SAFA

Sustainability Assessment of Food and Agriculture systems

Guidelines

(Test Version 1.1)

NATURAL RESOURCES MANAGEMENT AND ENVIRONMENT DEPARTMENT

Food and Agriculture Organization of the United Nations

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Preface

Twenty years have passed since the principle of sustainable development received nearly universal agreement at the 1992 Earth Summit. Recent years have seen some progress in the realization of a socially, economically and environmentally sustainable development. Many stakeholders in the food and agriculture sector have contributed to this progress, by improving agricultural productivity, protecting human and natural resources and conceiving and implementing frameworks, standards and indicators for assessing and improving sustainability across the sector and along the value chain.

Several converging trends are making it difficult for the world's farmers to keep up with the growth in food demand due to rising populations and changes in consumption patterns. These include increased water scarcity, the growing conversion of cropland to non-farm uses, and more extreme climate events. Based on aggregate global trends and outlooks for the future, sustainable development efforts are not making enough positive difference. *More accurate data and sound guiding principles to establish a common basis for assessing sustainability is needed.* Tackling these challenges requires, among other things, a common language for sustainability, as well as a holistic approach to assessment and implementation that considers the complexity and relationships of all dimensions of sustainability. Measure what matters. The dilemma is measure *WHAT* matters to *WHOM* and *HOW?*

While there is now a wide awareness of the sustainability concept, there is also wide interpretation of the definitions and components of sustainability based on different disciplines and political beliefs and values. The SAFA Guidelines provide an international reference tool for assessing the sustainability performance of food and agriculture enterprises. It has been prepared so that enterprises and actors involved with the production, processing, distribution, marketing and retailing of goods have a clear understanding of the constituent components of sustainability and how strength, weakness and progress could be assessed. By providing a transparent and aggregated framework for assessing sustainability, SAFA seeks to harmonize sustainability approaches within the food value chain, with the long-term objective of sustainable transformation of food systems.

These Guidelines are the result of four years of participatory development, together with practitioners from civil society and private sector. SAFA builds on and acknowledges existing sustainability tools, with the goal of integrating and relating current systems. The target audience of a SAFA assessment is small and large-scale companies, organizations and other stakeholders that participate in the food and agriculture value chain.

The guiding vision of SAFA is that food and agriculture systems worldwide are characterized by four dimensions of sustainability: good governance environmental integrity, economic resilience and social well-being. For each of these four dimensions of sustainability, SAFA outlines essential elements of sustainability based on international reference documents and conventions. The 20 themes and 64 sub-themes were further defined through expert consultation. Key indicators for each sub-theme are proposed in order to facilitate measuring progress towards sustainability.

SAFA implementation involves adaptation to geographic, sector-specific and individual conditions of the assessed entity and the comprehensive use of existing documentation, standards and tools.

The SAFA Guidelines are produced in the same spirit of codes of practice, guidelines and other recommended measures to assist in achieving sustainable and fair practices in food and agriculture production and trade. This publication is intended to guide and promote the elaboration and establishment of definitions and requirements for assessing the performance of sustainable food and agriculture systems and to assist in the harmonization of assessment approaches.

The SAFA Guidelines are the result of an iterative process, built on the cross-comparisons of codes of practice, corporate reporting, standards, indicators and other technical protocols currently used by private sector, governments, not for profits and other organizations that reference or implement sustainability tools. A list of the reference documents used for the structure and methodology of the SAFA Guidelines are found in Appendix A.

The SAFA Guidelines consist of three parts.

Section 1 contains the rationale, purpose, vision, goals and principles of SAFA.

Section 2 outlines the procedure of SAFA implementation.

Section 3 contains the SAFA protocol for sustainability themes, sub-themes and indicators.

The SAFA Guidelines are provided by FAO. They are publicly available and no license fees may be charged for their use. The correct application of the Guidelines is the responsibility of the implementing enterprise. FAO is neither liable nor responsible for consequences of using the SAFA Guidelines.

The SAFA Guidelines are being piloted through specific case studies conducted in both developed and developing countries. The case studies cover a diverse range of food value chain enterprises to test implementation under different contexts. Based on the outcomes of the case studies, the SAFA Guidelines will be revised and finalized in the second half of 2013.

Further information on SAFA may be obtained from:

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TABLE OF CONTENTS

Part 1: SAFA Framework

Purpose, Rationale, Principles and Scope of SAFA

1.1 Purpose of SAFA

SAFA Vision

The Sustainability Assessment of Food and Agriculture systems (SAFA) Guidelines were developed over a four year period as a holistic working proposal for assessing sustainable agriculture.

The guiding vision of SAFA is that food and agriculture systems worldwide are characterized by all four dimensions of sustainability: good governance, environmental integrity, economic resilience and social well-being. This vision encompasses primary production in agriculture, forestry and fisheries, through manufacturing and to the point of sale to the consumer. This vision can be realized through different pathways, depending on local circumstances.

> **Sustainable development** has been defined by FAO as "the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such sustainable development (in the agriculture, forestry and fisheries sectors) conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable". (FAO Council, 1989).

Based on aggregate global trends and outlooks for the future, sustainable development efforts are not making enough positive difference. More accurate data and sound guiding principles to establish a common basis for assessing sustainability is needed. Tackling these challenges requires, among other things, a common language for sustainability, as well as a holistic approach to assessment and implementation that considers the complexity and relationships of all dimensions of sustainability. This is the inspiration for SAFA.

What is SAFA about?

A SAFA is an assessment based on selected sustainability themes and sub-themes' indicators of performance, which apply to a food company or production site that forms part of a supply chain rooted in primary production. The purpose of a SAFA is to support the implementation of effective sustainability management and communication in the agriculture and food sector, worldwide.

SAFA provides an international reference tool for assessing the sustainability performance of food and agriculture enterprises. Through voluntary assessments; the goal is to holistically assess an enterprise performance along the four dimensions of sustainability.

By providing a transparent and aggregated framework for assessing sustainability, SAFA seeks to harmonize sustainability approaches within the food value chain, with the long-term objective of sustainable transformation of food systems. SAFA Guidelines have been developed in a participatory process over the last four years as a response to the need for a common language on sustainable agriculture and how to measure it in a practical context.

Acknowledging that there are many definitions of sustainable agriculture, depending on values, power relationships, time and space considered, SAFA offers a common framework for measuring performance according to core sustainability themes.

The objectives of SAFA

The SAFA Guidelines are intended to provide an accessible operational resource to put the SAFA framework and metrics into practice. The SAFA Guidelines provide a holistic interpretation of the major themes of sustainability (Framework) and a template for agriculture and food sustainability assessment (The Guidelines and Tool).

The Sustainability Framework defines the major themes of sustainability with 20 core themes and 64 sub-themes. Key performance indicators for each sub-theme are proposed in order to facilitate measuring progress towards sustainability.

Stakeholders in food production, distribution and retail can do a SAFA to substantiate sustainability claims and to enhance sustainability management in their value chain. The International Guidelines facilitate sustainability assessments using the Framework. Using a harmonized approaches contributes to making sustainable food chains more transparent, measurable and verifiable.

Who are the Guidelines aimed at?

The target audience of a SAFA assessment is small and large-scale companies, organizations and other stakeholders that participate in the food and agriculture value chain. This includes primary producers, food manufacturers, distributors and retailers.

Use of the Guidelines

The SAFA assessment results are intended primarily for internal management purposes. A secondary purpose is for business to business (B2B) communication, particularly within a value chain. These stakeholders will conduct self-declaratory assessments. SAFA is not a certification programme and completion of a SAFA assessment does not allow the entity to use the logo of SAFA or of FAO in any way that implies certification. Entities that have completed a SAFA assessment must clearly communicate about the scope of their assessment, and the judgement calls that they made to determine their rating, whenever reference to the SAFA assessment is made. A high level of transparency and integrity in reporting is expected of SAFA users. A critical review by either an internal or external mechanism is recommended as FAO does not do verification of results.

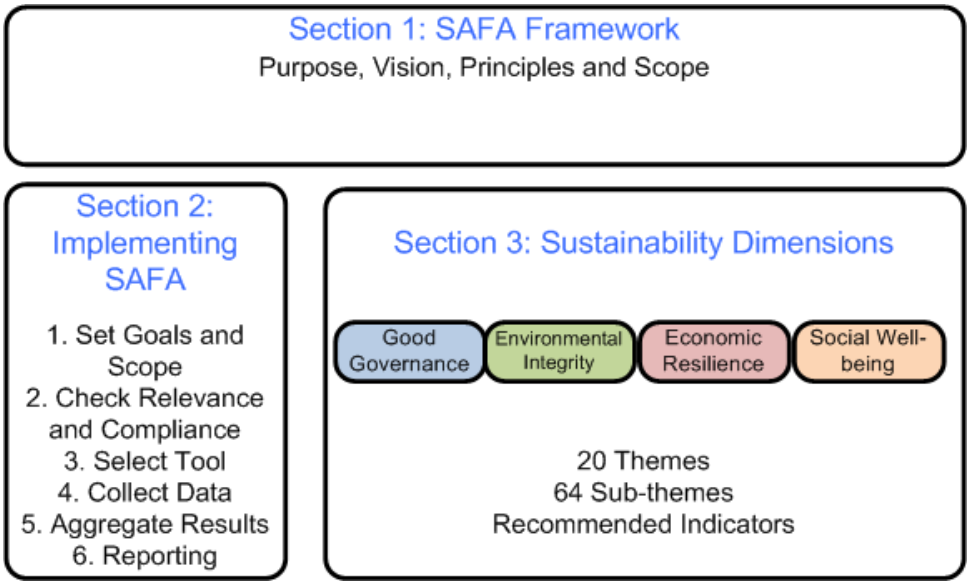
The Guidelines do not replace existing systems but put them into the perspective of an overarching common sustainability language for the food and agriculture sector.

With a SAFA, the performance of a company, branch of a company or production site is assessed concerning economic, environmental, social and governance sustainability. A SAFA is not a rating of product-specific sustainability, nor does it cover the use and end-of-life phases of products (e.g. at the consumer level). Being science-based and generic in nature, SAFA can be implemented at any level, national, supply chain or operational unit.

The Guide: How to Use it

The SAFA Guidelines consist of three parts. Section 1 describes the framework of the Guidelines. This includes the purpose, rationale, principles and scope of SAFA. Section 2 outlines the procedure for SAFA implementation. Section 3 contains the SAFA protocol for sustainability themes, sub-themes and indicators.

Figure 1: SAFA Guidelines Structure



For first time users, it is important to read the entire Guidelines to understand the foundation and rationale of SAFA. This will aid in identifying the roles, purpose and scope of SAFA.

Sections 2 and 3 will be most relevant for those responsible for implementing a SAFA assessment. During the testing phase from August 2012 - February 2013, the SAFA Guidelines are being piloted through specific case studies conducted in both developed and developing countries. The case studies cover a diverse range of food value chain enterprises to test implementation under different contexts. A SAFA Implementation Tool has been developed to assist entities undertaking a SAFA and is currently undergoing testing in the pilots. In this document, you will find tips for Pilot operations and tools highlighted. The final Guidelines and SAFA implementation Tool will be made public in the second half of 2013.

Instructions for Pilots

Tools for SAFA users

Resources needed

1.2 Background and Rationale

Sustainable development – progress and challenges

The number of undernourished people was estimated by FAO to be 925 million in 2010. This figure has increased by 75 million people since 1990-92 (FAO, 2010a). Rockström et al. (2009) estimate that humanity has transgressed three of the environmental planetary boundaries within which we can operate safely, namely for climate change, biodiversity loss and changes to the global nitrogen cycle.

As agricultural land and forests occupy more than 60% of terrestrial surface, and fishery activities can be found on virtually any water body, agriculture, forestry and fisheries are major contributors to the ecological footprint of humanity. Thirty one percent (31%) of global greenhouse gas emissions have been attributed to agriculture and forestry (IPCC, 2007). Agriculture alone accounts for 70% of global freshwater withdrawals (FAO, 2011). On the other hand, besides being activities necessary for everybody's life and wellbeing, agriculture (including forestry and fisheries) provide livelihoods for 40 percent of today's global population, including many of the world's poor.

One approach to tackle the risk of the human economy's overstraining the capacities of Earth's ecosystems is the concept of a "Green Economy"[1] that respects planetary boundaries and adopts eco-efficiency as a guiding principle. The translation of the green economy concept for the food and agriculture sector is reflected through the Greening the Economy with Agriculture (GEA) concept that ensuring the right to adequate food, as well as food and nutrition security – in terms of food availability, access, stability and utilization – and contributing to the quality of rural livelihoods, while efficiently managing natural resources and improving resilience and equity throughout the food supply chain (FAO, 2012a). The challenge of delivering sustainability lies in an effective integration of the environmental, economic and social dimensions of development. This can be only achieved through good governance.

Need for a common language

Measure what matters has become the mantra. But, measure WHAT matters to WHOM and HOW? While there is a wide awareness of the sustainability concept, there is also wide interpretation of the definitions and components of sustainability based on different disciplines and political beliefs and values.

Recent years have seen the development of frameworks, initiatives, standards and indicators for defining better management practices, assessing and improving the environmental and social impacts of human activities. More than one hundred countries have established national strategies for sustainable development, as well as sets of sustainability targets and indicators (UN, 2007). Thousands of companies have adopted concepts such as corporate social responsibility, creating shared value, responsible supply chain management and the triple bottom line. These concepts are put into practice through internal management, Business-to-Business and Business-to-Consumers' communication. Systems for independent, third-party verification, certification and accreditation have been put

[1] An economy „that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities" (UNEP, 2011).

in place, as well as participatory guarantee systems based on stakeholders' assessments and peer reviews.

Of the many verification systems, tools, databases and other approaches for measuring, communicating and improving sustainability, essentially related to environmental impact or social impact, few cover the whole value chain and all dimensions of sustainability at the same time (Appendix A). In the development and application of sustainability systems and frameworks, small and medium size enterprises and stakeholders from developing and emerging countries are less represented than large companies and stakeholders from industrialised countries, in spite of many systems' building on transparent, participative mechanisms.

Despite the valuable efforts for making sustainability assessments in the food and agriculture sector accurate and easy to manage, no internationally accepted benchmark unambiguously defines what sustainable food production entails. There also is no widely accepted definition of the minimum requirements that would allow a company to qualify as "sustainable". SAFA proposes guidelines for assessment of sustainability performance along defined reference points (themes, sub-themes and indicators).

1.3 SAFA Principles

The SAFA Guidelines are based on certain core methodological principles including Bellagio Stamp (IISD, 2009; Pinter et al., 2011). Additionally, SAFA draws upon the ISO norms for Life Cycle Assessment (ISO, 2009), the ISEAL Code of Good Practice (version 1.0; ISEAL Alliance, 2010), the Reference Tools of the GSCP (2010) and the GRI Sustainability Reporting Guidelines (version 3.1; GRI, 2011). Table 1.

Bellagio Stamp

Sust**t**ainability **A**ssessment and **M**easurement **P**rinciples emphasize openness (accessibility and transparency), key indicators and standardized measurement methods, communication (meets needs of stakeholders, simple, plain language), broad participation, the assessment process for learning, sufficient institutional capacity and the need for a coherent framework and goals.
www.iisd.org/pdf/2009/brochure_bellagiostamp.pdf

Table 1: SAFA Methodological and Implementation Principles

Methodological Principles	**Characteristics**
Holistic	Undertaking a SAFA considers all four dimensions of sustainability: good governance, environmental integrity, economic resilience and social well-being and includes all aspects within the sphere and influence of the entity .
Relevance	Undertaking a SAFA should cover all relevant aspects of sustainability to the specific operation. All SAFA goals are in line with the sustainability framework as defined in the UN Agenda 21 and specified in the above SAFA vision. All SAFA goals should be in line with the current state of scientific knowledge on the economic, environmental, social and governance impacts of human activities.
Cost-efficiency	In order to leave a maximum of resources for improvement measures, the cost of doing a SAFA is minimized by making the best use of existing data. Companies that participate in systems with sustainability claims can use the SAFA Guidelines to identify areas not yet covered by their sustainability management.
Performance orientation	Undertaking a SAFA serves to assess the sustainable performance of an agricultural or food system entity. Commitments and management plans alone do not suffice to qualify an entity as sustainable. The same applies to participation (for instance, in certification systems), as there is not yet sufficient evidence to allow the assumption that these certifications (or other schemes) effectively enhance sustainability (Beuchelt & Zeller, 2011; Blackman & Rivera, 2011).
Transparency	The disclosure of system boundaries, indicators' chosen, data sources and stakeholder relations is an important aspect of the SAFA Performance Report for public claims (B2B).
Adaptability	The Guidelines are generic in nature in order to be applicable worldwide and across the whole diversity of situations that exist in the agriculture and food sector, by adapting the generic set of themes and sub-themes' indicators to different socio-economic and environmental circumstances, type of entity and data availability.
Continuous Improvement	SAFA is not intended as a minimum performance benchmark, but a tool to assess performance and identify areas for improvement. In addition, the SAFA Guidelines will be adjusted over time to continually raise the bar as knowledge and technology permits.
Implementation Principles	**Characteristics**
Build on existing tools	No SAFA goal or indicators should contradict rules and principles that emanate from national law and relevant international agreements. The conduction of a SAFA must comply with all applicable legal provisions, in particular concerning privacy protection.
Add value instead of duplication	The SAFA Guidelines shall add to the value of existing sustainability, environmental and social management and auditing systems by rendering it easier to integrate the information produced by these systems and to close thematic gaps.
Take place in an open and learning system	The SAFA Guidelines are developed and hosted by FAO and are freely available to any interested party. They are the result of a continuing, open development process, contributions to which are welcome from all who have a stake in the sustainable development of food and agriculture systems. SAFA participation must always be voluntary. Implementing SAFA is in itself a learning pathway to create change and ultimately, deliver sustainability.

1.4 SAFA Scope

Being science-based and generic in nature, SAFA can be adapted to different contexts and scopes. The following examines the various considerations of what the SAFA covers: value chain scope, temporal and sustainability dimensions (themes). These are discussed in more detail in Sections 2 and 3.

Value Chain Scope

SAFA is applicable to all entities in value chains, from the site of primary production (agriculture, fisheries, forestry) to that of final sales to the consumer (Fig. 2).

The intended scope of a SAFA assessment includes all processes: (i) that are part of production or distribution, (ii) that generate significant impacts on sustainability in the surrounding environment and community and (iii) over which the assessed entity has control or significant influence regarding financial and operating policies and practices.

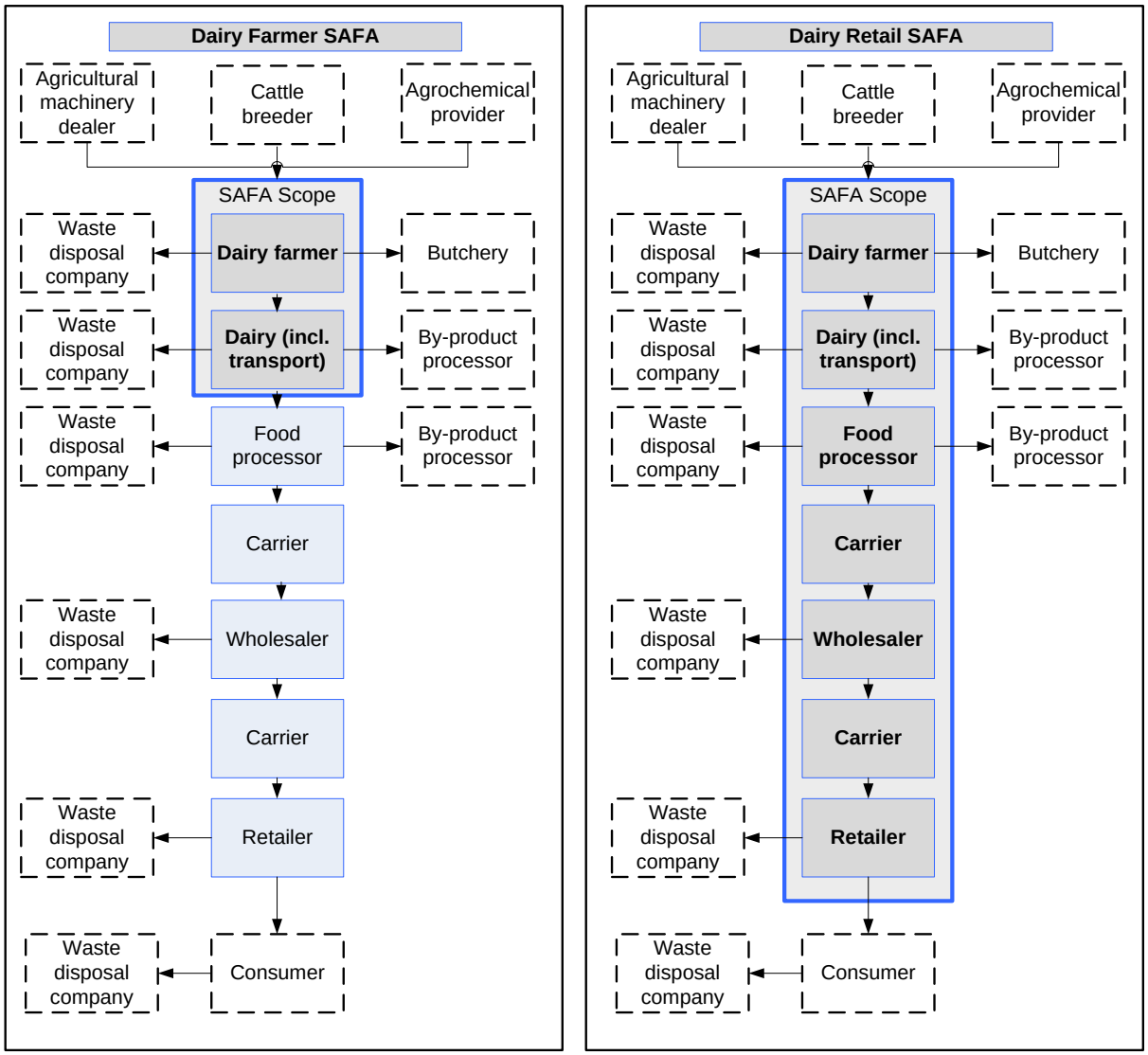
Ownership is not required for an entity to have control or significant influence over a piece of land or a facility.

A SAFA can be also limited to a single production site or step of the value chain with justification. The spatial coverage of SAFA extends to production facilities and their surroundings, insofar as the assessed entities control or have influence over the activities in these areas. Unless justified, consideration of only specific areas or crops is not recommended.

In situations where a given enterprise is assessing supply from several farms that are organized as a cooperative or producer group, it is recommended that the SAFA can be either carried out for each farm individually or for the group as a whole.

The entity conducting the assessment needs to determine their realm of influence accordingly. (see Section 2, Step 1.)

Figure 2: Examples of Different SAFA Scope



Two examples of SAFA scope in dairy value chains. Grey rectangles with bold writing symbolise actors whose operations are covered by a SAFA done by a dairy (left) and a retail company (right), respectively. Dashed rectangles represent actors outside the general scope of SAFA.

