Modernizing Extension and Advisory Services

The Link Between Agricultural Extension and Food Security: Wave 1 Survey Results From A MEAS Randomized Controlled Trial of Grameen's Community Knowledge Worker Program with Dairy Farmers in Uganda

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Agricultural Extension and Food Security

"...(Al)though the majority of the world's population will live in urban areas by 2030, farming populations will not be much smaller than they are today. For the foreseeable future, therefore, dealing with poverty and hunger in much of the world means confronting the problems that small farmers and their families face in their daily struggle for survival".

Jacques Diouf, Director-General, FAO/UN and James D. Wolfensohn, President, The World Bank. From Preface of Farming Systems and Poverty; Rome and Washington, DC: 2001

Why invest in extension? (examples from Ghana)

- **Increases in agricultural production in Ghana have largely come through land expansion (Kolavalli et al 2008)**
  - **Ability to continue this is limited**
- **The level of adoption of improved agricultural technologies low in Ghana, particularly northern Ghana**
  - **Irrigated rice – some areas with good water management and practices have yields of above 5 mts per ha compared to average of 1.25 mt per ha for many irrigated areas**

Why invest in extension?

- **Poverty reduction – improving productivity of small-holder agriculture strengthens family incomes and resilience**
- **Extension can strengthen and build farmer based organizations, target and promote women's agricultural activities (access to land, participation and leadership)**
- **While many examples exist of poorly performing extension programs, evidence exists for the benefits of well-delivered agricultural extension programs**

MEAS RCT Study Team

Dr. Dan McCole, PI, MSU

Michael Culbertson, PhD student, Education (statistics and evaluation emphasis), U of Illinois

Festus Amadu, Grad student, ACE, U of Illinois

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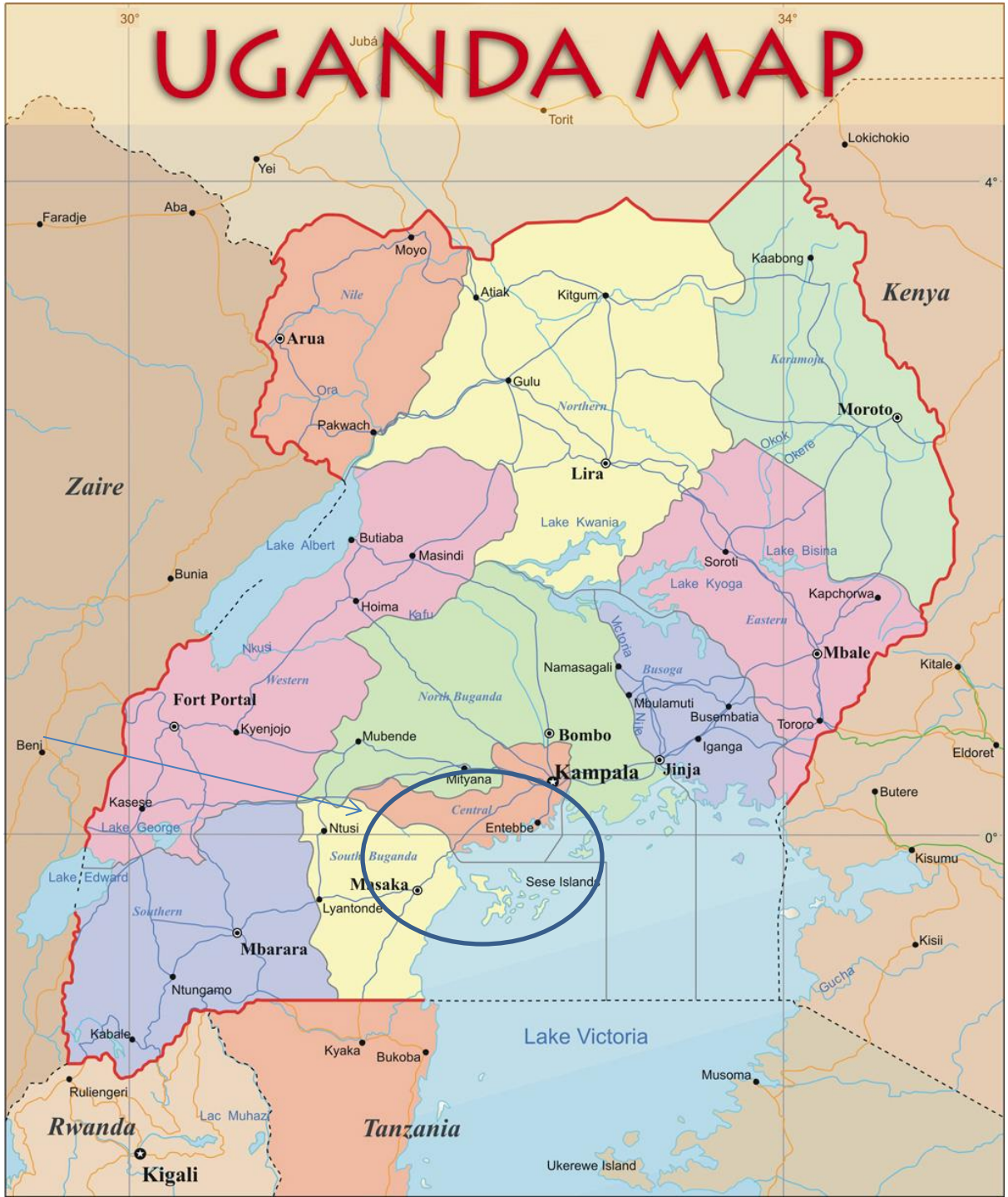
Study area


