

Scaling up sweetpotato through agriculture and nutrition (SUSTAIN): M&E system review

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SUSTAIN is a six-year partnership (2013–18), led by CIP, to scale up the nutrition benefits of biofortified orange-fleshed sweetpotato (OFSP). The goal is to reach 1.2 million households with children under-5 years of age in Bangladesh, Kenya, Malawi, Mozambique and Rwanda. SUSTAIN supports integrated interventions in agriculture, nutrition, utilization and marketing to strengthen production and consumption of OFSP.

1. Introduction

Scaling Up Sweetpotato Through Agriculture and Nutrition (SUSTAIN) is a 5-year project (2013-2018) which aims to improve household nutritional security and vitamin A intakes by women and young children. It specifically aims to increase the production and consumption of vitamin A-rich orange-fleshed sweetpotato (OFSP) by households with pregnant or lactating women or those with children under 5 years of age in four African countries.

The SUSTAIN project is being implemented by the International Potato Center (CIP). Implementation started in 2014 and initially targeted four countries, Kenya, Malawi, Mozambique, and Rwanda, but has since evolved to include support to additional CIP projects in other Africa and Asia countries. The overall development outcome of the SUSTAIN project is to scale up OFSP technologies and delivery mechanisms to reach 1.2 million farming households with nutritious OFSP vines and roots, and 4,000 urban consumers with nutritious value-added products.

More broadly, the objectives of the SUSTAIN program are to:

1. Improve access to planting material of nutritious OFSP varieties by smallholder households with children under 5 years of age.
2. Improve nutrition awareness, knowledge, and skills for enhanced utilization and consumption of OFSP in households with children less than 5 years of age, and lactating and pregnant mothers.
3. Develop partnerships with at least one major agro-processor in each target country to produce a commercial product that uses OFSP as a major ingredient.
4. Develop and implement robust metrics and monitoring processes to assess outcomes, gender impacts, cost-effectiveness, and sustainability of OFSP integrated delivery systems.

1.1. Objective of the review

This review exercise was commissioned to assess the performance of the M&E process in meeting the goal of monitoring outputs, outcomes, gender impacts, and demonstrating the general impacts anticipated under the SUSTAIN program. The primary objectives of the M&E review exercise were to:

- Assess whether the design of the SMILER forms and processes is adequate to generate reliable and quality monitoring data: This included a review of data to do spot checks on quality, consistency, and timeliness.
- Assess whether we have used these forms and processes consistently, and what constraints we have faced in trying to do so.
- Collect project managers' views on the practicality and weaknesses of our Simple Measurement of Indicators for Learning and Evidence-based Reporting (SMILER) system, and their recommendation for improving it.
- Get project managers' views on how to improve data handling and storage.

As part of this exercise a simple data quality audit was conducted focusing specifically on internal data collection, quality control, and storage and maintenance procedures.

2. Context

SUSTAIN, unlike the preceding CIP projects, is scaling up program. It has therefore been designed to “increase the socioeconomic impact of successful interventions from a small to a large scale of coverage” (World Bank 2003). This is achieved by employing best-bet (proven) technologies, approaches, and techniques that have demonstrated effectiveness under small pilots conducted as part of proof-of-concept studies. For instance, small- and large-scale studies conducted in Mozambique that demonstrated that production and consumption of OFSP can increase serum retinol levels and hence contribute to fight against vitamin A deficiency and acute diseases (Hortz et al. 2012; Jones and de Brauw, 2015). The Rwanda Superfoods project demonstrated that it is possible to develop and commercialize OFSP-based industrial products (Okello et al. 2014). Additionally, past studies have shown that regular consumption of modest amounts of OFSP can supply sufficient amounts of vitamin A needed by the body (Low et al. 2001; van Jaarsveld 2005).

SUSTAIN is an attempt to deliver these proof-of-concept impacts at a wider scale. The program currently targets five counties (in Kenya), several extension planning areas (in Malawi), five districts (in Rwanda), and three provinces in Mozambique. In addition, the SUSTAIN program is supporting projects in other countries including Zambia, Tanzania, and Bangladesh. These countries were selected due to high incidence of vitamin A deficiency (VAD) among the vulnerable populations. Therefore, in each of these countries, the project targets households with children under the age of five and pregnant and lactating women.

In each of the four initial project countries, SUSTAIN teams work with a wide range of partners. These include the national program partners: Ministry of Health and the Rwanda Agricultural Board (RAB) in Rwanda; Mozambique Institute of Agricultural Research (IIAM); Ministry of Health and Ministry of Agriculture in Kenya; and the Department of Agricultural Research in Malawi. These partners support SUSTAIN’s agriculture and nutrition activities. In addition, SUSTAIN in-country teams also work with a broad range of implementing partners. These include Agência de Desenvolvimento Económico de Manica (ADEM) (Mozambique), Program for Appropriate Technology in Health (PATH)¹ (Kenya), Rwandan Farmers Federation (IMBARAGA) and Young Women's Christian Association (YWCA) (Rwanda), and Concern Worldwide (Malawi). Some of these partners have very strong health backgrounds while others are stronger in agricultural interventions.

The implementing partners have their own in-house monitoring systems and staff that routinely monitor their implemented activities, although the strength of their monitoring systems vary. Consequently in some countries, for instance Malawi, new staff had to be brought on-board to support some of the SUSTAIN-specific activities. These partner M&E staff work with the CIP M&E staff in the monitoring and reporting of field activities, but the partners’ staff are more involved in monitoring day-to-day activities.

¹ The partnership with PATH was phased out in 2015.

