Monitoring, Learning, and Evaluation Community of Practice

SPHI

Sweetpotato
for Profit and Health
Initiative

Report of the Second Annual Meeting

Theme: Harmonised Strategies for M&E Household and Yield Data Collection

Hotel Villa Portofino – Kigali, Rwanda

April 27-29, 2016

Compiled by Christine Bukania; edited by Julius Okello

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Cover photo: Mukasine Mukasine Jeanne responds to questions during a learning journey in which members of the MLE CoP practiced collection of Decentralised Vine Multipliers data using mobile devices (Credit: C. Bukania)

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ACRONYMS AND ABBREVIATIONS

AGRA	Alliance for a Green Revolution in Africa
BMGF	Bill & Melinda Gates Foundation
BNFB	Building Nutritious Food Baskets
CIP	International Potato Center
CoP	Community of Practice
DDS	Dietary Diversity Score
DVM	Decentralised Vine Multiplier
FAO	Food and Agriculture Organization
FARA	Forum for Agricultural Research in Africa
FCI	Farm Concern International
FtF	Feed the Future
HKI	Helen Keller International
IYCF	Infant and Young Child Feeding
MLE	Monitoring, Learning and Evaluation
NCSU	North Carolina State University
NRI	Natural Resources Institute
ODK	OpenDataKit
OFSP	Orange-fleshed Sweetpotato
SPHI	Sweetpotato for Profit and Health Initiative
SSA	Sub-Saharan Africa
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

Members of the Monitoring, Learning and Evaluation Community of Practice (MLE CoP) held their second annual meeting from 27 to 29 April 2016 at Swiss Hotel Villa Portofino in Kigali, Rwanda. The theme of the meeting was *Harmonised Strategies for M&E Household and Yield Data Collection.* There were 25 participants from eight sub-Saharan African countries, seven of whom were women. It was officially opened by Julius Okello, the CoP leader, with additional opening remarks from **Clesensio Tizikira**, the Forum for Agricultural Research in Africa (FARA) M&E Specialist. The meeting was preceded by a three-hour hands-on orientation on how to use the Sweetpotato Knowledge Portal. The two day meeting program included presentations, trainings and hand-on practical sessions summarised below.

MLE CoP ONE YEAR AFTER: UPDATE ON THE PROGRESS: This presentation looked back on how far the MLE CoP had come since its inauguration with a brief fore-sighting of what lies ahead. The CoP started in March 2015 with the purpose of sharing experiences, knowledge and skills and identifying ways of tackling challenges related to monitoring and evaluation. The forum is meant to enable members to improve how they generate and document evidence about project interventions. In his presentation **Julius Okello**, the CoP leader, highlighted the key achievements over the 1-year period and some unresolved issues that will need to be tackled by MLE CoP going forward.

RANDOMISATION AND SAMPLING FRAMES FOR PRIMARY (HOUSEHOLD) SURVEYS - GUIDELINES:
This training session was one of the highlights of the meeting and comprised an introductory presentation and training. It was facilitated by **Srini Rajendran**. The first part, the presentation, sought to harmonise the participants' understanding of the meaning and process of monitoring and evaluation. He shared lessons from the 'Evaluating social programs' course which was held in South Africa and circulated a set of tools for randomisation and sampling. The second part was a more detailed training on sampling and sample size determination.

STATUS OF SWEETPOTATO IN SUB-SAHARAN AFRICA (SSA): PROGRESS TOWARDS THE SWEETPOTATO FOR PROFIT AND HEALTH INITIATIVE (SPHI) GOAL: This presentation had the dual purpose of introducing participants to the SPHI and presenting the progress made by the Initiative. **Jan Low** made a presentation about SPHI: what it is, why it was founded (i.e. goals) and its projects arm – the Sweetpotato Action for Health and Security in Africa (SASHA). This was followed by a brief highlight of the progress towards achieving the SPHI goals. She emphasised that SPHI is a multi-partner, multi-donor initiative that seeks to reduce child malnutrition and improve smallholder incomes in 10 million African households by 2020 through the effective production and expanded use of sweetpotato. The goal is to be achieved through consumer awareness of sweetpotato nutrition benefits, diversification of its use and expanded market opportunities; improving diet quality by 20% and crop incomes by 15% among beneficiary households.

INDICATOR DATA COLLECTION: IMPORTANCE AND CHALLENGES: As reflected in the title, this session discussed the SPHI indicators and some of the challenges encountered in collection indicator data in the past. The presentation reiterated that SPHI is expected to reach 10 million households in 17 countries in ten years through two broad goals: improving diet quality by 20% and crop incomes by 15% among beneficiary households. **Julius Okello** discussed the broad and specific indicators that are tracked annually by SPHI and pointed out that data collection on these SPHI indicators has been faced with numerous challenges. The presentation emphasised that analysis, reporting templates,

definitions, and graphic presentations should be standardised across projects and countries so as to make collation and comparison possible.

PILOTING ONLINE REPORTING PLATFORM: THE CASE OF BUILDING NUTRITIOUS FOOD BASKETS (BNFB) PROJECT: This presentation by **Godfrey Mulongo** placed more emphasis on monitoring, and especially tried to respond to two aspects (a) automation/simplification of reporting and (b) automation of data collection on output and outcome indicators. This is based on the view that the most effective indicators are those that can be monitored periodically over the life of the project. The presentation highlighted the benefits of automation of the M&E data collection i.e., timeliness since data is entered and disseminated to the network of stakeholders real-time.

CAPTURING VINE DISSEMINATION / REGISTRATION AND MONITORING OF DECENTRALISED VINE MULTIPLIERS (DVM): During this session, led by **Luka Wanjohi**, participants were introduced to the use of Open Data Kit (ODK) to collect M&E data and followed by a practical demonstration of data collection process using ODK. The demonstration focused on capturing sweetpotato vines dissemination data and the registration and monitoring of DVMs. **Haile Selassie Okuku** made a comparison of ODK and CS Pro in data collection based on his experiences in Tanzania. It was noted that the interface of ODK is similar to CS Pro, except that the latter saves data using specified ID hence easier to retrieve.

VINE MULTIPLIER MAPPING: REVIEW AND UPDATES: This session provided a brief recap of previous year's DVM mapping exercise. **Norman Kwikiriza** highlighted his work, in 2015, with Luka Wanjohi, to map DVMs in four SPHI countries i.e., Kenya, Malawi, Ethiopia and Uganda. He outlined the specific tasks and process used in collecting this information, the experiences, and the challenges faced. He also suggested strategies for improving the exercise this year and in future. In his conclusion, he outlined the attributes that made ODK user-friendly, efficient and accurate.

ESTIMATING LAND AREA UNDER OFSP IN UGANDA: Yield estimation was the theme of the 2016 meeting, thus this was the first of a series of sessions that delved into the practicalities of estimate sweetpotato yields. In this session, **Ignatius Abaijuka** discussed the development of a method for estimating sweetpotato yields in farmer fields and pointed out that yield data is an important part of monitoring and evaluation at HarvestPlus Uganda. He briefly discussed method being developed, its parameters and assumptions.

MOTHER-BABY TRIAL APPROACH IN MALAWI: This presentation by **David Matiya** focussing on on-farm researcher-managed yield estimation, described the process and experience of using the mother-baby trial approach in Malawi. It emphasised that over 50,000 tonnes of sweetpotato are produced annually in Malawi and each district has a certain level of sweetpotato production. However, yields of the improved varieties and those being improved remain unknown, hence the effort to use MBT to estimate them. The presentation specifically indicated that six OFSP varieties are currently available in Malawi.

PROTOCOLS FOR YIELD DATA COLLECTION: FOCUS ON CROP CUTS: Crop cuts have increasingly become important. In 2013, Bill Gates urged International Fund for Agricultural Development, the World Food Programme and the Food and Agriculture Organization to commit to a concrete, measurable target for increasing agricultural productivity and to support a system of public score cards to maximise transparency for themselves, donors, and the countries they support. These

thoughts formed the basis of the presentation by **Jan Low** on getting evidence of increased productivity.

CAPTURING SWEETPOTATO PROUCTION, MARKET AND CONSUMPTION TRENDS: USING QUALITATIVE INDICATORS: In the session, led by **Temesgen Bocher**, participant explored the merits and justification of using qualitative information and discussed the cost-effectiveness and ease of implementing qualitative measurement.

TOOLS FOR MONITORING DIETARY DIVERSITY AND FREQUENCY OF VITAMIN A: The objectives of the presentation by **Temesgen Bocher** were to (i) Review the different Dietary Diversity indicator measures; (ii) Present a simple tool for collecting food groups consumed in the previous night or day to be used to measure Dietary Diversity Scores (HDDS, WDDS, IYCF, MDD-W) indicators; (iii) Introduce a special food group category for Biofortified crops; (iv) Determine the appropriate time to collect dietary diversity data.

MONITORING PRICES: **Srini Rajendran and Kirimi Sindi** led this exercise, which was undertaken to demonstrate how to (a) obtain timely price information and (b) understand price fluctuations so as to better plan marketing strategies. Through a presentation practical simulation, participants learnt that tools are sometimes complex and often, people use paper questionnaires which they then photograph and upload onto the ODK platform for digitisation.

FINAL REMARKS AND CLOSING: The closing session was presided over by Julius Okello. This session summed up the plans for the next year and highlighted the unresolved issues from the meeting such as the definition of DVMs, and how to deal with outliers in the data, which would be discussed online over the year. The session also incorporated final remarks by other participants. The recommended location for the next meeting is Accra, Ghana, with FARA as the potential host. The meeting was officially closed by the Country Manager for Rwanda, Kirimi Sindi, who appreciated the contribution of Jan Low in building up the MLE CoP, emphasised the strategies for increasing support by project managers, and called for better coordination to ensure that all the required indicators were captured by the MLE staff.

1 MLE CoP ONE YEAR AFTER: UPDATE ON THE PROGRESS

Julius Okello

The MLE CoP started in March 2015 with the purpose of sharing experiences, knowledge and skills and identifying ways of tackling challenges related to monitoring and evaluation (M&E). The forum is meant to enable members to improve how they generate and document evidence about project interventions.

The figure below is adapted from an online source (pinterest.com). It demonstrates the main pillars upon which the MLE CoP is organised.

Figure 1 - Vision of the CoP

1.1 UPDATES

Participants of the first MLE meeting held in 2015

The MLE CoP started with 16 members, drawn from five different organisations. Out of these, 47% were agricultural economists. The membership has since grown to 35, and the diversity of professions has increased to include areas such as value chains, gender, M&E, public health and agronomists. Some project leaders have joined the MLE online discussion forum, which indicates a growing interest in MLE.

The overwhelming majority of the MLE CoP members are not trained M&E experts *per se*, but over 50 percent are responsible for M&E activities within their projects. Therefore, the CoP's ability to build the collective capacity of the members should be emphasised.

1.2 ONLINE DISCUSSIONS

Since its inception, the MLE CoP has held three online discussions (Summaries of the discussions are included in Annex 1). These are:

⊙ Survey data collection: To pay or not? – Payments were driven by a sense of guilt for the productive time that survey planners perceive beneficiaries to have lost when participating in surveys. The discussion considered the precedence set through decisions to pay, and the impact it could have when funds to carry out surveys were limited. It was concluded that, in principle, MLE staff should not pay beneficiaries. They should, however, be flexible enough to consider the unique settings in which the surveys are undertaken and make exceptions if absolutely necessary.