UGANDA MAP
30°
34°
4°
0°
Juba
Torit
Lokichokio
Yei
Faradje
Aba
Moyo
Kaabong
Kenya
Nile
Atiak
Kitgum
Arua
Karamoja
Gulu
Ora
Northern
Moroto
Pakwach
Okok
Okere
Lira
Zaire
Lake Kwania
Lake Albert
Butiaba
Masindi
Lake Bisina
Soroti
Bunia
Lake Kyoga
Kapchorwa
Hoima
Kafu
Eastern
Victoria
Nkusi
Mbale
Namasagali
Busoga
Kitale
Western
Fort Portal
North Buganda
Mbulamuti
Busembatia
Tororo
Kyenjojo
Mubende
Bombo
Nile
Iganga
Beni
Eldoret
Kampala
Jinja
Mityana
Butere
Kasese
Central
Lake George
Ntusi
Entebbe
Kisumu
South Buganda
Lake Edward
Masaka
Sese Islands
Lyantonde
Southern
Kisii
Mbarara
Gucha
Ntungamo
Kabale
Lake Victoria
Kyaka
Bukoba
Musoma
Ruliengeri
Lac Muhazi
Rwanda
Tanzania
Kigali
Ukerewe Island

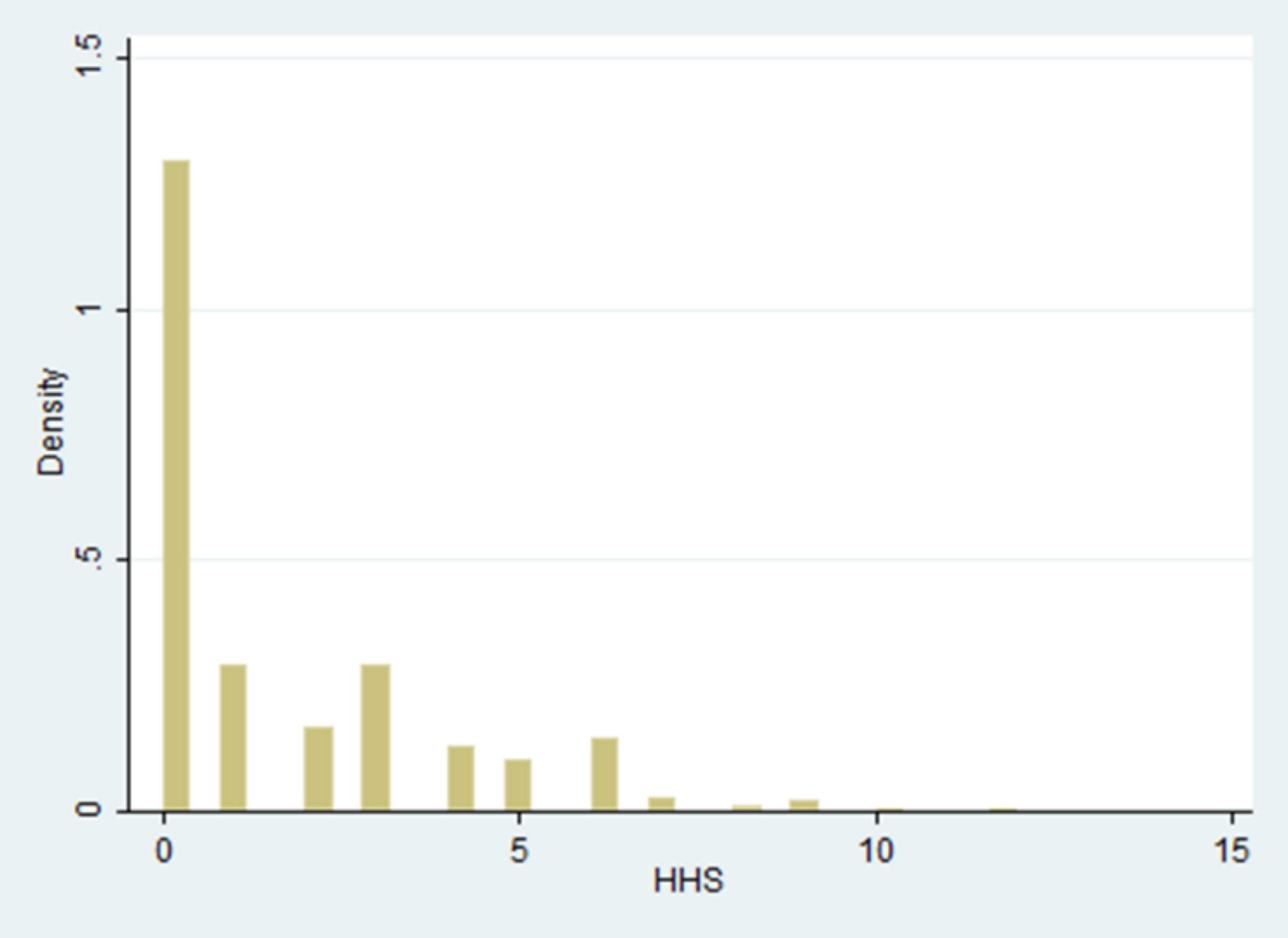
Grameen CKW RCT with Dairy Hubs

- 3 year study
- Baseline in August 2012
- Data collected from 100 hh each hub – 1200 observations
- Try for male / female balance
- Dairy hub indicators form hub administrative records in each wave -- # farmers, milk quantity, milk quality, price received
- Instrument in English but Luganda version available to enumerators in writing during training

Food (In)Security

- Household Hunger Score (HHS)
- Sum of raw scores from 3 food insecurity questions:
- In the past 12 months (2 growing seasons), how often was there no food to eat of any kind in your home because of lack of resources to get food?
- Responses As: 0=Never; 1=Rarely; 2=Sometimes; 3=Often; 4=Almost always
- In the past 12 months (2 growing seasons), how often did any household member go to sleep at night hungry because there was not enough food?