Temporal Scope

SAFA is intended to cover the entity's activities for one year. For some indicators, multi-year trends should be assessed or sustainability impacts be allocated to a longer period – usually in these instances, a period of five years is suggested.

Thematic scope

For each of these four dimensions of sustainability, SAFA outlines essential elements of sustainability through 20 high level themes (Table 2). These are applicable at any level of development, e.g. national level or commodity specific.

The themes are further divided into 64 sub-themes. SAFA sub-themes are tailored to food and agriculture value chains and thus, are not suitable for policy development. Key indicators for each sub-theme are proposed in order to facilitate measuring progress towards sustainability. The SAFA proposed indicators focus on performance rather than management systems.

Details on dimensions, themes, sub-themes and indicators are provided in Section 3 of the SAFA Guidelines.

Table 2: SAFA Sustainability Dimensions, Themes and Sub-themes

Dimension 1: GOOD GOVERNANCE	
Themes	**Sub-Themes**
G1 Governance structure	Corporate ethics; Due diligence
G2 Accountability	Holistic audits; Responsibility
G3 Participation	Stakeholder dialogue; Grievance procedures; Conflict resolution
G4 Rule of law	Commitment to fairness, legitimacy and transparency; Remedy, restoration and prevention; Co-responsibility; Resource appropriation
G5 Holistic management	Sustainability in management; Certified production; Full-cost accounting
Dimension 2: ENVIRONMENTAL INTEGRITY	
E1 Atmosphere	Greenhouse gases; Air pollution
E2 Freshwater	Water quantity; Water quality
E3 Land	Organic matter; Physical structure; Chemical quality; Land degradation and desertification
E4 Biodiversity	Habitat diversity; Ecosystem integrity; Wild biodiversity; Agricultural biodiversity; Threatened species
E5 Materials and energy	Non-renewable resources; Energy supply; Eco-efficiency; Waste reduction and disposal
E6 Animal welfare	Freedom from stress; Species-appropriate conditions
Dimension 3: ECONOMIC RESILIENCE	
C1 Investment	Internal investment; Community investment; Long-ranging investment
C2 Vulnerability	Stability of supply; Stability of demand; Liquidity and insurance; Employment; Stability of production
C3 Product safety and quality	Product information; Traceability; Food safety; Food quality
C4 Local economy	Value creation; Local procurement
Dimension 4: SOCIAL WELL-BEING	
S1 Decent livelihood	Wage level; Fair trade practises; Capacity building
S2 Labour rights	Employment; Forced labour; Child labour; Freedom of association and bargaining; Working hours
S3 Equity	Non-discrimination; Gender equality; Support to vulnerable people
S4 Human health and safety	Physical and psycho-social health; Health resources; Food security
S5 Cultural diversity	Indigenous knowledge; Food sovereignty

Part 2: Implementation of SAFA

Step by Step

1.5 SAFA step by step overview

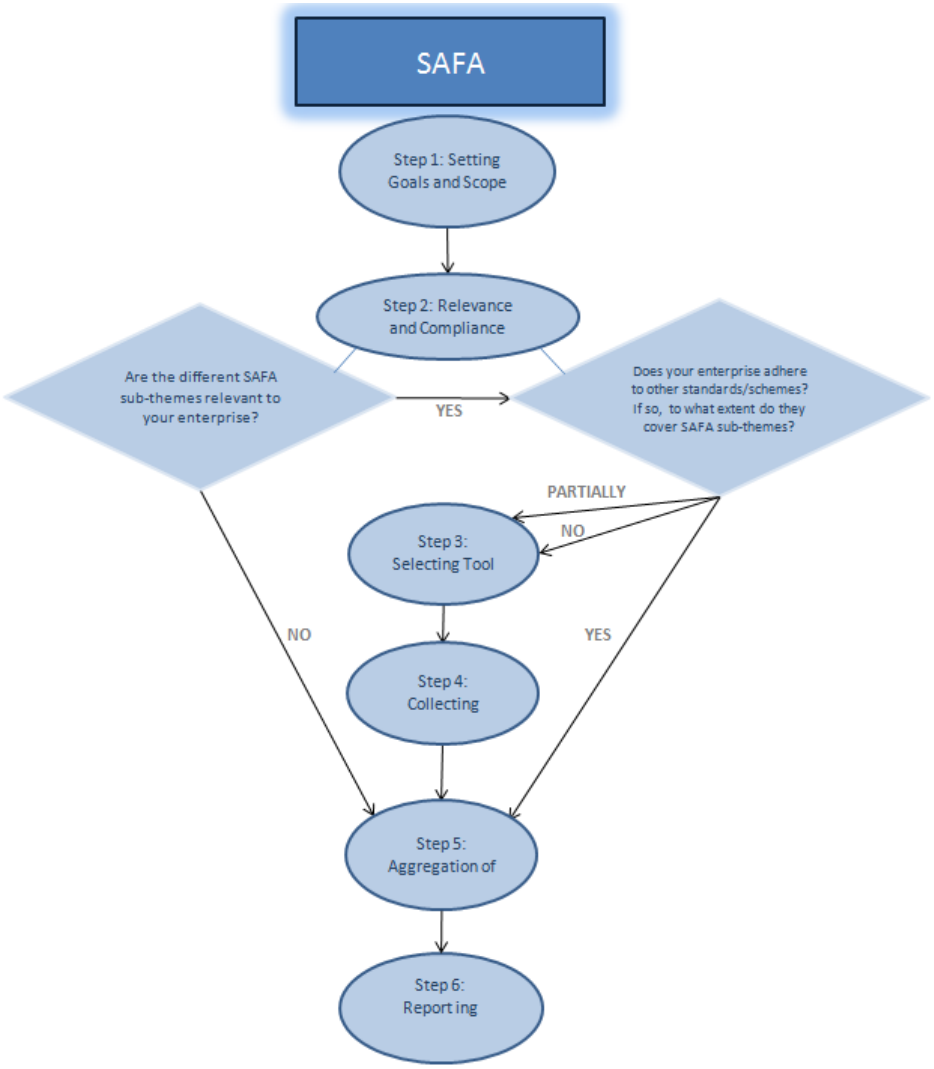
This section details the implementation of SAFA. It is recommended that the user read through the entire Section 2 to identify the resources needed and define responsibilities in their team.

This section should be used in conjunction with the SAFA Implementation Tool which will be publically available with the final Guidelines the second half of 2013. The SAFA Implementation Tool is currently undergoing testing in the pilots. The Excel Sheet is intended to facilitate entities' completing all steps of the SAFA assessment, including creating visualizations of the results.

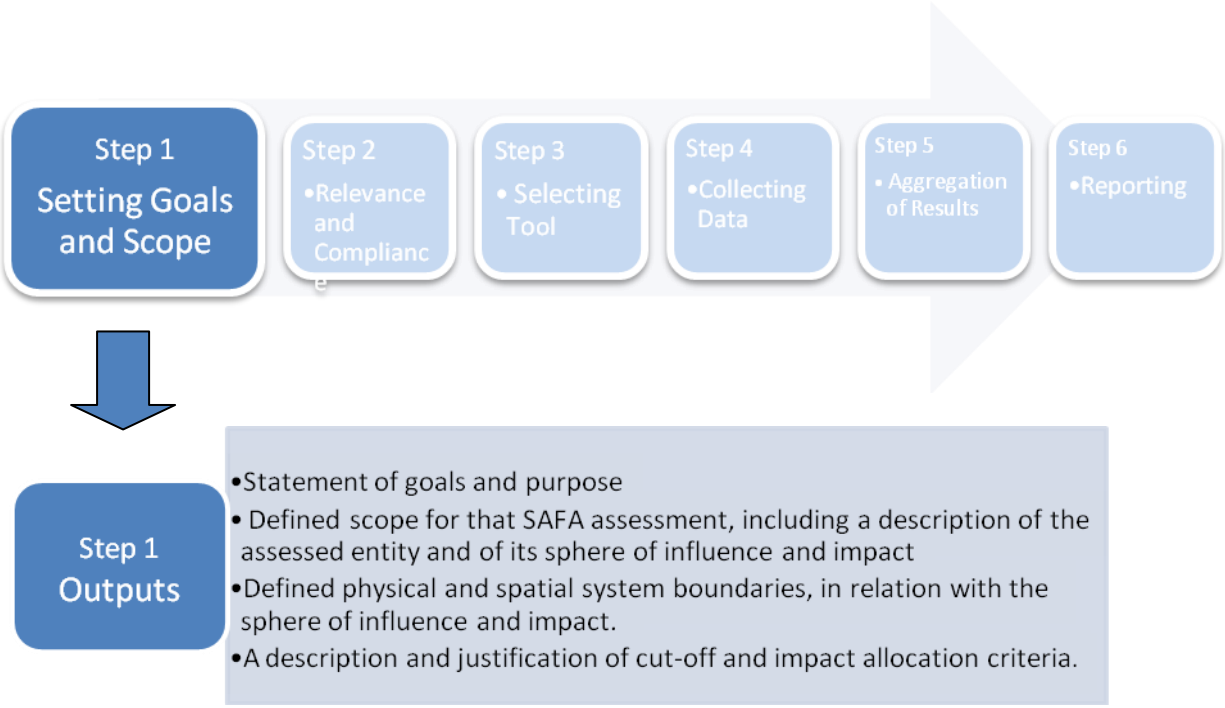
There are six phases to a SAFA (see Fig. 3). It is important to follow the sequence step by step because each phase builds the basis for the next. However, it may be necessary to repeat certain phases if during the assessment process it becomes clear that the scope needs to be modified. For example, if another operation is added to the assessment.

The final output of a SAFA is the Performance Report, which contains both a descriptive and an analytical review of the sustainability of the assessed entities based on all six steps.

Figure 3: SAFA Step by Step



Step 1: Setting Goals and Scope



Resources needed for Step 1 include organizational documents, value chain map.

Step 1 consists of two main activities:

Setting Goals: defining the goals of the assessment and

Setting Scope: identifying the boundaries of what will be included in the assessment.

Setting Goals

The goals should unambiguously state the reasons for doing the assessment, the intended audience and the intended use of the results (ISO, 2009).

Step 1 questions to be answered:

1. **Reasons** for doing SAFA

2. Intended **audience** of SAFA
3. Intended **use** of SAFA results

Setting Scope

In order to obtain an accurate assessment of the entity's sustainability performance, a SAFA should ideally encompass the entire realm of influence and impact of the assessed entity. Thus the scope should focus on what is significant in terms of impact and what is has control over. The scope of a SAFA assessment should include all processes:

- that are **part of production or distribution**, (e.g. irrigation practices in fields, wages at processing facilities);
- that generate **significant impacts** on sustainability in the surrounding environment and community (e.g. waste water management, decisions regarding use of freshwater); and
- over which the assessed entity has **control or significant influence** regarding financial and operating policies and practices (e.g. the activities of any subsidiaries or other members in a producer group).

For example, the production of procured raw materials and inputs should be included in an entity's SAFA assessment if: (i) the production and provision of these materials and inputs cause substantial sustainability impact (e.g. by aggravating regional water scarcity); and/or (ii) the extent of these impacts on sustainability could be significantly influenced by the buyer.

If a SAFA for every operation involved is not possible, the entity may choose to focus on one chain of operations as a sample. The full impacts of this entity should still be considered, including physical and social external impacts.

A series of questions and activities will help the SAFA user to set the scope. These are captured in the SAFA Tool being piloted.

1. **Map the Value chain**. Mapping a chain means creating a visual representation of the connections between businesses from inputs to end consumers. It does not need to be sophisticated using custom software. A simple flow diagram in Word or Excel can help identify the potential scope and relationships to facilitate decision making on the scope. See Figure X, Section 1 on a dairy value chain example.
2. Define the **Material system boundaries**
    a. Which entity is the focus of this SAFA?
    b. Which is the entity's sphere of influence?
    c. Which other entities and processes do you intend to cover (i.e. by filling out other Excel sheets)?

d. If the focus of the SAFA is on primary production level, how many farms will you include and how will you chose your sample?

e. Which entities and processes are excluded and why?

3. Define the **Spatial system boundaries**

a. How many SAFAs will you carry out to cover all levels of the food chain you are intending to assess?

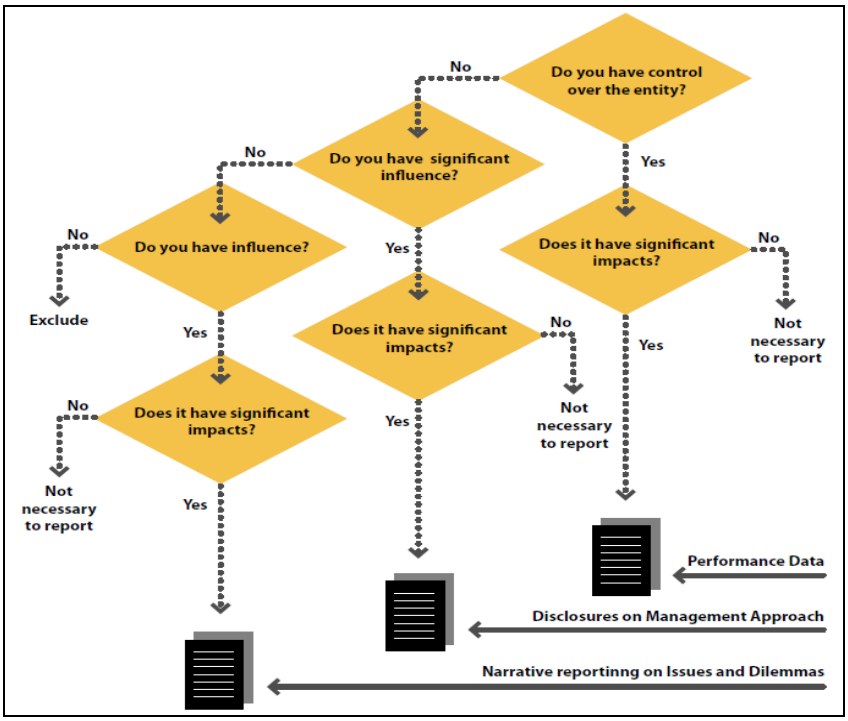
b. In conducting this SAFA, which of the environmental, economic and social impacts that occur beyond what is directly used by the assessed entity do you intend to take into account?

4. Impact allocation criteria

a. How do you intend to allocate sustainability impacts for different levels of the food chain, for assessed and non-assessed processes, entities, and locations so that allocation problems are minimized and the impact boundaries for this SAFA are set clear?

Completing this list will require that the entity make decisions regarding which activities and operations to include. The decision tree of the GRI G3.1 Guidelines is recommended as a tool for making decisions regarding what is included in the scope (GRI, 2011a).

Figure 4: Decision tree for boundary setting.

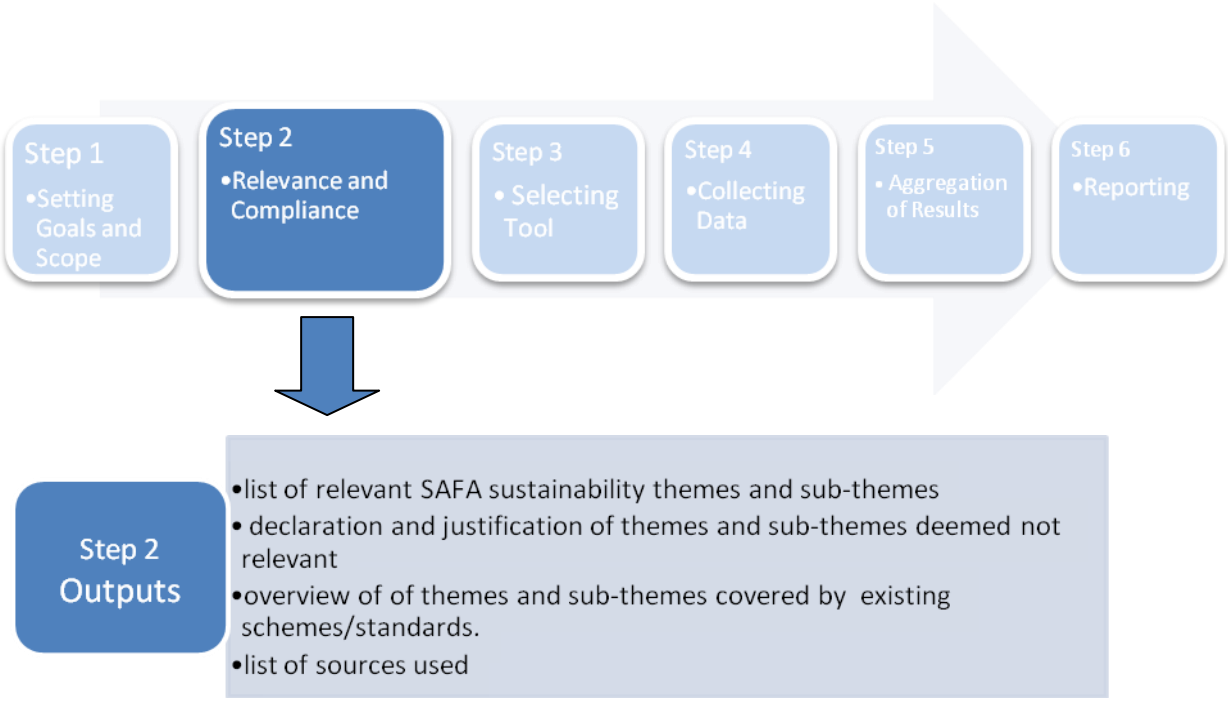


Source: GRI G3.1 Guidelines (2011a).

The entity may nevertheless limit the scope of the assessment for one level of the food chain. In all cases, the boundaries of the assessment should be identified. This should begin with entities listing all properties, operations, land and other sites under their ownership or in which they play a decision-making role. From there, the list should be expanded to include activities and other operations involved in production, processing and distribution based on the entire realm of influence and impact of the assessed entity. Larger companies have a potentially larger sphere of influence than a small individual farmer. SAFA acknowledges the growing responsibility for sustainable production with growing company size.

To complete the assessment on a chain with multiple operations, one Excel sheet needs to be filled out for each operation at each step of the value chain. To assess another step of the value chain, the user should open another SAFA Excel Tool to complete the same process . Throughout the SAFA Tool, fields that need to be filled in by the user are colored with light blue. Answers may be either open ended or multiple choice selection. Training is provided to users.

Step 2: Adaptation: Relevance and Compliance Check



Resources for Step 2 include value chain map, publications, reports, past CSR and certification reports.

Step 2 requires adapting the generic SAFA framework to the specific geographical, sector and context of the assessed entity. Step 2 consists of two main activities:

Adapting the themes and sub-themes based on **Relevance Check**

Adapting the coverage to existing standards through a **Compliance Check**

Relevance check

The scope identified in Step 1 will provide a starting point for the relevance check. To begin, each assessed entity should take into consideration the sector and branch of the economy to which it belongs, its position in the value chain, its geographical location when answering the questions in the relevance check. Based on this classification, the SAFA themes and sub-themes that are justified as not relevant can be omitted from the assessment scope. For example, the "Land" theme and its sub-themes may not be relevant for marine fisheries.

A series of questions for the specific themes and sub-themes help the user identify the relevance for the entity to be assessed. Available publications, reports and maps should be consulted in this step to gather information necessary for finding out the relevance of certain sub-themes. For example, information related to physical water scarcity in the region, human rights situation, rule of law, soil degradation risk and land use cover change.

Sources used in this review should be included in the SAFA Performance Report. Sustainability themes and sub-themes which are not included because of lack of relevance, should be detailed justified in the final Performance Report. All themes and sub-themes relevant for the sustainability performance of the assessed entity must be addressed in the subsequent steps in order to generate a Performance Report that is as accurate as possible.

Compliance check

A SAFA should not be undertaken as an isolated assessment. It should take into consideration existing legislation, rules and norms. Some enterprises undertaking a SAFA my participate in, or are certified, according to one or more schemes. These schemes may focus on quality management or improved environmental, social and governance performance. Compliance with the rules and standards of such schemes often means that for part of the SAFA themes, data already exists and can facilitate the SAFA assessment. However, many schemes focus on management system compliance requirements, rather than performance. Thus it is still necessary to review each of the relevant sub-themes in Step 3 and 4. SAFA is undergoing Benchmarking to facilitate the identification of overlap. For an overview of the thematic coverage of selected schemes, see Appendix A.

Benchmarking of the main agriculture sustainability certifications and schemes against SAFA is an ongoing process at the time of writing these Guidelines. The benchmarking process compares the standards used by each programme to the SAFA themes and sub-themes, and identifies which SAFA components are covered by the certification. Because of the different

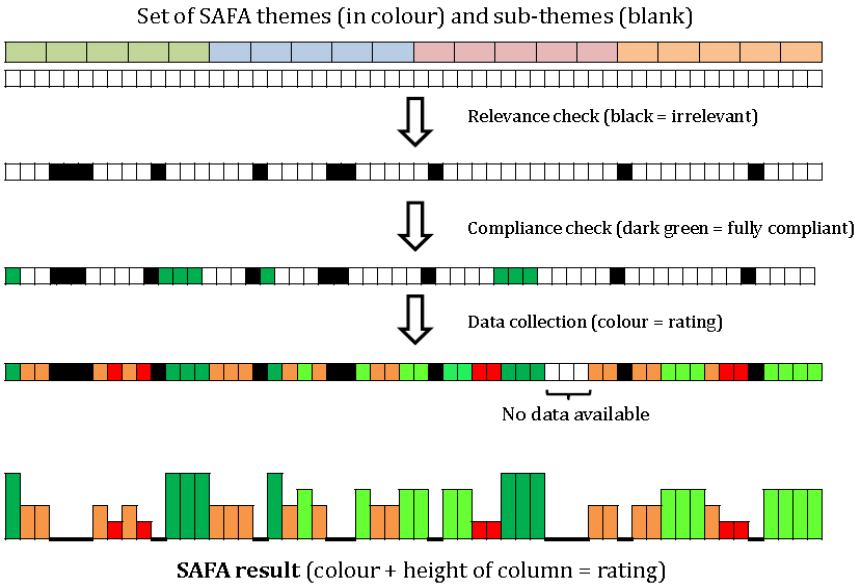
goals of the scheme owners, compliance with the sub-themes and indicators can vary widely, even when the themes are essentially "covered". In addition, some of the certification standards address management systems and processes, not performance levels. Thus the SAFA benchmark does not attempt to identify equivalencies, but facilitate the assessment by identifying areas of overlap and contribution of the certification scheme to the theme's coverage in the benchmarking.

