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The Five Skills Set and Farmbook Rollout in Kenya

A collaboration between the Ministry of Agriculture Kenya, Catholic Relief Services,
and the Modernizing Extension and Advisory Services Project at the University of
Illinois at Urbana-Champaign 2013-2015

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Background

Smallholder farmers often lack the skills to analyze opportunities and costs to engage with markets. Traditional extension agents often lack the tools to analyze markets, which makes it difficult to evaluate the profitability of crops or production techniques they promote. In addition, agricultural programs rarely capture the costs of technical packages and their impact on farmer incomes.

In order to address this situation and ensure that extension agents are providing sound business advice to farmers, the Ministry of Agriculture (MoA), Kenya, adopted the common interest group approach to extension service delivery in the year 2000. Working with groups was intended to empower the farmers to take up agri-business enterprises – specifically market-oriented and income-driven ones – so that the groups will be viewed as business entities rather than extension groups. Working with farmer groups makes extension services more accessible to small-scale farmers by providing economies of scale in service delivery and a mechanism for producers to express their demands for services. This enables extension programs to reach more farmers, facilitate participation in extension activities and develop human resources, social capital, and increase equity.

Despite adopting the group approach to extension, stability and sustainability of the extension groups was a major concern for the MoA. Ministry extension staff observed that many of the groups tend to fail because the members may have conflicting interests and understandings about the group objectives. Sharing benefits was also a source of conflict especially when the contribution to the achievements of benefits was not uniform. Yet another source of conflict was poor group leadership that led to strife and lack of group cohesion.



Extension agents of the Ministry of Agriculture (MoA) Kenya at training on the Five Skills Set & Farmbook in Machakos, Kenya in 2013

Due to these challenges in trying to implement the group approach to extension, the MoA approached the Modernizing Extension and Advisory Services Project (MEAS) and requested that their extension field agents be trained on Farmbook and the Five Skills Set (www.meas-extension.org/meas-offers/training and www.crsprogramquality.org/smart-skills-for-farmers).

The collaboration

In collaboration with MEAS program, Catholic Relief Services (CRS) has prepared nine training modules for the Five Skills Set. Each module has a corresponding facilitation manual for field agents to guide their work with farmer groups. The modules focus on five critical skills that smallholder farmers need to successfully engage with markets. These Five Skills are: group management; financial education; marketing and agro-enterprise development; natural resource management; and innovation. The modules have also been converted into E-learning courses that are used to train field agents, who in turn teach the farmers these skills.

In addition to the Five Skills Set, CRS is currently developing and field-testing a new e-business platform called Farmbook. Farmbook is a digital field-worker application and electronic farm business planning tool for field agents. Farmbook enables extension field agents to help farmers plan their businesses more effectively and assess the productivity and profitability of their farming enterprise.

The MoA proposed to collaborate with MEAS in the training of its extension officers on the Five Skills and Farmbook. The overall objectives of this training-of-trainers program were to strengthen agriculture extension systems in Kenya, to test and customize the training modules to local field conditions, and to build the capacity of the MoA senior staff and subject matter specialist in training of field extension officers.

The MEAS project provided the funds for the training, implementation and rollout of the Five Skills Set and Farmbook in Kenya. CRS provided the trainer facilitators and coordination support for the impact evaluation and ongoing research. The role of the University of Illinois at Urbana-Champaign (UIUC) was to provide technical consulting regarding the evaluation design, survey instrument design, statistical analysis, and evaluation report writing. The impact of the Five Skills Set and Farmbook interventions in Kenya will be evaluated in June 2015. This will document lessons learned in the application of the training modules for wider dissemination.

Research design and methods

The team from UIUC designed a pilot action research study of the impact of the Five Skills Set and Farmbook in Kenya. This ongoing pilot action research study is investigating the impacts of the transfer of the Five Skills Sets on farmer livelihoods and how to expand its use. This study will evaluate the impacts of the training at three levels. The first level will assess the impacts of the Five Skills Set and Farmbook training on extension agents' performance, the second will assess impacts at the farm level, and the third will assess impacts at the program level.