3. SUSTAIN M&E framework—A historical perspective

i) The utilization-focused evaluation

SUSTAIN is a uniquely complex project involving many implementers and partners. Implementing the project in different countries, environments, and contexts needed an M&E system that takes these differences and complexities into account. Such a system needed to meet the needs of project managers while at the same time providing the information other stakeholders would need to assess the project's progress towards its intended goals.

SUSTAIN'S M&E framework was therefore anchored on Michael Quinn Patton's (2003) Utilization Focused Evaluation (UFE) approach. UFE is based on the idea that evaluation should focus on the people who most need its outcome. It uses the voice of the people most interested in the outcome of the evaluation process, namely the stakeholders, to design and implement the evaluation. Stakeholders of particular interest would, in this case, be the program funders (DFID), country team leaders, and CIP managers. The UFE approach involves the collection of information on anticipated (or planned) SUSTAIN program outputs and outcomes for use in making judgments/decisions by intended users. It is the fact that this evaluation is done with the participation of and for users of the information that made UFE relevant to SUSTAIN.

ii) The SUSTAIN SMILER monitoring system

Since December 2014, SUSTAIN has employed a regional (multi-country) M&E approach for evidence-based decision-making and tracking of progress towards the achievement of project objectives. A set of indicators developed jointly by country team leaders, the SUSTAIN leader and regional support scientists, is routinely monitored and reported centrally to the SUSTAIN leader. This M&E system is anchored in the SMILER² system, developed by the Catholic Relief Services' (CRS).

SMILER is a comprehensive and practical approach that supports learning and decision-making based on evidence collected routinely from the field. It is intended to enable staff to turn a project's results framework (RF), project monitoring plan (PMP) or the project log frame into a useful M&E system that can benefit both project managers and implementing staff. The M&E system was developed based on fundamental principles and best practices of M&E.

The SMILER system has three key components: i) measurement of the evidence of achieving planned or anticipated goals based on pre-defined indicators; ii) learning from the evidence about the progress (or lack of it) towards the goals; and iii) reporting of the evidence. The manual developed by CRS goes into details about the development of each of these categories of the SMILER system. It strongly recommends that each of these systems be developed by internal project stakeholders under the facilitation of an experienced SMILER coach.

In the case of SUSTAIN, the training of the internal M&E stakeholders comprising SUSTAIN leader, country team leaders, and regional support scientists was conducted in December 2014 and facilitated by Susan Hann, one of the authors/inventors of the method. The training sketched out the results framework, refined the project monitoring plan, and devised a system of measuring and reporting information.

² <http://static1.1.sqspcdn.com/static/f/752898/22364591/1365085166153/how-smiler-makes-monitoring-and-evaluation-more-effective.pdf?token=rNxDaQqXp8gwmmpJL7dL%2Fk951ps%3D>

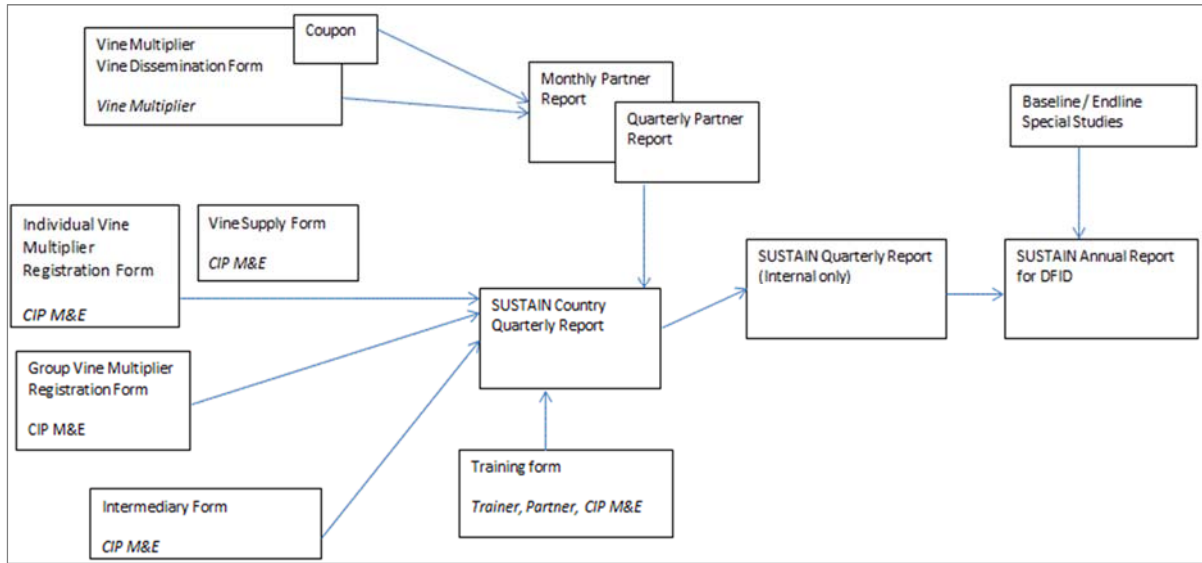
Collecting information for learning purposes is a very important pillar of the SMILER approach. Learning in SUSTAIN is expected to arise from collected M&E information and interactions with partners, especially those responsible for implementing the interventions and recipients of the interventions. These interactions are usually in the form of observational field visits, individual meetings, and phone discussions. Learning under SUSTAIN was conceived to emanate from both the collected and analyzed information, and regular regional and national stakeholder workshops. The workshops create a forum for the implementing and non-implementing partners to sit together with SUSTAIN country teams to look at the data and trends together, decipher what they implied and take any actions needed.

The SMILER approach attaches a lot of importance to the way that the information collected in various formats is processed and reported to the management at both country and regional levels. Reporting in SUSTAIN was planned to flow from the field staff to the SUSTAIN country leadership and eventually to the SUSTAIN regional leader. Under the SMILER approach, at least three kinds of reports were deemed as essential to facilitate learning at different levels: monthly, quarterly, and annual reports.