SAFA Adaptation

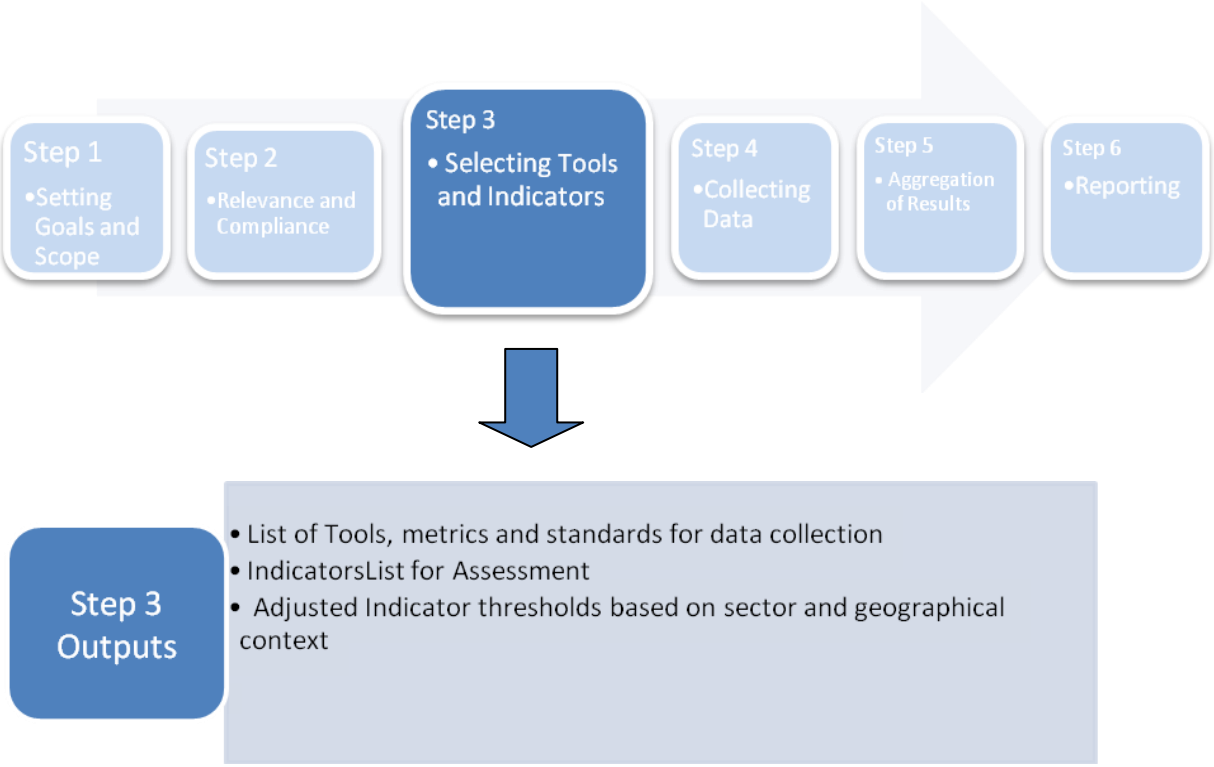
The relevance and the compliance check identifies the relevant themes and sub-themes, as well as identifies those areas not covered (or only partially) by any scheme/standard. This adapted list of themes and sub-themes is now ready for the next step of identifying indicators.

Figure 5 highlights how inapplicable SAFA sub-themes are omitted through the relevance check. Sub-themes to which the enterprise already adheres to in a certification standard shall be colored dark green in Step 4 if fully covering the descriptions of the sub-themes through the compliance check. Performance in relation with the remaining sub-themes is rated using SAFA-compliant indicators . If the compliance check shows that there are certain sub-themes which are only partially covered by a certification standard, the assessed entity is recommended to chose at least one indicator per sub-theme in Step 3. Finally, all applicable sub-themes for which data are available are rated to complete a holistic rating of sustainability performance.

Figure 5: Output of SAFA adaptation and rating (Step 4).



Step 3: Selecting Tools and Indicators



Resources needed for Step 3 include list of existing schemes and tools used including certifications.

Step 3 further refines the relevant sub-themes through indicator selection and adaptation. Step 3 consists of two main activities:

Selecting Appropriate Tools

Selection and **Adaptation** of Indicators

Selecting appropriate tools

For the purposes of the SAFA assessment, "tools" refer to the variety of commonly used measurement systems or assessment techniques for different sustainability aspects. For example, there are many tools for assessing a company's greenhouse gas emissions, such as the GHG Protocol Corporate Accounting and Reporting Standard. Ideally, the entity would be able to collect necessary data using existing tools, metrics and standards.

The sustainability schemes identified in Appendix A can provide some additional guidance in identifying appropriate standards and tools. The selection of tools should be

based on:

1. the relevant sustainability themes and sub-themes identified in Step 2;
2. the availability of information on the entity's performance; and
3. the budgetary constraints of the assessment.

The tools, metrics and standards used for data collection and measurement should be listed in the Performance Report.

Selecting sustainability indicators and rating thresholds

Indicator selection

Indicators are specific measurements or assessments that provide evidence as to whether or not a certain condition exists. By using indicators, an entity can demonstrate their level of sustainability performance on the SAFA themes and sub-themes. SAFA proposes appropriate indicators, but it is possible to define other indicators, depending on context, experience and relevance. The Indicators are detailed in Section 3 defined based on the theme's objective and sub-themes definitions.

Types of Indicators

SAFA classifies the indicators by the degree of obligation and applicability.

- **Recommended indicators**: applicable for all assessments
- **Recommended flexible indicators**: at least one indicator per group is recommended, in addition to the recommended indicators
- **Optional indicators**: are optional and can improve the overall score for the relevant sub-theme, but do not replace recommended indicators.
- **Alternative indicators**: alternative indicators can be in addition to or substitute recommended indicators if justified and documented.
- **Pre-qualifying indicators**: high scores in these identified indicators permit the rest of the sub-themes to be skipped. These are specific to greenhouse gasses, air pollution, water quantity, water quality, eco-efficiency.

Selecting Indicators in the SAFA Tool

To begin selecting indicators, an entity should review the indicators suggested by SAFA for each of the sub-themes deemed relevant to their operations in the Tool.

- **Bold Indicators** are recommended for the assessment
- indicators in grey background are recommended flexible indicators out of which one should be chosen by the enterprise
- indicators in plain text are optional indicators
- indicators with yellow background are pre-qualifying indicators, i.e. if the best score is given to them, no further indicators need to be chosen for that sub-theme. These are all related to the environmental dimension
- alternative indicators can be added in the "indicator of your choice" line. self-designed indicators may be used to replace recommended, recommended flexible and optional indicators. When aggregating results on the sub-theme level, self-designed indicators weigh the same as the ones they are intended to replace.

The result of this phase is a list of the best indicators for the sustainability performance, based on the unique qualities of the entity's operation type, location and surroundings.

Threshold determination

Some indicators require assigning a threshold at the indicator level to those which require quantitative results (not simply “yes” or “no” answers). Thresholds represent a level to measure performance. In some cases, few or no intermediate levels exist. For instance when checking for forced labour, there normally are just two clearly distinguishable cases – either it exists or it does not. If it exists, the rating will be “insufficient sustainability performance”, if it does not, it will be “best sustainability performance”. Proactive measures to remove forced labour (e.g. in supplier operations), can be rated as well.

For indicators requiring quantitative answers, a scale of four thresholds are provided in SAFA. The entity may need to adjust the proposed thresholds to make them appropriate to the conditions of their sector or region. These thresholds match up to percentage scores and they can be visualized using an extended “traffic light” color code. Table 3.

Table 3: PerformanceThresholds

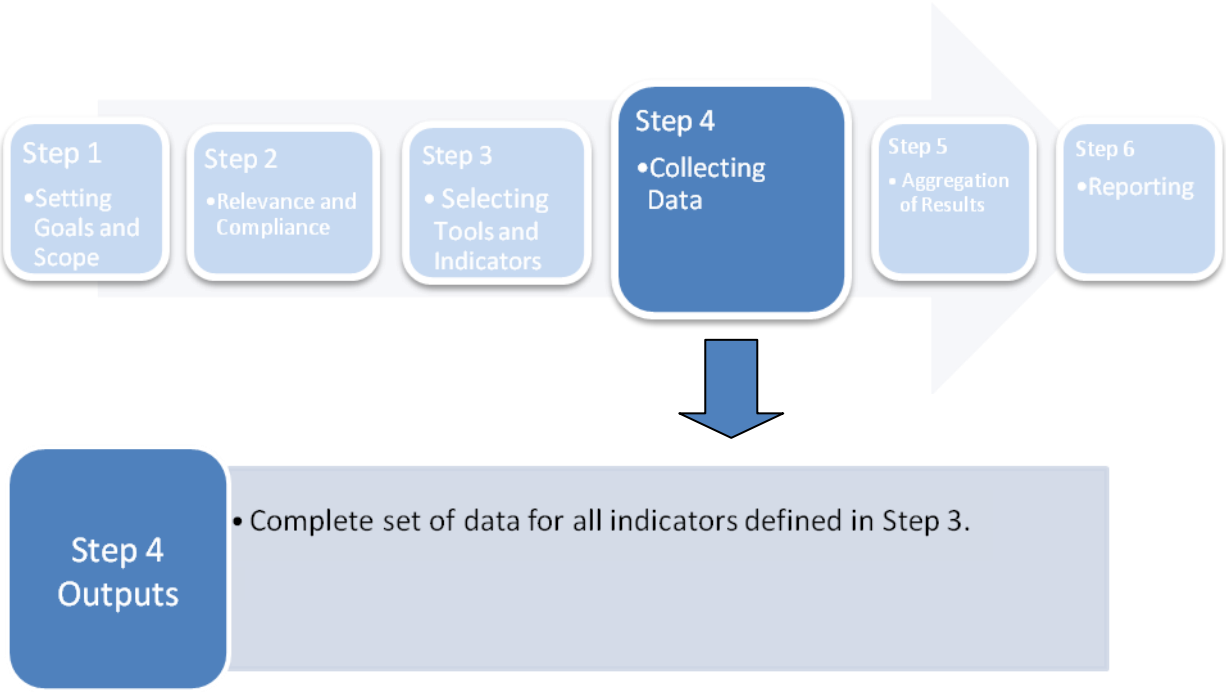
Performance	Percentage scores
BEST	90-100%
GOOD	60-90%
MODERATE	20-60%
INSUFFICIENT	0-20%

In case of some quantitative indicators, particularly in the environmental dimension, SAFA has recommended adjustments to the 0-20-60-80 thresholds (thus need different rating, as shown on two indicators (chemical quality and land degradation and desertification) for the " Land" theme in Table 4). This adaptation must be done transparently, by clearly noting the change in the Performance Report and justifying why the change was necessary.

Table 4: Example of SAFA rating for the "Land" sustainability theme.

Rating of indicators	**Sustainability sub-themes**			
	Organic matter	**Physical structure**	**Chemical quality**	**Land degradation and desertification**
	Recommended indicators			
	Soil organic matter in the topsoil exceeds 1%.	Infiltration rate is between 10 and 20 mm of water per hour.	Avoidance of application of substances that can cause soil pollution (e.g. heavy metals, PAHs, pesticides, fertilizers and antibiotic residues).	Soil erosion is below 10 tons per hectare/year.
	On what share of your land does SOM in the topsoil exceed 1 mas-%? *(Visual rating: presence of earthworms, colour and texture of soil, etc.)*	What share of your land has an infiltration rate of 10 to 20 mm of water per hour? *(Visual rating: no water-logging, no large cracks allowing by-pass flow)*	To what share of land have substances been applied which may have high contents of heavy metals, PAHs, pesticides, fertilizers and antibiotic residues, or other soil pollutants that contribute to nitrate leaching?	On what share of your land is soil erosion rate lower than 10 tons per hectare/year?
			Rating is required	
Best sustainability performance	The content of soil organic matter is more than 1% at least on 90% of the area.	The infiltration rate is between 10-20 mm/hr on at least 90% of the area.	Soil pollutants are not used at all or only on less than 2% of the area.	There is no soil erosion, or only on 1% of the area there is erosion of max 10 tons/ha/yr.
Good sustainability performance	The content of soil organic matter is more than 1% on 60-90% of the area.	The infiltration rate is between 10-20 mm/hr on 60-90% of the area.	Soil pollutants are used on 2-9% of the area.	Soil erosion is less than 10 tons on 80-99% of the area.
Moderate sustainability performance	The content of soil organic matter is more than 1% on 30-60% of the area..	The infiltration rate is between 10-20 mm/hr on 30-60% of the area.	Soil pollutants are used on 10-30% of the area.	Soil erosion is less than 10 tons on 50-80% of your area.
Insufficient sustainability performance	The content of soil organic matter is more than 1% on less than 30% of the area.	The infiltration rate is between 10-20 mm/hr on less than 30% of the area.	Soil pollutants are used on more than 30% of the area.	Soil erosion is less than 10 tons on 50% of your area.

Step 4: Collecting Data



Resources needed for Step 4 include a data collection plan including tools, sources and responsibilities.

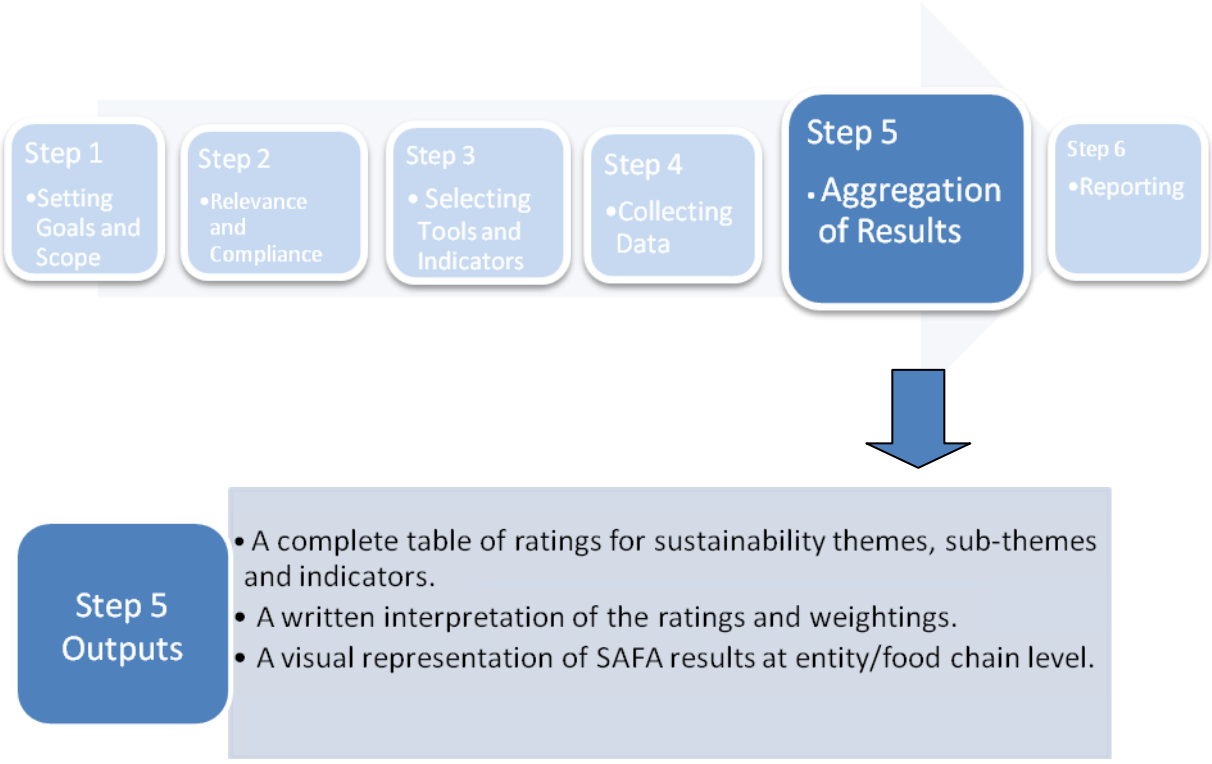
Step 4 consists of data collection using different methodologies indentified in the previous steps.

Data collection can take different forms, for example a farm or factory visit, interviews with personnel, management, a stakeholder survey or data collection from public and other independent sources of information.

In small enterprises with low levels of documentation(e.g. small producer groups or farms) almost all enterprise-related information will likely be collected via a farmer interview and a personal inspection of farm and fields. This means that the "how" and "when" of data collection can have influence on data quality and SAFA results. For some of the environmental themes (e.g. "Freshwater" and "Land"), doing field measurements and laboratory analyses is desirable, but not a requirement. The form of data collection must be documented, and its representativeness should be justified.

Use the most precise and reliable performance data available. Data should be collected using standardized measurement methods. Where quantitative data are used, these should be expressed in the International System (SI) units.

Step 5: Aggregation of Results



Resources needed for Step 5 include the compilation of data assessed for each indicator from the previous steps.

Step 5 consists of rating, weighting and aggregating the data that has been compiled to assess its sustainability performance at the sub-theme and theme levels.

Rating and weighting at the sub-theme level

At this stage, the SAFA process results in at least one sustainability indicator score per applicable sustainability sub-theme. Where more than one indicator is assessed per sub-theme, scores should be aggregated into a single rating per sub-theme. There are several guidelines for aggregating indicator ratings:

- Recommended Indicators and Recommended Flexible Indicators have the same weight when aggregating results into a single rating. An **average** of the scores is appropriate if there are multiple recommended indicators for one sub-theme.
- If an optional indicator or a self-designed indicator (which does not replace a recommended indicator) is added, it should be weighted at 0.5 of a recommended indicator. An easy way to assess the different weights is to give each recommended indicator 2 points and each optional one 1 point and calculate the average. The entity may elect to use a different weight-

ing scheme. In this case, the weighting scheme and its rational should be explained in the Performance Report.

Rating at the theme level

To obtain a performance score at the theme level, several sub-theme scores have to be aggregated into a single score. Unlike indicators, each sub-theme score weights the same. Several options are available. The entity can calculate an arithmetic mean of the sub-theme scores, choose the lowest/worst score, or make a direct subjective aggregation without using a calculation rule. The following guidelines should be applied:

- The calculation process – including rules for aggregation and weighting of indicator values - must be transparent, with all decisions presented and justified in the Performance Report.
- Data insufficiencies can sometimes require the estimation of certain values. In order to ensure transparency, data quality should be indicated for all estimated values.
- Decisions on must be justified and described.

During the interpretation of results with regard to context, a holistic approach should be adopted. The assessed entity should be perceived and understood as a whole because of the inter relationships of themes and sub-themes. For example, results for the Freshwater, Land and Biodiversity themes may be linked with the same activities, such as soil tillage, use of crop protection products and wastewater discharge. Such linkages should be identified and addressed explicitly, as the resulting synergies, trade-offs and side effects of activities will affect the planning and implementation of improvement measures.

Rating at the enterprise or value chain level

The communication of SAFA results across enterprises in a value chain may require an aggregation of the multiple performance scores. Aggregation can be done for sustainability themes within a company, and for multiple companies along the value chain. A variety of aggregation approaches can be employed, depending on the purpose and target audience of the SAFA assessment, whether for internal sustainability management or business to business communications.

Hot Spot analysis – use aggregation to identify the theme with the lowest score with the potential for action

Means or median – aggregate all theme scores or within each sustainability dimension

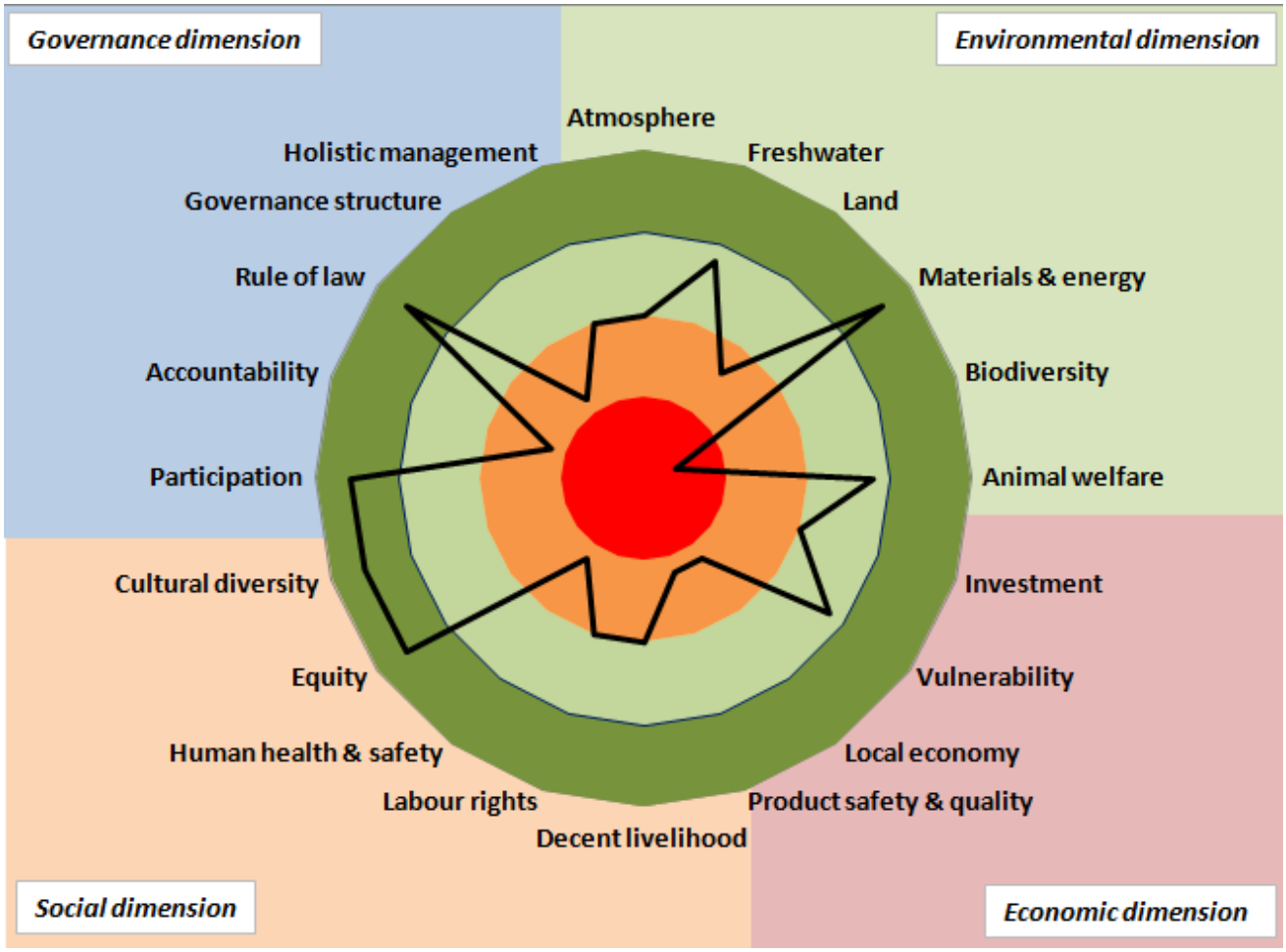
All types of aggregation have in common that a gain in communicability is accompanied by a loss of information and a risk of relevant information being masked. All aggregated reporting should be done transparently with any decisions or judgment calls justified clearly in the Performance Report.