⊙ Defining an indirect beneficiary – This discussion concluded that MLE CoP members should have standard definitions of direct and indirect beneficiary. The definitions adopted are in line with the Feed the Future (FtF) initiative. These are:

> **Direct beneficiary [FtF]:** A household that comes into direct contact with the set of interventions (goods or services) provided by the project or its implementing partners [also known as implementing mechanism].
>
> **Indirect beneficiary [FtF]:** A household that does not have direct contact with the implementing mechanism but still benefits, e.g. a neighbour who sees the results of an improved technology applied by direct beneficiaries and decides to apply the technology.

⊙ Yield estimation – This topic focused on the measurement of yield and gross margins in SSA sweetpotato projects. The discussion drew the participation of members of the Seed Systems and Crop Management CoP. Based on the discussions, a small team of MLE CoP has moved to develop a manual that outlines guidelines on yield estimation based on on-farm trials and crop cuts.

1.3 DECENTRALISED VINE MULTIPLIERS (DVM) MAPPING

Five hundred and sixty-eight multipliers were mapped in nine SSA countries. The process that was used, and the lessons learnt during this process is captured in a presentation by Norman Kwikiriza titled *'Vine Multiplier Mapping: Review and Updates'.*

1.4 SUMMARY OF DISCUSSION

Sharing information with other CoPs: The discussion about yield estimation was carried out by two groups. This is indicative of the need to strengthen exchange between the CoPs. The online discussion forums on the Sweetpotato Knowledge Portal could be used for this purpose. As decision makers, project leaders should be encouraged to get involved in the discussions.

Distinguishing between direct and indirect beneficiaries in joint projects: When working in partnership with other organisations, it is sometimes confusing to distinguish between direct and indirect beneficiaries. Some examples of how this is done were given. In Burkina Faso, Helen Keller International (HKI) receive vines from Institut de l'Environnement et de Recherches Agricoles (INERA) for distribution. In such an instance, HKI are classified as direct beneficiaries. In Rwanda, the classification of direct and indirect beneficiaries depends on the level at which reporting takes place.

Situating the MLE CoP in relation to other CoPs: The work done by members of the MLE CoP cuts across all the other CoPs. Members should see themselves as service providers. Dialogue with other CoPs should be encouraged further, either through inviting them to participate in online discussions, or taking the information generated in the MLE discussions to them.

2   RANDOMISATION AND SAMPLING FRAMES FOR PRIMARY (HOUSEHOLD) SURVEYS: GUIDELINES

Srini Rajendran

This presentation was part of a training exercise facilitated by Srini Rajendran. The first part of the presentation sought to harmonise the understanding of the meaning and process of M&E. He shared lessons from the 'Evaluating social programs' course which was held in South Africa and circulated a set of tools for randomisation and sampling.

2.1   DEFINITION AND RATIONALE FOR RANDOMISATION

All social programs should have fair and transparent rules for program assignment. When a program is assigned at random over a large eligible population, a robust estimate of the counterfactual can be generated. Allocating scarce resources among equally deserving populations turns out to be giving everyone who is eligible an equal opportunity to participate in the program. These randomised selection methods not only provide program administrators with a fair and transparent rule for allocating scarce resources among equally deserving populations, but also represent the strongest methods for evaluating the impact of a program.

The rationale for randomisation is that members of the groups (treatment and control) do not differ systematically at the outset of the experiment. Therefore any difference that subsequently arises between them can be attributed to the program rather than to other factors.

> Evaluation terminologies
>
> A discussion was held about the difference between outputs and outcomes. **Outputs** were thought of as the deliverables while **outcomes** are the consequence of these deliverables. Outputs are visible immediately after the project, while outcomes could happen immediately, in the intermediate period or over the long term. An **impact** is a change in the human condition that will occur over the long term.

2.1.1   Counterfactual: definition and construction

The counterfactual represents the state of the world that program participants would have experienced in the absence of the program (i.e. had they not participated in the program). The counterfactual cannot be observed, therefore, it has to be mimicked or constructed.

Construction of the counterfactual is usually done by selecting a group of individuals that did not participate in the program (control/comparison group). How this group is selected is a key decision in the design of any impact evaluation.

2.1.2 Determining the impact of a programme intervention

In an evaluation process, one would usually like to see the impact of a programme intervention on the treatment and control groups. Such impact can be on indicators such as yield and dietary diversity. In many instances, the treatment group will be the one that most requires that intervention. The impact of an intervention on the treatment group is likely to be larger than that on the control group.

Impact assessment activities are therefore usually undertaken to determine the level of impact on the treatment and control groups. It is however important to note that assumptions made when designing the impact pathway influence the achievement of the outcomes and impact.

Impact evaluations can be:

a) Experimental: Allocate eligible subjects randomly to intervention and control - collect data on impact indicators and household characteristics before and after the intervention.

b) Observational: Compare adopters with non-adopters - collect data on impact indicators and household characteristics before and after the intervention then use statistical methods to construct a valid counterfactual.

Whereas graphs can be used to show some effect in the intervention areas, sometimes such graphs do not provide adequate information to attribute impact to a specific program. Taking an example of yield increase, one could compare the difference between yield for the treatment and control group. The counterfactual outcome is what could have occurred if no intervention took place.

2.2 RELEVANCE OF SAMPLE SIZE

The treatment and control groups can be compared at endline and also at the baseline. However, the challenge is to establish that the impact is not due to random chance from sampling. Randomisation removes bias and ensures accuracy. Random chance can be limited through precision, which can be achieved thorough increasing the sample size.

To do this, various sampling methods can be used:

- ⊙ Probability Sampling – Simple Random Sampling, Stratified Random Sampling, Multi-Stage Sampling
- ⊙ Non-probability Sampling – Accidental and purposive sampling (Modal Instance sampling, Expert Sampling, Quota Sampling, Heterogeneity sampling and Snowball Sampling)

2.3 POWER: MAIN INGREDIENTS

The following are the key ingredients in carrying out randomisation and sampling to improve the quality of the results of impact assessments.

1. Sample Size: Larger sample sizes increase precision. For example, when trying to find out average yield of X crops in the study region, and one random sample is selected, a farmer

who got high yield might be selected. However, if more farmers are picked, even if one got high yield, this will be balanced out by the others who might have got low yields.

2. Effect Size: A larger effect increases the power to detect. Effect size can be guessed using economics, past data on the outcome of interest or even past evaluations. The smallest effect that should justify the program to be adopted is (a) cost of this program vs. the benefits it brings and (b) cost of this program vs. the alternative use of the money.

3. Variance: More variance results in less power to detect. For example, if the intervention involves giving ten bags of vines, it would have a large effect on ALL poor people, and no effect on ALL rich people. If the population is all poor, only one person needs to be sampled to see the true effect of giving away vines (low variance). However, if the population is half poor, and half rich and 20 people are sampled, chances are that only five of them are poor (high variance).

4. Proportion of sample treatment and control: If samples are 50% and 50%, the equal split gives distributions that are the same "fatness". If samples are 75% and 25% the uneven distributions are not efficient and result in less power.

5. Clustering: In sampling (Quasi-experiments), this is when clusters of individuals (e.g. communities, farmers associations, etc.) are randomly selected from the population, before selecting individuals for observation. Randomised evaluation (i.e., RCT), can occur when clusters of individuals are randomly assigned to different treatment groups. Cluster randomisation is adopted to minimise or remove contamination, for basic feasibility considerations or because it was the only natural choice to take. When undertaking cluster design, one should bear in mind that the outcomes within a family are likely to be correlated. Similarly with children within a school, families within a village etc. Therefore, each additional individual does not bring entirely new information. At the limit, imagine all outcomes within a cluster are exactly the same: effective sample size is number of clusters, not number of individuals. Precision will depend on the number of clusters, sample size within clusters and the within cluster correlation.

2.4 CONCLUSION

Power calculations must always be done before conducting a randomised evaluation to ensure sample size is big enough to detect anticipated effects. If the sample is found to be small, it should be expanded or the study stopped altogether, because an underpowered randomised evaluation does not produce very useful results.

2.5 SUMMARY OF DISCUSSION

Relevance of sampling to projects: There is increasing pressure to produce evidence whose results can be tested. Therefore when undertaking impact assessments, projects will have to pay more attention to sampling. Where funds are limited, complex indicators that need large sample sizes should be avoided.

Ongoing capacity building on randomisation and sampling: To continue with capacity building in this area, the MLE CoP Google group can be used. The participants will read the manual provided to them during the session and carry out the exercises. After that, they will work together online to pick issues, develop theories of change and estimate sample sizes. The session can also be developed further and launched as an e-learning course on the CIP platform. In the meantime, participants will enrol for an online course titled "Executive Education: Evaluating Social Programs" that is offered by Massachusetts Institute of Technology.

3 STATUS OF SWEETPOTATO IN SUB-SAHARAN AFRICA (SSA): PROGRESS TOWARDS THE SWEETPOTATO FOR PROFIT AND HEALTH INITIATIVE (SPHI) GOAL

Jan Low

Jan Low made a presentation about progress towards achieving the SPHI, which is a multi-partner, multi-donor initiative that seeks to reduce child malnutrition and improve smallholder incomes in 10 million African families by 2020 through the effective production and expanded use of sweetpotato. The goal is to be achieved through consumer awareness of sweetpotato nutrition benefits, diversification of its use and expanded market opportunities; improving diet quality by 20% and crop incomes by 15% among beneficiary households.

The SPHI is structured in two phases: In the first five-year phase, focus was on breeding and seed systems research, which were considered the foundation that would best ensure success to scale up into phase two.

Figure 2: The two phases of SPHI
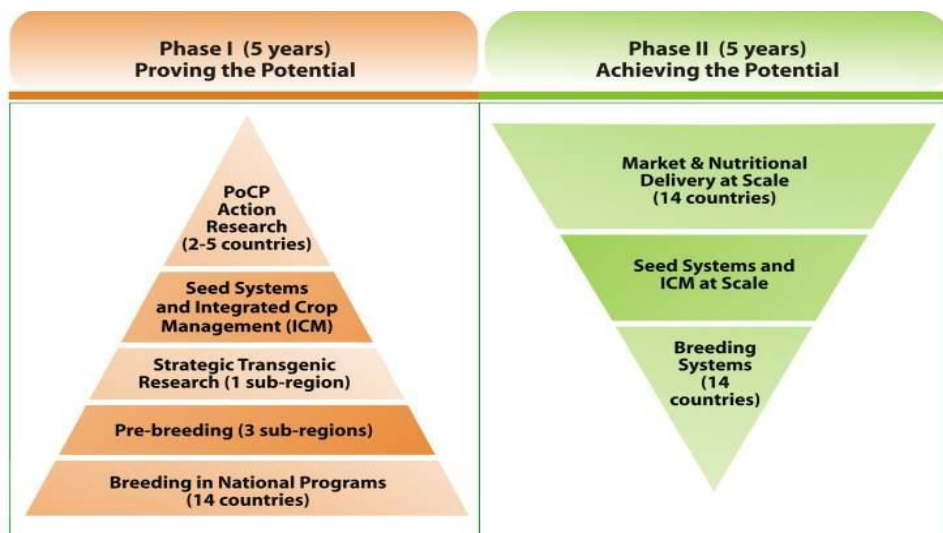
3.1 NEW GOVERNANCE STRUCTURE OF THE SPHI

As part of going to scale in the second phase, the governance structure was reorganised. The new steering committee has nine member organisations, which have made a commitment to share information to ensure achievement of the SPHI goal. These organisations are: CIP, HKI, Natural Resources Institute (NRI), Farm Concern International (FCI), Forum for Agricultural Research in Africa (FARA), HarvestPlus, North Carolina State University (NCSU) and PATH. The work of SPHI is supported by the five donors: United States Agency for International Aid (USAID), Irish Aid, Bill & Melinda Gates Foundation (BMGF), UKAID and Alliance for a Green Revolution in Africa (AGRA). The 2015 SPHI annual meeting was held in Kigali, Rwanda.

