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

Evaluation of the USAID Community Connector Program

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Feed the Future Innovation Lab for Nutrition

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OUTLINE

- Background/Objectives
- The Context of the CC Program
- Study Design
- Analytical Strategy
- Selected Impact Results
- Conclusions

BACKGROUND AND OBJECTIVES

- Showing evidence on the interlinkages between agriculture, nutrition and health is key to inform policy and programming
  - Integrating nutritional concerns in agricultural policies and ensuring proper allocation of resources can increase access to diverse nutrient-dense diets in rural agrarian settings.
- This study assessed the impact of the Community Connector (CC) Program implemented by FHI360 in 15 Ugandan districts
  - Specifically, we wanted to establish if selected CC interventions had impacted on intermediary/pathway outcomes as well as maternal and child nutrition and health outcomes

CONTEXT: THE CC PROGRAM

- CC interventions were:
  - **Funding:** USAID for a 5-year period (2012-2016) and implemented by FHI360 in collaboration with local governments and CBOs
  - **Goal:** To reduce malnutrition among the most vulnerable populations (women of reproductive age and children <5years) in rural areas, using the integrated agriculture-nutrition approach
  - **Point of intervention:** Community (parish) level using existing (and new) community groups, e.g. women groups, youth groups, etc.
  - **Choice of interventions**: Based on the gaps identified at the needs assessment exercise conducted by CC prior to implementation

CONTEXT: THE COMPLEX "CC-SEE 10"

- Specifically, CC aimed to promote 10 outputs or the **"CC See-10":**

1. Women/family are saving (Saving with a Purpose)
2. WaSH facilities (toilets, garbage pits, utensil drying racks, hand washing)
3. Homestead compound is clean and neat
4. Pumpkin, amaranth and other vegetables are planted
5. At least 4 papaya trees, 1 avocado tree or other fruit trees are planted
6. Family have chickens, goats or an apiary
7. At least one agricultural income generation activity
8. Acquisition of production assets (e.g. hoes, pangas, spray pumps, ox plough)
9. Enough food stocks to last three months (in garden or store)
10. Signs that family members support each other in decision making

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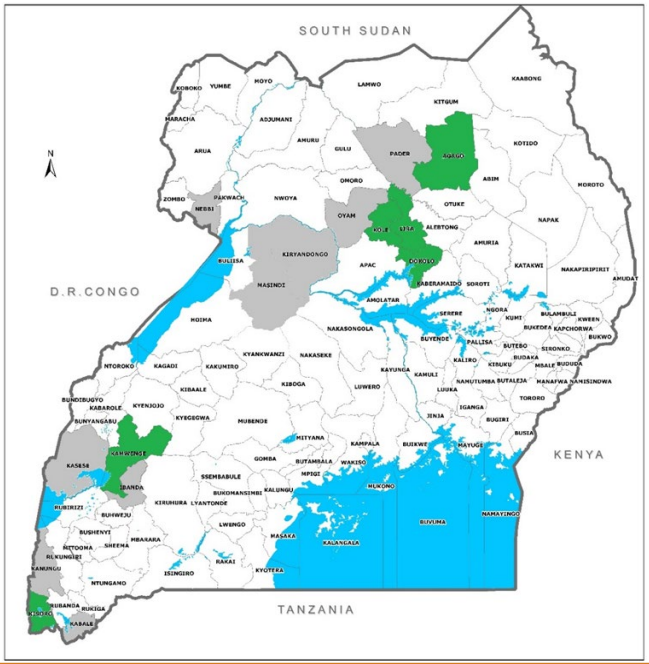
THE CC PROGRAM/ STUDY DESIGN

- **Regional focus**: 15 districts in Northern and S/SW Uganda, with high prevalence rates of poverty and malnutrition