SUSTAIN has two types of monthly reports, depending on source, namely, monthly partner reports and monthly SUSTAIN country reports. These are prepared by the partner and SUSTAIN country office, respectively, and summarize the activities implemented within the month and provide short forecasts of planned activities. They also highlight any operational issues and challenges that need the attention of the SUSTAIN country and regional leader. The quarterly reports, similarly prepared by the implementing partners and country teams, are specifically designed to summarize the trends observed over the reporting period. Lastly, the annual reports are prepared by the SUSTAIN leader with inputs from country team leaders and the regional science support team, drawing from the synthesis of the quarterly reports among others. Figure 1 presents the planned SUSTAIN SMILER reporting system and data flow scheme. The figure relates to vine distribution information and data, which is part of Output Area 1.

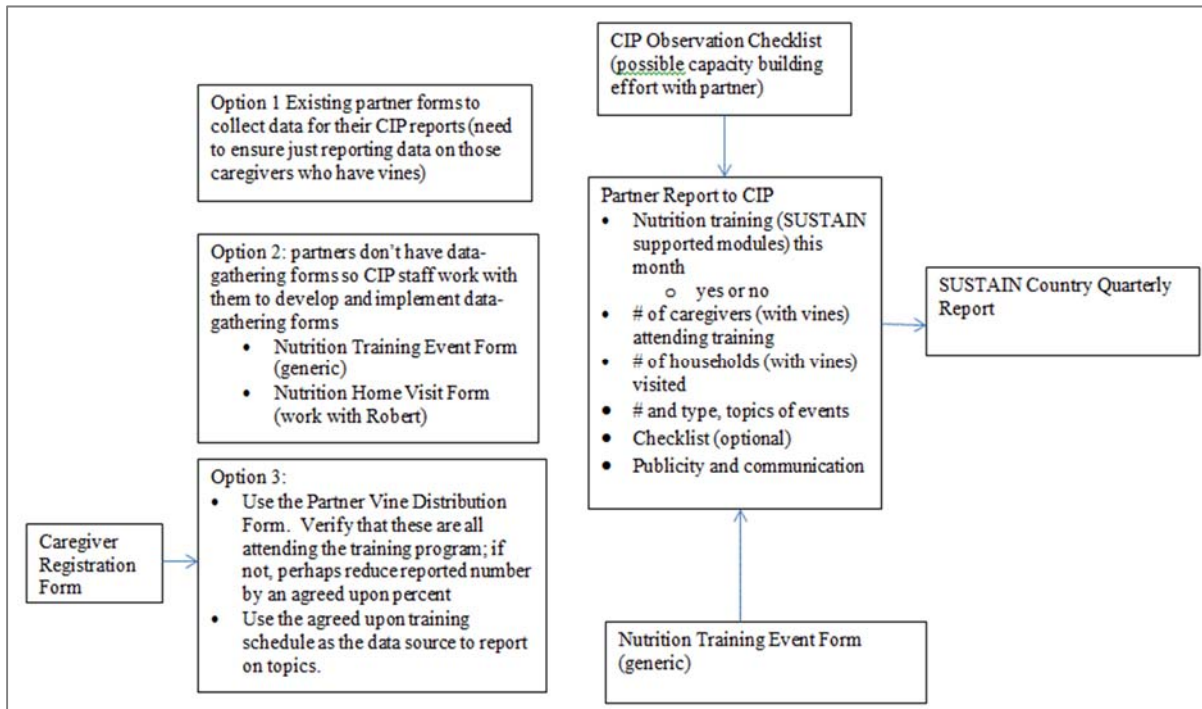
As shown in Figure 1, the information flowing through the system in these reports is derived from the various data capture tools. Output Area 1 (vine distribution) has the highest number of these tools: the vine multiplier dissemination form, used by individual (small and large) and group multipliers to record the vines given to eligible households; the individual and group multiplier registration forms; intermediary vine dissemination form; and lastly, the training form. The registration forms record the quantity and quality of vines expected from a multiplier, and is intended to help the country project team forecast for next event or season distribution. The intermediary dissemination form targets cases where vines are distributed by a partner NGO or large development agency not directly linked to the project but having to rely on the project for vines. Finally, training form was designed to capture training of multipliers.

Figure 1: Data and reporting flow chart for SUSTAIN program



While resembling the above flow chart, the Output Area 2 (nutrition) flow chart (was much simpler (See Figure 2)). Information flowing from field visit observations and also from the generic nutrition event form is summarized by partners into a report that eventually feeds into the quarterly country reports. The quarterly reports are used to produce the quarterly SUSTAIN regional report. An even simpler data and report flow chart for the Output Area 3 (markets and value chain) has information/data flowing from the private sector and product to market forms into country quarterly reports and eventually the SUSTAIN (regional) quarterly report.

Figure 2: SMILER data and report flow chart for the nutrition component



iii) Data quality audit in the SUSTAIN M&E

Due diligence in M&E requires that a certain standard of care is taken to ensure that the data and information collected meets professional data quality standards. A data quality audit (DQA) therefore provides information on the quality of data collected and raises awareness on the strengths and weaknesses of the system that generates the data. Its ultimate aim is not to criticize the efforts that go towards collecting information but to improve the overall data collection and management process.

Measuring the success and improving the management of a complex project, such as SUSTAIN, is predicated on a strong M&E system that produces quality data related to its implementation. Quality data can favorably position an organization, such as CIP, by creating confidence among the donor community in the body of evidence presented regarding the intervention. Poor quality data that cannot be validated and whose sources are not credible can be damaging to an organization financially, legally, and reputationally. The SMILER system is built to ensure that needed M&E data is collected.

