



Field testing of “SAFA Small” mobile application for small-scale producers

Summary

With a view to increase and improve the provision of goods and services for small-scale producers, Grameen Foundation (GF) field-tested SAFA Small (based on FAO’s Sustainability Assessment of Food and Agriculture systems (SAFA)). The test involved 439 farmers and 31 surveyors in Columbia and Kenya, from August to September 2014. Results provided feedback on how the SAFA Small tool can be further improved, so that it can be applied in various contexts , with different types of small-scale producers, including subsistence, semi-commercial and commercial farmers.

Background

The purpose of SAFA, as described in the SAFA Guidelines, is to guide and inform on sustainability of operations, impact assessment and sustainable development goals. The SAFA Tool¹ serves for macro-assessments of food and agricultural enterprises; although it can be used with all types of enterprises, it remains challenging for small-scale producers. FAO, through partnerships with Grameen Foundation, Committee On Sustainability Assessment (COSA) and Soil & More Foundation, aims to develop a version of the SAFA tool that can be used to assess the sustainability practices of small-scale producers; this tool will be called the SAFA Small App. Grameen Foundation was tasked to conduct field testing activities of one version of the tool, gather feedback from surveyors and farmers and provide recommendations on how the tool can better be used to gather information from farmers. It is important to note that as of writing this report, a newer version of the SAFA Small survey has been developed, and that a number of questions have changed between the draft version that was tested in the field and the beta version of the tool.

¹ Desktop software.

Methodology of SAFA Small field testing

Grameen Foundation identified Colombia and Kenya as the target countries where SAFA Small will be tested. Each country represented different farmer segments: subsistence, semi-commercialized and commercialized farmers. Testing activities were held from August to September 2014, in Antioquia and Pasto in Colombia, and in Meru, Kenya. In preparation for the field testing activities, GF identified thirty one (31) surveyors which comprised of 8 agricultural technicians, 5 GF monitoring and evaluation staff members, 9 professional surveyors and 9 of GF's Community Knowledge Workers (CKWs) or farmer leaders. The surveyors were given short training and a brief guide that provided context on the SAFA tool, the objectives of the activity and training on administering the actual survey. The survey was administered to 439 smallholder farmers using TaroWorks, GF's mobile data collection tool and supported by the Salesforce platform, a database management system on the back end. After conducting the surveys, 5% of these were validated. During the validation process, farmers were again asked to answer the survey, but this time, the surveyors were supervisors or more reliable surveyors. Focus group discussions were held with all the surveyors that participated in the collection, alongside a group of five technicians that did not participate in the data collection but gave feedback based on their own experience working with subsistence farmers in Asia.

Country context

In Colombia and Kenya, GF is implementing various mobile agriculture programmes. In Colombia, for example, there is MANA, a food security and nutrition program with the Government of Antioquia; "Cafeteros Conectados" in partnership with the Cooperative of Coffee Growers of Salgar (COOCAFISA) and Starbucks, a project with coffee farmers to promote best agricultural practices that can increase productivity, quality and enable farmers to be certified by various seals; and ALSUR, a mobile sourcing pilot project to efficiently connect vegetable farmers to meet the demand of commercial aggregators and grocery chains. In Kenya, there is an e-Warehouse programme where farmers are provided with information on good agricultural practices, financing and market linkages with the help of technology. GF gathered sample respondents across its current and prospective programmes² in these two countries. Even though the SAFA Small survey was only tested in two different countries, in two different regions, a multidisciplinary group of GF professionals from four different countries and from three continents worked on the deliverables comprised in this report. Table 1 below maps out the different farmer segments with various GF projects and locations.

² GF is not currently working on "El Cinco" foundation's programmes. These programs are considered prospects for GF in Latin-America and the Caribbeans.

