

## Map and Track application for Kenya County Extension Services

October 31, 2014

### Rationale

Kenya MoA mandated that the county extension offices begin adopting e-Extension methods and has since issued 645 computer-modem-smartphone sets to the 47 counties. Meanwhile, the county extension offices do not have access to any e-Extension tools to perform this newly mandated task. CRS visited ten counties to introduce to the county government the Farmbook suite which includes three relevant e-tools—e-Learning, e-Biz, and Map & Track--that can be used for e-Extension. These tools are offered to the counties with the understanding that the counties are to cover all the costs on their side—devices and organizing any training that needs to bring together the agents while CRS would provide the technology and provide technical support during the first year of application.

Of the ten counties visited, eight are interested in e-Learning while all wanted to use Map & Track to help with tracking service deliveries (Table 1). The reason that not all counties are interested in e-Learning is because it involves a great deal more of staff time and monetary investment to bring the staff in from the field five times during a period of one year to be trained in the SMART Skills. All the expenses associated with these training sessions will have to be covered by the counties while CRS will provide the technical trainers. Map & Track would require less input, but it does require smart phones to be supplied by the counties.

Table 1. Of the 10 counties visited, the number interested in e-Learning and Map & Track

| # counties interested in e-Learning | # counties interested in M&T |
|-------------------------------------|------------------------------|
| 8                                   | 10                           |

While CRS would like to disseminate an e-tool that facilitates extension service delivery, MEAS' is also interested in studying the potential impact of using Map & Track to track the service deliveries of the extension agents. A study is thus designed to compare the service deliveries between the counties which use this tool to track their extension activities with those which continue to use the conventional method of tracking their service deliveries. The study period will be between November when Map & Track is first installed until Sept 2015, a total of 10 months during this period.

## Method

During the visits to the ten counties, the number of the extension agents was assessed. In the county, the extension agents were housed in four departments which are crops, livestock, fisheries, and veterinarian. Generally there are more crop agents in each county, thus the staff/client ratio (i.e., one staff serves the number of households) is low. Livestock situation is the opposite. While on one hand the number of livestock agents is low, many of the households also have livestock, thus it has the highest staff/client ratio. There are a total number of 1,879 agents in these ten counties serving a total of more than 2 million households (Table 2).

Table 2. The inventory of the extension agents in the ten counties visited

| County extension agents and service |             |           |             |           |             |              |             |                   |                    |
|-------------------------------------|-------------|-----------|-------------|-----------|-------------|--------------|-------------|-------------------|--------------------|
| Crops                               |             | Livestock |             | Fishery   |             | Veterinarian |             | Total # of agents | Total no HH served |
| No agents                           | Staff ratio | No agents | Staff ratio | No agents | Staff ratio | No agents    | Staff ratio |                   |                    |
| 1,009                               | 1,297       | 228       | 6,647       | 127       | 5,076       | 515          | 3,105       | 1,879             | 2,069,330          |

Though there are nearly 2,000 agents, not all are ready to test the use of Map & Track because it requires a smartphone to use the iFormBuilder platform on which Map & Track operates. The smartphones available to install and use Map & Track are from four sources: 1) phones issued from the MoA for the purpose of implementing the e-Extension program, 2) phones, along with computers, purchased by the counties to implement the program, 3) phones that the counties have already allocated budget to purchase, and 4) the private phones that are owned by the extension agents who are willing to use them to track their own service delivery (Table 3). The uncertainties are the 'planned purchases' since some of these are not yet purchased, though in the budget, it is not certain all will be available by the time of the launch of Map & Track.

Table 3. Smartphones that may be available to install Map & Track

| Available smart phones |                  |                  |                |                    |
|------------------------|------------------|------------------|----------------|--------------------|
| e-Extension phone      | County purchased | Planned purchase | Agents' phones | Total no of phones |
| 150                    | 57               | 147              | 264            | 618                |

## Study Design

### *Sampling*

These ten counties will be divided into two groups with five counties in each group. One group will start using Map & Track in Nov 2014 while the other will wait to start five months later in Apr 2015.

The selection of the two groups could be based on any of a few selection criteria. One selection criterion could be based on the pairing of the number of phones that will have Map & Track installed; while the other one could be based on the number of agents (Tables 4 & 5). Ideally, the numbers of agents and the number of agents using Map & Track are the same (or at least comparable), but in this case where they are not, there are pros and cons of each selection criterion.

Table 4. Pairing the counties based on the number of phones available.

|                | Counties           | # phones |
|----------------|--------------------|----------|
| <b>Group A</b> | <b>Kirinyaga</b>   | 39       |
| <b>Group B</b> | <b>Nakuru</b>      | 40       |
|                |                    |          |
| <b>Group A</b> | <b>Kericho</b>     | 45       |
| <b>Group B</b> | <b>Trans Nzoia</b> | 53       |
|                |                    |          |
| <b>Group A</b> | <b>Meru</b>        | 111      |
| <b>Group B</b> | <b>Kajiando</b>    | 95       |
|                |                    |          |
| <b>Group A</b> | <b>Muranga</b>     | 134*     |
| <b>Group B</b> | <b>Baringo</b>     | 16       |
|                |                    |          |
| <b>Group A</b> | <b>Embu</b>        | 22       |
| <b>Group B</b> | <b>West Pokot</b>  | 23       |

\*There are 103 planned purchases in Muranga.