3.2 OVERVIEW OF SWEETPOTATO IN SSA AND PROGRESS MADE

The SPHI produces an annual update of sweetpotato in SSA. Nigeria, Malawi, Tanzania, Uganda and South Africa are dominating in production of sweetpotato. Good varieties play an important role in going to scale. Since 2009, 53 OFSP and 31 non-OFSP varieties have been released in 14 of the 17 target countries. In Benin and Democratic Republic of Congo some OFSP varieties are in use although they have not been officially released.

Uganda is leading in the number of households reached, followed by Ethiopia and Malawi. The figure shows progress made against the targets set in 2009.

3.2.1 Progress made against the SPHI targets set in 2009

Figure 3 - Progress made against the SPHI targets set in 2009
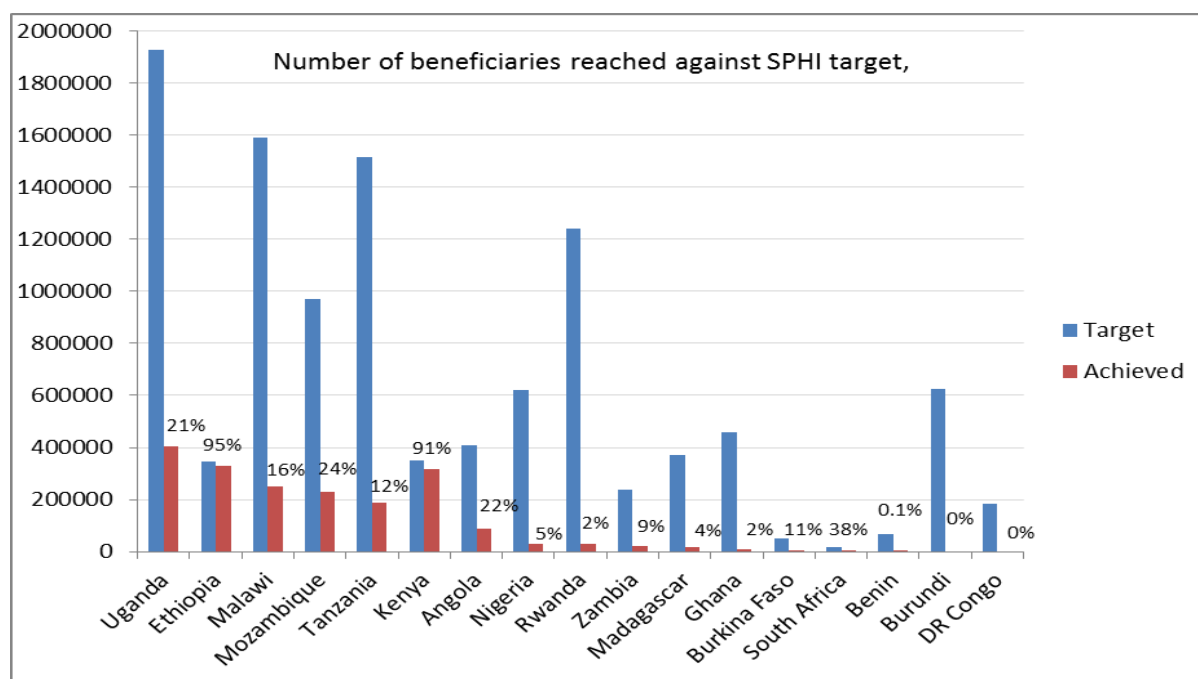
Ethiopia is almost reaching, and is likely to surpass the target set in 2009. Conversely, Uganda still has a long way to go to meet the target. In terms of growth of the area under different crops, Irish potato and sweetpotato has shown the highest growth in area, even though maize and cassava are still dominant in terms of total crop area. This is not surprising because as population densities grow,

usually there is a shift to shorter-term crops. Rwanda has the highest per capita production but in terms of total production, Nigeria Malawi and Tanzania are leading.

In the first quarter of 2016, Mozambique has released seven new varieties. This is the second round of accelerated breeding in Mozambique, which takes four to five years from crossing to release instead of eight years. One of the varieties (Caelan) has both orange and purple flesh. Two are purple fleshed and rich in anthocyanins, and four are orange-fleshed.

3.2.2 Progress in reaching target beneficiaries

By September 2015, 1.9 million target households had been reached. There has been progress in Ethiopia, Malawi, Mozambique, Tanzania and Kenya. Rwanda is implementing a large project which is expected to result in great progress in 2016. Ethiopia might surpass the goal, which was not set very high since sweetpotato was a new crop in the intervention areas. Conversely, in Uganda, a very high goal was set because sweetpotato was an established crop.

3.2.3 Progress in documentation and sharing findings

Fifty-nine papers were published from the 9th Triennial African Potato Association conference. Half are on sweetpotato and there is a major keynote paper on sweetpotato breeding. The 10th Triennial Conference will take place from 9-13 October 2016 in Addis Ababa, and the 7th SPHI meeting has been aligned to this meeting i.e. 7-8 October 2016.

3.2.4 Progress in advocacy

After several visits to Crops Research Institute in Ghana, Nane and Kofi Annan have committed support to OFSP in that county. During the 2015 World Food Prize event in Iowa, USA, Jan Low, together with Robert Mwanga and Maria Andrade participated in the Borlaug Dialogues. Their panel discussion was titled: *The Orange Revolution: A Novel Approach to Traditional Challenges*. This is significant because the World Food Prize has concentrated on cereals, but this is the first time that OFSP was included.

Biofortification is now increasingly recognised. Jan Low participated in a technical meeting convened by the World Health Organization and Food and Agriculture Organization (FAO) in April 2016. These will culminate in a joint statement in April 2017. OFSP is one of the lead model crops and it would be a great achievement if it were recognised.

3.3 CONCLUSION

There has been sustained interest in agriculture and nutrition. In Nigeria, there was support for two years from the Minister of Agriculture and Rural Development, and in Mozambique, there was in-kind support through extension services. However, donors go through cycles of interest and the challenge is to sustain their interest in OFSP. With the support of FARA, there may be increased financial support by governments for biofortification.

There is need to expound on the potential for expanded use of sweetpotato, through better integration into the food system, and as a climate resilient crop. Sweetpotato can be produced on marginal soils, it has flexible planting times and is endowed with a wide range of traits, e.g. early maturity and deep rooting varieties, potential for incorporation into home gardening and as a rotation crop in rice schemes and with highland crop systems.

3.4 SUMMARY OF DISCUSSION

Capturing data from Benin and South Africa: In South Africa, the data is being captured through a partnership with the Agricultural Research Council, where the main contact person is Sunette Laurie. In Benin, there is no contact that helps to collect the overall data. MLE CoP members were urged to facilitate establishment of contacts with people working on OFSP in that country.

Improving quality vs going to scale: Getting OFSP into the household is one thing, but making a difference in Infant and Young Child Feeding (IYCF) requires continuous work to change nutrition behaviour and child care practices and plenty of investment.

4 INDICATOR DATA COLLECTION: IMPORTANCE AND CHALLENGES

Julius Okello

SPHI is expected to reach 10 million households in 17 countries in ten years to achieve two broad categories of goals:

- ⊙ Agriculture - Improve crop income by 15%
- ⊙ Nutrition – Improve diet quality by 20%

Table 1 - SPHI indicators

AGRICULTURE	NUTRITION
Vine dissemination	*Improvement in diet quality*
# of households receiving - OFSP vines - Presence of U5, pregnant or lactating mom - Gender of household head	- Dietary diversity - Household >> HDD - Young child (Individual) >> CDD Minimum dietary diversity– Woman >> MDD-W
Mean household production– sweetpotato, OFSP	
- Volume (Kg/HH) - Value of production (US $)	
Mean household sales	
- Sweetpotato, OFSP - Kg/household - Value ($)/household	

4.1 CHALLENGES

Due to the diversity of the tools and metrics used to collect data, the following challenges were experienced when collecting data for the 2015 report:

- The definition of direct/indirect beneficiaries and DVMs varied from project to project and, in some cases, by the reporting officer. Some projects reported individuals while others measure households, resulting in risks of double counting.
- For many projects, production and sales volumes were missing. Lack of consistent information or no information at all, resulted in the 2015 update report focussing on the percentage of households producing sweetpotato and OFSP rather than the actual volumes produced.
- Nutrition outcomes were not always presented. Vitamin A consumption, which is usually measured using HKI approach, data was in reports but some reports did not have this information. Some reports present results as charts without labels.

4.2 LESSONS LEARNT

The major lesson learnt was that there is need for standardisation of the tools for indicator data collection for scientists to use recommended guidelines. The analysis, reporting templates, definitions, and graphic presentations should be aligned in order to make collation and comparison possible.

4.3 SUMMARY OF DISCUSSION

Complexity of tools: Most projects rely on partners to collect data on root sales. Therefore, the tools developed should be as simple as possible to limit the potential for errors.

Feasibility of standardisation of tools: Each project has specific goals. Therefore, with regard to the SPHI goals, standardisation refers to some of the indicators that should be included in all projects. Before standardising tools, indicators should be standardised and customised for individual projects. As to when data should be collected, it is good practice to carry out baseline surveys before implementation. Endline surveys should be done during the same time period as the baseline, when the food baskets are comparable. Where translation of tools is done, it should retain the spirit of the questions.

5 PILOTING ONLINE REPORTING PLATFORM: THE CASE OF BUILDING NUTRITIOUS FOOD BASKETS (BNFB) PROJECT

Godfrey Mulongo

This presentation placed more emphasis on monitoring, and especially tried to respond to two aspects (a) automation/simplification of reporting and (b) automation of data collection on output and outcome indicators. This is based on the view that the most effective indicators are those that can be monitored periodically over the life of the project.

5.1 RATIONALE AND COMPONENTS OF ONLINE REPORTING PLATFORM

The BNFB project realised that staff were reporting on the same outputs in different ways. This complicated the process of consolidating reports. In a bid to simplify the process, BNFB is developing an online reporting tool through which consolidation of reports will be automated. The system guides the users to report on specific outputs and generate summaries of individual reports and on specific outputs. There is a function that allows interaction between project staff.

The tool is expected to simplify data collection. Once staff have understood an indicator, they can update progress on that indicator at any time and attach the evidence.

5.2 DISCUSSION

Summarisation of the reports and data: One of the rationales for developing the online tool was the automatic generation of summary reports for various indicators, as well as the ability to generate graphs and charts. As a management tool, it can be used to monitor progress by each staff member.

Cost of developing the reporting platform: The platform costs approximately USD 3,000 to develop.

Data quality: To ensure credibility of the data, those who report will have to attach evidence. It will also be important to be very focused on what would show on the dashboard, the frequency of reporting, the essential information that should go online etc.

Access to the database: The system is still under development, but the idea is to make it compatible with MS Word and mobile devices. In the next phase, it will also be possible to work offline and automatically update when online. However, the first step is to make it work on a computer. Partners should also be able to access and feed into the database.