Visualization

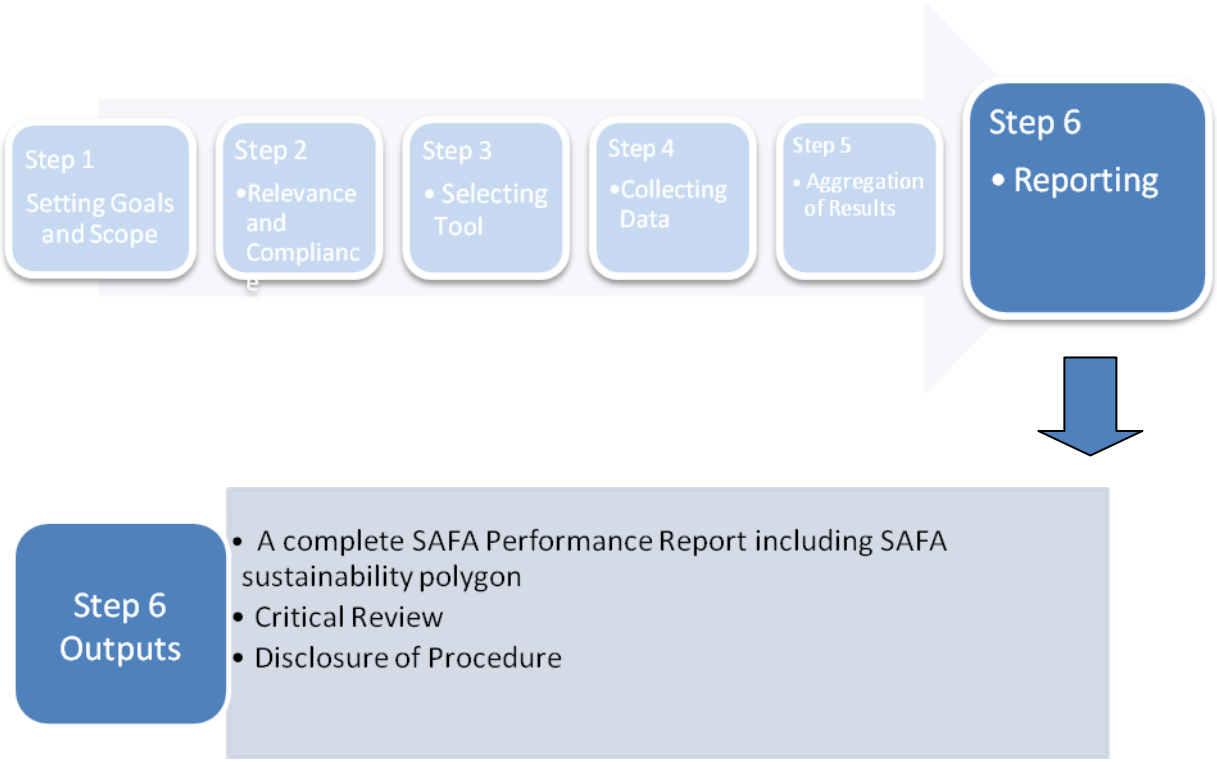
Sustainability is a complex topic and even with aggregation of the 200 plus indicators and 64 sub-themes, understanding all of this data can be challenging and difficult to communicate internally or externally. Trying to find related content can also be difficult and understanding the relationships in a two dimensional spreadsheet is daunting. But data visualizations can make all of that much easier, allowing you to see the concepts and relationships. Data Visualization is a method of presenting information in a graphical form as in the following example.

A possible illustration of the overall sustainability performance and sustainability gaps are provided in Figure 6. This visualization of the SAFA sustainability performance ratings is depicted in the polygon of a hypothetical enterprise. The thick black line connects theme' performance: best (dark green), good (light green), moderate (orange) or insufficient (red). Where entities at several steps of a value chain have been assessed, the overall results can be pulled together to produce one final visual for all the assessed entities of a chain.

Figure 6: SAFA sustainability polygon



Step 6: Reporting



Resources needed all documentation notes from Steps 1-5.

Step 6 activities consist of combining the documentation from the previous steps into a Performance Report for either internal purposes or external purposes (critical review and disclosure),

Reporting Guidelines

- The structure of the report reflects the structure of the SAFA process steps.
- The report consists of a descriptive and an analytical part.
- The report is written in clear and concise language.
- All information is presented in a fair and objective way (both positive and negative results).
- Data must be made available in as much detail as practically feasible.

Critical review

In a SAFA, the critical review can be handled in different ways. The disclosure of procedure, issues covered, methodology and performance ratings should be transparent and documented regardless of intended use. A critical review, either by the assessing or assessed organization or a third party, is an essential part of a SAFA. It fosters the quality, credibility and transparency of the assessment. The review should provide all information needed for a critical appraisal by interested stakeholders. This is in line with the procedure outlines of LCA (ISO, 2009) and the G3.1 Guidelines (GRI, 2011a), the transparency principles of the Bellagio STAMP (IISD, 2009) and the ISEAL Impacts Code (ISEAL Alliance, 2010).

For internal use, it may be sufficient to have an internal committee provide the review and feedback. Where results are designated for external use, including business to business communication, an external review is critical and recommended for credibility. Type, comprehensiveness and complexity of the review are defined during the SAFA scoping phase.

Disclosure of procedure

Companies undertaking a SAFA have the possibility of benefiting from the experiences of others y sharing results. This could be across supply chains or within a supply chain with different suppliers, creating valuable lessons learned. The SAFA tool is intended primarily for self-evaluation and internal communication about sustainability goals and performance. It is possible to use the SAFA report for communication with other businesses to establish a common understanding of sustainability aspects. If a company wishes to communicate the SAFA report outside of internal purposes, the complete report must be shared. This includes information on the selected system boundaries, indicators, thresholds, data sources, inclusion of data from other audits, and about stakeholder relations in each SAFA process. This will allow companies operating in the same region or industry sector to use previously used SAFA thresholds. Since sustainability is often considered a pre-competitive issue by the private sector, as testified by the cooperation of numerous companies in the frame of multi-stakeholder initiatives (e.g. WEF, 2010), mutual access to SAFA-related information is in the interest of participating companies.

An overview of the SAFA Step by Step with a description and outputs can be found in Table 5.

Table 5: Overview of SAFA Step by Step

Overview of Steps and Outputs		
Step	**Description**	**Outputs**
Step 1	**Setting Goals** **Setting Scope**	• A precise statement of goals and purpose of the SAFA assessment. • A defined scope for that SAFA assessment, including a description of the assessed entity and of its sphere of influence and impact, as well as: • A delineation of physical and spatial system boundaries, in relation with the sphere of influence and impact. • A description and justification of cut-off and impact allocation criteria.
Step 2	**Relevance and Compliance Check**	• A list of SAFA sustainability themes and sub-themes that are applicable to the assessed entity and have not yet been covered in existing schemes/standards. • A declaration and justification of omissions of sustainability themes and sub-themes, to be included in the Performance Report. • An overview of sustainability performance concerning those themes and sub-themes already covered by existing schemes/standards.
Step 3	**Selecting Tool**	• Indicators are selected for relevant sub-themes that are not yet (or fully) covered by existing certifications standards/schemes. • Thresholds for the quantitative indicators are reviewed and adjusted if necessary to match sec-tor and regional circumstances.
Step 4	**Collecting Data**	• Complete set of data needed to calculate all indicators defined in Step 3.
Step 5	**Aggregation of Results**	• A complete table of ratings for sustainability themes, sub-themes and indicators. A written interpretation of the ratings and weightings. • A visual representation of SAFA results at entity/food chain level.
Step 6	**Reporting**	• A complete SAFA Performance Report with, inter alia, the sustainability polygon

Part 3: SAFA Sustainability Components

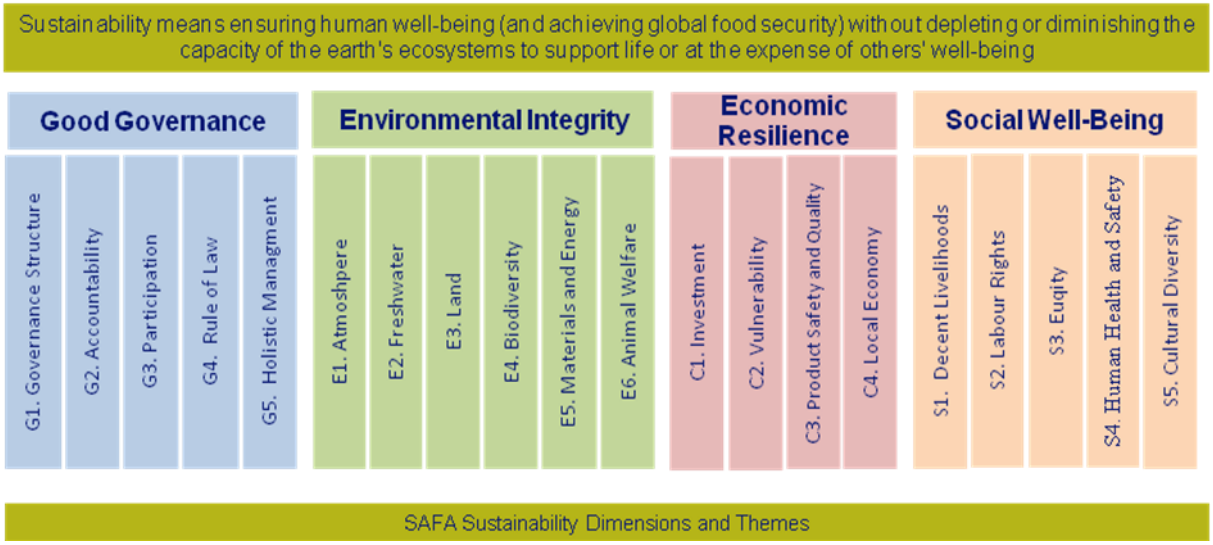
SAFA Sustainability Dimensions, Themes, Sub-themes and Indicators

1.6 Overview

The main objective of this section is to provide the background and rationale for the SAFA sustainability dimensions, themes, sub-themes and indicators. This section should be read in its entirety to understand the holistic approach of SAFA. It also serves as a reference document for implementers of SAFA who need further details to determine relevance or inclusion in their SAFA scope.

This section begins with an overview of the high level, overarching dimensions of sustainability: good governance, environmental integrity, economic resilience and social well-being. It is recognized that these dimensions are broad and encompass many aspects. There are numerous definitions depending on the context (e.g. government, corporate). For purposes of SAFA, a broad definition and aspects covered by this dimension. The scope of topics considered under each dimension are the SAFA Themes.

In the next section, each of the 20 sustainability themes are detailed including a definition for the purposes of SAFA, relevance, goals and sub-themes and indicators. Summary tables can be found in each theme section.



1.7 Sustainability dimensions

Good Governance | Environmental Integrity | Economic Resilience | Social Well-Being

The guiding vision of SAFA is that food and agriculture systems worldwide are characterized by all four dimensions of sustainability: good governance, environmental integrity, economic resilience and social well-being. These are each explored in the following.

Good Governance

Governance is the process of making and implementing decisions (UNESCAP, 2009). For SAFA, this includes the aspects of governance structure, accountability, participation , rule of law and holistic management.

Dimension 1: GOOD GOVERNANCE	
Themes	**Sub-Themes**
G1 Governance structure	Corporate ethics; Due diligence
G2 Accountability	Holistic audits; Responsibility
G3 Participation	Stakeholder dialogue; Grievance procedures; Conflict resolution
G4 Rule of law	Commitment to fairness, legitimacy and transparency; Remedy, restoration and prevention; Co-responsibility; Resource appropriation
G5 Holistic management	Sustainability in management; Certified production; Full-cost accounting

While governance has not always been considered a separate dimension of sustainable development, the first two versions of the Commission on Sustainable Development Core Indicator Framework presented sustainability themes according to the social, environmental, economic and institutional dimensions. The weight given to governance in the SAFA Guidelines is in line with other business approaches, such as the UN Principles for Responsible Investment, the UN Global Compact (UNGC/IFC, 2009) and the G3.1 Guidelines (GRI, 2011a).

The governance dimension of SAFA revolves around an understanding of Good Corporate Governance (GCG) that explicitly takes into account all affected stakeholders. SAFA has taken forward the governance dimension, particularly because SAFA users are concerned with value chains and stakeholder relations, in which good corporate governance is of paramount importance.

An enterprise committed to sustainable development needs a sustainability-oriented governance structure, in which content, values and responsibilities of the company are clearly stated and through which transparency and accountability are ensured. It organises processes that facilitate an active participation of all stakeholders. Further elements include a strict orientation towards legitimacy and the rule of law and a rigorous sustainability management. A business purpose that contradicts or ignores the sustainability principle will not lead to a sustainably operating enterprise in the long run.

Environmental Integrity

To protect the integrity of Earth's ecosystems, the use of natural resources and the environmental impacts of activities must be managed such that negative environmental impacts are minimised and positive impacts fostered. In a SAFA, the following themes of environmental sustainability are addressed: atmosphere, freshwater, land, materials and energy, biodiversity and animal welfare.

Dimension 2: ENVIRONMENTAL INTEGRITY	
E1 Atmosphere	Greenhouse gases; Air pollution
E2 Freshwater	Water quantity; Water quality
E3 Land	Organic matter; Physical structure; Chemical quality; Land degradation and desertification
E4 Biodiversity	Habitat diversity; Ecosystem integrity; Wild biodiversity; Agricultural biodiver-

	sity; Threatened species
E5 Materials and energy	Non-renewable resources; Energy supply; Eco-efficiency; Waste reduction and disposal
E6 Animal welfare	Freedom from stress; Species-appropriate conditions

The state of the world's ecosystems was assessed in 2005 under the Millennium Ecosystem Assessment concluded: Human actions are fundamentally and to a significant extent irreversibly changing the diversity of life on Earth and the integrity of the environment. Critical ecosystem services on which development depends, including air and water purification, soil conservation, disease control, and reduced vulnerability to natural disasters such as floods, droughts and landslides are compromised. The poor are overwhelmingly located in rural areas and natural resources are their most important asset. Human activity including land conversion for agriculture leading to habitat loss, fragmentation and degradation, overexploitation of species due to hunting, fishing and trade are considered the main drivers of the pressures on environmental integrity.

The Convention on Biological Diversity (CBD) considers that a general application of an ecosystem approach will help achieve a balance of three objectives, namely conservation, sustainable use and the fair and equitable sharing of benefits arising out of the utilisation of genetic resources. The need for an ecosystem approach applies to the whole food and agriculture sector, including fisheries and forestry. SAFA categories (atmosphere, freshwater, land, materials and energy, biodiversity and animal welfare) were found to best reflect the main areas of concern regarding adverse human impacts and unsustainable exploitation, as well as give a comprehensive picture of environmental sustainability.

Economic Resilience

Economic activity involves the use of labour, land and capital to produce goods and services to satisfy peoples' needs (Jörissen et al., 1999). The following themes are covered by the economic dimension of SAFA: investment (in sustainability), vulnerability of operations, product safety and quality, and local value creation.

Dimension 3: ECONOMIC RESILIENCE	
C1 Investment	Internal investment; Community investment; Long-ranging investment
C2 Vulnerability	Stability of supply; Stability of demand; Liquidity and insurance; Employment; Stability of production
C3 Product safety and quality	Product information; Traceability; Food safety; Food quality
C4 Local economy	Value creation; Local procurement

This dimension of sustainability is directly linked with the fulfilment of needs, a pillar of sustainable development as defined by the World Commission on Environment and Development (WCED, 1987). Sustainability in the social and environmental domains is supported by functioning businesses. While inter-related, it is critical to assess economic sustainability as a sustainability dimension in its own right.

To be considered economically sustainable an enterprise should be capable of paying all its debts, generating a positive cash flow and adequately remunerating workers and shareholders. In addition,

it should have buffer mechanisms (savings, assets) to cope with changes and shocks out of its control, for example, economic downturns, damaging weather. In essence, it must be economically resilient.

Some aspects of economic sustainability have potential tensions or tradeoffs with the other dimensions, including “sustainable growth” and "Green Economy". Steady and adequate economic growth is a common proxy for positive socio-economic development. Economic growth is the declared goal of most nation states and was endorsed by WCED (1987) and UNEP (2011). The possibility of endless economic growth in a limited ecosphere has been contested by many, and even dismissed as an oxymoron (Daly, 1990). Increasingly, the goal of decoupling economic growth from the use of limited natural resources is becoming popular (UNEP, 2011).

The SAFA Guidelines forego the macro-economic issue of growth rates in favour of a micro-economic approach that focuses on the enterprise and the local community resilience. The following themes are covered by the economic dimension of SAFA: investment (into sustainability), vulnerability of operations, product safety and quality, and local value creation.

Social Well Being

Social sustainability is about the satisfaction of basic human needs and the provision of the right and the freedom to satisfy one’s aspirations for a better life (WCED, 1987). This applies as long as the fulfilment of one’s needs does not compromise the ability of others or of future generations to do the same (sustainable). In SAFA, social sustainability is assessed by looking at the categories of decent livelihood, labour rights, equity, human health and safety and cultural diversity.

Dimension 4: SOCIAL WELL-BEING	
S1 Decent livelihood	Wage level; Fair trade practises; Capacity building
S2 Labour rights	Employment; Forced labour; Child labour; Freedom of association and bargaining; Working hours
S3 Equity	Non-discrimination; Gender equality; Support to vulnerable people
S4 Human health and safety	Physical and psycho-social health; Health resources; Food security
S5 Cultural diversity	Indigenous knowledge; Food sovereignty

Basic human needs and rights are defined in the International Bill of Human Rights, which consists of the Universal Declaration of Human Rights (UN, 1948), the International Covenant on Civil and Political Rights (UN, 1966a) and the International Covenant on Economic, Social and Cultural Rights (UN, 1966b). For the food and agriculture sector, Human Rights are translated into the Right to Adequate Food (FAO, 2004). Human Rights are further specified for work environments in the Declaration of Fundamental Principles and Rights at Work (ILO, 1998).

Guidance on how to protect and respect human rights in business operations is provided by the "UN Protect, respect and remedy framework for Business and Human Rights". Business enterprises are responsible of respecting human rights, both in their own business activities and where human rights impacts are “directly linked to their operations, products and services by their business relationships” (UNHRC, 2011).

International norms and certification standards widely integrate the concepts and principles of these conventions and declarations. In SAFA, the contribution of the assessed entity to the fulfilment of human needs is at the centre of the social sustainability dimension. Social sustainability is broken down to the categories of decent livelihood, labour rights, equity, human health and safety and cultural diversity.

1.8 Sustainability Theme protocols

The sustainability theme protocols provide detailed guidance for each of the twenty SAFA sustainability themes. Each protocol includes examples of suitable indicators to determine sustainability performance for the sub-themes.

Outline of SAFA sustainability theme protocols

1. **Definition** of the theme as assessed in SAFA. During the consultation phase, numerous definitions and connotations were identified depending on context, purpose and use of the theme. Focusing on the SAFA vision and purpose, a basic definition is proposed for orientation, but not necessarily definitive.
2. **Relevance** of the Subject: importance of the theme to sustainable development, sustainable food and agriculture and relevant international agreements.
3. Sustainability **Goals**: translation of societal and higher-level goals to one operational goal in the food and agriculture sector.
4. **References**- relevant international declarations, treaties and conventions
5. **Resources** - guides and resources
6. **Sub-themes and Indicators table**. Tabular overview of theme, sub-theme and indicators. A description of sub-themes for further clarification is provided. Examples of indicators for measuring performance in relation to the sustainability goal of the theme.

Classification of Indicators

- **Bold Indicators** are recommended for the assessment
- indicators in grey background are recommended flexible indicators out of which one should be chosen by the enterprise
- indicators in plain text are optional indicators
- indicators with yellow background are pre-qualifying indicators, i.e. if the best score is given to them, no further indicators need to be chosen for that sub-theme. These are all related to the environmental dimension
- alternative indicators can be added in the "indicator of your choice" line. self-designed indicators may be used to replace recommended, recommended flexible and optional indicators. When aggregating results on the sub-theme level, self-designed indicators weigh the same as the ones they are intended to replace.

Governance structure (G1)

Definition

Governance structure in SAFA means how the sustainability principle is embedded in the fabric of the whole enterprise. It covers corporate ethics and due diligence.

Relevance of Governance Structure

Good governance includes the formulation of a statement that goes beyond profit to embrace ethics and sustainability and based on a vision of a sustainable future that is attractive to all stakeholders (Maak & Ulrich, 2007). A good governance structure is the foundation of a successful, sustainability- and integrity-oriented enterprise culture (Loew & Braun, 2006; Erwin, 2010). The mission statement should state, incredible, clear and authentic words, how the enterprise intends to contribute to a sustainable development. For the operational level, principles are defined through a Code of Conduct (CoC) (Maak & Ulrich, 2007). The CoC provides clear guidance in concrete situations, is authoritative, without limiting scopes of action too much, and fosters desirable behaviour. It provides management guidance and priorities for decision making in situations where trade-offs between the dimensions of sustainable development are encountered.

Enterprise in the agriculture and food sector have a wide range of governance structure, from a virtual absence of governance to highly sophisticated systems. Size and market power of enterprises in the same sector, region or value chain are equally variable. This often results in major imbalances and disadvantages, particularly where small enterprises depend on large firms that are better organized, but lack a business purpose going beyond profit. Larger size implies a larger sphere of impact and influence and thus also of responsibility. Therefore, large, well-organized enterprises should contribute to the improvement of market structures and to the sustainability of production of their suppliers, rather than capitalizing on their weakness. As for the small enterprises typical of agriculture and fisheries, operating culture depends on the personal integrity and values of the entrepreneur, who is personally liable and responsible for the enterprise. Due diligence procedures can help anticipate and prevent negative impacts on environment and people, and thus protect the enterprise's image. The SAFA goals on governance structure are relevant insofar as they inspire reflections on values and principles.

Sustainability goal

The enterprise disposes of explicit, publicly available sustainability objectives and effective means of implementation and verification, as well as of identification and proactive addressing of major sustainability challenges.

References

OECD Principles of Good Corporate Governance (OECD, 2004), the UN Principles for Responsible Investment and the UN Global Compact (UNGC/IFC, 2009).

Resources

G3.1 Guidelines

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
G1 Governance structure	**Corporate ethics**	The enterprise has an explicitly and publicly stated business purpose, as well as a Code of Conduct, both of which are binding for management and employees, and the values and ethical guidelines of which are in line with sustainable development.	**Existence of a publicly accessible mission statement including social, economic and environmental objectives of the enterprise and existence of a binding Code of Conduct providing guidance concerning rules, information flow, sanctions and other important sustainability issues of the sector(s), supply chain(s) and region(s).**
			Use of binding procedures and/or instruments (e.g. risk management, environmental impact assessment) to identify and address sustainability objectives and challenges within the realm of influence of the entity, in compliance with agreed international standards if available.
			Indicator of your own choice
	Due diligence	Prior to decisions with potential major and long-term sustainability impact, due diligence procedures are undertaken and relevant results made accessible to affected stakeholders in adequate form.	**Existence of policies or practices that ensure due diligence, risk assessment, or ex-ante impact assessment on economic, environmental, social and governance issues were undertaken, and ensure that results are shared with affected stakeholders in adequate form.**
			Indicator of your own choice

Accountability (G2)

Definition

In SAFA, accountability is disclosure of credible information about strategy, goals, standards and performance to those who base their actions and decisions on this information. SAFA sub-themes include holistic audits and responsibility.

