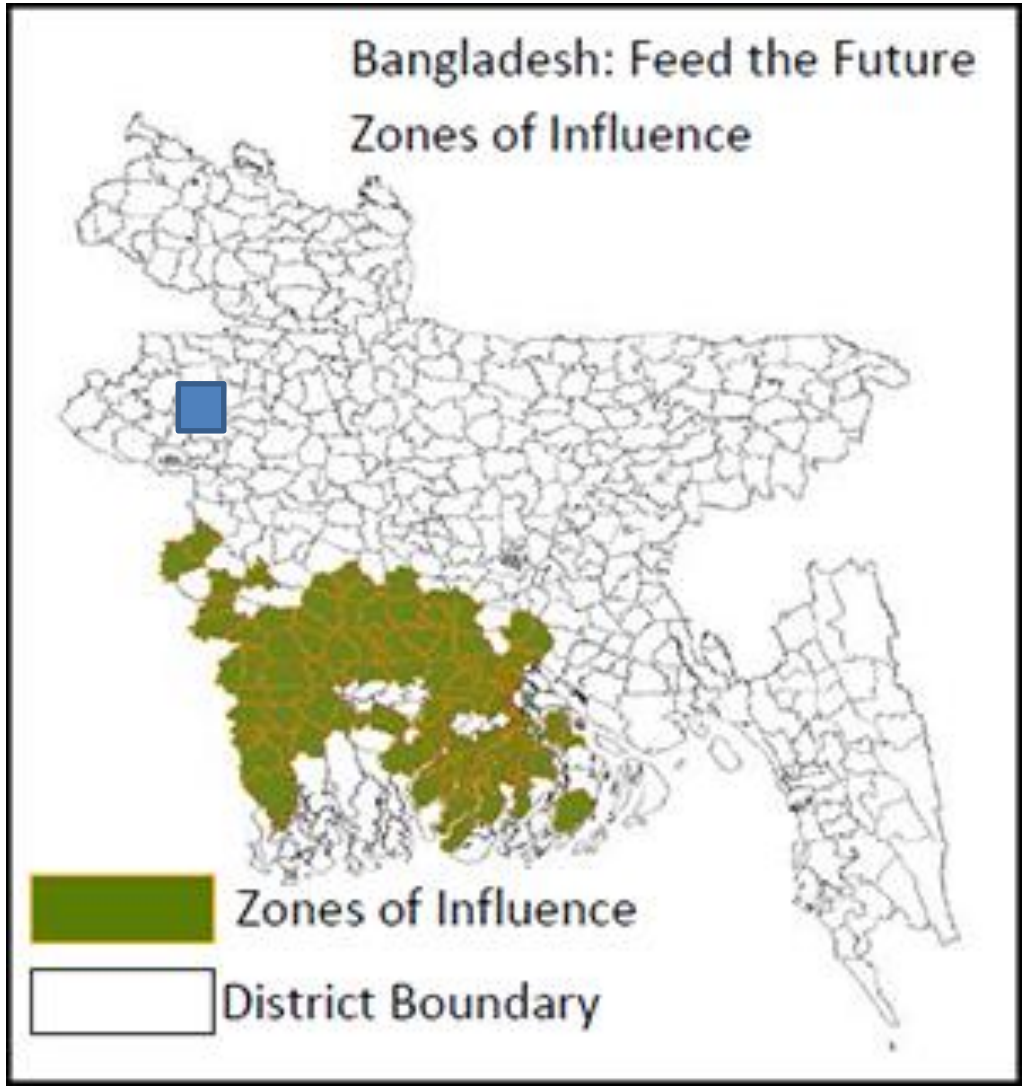


Everyone loves regressions

Stunting = f (Sex of child, HHhead gender, HHhead literacy, division, year)

Wasting = f (Sex of child, HHhead gender, HHhead literacy, division, year)

Underweight = f (Sex of child, HHhead gender, HHhead literacy, division, year)


Bangladesh: Feed the Future
Zones of Influence
Zones of Influence
District Boundary

Wasting

Most important predictors are literacy and gender, not division

So what's driving the changes in different divisions?

HHhead literacy by division

Barisal	-.099***
Chittagong	-.057**
Dhaka	-.163*
Khulna	
Rajshahi	-.180***
Rangpur	-.155***
Sylhet	-.110***

Thank you!

Can Public Speaking Explain the Height of Your Children?

