Sustainability Monitoring and Assessment Routine: Results from pilot applications of the FAO SAFA Guidelines

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Abstract

There is currently no common understanding of how to measure sustainability in the food sector. To close this gap, the FAO has developed Guidelines for Sustainability Assessments of Food and Agriculture Systems (SAFA), which were published as a test version in June 2012. The Guidelines describe about 60 sustainability objectives, which are classified into 20 themes and four dimensions: Good governance, Environmental integrity, Economic resilience, Social well-being, as well as assessment procedures.

This paper presents an approach for the sustainability assessments of enterprises in the food and agriculture sector in full compliance with the SAFA Guidelines. We developed an indicator-based tool ("SMART"), which is applicable at all food supply chain levels, and includes stakeholder and employee surveys. SMART consists of a pool of more than 430 indicators for processing and trade and 240 indicators for primary production.

The tool has been tested in pilot applications in three enterprises and on 60 farms, in Europe and Mexico. The SAFA procedures of goal and scope definition, compliance and relevance checks, data collection, data analysis and reporting were all able to be applied to all enterprises and farms. An individual choice of suitable indicators for assessing the SAFA goals was necessary for each enterprise. The duration of the assessment increased with the size and complexity of the enterprise: from 4 hours for a family sized farm to 20 working days for an enterprise with more than 100 employees and a wide portfolio of products.

The SAFA Guidelines provide an applicable but also resource-demanding framework for sustainability assessment. To decrease the diversity of statements about sustainability, we recommend a widespread uptake of the SAFA Guidelines. Our approach for operationalization of the SAFA Guidelines provides support for enterprises in applying the SAFA Guidelines in their specific context in a sound and efficient way.

Keywords: Sustainability performance, Sustainability assessment tool, SMART, SAFA, pilot studies.

1 Introduction

The importance of a global shift towards sustainable food production is commonly accepted and there is an increasing interest by enterprises in the food and agriculture sector in assessing their sustainability performance, which commonly includes social, ecological and economic aspects (e.g. UNCTAD, 2013). However, there is no common understanding how sustainability in the food sector should be defined and measured (e.g. Binder et al., 2010;

Bockstaller et al, 2009). Agreement on a common framework for sustainability assessments in the food sector is needed to prevent greenwashing and to make a step towards comparability and quality of assessments (e.g. Schader et al., 2014).

The Food and Agriculture Organisation of the United Nations (FAO) has taken up the challenge by developing Guidelines for Sustainability Assessments of Food and Agriculture Systems (SAFA). In compliance with these Guidelines, the Research Institute of Organic Agriculture (FiBL) has developed a tool for a Sustainability Monitoring and Assessment RouTine ("SMART") and has tested its applicability, in order to answer the following research questions:

1. How can the SAFA Guidelines be successfully operationalized for a comparative analysis of sustainability performances of food enterprises?
2. To what extent does the SMART tool meet the needs of the enterprise?

The paper begins with a brief description of SAFA, followed by an explanation of the steps, which are consistent with the Guidelines that are taken to assess the pilot enterprises` sustainability. The results consist of a description of the SMART tool, which was developed as a device for operationalizing the Guidelines, as well as of the feedback given by the pilot enterprises. The applicability of SAFA will then be discussed, taking into consideration the experiences made by the tool developers, assessors and interviewers. The paper concludes with a summary and policy recommendation.

2 The FAO SAFA Guidelines

Supported by broad consultation process between February 2011 and March 2013, with more than 250 stakeholders from 61 countries (FAO, 2013), the FAO developed the SAFA Guidelines which define 20 themes and about 60 subthemes, with corresponding sustainability objectives and guidance, for sustainability assessment procedures (FAO, 2012). The 20 themes belong to four sustainability dimensions (Good governance, Environmental integrity, Economic resilience, Social well-being). The Guidelines are a framework which allows the incorporation of other approaches (e.g. life cycle assessment -LCA) so that existing data can be used when conducting a sustainability assessment. The Guidelines aim to be applicable for different purposes, such as internal sustainability management (benchmarking, risk assessment, monitoring system, consulting), business-to-business communication, and business-to-consumer communication.

SAFA sustainability assessments are performance-based in that they assess the actual performance of an enterprise rather than relative improvements from one time period to another. An important feature of the SAFA Guidelines is the obligation that reports must be published in their complete form; with scores on all SAFA objectives that are deemed relevant and with all assessment steps and chosen indicators made transparent.

The so-called "sphere of influence" of an enterprise is determined individually; taking into consideration the enterprise`s size and power. Consequently, the sustainability impacts that are assessed include preceding or succeeding supply chain levels if they are deemed to be within the enterprises` sphere of influence.

A first SAFA test version was published in 2012 and is currently under revision. The second, revised version shall be published by the end of 2013. This paper is based on the first,

officially published version of the SAFA Guidelines (FAO 2012).

3 Approach for Applying the Guidelines

To test the applicability of the SAFA Guidelines, FiBL followed the steps defined in the Guidelines to prepare for sustainability assessments of pilot studies in food enterprises. The following leading principles were applied when operationalizing the Guidelines: be consistent with all obligations defined in the Guidelines; be time- and resource efficient; present results comprehensively in a way that is easy to communicate; find an optimal trade-off between precision and pragmatism; and create a "learning" system which can easily adapted and extended.