Standardisation: SPHI related indicators should be infused into all the projects, including the BNFB project. Through this system, such indicators will be tracked regularly for the sake of reporting on SPHI.

6 CAPTURING VINE DISSEMINATION / REGISTRATION AND MONITORING OF DECENTRALISED VINE MULTIPLIERS

Luka Wanjohi

During this session, participants were shown by use of presentations and practical sessions, how they could use Open Data Kit (ODK) to capture the dissemination of vines and to register and monitor DVMs. The following tasks were covered:

1. Recording the names of the head of household and principal female caregiver in households receiving vines and sufficient information (village, cell phone). This would enable that household to be easily identified for follow-up verification of adoption of the sweetpotato varieties being disseminated.
2. Have a record of the amounts and types of sweetpotato varieties being distributed within a given geographic area.
3. Establish whether the material was labelled to facilitate farmers learning the names of the different varieties and/or complying with the labelling requirement for quality declared seed.

4. Enable the given project to know if it has met stipulated criteria regarding the type of recipient they should target e.g. noting the gender of the head of household and whether it is the head of household or the principal female caregiver (if she is not the head) most responsible for sweetpotato production in the household. Some projects require 75% of the recipients to be households with a child under five years of age. Dominant categories (types) of recipient households are listed.

5. Record the number of vines provided by variety by vine source. If vines are commercialised, the total amount of cash received should be recorded.

6.1 DISSEMINATION FORMS

There is a set of four forms for vine dissemination. The forms are based on four types of situations (i) A set quantity of material of one to two varieties is provided to every household; (ii) More than two varieties are provided to a household, and the amounts and type of variety may differ by household; (iii) The distribution is done all at once (mass distribution) with or without the farmers redeeming vouchers; and (iv) The distribution is done at the site of a vine multiplier when vine recipients arrive to collect vines on different dates.

The databases based on these four scenarios have been developed and the M&E officers will only be required to update their administrative units.

Participants discussed the vine dissemination form without vouchers. Some key points that emerged from this session include:

- To address confusion about the different types of administrative units from country to country, various codes need to be provided.
- To reduce the complexity of the form, the name of the female caregiver should be used.
- The codes to be used should be printed and given to the enumerators and DVMs in advance of the exercise.
- For the sake of clarification, vulnerability refers to households that are at risk because of poverty, old age, disasters, and illnesses and so on. These are criteria that could be used in addition to having children under the age of five or with women of reproductive age.
- First and last names vary depending on the culture and the place where people come from. Efforts must be made to make sure that these fields are filled correctly to make it easier for tracing. For the same purpose, data on administrative units should be filled fully at the time of data collection. Using the ODK app, it is possible to input the three administrative units, upload the forms, and then digitise them later.
- For Burkina Faso, the OFSP varieties had not been approved when the forms were developed. Therefore they will have to be updated.
- At the point of reporting, there is usually need for disaggregation by gender and age. Therefore, the forms will have to be modified to capture all the information that is required especially for SPHI reporting.

In preparation of the practical session, participants were asked to take ten minutes to write down their administrative units.

In the second part of the presentation, participants were taken through the functions within ODK which would enable them to register key information about the DVMs. This data is geo-referenced

and is collected only once per multiplier. The following should be paid attention to when registering DVMs:

- ⊙ When registering DVMs a good practice is to make sure that the three names are used, especially the family name. This is because depending on the culture or practice in a particular country, some names might change after marriage and child birth (especially for female DVMs). In such cases, the family name could be used for tracing.
- ⊙ Whenever taking the field GPS reading, the coordinate's accuracy should be <u>not more than</u> 10 m.
- ⊙ When responding to the nearest road, use the nearest 'motorable' road, even if it is not tarred.
- ⊙ All forms must be saved with the name of the DVM.

6.2 COMPARISON OF CSPRO AND ODK

Haile Selassie Okuku made a comparison of the two tools based on his experience in Tanzania. The interface of ODK is similar to CS Pro. The only difference is that because CSPro saves using the ID, one can easily find the DVM data.

In Tanzania, the programming and training was done well and the government partners in each of the seven districts were given a tablet, with their first task being registration of DVMs. The process faced several challenges. First, the definition of DVM was not clear. While the project had worked with farmer groups as DVMs, the form required the entry of individual DVMs. Secondly, although the government partners were requested to regularly monitor and input data whenever they went to the field, this did not been happen. This could be caused by the fact that they did not get a monitoring budget as they had requested.

One advantage of the ODK forms is the 'Daily Reporting Form', which enables people to report on their daily activity and records geo data of their location.

6.3 SUMMARY OF DISCUSSION

Constraints to use of ODK: People have to be trained very well to use ODK. They must also be comfortable using smartphones. This calls for a lot of patience and constant support. Although internet costs are reducing, in many countries, internet connections are still poor or expensive.

Data quality checks: For quality purposes, when entering numerical data, there should be some logic that allows the system to reject wrong entries. For example, if a DVM states that he has a total of five acres of land, it should not be possible to record that he ploughed six.

Area calculation: Usually, only total acreage is recorded. However, there is need to record the actual size of land under OFSP. ODK does not have an inbuilt area calculator, but it can be connected to one. When the data collector reaches that part of the form, the system prompts him/her to walk around, and the area is calculated. This has already been used in Malawi and Tanzania.

Backup of data: If the phone is lost before the data has been synched, then all the data will be lost. However, it is possible to back up the entire phone when there is an internet connection. It is also possible to set up the phone so that forms are automatically uploaded in the field (especially for monitoring forms). However, this may not be feasible if there are images to upload.

Motivation of government partners to collect data: Government partners could be given incentives to motivate them to fill in their forms when they go to the field. In Western Kenya, eight extension staff get an incentive of USD 10 per month. They are expected to report whenever they have a problem with the forms. Health extension staff have a WhatsApp group through which they are reminded to send in their reports and raise issues. In Rwanda, there is a WhatsApp group for each project and for the CIP staff. This is a very effective way of sharing information about what is going on and to solve problems promptly.

7 VINE MULTIPLIER MAPPING: REVIEW AND UPDATES

Norman Kwikiriza

In 2015, Norman Kwikiriza worked with Luka Wanjohi to map DVMs in SPHI countries. He presented the experiences from Kenya, Malawi, Ethiopia and Uganda. He outlined the specific tasks and process used in collecting this information, the challenges faced and suggestions for improvement. In his conclusion, he outlined the attributes that made ODK user-friendly, efficient and accurate.

7.1 THE EXERCISE

An ODK DVM data collection tool was designed and piloted to locate and collect important demographic and plot information about identified commercial and individual DVMs.

The tools used were (i) Questions of interest from multipliers (Demographic information, plot information, agronomic information) comprising approximately 20 variables); (ii) A tablet; and (iii) A host server facilitated by International Livestock Research Institute - Nairobi.

Identifier information from all SPHI countries was standardised. Training was done during the MLE CoP training that took place in Nairobi in 2015. Luka Wanjohi programmed the questions, and the actual exercise took place in Kenya, Uganda, Malawi and Ethiopia. Two people were trained in Malawi and Uganda respectively, to assist in data collection.

7.2 INFORMATION ABOUT THE DVMS

As *Table 1* below illustrates, female DVMs are rare, apart from Kenya and Uganda. DVMs are relatively old, which calls for the need to start targeting the youth. They also tend to have small land holding. Generally, the farm sizes, levels of agronomic management, motivation and support systems tend to vary from DVM to DVM. Apart from Kenya and Uganda, DVMs identified water shortages as a major challenge. It was also observed that labelling is not well practised. Only 10% of the DVMs had good labels, while 15% had poor labels and 75% had none.

Table 2 – DVMs in Uganda, Kenya, Malawi and Ethiopia

	Uganda		Kenya		Malawi		Ethiopia	
	Male	Female	Male	Female	Male	Female	Male	Female
# individual DVMs	25.0	15.0	23	19	18	4.0	60	5
Age	46.8	48.2	51.5	47.5	50	47.0	43.8	51.0
Farm ≤ 5 acres (%)	52.0	73.3	78.3	73.7	83.3	75.0	98.3	100
Had irrigation equipment (%)	44.0	33.3	82.6	84.2	88.9	75.0	21.7	40.0
Used inorg. Fertilizer (%)	40.0	26.7	81.8	79.0	61.1	75.0	96.6	100
Used manure (%)	56.0	40.0	90.9	89.5	39.0	25.0	100	100
Belonged to a farm group (%)	84.0	100.0	72.7	100	72.2	75.0	80	80
Had leadership roles (%)	80.0	86. 7	95.5	100	72.2	75.0	52.5	60.0
Number of times trained	3.7	4.3	6.4	4.9	0.56	0.75	0.9	1.2

7.3 LESSONS LEARNT

ODK is a good way of mapping DVMs. It is easy to learn and less bulky. It increases the accuracy of location data because of its ability to integrate GPS. One can capture all data types (continuous, categorical, scale and string data) as well as pictures. It can also be adopted for monitoring and tracking indicators. In addition, it is time efficient because data can be collected at any time and entered directly, hence saving the time that would be required for data entry.

The forms used for DVM registration will need to be improved. Some options were not easy to apply to all countries; for example the list of crops was not exhaustive, while some DVMs could not specify the OFSP varieties planted. The tool only allowed for the capturing of data from recent DVMs.

To make it more effective, there is need to standardise the definition of DVM. Furthermore, if all M&E officers were to learn how to program ODK, they would be able to make any necessary adjustments without relying too heavily on the programmers.

With regard to the observations made in the field, it is clear that labelling of plots needs to be emphasised. The vine business also needs to be commercialised.

7.4 SUMMARY OF DISCUSSION

DVM support: It is disappointing that the visits to the DVMs are not occurring as often as possible. In addition, labelling has not been done by most DVMs, yet this is a vital part of ensuring that there is accurate information about the varieties being multiplied.

Getting buy-in from project managers: A key element that could help to galvanise adoption of ODK is buy-in from project managers. Kirimi Sindi, for instance, discussed how DVM mapping using ODK in Maputo, got some of the project managers interested. However, it will be up to the M&E staff to get them on board and ask them to invest in tablets.

8   ESTIMATING LAND AREA UNDER OFSP IN UGANDA

Richard Alioma, Innocent Bikara, <u>Ignatius Abaijuka</u> and Manfred Zeller

Yield data is an important part of M&E at HarvestPlus Uganda. In this presentation, Ignatius Abaijuka made a presentation of the methods used to estimate land area, simulation/forecasting models, parameters.

In Uganda, the methods used to estimate land under OFSP include forecasting / simulation models to estimate households reached and area under OFSP, use of GPS to estimate land under OFSP by vine multipliers and annual monitoring surveys. Forecasting / simulation models are used to track the progress of biofortification program, project the expansion path of the program and estimate and project important outputs, outcomes and impacts.

8.1   MODEL INPUTS, ASSUMPTIONS AND DATA SOURCES

The model inputs include a set of parameters, the values and the sources of data. Beneficiaries are tracked at three levels: Households that are directly reached with OFSP; Informal vine recipients through farmer-to-farmer diffusion; and Number of payback beneficiaries.

The assumptions made are: households increase area under OFSP by an average of 37.5% for the first two seasons of cultivation, and maintain it constant thereafter, till they drop out; and that they substitute OFSP for non-OFSP but do not expand total sweetpotato area. There are some critical areas of uncertainty that should be treated with care. These are on-farm yield, farmers' multiplication/retention of vines, whether farmers are expanding their OFSP area over time and the number of vines shared from farmer-to-farmer.