The extension agent level impact assessment will investigate how the extension agents trained on the Five Skills Sets program are using the training and technology. How has the training/technology affected their performance? What are the challenges and obstacles in using the Farmbook technology? How can the training and technology be improved? The farm-level impact assessments will measure the effects of the training program on the livelihoods of farmers. How well are the farmer groups able to access markets? How have the behavior and livelihoods of these farmers changed compared with farmers who have not been served by extension agents trained on the Five Skills? The program-level impact assessment will seek to understand the strengths and limitations of the program and how it can be improved or adjusted to the changing situations or client groups. Data will be collected through document reviews, a structured questionnaire, and focus groups with extension field agents, trainers and farmers. Our research hypotheses are as follows:



Group working session during Farmbook training in Nyeri, Kenya 2013

1. Trainers – There is no significant difference between the impact on farmer livelihood of extension staff trained to use the Five Skills Set and Farmbook and extension staff who have not received the training.
2. Farmers – There is no significant difference between farmers who have participated in the CRS Five Skills Set training program and farmers who have not participated in the training.

In this study, 30 extension field agents have been trained on the use of Five Skills and Farmbook. A control group of 30 other field agents have not been trained. The trained and untrained staff will be expected to separately facilitate a group for a period of one and a half years. The treatment and control extension



Joyous Tata assisting MoA Managers to use Farmbook in a training in Nyeri, Kenya, 2013

field agents will have the same operating environment. Thirty farmer groups will be facilitated by the trained staff while another 30 groups are facilitated by staff that is not trained, making a total of 60 groups. Each group will have a total membership of 25 farmers, equivalent to a total of 1500 farmers from the sixty groups. The research will assess differences in staff skills between the two groups (trained and untrained). At the farm level, differences in outcomes such as adoption of innovation, agricultural productivity, and farm income and poverty index will be assessed between groups facilitated by trained and untrained staff.

As of November 2014, MEAS has completed pre- and post-baseline surveys and data entry for trained and untrained Staff. The first stage of the farmer surveys and data entry for 1500 farmers on the research study has also been completed, and the results are being analyzed. The final surveys for farmers will be collected in April 2015.

Outputs of Five Skills Set and Farmbook collaboration in Kenya

The following outputs have been achieved:

- 30 Ministry of Agriculture frontline field extension officers have been trained on MEAS Five Skills Set and Farmbook program.
- Nine training modules on Five Skills and Farmbook for field agents have been field-tested.
- 30 farmer groups (750 farmers total) facilitated workshops on the Five Skills and Farmbook.k
- 21 senior government officials have benefitted from in-service training.
- Scaling up of Five Skills and Farmbook training using the Map and Track for recording real time activities of field extension officers.
- A sensitization workshop for East African countries is being planned and the MoA Kenya, who is taking the lead in this, is asking for continued collaboration with MEAS and CRS on the best way this can be done.
- MEAS support will be required particularly for the use of license for Farmbook and brain honey-distance learning courses if East African countries decide to take it up
- A public-private partnerships between MEAS, MoA and CRS has been created.
- The State Department of Agriculture in Kenya has begun rolling out a larger ICT initiative (E-extension) to all 47 counties and is integrating Five Skills and Farmbook in their national E-extension program through existing national agricultural projects funded by the World Bank, SIDA and NAAIAP.

Achievements of the Five Skills Set and Farmbook program in other countries

Farmbook and Five Skills is now being used by 4 organizations in 8 countries:

- in market integration projects in Zambia, Zimbabwe, Madagascar, Malawi, and Kenya
- in a soybean production to market project in Tanzania
- by a USDA-funded Serbian 4H young farmers program
- by a private sector technology company in Bangladesh

Data from over 4000 farmers have been synced to the Farmbook production database by 363 field staff.



