

COMMUNITY KNOWLEDGE WORKERS: TAKING FARMER EDUCATION TO THE COMMUNITY

Michael J. Culbertson, University of Illinois

Daniel McCole, Michigan State University

Community Knowledge Worker Program

- Turn traditional extension model on its head:
- Large number of lightly trained, community-based extension agents.
- Community Knowledge Workers (CKWs) access a database of agricultural information on Android smartphones provided by Grameen.
- CKWs serve as "trusted intermediaries" between farmers and information providers.

- Primary CKW activity: Search the CKW phone for information relevant to community members' farming issues.
- Database is in English; CKWs translate and explain information to neighbors in local language.
- CKWs are encouraged to reach out to women and the very poor first.
- CKWs are volunteer, but receive performance-based monetary incentives for reaching monthly targets.
- CKWs are also trained as survey enumerators on a mobile data collection platform.
- Each CKW generally serves a Ugandan parish (500-800 farmers).
- As of May 2013, over 1,000 CKWs in 36 districts have conducted more than 1 million searches.

- ### Recruitment
- Participatory, community-based recruitment process.
 - Early meetings with community leaders and key stakeholders.
 - Community meeting to explain program and solicit nominations.
 - Community present elects CKW from nominees.
 - Attempt to recruit half women CKWs across the program.

- ### CKW Qualifications
- Must be a permanent member of the community.
 - Trusted and well known in the community.
 - Home must have acceptable mobile network coverage.
 - Minimum education level and English proficiency.
 - May not have full time employment (outside the farm).

- ### Training
- 3-day training in central location in groups of 20-25.
 - Presentation of "CKW value proposition" and asks for commitment to the program.
 - Basic smartphone usage.
 - Practice using CKW phone apps.
 - Tips and "best practices" for CKWs.

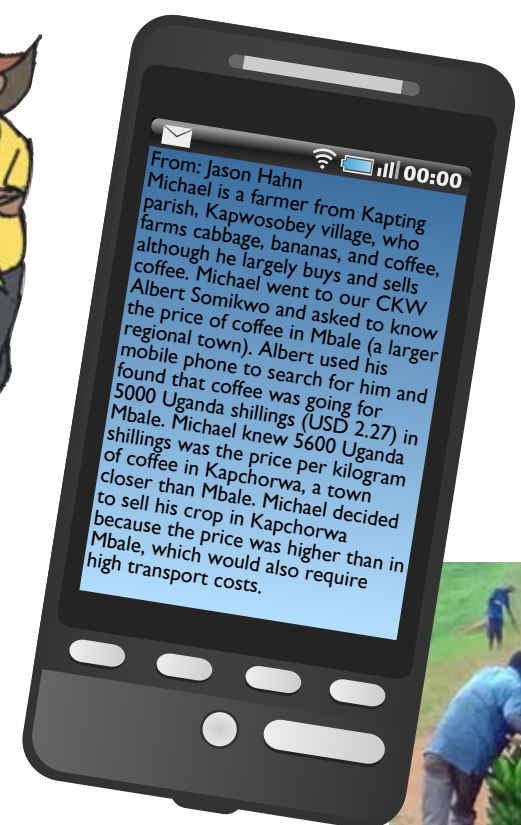
- ### Sustainability
- Initial funding from Bill and Melinda Gates Foundation.
 - Each wave of recruitment in partnership with another NGO working in the area.
 - CKWs promote partner's activities or perform data collection.
 - Partner shares costs of recruitment and training.
 - Grameen offers data collection services (via CKWs) to other NGOs to defray costs of the program.
 - CKWs receive a solar-power phone charging system.
 - CKWs are encouraged to start a phone-charging business for their neighbors.

- ### Process Evaluation
- Goal: To better understand CKW-farmer interactions and explain differences in outcomes.
 - Piggy-back on impact survey, CKWs and 200 farmer participants.
 - Interviews and focus groups with CKWs and farmer participants.
 - Questionnaire based on program theory.
 - Sample topics:
 - How easy is it to contact CKW?
 - Does farmer approach CKW or vice-versa?
 - Who talks more in the interaction?
 - How well does farmer think CKW locates and explains information?
 - Does farmer trust the information?
 - How memorable is the information?
 - Does CKW follow-up with farmer later?
 - Does farmer act on information? If not, why?