Farmer segments and projects covered

Type of small-scale producer & Main crops	Name of project	Location	Type of surveyor	Number of small-scale producers interviewed	Number of validated surveys	Number of surveyors	Number of focus groups
Subsistence farmers Crop: vegetables, coffee and plantain.	MANA Huertas	Colombia, Antioquia, Valparaiso	GF monitoring and evaluation staff	18	0	5	1
Subsistence farmers Crop: vegetables, fruits, plantain, banana, yucca and rice.	MANA Huertas	Colombia, Antioquia, Urabá	Agriculture technicians	0	0	5	1
Subsistence farmers Crop: rice, banana, plantain and maize.	El Cinco (Urabá)	Colombia, Antioquia, Urabá	Professional surveyors	108	5	5	1
Semi-commercialized Crop: beans, coffee and strawberries.	El Cinco (Alto de Minas y San Vicente)	Colombia, Antioquia, South Region	Agriculture technicians	52	6	3	1
Commercialized Crop: coffee and plantain.	COOCAFISA	Colombia, Antioquia, Salgar	Community knowledge workers	61	0	4	1
Commercialized Crop: vegetables and fruits.	Alsur	Colombia, Pasto	Professional surveyors	100	5	4	1
Semi-commercialized Crops: maize and beans.	e-Warehouse	Meru, Kenya	Community knowledge workers	100	5	5	1
TOTAL				439	21	31	7

Feedback on the SAFA Small survey from field testing activities in Colombia and Kenya

Logic and sequencing

The general feedback was that the questions were not grouped together by topics or themes and it did not follow a clear logic from the point of view of the farmer and the surveyors, causing the surveyors to jump from one subject to another. This resulted in an unorganized manner of administering the survey and confusion among the respondents. For example, questions about household information, farm information and practices can be found across different sections of the survey. GF recommends sorting the sections according to topics and not according to SAFA indicators. Possible sections and groupings include questions around household information, farming practices and socio economic status.

Length

There were varied responses on the length of the surveys. Feedback from Grameen Foundation employees who have strong background on monitoring and evaluation mentioned that the length of survey is appropriate if administered as a stand-alone survey. If this is a survey that will be given together with other surveys and activities, then it will be too long and will take too much time from the farmers. Pre-testing activities in Colombia took 1 hour to administer the survey. The actual time it took during field testing was anywhere from 20 to 45 minutes.

Surveyors who were farmer leaders and Community Knowledge Workers found the surveys too long. In Kenya, for example, some interviews lasted for 3 hours. The main reason for this is that the Community Knowledge Workers had to translate the surveys twice, once from English to Swahili, and then from Swahili to Meru language.

Survey questions

A strong response that came out from all the focus group discussions was that the survey was very technical and had numerous terms that need to be simplified and explained very well both to the surveyors and the smallholder farmers. The farmers were not able to respond accurately to all the questions because they could not understand the concepts very well and there was a limitation on the surveyors' capacity to explain all the terms and sections. There were specific questions that were called out during the Focused Group Discussions (FGDs) and these were more prone to errors and more easily misunderstood.

In addition, the responses of a number of selected questions were compared with responses from validated surveys which were administered by professional enumerators and GF staff to show the importance of having experienced enumerators and the relation, if any, to data quality.

A table summarizing revisions proposed from the field testing and how these were addressed is in appended.

Summary of recommendations to improve the survey construction

- **Use simple language.** Since the SAFA Tool was originally meant for large agricultural enterprises, NGOs and governments, a lot of key terms were not easily understood by the smallholders. There is a need to simplify the words used in the survey questions, as well as simplify the sentence structure to gather accurate information from the smallholder.
- **Design a flow and structure that makes sense to the farmer.** The survey can also be arranged in sections according to similar topics and not necessarily according to SAFA Themes and indicators.
- **Understand farmers' behavior and practices.** There is a need to understand how farmers think, behave and react, so that the appropriate questions are asked and there is a logical sequence that the survey follows. Generally, farmers are also very sensitive to questions on income and wages.
- **Design skip logic functionality across the sections.** The functionality will save time for surveyors and respondents.
- **Identify the main questions that need to be answered using the SAFA Small survey.** Prior to survey construction, it is important to identify the key pieces of information that FAO needs to obtain from the small-scale producers. Knowing those will improve the way the survey is structured and will focus on specific questions that will establish the

Methodology in administering SAFA Small

During the field testing activities, there were different types of surveyors that were asked to participate. There were staff members from Grameen Foundation, professional enumerators, farmer leaders and agriculture technicians. If technical terms cannot be avoided in the SAFA tool, then it is critical to choose the right kind of surveyors, and preferably, the surveyors chosen are the agriculture technicians who have enough background on the concepts and will have the capacity to explain those to the farmers in a local language. In addition to this, preparations and comprehensive trainings should be given to the surveyors to prepare them for various questions that the farmers may ask. Apart from the technical training, it is also important to train the surveyors on how to communicate the purpose of the tool accurately and in a manner where it will not intimidate the farmers so they will be comfortable in answering and be able provide the information needed freely.