Rupert Best (CRS) hands out laptops to MoA officers at Farmbook training in Nyeri, Kenya,

- More than 1000 field agents have been trained on Five Skills and Farmbook.
- More than 1963 farmer groups have been trained on Five Skills and Farmbook.
- Impact study of the training of CRS field officers from 4 countries completed.
- The Farmbook business planner is now available in French, Hindi, Bangla, Serbian, Swahili, Spanish, and Malagasy.
- The distance learning courses are currently being translated into French and Spanish.
- Three academic papers on the basis of the pilot action research projects on Farmbook and FSS are being produced.
- The results of impact study on Five Skills and Farmbook were presented at a CRS training workshop in Zambia in 2013, the MEAS symposium in 2013, and at the ICT4D conference in Nairobi in 2014.
- Public-private partnerships have been set up in most countries where this technology is being implemented.



Shaun Ferris (CRS) at Five Skills & Farmbook training in Nyeri, Kenya, 2013

Activities implemented

The following activities were implemented:

Staff Mobilization (April 2013)

Staff mobilization was undertaken to identify 60 field officers who will participate in the project.



Extension officer Peter Mwangi sits down with the head of a farmer group in Nyeri, Kenya, to write a business plan

For ease of collaboration, all officers were identified from two clusters (districts) where CRS has been implementing the SILC Program¹. The criteria used to select the participants were:

- Extension officers currently working with established groups
- Computer literacy or willingness to undergo basic computer training

Thirty officers were trained on the Five Skills Set and another thirty were not trained (these constituted the control group). The allocation of the officers between the treatment and control groups was completely randomized to minimize bias in their distribution.

Procurement of laptop computers and modems (June – July 2013)

Laptop computers and modems were bought for the treatment group of 30 officers and three supervisors. The computers were used in the E-learning and in Farmbook application. All officers (trained and untrained) receive data bundles and a stipend for staples and supplies for their work with farmer groups. They will receive this support until the end of the project in 2015.

Baseline survey (May 2013)

The Ministry of Agriculture, Kenya with supervision from the University of Illinois conducted a baseline survey prior to the onset of operation activities in order to establish the pre-operation exposure conditions of the outcome and impact level indicators. The baseline survey provided the basis of impact evaluation at the end of the project. The indicators of interest in the baseline survey were at the extension level (staff skills), farmer group level and farm level (adoption of technology, farm productivity, farm income and poverty levels).

Staff training (July 2013– August 2014)

Thirty officers were trained on nine modules covered in four workshops as outlined below. E-Learning was combined with conventional training. The remaining thirty field staff were designated as the control group and will therefore not be trained. Training facilitators were identified from the CRS Kenya office and the MoA Kenya. Sub-Director of Extension Richard Githaiga was invited to witness Five Skills Set and Farmbook training of CRS field workers in Zambia from January 23, 2013 to February 5, 2013. The following workshops were held in Kenya:

1. **Training I:** Introduction to Five Skills, Agro-enterprise development and Farmbook: July 13, 2013 to July 21, 2013
2. **Training II:** Natural Resource Management and Innovation: October 19 to October 26, 2013
3. **Training III:** Financial Education: March 16, 2014 to March 26, 2014
4. **Training IV:** Group Management: August 25, 2014 to August 29, 2014



Suzanne Andrews (CRS) working with MoA officer at training in Machakos, Kenya 2013

¹ Savings and Internal Lending



Extension officer Cecilia Mutuku registers farmers in a women's self-help group in Machakos, Kenya, 2014

Farmer group facilitation (August 2013 - June 2015)

All sixty field officers were expected to continue facilitating their respective groups until June 2015, when the final impact study will be concluded.

Monitoring and evaluation (August 2013– June 2015)

During the implementation period, regular monitoring of field activities was undertaken. In addition, implementation review workshops were organized with the field officers to iron out challenges they face and ensure that planned activities were achieved as expected.

Impact study (May 2013– June 2015)

The University of Illinois Urbana Champaign will undertake a research to study the challenges and impacts of the transfer of CRS Five Skills Set and Farmbook intervention in Kenya. This will document lessons learned in the application of the training modules for wider dissemination. The study will be undertaken from May 2013-June 2015.



Extension officer Jackson Chege enters production data into Farmbook for a farmers group in Nyeri, Kenya, 2014