However, implementation of an M&E system and the quality of the data and information that flows through the system normally depends on the people involved in the data and information gathering. Where many individuals are involved, and data passes through many hands and have to be severally aggregated, questions about the quality, accuracy, and validity of the data are bound to arise. In the case of SUSTAIN, data is collected by a field officer and moves through the system, eventually ending up in the SUSTAIN annual report and/or occasional update reports shared with key stakeholders. Consequently, each SUSTAIN country has staff responsible for the M&E activities. These staff are responsible for, among others, ensuring that needed data of acceptable quality is collected, documented, stored, and properly managed.

4. M&E REVIEW METHODOLOGY

i) Review of SMILER system

In this exercise the review of the SMILER M&E system is based on the assessment of system implementation in each of the study countries. It specifically focuses on the implementation of data capture tools, the reporting system, and the data capture, storage and management system. The assessment is based on a desk review of documents received from country team leaders and limited interactions via Skype and phone calls.

Records of reports reviewed spanned the whole of 2015 and so capture two planting seasons in countries with bimodal rainfall. Monthly, quarterly, and annual reports, recommended under the SMILER system, were all reviewed.

Phone and Skype discussions focused on getting the practitioners' view of the SMILER system, issues around the use/implementation of the SMILER data collection tools, and any adaptations/modifications made to the tools or new tools created and tools that have been abandoned.

ii) Audit of data quality

The DQA analysis undertaken in this exercise is based on the scrutiny of the data received from country team leaders for *completeness*, *accuracy* and *consistency*. The audit focused on the review of datasets received from the country team leaders, data collection forms in use, and, to a limited extent, the management of data. The data audit principles used are based on the DQA tool developed for USAID's Feed the Future (USAID 2008) and has previously been applied to analyze a development project in Zimbabwe that used the SMILER monitoring approach (Rutto 2011).

5. Review findings

5.1 Implementation of UFE in SUSTAIN

As part of adopting the UFE approach to evaluation in its M&E process, SUSTAIN very closely involved its country team leaders, regional support staff, and staff from the donor, the UK's Department for International Development (DFID) in the recruitment of the external evaluator, Michigan State University (MSU); the drafting of terms of reference for the external evaluation; discussions about the type and extent of evaluation; and decision on the countries that would eventually host the external evaluation.

With respect to type of evaluation, following the UFE approach, the external evaluator closely involved the SUSTAIN leader, country team leaders, and regional staff in the choice of the randomized controlled trials as the quantitative evaluation method, and Rwanda as the country on which to focus. Further, MSU closely involved the SUSTAIN team in the decisions regarding the nature and depth of qualitative studies it planned to conduct; specifically, the drafting of the research questions and the choice of countries to host these studies closely involved the SUSTAIN team. In addition, the DFID was closely involved through regular updates and briefings relating to the decisions on external evaluation.

Similarly, following the UFE approach, CIP's impact assessment team closely involved the SUSTAIN leader and country team leaders in the design and implementation of the baseline study it conducted in Kenya, and especially in the design of the survey tool and the general study design. The impact assessment team also closely worked with the SUSTAIN leader and country team leaders in defining the indicators to be monitored under the project, based on the project log frame. These indicators fed into the overall M&E system developed later, as discussed below.

Overall therefore, SUSTAIN evaluation has been closely guided by the UFE framework. However, this appears to have not been the case for day-to-day (routine) monitoring. Except during the development of the monitoring indicators and tools, where the SUSTAIN teams were very closely involved, the extent to which this approach to designing evaluation closely informed the relationship between the country teams and the users of monitoring information (i.e. implementing partners and households) is not clear. This is not surprising; UFE, as conceived by its proponent was a form of evaluation rather than routine monitoring and therefore is less appropriate for day-to-day monitoring. Secondly, the nature of the SUSTAIN projects—scaling up—can steadily drive up the financial and transaction costs of involving a large diversity of households in decision making, as envisaged by UFE.

5.2 Monitoring under the SMILER system

Overall, the country team leaders found the SMILER process very valuable and expressed their satisfaction with the system. During the SMILER training and 2015 SUSTAIN annual review meeting, there were concerns that the data collection forms would be complex and burdensome to partners. However, discussions held with each team leader did not seem to confirm these fears. Instead, all the team leaders were quite positive about the data gathering forms and the overall usefulness of the SMILER system. Below, the various aspects of the SMILER system are discussed, and the issues and challenges encountered during this review highlighted.

i) Data collection tools: usage and adaptations

SMILER had various forms that needed to be completed under the various output areas and laid out a systematic way of data transmission from the field through to the project leader. Review of the data capture forms/tools being used in the various countries indicate that, in general, SMILER forms are being used by all the country teams, but to varying degree – mainly due to differences in country contexts and needs. Indeed, some country teams have modified the original forms.

Some of these changes were raised by the country teams during the 2015 SUSTAIN annual review meeting in Kigali, Rwanda, when the need to contextualize the forms was discussed. In most of the cases where changes to the original forms have been made, the forms have either been simplified or expanded by adding new sections to capture previously unanticipated information. In other cases, however, the original forms are not used at all because they do not apply, and in still others brand new forms have been designed to capture aspects that were not quite captured by the original SMILER forms.

Figure 3 shows an example of a modified form that had originally been designed for collecting information at a nutrition event. The form was actually used to record an event held to discuss and promote sweetpotato seed system and vine dissemination. This is an example of an important event held by the Rwanda SUSTAIN team for which a specific SMILER form did not exist.