Adan Silverio Murillo

School of Public Affairs, American University

October 26, 2017

Outline

1 Introduction

2 Data and Empirical Strategy

3 Results

4 Conclusions

Motivation

- Public speaking can be stressful (Kirschbaum, et al.)
- Stress can affect how individuals make decisions.
- Public speaking is a measure of "empowerment" (Women's Empowerment in Agriculture Index, WEAI).

Research Question

Can public speaking affect nutrition (height)?

Data

- Bangladesh Integrated Household Survey (BIHS).
- National representative of rural Bangladesh.
- Panel data: 2011-2012 baseline to 2015 midline.
- Completed at 2015 midline: 96.13%.

Basic Descriptive Statistics

Table: Changes in WEAI from 2011/12 to 2015

Variables		Mean 2011/2013	Mean 2015
Women	Empowerment	27.36%	41.23%
Men	Empowerment	52.16%	64.01%

Source: IFPRI Bangladesh Integrated Household Survey, 2011-2012 and 2015.

Data

- The dependent variable is the height.
- The variable of interest: public speaking for women.
- Controls: child's age (months), child's sex, age of the head of the household, members, food consumption score, the household head attends school. Other measures of empowerment: input in productive decisions, control over use of income, autonomy in production, ownership of asset, access to and decision on credit, group member, leisure, workload, an purchase, sale or transfer of assets.

Table: OLS Estimates: Effects of Speaking in Public on Child's Height

	(2011a)	(2011b)	(2015a)	(2015b)
Dep Var: Height				
Speaking in Public, women	0.874***	0.830***	0.691***	0.729***
	(0.269)	(0.276)	(0.222)	(0.243)
Child's age (month)	0.718***	0.717***	0.707***	0.703***
	(0.007)	(0.008)	(0.006)	(0.007)
Child's sex	-1.003***	-0.996***	-0.969***	-0.924***
	(0.249)	(0.254)	(0.218)	(0.230)
Household head age	0.021*	0.019	0.017*	0.012
	(0.012)	(0.013)	(0.009)	(0.010)
Members, total	-0.292***	-0.275***	-0.049	-0.041
	(0.082)	(0.084)	(0.052)	(0.054)
Food Consumption Score	0.008	0.007	0.027***	0.023***
	(0.007)	(0.007)	(0.006)	(0.006)
Household head attend school	1.098***	1.087***	0.828***	0.763***
	(0.263)	(0.269)	(0.231)	(0.246)
Other Controls	No	Yes	No	Yes
R^2	0.83	0.83	0.86	0.86
Observations	1988	1916	2079	1774

Standard errors in parenthesis. *** p <0.01, ** p <0.05, *p <0.1

- Should we promote public speaking to improve the nutrition of children?

- Omitted Variables.
- Bounding Methodology: Krauth (2016) → Cross-sectional data
- Fixed effects → Panel data.

Latent model with unobserved heterogeneity

Table: **Effects of Speaking in Public on Child's Height**

Dependent variable: Height		
Speaking in Public Women (2011)	Bound	[.47, 1.20]
	S.E.	(-.25, 1.82)
Speaking in Public Women (2015)	Bound	[-.11, 1.52]
	S.E.	(-.25, 1.82)
Fixed effects	β	0.69
	S.E.	0.51

Regression controls for child's age (months), child's sex, household head age, members, food consumption score, household head attend school. Other measures of empowerment: input in productive decision, control over use of income, autonomy in production, ownership of asset, access to and decision on credit, group memeber, leisure, workload, an purchase, sale or transfer of assets.

Why are we not finding any effect?

Why are we not finding any effect?

- Hypothesis 1: Quality of data.
- Hypothesis 2: Problem of measurement error.
- Hypothesis 3: Intra-household bargaining problem.

Intra-household bargaining problem

- Policy makers intuitively expect that women's bargaining power will affect health and education of children and the well-being of women.
- But, it is possible that the problem is the men.

Intra-household bargaining problem

- In my paper, "Conditional or Unconditional Cash Transfers: Which is Better for School Attendance?", I develop a theoretical model that predicts that in order to achieve Pareto optimality, it is necessary to give conditional transfers not only to the wife, but also to the husband.
- This contrasts with many of the implementations of conditional cash transfers that only give transfers to one of the spouses.
- Intuition: It is the husband who does not want to invest in the children.
- We have to provide incentives to the husband !!!