8.2   LAND AREA UNDER OFSP MULTIPLICATION IN UGANDA

HarvestPlus contracts 34 secondary multipliers every season to supply OFSP vines. The practice is that each secondary multiplier works with other tertiary multipliers and the number of tertiary multipliers vary. Tertiary multipliers supply through the secondary multipliers who are contracted by HarvestPlus. At the end of every season, HarvestPlus buys 40% of planting material while the rest is sold to other partners.

Every season, data collectors are sent to ask the vine multiplier to estimate area under each variety using expert judgement. This usually results in arbitrary figures. Next, enumerators visit all the gardens, measure acreage using GPS, ensuring that they add the acreage of different blocks with the same variety.

8.3   CHALLENGES

- ◉ Variations between multipliers estimates and actual estimates
- ◉ Mixing of varieties in the same block
- ◉ Lack of labels for Varieties
- ◉ Small and scattered plots for multipliers that takes time to visit
- ◉ Change of location of multiplication sites from season to season
- ◉ Vines are free goods in Uganda, and there is a fear that with commercialisation, that good is likely to die.

8.4 WAY FORWARD

⊙ Providing enough time to enumerators to measure all multiplication blocks by vine multipliers

⊙ Encouraging vine multipliers to separate different varieties and providing labels for each variety

⊙ Plan to conduct annual monitoring mini surveys to estimate yield and acreage under OSP varieties.

8.5 SUMMARY OF DISCUSSION

Difference in the estimates by the multipliers and the actual measurement: The differences are significant. A farmer can say he/she has 2 acres when the measurement shows 0.5 of an acre. Sometimes, local estimates such as the equivalent of a football pitch are used. This is why actual measurements using GPS are the most accurate. Where the vines are mixed up with other crops, the measurement is not taken.

Reviews are done semi-annually and constant interaction is also done with the farmers to ensure that there is clear feedback about their preferred varieties. These varieties are also distributed according to their performance.

9 MOTHER-BABY TRIAL APPROACH IN MALAWI

David Matiya

This presentation discussed the process and experience of using the mother-baby trial approach to both disseminate new OFSP varieties and estimate yields in Malawi. More than 50,000 tonnes of sweetpotato are produced annually in Malawi, and each district has a certain level of sweetpotato production. The OFSP varieties that are available in Malawi are Zondeni, *Kadyabwerere*, *Anaakwanire*, *Mathutu*, *Kaphulira* and *Chipika*. Although it is not clear how much OFSP is produced, it is assumed that majority of it is *Zondeni*. To better estimate the yield, the mother-baby trial approach is being used.

9.1 MOTHER-BABY TRIAL APPROACH

This is a simple design developed in the late 1990's in Malawi by Sieg Gassman of the International Crops Research Institute for the Semi-Arid Tropics. The name 'mother and baby' was coined by one of the early participating farmers. It consists of a mother plot, i.e. one central, farmer hosted, location that has all six varieties, surrounded by baby plots, i.e. many farmer hosted satellite fields that have only one treatment (variety).

The mother plot is managed jointly by research/NGO, agricultural extension and farmers to ensure uniformity among treatments, allowing for visual comparison and the collection of quantitative data. The babies are managed by interested farmers in the same location, clustered around the mother plot. Farmers having babies are encouraged to visit each other and the mother plot to compare and discuss varietal performance during the growing season. All participating farmers and interested farmers are invited to field days to harvest the mother plots and discuss varietal performance and sweetpotato in general.

9.2 PLOT DESIGN

Each host of a baby plot is provided with one bundle of vines of one of the six varieties. A bundle consists of 100 – 30 cm length cuttings – and each plot requires 85 cuttings. Each variety is planted on a plot which has five ridges spaced at 75 cm apart. Spacing between cuttings on the ridge is 30 cm. Each mother plot is labelled.

Figure 4 - The design of a plot from a mother-baby trial
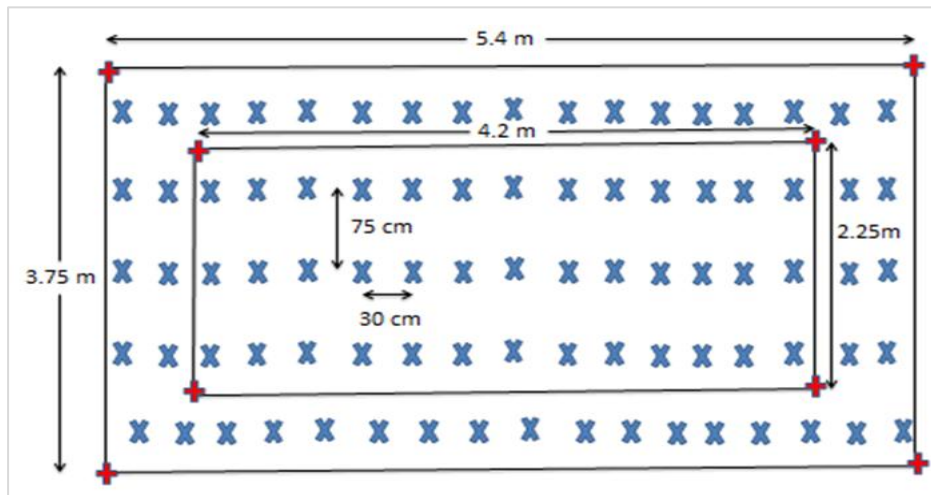
Harvesting is done from an inner rectangle called the net plot. Data is collected on site information, vine establishment, harvest data and disease scoring.

The yield is calculated using the following formula:

$$Yield(MTha) = \frac{Weight\ of\ roots\ (net\ plot)\ /\ 1000\ kgs}{Area\ of\ net\ plot\ (sq\ m)\ /\ 10000\ (sq\ m)}$$

E.g. If net plot weight of 1 variety in mother plot is 15kgs; we can estimate the yield of that variety given that net plot area is 9.45 sq. metres. (4.2m x 2.25m)

$$yield = \frac{15/1000}{9.45/10000} = \frac{0.015}{0.000945}$$

$$yield = 15.9\ Mt/ha$$

9.3 AREAS OF COVERAGE

There are three projects covering all the districts in Malawi, as follows:

- Southern Region: Root and Tuber Crop Action funded by Irish Aid
- Central Region: FtF Malawi Improved Seed Systems and Technology (VISTA) funded by USAID FtF
- Northern Region: Scaling Up Orange-fleshed Sweetpotato through Agriculture and Nutrition funded by UKAID

9.4 LESSONS LEARNT

The mother and baby trials have yielded the following lessons:

- Performance of mother plots and baby plots vary depending on the management practices
- Varieties perform differently in different agro-ecological zones
- Farmer preferences for varieties are different and are determined by factors such as taste, yield, disease tolerance, shape, market signals, vine vigour
- In Malawi, partners in the education, health and agriculture sector are now adopting the mother-baby trial approach for OFSP

9.5 SUMMARY OF DISCUSSION

Management of the baby plots: For each mother plot planted, 50 bundles are distributed. It is up to the implementing partners to decide who to distribute to. While the mother plots have external intervention, the baby plots are managed by farmers, but they are somehow controlled and have regular supervision by agronomists.

Willingness to pay: There is no program that is directly doing this kind of survey but through the FtF, a design of vine dissemination will have a cost implication for farmers. This set of studies will help to determine the willingness to pay. Farmers are going to choose the traits they prefer and how much they would be willing to pay. MLE CoP participants with experience in such studies emphasised that the quality of results is much better when they get actual money to spend (choice experiment).

Extent of coverage of mother-baby trials: This is the main approach in Malawi. In the FtF project, all the DVMs will be involved in vine distribution. Care groups under the Scaling Up Nutrition movement have structures that will be used as an entry point.

Coverage of the target beneficiaries: There are some tools that specifically capture the data on women in reproductive age and children under the age of five.

Yield determination: Yield determination is done only for the mother plots. Zondeni is used as the control variety.

10 PROTOCOLS FOR YIELD DATA COLLECTION: FOCUS ON CROP CUTS

Jan Low

Crop cuts have increasingly become important. In 2013, Bill Gates told the International Fund for Agricultural Development, the World Food Programme and the FAO that the approach being used today to fight against poverty and hunger is outdated and inefficient. He urged these food agencies to commit to a concrete, measurable target for increasing agricultural productivity and to support a system of public score cards to maximise transparency for themselves, donors, and the countries they support. "The goal is to move from examples of success to sustainable productivity increases to hundreds of millions of people moving out of poverty," said Gates. "If we hope to meet that goal, it must be a goal we share. We must be coordinated in our

pursuit of it. We must embrace more innovative ways of working towards it. And we must be willing to be measured on our results." These thoughts formed the basis of the presentation by Jan Low, on getting evidence of increased productivity.

There is need to increase productivity while minimising the effects to the environment. However, currently there are few farming systems that take this into consideration. The key questions in making these considerations are:

- Are our improved varieties delivering– that is, are they more productive than existing local varieties? Are they holding up over time?
- Is cleaning-up (removing viruses) really paying off? Do we see meaningful differences between quality planting material and farmer retained material and/or negatively selected material?

10.1 OBTAINING YIELD DATA

There are two approaches for obtaining yield data.

10.1.1 RECALL INFORMATION

The farmer is expected to recall production during the previous season or year. However, unlike products like maize that are measured in bags, sweetpotato is harvested piecemeal and there is no differentiation by variety.

To address this, a tool was developed in which major vs minor seasons' data is collected. Within the seasons, they would recall the frequency of harvest and the amount harvested (Kgs). This would then be multiplied to get the data, by season, and then summed over the two seasons.

When it comes to estimation of area under cultivation, farmers' estimation of field size is recognised as being very inaccurate. Instead, estimations are based on amount/number of vines distributed. The yield is tabulated as the production within given area/area estimated

10.1.2 ACTUAL MEASUREMENT

Actual area measurement is possible through geo-referencing software. It is more accurate and time efficient, but one still has to go to the field to get the data. *Areacalc* and similar programs can be downloaded onto mobile phones. The downside is that it is most accurate on fields greater than 1000 square metres, yet many of the sweetpotato fields are often quite small. Crop cuts or on-farm trials/demonstration plots can be used to measure varietal specific yield assessment.

The most ideal approach would be remote sensing, where drones would take photographs and distinguish the areas covered by sweetpotato. During the pilots, this approach led to a doubling of the recorded area under sweetpotato.

On-farm trials/demonstration plots: These are usually done on a standardised area, usually in ridges, with a consistent plant density. As joint researcher-farmer management, there has been a criticism on whether they are representative of actual farmer situations. If they are going to be used for teaching other farmers, they are likely to be done by the better-off farmers, meaning that they are not representative of the average farmer.

Crop cuts: These are more representative of average farmers. They are farmer-managed and therefore have a greater variation in input use. Typically, there will be a maximum of three visits per farmer and there is no community sensitisation involved. The challenge with this approach as well as the demonstration plot could be loss to animals, theft and poor management.

10.2 SUGGESTED PROTOCOL FOR CROP CUTS

It is costly to set up and collect yield data, therefore it is recommended to set up 8 plots per variety per agro-ecology - four managed by men and four managed by women. Half of them should have children under five years of age. Assuming that two will be lost[1] to animals/poor management, this means that there will be six plots.

The plot is 3 m X 2 m, which should be randomly selected within field. To select, one should walk halfway down length, turn right and walk one-third inside. The size is a minimum recommendation to keep the cost of the trial down while having a large enough sample.