In Kenya, the surveyors specifically asked for a manual or a quick reference guide that the surveyors can use when they are conducting the survey. They wanted to refer to the definition of the technical terms because the concept wasn't easily absorbed.

Summary of recommendations to increase the usability of the SAFA small tool

- **Choose agricultural technicians as surveyors.** If technical terms cannot be avoided, it is important to choose surveyors who have the capability to explain the concepts properly.
- **Create a standardized methodology** in administering the tool that will include a comprehensive training on the SAFA tool for surveyors and designing a manual or quick reference guide for the surveyors.

Recommendations for the revised SAFA Small survey

Survey construction

One important improvement in the beta version of the SAFA Small survey was on its flow and structure which itself improved the line of questioning. The final version recognized the need to establish basic information first, prior to going into detailed and technical concepts. This addresses the issues raised previously on assumptions made on the smallholder and organizes the line of questioning in a way that baseline information is established prior to delving into more detailed questions on different topics. For example, the new questions under mission explicitness begin with “Do you have a statement about the farm's goals and values that you follow and that everyone on your farm understands?” Throughout the latter parts of the survey, preparatory questions were put in place that will provide baseline information needed. Good examples of these preparatory questions include:

- Do you keep accurate records of your production processes (e.g., planting and harvesting information, input use) so they can be made available to stakeholders (e.g. producer organizations, customers, suppliers) when required?”
- Do your customers or buyers know that if there is a problem with your produce that you will take responsibility to resolve the problem?
- Do you do any processing or value adding in order to increase revenue from services or the sale price of your crops or agricultural products (e.g., tourism, butchered meat, drying coffee or fruit, processing jam)?
- Do you belong to a producer organization (or another agriculturally-focused organization)?
- Do you produce crops or agricultural products for sale or trade?

Although a lot of improvements have been made on the flow and structure of the survey, the language used continues to be quite technical. This is something that should be carefully examined by FAO and COSA, keeping in mind that farmers have already provided feedback during the field testing activities that the technical terms are difficult to understand. As previously mentioned, GF proposes that the SAFA Small be only be administered by technicians (rather than self-assessment, as intended by FAO) or that FAO develops a standardized methodology in administering the tool that will include a comprehensive training on the SAFA Small tool for surveyors and a manual or quick reference guide for the surveyors.

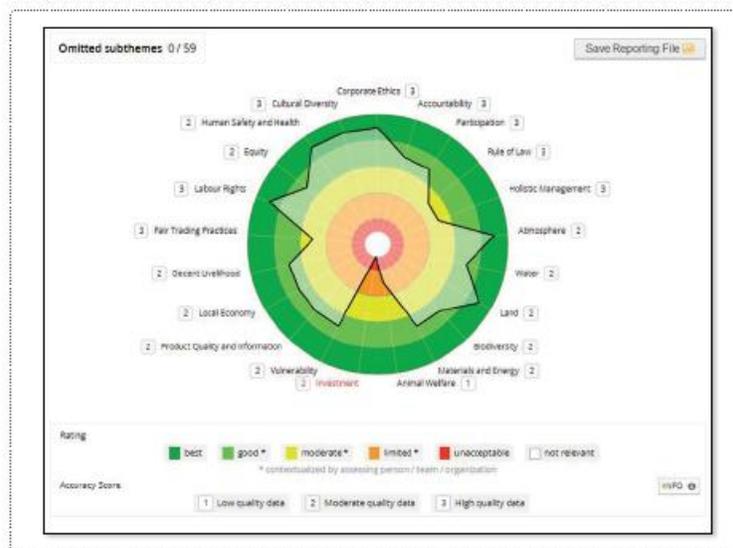
Proposed outline of the SAFA quick reference guide for surveyors