To test the SMART tool, FiBL selected three pilot enterprises and 60 farms according to the following criteria: motivation to assess their sustainability; willingness to invest time for data collection, discussion and feedback; reflection of the supply chain levels (i) primary production, (ii) processing and (iii) trade; reflecting different food production sectors (e.g. cereals, fruit); reflection of both European and overseas conditions (Germany, Switzerland, Mexico). (For details on the pilots, see Annex 1).

The SMART tool has been continuously developed and extended so the results presented in this paper are limited in that progress in tool development have taken place between the different applications of the tool at the pilot enterprises. The answers to the research questions posed in this paper are predominantly qualitative and based on: experiences by the tool developers and assessors; quantitative and qualitative data collected from the enterprises/ farms during the assessment processes (e.g. duration, difficulties); and feedback from the pilot enterprises through interviews, which followed a semi-structured interview questionnaire.

4 Results

4.1 The SMART Tool

FiBL develped the sustainability assessment tool "SMART" to answer to the first research question: How can the SAFA Guidelines be successfully operationalized for a comparative analysis of sustainability performances of food enterprises? The tool consists of a large pool of indicators from which suitable indicators can be chosen according to the assessment context. We found that suitable questions and sometimes corresponding indicators can differ considerably between primary production and the other levels of food supply chains. Therefore, SMART has one question and indicator set for the primary production ("farm") level, and a different set for the subsequent supply chain levels (processing and trade). The indicators were derived from the SAFA Guidelines, a review of scientific literature and existing sustainability assessment tools.

For the processing and trade levels, the indicator pool consists of > 430 indicators with more to be added when new sectors and geographical locations are assessed. The data to assess the indicators are collected by asking the enterprise more than 480 questions in addition to more than 30 questions for employees and a semi-structured interview with stakeholders. The assessment procedure has been defined and consists of the evaluation of each indicator based on the given data by one assessor; and the evaluation of each SAFA objective based on the indicators by three independent experts.

The challenge at the farm level is the necessity to evaluate a sufficient number of farms to be able to make general conclusions about the primary production level within an enterprise`s sphere of influence. The farm level of the SMART tool consists of a pool of 240 indicators with a semi-automatic evaluation procedure. The chosen level of semi-automation can be seen as a compromise between accuracy on the one hand and cost and time efficiency on the other.

A specific aspect that was realized was that several of the SAFA objectives address the enterprise`s behaviour with regard to employees and stakeholders. Even though it is not made explicit in the Guidelines, this implies that stakeholders` and employees` opinions should be part of the assessment. In SMART assessments, an online questionnaire is used to interview employees, which ensures both anonymity and easy accessibility. As stakeholders` relations with the enterprise differ from stakeholder to stakeholder, a semi-structured phone interview was found to be more suitable than a standardised questionnaire. Both stakeholder interviews and the online survey are conducted as early in the assessment process as possible, as they might lead to additional questions for the enterprise. Gaining additional information from employees and stakeholders was found to be an important part for the overall assessment.

Time expenditure for the assessment differed considerably. It increased with size and complexity of the enterprise: from 4 hours for a family sized farm to 20 working days for an enterprise with more than 100 employees and a wide portfolio of products. The time effort for the enterprises to collect data ranged from 1 – 2 hours on a farm to 4-5 working days for a 100-employee enterprise. Additional time efforts for the enterprise include an introductory workshop, the explanation and discussion of the draft report and time for feedback on the final report.

4.2 In how far does the SMART tool meet the enterprises` needs?

The main gains mentioned by the pilot enterprises are:

- High credibility, as SAFA is published an independent United Nations` organisation and measures status-quo performance instead of relative improvements.
- Assessment was more comprehensive and more detailed than was expected and gave many new and substantial insights on the enterprises` status quo with regard to sustainability performance.
- Assessment results are a motivation for internal improvements, but also an important selling argument for clients and partners.
- Comprehensibility of results and graphic representations are very important to be able to use the sustainability report as a selling argument.
- Some aspects of sustainability were not within the enterprises` awareness, such as the fact that many impacts occur beyond the boundaries of their premises, but are nevertheless within their sphere of influence, such as environmental impacts of the agricultural inputs for primary producers.

Critical points mentioned by the enterprises are:

- Some SAFA objectives are difficult to understand for people without a scientific background.
- The wording of the objectives should be adapted to better fit primary production.
- As the assessment is very comprehensive, it might be too resource and time demanding for very small enterprises.

Enterprises` needs with regard to sustainability assessments include:

- Assessment results should be comparable with other enterprises from the same sector.
- Very specific commitments e.g. for well-being of their employees which are unique to an enterprise should be more visible in the assessment, e.g. “trust” between management and employees.

5 Discussion

The feedback from the pilot enterprises revealed that there is trade-off between comparability versus the ability to adapt to the enterprise’s context, as the enterprises have conflicting needs on these issues: On the one hand, comparison with similar enterprises is clearly an important motivator to conduct a sustainability assessment. This implies that assessments should be based on the same indicators and same system boundaries for similar enterprises.