The area should be marked with poles in earlier visits and farmers should be requested not to do any piecemeal harvesting within that area. After set up, there should be two visits to capture management practices. Monitoring should be done 45 days after planting and harvesting should take place at an appropriate time.

10.3 INFORMATION COLLECTED FOR CROP CUT AT MONITORING VISIT

The information to be collected has been programmed as one of the modules in the ODK. In summary, it covers the following aspects (a) Farmer identification and practices and (b) Plant density.

10.4 ANALYSIS

The analysis determines average root yield in tonnes/hectare, the average foliage (stems + leaves) yield in tonnes/hectare; percentage of root yield that is commercial; alternative root yield determination (tonnes/hectare). A comparison is also done of two methods for root yield determination and decide whether to take an average of the two methods or rely on one of the two methods.

Optionally, the yields between agro-ecologies and yields by gender of farmer across all agro-ecologies are compared. If there are sufficient cases of fertilised plots, yields within the same variety on fertilised versus unfertilised plots can be compared. It is also possible to compare yields from crop cut method to yields from harvesting on-farm trials or demonstration plots (if applicable), and to calculate the harvest index for each variety in terms of weight of roots/ (weight of roots + weight of the foliage).

The critical thing to bear in mind is that whereas ODK is an easier technology to use, it is important to be very careful, and to double check the data entries in the field so as to ensure that the results of the analysis are accurate.

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[1] The idea here is to select the 8 crop-cut plots early in the season and mark off the area ahead of time to prevent piecemeal harvesting. This means that damage by animals or theft of roots in designated area renders the plot unusable.

10.5 SUMMARY OF DISCUSSION

Dealing with outliers: This is something that must be resolved by the MLE CoP meeting.

Minimum parameters: More data is useful only if one can do it properly. Therefore, eight is the minimum, but if one has the resources to do more, then that is all okay.

Including questions on which part of the plant farmers cut for planting material: This information has been collected in many baseline and endline surveys. It may be necessary to first decide whether this data was useful in any way. There are some experiences e.g. in Tanzania, where some farmers have stated that they prefer to cut the apex, while in Burkina Faso, such a question may be irrelevant because they simply uproot the entire vine.

11 CAPTURING SWEETPOTATO PRODUCTION, MARKET AND CONSUMPTION TRENDS: USING QUALITATIVE INDICATORS

Temesgen Bocher

In this session, the presenter, Temesgen, explored the merits and justification of using qualitative information, and discussed the cost-effectiveness and ease of implementing qualitative measurement.

Qualitative indicators can be used to measure trends of the change in area under sweetpotato in general, area under OFSP, area under different varieties, adoption, and marketing and consumption trends. It complements the quantitative data. To ensure that data is consistent, one must avoid the seasonality effect. The questions should be crafted carefully.

For example, instead of asking "What is the proportion of OFSP produced?", the question can be framed as follows: "Today, if you have 10 roots representing all of the OFSP you produced during your most recent major harvest, how many of those roots would be sold?"

12 LEARNING JOURNEY: DVM REGISTRATION AND USE OF CROP CUT TO ESTIMATE YIELD DATA

On April 29, 2016 members of the MLE CoP visited farmers to practice how to register and monitor a DVM; and to conduct crop cut to estimate yield and assess the quality of the vines in the field.

1. For the crop cut, the procedure was as follows:
2. Procedure for the crop cut method
3. Pace the longest side and measure to estimate the mid-point
4. Measure the width starting from the mid-point of the length
5. Divide the width by three
6. Leave a third of the width from the length and measure 2 meters
7. From the marked '2m' on the width measure 1.5 m on either side along the length making 3 m. You now have your 3 m x 2m plot upon which to base your assessment.
8. Record spacing between plants and rows
9. Count the number of plants within the 3m x 2m area (pegged out area)

10. Harvest the vines and weigh
11. Harvest the roots and disaggregate into marketable and non-marketable roots. Non-marketable roots are further disaggregated into two categories: i) weevil-infested and (ii) small roots

The first group work with Jean Bosco to harvest roots during the yield assessment exercise using crop cut method (Photo: G.Mulongo)

The first group travelled to Rulindo. Their first stop is in Jeanne Mukasine's farm. Mukasine has been a sweetpotato producer for more than 15 years. She sells sweetpotato vines to institutional buyers like the International Potato Center and IMBARAGA, and the roots to Sina Gerard, an agro-processing company in Rwanda They used the pre-designed forms in their mobile devices to capture her demographic, plot and sweetpotato crop information. Next, they visited Jean Bosco's farm, located a short distance away from Jeanne's, where they learnt how to collect yield data using ODK. He had planted the Kabode variety of OFSP.

The second group went to Kotemu farmers group. The purpose of the learning journey was to assess sweetpotato root yields using the crop cut method and test the efficacy of Open Data Kit (ODK) in data collection. Kotemu group is comprised of two male and one female farmer, Marguerite, who is also the group leader. The group produces OFSP and had grown Kabode variety on the farm visited. Kabode is an OFSP variety bred in Uganda and is also known as NASPOT 10. The group got their first planting material in 2010 and have been producing roots which they sell to a number of clients including GTT Company. The field visited was planted on November 24, 2015. The roots harvested were twisted since the area had clay soil which makes penetration difficult. The number of commercial roots was 54 with 36 fit for processing whereas 22 were good for sale locally. Non-commercial roots were 31. Commercial roots weighed 12kg whereas non-commercial roots weighed 2 kg.

The second group counts sweetpotato plants during the yield assessment exercise using crop cut method (Photo credit: K. Ogero)

The fields selected had not been harvested even once. This was very important since the crop cut method is good for yield assessment when the crop has not been harvested. When intending to use the crop cut method it is advisable to plant at harvest or 45 days after harvest. Piecemeal harvest is not advisable since it compromises accuracy of the data.

After the crop cut practical the group conducted data entry using the ODK. The exercise was led by Luka Wanjohi and Jan Low.

Observations from members on the ODK were as follows:

- If used for crop cuts it can lead to overestimation
- The program lacks some important demographic information e.g. education
- A paper-version should be considered for use when it is raining
- The program requires honest enumerators
- Some things should be converted into questions
- According to the DVM the program is good because it takes less time compared to hard copies.

13 TOOLS FOR MONITORING DIETARY DIVERSITY AND FREQUENCY OF VITAMIN A

Temesgen Bocher

The objectives of this presentation were to (i) Review the different dietary diversity indicator measures; (ii) Present a simple tool for collecting food groups consumed in the previous night or day to be used to measure Dietary Diversity Scores (HDDS, WDDS, IYCF, MDD-W) indicators; (iii) Introduce a special food group category for Biofortified crops; (iv) Determine the appropriate time to collect dietary diversity data. It noted that FAO has a standard list of questions with the main food groups. These are a minimum requirement, but they can be extended.

13.1 RATIONALE

Households, women of reproductive age, and young children are at high risk of inadequate micronutrient intakes. Diets of the poor are dominated by staple foods, which often supply 60-70% of their calories but fail to provide adequate quantities of micronutrients. Comparative information on diet quality is scarce, and quantitative data on nutrient intakes are expensive and difficult to gather. Simplified diet diversity indices using major food groups correlate with more detailed consumption data.

13.2 FOOD CONSUMPTION INDICATORS

The food consumption indicators are:

- Dietary Diversity Scores (24 hours recall)
- Frequency of Vitamin A rich food intake (7 days recall)

Dietary Diversity Scores (DDS) are qualitative measures of food consumption that reflect access to a variety of foods. DDS can serve as proxies for nutrient adequacy of the diet of individuals.

13.2.1 DEFINITION AND TYPE OF DIETARY DIVERSITY

Household Dietary Diversity (HDDS, 12 points) is the number (not quantity) of unique food groups consumed by household members over a given period, usually 24 hours, and depicts the economic ability of a household to access a variety of food.

Individual Dietary Diversity Score (IDDS, 7 points) is meant to reflect the nutritional quality of the diet for a specific individual.

Infant and Young Child Feeding Minimum Diet Diversity Score (IYCF MDD, 7points): is focused on the quality of diet for children 6-23 months of age.

Minimum Dietary Diversity for Women of Reproductive Age (MDD-W, 10 points) is a dichotomous indicator to measure if a woman eats at least 5 out of 10 defined food groups. It is a proxy for assessing the adequacy of micronutrient intake by women of reproductive age.

13.2.2 WHEN TO COLLECT DIETARY DIVERSITY DATA

- ⊙ DDS data collection depends on the objective.
- ⊙ To assess the food security situation of the rural, agriculture based communities, data is collected during the period of greatest food shortage, immediately prior to the main harvest or immediately after emergency.
- ⊙ To monitor the food security/ nutrition programs, repeated DDS measures are required to assess the impacts of intervention, conducted at the same time of the year as the baseline to avoid seasonal differences.
- ⊙ Seasonality may affect indicators (food security, nutrition, health and DDS) patterns and hence the proportion women with MDDS-W may vary.
- ⊙ MDD-W from different seasons should be adjusted using survey data.

14 MONITORING PRICES

Srini Rajendran and Kirimi Sindi

Practical Session: Collecting Price Information

This session simulated the process of collecting price information using ODK.

Through this exercise, participants learnt that tools are sometimes complex and often, people use paper questionnaires which they then photograph. Experience has shown that the ODK tool may not be appropriate for the collection of price information at the market because of its structured nature. ODK can be used to fill in basic information about the market. The rest of the data can be filled on a paper form that is then photographed and uploaded. Collecting data on wholesale markets is much more difficult because of the use of extended bags. To address this, such bags must be weighed to come up with a conversion scale that can later be used for data collection purposes.

Price information is important for bargaining and to get better prices for sweetpotato. This is especially important for small holders who are vulnerable to exploitation by large-scale traders.

Whereas there is plenty of research going on production and marketing, there is less work done on price information systems. Lack of sufficient price information causes inefficiencies in the value chain. Due to high perishability and lack of storage facilities, sweetpotato prices are highly volatile.

The exercise was undertaken to demonstrate how to (a) obtain timely price information and (b) understand price fluctuations so as to better plan marketing strategies.

Four market categories were used: white-fleshed, orange-fleshed, yellow-fleshed and mixed sweetpotato. The aim was to understand the premium for OFSP. Information was also to be obtained on substitutes for sweetpotato e.g. yam and cassava. Information is collected from retail and wholesale sweetpotato markets on a bi-weekly basis. Digital scales are used to measure the product and ODK is used to administer a structured questionnaire. It covers the following:

- ⊙ Characteristics of the market
- ⊙ Whether OFSP is sold in that market and if it is, buying and selling price
- ⊙ Quantity of sales at wholesale and retail market

This information is collected for all categories of the produce.

14.1.1 SUMMARY OF DISCUSSION

Possibility of estimating price information: The presented tool is for monitoring prices. It is constant and not pegged to the baseline survey. If there are no sales during that month, no figures will be filled. Therefore, there will be no extrapolation.

What is meant by mixed sweetpotato: Except in areas where OFSP is a premium, different varieties of sweetpotato (white, yellow and orange-fleshed) are usually mixed and sold together. In Rwanda, when collecting price information, efforts are made to establish whether OFSP is one of the varieties sold in this category, and whether OFSP is considered as a premium.

Rationale for collecting information on substitutes: It is important because to map the price of substitutes against that of sweetpotato because supply of the substitutes influences the price of sweetpotato. However, countries must decide for themselves how important it is to monitor this data.