Relevance of Accountability

Shareholders, contractors, consumers, communities and other stakeholders may have to take decisions based on information disclosed by the enterprise. Accountability includes aspects to ensure such information is complete, correct and accessible. The accountability concept is enhanced in SAFA to cover the disclosure of information about financial, environmental and social performance (the dimensions of the "triple bottom line" approach) and, where possible and relevant, its governance performance. This theme further integrates the implementation of due diligence procedures, as these go beyond the reporting of activities and performance.

The success of an enterprise can be affected by the stakeholders' view of its credibility, transparency and performance. Perceptions of an enterprise's integrity and accountability are affected by how performance with respect to the economic, environmental and social dimensions of sustainability is communicated. Consumers as well may prefer products of respectable companies, and shareholders and investors increasingly tend to put their money in operations of which they are convinced that all potential risks are thoroughly managed (G100, 2003).

There is increased awareness that an active and holistic management of accountability, Holistic reporting requires the collection, evaluation and comprehensive compilation of performance data.

The agriculture and food sector is at the nexus of the biosphere and the human economy and can thus be considered a custodian of land, crops, animals and other resources. Its products are directly used or consumed by everybody. This causes a high sensitivity of the public to actions and developments in this sector that impact on people and environment. Transparency and credibility are important success factors in food and agriculture sector and SAFA addresses the account-giving relationship.

Sustainability goal

The enterprise assumes full responsibility for its business behaviour and regularly, transparently and publicly reports on its sustainability performance.

References

OECD Principles of Good Corporate Governance (OECD, 2004), the UN Global Compact (UNGC/IFC, 2009).

Resources

G3.1 Guidelines, AA1000 Principles Standard (AccountAbility, 2008), SA8000 standard (SAI, 2008)

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
G2 Accountability	**Holistic audits**	All sustainability-related business areas are regularly reviewed in accordance with recognized sustainability reporting systems.	**Existence of publicly available information about regularly updated economic, social and environmental performance (e.g. CSR, CSV, triple bottom line reporting).**
			Existence and accessibility to independent auditors of complete, correct data and records required for sustainability auditing and reporting.
			Documentation of public meetings or cooperative inspections, and/or community or peer evaluation of the entity's operation and performance on sustainability indicators.
			Indicator of your own choice
	Responsibility	Senior management regularly and explicitly evaluates the enterprise performance against the Code of Conduct and/or corporate ethics.	**Clear definitions of mandates, responsibilities and accountability regarding sustainable performance applied at all levels of management and clearly incorporated into job descriptions and regular evaluations of employee and department performance.**
			Existence of procedures and/or instruments to evaluate the Code of Conduct or mission statement and improve its implementation, including resolving areas of deviation from the mission.
			Demonstrated regular assessment of corporate ethics amongst the most senior level of management at the enterprise.
			Evidence that responsibility is taken for mistakes, and appropriate actions are taken to resolve conflicts in case of a deviation from corporate ethics.
			Indicator of your own choice

Participation(G3)

Definition

Participation refers to the need for outreach to, and ensuring the potential for involvement of, interested parties, in particular those who are materially affected.[2] this includes the ability to actively take part in decision-making. This theme includes the sub-themes Stakeholder dialogue; Grievance procedures; Conflict resolution.

Relevance of Participation

In the context of SAFA, participation denotes stakeholder participation in the widest sense. As with the issue of sustainable development, many different stakeholders who may be affected by business activities come into focus.

A stakeholder is any group or individual who can affect, or is affected by, the actions of the enterprise (Freeman, 1984). One needs to distinguish powerful stakeholders who "can affect" from stakeholders with little or no influence who "are affected by" decisions. Particularly concerning the second group, a wide interpretation of the term “stakeholder” should be followed, covering local communities, consumers, farmers and fishers, future generations and the living environment.

Where there is a large imbalance e.g. of market power between stakeholders, the weaker side should be empowered such that it can effectively participate in the dialogue. If a misuse of power occurs or stakeholders are harmed by actions of an enterprise, adequate grievance procedures must be in place to ensure that remedy and restoration are provided (see “Rule of law”).

The agriculture and food sector is one of the largest sectors in terms of th number of people working in, dependent upon and affected. While identifying, informing and empowering stakeholders is highly relevant, also due to the importance of transparency and credibility in food chains (see “Accountability”), it is also a major challenge. Enterprises in the value chain will have to cooperate with each other to ensure correct and comprehensive stakeholder information and participation. This offers the advantage of enhanced transparency of the chain and of improved, systematic knowledge of the chain(s) of which the enterprise forms part. Even in smallholdings, at the level of rural households and among producers, participation is essential to share knowledge and take fair decisions regarding the use of family or community resources (see “Equity”).

Sustainability goal

All stakeholders substantially affected by the enterprise’s activities are identified, empowered and invited to share decision-making on activities impacting their lives and having major environmental impacts.

References

OECD Principles of Good Corporate Governance (OECD, 2004), ILO Conventions 87 and 98 (employee participation), section III of Agenda 21 (UN, 1992), UN FPIC, national laws and certification programs

Resources

G3.1 Guidelines

[2] ISEAL FAO Framework 2010, no reference

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
G3 Participation	**Stakeholder dialogue**	In decision-making processes, potentially affected stakeholders, including those unable to claim their rights are proactively identified, informed, and considered.	**Existence of a procedure or practice completed regularly by the operation to identify and define stakeholders in a fair and comprehensive way.**
			Stakeholders with whom the enterprise is in dialogue or contact are identified and their claims are duly considered in decision-making.
			Existence of multi-stakeholder forum or advisory group.
			Decisions on disputed subjects are thoroughly justified and explained to affected stakeholders.
			Indicator of your own choice
	Grievance procedures	All stakeholders have access to appropriate grievance procedures without a risk of negative consequences.	**Ability of all stakeholders to access formal, mutually recognized grievance procedures that are spelled out in personnel policies.**
			Existence and utilization of procedures or instruments ensuring that there is no risk of negative consequences for complaining persons or groups.
			Operation includes reference to its grievance procedures in contracts and/or agreements with suppliers, and does not require binding arbitration.
			Indicator of your own choice
	Conflict resolution	Conflicts of stakeholder interests are resolved through appropriate direct or mediated dialogue based on respect, mutual understanding, fair conflict resolution and equal power.	**Existence and utilization of procedures or instruments (e.g. mediators) ensuring that conflict solution is dialogue-based (not power-based).**
			Disputed subjects are addressed in a dialogue-based solution-finding process led by an independent party or individual that is, mutually agreed to by those involved in the conflict.
			Indicator of your own choice

Rule of law (G4)

Definition

The United Nations defines the Rule of Law as a principle of governance by which all persons and entities are "accountable to laws that are publicly promulgated, equally enforced and independently adjudicated". In the simplest terms, it is compliance with legislation. In SAFA, the ROL is considered in a business context, its main central aim being the protection of the individual and group rights of all (Ehm, 2010). The SAFA sub-themes covered include: Commitment to fairness, legitimacy and transparency; Remedy, restoration and prevention; Co-responsibility; Resource appropriation.

Relevance of the subject

The rule of law (ROL) is a concept important to modern legal systems and international agreements. These laws have to be consistent with international human rights standards (UN, 2004). Among the key elements then is accountability before the law, legal certainty and legal transparency.

An enterprise committed to the ROL will only conduct business that can be considered legitimate in the light of the moral rights of all humans, as expressed e.g. in the Universal Declaration of Human Rights (UN, 1948). Businesses must respect and avoid being complicit in human rights violations by the state, even if they are formally legal under applicable national law. Enterprises with a large sphere of influence and impact should not only respect the ROL in their own operations, but require business partners to do the same.

In the context of agriculture, there are several important element; (i) equitable **access** to and legal certainty over natural **resources** on which agriculture depends, (ii) stakeholder **participation** in **decisions** affecting natural resource use and access, (iii) the presence of complaints and disputes **mechanisms** to monitor, enforce and **ensure** access to **justice** and (iv) the legal empowerment of stakeholders.

Enterprises in food and agriculture operate in a variability of legal frameworks, with different degrees of legal certainty and recognition of a universal ROL. Where states and judiciaries are weak, unclear or illegitimate situations can evolve, for example concerning ownership of and access to land, clean water and other resources. This applies in particular to remote rural regions, where law enforcement tends to be particularly difficult. Major imbalances between market players (see "Governance structure") can further contribute to situations where "might makes right".

Sustainability goal

The enterprise is uncompromisingly committed to fairness, legitimacy and protection of the Rule of Law, including the explicit rejection of extortion, corruption and of the use of resources that are under legal dispute, whose use contradicts international agreements or which is considered illegitimate by affected stakeholders.

References

BSCI Code of Conduct (BSCI, 2009), the UN Global Compact (UNGC, 2010), national legislation and international standards

Resources

G3.1 Guidelines, UNHRC "Protect, respect and remedy" framework

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
G4 Rule of law	**Commitment fairness, legitimacy and transparency**	Legality of operations and compliance with national and international laws, including human rights, and with voluntary responsible business standards are given absolute priority over profit opportunities; actions that violate the Rule of Law are renounced.	**The operation is not involved in national and international law infringements or human rights abuses.**
			The operation is thoroughly transparent and clear in purchasing practices with suppliers, including engaging in open negotiation of contracts, disclosure of costs of doing business during price negotiations and not limiting suppliers rights to share information in their contract with third parties.
			Existence of a written commitment to legality and to compliance with national and international laws, including the explicit mentioning of not committing or being complicit in human rights violation, in the company's internal business practice and codes.
			The operation is thoroughly transparent and clear in employment practices; personnel policies are provided to employees in a language they are able to read, or presented verbally in a language they are able to speak.
			Indicator of your own choice
	Remedy, restoration and prevention	In case of infringements, effective remedy is provided and adequate actions for restoration and prevention are taken.	**Existence of mechanisms for adequate remedy, restoration and also for prevention in case of infringements of national and international law.**
			Indicator of your own choice
	Co-Responsibility	Within its sphere of influence, the enterprise does not seek to escape strict laws on social and environmental aspects (e.g. by relocating facilities), but supports the improvement of the regulatory framework on all dimensions of sustainability.	**Existence of a statement in the Code of Conduct that requires compliance with the strictest set of environmental and social laws in case the operation has multiple locations where different laws apply.**
			The operation engages in activities and initiatives to improve the regulatory framework on sustainability at the local, national and/or international level.
			Indicator of your own choice
	Resource appropriation	Operations do not involve any use of water, land, biodiversity and other resources under legal or legitimate dispute, and are carried out with due diligence and respect for existing claims and access and use arrangements with local stakeholders.	**Stakeholders' formal or informal claims, user agreements or formal and customary access arrangements over natural resources are respected.**
			Existence of a written protocol that excludes ownership of any operation involving the use of natural resources under legal or legitimate dispute.
			Indicator of your own choice

Holistic management (G5)

Definition

In SAFA, holistic management (often termed sustainability management) is understood as management that aims at the continuous improvement of environmental integrity, economic resilience, social well-being and good governance, with the ultimate goal of operations being fully in line with a sustainable development of society.

Relevance of the subject

The topic of holistic management is a relatively new one and thus not treated in detail by international agreements or recommendations. Some international sustainability reporting standards are aligned or have equivalencies with international norms and reference documents, for example the Global Reporting Initiative.

In business, a successful management of sustainability performance is achieved if the management of environmental, social and governance issues is in line with increased competitiveness and economic performance. The triple bottom line or the triangle of "people, planet and profit" is frequently used to illustrate this. One particular challenge to sustainability management is finding appropriate ways of dealing with trade-offs between sustainability goals. Holistic management is about striking a balance between short- and long-term interests, economic, social and environmental concerns, stakeholders and shareholders. An appropriate Code of Conduct (see "Governance structure") provides guidance on how to deal with trade-offs.

Enterprises operating in the food and agriculture sector can have effects external to their business- on the environment (e.g. air pollution), social (e.g. training of young people) and economic (e.g. added tax basis with local service providers). In historical accounting, these external effects are neither accounted for nor considered in economic decisions. So the neither rewarded for positive impacts, or pays for negative impacts. More recently, it is recognized that the consideration of such external effects in decision-making and accounting is a cornerstone of sustainable development. Full-cost accounting is an integral part of holistic management that is particularly important in the agricultural sector, where production intensively interacts with the natural environment. However, there still is a lack of adequate methods for operationalizing full-cost accounting.

Sustainability goal

Production and procurement are managed, and accounting is done, with equal consideration of all dimensions of sustainability and of the trade-offs and synergies linking them.

References

United Nations Global Compact Management Model (UNGC, 2010). UN Principles for Responsible Investment

Resources

G3.1 Guidelines

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
G5 Holistic management	**Sustainability in management**	A sustainability plan for the enterprise is developed which provides a holistic view of sustainability and considers synergies and trade-offs between dimensions.	**Existence or evidence of practices in place to consider and manage trade-offs and synergies occurring between different sustainability aspects in the operation (e.g. consideration if reduced energy use increases water use).**
			Indicator of your own choice
	Certified production	The certification of products generated or purchased by the enterprise is maximized.	**Production takes place at sites that are certified according to accepted systems for environmental and social management.**
			Ingredients are sourced from certified origins unless commercial unavailability prevents this and/or an alternative sustainable option is substituted.
			Materials (e.g. paper, cork, wood, textile) contained in products, packages and facilities come from certified or recycled sources (e.g. FSC).
			Indicator of your own choice
	Full-cost accounting	Business success is measured taking into account direct and indirect external effects in the social and environment dimensions.	**The operation's accounts and profit measurement practices consider the full costs of external impacts in all sustainability areas.**
			Indicator of your own choice

Atmosphere (E1)

Definition

The envelope of gases surrounding the Earth that operates as an insulating blanket as well as providing water and oxygen to sustain life. Agriculture affects, and is affected by, the atmosphere and any changes. In SAFA, the atmosphere is a critical resource to protect and sub-themes include Greenhouse gases and air pollution.

Relevance of the subject

Priority atmospheric issues include climate change, ozone depletion, acidification and eutrophication, urban air quality and tropospheric ozone. Their impact relates to human health, biodiversity, health of ecosystems, economic damage and global security.

Global warming refers to the rising of average surface temperature, expected as a result of greenhouse gas (GHG) emissions into the atmosphere from human activity. Many of the effects are long-term, global in nature and irreversible, with consequences for future generations.

Agriculture is strongly affected by global warming, as changes in temperature and rainfall patterns and dramatic weather events can impair agricultural activities. Those most vulnerable, rural small holders, women and the poor are predicted to be the most affected, particularly in poor developing regions where people are already vulnerable to food insecurity.

Agriculture activities and the food sector also are major contributors to atmospheric changes from livestock, fertilizers and energy use. Some 20 to 30% of global GHG emissions can be associated with food, while crop and livestock production alone account for 10 to 15 % of global GHG emissions (Bellarby, 2008; EC, 2010). Indirect but significant emissions drivers are the agriculture-driven land use changes.

The resulting decrease of the protective ozone layer causes increased ultraviolet radiation at the earth surface that can damage human health. Terrestrial and marine ecosystems are negatively affected e.g. through reduced photosynthesis.

Sustainability goal

The enterprise's actions contain greenhouse gases as much as possible and do not release quantities of ozone-depleting substances and air pollutants (such as particulate matter, sulphur dioxide, nitrogen oxides, volatile organic compounds and ground-level ozone) that would be detrimental to the health of ecosystems, plants, animals or humans.

References

United Nations Framework Convention on Climate Change (UNFCCC), World Health Organization Air Quality Guidelines www.who.int/phe/health_topics/outdoorair_aqg/en, 1999 Gothenburg Protocol, Vienna Convention, the Montreal Protocol

Resources

G3.1 Guidelines

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
E1 Atmosphere	**Greenhouse gases**	Operations contain greenhouse gas emissions as much as possible.	**Margin for potential reduction in GHG emissions to reach the best achievable target in the region/sector.**
			Reduction of GHG emissions through prevention and mitigation measures (kg of CO_2-eq).
			GHG balance is calculated and GHG intensity of products as compared to similar products produced elsewhere is reduced.
			Share of operations covered by GHG prevention and mitigation measures, including carbon sequestration by soils and vegetation, carbon off-set schemes.
			Indicator of your own choice
	Air pollution	Emissions of ozone-depleting substances, ammonia, NOx, SOx, particles, ground-level ozone, biological pollutants and other air pollutants are minimized.	**Margin for potential emission reduction of air pollutants (ammonia, CO, NOx, SOx, photochemical oxidants, particulate matter, pesticides, microorganisms) to reach the best achievable target in the region/sector.**
			Total emissions of air pollutants (other than GHGs, e.g. ammonia, CO, NO_x, SO_x, photochemical oxidants, particulate matter, pesticides, microorganisms) are contained according to the best achievable target in the region/sector.
			The consumption of ozone-depleting substances (all substances treated in the annexes to the Montreal Protocol) are reduced.
			Operations are covered by substantial air pollutant emissions reduction measures.
			Indicator of your own choice

Freshwater (E2)

Definition

Fresh water is naturally occurring water on the Earth's surface in ice sheets, ice caps, glaciers, bogs, ponds, lakes, rivers and streams, and underground as groundwater in aquifers and underground streams. In SAFA, the sub-themes covered are Water quantity and Water quality.

Relevance of the subject

Approximately 50 countries are currently facing moderate or severe water stress and the number of people suffering from year-round or seasonal water shortages is expected to increase as a result of climate change. One of the main limiting factors of food production to feed our growing populations is water. Agriculture is the single largest user of freshwater on a global basis using a global average of 70% of all surface water supplies according. Water consumption is growing at twice the speed of population growth. Water security is one of the biggest issues driving management decisions according to a recent A.D. Little report “Water Margin”.

Global issues of health, poverty, deforestation, desertification and land use change are all directly associated with water resources and their management.

Freshwater quality is as important as sufficient water quantities. The increase of urbanised areas and the compaction of arable soils by heavy machinery, reduces soil infiltration capacity, resulting in surface runoff, soil erosion and floods. About 20% of the world’s irrigated land is salt-affected, and salt water intrusion is of particular concern to arid and semi-arid regions and small island states. Inappropriate agricultural water use can pollute waterways or cause secondary soil salinization and particularly is affecting areas already affected by land and water scarcity (FAO, 2011). 70% of the pesticide pollution in surface waters is estimated to originate from agriculture.

Even as demand for water by all users grows, groundwater is being depleted, other water ecosystems are becoming polluted and degraded, and developing new sources of water is getting more costly. Water quality and availability are hitting the world’s poorest the hardest. Water plays a pivotal role for sustainable development, including poverty reduction. The use and abuse of and competition for increasingly precious water resources have intensified dramatically over the past decades, reaching a point where water shortages, water quality degradation and aquatic ecosystem destruction are seriously affecting prospects for economic and social development, political stability, as well as ecosystem integrity.

Sustainability goal

Freshwater withdrawal and use do not hinder the functioning of natural water cycles and ecosystems nor contribute to water pollution that would impair the health of human and animal communities.

References

Chapter 18 of Agenda 21, Millennium Development Goal 7 target 7.C; Commission on Sustainable Development 4.3.10 Water Quantity, WSSD Plan of Implementation 25.(d)
World Health Organization Guidelines on water quality
www.who.int/water_sanitation_health/publications/2011/dwq_Guidelines/en/index.html
national and international regulations e.g. Nitrates Directive of the EU

Resources

G3.1 Guidelines
FAO www.fao.org Chapter 1: Introduction to agricultural water pollution.
Global Water Outlook to 2025 Averting an Impending Crisis http://www.ifpri.org/pubs/fpr/fprwater2025.pdf
World Water Council http://www.worldwatercouncil.org/index.php?id=25
D. Little "The Water Margin" www.adlittle.com/watermargin
WBCSD. Global Water Tool www.wbcsd.org/web/watertool.htm

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
E2 Freshwater	**Water quantity**	Surface water management and freshwater withdrawal for operations do not contribute to impairing the functioning of natural water cycles, ecosystems and human communities.	**Margin for potential reduction of water use to reach the best achievable target in the region/sector.**
			Total freshwater use from all sources (tap water, rivers, wells, communal grid; in m^3) is reduced.
			Production sites are not affected by disturbances and disruptions of due to lack of water.
			Indicator of your own choice
	Water quality	No water pollution occurs.	**Margin for potential reduction of emitting water pollutants to reach the best achievable target in the region/sector.**
			The release of NO_3, PO_4, salts, faecal coliforms, plant protection products; BOD, COD (in ppm, dS/m, l of O_2 per l of water) is reduced.
			Avoidance of using pesticides and any other synthetic agriculture, silviculture and fishery inputs, which can potentially have detrimental effects on aquatic ecosystems (also consider metabolites).
			Production sites do not cause wastewater spills.
			Wastewater treatment procedures result in hygienically and ecologically safe effluent quality.
			Indicator of your own choice

Land (E3)

Definition

The part of the Earth not covered by water is land and for the purposes of SAFA is essentially the soil resources. Sub-themes covered in SAFA are Organic matter; Physical structure; Chemical quality; Land degradation and desertification.

Relevance of the subject

Humans use soils to grow food and fodder crops, renewable raw materials and energy. Soils provide ecosystem services including water purification, nutrient cycling, carbon storage and buffer, filter and habitat functions. Yet, land and soil are finite resources.

Soil conservation is set of management strategies for prevention of soil being eroded from the earth's surface or becoming unhealthy from overuse, over irrigation, acidification, or other chemical soil contamination. Agriculture and forestry play a pivotal role in sustainable land use, occupying two thirds of terrestrial surface. Natural fertile soils can hardly be increased, but can easily be destroyed (World Soil Charter, 1981). Given the limited availability of original fertile soils, more than 80% of the required growth of agricultural production until 2050 will have to come from yield enhancement on currently cultivated soils (FAO, 2011). Due to expanding human requirements, fertile land, suitable for primary production of biomass, is a scarce resource. The magnitude of land cover change threatens the stability and resilience of ecosystems, including through its impacts on global warming.

Soil cover is important to prevent erosion, loss of nutrients (reduces productivity), efficient use of water, soil and chemical run off resulting in reduced water quality and desertification. Soil carbon, related to its organic content, is widely accepted as a major factor in its overall health. There exists also the potential of soil as a carbon sink or offset for climate change. Soils are highly complex ecosystems and the single most important production factors for human nutrition. Maintaining and rehabilitating soil health is an absolute imperative. Approximately 40% of agriculture lands are considered degraded due to poor practices including unsuitable land allocation, inappropriate farming and grazing practices and lack or misuse of appropriate technologies. The most important processes (in terms of area) are water erosion, wind erosion, salinization, compaction and chemical pollution (Oldeman et al., 1991; MEA, 2005). Desertification was identified as one of the greatest challenges to sustainable development during the Earth Summit in 1992.

Sustainability goal

No land is lost due to surface sealing or mismanagement of arable lands and pastures, and soil fertility is preserved or enhanced.