- ### Impact
- Progress out of Poverty Index (PPI), Income
 - Food security, illness
 - Agricultural production and practices
 - CKW "Key Messages"
 - Gender division of household decisions

Services a Community Knowledge worker will provide to the community

- Agricultural tips and advice.
- Weather forecasts of up to 3 days in advance.
- Market platform which links buyers to sellers and sellers to buyers.
- Market prices for 42 commodities in 20 districts.
- An Input supplier directory (a list of people who sell farm inputs)
- Detailed farming information on maize, beans etc such as how to prepare the soil for planting and how to look after the soil so that it produces good harvests.



Context

- ### Uganda
- About the size of Minnesota
 - 35 million people
 - 38% living below \$1.25 PPP per day
 - Human Development Index (HDI) Rank: 161 out of 186 (2013)
 - Capital: Kampala, elevation 3,900 ft
 - Tropical climate: Rainy/dry seasons
 - Independence from United Kingdom in 1962
 - Source of the Nile (Lake Victoria)

- ### Farming in Uganda
- Estimated 80% of rural Ugandans are farmers.
 - Main crops: Matooke (banana), Beans, Maize.
 - Cash crops: Coffee, Tea.
 - Most farmers have limited access to agricultural information.
 - Many traditional farming practices provide low yields.
 - Disease and pests are common.
 - High penetration of mobile phones: 70-90% of households in rural areas.

- ### Agricultural Extension
- Provides cutting edge agricultural knowledge to farmers.
 - Farmer field schools, demonstration plots, soil quality tests.
 - Traditionally, small number of highly trained extension agents.
 - In Uganda, farmer-agent ratio is over 3,000 to 1.

- ### Grameen Foundation
- Inspired by the micro-finance work of the Grameen Bank in Bangladesh.
 - Objective: "To enable the poor, especially the poorest, to create a world without poverty."
 - Projects in 36 countries.
 - Application Laboratory (AppLab) in Uganda develops innovative mobile phone-based strategies to help fight poverty.

Evaluation

- ### Context
- Capitalizing on new roll-out in the region of Masaka.
 - Partnered with the East Africa Dairy Development (EADD).
 - EADD supports the development of local dairy-farmer cooperatives (dairy hubs).
 - Technical assistance from the USAID Modernizing Extension and Advisory Services (MEAS) project.

- ### Design
- Cluster-randomized control trial with 12 dairy hubs.
 - Three treatment arms: EADD only (control), EADD + CKWs, EADD + CKWs + Agro-Vet Shop.
 - Survey of 1200 households, baseline in August 2012.
 - Data collection every 6 months up to 3 years.
 - Early termination on strong evidence of impact.



Conclusion

The advent of mobile communication technology provides new, cost-effective ways of disseminating knowledge among the rural poor. CKWs provide a vital link between isolated rural communities and new agricultural knowledge. While other mobile communication innovations have not produced great effects, the CKW model is unique due to the presence of a "trusted intermediary" between participants and technology. Since CKWs are invested in their community, they often take an active role in diagnosing their neighbors' farming challenges and following up with farmers on the implementation of new agricultural practices. A better understanding of how the CKW model functions for farmers in rural Uganda will facilitate expanding the model to other countries and other knowledge domains, such as health, enabling more communities to break the cycle of poverty.

For further information

- CKW: <http://ckw.applab.org>
- EADD: <http://www.heifer.org/eadd>
- MEAS: <http://meas-extension.org>
- Michael J. Culbertson: culbert1@illinois.edu
- Daniel McCole: mccole@msu.edu

Partners



Early Findings

- CKWs take initiative early in the program. Most CKWs approach farmers instead of waiting for farmers to come to them. 71% of farmers said CKW followed up with them at a later date.
- CKWs communicate information effectively to farmers. 78% of farmers said they could remember the information "very" or "extremely" well. 68% said that they felt "very" or "extremely" prepared to use the information.
- Farmers take action based on CKW information. 71% of farmers said they took action based on the information. Farmers were much more likely to take action when CKWs followed up with them (88% vs. 36%).
- Farmers spread the information they receive with other community members. 56% of farmers said they shared the information with someone. Farmers were much more likely to share if they acted on the information (73% vs. 16%).
- Many farmers believe the CKW cares about their farm. 82% of farmers said they felt CKW cares about their farm "moderately" or "a lot." 55% said they felt their CKW cares about their farm "a lot."