On the other hand, enterprises wished their unique commitments, such as for their employees, to be reflected in the assessment. This would require a flexible use of indicators, adapted to individual enterprises. The SAFA concept of defining a “sphere of influence” is in line with adaptability: By defining an enterprise`s sphere of influence, an enterprise`s size and power is considered, which might make assessments “fairer” such as for smaller enterprises with less power. We suggest focusing on the comparability of SAFA scores against the SAFA objectives, rather than comparability of the process for reaching these scores. The SAFA objectives can be seen as a benchmark, and the degree to which this benchmark is reached can be compared between enterprises: even if different indicators and different spheres of influences are applied. The fact that enterprises have to assess all sustainability dimensions and objectives, unless they can explain their irrelevance, should already be regarded as a big step towards comparability, since the majority of assessments are still solely environment-focused with differing objectives (Peacock et al, 2011).

A second trade-off exists between, on the one hand sufficient time and resource efficiency so that enterprises find the procedures that are practicable; and the threat that comprehensiveness and credibility of assessment results might be jeopardized on the other. From a scientific perspective, conducting LCAs for every single product of an enterprise would lead to quantitatively precise results on many environmental indicators. However, this is impractical as it would be far too cost and time intensive. In fact, strong simplifications must be made to conduct an assessment for complex enterprises with a wide product range and diverse supply chains. For example, only the most important ingredients of the five most important products are considered. Also, many SAFA objectives, such as the social dimension could not be assessed with an LCA approach. As the SAFA objectives are rather comprehensive, and data to assess the individual objectives are limited, the quality of the assessment depends a lot on the expertise of those who conduct the assessments. Ideally, a team of experts with different backgrounds surrounding food production would be needed. Communication skills for dealing with the enterprises are also important: Enterprises need to be clearly informed about the nature and limitations of the assessment, and the meaning of SAFA objectives need to be explained to those with little scientific background in sustainability issues.

6 Conclusion and Policy Recommendations

The SAFA Guidelines define a hierarchically structured and sound set of sustainability topics, and corresponding objectives, which allow the assessment of enterprises against an objective and transparent set of criteria. Pilot applications of the tool have shown that sustainability assessments according to the SAFA Guidelines can provide a comprehensive picture of the sustainability performance of an enterprise.

However, efforts to turn the Guidelines into an applicable tool should not be underestimated. Applying the SAFA Guidelines to get meaningful, valid, and communicable answers requires both a large amount of resources in terms of time and data needs and a profound expertise of the analysts in a wide range of thematic areas.

Two major trade-offs have been identified:

1) The trade-off between accuracy of the assessment on the one hand and keeping information needs manageable for the enterprises on the other hand poses a challenge.
2) The trade-off between adaptation to an a enterprise`s unique setting, and assurance of comparability.

To deal with these trade-offs, we suggest creating awareness and to communicating limitations of sustainability assessments, and maximising transparency.

Scholars and practitioners who are active in the field of food and agriculture sustainability assessments should agree upon a common understanding of sustainability and its assessment, such as that offered by the SAFA Guidelines. Our approach for operationalization of the SAFA Guidelines, the Sustainability Monitoring and Assessment RouTine (SMART), and its pilot applications show that the SAFA Guidelines are applicable and can be operationalized.

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Annex 1: Pilot enterprises assessed with SMART

	Pilot no.	Pilot 1	Pilot 2	Pilot 3	Pilot 4	Pilot 5	Pilot 6
Level	**Enterprise**	Cereal Processor	Citrus fruit Processor	Wholesaler and Trader	Apple producer cooperative	Milk processing cooperative	Independent farms
Processing/Trade	**Level considered**	yes	yes	yes	No	No	no
	Sector of Enterprise						
	No. Employees	Ca. 120	Ca.300 (fruit factory)	Ca. 18	-	-	-
	Location	Germany	Mexico	Switzerland	-	-	-
	Employee questionnaire	Yes	Yes	Yes	-	-	-
	Stakeholder interviews	Suppliers, Buyers, local stakeholders	Suppliers, Buyers	No	-	-	-
	Enterprise`s objective for participating	Business to consumer and business to business communication	Internal	Internal and business to business communication		-	-
	Level considered	Yes	Yes	Partially	Yes	Yes	Yes
Primary production		Indirect (via certifications etc.)	Via information provided by the enterprise + Farm assessment	Farm Assessment on Swiss primary producers	Farm Assessment on Swiss primary producers	Farm Assessment on Swiss primary producers	Farm Assessment on Swiss primary producers
	No. of farms		26	5	2	10	17
	Location of farms		Mexico	Switzerland	Switzerland	Switzerland	Switzerland
	Type of farms		Fruit	Mixed + specialized	Fruit	Dairy	Mixed + specialized
	Aim of farm assessment		Primary producer monitoring as part of Enterprise assessment	Primary producer monitoring as part of Enterprise assessment	Monitoring of farm-level	Primary producer monitoring	Testing of SMART Farm Tool on wide range of farm types