Sharing information with farmers: It is possible to do this using mobile technology, e.g. by use of SMS.

15 FINAL REMARKS AND CLOSING

The closing session was presided over by Julius Okello. This session summed up the plans for the next year and highlighted the unresolved issues from the meeting such as the definition of DVMs, and how to deal with outliers in the data, which would be discussed online over the year. The session also incorporated final remarks by other participants.

The MLE CoP was reminded to include the ODK modules (which they could adapt and modify to suit country requirements) in their planned evaluations. This would facilitate the process of collecting data for SPHI report by the regional MLE team between June and August.

To increase ownership by the MLE CoP, members were encouraged to disseminate the lessons and tools from the CoP meeting as a way of reinforcing the commitment to capacity strengthening in their organisations.

The CoP members indicated that there is need for continuous capacity strengthening on M&E principles and emphasis on monitoring and learning. For example, one suggestion was that future meetings of the MLE CoP could facilitate exchange of lessons on how other organisations such as FARA and/or HarvestPlus design and implement their M&E systems and how they use them for learning. For this reason, it was unanimously resolved that next year's (2017) be held in Accra - Ghana and that FARA be requested to host and co-facilitate the meeting.

The Sweetpotato Knowledge Portal was recommended as a learning platform through which members could share insights from the field.

The recommended location for the next meeting is early 2017 with West Africa, specifically Ghana as host.

The meeting was officially closed by the Country Manager for Rwanda, Kirimi Sindi, who appreciated the contribution of Jan Low in building up the MLE CoP, emphasised the strategies for increasing support by project managers, and called for better coordination to ensure that all the required indicators were captured by the MLE staff.

16 MEETING EVALUATION

About 30 people participated in the meeting and 17 completed the feedback survey. As the survey was conducted at the end of the meeting, some of the participants had already left the meeting hall, while some faced problem completing the form using ODK.

16.1 DEMOGRAPHIC INFORMATION

Participants represented nine African countries. About one-quarter of the participants were from Kenya; Rwanda and Uganda were each represented by 18%, and Mozambique 12% of the participants. The dominant age group of the participants was 30-40 years. More than 80% were below 40 years of age, while those below 30 years of age were 35%. Only 6% were above 50 years of age. Thirty percent of the participants were females while the remaining 70% are males, an indication of the skewed gender dominance within the CoP.

Thirty percent of the participants were from national research institutes partnering with SPHI, and other centres working on sweetpotato projects in the region.
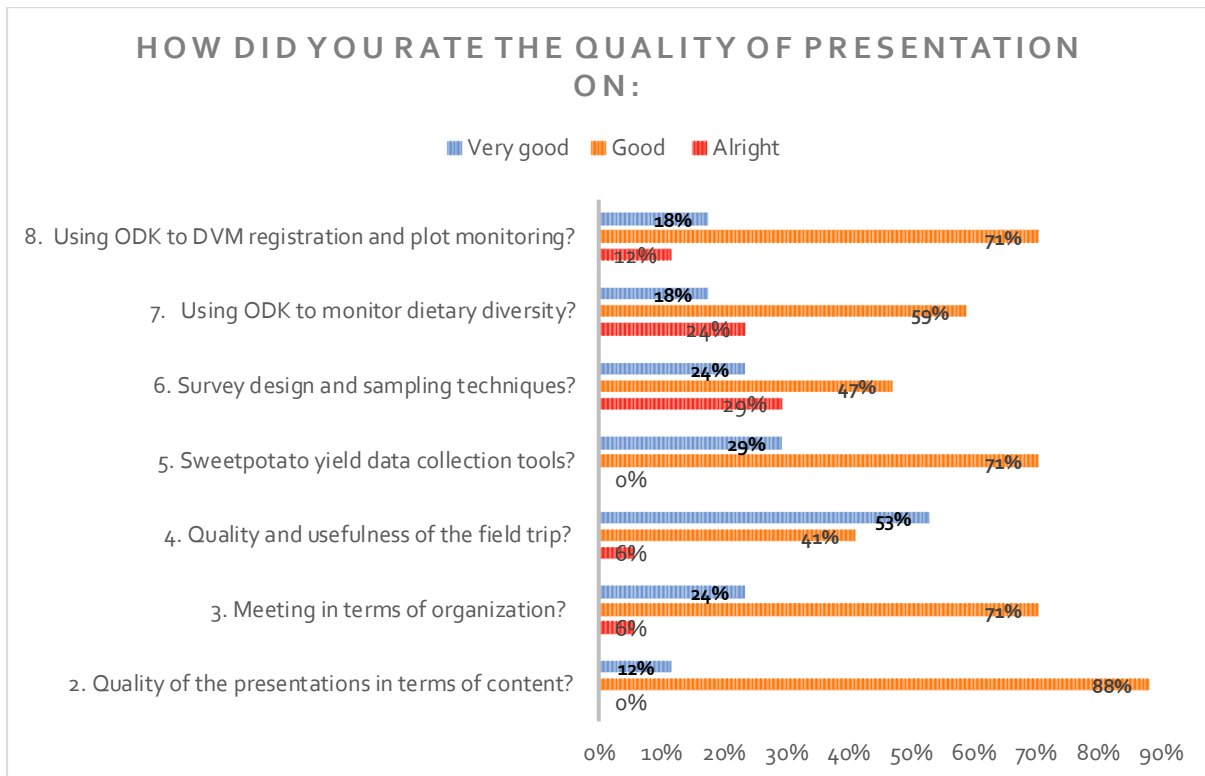
16.2 MEETING EXPECTATIONS

More than two-thirds, 65%, of the partcipants found the meeting completely matched or exceeded their expectations(24%); and about 10% reported that the meeting mostly met their expectation.

16.3 QUALITY OF CONTENT

Ninety percent of the participants rated the overall presentation content as good, the remaining rated it as very good (10%). Details of how participants rated specific presentations is available in the figure below.

Figure 5 - Participants' evaluation of the quality of presentations

HOW DID YOU RATE THE QUALITY OF PRESENTATION ON:

Legend: Very good | Good | Alright

- 8. Using ODK to DVM registration and plot monitoring? — Very good 18%, Good 71%, Alright 12%
- 7. Using ODK to monitor dietary diversity? — Very good 18%, Good 59%, Alright 24%
- 6. Survey design and sampling techniques? — Very good 24%, Good 47%, Alright 29%
- 5. Sweetpotato yield data collection tools? — Very good 29%, Good 71%, Alright 0%
- 4. Quality and usefulness of the field trip? — Very good 53%, Good 41%, Alright 6%
- 3. Meeting in terms of organization? — Very good 24%, Good 71%, Alright 6%
- 2. Quality of the presentations in terms of content? — Very good 12%, Good 88%, Alright 0%

With regard to the most new information learnt, 35% of the participants identified the presentation on survey design and sampling techniques, while 30% selected sweetpotato yield estimation tools and using ODK in monitoring DVM and plots. Only 6% learnt new information from the presentation on dietary diversity.

More than half of the participants rated the field trip on the second day as very good (53%), and about 40% rated as good.

16.4 TRAINING ON THE SWEETPOTATO KNOWLEDGE PORTAL

As the figure on the left illustrates, about 80% of the participants had attended Sweetpotato Knowledge Portal before the meeting, and about 95% attended the training held on 27 April 2016 in Kigali during the MLE CoP meeting. By the end of the meeting, about 60% of the participants were confident in using the Portal, 35% were very confident, and about 5% still need more training.

Figure 6 - Participants' confidence in using the Sweetpotato Knowledge Training

HOW CONFIDENT DO YOU FEEL THAT YOU CAN DOWNLOAD AND SHARE CONTENT ON THE PORTAL?

- Not at all: 6%
- Confident: 59%
- Very confident: 35%
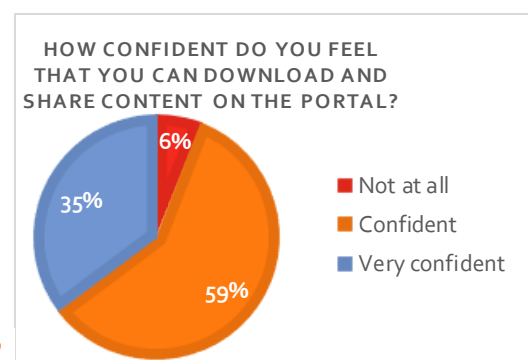
16.5 ADMINISTRATION AND LOGISTICS

The organisation of the meeting inters of logistic arrangement, accommodation, and transportation was rated very good (6%), good (71%), and alright (24%).

16.6 SUGGESTION FOR IMPROVEMENT IN THE SUBSEQUENT MEETING

A number of issues was raised by participants for future improvement of the meetings. Majority suggested including other academic trainings that enhance the capacity of the M&E team, such as CSPro training and STATA. Moreover, they felt that consulting the participants on the area they would like to be trained during the preparation of the meeting can increase the efficiency. A breakdown of the suggestions made and the proportion of the participants who made them is presented in the figure below.

Figure 7 - Suggestions for future meetings

SUGGESTIONS FOR FUTURE MEETINGS

- INCLUDE WIDER TOPICS — 4%
- CIRCULATE AGENDA AND LIST OF… — 8%
- FOCUS ON SPECIFIC POINTS — 8%
- CREATE DISCUSION GROUPS — 8%
- CASE STUDY ON DEVELOPING M & E — 17%
- MORE TIME FOR PRESENTATIONS — 25%
- INCLUDE OTHER TRAINING PACKAGES — 29%
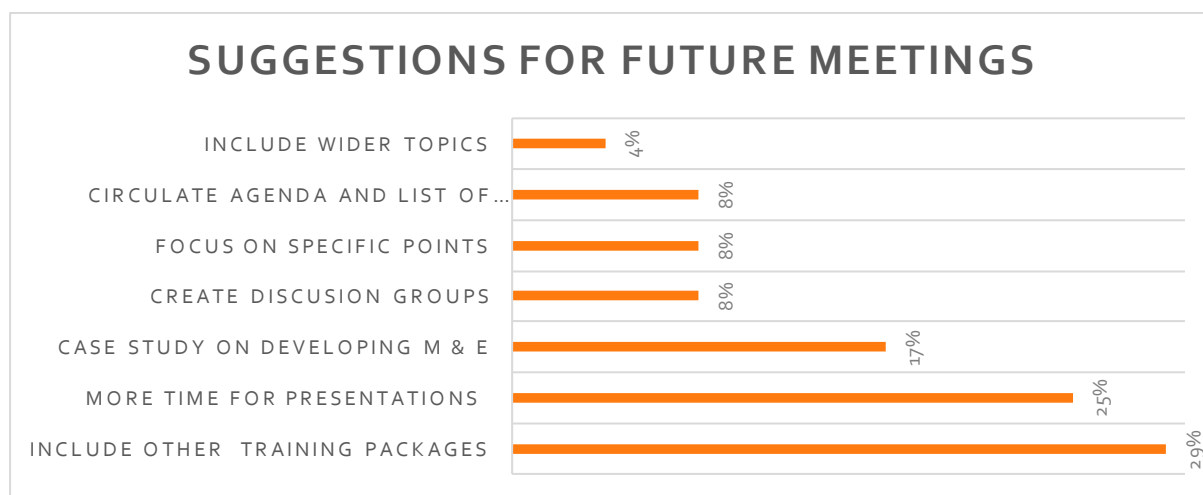
ANNEXES

ANNEX 1: SUMMARY OF ONLINE DISCUSSION

Sweetpotato Monitoring, Learning and Evaluation Community of Practice Meeting

Discussion Topic #1 (2016): Production Metrics in Sweetpotato Projects - How do we measure output, area, yield and gross margins?