Figure 3: Example of modification SMILER form to capture information on unforeseen event

The image shows a handwritten form titled "Nutrition Event Monitoring Form SUSTAIN". The form contains the following information:

- Type of Event: RADIO SHOW
- Date of Event: 23/03/2015 | 9:00 - 10:00 am
- Location of Event: HUGUKA RADIO - MUHANGA
- Name and Title of Presenter: THOMAS NJGENZI
- Nutrition Topics Presented: SEED SYSTEM & SP VINES DISSEMINATION
- Estimated number of participants: 4 STUDENTS
- Gender breakdown:
 - 2 Male
 - 4 Female
 - 3 Total

A similar case of lack of predesigned SMILER form to capture an important event was the partner training (training of trainers) form, for Output Area 1. The Malawi team developed a 'SUSTAIN MBT Partner Training' form to collect information on training the team conducts on mother-baby plots prior to planting and just before harvest. The form is a modification of the 'Training Summary Report' form (see Figure 4, below). Another case of modification of forms was the 'Partner conversation' form that records briefs of discussions with partners. This form is used in Rwanda but with some modifications.

Figure 4: Modified training summary report form used for training of trainers/partners workshop in Malawi

Workshop Data					
Title of Workshop					
Name of SUSTAIN facilitator(s)					
Name and contact information for lead partner person					
Date of workshop					
Venue for the workshop					
Participant Information					
Name	Gender	Title	Role in MBT	Contact Information	Received Workshop Material

The review also encountered cases where forms that were designed for collecting information proved inadequate; in a few cases, the information collected was insufficient for tracking the gender of beneficiaries. In the former, the common case was where spaces provided by the forms were too limited and data recorders struggled to fit information into the cells which could make the information illegible. This problem arises because the forms used are often printed on A4 paper and could be alleviated if larger sheets of paper were used.

In the current vine distribution forms, the gender information collected relate to the head of the household. However, some of the country teams also wished to know the gender of the actual beneficiary, especially where such beneficiaries are not household heads. The current forms did not consistently collect such information.

The various forms in use and their status of modification are presented in Table 1, below.

Table 1: Summary of SMILER forms in use and level of modification, by country

SMILER form	Country							
	Malawi		Mozambique		Kenya		Rwanda	
	Form is in use	Form was modified	Form is in use	Form was modified	Form is in use	Form was modified	Form is in use	Form was modified
Output 1: Vine distribution and dissemination								
1. Individual vine multiplier registration	np	na	Yes	3	Yes	1	Yes	1
2. Group vine multiplier registration	np	na	np	na	np	na	Yes	1
3. Intermediary distribution	np	na	Yes	1	np	na	Yes	1
4. Partner vine distribution	np	na	np	na	np	na	Yes	1
5. Vine multiplier distribution	Yes	3	Yes	3	Yes	2	np	na
6. Vine supply*	Yes	3	Yes	1	Yes	1	np	na

Output 2 Nutrition									
1.	Nutrition (Event) monitoring	np	na	np	na	Yes	1	Yes	1
2.	Nutrition training form	np	na	np	na	Yes	3	Yes	1
Output 3: Markets and products									
1.	Private sector partnership form	np	na	Yes	1	np	na	np	na
2.	Product to market form	np	na	np	na	Yes	1	np	na
3.	Root Supply chain management form	np	na	np	na	np	na	np	na
Output 4: Monitoring and evaluation									
1.	Partner conversation report	np	na	np	na	Yes	1	Yes	1

Key: Level of modification 1=No modification 2= Slight modification 3= Considerable modification 4=Largely modified 5= Completely modified; np= Form not presented; na = Not applicable; * Renamed 'Vine status monitoring form' in one of the countries.

The table shows that most of the SMILER forms are not in use in country A, or if in use, were not presented to the review team. By comparison a considerable number of the SMILER forms are being used in D. Overall, though, none of the countries are using more than half of all the SMILER forms. The table also shows one case where the original SMILER form was renamed after some editing.

ii) Reporting in SUSTAIN

This section presents a snapshot of the completion of monthly, quarterly, and annual reports recommended by the SMILER system (Tables 2a – d). The assessment is based on 2015 project year.

Starting with the monthly reports that are expected to be written by the country teams and submitted to the SUSTAIN leader, the overall picture shows that three of the four countries failed to submit at least one report. Where reports were completed, they covered all the output areas and reported the activities undertaken within a month, in addition to forecasting future activities and highlighting operational and budgetary challenges encountered within the month. This means that when a country did not submit a report for a month, information about the activities in all four output areas for that month was missing.

Table 2a: Output Area 1 - Monthly internal vine distribution and DVM report for January-December 2015

Country	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
A	x	x	x	x	x	x	✓	x	✓	x	x	✓
B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
C	✓	✓	x	X	x	x	✓	✓	✓	✓	✓	✓
D	x	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

A check (tick) in the form means that a report was written and submitted to the project leader while an x indicates that there was no report.

Table 2b: Output Area 2 – Monthly internal nutrition report for January – December 2015

Country	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
A	x	x	X	X	X	X	✓	x	✓	x	X	✓
B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
C	✓	✓	X	✓	x	X	✓	✓	✓	✓	✓	✓
D	x	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 2c: Output Area 3 – Monthly internal markets and value addition report for January – December 2015

Country	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
A	x	x	X	x	x	x	X	X	x	x		x
B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
C	✓	✓	X	✓	x	x	✓	✓	✓	✓	✓	✓
D	x	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 2d: Output Area 4 – Monthly internal report on the evidence base for January – December 2015

Country	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
A	x	x	x	x	x	x	✓	x	✓	x	x	✓
B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
C	✓	✓	X	✓	x	x	✓	✓	✓	✓	✓	✓
D	x	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Different reasons were given by project managers for the failure to strictly comply with the monthly reporting criteria as expected under SMILER system. The main issue tended to be the work burden on the staff. In majority of the cases, the fact that the project operated with very few staff was cited as the main reason for non-compliance. In some cases, the review established that M&E staff members attached to SUSTAIN project were shared with other projects. In these cases the manager doubled up as an M&E officer, further increasing the work burden. Another major reason for non-compliance was lack of motivation to report. This was especially raised in the context of the near absence of follow-up and/or feedback on the issues raised in their monthly internal reports.