1. Goal of the SAFA small tool
2. Introduction of sustainability
3. Definition of terms
4. Explanation of the sections of the survey
5. Guidelines on how to conduct the survey (how to ask questions, how to explain questions, how to clarify statements, standard operating procedures)

Rating system: the SAFA Polygon

The results of the SAFA Small survey will be aggregated to produce the SAFA Polygon (sample below), to represent the farmers' strength and weaknesses in terms of sustainability. A visual representation of the rating system is relatively easy to understand and the colors used – red, yellow and green – is intuitive. At this point, a reference guide in interpreting the results or additional resource materials should be made available to help farmers using this as a self-assessment tool. If there are instances where FAO or farmers organizations conduct the survey to the farmers, recommendations on how to improve areas of weaknesses should be provided and suggested interventions should be made. GF understands that the SAFA Small tool is seen as a stand-alone and should be used for self-assessment. However, in GF's experience in working with smallholders, a significant amount of time is spent on guiding and hand holding farmers, especially when new concepts are introduced. The SAFA Small tool should not be treated similar to the existing SAFA Tool for desktop, because working with small-scale producers farmers is very different from working with large agro-enterprises or NGOs.

Sample of the SAFA Tool polygon³



³ SAFA Tool has five thresholds while SAFA Small was simplified to three thresholds: good (green), moderate (yellow), unacceptable (red).

Another detail to consider regarding the SAFA polygon is where the farmers will be able to view it. If this is viewed via the mobile phone, then a list of minimum technical requirements of the phones must be identified and clearly stated before farmers begin the survey. Also, given that majority of the farmers do not have access to smart phones, this kind of presentation of the rating system limits the accessibility and usability of the tool. In Grameen Foundation's mobile agriculture programs, smart phones are widely used but these are entrusted to village-level intermediaries who are chosen by the farmers in the community and are farmers themselves. Therefore, we suggest that the use of a SMS campaign will enable a vast number of small-scale producers to receive feedback based on the survey's results.

SMS Campaign

In thinking about activities that will supplement the sustainability assessment tool, GF and FAO had initial discussions on designing an SMS campaign. The idea is that the SMS campaign should provide direct feedback to the farmer about his or her rating and provide relevant and actionable information on areas or dimensions that need improvement. There are several factors that should be considered in the design process of the SMS campaign and the important ones include the language used, the purpose and relevance of the message and the timing at which the message should be sent. Ultimately, these supplemental activities are geared towards driving behavioral change.

Conclusion

Although adjustments were made for the final SAFA Small survey, more significant changes still need to be implemented for it to be applicable to small-scale producers. Considering the nuances of each farmer segment (e.g. subsistence, commercial) and the various complexities that they face, FAO must consider versions of SAFA Small that will cater to different segments to fully understand the context behind their situations and to accurately assess their sustainability.

Based on the feedback from the field testing activities, the focus group discussions and experience in working with smallholders, GF recommends that FAO examine two main areas in finalizing the SAFA Small tool. The first and more fundamental one is designing the analytical framework in assessing the sustainability practices of the farmers. Developing the actual tool is the easier part of the process but designing the framework to produce the exact data needed and that will also direct the actual analysis of the data prove to be the more crucial steps. A few guiding principles that will help this process include understanding how each of the indicators contribute to an overall sustainability assessment, having deeper insights on what sustainability actually means for different segments of smallholders and then assessing if there are varying degrees of sustainability that can help identify minimum standards.

Once that is developed, considerations on the different components of the survey tool itself should be made. It is in this process of survey construction that certain assumptions on small-scale producers are tested and there should be a clear understanding of farmers' mindset and behavior, so that the appropriate language, flow and structure is taken into account.