Map of Uganda

South/S-Western
Ibanda
Kabale
Kamwenge
Kanungu
Kasese
Kiryandongo
Kisoro
Masindi



Northern
Agago
Dokolo
Kole
Lira
Nebbi
Oyam
Pader

Key to Map

- CC intervention districts
- CC districts sampled for impact study

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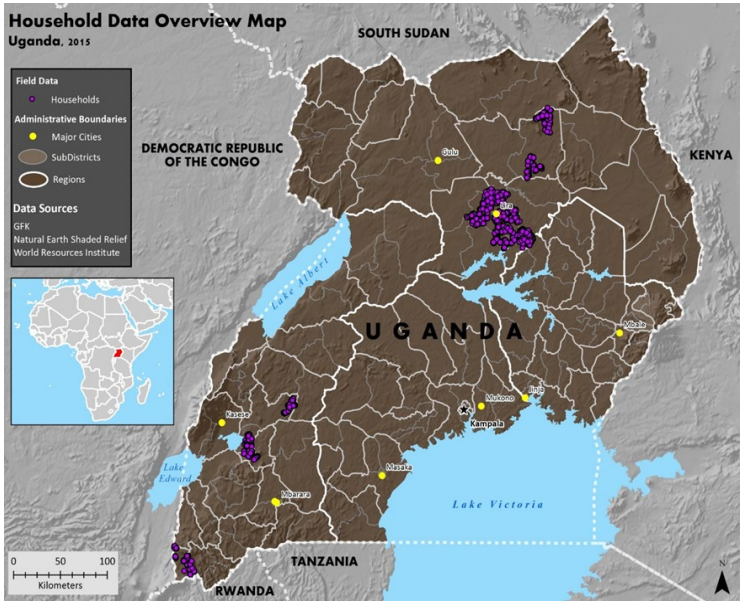
STUDY DESIGN

Map of Uganda showing sampled households



- Blood samples to test for Malaria and Hemoglobin
- Anthropometry (body measurements) on a large sample of children (0-5 years) were done

- A random sample of households was selected from study parishes to participate in the study
- At baseline (in 2012), ~3,600 households were interviewed; (~600 per district)
- 3,200 households were followed in each survey round in 2014 and 2016
- ~data covers over 12,000 children (0-5 years) in the study period and
- Collected a range of data on socio-economics, agriculture, nutrition, health, endowments, gender, etc.

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IDENTIFICATION OF 'CC' PARISHES

- Due to several challenges, not all CC interventions were implemented true to the original design/plan
  - Some parishes, even in the same subcounty, received a completely different package of interventions than planned
  - Some parishes only received partial interventions (initial outreach with little follow-up)
  - Other parishes within CC areas received no interventions at all
- To ensure appropriate attribution and proper classification of CC and non-CC households, FGDs were held in all study parishes

ANALYTICAL STRATEGY

- **Difference-in-Difference** approaches were used on 2 sets of household panel datasets:
  - at baseline in 2012 (prior to CC rollout), and
  - at endline in 2016 (after CC closure)
- The analysis compares outcomes for households/individuals in CC parishes to those in non-CC parishes ("treatment" vs. "control")
- Based on the FGDs, a parish is classified as:
  - "CC treated" if a substantial level of activity took place there
  - "Control" if none or minimal/superficial level of intervention occurred
- All households in a CC parish were considered beneficiaries of the "treatment" (and vice-versa).

ANALYTICAL STRATEGY

- Since assignment of parishes to CC or control was not purely random, there are potential sources of selection bias
  - mainly due to inherent observable and unobservable factors, which may affect estimation results
- However, panel datasets and accounting for community fixed effects can, to some extent, control for observed changes and other unobserved confounding factors.
  - A range of other econometric methods were employed to assess the robustness of the estimates.

IMPACT RESULTS

Intermediary outcome indicators: **Agricultural technologies**

- CC only improved the use of inorganic fertilizers by **~3%**
- No any other significant impacts were observed

	Improved seed	Inorganic fertilizers	Organic fertilizer	Agro-chemicals	Poultry vaccination
Impact estimate	-0.036	0.032**	0.013	0.018	0.012
(robust SE)	(0.030)	(0.013)	(0.018)	(0.025)	(0.023)
R^2:	0.07	0.02	0.02	0.06	0.04
N:	2,432	2,432	2,432	2,432	2,432

** p < 0.05, ** p < 0.01, *** p < 0.001*

IMPACT RESULTS

Intermediary outcome indicators: Food production diversity

- CC significantly increased the number of food species grown by households based on various production indices

	Total species	Crop species	Livestock species	Crop groups	FAO food groups
Impact Estimates	0.721***	0.402**	0.338***	0.210**	0.366***
R^2:	0.11	0.13	0.07	0.11	0.10
N:	9,144	9,089	9,144	9,089	9,144

** p < 0.05, ** p < 0.01, *** p < 0.001*

IMPACT RESULTS

Intermediary outcome indicators: Crop production diversity

- CC significantly increased the share of households growing cereals and tubers but also in vegetable production by **8%**
- Other than vegetables, there was no enough evidence that CC promoted a variety of nutrient-dense foods e.g. fruits, legumes.