- In the past 12 months (2 growing seasons), how often did any household member go a whole day and night without eating anything at all because there was not enough food?

Food (In)Security -- HHS in Wave 1



Extension Access in Wave 1

- "ExtnEnough" variable is the respondent's assessment of the ease of access to extension information
- "How easy is it to get extension information when you need it?"
- 1=Not at all easy; 2=Somewhat easy; 3=Fairly easy; 4=Very easy
- Goodextension is a dummy variable which =1 for Fairly easy and Very easy

ExtnAvail	Freq.	Percent	Cum.
Not at all easy	475	39.88	39.88
Somewhat easy	343	28.8	68.68
Fairly easy	249	20.91	89.59
Very easy	124	10.41	100
Total	1,191	100	

Food Security – Correlates via Simple Regression

Dep Var = Household Food Security	Coef.	Std. Err.	t	P>|t|
PPI	-0.142526	0.042110	-3.38	0.001
SqPPI	0.000801	0.000383	2.09	0.037
HHHeadFemale	0.128224	0.191666	0.67	0.504
Femaleeduc	-0.142671	0.145889	-0.98	0.328
Children*FemaleHeadedHH	0.048969	0.071557	0.68	0.494
Goodextn	-0.363494	0.143889	-2.53	0.012
Constant	6.995272	1.138645	6.14	0
N=1002, R^2=0.1019				

Conclusions

- Some evidence for link between extension access and food security for farmers near Masaka in Uganda
- RCT should sharpen the evidence on the link
- Greatest research need is how to develop sustainable extension approaches at scale that are responsive to the rural poor in places like Nepal and Uganda and Liberia and Cambodia