In this case of monthly partner reports submitted to SUSTAIN country teams, the incidence of non-compliance was even greater: none of the initial four SUSTAIN intervention countries received a formal monthly report from any of their implementing partners for any of the output areas. Some of the country team leaders attributed the failure to obtain monthly reports from partners to fact that they were already receiving bi-weekly³ reports from the same partners. They argued that asking a partner to prepare monthly reports in addition to the bi-weekly reports was not appropriate and would create too much burden on the partner. In addition, there was the feeling that bi-weekly reports were the most important. This was because they got partners to actually implement the activities promised and to report activities undertaken sooner, before details were forgotten, especially given that some do not keep detailed records. In addition, they enabled the country team leaders to learn about challenges and problems early and take remedial actions in good time.

The current SMILER system also requires that country teams and their partners compile quarterly reports. These reports are to feed into the quarterly report prepared by the SUSTAIN leader for internal use. However, as in the case of monthly partner reports, most of the countries did not write and submit these reports to the project leader. Neither did the partners prepare quarterly reports for the year under review. Only one country attempted to do these reports and also get the implementing partner to do so, with a second country also receiving a report for quarter four from its partner but not preparing its own. The reporting situation for internal and partner quarterly reports is presented in Table 3 and 4, respectively.

Table 3: Quarterly internal reporting during the year 2015

³ While some country team leaders expected partners to submit these reports, they are not part of the reports planned under SMILER system. Bi-weekly is used here to mean every two weeks not twice a week.

Country	Quarter			
	First	Second	Third	Fourth
A	x	x	x	X
B	x	x	x	✓
C	x	x	x	X
D	x	x	x	X

Table 4: Quarterly partner reporting during the year 2015

Country	Quarter			
	First	Second	Third	Fourth
A	x	x	x	✓
B	x	✓	x	✓
C	x	x	x	X
D	x	x	x	X

iii) Data quality assessment

As described in part 4, this review examined the M&E datasets provided by the country team leaders for three basic aspect of data quality: completeness, accuracy and consistency. Overall, the country teams are collecting large amounts of data. The data documentation process is done in three steps. First, data is captured by use of SMILER forms, discussed in Section 5. Next, in all the countries, data is keyed into computer data entry software. Three of the countries are using Excel spreadsheets while the fourth country is using SPSS. Lastly, in all the cases, some of the data is used in the preparation of monthly, and in the few existing cases, quarterly reports. Overall, the country teams are doing a great job documenting the information and storing it in form of an M&E database. Below, we highlight some of the issues we encountered.

a) Completeness of the data

The review of the sample data received from the country teams for the 2015 project year revealed several cases of incomplete data, although only a few cases are highlighted here. In the majority of the databases received, there were several missing data points without an accompanying explanation why the data is missing. It is possible that the responsible M&E staff member has an explanation why the data was not collected; however, failure to document such explanations poses the risk of losing that information should the staff member leave or deploy to a different responsibility, or due to forgetfulness.

Figure 5 illustrates cases of incomplete information. To anonymize the cases illustrated, the phone numbers collected have been changed to 11111111 while names are changed to xxxxxx. It is apparent that the data on age of mother of the targeted reference child (i.e. child under 5 years of age) is missing as are the names of many of the heads of the household targeted. In addition, all the 999 entries in this form are labeled as 'missing values'. Focusing specifically on the column on "SEXHHHEAD", the figure therefore indicates that this country team will have difficulty disaggregating the households reached by gender of the household head, an indicator requirement in SUSTAIN. Further, missing information of the mother's name may make it difficult to trace the beneficiary child, even if the child's name is known, because names of a very young child may not be known by many people.

Figure 5: Illustrative example of incomplete data collected by a country team in 2015

PHONENO	MOTHERAGE	FACILITY	SEXHHHEAAD	ANCNO	HHHEAD
111111111	42 5		0	999	xxxxxxxx
111111111	39 11		0	388/12	xxxxxxxx
111111111	35 11		0	197	xxxxxxxx
999	26 5		999	310	999
111111111	30 5		1	999	xxxxxxxx
999	28 3		0	999	xxxxxxxx
111111111	28 4		0	116/14	xxxxxxxx
999	27 2		0	999	xxxxxxxx
111111111	38 2		0	999	xxxxxxxx
111111111	30 2		0	999	xxxxxxxx
999	22 2		0	999	xxxxxxxx
999	.	2	0	999	xxxxxxxx
111111111	27 4		0	999	xxxxxxxx
999	11 4		0	999	xxxxxxxx
999	34 2		0	999	xxxxxxxx
999	38 3		999	999	999
999	999 3		999	999	999
999	999 3		999	999	999
999	4 3		999	999	999
999	2 3		999	999	999
999	2 3		999	999	999
999	3 3		999	999	999

Figure 6 also presents a typical case of missing/incomplete data for a different output area, this time, Output Area 4. It shows the case where dates are missing. The missing date may look insignificant for a casual observer. However, dates can become useful when, during future review or evaluation, there is interest in knowing how many farmers were linked to the commercial value chain in a certain project year. Another example of incomplete information, relates to the entries at the bottom of the table. These are apparently a product of “number of farmers selling roots” and the “price of roots”. It is unclear what the data recorder intended to communicate with this information, and the missing label makes it difficult to tell what the numbers represent.