Table 5. Pairing the counties based on the number of agents

|                | Counties           | # agents |
|----------------|--------------------|----------|
| <b>Group A</b> | <b>Embu</b>        | 270      |
| <b>Group B</b> | <b>Nakuru</b>      | 300      |
|                |                    |          |
| <b>Group A</b> | <b>Meru</b>        | 216      |
| <b>Group B</b> | <b>Baringo</b>     | 175      |
|                |                    |          |
| <b>Group A</b> | <b>Trans Nzoia</b> | 150      |
| <b>Group B</b> | <b>Kajiando</b>    | 135      |
|                |                    |          |
| <b>Group A</b> | <b>Kirinyaga</b>   | 109      |
| <b>Group B</b> | <b>West Pokot</b>  | 107      |
|                |                    |          |
| <b>Group A</b> | <b>Muranga</b>     | 65       |
| <b>Group B</b> | <b>Kericho</b>     | 52       |

Though both sampling basis has its distinct weakness, the sampling strategy based on the number of available phones has greater merits. Thus, the selection of two waves of counties will be based on Table 4.

### *Data collection*

The data that will be collected to examine the impact of the use of Map & Track include the following:

- # of field visits by each agent
- # farms reached/serviced
- # contacts with the farm households
- ability to document the field work
- # of service delivered for each category of services
- # total of visits of each county

The survey instrument will be provided by MEAS and passed on to the MoA which will assist in data collection in three waves: 1) at the first Map & Track installment to collect baseline data from the Group A counties, 2) at the second Map & Track installment to collect baseline data from the Group B counties, and 3) at the project end, should there still be insufficient data to perform impact analysis.

These data will be collected from all ten counties as baseline data prior to the launch of Map & Track for both groups of counties. Once Map & Track have been launched for the first group (Group A), the data of Group A will be collected and record by this tool; while the data of Group B will continue to rely on the conventional method of self-reporting by the agents. MEAS may complement this study with a separate assessment to interview the serviced farmers to solicit feedback as a means to verify the validity of the data; but this verification assessment will be outside the scope of this particular proposed study.

### *Map & Track Reporting*

The CRS data architect suggests to start the report structure simple based on the current format, but not to customize the reporting design specifically for this study in the beginning. The reporting functions can be modified to fit the users' needs after they have had a period of experience with the tool and its reporting format and may then have specific requirements for the reporting structure that will<sup>1</sup> fit their needs.

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<sup>1</sup> The \$20,000 currently allocated to Zambia Map & Track will be re-assigned to cover the possible insufficient funds for this study.

## Budget

|                                   |                |
|-----------------------------------|----------------|
| Part time IT staff                | 20,600         |
| Part time program coordinator     | 9,900          |
| Transport                         | 18,600         |
| Hotel                             | 7,200          |
| Per diem                          | 3,780          |
| Dai travel (3 times during 10 mo) | 8,580          |
| MoA support                       | 3,060          |
| Admin and supervisor support      | 14,000         |
| License fee                       | 12,000         |
| <b>Total direct cost</b>          | <b>97,720</b>  |
| Indirect cost (17.07%)            | 22,462         |
| <b>Grand total</b>                | <b>120,182</b> |

Of this total budget, MEAS will put in \$100K in fund and the other \$20,182 will be covered the remaining of MEAS funds from work previously approved for Zambia.

There will be a two-part MOU, one with the MoA and the other one with the counties as the commitments and responsibilities differ for the MoA and for the counties.

- The commitments and responsibilities of each party involved are as follows.
  - The MOU will state the responsibilities/participation of MEAS, MoA, and CRS. MEAS will provide the funds and the structure of the study of the impact of incooperating Map & Track in the extension service; and CRS will provide technical support and the tool (Map & Track), and MoA and counties will provide the following:
    - MoA (i.e., you, Richard) will provide the overall supervision over the counties of incooperating the e-tool in their extension program.
    - MoA will participate in Research and Learning and data collection exercise designed by MEAS (there will be a separate modest budget for this component of the project). For this study Richard will be working directly with MEAS. MEAS will provide the survey and MoA will carry out the survey and enter the data to submit to MEAS. Survey will be done in three waves—in Nov during the first installment of Map & Track and in Apr during the second installment of Map& Track, and in Sept 15 at the end of the project.
    - MoA will have an IT person working alongside the CRS IT person as training for him/her to install and support Map & Track. As it is training opportunity for the MoA personnel there should not be expenses associated with this IT person in the budget of this project.
    - The MOU with the counties will need the signature of each of the counties, and it will state their commitment:
      - The County is fully in support of the implementation of incorporating Map & Track in their service delivery tracking
      - The County will support the agents to meet the IT people to get Map & Track installed and get them trained to use the tool.

The County will provide the local costs to the extension agents to carry out their duties in the field, and this includes providing them with the transportation and air time costs required for them to record their service delivery in the field.