Summary of changes made on the SAFA Small survey based on the feedback from field testing

Feedback from field testing activities of the SAFA Small survey	How it was addressed in the beta version of SAFA Small
The general feedback was that the questions were not grouped together by topics or themes and it did not follow a clear logic from the point of view of the farmer and the surveyors, causing the surveyors to jump from one subject to another.	The sequence of topics were streamlined and similar topics are now grouped together in the most updated version of the survey.
This version of the SAFA Small survey is more applicable to commercialized farmers, rather than subsistence farmers. Specific sections on buyers, market access and certification will not be applicable to subsistence farmers. FAO should consider designing various versions of the tool to apply to different farmer segments.	Skip logic and visibility rules have been applied in the latest version of the survey in order to address this issue.
Length	
Feedback from GF employees who have strong background on monitoring and evaluation mentioned that the length of survey is appropriate if administered as a stand-alone survey.	The survey has been shortened to a maximum of 94 questions.
Survey questions	
A strong response that came out from all the focus group discussions was that the survey was very technical and had numerous terms that need to be simplified and explained very well both to surveyors and smallholders.	Questions, language, sentence structure were further simplified. Descriptions that provide further information to assist those taking/administering the survey (for indicators) are now included.
Beginning date of last production season and end date of last production year were confusing for farmers who had multiple crops. Changing the words “season” from the first question to year in the following question also confused the farmers on which timeline to follow, end of cropping season or end of calendar year. In addition, this question should be asked after identifying the specific crops of the farmers for a smoother flow.	Questions have been amended in the more recent version by consistently using the term “last production year”.
The question on whether “mission and values are understood and articulated by all involved in our enterprise” in most contexts was not easily understood by the farmers.	In developing descriptions, FAO and COSA have attempted to define more clearly what is meant by ‘mission’. It is important to emphasize that a ‘mission statement’ refers to the goals and values that guide the operations of the farm. These may be formally written or unwritten based on traditional/cultural/social norms.
Certification questions will not apply to all segments of farmers. Specifically, it will most likely not be applicable to subsistence farmers. If this is the case, there should be an option to skip this section and proceed to the next questions.	Skip logic and visibility rules have addressed this problem.

<p>The question asking on “which groups do you participate in”, the survey assumed that all farmers were part of an organization, while there is need to have an option if they were not affiliated with any organization.</p>	<p>This question is now a yes/no question that asks if the respondent belongs to a “producer organization (or another agriculturally focused organization)”.</p>
<p>Questions on biodiversity related to “increases and decreases in the area used” were confusing for both farmers and surveyors. It was difficult to calculate increases and decreases in land use; in cases where they knew they increased the area for cultivation, farmers were not able to measure it.</p>	<p>Measurement is no longer required in the beta version of the survey, except for the indicators related to an increase/decrease in the number of trees and conversion from natural land to production.</p>
<p>Farmers did not document the costs involved in farming; therefore it was tedious to compute their profit or loss when the survey was being conducted.</p>	<p>Respondents are now asked if they know their costs (i.e. they calculate them on a regular basis) but are not required to provide a number during the survey.</p>
<p>For investment and profitability, surveyors were required to input an amount, even if the farmers didn’t know the figures. Since this is a required field, some surveyors were forced to encode “0” just to move forward in the survey.</p>	<p>This question has been removed in the more recent version.</p>
<p>In addition to questions on household members, questions on how many actually work in the farm is also important; instead of writing the initials of each household member, the complete name of each member will be more helpful; instead of the number of years in school, educational attainment will be more useful. A question on number of handicapped members in the household may also be considered to measure dependencies.</p>	<p>These questions have been removed in the more recent version of the survey.</p>
<p>The question “How many total crops or animal products were produced on the farm? (consider products produced for any purpose including home use, environmental benefits, or for sale or trade)” resulted to an output where the data collected produces numerous combinations of answers but the data doesn’t necessarily lead to any meaningful interpretation. It is recommended to separate questions around crops and animals, and to focus on the top 2 or 3 crops and animals.</p>	<p>Crops, products and services are now grouped together but only three options are given as responses: 3+ (green), 2 (yellow), 1 (red).</p>
<p>Statements with two different questions include: “Does the farm apply fertilizer (including manure, compost, chemicals) based on an assessment or analysis of soil needs?” and “If two workers are doing the same task, but one is a woman, an immigrant, or belonging to an ethnic or religious minority and the other is a local man and the dominant ethnicity and religion, how often pays the same?”</p>	<p>The questions have been simplified to: “What is the main type of fertilizer used on the farm” and “If you hire women, immigrants, or ethnic/religious minorities on your farm, how often are they paid the same as a local man of the dominant ethnicity and religion?”</p>