Basic Descriptive Statistics

Table: Changes in WEAI from 2011/12 to 2015

Variables		Mean 2011/2013	Mean 2015
Women	Empowerment	27.36%	41.23%
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Source: IFPRI Bangladesh Integrated Household Survey, 2011-2012 and 2015.

Table: Effects of Speaking in Public on Child's Height

	(FE)	(FE boys)	(FE Girls)
Dep Var: Height			
Ownership of asset, men	-2.747***	-1.408	-3.545***
	(2.743)	(3.403)	(2.043)
Input in productive decisions, men	-0.134	2.044	-1.944
	(1.180)	(1.776)	(1.452)
Control over use of income, men	-0.574	-4.543	1.854
	(4.182)	(6.940)	(2.071)
Autonomy in production, men	-1.175	-0.797	-1.256
	(1.144)	(1.967)	(1.564)
Purchase, sale or transfer of asset, men	-1.667	-2.097	-1.612
	(1.911)	(2.798)	(2.812)
Access to and decision on credit, men	-0.997	-0.612	-1.300
	(1.083)	(1.816)	(1.215)
Speaking in Public, men	1.290	1.601	0.956
	(0.951)	(1.440)	(1.162)
Group member, men	-0.149	0.183	-0.226
	(1.213)	(2.571)	(1.619)
Leisure, men	-0.476	-0.437	-0.730
	(0.906)	(1.714)	(1.073)
Workload, men	-0.099	0.300	-0.303
	(0.800)	(1.662)	(1.104)

Table: Effects of Speaking in Public on Child's Height (cont.)

	(FE)	(FE boys)	(FE Girls)
Dep Var: Height			
Speaking in Public, women	0.163	0.356	-0.294
	(0.710)	(1.204)	(1.134)
Input in productive decisions, women	0.234	0.699	-0.476
	(1.033)	(2.003)	(1.585)
Control over use of income, women	0.459	0.636	0.219
	(1.264)	(2.217)	(1.983)
Autonomy in production, women	1.419	1.562	1.618
	(0.991)	(1.866)	(1.665)
Ownership of asset, women	0.721	1.464	0.435
	(0.994)	(1.770)	(1.471)
Purchase, sale or transfer of asset, women	0.318	-0.424	0.829
	(0.855)	(1.542)	(1.246)
Access to and decision on credit, women	-0.065	-0.506	0.572
	(1.035)	(1.834)	(1.088)
Group member, women	0.374	-0.001	0.390
	(1.018)	(1.600)	(1.079)
Leisure, women	0.779	0.340	1.251
	(0.863)	(1.638)	(1.361)
Workload, women	0.122	0.295	0.129
	(0.980)	(1.383)	(1.308)
Other Controls	Yes	Yes	Yes

Conclusions

- I find a strong correlation between public speaking of women and the height of the children.
- Yet, the effects disappear when I apply a bounding and a fixed effects methodology.
- It was observed an increase in women empowerment, but it also was observed an increase in men empowerment.
- It is possible that men continue having more power of bargaining than women.

Thank you !

email: asmurillo@american.edu
twitter: @Adan_murillo

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DATATHON

OPEN DATA → INSIGHTS

10 am - 5 pm
November 9, 2017

AGRICULTURAL POLICY SUPPORT UNIT (APSU)
22, Sech Bhaban, 4th Floor
Manik Mia Avenue
Sher-e-Bangla Nagar, Dhaka 1207

PROGRAM
10:00 am / Training Tracks (Optional)
12:00 pm / Registration and Lunch
12:30 pm / Welcoming Messages
12:45 pm / About the Dataset
1:30 pm / Research Topics
2:00 pm / Do It Yourself
4:00 pm / Show Us Your Work
4:30 pm / Award Ceremony

Start with (optional) training sessions

More time to explain the data and show examples

Less distraction while working

CALLING ALL PASSIONATE DATA ANALYSTS IN DHAKA!

Participate the second *Feed the Future* DATATHON to explore new open agriculture/nutrition datasets and develop new insights.

Register now at http://bit.ly/datathon2

Feed the Future DATATHON is organized by the Gender, Climate Change, and Nutrition Integration Initiative (G-CAN) initiative at International Food Policy Research Institute (IFPRI). Learn more about G-CAN at ttp://gcan.ifpri.info