	Cereals	Tubers/ roots	Legumes	Cash-crops	Vegs	Fruits
Impact estimate:	0.03*	0.10***	0.03	-0.02	0.08***	-0.03
R^2	0.05	0.13	0.10	0.18	0.14	0.10
N	9,089	9,089	9,089	9,089	9,089	9,089

** $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

IMPACT RESULTS

Child and Maternal Dietary Diversity

- Increased production diversity did not however translate into improved global maternal and child diversity scores
- Nonetheless, a number of nutrient dense foods (**meat** and **vegs**) were significant contributors to women's dietary patterns

	Cereals	Tubers	Legumes	Oilseeds	Vegs	Fruits	Meats	Dairy	Fats/oils
Impact estimates:	0.01	0.01	-0.03*	-0.01	0.05**	-0.04	0.04**	0.01	0.07***
N:	8,391	8,391	8,391	8,391	8,391	8,391	8,391	8,391	8,391
R^2	0.14	0.27	0.13	0.20	0.08	0.11	0.03	0.05	0.21

** p < 0.05, ** p < 0.01, *** p < 0.001*

IMPACT RESULTS

Intermediary outcome indicators: WaSH habits

- Analysis results show that CC significantly improved the households' ownership of drying racks for utensils by **~13%**
- CC did not seem to impact other WasH indicators in a meaningful way

	HH boils drinking water	Hand washing habits #	HH has toilet facility	HH has drying rack
Impact estimates	0.021	-0.066	0.052	0.134***
R^2:	0.02	0.06	0.02	0.06
N:	2,430	2,430	2,430	2,430

** p < 0.05, ** p < 0.01, *** p < 0.001*

IMPACT RESULTS

Intermediary outcome indicators: Financial services and affiliation to social groups

- CC increased the share of households saving and receiving money from social groups by **5%** and **7%**, respectively.

	HH received credit	HH saved money in social group	HH received credit from social group
Impact estimate:	-0.004	0.054*	0.070**
R^2	0.06	0.04	0.02
N:	2,431	2,431	2,431

** p < 0.05, ** p < 0.01, *** p < 0.001*

IMPACT RESULTS

Intermediary outcome indicators: ANC and maternal health-seeking behaviors

- CC did not seem to affect disease incidences or ANC visits during last pregnancy
- However, CC significantly improved health center treatments and child deliveries by **8%** and **5%**, respectively

	Caregiver illness	Hospital treatment	Slept under ITN	4+ ANC visits	Delivered at health facility
Impact estimate:	-0.004	0.075**	0.039	0.047	0.048*
R^2:	0.04	0.13	0.06	0.03	0.03
N:	2,413	2,413	2,413	2,350	2,350

** p < 0.05, ** p < 0.01, *** p < 0.001*

IMPACT RESULTS

Child and Maternal Nutrition Outcomes

- CC did not significantly improve a range of child and maternal nutrition outcome indicators except for **maternal anemia**, which reduced by **8%** due to CC.

	Maternal anemia	Maternal underweight	Stunting	Under weight	Child anemia
Estimates:	-0.08***	-0.01	-0.02	-0.03	0.01
(robust SE)	(0.03)	(0.02)	(0.03)	(0.03)	(0.07)
R^2:	0.05	0.02	0.04	0.04	0.13
N:	2,372	2,398	1,741	1,803	545

** p < 0.05, ** p < 0.01, *** p < 0.001*

CONCLUSIONS

- The FtF Innovation Lab for Nutrition assessed the impact of a complex program, the Community Connector, that was implemented in Uganda for 5 years.
- Results show that the ultimate goal of reducing undernutrition of women and children based on several indicators was not generally achieved by the CC interventions in the 5 years
  - Only the prevalence of maternal anemia reduced significantly in CC households compared with the control households

CONCLUSIONS

- But there are many positive impacts on intermediate indicators of CC, which likely have implications for nutrition outcomes, notably:
  - **Increased level of production diversity, women's diet diversity/quality, rural finance and health care seeking behaviors, etc.**
- Therefore, long-term interventions with much more intensified and wider coverage of key packages (the Agric-WaSH-Nutrition combinations) may lead to more consistent results
- The many positives seen from this complex program regardless of implementation fidelity issues, suggest that multisector programs for nutrition has further potential across Uganda.

ACTIONS AND WAY FORWARD

- Dissemination activities to districts of study are ongoing and a big dissemination event is planned for early next year
- More refined analysis is planned/ongoing to identify key nuances for policy and program recommendations
- The panel report has been reviewed by the team and shared with USAID mission in Uganda for review/adoption

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