Introduction and Discussion Questions

This topic focused on the measurement of yield and gross margins in SSA sweetpotato projects. Most sweetpotato projects in SSA have strong agricultural components that usually promise to *monitor and report* changes in production (volumes, value or both), area (hectares) and/or sales (volume, value or both).   These metrics are also needed for annual SPHI update.

 The discussion questions were:
1. Are we measuring these data in our projects? If so, how are we estimating production and yield? That is, which one of the yield estimation method(s) listed in the attached documents are we applying? If different, please state. And what challenges are we facing?
2. How are we dealing with piecemeal/staggered harvest of the roots over the season? Do we include these in our production figures?
3. What goes into our gross margin (GM) computations? That is: how do we obtain data on sales that credibly reflect the total sale by a household in a season when sales could also be piece-meal/staggered? How do we compute the income (revenue) from these sales?
4. What method should we be using to gather this data: Household survey, sub-sample survey, or on-farm trial? And what are the experiences?
5. Lastly, and most importantly, how can we adopt common methods of measurements that will facilitate aggregation across projects? What will work broadly (over many countries) and what won't work?

There was a very lively discussion around these questions with the issue of yield measurement to a large extent overshadowing the eventual estimation of gross margin. This was perhaps due to the fact that a good estimate of yield is fundamental to having accurate of the others. Notably, this discussion benefitted greatly from the contributions by members of Seed Systems CoP.

Summary of discussions

The bullets below summarize the key points from this discussion:
- In computing gross margins one needs to have estimates of both production (in volume and value) and sales (in quantity/volume and value). How to get this data is best tackled by looking at different options at hand. Do the target farmers keep records or are they organized through groups/associations that can keep production and sales records? If not, can farmer recalls give the best possible estimates? One point noted here is that recalls can be hard due to piece-meal harvest of roots. Farmers often don't remember how many times they harvest per week or month and the volume/quantity harvested each time.
- Related to the above, the 2014 Rwanda household survey case was highlighted. It tried to get the yield data by using farmer recall but failed to get "usable" data. The survey team even went further to spilt months into "minor" and "major" in terms of harvest to make recall more

manageable to the respondents. They noted that farmers in Rwanda still had difficulty remembering "how many times they harvested roots in a month/week" which is precisely what most researchers ask farmers to do during household surveys. It was also noted that the quality of yield data collected as part of a larger household survey depends on the quality of enumerators and their understanding the section of tool that is intended to capture yield and sales.

- It was further observed that some projects such as Feed the Future have specific guidelines on how yield and gross margins data ought to be collected in a monitoring survey. However, these guidelines do not eliminate the estimation challenges.

- Use of crop cuts and on-farm trials can give more reliable estimates and was recommended by both MLE as well as Seed Systems CoP members. There are different options in this case. One is based on researcher or research-farmer managed trials and follows a well-defined protocol. The trials are laid out in a randomized complete block design with plots measuring 4mx6m each, and each treatment is replicated three times. One of blocks is a control (has a local variety). The yield estimates for the new varieties are compared with yields of the local preferred varieties(s) and only the area for the 3 middle rows is used as the net plot to calculate the yield. Another option is to do on-farm measurement (by farmers themselves) to get data from totally farmer managed plots (i.e., yield estimates based on farmer practice). The other approach is the use of Mother and Baby Trial (MBT). In this approach, all the varieties are evaluated in one main plot which becomes the mother and farmers are given 1 or 2 varieties to test at their farms alongside their preferred local variety. These are referred to as baby plots.

- Trials have some challenges too. First, the host farmers need to be representative and this may not be easy to implement since researchers tend to look for certain characteristics e.g., literacy, land availability and some knowledge of standard agronomic practices which can work against an average farmer. Second, plot management often becomes a challenge: e.g., weeding not done on time and destruction by roaming livestock. Three, theft of the crop in the field which reduces harvests. These can affect the quality of data collected.

Way forward

Based on the discussions, a small team of MLE CoP has moved to develop a manual that outlines guidelines on yield estimation based on on-farm trials and crop cuts. This manual addresses some of the challenges of using this technique. It for instance recommends that the trials should be hosted by representative farmers and outlines the sampling procedure to be followed in doing this. The manual will be launched at the MLE CoP annual meeting. It has been pilot-tested and revised and participants of the meeting will have a chance to practice its use during the learning field trip.

MLE CoP Discussion Topic #3 -2015: Definition of Direct and Indirect Beneficiaries of an Intervention

Introduction and Discussion Question

An increasing number of sweetpotato projects in SSA have interest in the number of beneficiaries reached. This interest has especially grown with the recent increase in the portfolio of projects that focus on scaling up. In both cases, the interest is in knowing the number/count beneficiaries reached directly and indirectly. Thus the current and future projects clearly expect M&E officers to monitor and report the number of indirect beneficiaries reached. And, as is often the case, project managers often expect these numbers to be reported on quarterly, and in some cases, biennial basis. This discussion topic focused on the definition of direct and indirect beneficiaries. That is, who is a direct or an indirect beneficiary? In addition, how are direct and indirect beneficiaries being measured by members of MLE CoP members?

Summary of discussion points

The key points of the discussion are summarized below.

1. A beneficiary is a participant in an intervention/project being implemented. The participant can be i) an individual, ii) a household, iii) a trader, and iv) a processor. They are usually members of the community or value chain actors where the intervention is situated. Such participants can benefit directly or indirectly from the intervention.

2. A direct beneficiary was defined as an individual, household or value chain actor that receives an intervention <u>directly</u> from the project or its partners. The project and its partners are, using the language of Feed the Future M&E guide, the implementing mechanism. That is, a direct beneficiary should have interaction with the project or its partners to qualify as so. An indirect beneficiary, on the other hand, is an individual, household or value chain actor that receives or interacts with an intervention through other sources or channels other than the implementing mechanism. This can be a kin, neighbor, farmer or value chain actor receiving or interacting with a technology through sources that are not linked to the project.

3. In a mother-baby trial strategy of vine dissemination, for instance, a household that receives a bundle of vines from the project or implementing partner (i.e., the mother and baby) is a direct beneficiary. On the other hand, a household or individual receiving the vines from recipients of the baby bundles is an indirect beneficiary.

4. In the case of a vine multiplier (e.g., DVM) supported in any way by the project, an individual or household that receives vines from such multiplier is a direct beneficiaries. When such household/individual shares vines with others, these others (recipients) become indirect beneficiaries.

5. In the case of nutrition-based project or sub-project component, a caregiver who receives information from the health facility/practitioner/volunteer/promoter that is a partner of the project is a direct beneficiary. This remains so for a practitioner/volunteer/promoter even if the partnership arrangements are not made directly with them, but rather by the health facility they serve. In this context, indirect beneficiaries are caregivers who receive information from the direct beneficiaries or others that did not interact with the project or the participating health system.

6. In the case of measurement, the discussion identified two strategies: household and tracking surveys.
7. Concerns about double-counting were raised. The advice in this case was that one needs to be cautious about the indicators and should be clear about the formulation of the indicator. Cases of double counting could arise when members of a household participating in an intervention (e.g., receiving vines in a distribution) are separately counted for a household-level indicator.

Way forward

It was agreed that the MLE CoP will adopt the following definitions:
- Direct beneficiary – a household/individual/value chain actor that receives an intervention through direct interaction with the project or its partners
- Indirect beneficiary – a household/individual/value chain actor that receives an intervention through sources other than the project or its partners.

ANNEX 2: AGENDA

Monitoring, Learning and Evaluation Community of Practice Meeting

Theme: Harmonized Strategies for M&E Household and Yield Data Collection

Swiss International Villa Portofino, Kigali, Rwanda

27-29 April 2016,

Tentative Agenda

Topics	Time	Responsible person
Day 1 - 27th April, 2016		
Lunch	12:00–13:00	Tassy/Diana
1. Arrivals and registration	13:00-14:00	Tassy/Diana
2. Introduction & welcome	14:00-14:15	Kirimi/Julius
3. Opening remarks	14:15-14:30	Jan
4. Training on Sweetpotato Knowledge Portal	14:30-17:30	Christine
Day 2 - 28th April, 2016		
5. Registration	08:15-08:30	Tassy/Diana
6. MLE CoP 1-year after: Review of progress to date	08.30-08.45	Julius
7. Progress in reaching the 10 million SPHI target	08:45-09:30	Jan
8. Indicator data collection: importance and challenges	09:30-10:00	Julius
Group Photo & Health Break	10:00-10:30	Tassy/Daina
9. Household survey design: sampling and sample size determination	10:30-11:15	Srini/Kirimi
10. Practical session 1: Sample size determination	11:15-12:15	Srini
11. Yield data collection: monitoring and survey	12:15-13.00	Jan
Lunch	13:00-14:00	Tassy/Diana
12. Protocols for yield data collection: Crop cuts & use of ODK	14:00-14:30	Kirimi
13. Protocols for yield data collection: Demonstrations	14:30-15:00	Jan/Matiya
14. Practical session 2: Yield data collection using ODK	15:00-16:00	Kirimi/Temesgen/Luka

Health Break	16:00-16:30	Tassy/Diana
15. DVM registration & monitoring	16:30-16:45	Temesgen/Luka
16. **Practical session 3**: Using ODK for DVM registration and monitoring	16:45-17:45	Temesgen/Luka
Networking Cocktail	19.00	
Day 3 - 29ᵗʰ April, 2016		
17. **Learning events**	08:00-12:30	Kirimi/Rwanda team
	A field trip to Rulindo district on Friday 29ᵗʰ April 2016 morning. Participants will visit a sweetpotato farmer and a DVM. They will learn how to digitally register and monitor a DVM, conduct a crop cut to estimate yield, assess a vine field and file a field activity report digitally using ODK.	
Lunch	13:00–14:00	Tassy/Diana
18. Measuring area under sweetpotato: Harvestplus experiences	14:00-14:30	Ignatius Abaijuka
19. Tools for monitoring dietary diversity: Review & updates	14:30-14:45	Temesgen
20. **Practical session 4**: Using ODK to monitor dietary diversity	14:45-15:45	Temesgen/Luka
21. Vine multiplier mapping: review and updates	15:45-16:00	Norman
Health Break	16:00–16:30	Tassy/Diana
22. Piloting online reporting platform; case of BNFB	16:30-16.45	Mulongo
23. Looking ahead: MLE CoP plans & SPHI update	16:45-17:00	Julius/Jan
24. Meeting review and feedback	17:00-17:15	Temesgen/Tassy
25. Closing remarks	17:15-17:30	Jan/Julius

ANNEX 3: PARTICIPANTS' LIST

Monitoring, Learning, and Evaluation, Community of Practice
April 26 - 29, 2016
Swiss International Villa Portofino Kigali
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The **Sweetpotato for Profit and Health Initiative (SPHI)** is a 10-year, multi-donor initiative that seeks to reduce child malnutrition and improve smallholder incomes through the effective production and expanded use of sweetpotato. It aims to build consumer awareness of sweetpotato's nutritional benefits, diversify its use, and increase market opportunities, especially in expanding urban markets of Sub-Saharan Africa. The SPHI is expected to improve the lives of 10 million households by 2020 in 17 target countries.

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