Figure 6: Case of missing information (dates and label) on farmer linkage to market data

# smallholder farmers (or groups) selling roots to these value chains for processed products of CIP-selected processors	date	date	date
543	51		37
14	14		14
260	714		518

i) Accuracy of the data

This review has also revealed several cases where accuracy of the data can be questioned by a keen examiner or evaluator. The specific cases we address in this report related to the apparent lack of proper validation procedures and also ad hoc changes in numbers/entries in the data capture tools. The latter case is exemplified in Figure 7 where entries are crossed-out and new number inserted without countersigning or explanation. Note specifically the changes in the amount of vines issued/sold and the price paid.

Figure 7: Illustrative example of unexplained alteration of data/entries

PHONE NUMBER (CLOSEST) OF (CITY) NEAREST TO FARMER	PERSON PICKING THE VINES (RELATIONSHIP WITH COUPON HOLDER) Codes A below	AMOUNT OF VINES ISSUED/SOLD (Specify units for amount, refer to codes B below)				TOTAL AMOUNT PAID (0 if free)	PAYMENT TYPE	
		UNIT	UNIT	UNIT	UNIT		TYPE	CODE
73053		200	1	200	1	0	4	1
1167766		200	1	200	1	0	4	1
186626		200	1	200	1	0	4	1

In two of the original SUSTAIN countries, there were also issues of movement of data from the implementing partner to the SUSTAIN country office. In one case, the country team relied exclusively on electronic data submitted via email or phone by the partner for its reporting. The SMILER forms were in use for capturing the data but the filled out forms were stored by the partner. Hence, the SUSTAIN country team had no way of immediately verifying that the data being submitted by the partner were accurate. In the second case, the partner did eventually transmit the forms to the SUSTAIN country team, but with a time lag. The issue in this case was the “cost of going around the country collecting the forms”. This led the

country team having to rely on the reported numbers for its reports without the benefit of the original source with which to cross-check entries.

ii) Consistency of the data

Cases of inconsistency of the data were a lot fewer than the previous two issues highlighted. One of the cases encountered in this review is presented in Figure 8. Here the heading on the form indicates that the number of bundles of vines given to the eligible beneficiaries should be specified but instead a check (tick) has been used. It seems that all households received an equal number of bundles (probably one bundle each). However, the data that was expected was not collected and the data collector failed to specify anywhere in the form what a check represents.

Figure 8: Illustrative example of data inconsistency

Variety received (Number of bundles)				
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	✓			
	✓	✓		
	✓			
	✓			
	✓	✓		
	✓	✓		
	✓			
	✓	✓		
	✓	✓		
	✓	✓		
	✓	✓		
	✓			
	✓			
	✓	✓		
	✓	✓		

Figure 9 presents another case of data consistency, relating this time to the units of measurement. Specifically, the figure shows areas ranging from 0.25 to 1225 but fails to indicate the units used, which could be either acres or hectares.

Figure 9: Example of failure to record units of area planted

C	D	E	F
Alignment			
er	Under 5	Area	Kgs
		1225	
		100	
	1	200	
e		100	
	1	100	
e		150	
e		0.25	
		300	
		0.5	
	1	0.5	
		400	
1		200	
		300	
		100	
	1	100	
	1	200	
		0.25	

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5.2 M&E capacity

A good M&E system requires sufficient number of well-trained, capable M&E staff. As alluded to in the previous sections, SUSTAIN is a very complex project being implemented in diverse environments and having four different, but equally important, output areas. As expected, finding and keeping M&E staff that can handle these aspects very well is difficult. While the turn-over⁴ rate has not been a very serious issue in the project, the tasks the current M&E staff is expected to undertake appear very demanding. Evidence of this can be gleaned from some of the mistakes relating to data quality, highlighted above. Discussions with country teams revealed that M&E staff are overstretched, having to track the activities, outputs and outcomes in the four different output areas. In one country where the designated M&E staff spends only 30% of the time on the SUSTAIN project, the project manager has had to take up some of the M&E functions. In these cases, gaps and lapses in data quality can be expected.

This review also revealed some weaknesses in the M&E staff upon whom the responsibility for undertaking day-to-day M&E activities, including data collection, processing, and storage, is vested. Specifically, it revealed that some of the M&E staff needed capacity building in the areas of data collection, management, and processing. More specifically, capacity building is needed in the importance of ensuring that data collected is of the highest quality possible in terms of completeness, accuracy, and consistency. The M&E staff also need capacity building in the design of simple M&E special or operational studies and in understanding that the study design has implications for quality of the data and for making inferences.

⁴ Since the beginning of the project nearly 2.5 years ago, two of the SUSTAIN countries have had to hire new M&E staff following resignations.

6. Summary, conclusions and recommendations

This review was aimed at: i) assessing whether the design of the SMILER forms and processes is adequate to generate reliable and quality monitoring data; ii) assessing whether SUSTAIN has used these forms and processes consistently, and the constraints faced in doing so; iii) collecting project managers' views on the practicality and weaknesses of the SMILER system; and iv) getting project managers' views on how to improve data handling and storage. It was exclusively based on desk study of the documents, simple data assessment and audit, and phone or /Skype interviews with project managers.

The review finds that most of the SMILER forms recommended for data collection are in use. However, some forms have been modified to take the country context into account while some new ones have been created. The modifications done on the various forms do not, however, pose particular risks of making aggregation of indicator data impossible or even difficult. They have nonetheless been uncoordinated; changes made on a form in one country are usually not known to the other countries.