References

United Nations Convention to Combat Desertification (UNCCD), Chapter 10 and 14 of Agenda 21, 1982 World Soil Charter www.fao.org/docrep/T0389E/T0389E0b.htm

Resources

UK Dept for Environment, Food and Rural Affairs (DEFRA):
http://www.defra.gov.uk/farm/environment/cogap/
Carbon and soil: IPCC website, Vol 4, Chapter 11 Soils
World Association of Soil and Water Conservation http://www.waswc.org/

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
E3 Land	**Organic matter**	Content and quality of soil organic matter provide the best conditions for plant growth and soil health.	**Soil organic matter in the topsoil exceeds 1%.**
			Indicator of your own choice
	Physical structure	Bulk density and aggregate stability of soil provides the best conditions for plant growth and soil health that are achievable under the given soil and climate conditions.	**Infiltration rate is between 10 and 20 mm of water per hour.**
			Indicator of your own choice
	Chemical quality	Contents of plant nutrients in the soil and soil pH provide the best conditions for plant growth and soil life that are achievable under the given soil and climate conditions; neither chemical nor biological soil pollution occurs.	**Avoidance of application of substances that can cause soil pollution (e.g. heavy metals, PAHs, pesticides, fertilizers and antibiotic residues).**
			Plant-available macro- and micro-nutrient contents in the root zone.
			Soil pH in the root zone do not negatively affect plant growth.
			Indicator of your own choice
	Land degradation and desertification	No soil is lost through sealing, degraded land is rehabilitated and soil erosion does not exceed 10 tons per ha and year.	**Soil erosion is below 10 tons per hectare/year.**
			Net loss or gain of productive land surface (area where productivity was restored minus area lost due to degradation or sealing).
			Existence and implementation of effective soil conservation and/or rehabilitation measures.
			Indicator of your own choice

Biodiversity (E4)

Definition

Biodiversity is the diversity of ecosystems, of species in these ecosystems and of the genome within these species. Agricultural biodiversity encompasses the variety and variability of animals, plants and microorganisms which are necessary to sustain the functions of the agro-ecosystem, its structure and processes for, and in support of, food security. SAFA Biodiversity sub-themes are Habitat diversity; Ecosystem integrity; Wild biodiversity; Agricultural biodiversity; Threatened species.

Relevance of the subject

The protection of biodiversity is essential for humankind, not only because we utilize a great diversity of species but also because healthy ecosystems provide vital services like pollination, pest management, filter functions of soils and the regulation of nutrient cycles. In 1997, the global economic value of ecosystem services was estimated at USD 16 to 54 trillion (Costanza et al., 1997); global GDP then was USD 18 trillion. Measures for the protection of biodiversity and ecosystems pay off, return on investment being estimated to exceed cost by a factor of 10 to 100 (TEEB, 2009). However because the services and costs for impacting them are externalized (see Holistic Management), there has been limited market incentives for the protection of biodiversity.

Human activity is altering ecosystems at unprecedented scales and intensity. Biodiversity is adversely affected by pollution, land degradation, habitat fragmentation and loss, introduction of exotic species, climate change and natural disasters. The overuse of fish resources endangers livelihoods, especially for small-scale fishers in developing countries (FAO, 2010b). The situation in forestry is alarming, too. Net forest area declines by 5.2 million hectares per year (FAO, 2010c). The production of genetically modified crops over large areas is increasingly associated with resistance by weeds to glyphozate (UNEP, 2011), thus compromising the resilience of GM-based production systems. Agriculture, forestry and fisheries dispose of powerful levers to influence biodiversity, such as the allocation of areas to different uses, the choice of species, varieties and breeds, fertilization, harvesting etc. In agricultural landscapes, biodiversity depends on the landscape's richness in biological structures and on the intensity of farming.

Sustainability goal

The areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of all forms of biodiversity.

References

Convention on Biodiversity (CBD), Aichi Biodiversity Targets, Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Bonn Convention on Migratory Birds (CMB), the Cartagena Protocol on Biosafety, the Marine Mammal Action Plan (MMAP), the UN Forum on Forests (UNFF), Nagoya Protocol on Access and Benefit-Sharing, FAO Code of Conduct for Responsible Fisheries

Resources

Millennium Ecosystem Assessment. www.millenniumassessment.org/
WWF Living Planet Report. www.panda.org/news_facts/publications/living_planet_report/index.cfm
IUCN Redlist http://www.iucn.org/
Convention on Biological Convention. http://www.cbd.int/convention/

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
E4 Biodiversity	**Habitat diversity**	The diversity of natural habitats is conserved.	**The diversity and functioning of natural and near-natural habitats is conserved.**
			Indicator of your own choice
	Ecosystem integrity	Operations do not convert primary habitats, and maintain or restore nature conservation areas and natural corridors between them.	**Natural or near-natural ecosystems and habitats are protected from human interventions.**
			Destruction of natural and near-natural habitats is prevented.
			~~P~~roduction is not taking place on areas where natural habitat was destroyed during the last five years.
			Indicator of your own choice
	Wild biodiversity	The diversity of wild varieties, species and populations is maintained and/or supported.	**Wild plant and animal species have not been affected in your sphere of influence.**
			The safe use and storage of toxic substances for plant protection, livestock treatments, cleaning, on widelife is ensured.
			Incidences of the introduction of potentially invasive species is minimized.
			Incidences of by-catch (including non-target fisheries) is minimized.
			Share of utilized area and stocks with certified organic production and area set aside for protection purposes (hedges, riparian corridors).
			Indicator of your own choice
	Agricultural biodiversity	The diversity of used species and their genome (crop varieties, livestock breeds, fish species) is at the optimum level achievable under the given conditions.	**Share of utilized area where crop rotation is in place, and/or several species are used at the same time (diverse pasture, agro-forestry, intercropping, rice-fish systems, integrated crop-livestock production).**
			The genetic diversity of aquaculture/crop/livestock/tree production is enhanced.
			Share of utilized area and stocks with certified organic production.
			Indicator of your own choice
	Threatened species	Operations contribute to the protection of threatened and vulnerable species and populations, both used and wild.	**The population trend of wild species and domesticated plant varieties and animal breeds recognized as deserving protection (e.g. under national programmes) within the sphere of influence have not deteriorated.**
			Measures taken to improve state of threatened and vulnerable wild species and trend of their population.
			Existence of a written policy promoting the purchase of marine products from known, uncontroversial sources.
			Percentage of products that come from labelled sources (e.g. MSC, organic, FSC)

Materials and energy (E5)

Definition

Materials and energy in SAFA refer to the material input into an economy delivered by the natural environment, the transformation and use of that input in economic processes (extraction, conversion, manufacturing, consumption) and its return to the natural environment as residuals or wastes[3]. The SAFA sub-themes are Non-renewable resources; Energy supply; Eco-efficiency; Waste reduction and disposal

Relevance of the subject

The flows of materials into, within and out of the human economy have reached unprecedented levels. Unsustainable consumption and production patterns fuel material consumption, energy use and waste generation. For example, 30% of foods produced are not consumed, meaning the inputs made to its production are wasted as well. To date, physical scarcity has not been a major constraint to the global availability of most materials. The large quantity of global waste poses great challenges with regard to recycling and disposal. Improper transport of hazardous waste, especially its export to countries with insufficient national regulations on waste treatment, poses serious threats to humans and ecosystems. Sustainable management of these flows is a key component of the green economy concept (UNEP, 2011), which rests on the twin pillars of efficient resource utilization and circular material flows (recycling and reuse).

Global energy use is by many accounts the most damaging activity on the planet. Its many adverse impacts degrade air, water, and soil quality, human and ecological health. Current energy comes primarily from the burning of fossil fuels such as coal, oil and natural gas. This burning produces a number of by-products, mostly which go into the air as pollution, effecting people's health and damaging soil and crops, freshwaters and streams, ecosystems and accelerate corrosion of buildings and building materials.

Substantial cuts in the consumption of fossil fuels and associated CO2 emissions are necessary in order to avoid further temperature increases and the associated impacts of climate change. With population growth, industrialization and urbanization trends, demand is rising. Challenges to sustainable energy use include geological (limited stocks of fossil fuels), biological (limited productivity of vegetation), economic (cost of renewables) and social (limited acceptance of renewables) limitations. The two main strategies to slow down the growth and impact of burning fossil fuels are: (i) energy efficiency – through technology and eliminating waste. Estimates are that the world could halve the growth of energy demand simply through energy efficiencies; (ii) use more renewable/alternative fuels. Renewable fuels are those that are continuously available and sustainable in our environment and emissions neutral like wind, solar, geothermal, hydropower and biomass.

Sustainability goal

Damage to ecosystems and resource scarcity resulting from non-renewable material extraction, non-renewable energy use and waste disposal are minimised through economical and efficient use, consequent re-use and recycling, and safe disposal.

References

[3] modified OECD Glossary of Statistical terms

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (UNEP, 1992)

Resources

Redefining Progress http://www.rprogress.org/energyfootprint/
Energy and the MDGs http://www.undp.org/energy/engmdgtop.htm

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
E5 Materials and energy	**Non-renewable resources**	The use of non-renewable resources is minimized.	**Renewable material use (by weight, volume, value) is maximized.**
			Materials (raw materials, associated process materials, semi-manufactured goods) are not made from materials that are rare (static range of few decades) or cannot be substituted.
			Indicator of your own choice
	Energy supply	The energy used in operations is entirely based on renewable energy sources and carriers.	**Renewable energy sources in total energy use is maximized and their use do not degrade ecosystems.**
			Energy use is monitored and efficiency is optimized.
			Indicator of your own choice
	Eco-efficiency	Reuse and recycling rates are maximized.	**Materials are made from recycled materials.**
			Packaging is either bio-degradable or properly recycled.
			Indicator of your own choice
	Waste reduction and disposal	Unproductive losses of produce and waste generation is at the minimum achievable and all wastes are disposed of in a way that does not threaten the health of ecosystems.	**Margin for potential reduction of waste generation to reach the best achievable target in the region/sector.**
			Waste generation (hazardous and non-hazardous) is reduced.
			Waste is properly disposed of (segregation followed by re-use/recycling/composting/recovery).
			Food loss and waste is avoided.
			The unnecessary use of waste classified as “hazardous” (by Basel Convention, Annexes I through IV) is avoided.

Animal welfare(E6)

Definition

Animal welfare is the physical and psychological well-being of animals.[4] SAFA sub-themes include Freedom from stress; Species-appropriate conditions.

Relevance of the subject

The farm animal production sector is the single largest human user of land, contributing to soil degradation, water quality and availability issues, and air pollution, in addition to detrimentally impacting rural and urban communities, public health, and animal welfare. It is one of the key drivers of deforestation in the tropics. The scope of this sector's global impacts has been largely underestimated. Meat, egg, and milk production are not just the direct rearing and slaughtering of farm animals. Rather, the animal agriculture sector encompasses grain and fertilizer production, substantial water use, and significant energy expenditures for transportation of inputs and finished products. Animal agriculture's greatest environmental influence may be its contributions to climate change. According to the FAO, the animal agriculture sector is responsible for 18%, or nearly one-fifth, of human-induced greenhouse gas (GHG) emissions, greater than the share contributed by the transportation sector.

By 2050, global farm animal production is expected to double from present levels, with most of those increases in the developing world. Livestock production under conditions inappropriate for animal welfare and health is a major concern across production systems and geographical regions. Common problems include overstocking, reliance on unadapted breeds, excessive or inadequate use of veterinary medicines, lack of space, light, clean water and adequate fodder, and cruel treatment. Ethical considerations are a major reason to take care of animal welfare. For agronomic reasons as well, they have to be kept such that their well-being is ensured, meaning that animals must be kept in an environmentally unproblematic and species-appropriate way.

During the last decade, many of the developed countries have seen a rapid move toward explicit farm animal welfare standards. In 2005 the World Organization for Animal Health (or OIE) adopted guidelines for the international welfare of domesticated and food animals. In Europe, the process has been led partly by national governments and the European Union which have created mandatory animal welfare standards for most animal-based commodities. In the United States, there are some legal protections against what are considered the worst abuses, but the food service and retail sectors have played a major role, with companies like McDonald's and Burger King creating standards that their suppliers are required to meet. There has also been caused by public shift in perceptions towards animals with demands for standards and safeguards for the care and use of animals in research, trade and production.

Sustainability goal

Animals are kept such that they can express their natural behaviour and are free from hunger, thirst, discomfort, pain, disease and other distress (FAWC 1979).

[4] wikipedia

References

"Universal Declaration of Animal Welfare"
EU and national legislation

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
E6 Animal welfare	**Freedom from stress**	Animals are kept free from hunger and thirst, discomfort, pain, injury and disease, fear and distress.	**Animals have adequate housing conditions (lighting, aeration, noise, space, hygiene and water supply), and they are kept in accordance with all criteria of their body condition and behaviour (e.g. for livestock based on Welfare Quality protocols).**
			The killing of animals is humane i.e. instantly or they are rendered insensible to pain until death supervenes.
			Animals are free from illness and injury.
			Indicator of your own choice
	Species-appropriate conditions	Animals are provided the appropriate conditions that enable them to express their natural behaviour.	**Animals have the possibilities to express normal behaviour (space, bedding, contact with conspecifics).**
			Indicator of your own choice

Investment (C1)

Definition

In SAFA, the term 'investment' is seen from a microeconomic perspective, i.e. it is putting money into something, such as capital goods, human resources or ecosystems, with a view to gain. Investments at the enterprise, community and value chain development are considered. SAFA sub-themes are internal investment; Community investment and Long-ranging investment

Relevance of the subject

Investment is an important factor in sustainable development. Improved production and marketing and transfer of financial resources and knowledge are critical to ensure that economic growth leads to social development, while preserving or enhancing the natural resource base. Decisions about how and where to invest reflect the strategic direction of the enterprise. Financial speculation, another form of investment, today has an enormous importance for the economy, including in the food and agriculture sector. Investments into sustainable development at the community level are important as corporate citizens. Investment in sustainable value chain development is considered as it requires coordinated investment by actors along the chain, with private enterprises having a key role in investing in improved logistics, transportation, post harvest treatment, storage facilities etc. Investment that is solely aimed at public relations (branding, advertisements etc.) does not fall into the scope of this theme.

Sustainable investment aims at supporting a development of the enterprise towards enhanced social, environmental, economic and governance performance. Such investment can for example take the form of research and development expenditures, development and/or acquisition of equipment that reduces polluting emissions to the environment, measures or technologies that enhance buffering capacity against any kind of shocks (e.g. build-up of soil organic matter to better withstand drought spells), and measures directed at capacity building or creating awareness of sustainability in the organisation. Some investment into sustainability may have been done under different titles in the past, for example "lean manufacturing", or "eco-efficiency". A survey by MIT Sloan Management Review and The Boston Consulting Group revealed that "a growing number of companies are now increasing their investments in sustainability"; 59% of respondents said they had increased their commitment to sustainability from 2009 to 2010. As benefits, improved brand reputation (49%), reduced costs due to energy efficiency (28%) and increased competitive advantage (26%) were most frequently cited (Haanaes *et al*., 2011).

Investment in the agriculture and food sector includes investment into agricultural and agro-ecological research, agricultural training, the improvement and utilisation of neglected and underutilised crops, and smallholder agriculture (IAASTD, 2009).

Sustainability goal

Through its investments, the enterprise enhances its sustainability performance and contributes to sustainable development at the community, regional, national or international levels.

References

UN Principles for Responsible Investment, Principles for Responsible Agricultural Investment that Respects Rights, Livelihoods and Resources (2010 FAO, IFAD, UNCTAD and the World Bank Group discussion note)

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
C1 Investment	**Internal investment**	In a continuous, foresighted manner, the enterprise invests into enhancing its sustainability performance.	**Sufficient investment goes into research, capacity-building and infrastructure to improve sustainability performance.**
			Indicator of your own choice
	Community investment	Through its investments, the enterprise contributes to sustainable development of a community.	**Sufficient investment goes into the maintenance or rehabilitation of common goods (soils, water, forests etc.) and into capacity-building at community level (in country of origin or abroad).**
			Indicator of your own choice
	Long-ranging investment	Investments into production facilities, resources, market infrastructure, shares and acquisitions aim at long-term sustainability rather than maximum short-term profit.	**Sufficient investment goes into the long-term maintenance and enhancement of production facilities, market infrastructure.**
			Existence of decision criteria for investing and holding selling shares, facilities etc.
			Indicator of your own choice

Vulnerability (C2)

Definition

Vulnerability in terms of SAFA relate to is the degree of exposure to risk (hazard, shock) and uncertainty, and the capacity of households or individuals to prevent, mitigate or cope with risk[5]. SAFA sub-themes are Stability of supply; Stability of demand; Liquidity and insurance; Employment; Stability of production

Relevance of the subject

The vulnerability of enterprises, value chains and markets to the dynamics of natural and socio-economic environments can be buffered and their resilience enhanced by building and maintaining adaptive capacity. Building resilient social, economic and ecological systems is a key challenge on the way to sustainable development (Folke et al., 2002).

In economic systems, strong dependence on single suppliers and/or buyers due to a dominance of one or few companies, or because only a single product is marketed, can increase the risk of the enterprise is this supplier/buyer or product is gone. Factors that contribute to resilience include a diversity of suppliers of production factors (including capital and labor) and a diversity of income sources. Complementary to diversity, the duration and stability of business relationships are predictors of resilience. Striking a balance between the long-term goal of maintaining the diversity of production and marketing channels needed to maintain resilience on the one hand, and the short-term drive to reduce unit costs on the other, is a major challenge. A third pillar of resilience is a sufficient buffering capacity, in the form of assets, inventory, formal and informal insurance, which can help an enterprise withstand shocks and changes.

Enterprises in the food and agriculture sector operate under very volatile conditions. Market dynamics, weather, political developments and technological progress are out of the control and can be unpredictable. The globalization and growth of markets, as well as climate change, enhance the uncertainty and volatility of economic and environmental conditions (e.g. IPCC, 2007). In today's industrial agro-ecosystems, which rely on a narrow species and genome basis, production can be disrupted if only one or few species substantially suffer stress or loss. While such agro-ecosystems mainly depend on the availability of buffers in the form of energy (fuel), pesticides and financial liquidity, buffering capacity can also be provided by soils with sufficient content and quality organic matter and a good water retention capacity, by a diversity of utilized species, varieties and breeds, and by services provided by intact natural ecosystems, e.g. biological pest control.

Vulnerability and resilience in agriculture and food systems are not internationally regulated. However, measures known to enhance resilience through increased diversity and buffer capacity are defined in international sustainable agriculture and organic standards, as well as for sustainable forestry, fisheries and aquaculture.

Sustainability goal

The enterprise secures the resilience of production, supply and marketing in the face of environmental variability, economic volatility and social change.

[5] OECD Development Assistance Committee (DAC) Network on Poverty Reduction (POVNET)

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
C2 Vulnerability	**Stability of supply**	Stable business relationships are maintained with a sufficient number of input suppliers, and alternative procurement channels are accessible.	**Existence of actual and alternative suppliers.**
			Supplier contracts are stable.
			Dependence on the biggest provider of inputs is minimized.
			Access to and utilization of information systems (related to markets and policies) to find new suppliers is ensured.
			Indicator of your own choice
	Stability of demand	Stable business relationships are maintained with a sufficient number of buyers, income structure is diversified, and alternative marketing channels are accessible.	**Existence of actual and alternative buyers.**
			Buyer contracts are stable.
			Dependence on the biggest buyer is minimized.
			Access to and utilization of information systems (related to markets and policies) to find new buyers is ensured.
			Indicator of your own choice
	Liquidity and insurance	Financial liquidity, access to credits and insurance (formal and informal) against economic, environmental and social risk enable the enterprise to withstand shortfalls in payment.	**Balance of indebtedness and total assets.**
			Existence of a formal and informal safety net that is sufficient to withstand liquidity crises.
			Lender relations are stable.
			Indicator of your own choice
	Employment	Employment conditions are stable.	Personnel have legally recognized work contracts.
			Average duration from announcement to filling of positions.
			Fluctuation rate of personnel (annual percentage of total personnel leaving the enterprise) is below the regional or sectoral average.
			Indicator of your own choice
	Stability of production	Production (quantity and quality) is sufficiently resilient to withstand environmental, social and economic shocks.	**Geographical distribution of production sites in relation with major production risks.**
			Reduction of treatments with synthetic inputs.
			Dependence on a single species or variety of crop, fish, tree, livestock is minimized.
			Incidences of labour unavailability due e.g. to diseases, seasonal out-migration.
			Existence of stocks of inputs, food etc. that are sufficient to withstand crop shortfalls and supply bottlenecks.
			Indicator of your own choice

Product safety and quality (C3)

Definition

In SAFA product safety is defined as the assurance that the food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use (FAO/WHO, 1997). Product quality is "the totality of features and characteristics of a product that bear on its ability to satisfy stated or implied needs."(ISO). SAFA sub-themes are Product information; Traceability; Food safety and Food quality

Relevance of the subject

All people have the right to expect the products they consume, in particular their food, to be safe and suitable for consumption (FAO/WHO, 2003a). Likewise, producers, processors, retailers and consumers have a right to be informed by their suppliers about all attributes of a product relevant for its utilisation. As value chains have become more complex, the number of opportunities for contamination and other quality loss, and for deception concerning origins and quality have increased.

Food can easily be contaminated, for example, through environmental pollution of air, water and soils, the intentional use of chemicals such as pesticides and animal drugs (Campbell, 1992), and microbiological contamination and spoilage. Contaminants may also be present in food as a result of the production, manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food (CAC, 2011). Food quality and safety can be achieved through management systems that are built on good agricultural and manufacturing practices. In addition, systematic preventive approaches such as Hazard analysis and critical control points (HACCP), controlling the flow of food ingredients and products along the entire food chain, as well as through traceability contribute to food safety and quality.

The growing number of food safety problems and consumer concerns has prompted governments all over the world to intensify their efforts to improve food safety (WHO, 2007).

Sustainability goal

Any contamination of produce with potentially harmful substances is avoided, and nutritional quality and traceability of all produce are clearly stated.

Reference

Codex Alimentarius www.who.int/mediacentre/factsheets/fs311/en/index.html
Recommended International Code of practice general principles of food hygiene (FAO/WHO, 2003a)
EU regulation 1333/2008

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
C3 Product safety and quality	**Product information**	Products bear complete information that is correct, by no means misleading, and accessible for consumers and all members of the food chain.	**Products bear complete (including all ingredients, additives, GMOs, nutrition factors), comprehensive, readable and correct labels.**
			Background information on labels is made accessible (e.g. web-based information).
			Indicator of your own choice
	Traceability	Systems and procedures ensure traceability over all stages of the food chain so that products can be easily and correctly identified and recalled.	**Product traceability is guaranteed at all stages of production, processing and distribution.**
			Indicator of your own choice
	Food safety	Food hazards are systematically controlled and any contamination of food with potentially harmful substances is avoided.	**Pesticide residues are kept to an absolute minimum, and the use of known or suspected endocrine disrupting chemicals is avoided.**
			Incidents of chemical and biological food contamination (heavy metals, pesticides and their metabolites, mycotoxins, GMOs) is avoided.
			Production facilities are certified by an independent party concerning food safety management (e.g. HACCP, Good Manufacturing Practice).
			Indicator of your own choice
	Food quality	The quality of food products meets the highest nutritional standards applicable to the respective type of product.	**Food products meet the highest nutritional standards (e.g. low contents of saturated and trans fat, added sugars and added sodium, no food additives).**
			Indicator of your own choice

Local economy (C4)

Definition

Local economy in SAFA is considered from the perspective of the enterprise and the contributions that the enterprise makes to local economic development (LED). SAFA sub-themes are Value creation and Local procurement

Relevance of the subject

In a sustainable economy, the region is not only a place to work, but one where incomes are also spent and invested and where taxes are paid. Local economic development (LED) is a process in which all sectors work together to stimulate local commercial activity. It has been considered a cornerstone of sustainable development (UN Habitat, 2009). A sustainable local economy is diversified and does not simply shift the costs of maintaining its good health onto other regions. LED can thus reduce environmental pressures related to transportation of goods over large distances (Norberg-Hodge & Gorelick, 2002). It adds as much value as possible in the region rather than just exporting raw materials.

