

The Monitoring, Learning and Evaluation Community of Practice embraces smartphones to support monitoring activities

We used smartphones to collect registration data from 326 sweetpotato vine multipliers and yield data from 99 households in nine Sub-Saharan Africa countries.

✦ What is the problem?

Monitoring data must be accurate and processed in a timely manner to be useful to project management. While different disciplines have already provided a significant amount of evidence regarding the effectiveness of using Information and Communication Technologies (ICTs) for data collection, most sweetpotato research work in Sub-Saharan Africa (SSA) continues to rely on pen-and-paper based data collection.

Consider the case of managing Decentralized Vine Multipliers (DVM) and vine dissemination. At the very least a project must collect DVM registration data, provide regular feedback from DVM field monitoring visits and vine beneficiary data. Often, data collection roles are shared among project field staff, partners and DVMs. It is not unusual that these data hardly get digitized in a timely manner. Gathering all the paper forms for digitization is a challenge in itself, especially for projects operating over wide geographical areas.

Besides the written responses, additional types of data collected from these DVM fields include photographs and geographic coordinates (Fig 2). Extra care must be taken to ensure that all these are correctly interlinked. People use mixed formats to record geographic coordinates. Dates become corrupted if the month and day fields are interchanged. Building robust quality assurance controls into data collection processes is challenging no matter what the collection format is.



Fig 2. Mukasine Jeanne, a DVM in Rwanda, responds to questions during the collection of DVM data (credit C. Bukania)



Fig 1. Participants at the annual MLE community of practice meeting in Kigali, Rwanda (credit C. Bukania)

✦ What do we want to achieve?

Since 2014, the International Potato Center (CIP) through the Sweetpotato Action for Security and Health in Africa (SASHA) project has piloted the use of Android smartphones as a cost effective and accurate monitoring data collection tool. Significant effort has also gone into identifying suitable data visualization technologies that would allow researchers and managers get summarized views of field data. Electronic data collection should make it easier to have adoption of standardized data collection tools within and between projects. This in turn will enhance learning, promote research synergy, and contribute to tracking the progress toward achieving the Sweetpotato for Profit and Health Initiative (SPHI) goal, which is to improve the lives of 10 million African households in 17 SSA countries by 2020.

✦ Where are we working?

The first pilot was conducted in Nigeria in May 2014. Prototype forms based on Open Data Kit (ODK) were used to register DVMs and record feedback from DVM backstopping visits by government extension workers. Since then, different ODK data collection modules have undergone iterative development and field testing in Burkina Faso, Ghana, Nigeria, Rwanda, Ethiopia, Uganda, Kenya, Malawi and Mozambique

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The Sweetpotato for Profit and Health Initiative (SPHI), launched in 2009, seeks to improve the lives of 10 million African households in 17 SSA countries by 2020 through providing access to improved varieties of sweetpotato and their diversified use. Support for the establishment of the Platforms and the holding of community of practice meetings is provided by the Sweetpotato Action for Security and Health in Africa (SASHA) Project, led by the International Potato Center (CIP) with over 26 collaborating partners.

✦ How are we making it happen?

For sweetpotato research in SSA, a smartphone is an exciting tool that could improve data collection. We are taking advantage of Android, the most popular smartphone technology at the moment. As of August 2015, Android was the biggest mobile operating system in the world by market share (www.idc.com, August 2015). ODK is an open source suite of technologies that enables users to build data collection forms, collect data on Android mobile devices and send it to a server. The collected data are then aggregated and exported in different formats, as needed. The data collection forms can be authored using a spreadsheet application like MS Excel. To collect data, an active internet connection is not required. However, you must be connected to the internet to submit data to the server.

The SSA-based Monitoring, Learning and Evaluation (MLE) community of practice has been working together to develop and pilot agile ODK modules that can be adopted for routine monitoring activities by different projects. These modules will monitor DVM management; area, production and sales trends; production and sales by volume; nutrition; vine dissemination; yield estimation by crop cut and roots market price.

Project field staff and partners are being trained on data collection using ODK. These trainees have very diverse backgrounds, age and gender, with some having no prior experience with smartphones. Field training and remote support via phone calls and instant messaging platforms such as WhatsApp have seen the majority of these people successfully collect data over time.

✦ Who are we working with?

We have been working mostly with CIP-led projects such as: Scaling Up Sweetpotato through Agriculture and Nutrition (SUSTAIN), Jumpstarting Orange-fleshed Sweetpotato (OFSP) and Feed the Future projects. We have also worked with HarvestPlus in Uganda.

✦ What have we achieved so far?

During the past year, we have captured new registration data of 326 DVMs (253 men and 73 women). DVM data has been integrated into the Sweetpotato Knowledge Portal, to enhance access to clean planting material produced by the DVMs (Fig 3). The system has also logged 250 DVM backstopping visits in Burkina Faso, Ghana, Nigeria and Kenya. In Rwanda, the yield estimation tool by crop cut was adopted and used to collect data in 99 households. In September 2016, a monitoring survey using adopted ODK modules on nutrition, trends and production modules will be used to monitor 2,000 households in Rwanda.

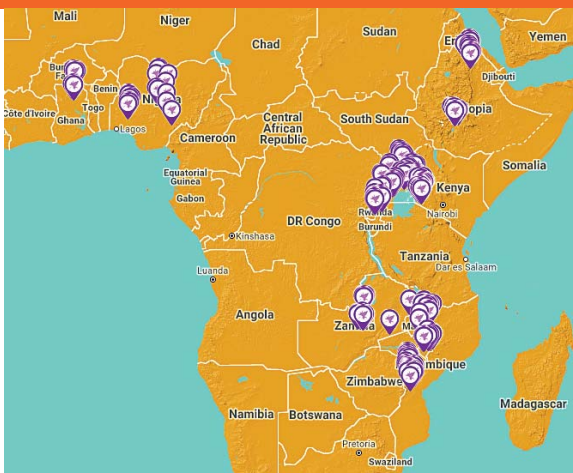


Fig 3. Screenshot of the DVM map on the Sweetpotato Knowledge Portal

From 26-29 April 2016, we held the third annual community of practice meeting in Kigali, Rwanda (Fig 1). The meeting was attended by 29 participants (21 men and eight women) from seven organizations, and included hands-on field work on the use of ODK modules to collect yield data using the crop cut method (Fig 4).

✦ What's next?

Although ODK tools have boosted standardization efforts in SSA, the level of adoption varies across countries, projects, age groups and gender. More capacity to develop and use ODK forms needs to be developed among researchers. Backstopping of ODK users will continue, so as to improve their proficiency. For more complex surveys, we are also developing CSPro for Android formats.

Costs associated with implementing and running the system are met by individual projects. Therefore, to increase their level of buy-in and support, we will channel significant efforts toward developing tools that provide rich insights to managers about the data being collected.



Fig 4. MLE community of practice members learn how to use crop cut method to estimate yield (credit J. Low)



Led by CIP, the ten-year Sweetpotato Action for Security and Health in Africa (SASHA) project is designed to improve the food security and health of poor families in Sub-Saharan Africa (SSA) by exploiting the untapped potential of sweetpotato.

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