The review also finds that in some countries, there has been irregular reporting of activities and progress as had been anticipated by the SMILER system. It was also clear from the monthly reports reviewed that reporting leaned heavily on the process (i.e. activities), with very limited reporting of outputs and outcomes of the interventions. Not all the countries mentioned trends in key output and outcomes in their annual reporting. This situation was exacerbated by the lack of quarterly reporting by both countries and partners, which would have enabled capturing trends, outputs, and outcomes.

There also seems to be a real disconnect between the framework that was set at the outset to inform the SUSTAIN M&E system and the current practice of M&E in all the countries. This framework, based on Patton's utilization focused evaluation (UFE), anticipated that SUSTAIN M&E system would be implemented with full participation of the key project managers, among other stakeholders. This implementation approach should generate information for both learning and decision-making. While this may hold true for the country teams, it is unclear how such information helps the SUSTAIN regional office, and especially the project leader, in the absence of consistent reporting and, in some cases, complete lack of reports. UFE has therefore remained a framework that is more of a principle than a practice in the SUSTAIN project. This may partly be due to what UFE was designed to achieve: the framework probably fits better in periodic project evaluations than in the day-to-day monitoring of processes, outputs, and outcomes.

This review also finds that while most project managers have found SMILER useful, it is not fully meeting expectations relating to one of the pillars of the system, learning. One manager wondered how useful the huge amount of information being collected is, suggesting that the information has not been of use to them. Indeed, some of the managers gave SMILER a rating 6 on a scale of 1-10, where 1 represents "very useful in meeting the needs of my project requirements". The project managers viewed the performance of the SMILER M&E system as having been only "above average".

Lastly, the review finds some problems with the data storage and management. Cases were found where data is being transmitted without the accompanying documentation needed to validate them. In addition, the problems associated with completeness, accuracy, and consistency of the quality of the data further lead to concerns about the way data is collected, processed, and stored.

Overall, the conclusion of the review is that although there has been a good effort at implementing the SMILER M&E system in all the SUSTAIN project countries, at the same time there are issues that need to be addressed. These issues relate to: the understanding of the SUSTAIN M&E framework, which is based on UFE, and how it influences or should influence the M&E practice; the utilization of the data *measured* under SMILER to effect learning; the significance of consistent and regular reporting of the *evidence* collected; and the collection, storage, and transmission of data.

Below, recommendations based on the findings of this review are presented. These recommendations should be treated as preliminary; the review exercise undertaken is insufficient for an in-depth understanding of the workings of an M&E system in a complex project like SUSTAIN. The current review was especially limited in both time and scope. A more in-depth review that encompasses travels to different countries, preferably by an external reviewer, for direct observations and discussions with relevant people, including implementing partners, is therefore recommended. Such a review will need more time than was accorded to the current one and clear directions in its terms of reference and scope.

6.1 Recommendations

Based on the findings above, this review recommends the following:

1. Country teams need to put more effort in ensuring that the monthly and quarterly reports are completed as planned by the SMILER system. These reports can be valuable sources of information on progress, challenges, and remedial actions taken, and important source of learning and information for decision-making by the recipients and others. To improve the value of these reports, there is need to go beyond the simple reporting of processes and activities, to include documentation of outputs and outcomes. Given that SUSTAIN is in its third year, one expects that early evidence of outcome should be starting to emerge and hence being captured in reports. It would greatly help readers to see the big picture if quarterly reports highlighted the trends in some of the project outputs and early evidence of outcomes.
2. This review did not delve deeply into the issues of data storage and handling. However, the review found cases where the data transmitted to the regional office is based on information received from the implementing partners, often without a validation system in place. There were even cases where the SMILER forms that could serve as a check to the electronic data received from the implementing partner were maintained and kept by the partner. In order to build trust and confidence in the data by evaluators and future system auditors, a system of data validation is needed. Table 5 presents some of the questions that need to be answered, by output area, as part of an effort to build credibility, trust, and confidence in the data reported to internal and external stakeholders.
3. Related to the issue of data validation is the issue of quality in terms of completeness, accuracy, and consistency. The issues highlighted in this report suggest the need to improve the documentation of datasets. Incomplete data can cause major problems, such as failure to disaggregate outputs and outcomes by gender, where gender of the household head is missing. Missing names make it difficult to retrace beneficiaries during a study. Data recorders and data entry teams therefore need to ensure that the data collected is as complete as possible.

Table 5: Illustrative example of data quality management plan

Name of Indicator	Who will verify the data collected?	How will the data collected be verified?	When and how often will the data be verified?	Who will check that the tallies and transcriptions are correct?	When and how will this be done? (What sample to use?)
<i>Output area 1</i>					
Indicator #1					
Indicator #2					
-					
<i>Output area 2</i>					
Indicator #1					
Indicator# 2					
-					
<i>Output area 3</i>					
-					
-					

Adapted from Ruto (2011)

4. While SMILER training conducted in December 2014 enabled teams to clearly conceptualize how to organize individual M&E systems and provided tools, it missed important areas of data handling, management, and storage. This could be due to the fact that SMILER is more focused on measurement, as the name suggests. The teams, however needed and still need training on the important aspect of data quality management.
5. The SMILER system has been useful in collecting data for tracking numbers and M&E reporting lines. However, it has not been as good at fostering learning. One country managed remarked that SMILER has been good at helping collect lots of data but not helping the teams learn from the data. In other words, the system has been good at measurement but not at learning. This suggests the need to strengthen the learning opportunities and forums where data collected can be presented discussed, and used to improve project implementation.
6. The standardization of the forms under the SMILER systems was intended to facilitate comparisons between and across countries. However, there is a tendency for the proliferation of the forms and/or the modification and renaming of forms. While country teams may be driven by context to do this, it would be helpful if more effort was spent on completing the current form entirely, accurately, consistently and on time.

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