LED should foster employment, infrastructural development, as well as a high quality of life (OECD, 2010). Beyond economic growth, it is about providing opportunities for all to obtain decent work at the local level. It can contribute to a region's becoming more resilient to turbulence in the global economy. Rather than opposing globalization, LED strategies aim at strengthening local economies such that they benefit from the exchange with other regions rather than becoming overly fragile and losing their functionality.

In rural areas, farming substantially contributes to LED through value and job creation and the creation and maintenance of infrastructure (FOAG, 2009). This is particularly relevant for a sustainable development of these areas, as over the last 50 years, 800 million people have moved from rural areas to cities and to foreign countries (IFAD/FAO, 2008). This development often goes along with a "brain drain", i.e. a loss of competent, innovative workforce who could otherwise play a positive role for the sustainable development of the region. The lack of investment in agriculture and rural areas, not only by private investors, but also by governments, is among the principal causes of rural poverty and migration into cities (IFAD, 2007). This lack of investment has been identified as an underlying cause of the recent food crisis and of the difficulties developing countries encountered in dealing with it. Enterprises in the food and agriculture sector thus are in a particularly good position to contribute to local economic development in those areas where local value creation is needed the most.

Sustainability goal

Through production, employment, procurement, marketing and investments in infrastructure, the enterprise contributes to sustainable local value creation.

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
C4 Local economy	**Value creation**	Operations benefit local economies through employment and through payment of local taxes.	**Regionally hired workforce and new jobs created in the region.**
			Operation do not avoid tax payments.
			Indicator of your own choice
	Local procurement	Operations substantially benefit local economies through procurement from local suppliers.	**Inputs (that are regionally available) are procured from the region.**
			The turnover (or profit) from short local value chains is maximized.
			Indicator of your own choice

Decent livelihood (S1)

Definition

A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living[6] that meets the basic needs to maintain a safe, decent standard of living within the community and have the ability to save for future needs and goals. SAFA sub-themes are Wage level; Fair trade practises and Capacity building

Relevance of Livelihoods

The Universal Declaration of Human Rights claims that "everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control" (UN, 1948). Livelihood concepts, as reviewed by Hussein (2002), adopt a broader focus than just on the material basis of living. According to Chambers and Conway (1991), a livelihood comprises the capabilities, assets and activities required for a means of living. It is sustainable when it can withstand and recover from stresses and shocks and maintain or improve its capabilities or assets without undermining the natural resource base.

An adequate standard of living is out of the reach for billions of people around the world, particularly for rural populations in developing countries and for vulnerable groups such as women and children. Some 1.4 billion people live in extreme poverty[7] (in 2005) and more than 2.6 billion people lack access to improved sanitation. Food security is no reality for 900 million people estimated to be undernourished. Analyses of the current situation show an aggravation of livelihoods in many places around the world. Indeed, overexploitation of natural resources impairs people's capabilities to cope with stresses and shocks and economic crisis resulting in significant job losses add pressures on livelihoods.

The food and agriculture system plays a pivotal role to provide sustainable livelihoods, as it can provide employment and create value for particularly vulnerable people. For smallholdings and family farms in general, the sustainability of the enterprise and that of the family's livelihood is intertwined, and one cannot be achieved in isolation from the other.

Sustainability goal

The enterprise provides assets, capabilities and activities that increase the livelihood security of all personnel and the local community in which it operates.

Reference

Universal Declaration of Human Rights (UN, 1948), Millennium Development Goal 1, UN Human Rights Council's Right to Food, Human Development Index http://hdr.undp.org/en/statistics

[6] adapted (Chambers & Conway, 1991)

[7] People living on less than 1.25 US$/day PPP (purchasing power parity)

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
S1 Decent livelihood	**Wage level**	All employees earn at least the local living wage.	**Remuneration (lowest wages paid, corrected to account for in-kind payments; including informally employed personnel) is at least as much as local living wage.**
			Payment of total wages must equal a living wage if piece-rate pay is used without affecting ergonomic health or requiring that workers skip breaks.
			A clear policy is in place to limit the gap between the highest and lowest paid employee, inclusive of all workers.
			Indicator of your own choice
	Fair trading practices	All suppliers receive a fair and stable price established through transparent negotiation. Power in trade relationships is balanced, and agreements or contracts are established and based on fair terms.	**Contracts and/or agreements are negotiated between the farmer and the buyer or a third party that is mutually acceptable to both and contain adequate detail to facilitate a clear and fair relationship.**
			Operations acting as buyers have a method in place to ensure that prices received by suppliers cover their costs of production and are paid at an equivalent rate to a living wage.
			Buyers are able to demonstrate a history of prompt and regular payments.
			Buyers favor long-term relationships and contracts are not severed without justification.
			Indicator of your own choice
	Capacity building	Through training and education, all personnel are provided the skills and knowledge necessary to undertake current and future tasks required by the enterprise.	**Workforce benefit from training and education (also informal) during their employment.**
			Training and further education is provided and employees are satisfied with the trainings' quality.
			Indicator of your own choice

Labour rights (S2)

Definition

Labour rights in SAFA are the group of legal rights and claimed human rights having to do with labour relations between workers and their employers, usually obtained under labour and employment law[8]. SAFA sub-themes are Employment; Forced labour; Child labour; Freedom of association and bargaining; and Working hours.

Relevance of the subject

Basic human needs and rights are a framework for human development that has been acclaimed by the vast majority of countries. However, enforcement of international labour standards still represents a major challenge for the sector. Overall, due in particular to its largely informal nature, rural work is seldom covered by national labour legislation, in law and in practice. In some countries and sectors of the economy, human rights violations are a reality, including beatings and violence, the denial of basic freedoms, intimidation and harassment, and even torture and death. The question of how business, particularly multinational enterprises, should deal with human (and thus also labour) rights issues not covered by national law is the subject of intensive debate. The position on the issue adopted in SAFA is that of the UN 'Protect, respect and remedy' framework, proposed by the Special Representative of the Secretary-General on the issue of Human Rights and transnational corporations and other business enterprises (UNHRC, 2011). The 'respect' pillar of the framework addresses business enterprises. They are responsible of respecting human rights wherever their own business activities and those directly linked with their business relationships cause human rights impacts.

Where the principles underlying the international declarations and covenants on human and labour rights have been put into national law, their relevance to the food and agriculture industries is obvious. Many companies in the food and agriculture sector pro-actively recognize their potential to support human rights within their value chains, and also the benefits that arise from doing so. Many international standards and approaches also implemented in the sector address human and labour rights. Human Rights and labour rights are also a central issue in the standards of multi-stakeholder commodity roundtables. As labour rights can be a sensitive topic, for example on family farms, indicator selection and data collection in the context of a SAFA must be done very carefully. For example, it is recommendable to gather evidence from local communities and civil society organisations, including producers' and workers' organisations, as well as from labour inspectors, in addition to interviewing employees directly. Such mechanisms are particularly important in order to track the respect of main international labour standards in the frame of business relationships established (e.g. subcontractors).

Sustainability goal

The enterprise provides regular[9] employment that is fully compliant with national law and international agreements on contractual arrangements, labour and social security.

Reference

International Bill of Human Rights www.ohchr.org/Documents/Publications/FactSheet2Rev.1en.pdf,

[8] wikipedia

[9] „Regular" means that employment should not be precarious, illegal or otherwise illegitimate.

Declaration of Fundamental Principles and Rights at Work (ILO, 1998), UN 'Protect, respect and remedy' framework (UNHRC, 2011)

Resources

SA 8000 (SAI, 2008), the Code of Conduct of the Business Social Compliance Initiative (BSCI, 2009) and the Ethical Trading Initiative

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
S2 Labour rights	**Employment relations**	Operations maintain legally-binding transparent contracts with all employees that are accessible and cover the terms of work. Employment is compliant with national laws on labour and social security.	**Personnel have legally binding work contracts and no precarious employment.**
			Personnel benefit from a contribution of the employer to formal and safe pension and other social security schemes, and they can take paid sick, personal and annual leave.
			Direct hiring practices are clearly favored over the use of labor contractors.
			Written contracts and/or agreements are also developed for interns or apprentices and are based on clear educational objectives.
			Indicator of your own choice
	Forced labour	The enterprise accepts no forced, bonded or involuntary labour, neither in its own operations nor those of business partners.	**Existence of forced, bonded or prisoner labour within the sphere of influence.**
			Indicator of your own choice
	Child labour	The enterprise accepts no child labour that has a potential to harm the physical or mental health or hinder the education of minors, neither in its own operations nor those of business partners.	**Children (0-18 years of age) working at the operation or within the operation's field of influence are able to attend school, do not work more than 40 hours per week, do not work night shifts, and are not involved in hazardous labor.**
			Indicator of your own choice
	Freedom of association and bargaining	All persons in the enterprise can freely execute the rights to (i) form or adhere to an association defending workers' rights and (ii) collectively bargain, without retribution.	**Freedom of association is clearly and explicitly stated as a right of employees in personnel policies; it is also made clear as a right of suppliers, and is stated either in personnel policies or in a Code of Conduct.**
			There is no history of the enterprise exhibiting discrimination or retribution toward an employee, group of employees or supplier or group of suppliers for any organization efforts.
			Workforce adhering to an association defending workers' rights.
			Indicator of your own choice
	Working hours	All persons in the enterprise have enough rest and free time to recover physically and mentally. Overtime is voluntary and fully compensated.	**Compliance of working time arrangements with ILO standards.**
			Overtime policies including statement that overtime is voluntary is clearly written in personnel policies and/or code of conduct and employees demonstrate awareness of this policy.
			Workers have eligible time off for holidays, including those that are culturally significant, sick days and vacation days are paid, and there is a clear policy on maternity and paternity leave.

Equity (S3)

Definition

Equity involves the degree of fairness and inclusiveness with which resources are distributed, opportunities afforded and decisions made. SAFA sub-themes are Non-discrimination; Gender equality and Support to vulnerable people.

Relevance of Equity

Social equity is one of the principal values underlying sustainable development, with all people and their quality of life being recognised as a central issue. Equity involves the degree of fairness and inclusiveness with which resources are distributed, opportunities afforded and decisions made. It includes the provision of comparable opportunities of employment and social services, including education, health and justice. Significant issues related to its achievement include the distribution of productive resources and employment, gender and ethnic inclusiveness, and inter-generational opportunity. As discrimination of women prevails in many places, gender equality is particularly important. Substantially more women live in poverty (829 million) than men (522 million). There is increased recognition of crucial links between poverty eradication, employment and equality (ILO, 2011). Poverty eradication programmes that focus on general income levels only (e.g. by providing income support) frequently miss the underlying causes of vulnerability. For example, schooling levels among poor children can be raised through spending on education, but future income will not increase without policies that effectively address causes of economic vulnerability, such as ethnic, racial and gender discrimination (UN, 2010).

In a business context, implementing the equity concept means that any discrimination of persons or groups on the basis of whatever characteristics must be avoided. This requirement applies to hiring, promotion, job assignment, termination, compensation, working conditions and even harassment, and it pertains to direct as well as indirect forms of discrimination (ILO, 2011). Enterprises are confronted with equity aspects also in their relations with suppliers, contractors, costumers or shareholders. Equity in business relations is a principal pillar of Good Corporate Governance.

In the agriculture and food sector, vulnerable and precarious working conditions are particularly prevalent. The sector employs large numbers of non-salaried family members, in particular women, of workers that have not benefited from professional training, and of seasonal workers, many of them foreigners at the location where they work. The provision of these types of work should on the one hand be recognized as a substantial benefit of the sector to society. On the other hand, it implies a need and responsibility to pay particular attention to equity at work and, on family farms, in the household.

Sustainability goal

The enterprise pursues a strict equity and non-discrimination policy and pro-actively supports vulnerable groups.

References

UN, 1948, Declaration of Human Rights; FAO, 2004, Right to Adequate Food), conventions (e.g. ILO 1951, Equal Remuneration Convention; ILO, 1958, Discrimination (Employment and Occupation)

Convention), Guidelines (e.g. FAO, 2012b, Voluntary Guidelines for the Governance of Tenure, UN Global Compact; ISO 26000, Millennium Development Goal (MDG) 1 and 3

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
S3 Equity	Non-discrimination	A strict equity and non-discrimination policy is pursued towards all stakeholders. Non-discrimination and equal opportunities are explicitly mentioned in the Code of Conduct and adequate means for implementation and evaluation are in place.	**Non-discrimination in hiring, remuneration, access to training, promotion, termination, or retirement.**
			Presence of non-discrimination statement and inclusive list of stakeholders in code of conduct or personnel manual. This policy must cover all workers, permanent and seasonal, documented and undocumented, as well as any hired by labor contractors.
			A clear policy on career advancement is present in the personnel manual.
			There is no wage gap (the % difference between the highest paid employees) between different employee groups doing similar work.
			Assessment of recruitment procedure (e.g. job adverts, short-list, interview, selection criteria list) ensuring that anti-discrimination procedures are implemented.
			Indicator of your own choice
	Gender equality	There is no gender disparity concerning hiring, remuneration, access to resources, education, and career opportunities.	**Non-discrimination of women in hiring, remuneration, access to training, promotion, termination, benefits, or retirement.**
			There is no wage gap (the % difference between the highest paid employees) between men and women doing similar work.
			Indicator of your own choice
	Support to vulnerable people	Vulnerable groups, such as women, minorities and disadvantaged staff are proactively supported.	**Vulnerable personnel have access to trainings and career development programmes and other measures to promote women, handicapped, youth.**
			The operation assesses the needs of employees annually and identifies vulnerable personnel, and assesses policies and programmes in place that support these individuals.
			Vulnerable personnel receive targeted trainings, differentiated by group (e.g. age, sex, race) when cultural differences require.
			Workplaces are appropriately equipped for any disabled personnel.
			Indicator of your own choice

Human health and safety (S4)

Definition

For SAFA human health and safety is the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations (ILO/WHO). SAFA sub-themes are Physical and psycho-social health; Health resources and Food security

Relevance of the subject

Occupational safety and health are of paramount importance for the social sustainability of personnel relations, for the enterprise and for national economies. There is growing evidence that improving healthcare, fighting disease and increasing life expectancy are all essential for supporting economic growth and long-term business success. Neither development nor operations of enterprise can be sustained when a high proportion of the population and the workforce suffers from poor health. A clean environment is important to health and well-being. Protecting and promoting human health requires primary health care – especially in rural areas –, controlling communicable diseases and preventing health hazards originating in the working environment and from diets (see "Product safety and quality").

The health of employees has a direct impact on their productivity at all types of work (Nelson & Prescott, 2008). Worldwide, more than 350,000 work-related fatal accidents and 2 million cases of work-related fatal disease occur each year. The number of non-fatal accidents (causing more than four days absence from work) is estimated to be 1,000 times higher (Al Tuwaijri, 2008). Beside the loss of work performance, the company sustains follow-on expenses for administration, recruitment and efforts for reintegration and due to loss of knowledge. The sustainability of the workplace should be improved by considering health and safety concerns in the physical and psycho-social work environment, including the organization of work and workplace culture, as well as personal health resources in the workplace. Furthermore, participation to improve the health of workers' families and other members of the community is desirable (Burton, 2010).

In the food and agriculture sectors, the occupational security and health situation is characterized by specific hazards and risks, with high numbers of incidences e.g. in agriculture (Toscano, 1997; EWCS, 2007). Straining physical work, exposure to harmful substances (e.g. chemicals, pesticides, dust), work with machines, equipment and animals all can cause health problems. Many enterprises in the sector are small and thus particularly suffer from absences from work. Working hours in the sector are often very long, especially in family enterprises and during the harvesting season, which can be critical for health and safety as well (see "Labour rights").

Sustainability goal

The work environment is safe, hygienic and healthy and caters to the satisfaction of human needs, such as clean water, food, accommodation and sanitary installations.

References

ILO-OSH 2001 Guidelines, www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/publication/wcms_110496.pdf
OHSAS 18000, www.ohsas-18001-occupational-health-and-safety.com
ISO 14000 and ISO 14001

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
S4 Human health and safety	**Physical, psychological and social health**	The enterprise fosters the health, safety and well-being and caters to the satisfaction of human needs (clean water, food, accommodation, sanitary installations etc.), both at the work place and in the local community.	**Work-related accidents and injuries are reduced.**
			Employees have access to potable drinking water and functioning sanitation facilities within a 10-minute walking distance or less during work hours.
			Adequate health and safety trainings are provided to everyone in the operation.
			The operation provides adequate shelter from extreme weather and temperatures for workers while working.
			Personal protective equipment and training and instructions for use are provided free of charge to workers.
			Operations ensure appropriate medical equipment is available for emergencies, and have a transportation and evacuation (if relevant) plan in place for emergencies.
			If housing is provided it is in good condition based on negotiated standards and if rent is charged it is not higher than the regional average for the value of the housing.
			Activities effectively address community health issues (e.g. promoting healthy lifestyles).
			Indicator of your own choice
	Health resources	Personal health resources are provided in the workplace.	**Workers receive health insurance and benefits at least equal to what the owner or employer receives. Benefits are pro-rated for part-time employees also.**
			Activities address the personal health of employees (e.g. sport facilities, smoke-free buildings, healthy food in canteens).
			Indicator of your own choice
	Food security	The enterprise contributes to food security at the local level.	**Operations contribute to the improvement of the economic and physical access of the local population to sufficient, safe and nutritious food.**
			Indicator of your own choice

Cultural diversity (S5)

Definition

Cultural diversity is the quality of different cultures. Cultural identity is composed of ethnicity, language and religion and cultural diversity refers to the innumerable forms taken though the process of acculturation, included but not limited to age, sexual orientation, economic status, spiritual belief and political affiliation. SAFA sub-themes are Indigenous knowledge and Food sovereignty.

Relevance of the subject

Cultural diversity is a common heritage of vital importance for humankind. It is a concept that defies simple definition, with different meanings depending on context (De Guzman et al., 2007). The term "culture" relates to combinations of ethnicity, language and religion characteristics. Awareness of cultural diversity has become relatively commonplace, as a result of the globalization of exchanges and the greater receptiveness of many societies to one another (UNESCO, 2008). However, greater awareness alone does not guarantee the preservation of cultural diversity. Awareness and preservation are all the more important, since culture is a determining factor for the relevance, failure and success of development interventions. Cultural diversity is an asset that has been considered indispensable for reducing poverty and achieving a sustainable development. Understanding this diversity is a prerequisite for development interventions (UNESCO, 2008).

Workplace diversity as well is related to cultural diversity. Changing demographics and an increasingly diverse marketplace are urgent reasons for an increased interest in managing diversity at work. Many employers have come to realise that a diverse work force is not a burden, but a potential strength (Henderson, 1994). Companies providing culturally competent workplaces may gain a sustainable advantage over competitors that are less aware and active in this regard. Cultural competence should therefore become a core value of the organisation. Diversity management has become important for many organisations, companies and governments, and valuing diversity is essential for an effective management of human resources (Pitts, 2006).

One – but not the only – aspect of cultural diversity that is very important in the food and agriculture sector, also in economic terms, is the issue of intellectual rights emanating from traditional, indigenous knowledge for example of species and ecosystems. Particularly rural communities often dispose of a wealth of knowledge and have found ways to use genetic resources that can be commercially utilized to develop food, medicinal and other products. Where genetic resources and associated traditional knowledge are commercially used, this should take place with the prior informed consent of indigenous and local communities. Benefits resulting from the use of genetic resources rightfully held by indigenous and local communities should be shared with those communities (Nagoya Protocol, 2009).

The importance of cultural diversity was recognized in the Universal Declaration on Cultural Diversity, adopted in 2001, which aims to "preserve cultural diversity as a living, and thus renewable, treasure that must not be perceived as being unchanging heritage, but as a process guaranteeing the survival of humanity" (UNESCO, 2001). Concerning indigenous knowledge, the above-mentioned Nagoya Protocol, adopted in 2010 at the Conference of Parties to the Convention on Biological Diversity (CBD), contains access and benefit sharing requirements for the utilisation of traditional and cultural knowledge.

Sustainability goal

The enterprise respects the intellectual property rights of indigenous communities and the rights of all stakeholders to choose their lifestyle, production and consumption choices.

Resources

Universal Declaration on Cultural Diversity, Nagoya Protocol

Sub-themes and indicators

Theme	Sub-theme	Description	Indicators
S5 Cultural diversity	**Indigenous knowledge**	Intellectual property rights related to traditional and cultural knowledge are recognized and communities concerned are remunerated in a fair and equitable way, based on mutually agreed terms.	**Monetary value of benefits related to traditional, cultural and ecosystem knowledge that is shared with communities concerned in a fair and equitable way based on mutually agreed terms.**
			Members of any affected communities confirm that the collaboration with the operation is positive and that their rights are respected.
			Indicator of your own choice
	Food sovereignty	The right of suppliers, employees and clients to pursue their own food production and consumption choices is not compromised.	Stakeholders can freely pursue their own food production and consumption choices.
			Indicator of your own choice

Appendix A
Select Sustainability Tools

Scope of selected sustainability tools as compared to the SAFA landscape

Name (alphabetic order)	Steps of the value chain covered			Sustainability dimensions covered			
	Production	Processing	Retail	Environment	Economy	Governance	Social
4C Association, Code of Conduct (version 1.2)	X			x	x	x	x
Committee On Sustainability Assessment (COSA)	X			x	x		x
FLO-Cert Generic Fairtrade Standards (2011 versions)	X	x	x	x	x	x	x
GlobalG.A.P. control points and major musts (version 4.0)	X			x	x	x	x
Global Reporting Initiative (GRI) G3.1 Guidelines	X	x	x	x	x	x	x
Global Social Compliance Programme (GSCP) Reference Tools (2011 versions)	X	x	x	x		x	x
IFOAM Basic standards for organic production and processing (2005 version)	X	x		x		x	x
International Labour Organisation, Core Conventions	X	x	x				x
Life Cycle Assessment (ISO 14040, ISO 14044)	X	x	x	x			
OECD Environmental Indicators	X	x	x	x			
Response-Inducing Sustainability Evaluation (RISE, version 2.0)	X			x	x		x
SAI Platform Sustainability Performance Assessment (SPA; April 2012 draft)	X			x	(x)[10]		(x)
Roundtable on Sustainable Biofuels, Impact assessment Guidelines (version 2.0)	X	x		x	x	x	x
SAM Sustainability Investing, Corporate sustainability assessment questionnaire	X	x	x	x	x	x	x
Sustainable Agriculture Network, Standards for Sustainable Agriculture (2010 version)	X			x	x	x	x
Unilever Sustainable Agriculture Code (2010 version)	X			x		x	x
Wal-Mart Sustainability Index	X	x		x		x	

Explanatory notes: sustainability dimensions are interpreted in accordance with the SAFA thematic scope (for details, see part C of the Guidelines). “x” indicates that at least single, but not necessarily all, aspects of this dimension are taken into account in the approach.

[10] Farm financial stability and occupational health and safety are not yet considered in SPA (April 2012), but inclusion is intended for future versions.

Compliance with the rules and standards of such schemes often means that for part of the SAFA themes, performance data already exist. Examples of relevant systems include:

- Quality or risk management, for example according to ISO 9001, EFQM and HACCP .
- Environmental management, for example according to ISO 14001 and EMAS.
- Compliance with voluntary social and economic standards, such as FLO, BSCI and SA 8000.
- Compliance with legal standards, such as the national implementation of the EU Cross Compliance scheme or the Swiss Proof of Ecological Performance.
- Participation in voluntary production standards, such as those of FSC, MSC, organic agriculture, GlobalG.A.P., Rainforest Alliance (SAN), 4C, RSB, RSPO, RTRS and many others.
- Corporate social responsibility, creating shared value or similar reporting, according to the Guidelines and goals set by e.g. GRI, GSCP and UN Global Compact.
- A recent analysis with a science-based method, such as LCA, Water Footprinting, Carbon Footprinting, RISE, COSA, IDEA or AgBalance.

Appendix B
Key Abbreviations

4C	Common Code for the Coffee Community
B2B	business-to-business
B2C	business-to-consumer
BLIHR	Business Leaders Initiative on Human Rights
BSCI	Business Social Compliance Initiative
CBD	Convention on Biological Diversity
CoC	Code of Conduct
COSA	Committee on Sustainability Assessment
CSR	Corporate Social Responsibility
CSV	Creating Shared Value
EFQM	European Foundation for Quality Management
EMAS	Eco-Management and Audit Scheme
FAO	Food and Agriculture Organization of the United Nations
FLO	Fairtrade Labelling Organizations International
FSC	Forest Stewardship Council
GCG	Good Corporate Governance
GDP	Gross Domestic Product
GEA	Greening the Economy with Agriculture
GHG	Greenhouse Gas
GlobalG.A.P.	Global Good Agricultural Practice
GRI	Global Reporting Initiative
GSCP	Global Social Compliance Programme
HACCP	Hazard Analysis Critical Control Points
IDEA	Indicateurs de Durabilité des Exploitations Agricoles
IISD	International Institute for Sustainable Development
ILO	International Labour Organization
ISEAL Alliance	International Social and Environmental Accreditation and Labelling Alliance
ISO	International Organization for Standardization
LCA	Life-Cycle Assessment
MSC	Marine Stewardship Council
OECD	Organisation for Economic Co-Operation and Development
PCR	Product category rules
RISE	Response-Inducing Sustainability Evaluation
ROL	Rule of Law
RSB	Roundtable on Sustainable Biofuels
RSPO	Roundtable on Sustainable Palm Oil
RTRS	Roundtable on Responsible Soy

SAFA	Sustainability Assessment of Food and Agriculture systems
SAI Platform	Sustainable Agriculture Initiative Platform
SAN	Sustainable Agriculture Network
SME	Small and Medium Enterprises
UNCED	United Nations Conference on Environment and Development
UNCSD	United Nations Conference on Sustainable Development
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNGC	United Nations Global Compact
WBCSD	World Business Council for Sustainable Development
WCED	World Commission on Environment and Development
WEF	World Economic Forum
WHO	World Health Organization

Appendix C
Glossary

Agricultural biodiversity: agricultural biodiversity encompasses the variety and variability of animals, plants and microorganisms which are necessary to sustain the functions of the agro-ecosystem, its structure and processes for, and in support of, food production and food security.

Areas of high biodiversity value: habitats recognised for important biodiversity features by governmental or non-governmental organisations, or through a biodiversity assessment. This includes, but is not restricted to, areas protected by law.

Audit: a systematic and functionally independent examination to determine whether activities and related results comply with planned objectives (CAC, 1995).

Auditor: individual or group of individuals, belonging to an organisation, or a natural or legal person external to that organisation, acting on behalf of that organisation, carrying out an assessment of the sustainability management system in place and determining conformity with the organisation's sustainability policy and programme, including compliance with the applicable requirements relating to sustainability (modified after EC, 2009).

Benchmark*:* in SAFA, benchmarks are values, with which the performance of an enterprise in an indicator domain is compared to facilitate a rating of sustainability performance. Regional and/or sectoral averages, as well as defined average (standard) and best practice values can be used as benchmarks.

Best practice: similar to "leading practices", as defined by GSCP (2010); proactive identification, development and adoption of the latest technology, techniques or practices that contribute to a better sustainability performance.

Biodiversity: the diversity within species, between species and of ecosystems, including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are part[11].

CSR reporting: most common type of sustainability reporting. Regular communication of information on economic, social, environmental and governance performance to shareholders, stakeholders and the general public. Other types of sustainability reporting include CSV reporting and triple bottom line reporting.

Cut-off criteria: specification of the amount of material or energy flow, or the level of environmental significance, associated with unit processes or product system to be excluded from a study (ISO, 2009).

Due diligence: identification, prevention and mitigation of the actual and potential adverse impacts of an enterprise's activities; integral part of business decision-making and risk management systems (OECD, 2011).

[11] Convention on Biological Diversity: www.cbd.int

Food and agriculture systems: in the context of the SAFA Guidelines, systems that serve the production and marketing of goods that originate from agriculture, forestry or fisheries.

Food security: food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. The pillars of food security are availability, access, utilisation and stability (FAO, 1996).

Full-cost accounting: in SAFA, the collection and presentation of information about the direct and indirect economic, environmental and social costs of operations (Triple Bottom Line, "true cost accounting").

Gender: social, economic and cultural roles and relations between women and men. Gender takes into account the different responsibilities of women and men in a culture or location, and in different population groups (FAO, 1997).

Generic: "characteristic of, or relating to, a class or group of things; not specific"(Oxford Dictionary). Here, the term refers to the meaning in mathematics, where properties are shared by almost all objects of a certain type. The SAFA Guidelines provide principles, processes and themes that should apply to (almost) all sustainability assessments in the food and agriculture sector.

***Good corporate governance*:** the political system of an enterprise. It defines the rights of stakeholders, provides the separation of powers between management and supervisory board, and seeks to insure responsible leadership in all dimensions of the organisation (Maak & Ulrich, 2007).

Governance: the process of decision-making and the process by which decisions are implemented (UNESCAP, 2009).

***Greening the Economy with Agriculture (GEA*):** refers to ensuring the right to adequate food, as well as food and nutrition security (see above) and contributing to the quality of rural livelihoods, while efficiently managing natural resources and improving resilience and equity throughout the food supply chain, taking into account countries' individual circumstances (FAO Council, 2011).

Impact: primary and secondary long-term effects directly or indirectly produced by an intervention (OECD, 2002).

Indicator: quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect the changes connected to an intervention, or to help assess performance (adapted after OECD, 2002).

Livelihood: capabilities, assets (both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, and maintain or enhance its capabilities or assets while not undermining the natural resource base (Chambers & Conway, 1991).

Living wage: a wage ensuring for a person and his/her family an existence worthy of human dignity, and supplemented by other means of social protection (UN 1948, Article 23.3). It ensures a standard of living adequate for the health and well-being, including food, clothing, housing, medical care, necessary social services and the right to security (UN, 1948, Article 25.1).

Marketing: is holding for sale or displaying for sale, offering for sale, selling, delivering or placing on the market in any other form (CAC, 1999).

Performance: degree to which an intervention or an entity operates according to specific criteria, standards and Guidelines, or achieves results in accordance with stated goals or plans (OECD, 2002).

Product*:* any goods or service (ISO, 2009). For the purpose of SAFA, goods based on materials produced through agricultural, forestry or fisheries activities during the production and processing of food, agricultural commodities or animal feeds.

Preparation: the operations of slaughtering, processing, preserving and packaging of food and agricultural products and also alterations made to the labelling concerning the presentation of the production method (CAC, 1999).

Production*:* the operations undertaken to supply food and agricultural products in the state in which they occur on the farm, including initial packaging and labelling of the product (CAC, 1999).

Rare species*:* species listed as vulnerable, endangered or critically endangered on the IUCN[12] Red List, or found to be vulnerable or endangered by scientific sources or a field study.

Regional/local: regions can be defined based on homogeneity and functionality, both in relation with the activities whose sustainability is assessed. There is no single definition of the perimeter (in km) that can be used for distinguishing regional from supra-regional.

Renewable energy: energy derived from natural processes, such as sunlight and wind, replenished at a higher rate than they are consumed; for example solar, wind, geothermal, hydro, and biomass[13].

Resilience: the ability to resist disturbance and return to an equilibrium after perturbations (equilibrium resilience); ability to absorb or accommodate shocks before the system changes (Holling & Meffe, 1996).

Sphere of influence: geographical area where an enterprise can show its power and influence in the decisions with other enterprises/organizations/groups.

Site: distinct geographic location under the management control of an organisation covering activities, products and services, including all infrastructure, equipment and materials (EC, 2009).

Soil degradation: reduction in the capacity of a soil to provide ecosystem goods and services, and to support agricultural and forestry production. Soil degradation can be caused by a variety of processes[14].

Sustainability management*:* environmental and social management and corporate governance, in conjunction with financial management. Processes or structures that an organisation uses to meet its sustainability goals and objectives while transforming inputs into a product or service (modified after UNEPFI, 2006).

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12 International Union for Conservation of Nature and Natural Resources: www.iucnredlist.org

13 International Energy Agency Glossary of terms: www.iea.org/glossary/glossary_R.asp

14 FAO glossary of Land and Water Terms: www.fao.org/landandwater/glossary

***Sustainable**:* the capacity to sustain, or maintain. There are numerous definitions of sustainability but all converge on the need to reconcile environmental, social and economic demands for present and future generations.

Sustainable agriculture and rural development (SARD): management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such sustainable development (in the agriculture, forestry, and fisheries sectors) conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable (FAO, 1989).

Sustainable development: development processes that protect the natural resource base and ecosystem functions, enhance economic resilience and promote human rights and well-being in a manner that preserves future generations' ability to secure their needs.

Triple Bottom Line: The triple bottom line is a business approach to full-cost accounting that refers to three pillars: people (social), planet (environmental) and profit (economic).

Value chain: a mechanism that allows producers, processors, buyers, and sellers – separated by time and space – to gradually add value to products and services, as they pass from one link in the chain to the next until reaching the final consumer. The main actors in a value chain are suppliers, producers, processors, marketers and buyers. They are supported by a range of private and public technical, business and financial service providers. In a value chain, the various business activities in the different segments become connected and to some degree coordinated (UNIDO, 2011).

Well-being: the state of being or doing well in life; healthy, or prosperous condition; moral or physical welfare (of a person or community).

Appendix D
References

4C Association. 2009. *The 4C Code of Conduct. Common Code for the Coffee Community Association* (available at www.4c-coffeeassociation.org/downloads/about4c/4CDoc_001a_CodeofConduct_v1.2_en.pdf).

AccountAbility. 2008. *AA100 AccountAbility Principles Standard 2008.* AccountAbility, New York (available at www.accountability.org/about-us/publications/aa1000.html).

Al-Tuwaijri, S. *et al*. 2008. *Beyond death and injuries: The ILO's role in promoting safe and healthy jobs. XVIII World Congress on Safety and Health at Work*, June 2008, Seoul, Korea – Introductory report. International Labour Organization, Geneva.

Bellarby, J., Foereid, B., Hastings, A. & Smith, P. 2008. *Cool Farming: Climate Change Impacts of Agriculture and Mitigation Potential* (available at www.greenpeace.org/international/en/publications/reports/cool-farming-full-report).

Beuchelt, T. & Zeller, M. 2011. *Profits and poverty: Certification's troubled link for Nicaragua's organic and fair-trade coffee producers*. Ecological Economics 70: 1316-1324.

BGR. 2006. *Deutsche Bundesanstalt für Geowissenschaften und Rohstoffe. Jahresbericht 2006* (in German). Hanover, Germany.

BHF. 2008. *Protecting children from unhealthy food marketing*. British Heart Foundation, London (available at www.childrensfoodcampaign.net/BHFnonbroadcastreport.pdf).

Blackman, A. & Rivera, J. 2011. *Producer-level benefits of sustainability certification*. Conservation Biology 25: 1176-1185.

BLIHR. 2009. *Policy Report 4. Business Leaders Initiative on Human Rights* (available at www.blihr.org/Legacy/Downloads/BLIHR Report 2009.pdf).

Blumenthal, U. & Peasey, A. 2002. *Critical review of epidemiological evidence of the health effects of wastewater and excreta use in agriculture*. Unpublished document prepared for WHO (available upon request), World Health Organization, Geneva.

Boxall, A., Kolpin, B., Soerensen, B. & Tolls, J. 2003. *Are veterinary medicines causing environmental risks? Environmental Science and Technology*. August 1, 2003: 286-294

BSCI. 2009. Code of Conduct. Business Social Compliance Initiative. Foreign Trade Initiative, Brussels (available at www.bsci-intl.org/resources/code-of-conduct).

Burton, J. 2010. *WHO Healthy Workplace Framework and Model: Background and supporting literature and practices*. World Health Organization, Geneva (available at www.who.int/occupational_health/healthy_workplaces_background_original.pdf).

CAC. 1995. *Principles for food import and export inspection and certification*. Codex Alimentarius Commission. GL 20 (available at www.codexalimentarius.net/download/standards/37/CXG_020e.pdf).

CAC. 1999. *Guidelines for the production, processing, labelling and marketing of organically produced foods*. Codex Alimentarius Commission. GL 32 (available at www.codexalimentarius.net/download/standards/360/cxg_032e.pdf).

CAC. 2009. *Guidelines for Organically Produced Foods*. Second Editin. Joint FAO/WHO Food Standards Programme. Codex Alimentarius Commission. GL 32 – 1999, Rev. 1 – 2001.

Carney, D., Drinkwater, M., Rusinow, T., Neejes, K., Wanmali, S. & Singh, N. 1999. *Livelihoods approaches compared.* London: Department for International Development DFID (available at www.livelihoods.org/info/docs/lacv3.pdf).

Campbell, C. 1992. *Contaminants in the food system: The consumers' response*. Proc. Nutr. Soc. Aust. 17: 33-35 (available at http://apjcn.nhri.org.tw/server/apjcn/ProcNutSoc/1990-1999/1992/1992%2033-35.pdf).

CBD. 2010. *Global Biodiversity Outlook 3. Secretariat of the Convention on Biological Diversity*. Montréal, Canada.

Chambers, R. & Conway, G. 1991. *Sustainable Rural Livelihoods: Practical Concepts for the 21st Century* (available at http://opendocs.ids.ac.uk/opendocs/bitstream/handle/123456789/775/Dp296.pdf?sequence=1).

Commission on Sustainable Development. 2001. *Indicators of Sustainable Development: Guidelines and Methodologies*. Second Edition. UN, NY, September 2001.

Costanza, R. *et al.* 1997. *The value of the World's ecosystem services and natural capital*. Nature 387: 253-260.

Crews, T.W. & Peoples, M.B. 2004. *Legume versus fertilizer sources of nitrogen: ecological tradeoffs and human needs*. Agriculture, Ecosystems and Environment 102: 279-297.

Daly, H.E. 1990. *Toward some operational principles of sustainable development*. Ecological Economics 2: 1-6.

De Guzman, M., Hill-Menson, T. & Greve, V.L. 2007. *Promoting cultural understanding and developing cultural competence*. University of Nebraska HE Form 575. Participant Manual (available at www.extension.unl.edu/c/document_library/get_file?folderId=221677&name=DLFE-3223.pdf)

DFID. 1999. *Sustainable livelihoods guidance sheets*. Department for International Development, London (available at www.eldis.org/vfile/upload/1/document/0901/section2.pdf).

Doane, D. & MacGillivray, A. 2001. *Economic Sustainability. The business of staying in business*. New Economics Foundation, London (available at http://projectsigma.co.uk/RnDStreams/RD_economic_sustain.pdf).

EC. 2008. *Regulation (EC) No. 1333/2008 of the European Parliament and of the Council on food additives*. European Council, Brussels (available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:354:0016:0033:en:PDF)

EC. 2009. *Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme* (EMAS). European Council, Brussels (available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:342:0001:01:EN:HTML).

EC. 2010. *Agriculture and climate change*. European Commission (available at http://ec.europa.eu/agriculture/climate_change/index_en.htm).

ECOSOC. 2000. *Integrated planning and management of land resources. Report of the Secretary-General*. UN Economic and Social Council. United Nations, New York (available at www.un.org/documents/ecosoc/cn17/2000/ecn172000-6.htm).

Ehm, F. 2010. *The rule of law: concept, guiding principle and framework. Report to the European Commission for Democracy through Law* (Venice Commission) (available at www.venice.coe.int/docs/2010/CDL-UDT(2010)022-e.pdf).

ERDF. 2010. *European Regional Development Fund 2007-2013* (available at http://europa.eu/legislation_summaries/agriculture/general_framework/g24234_en.htm).

Erwin, P.M. 2010. *Corporate Codes of Conduct: the effects of Code content and quality on ethical performance.* Journal of Business Ethics 99: 535-548.

European Advisory Service. 2004. *The Introduction of mandatory nutrition labeling in the European Union*. Impact assessment undertaken for the Directorate-General for Health and Consumers of the European Commission (available at http://ec.europa.eu/food/food/labellingnutrition/nutritionlabel/impact_assessment.pdf).

EWCS. 2007. *Fourth European Working Conditions Survey*. (European Foundation for the Improvement of Living and Working Conditions) (Ed.), Luxemburg (available at www.eurofound.europa.eu/pubdocs/2006/98/en/2/ef0698en.pdf).

Fairtrade International. 2011a. *Generic Fairtrade. Trade Standard*. Fairtrade Labelling Organizations International e.V., Bonn, Germany (available at www.fairtrade.net/standards.0.html).

Fairtrade International. 2011b. *Generic Fairtrade Standard for Contract Production*. Fairtrade Labelling Organizations International e.V., Bonn, Germany (available at www.fairtrade.net/standards.0.html).

Fairtrade International. 2011c. *Generic Fairtrade Standard for Hired Labour*. Fairtrade Labelling Organizations International e.V., Bonn, Germany (available at www.fairtrade.net/standards.0.html).

Fairtrade International. 2011d. *Generic Fairtrade Standard for Small Producer Organizations*. Fairtrade Labelling Organizations International e.V., Bonn, Germany (available at www.fairtrade.net/standards.0.html).

Falkenmark M. 1997. *Meeting Water Requirements of an Expanding World Population*. In DJ Greenland, PJ Gregory, PH Nye: Land Resources: *On the Edge of the Malthusian Precipice?* CAB International, Wallingford, UK.

FAO. 1989. *Sustainable development and natural resources management*. Twenty-Fifth Conference, Paper C 89/2 - Sup. 2. Food and Agriculture Organization of the United Nations, Rome.

FAO. 1995. FAO Trainer's Manual, Vol. 1. *Sustainability issues in agricultural and rural development policies*. Food and Agriculture Organization of the United Nations, Rome.

FAO. 1996. *Rome Declaration on World Food Security and World Food Summit Plan of Action*. World Food Summit 13-17 November 1996. Rome.

FAO. 1997. *Gender: the key to sustainability and food security*. SD Dimensions, May 1997 (available at ftp://ftp.fao.org/docrep/fao/005/y3969e/y3969e00.pdf).

FAO. 2004. *Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security.* Food and Agriculture Organization of the United Nations, Rome (available at http://www.fao.org/righttofood/en/highlight_51596en.html)

FAO. 2001. *Lecture notes of the major soils of the World*. Food and Agriculture Organization of the United Nations, Rome.

FAO. 2006a. *Livestock's long shadow. Environmental issues and options*. Food and Agriculture Organization of the United Nations, Rome (available at ftp.fao.org/docrep/fao/010/a0701e/a0701e00.pdf)

FAO. 2006b. Food Security, FAO Policy Brief, Issue 2, June 2006**.** Food and Agriculture Organization of the United Nations , Rome (available at ftp://ftp.fao.org/es/esa/policybriefs/pb_02.pdf)

FAO. 2010a. *State of Food Insecurity in the World*. 2010 Report. Food and Agriculture Organization of the United Nations, Rome (available at www.fao.org/publications/sofi/en).

FAO. 2010b. *The State of World Fisheries and Aquaculture*. Food and Agriculture Organization of the United Nations, Rome (available at www.fao.org/docrep/013/i1820e/i1820e00.htm

FAO. 2010c. *Global Forest Resources Assessment 2010*. Food and Agriculture Organization of the United Nations, Rome (available at www.fao.org/docrep/013/i1757e/i1757e.pdf).

FAO. 2011. *The State of the World's Land and Water Resources for Food and Agriculture*. Managing systems at risk. Food and Agriculture Organization of the United Nations, Rome (available at http://www.fao.org/nr/solaw/solaw-home/en/).

FAO. 2012a. *Greening the Economy with Agriculture* (available at http://www.fao.org/docrep/015/i2745e/i2745e00.pdf).

FAO. 2012b. *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security* (available at http://www.fao.org/nr/tenure/voluntary-Guidelines/en/)

FAO Council. 2011. *Greening the Economy with Agriculture* (available at www.fao.org/docrep/015/i2745e/i2745e00.pdf)

FAO/WHO. 2003a. *Recommended International Code of practice general principles of food hygiene*. Food and Agriculture Organisation of the United Nations, Rome (available at www.mhlw.go.jp/english/topics/importedfoods/guideline/dl/04.pdf).

FAO/WHO. 2003b. *Expert report on diet, nutrition and prevention of chronic diseases*. Food and Agriculture Organisation of the United Nations, Rome (available at www.who.int/mediacentre/news/releases/2003/pr32/en).

FAOSTAT. 2010/2011/2012. *FAOSTAT-Agriculture Database* (available at http://faostat.fao.org/default.aspx).

FAWC. 1979. *The five freedoms. Farm Animal Welfare Council of Great Britain* (available at www.fawc.org.uk).

FOAG. 2009. *Swiss agriculture on the move: The New Agriculture Act. Ten years on*. Federal Office of Agriculture of Switzerland (available at www.blw.admin.ch/aktuell/index.html?lang=en&download=NHzLpZeg7t,lnp6I0NTU042l2Z6ln1ad1IZn4Z2qZpnO2Yuq2Z6gpJCEdIJ9gGym162epYbg2c_JjKbNoKSn6A--).

Folke, C., Carpenter, S., Elmqvist, T., Gunderson, L., Holling, CS. & Walker, B. 2002. *Resilience and sustainable development: building adaptive capacity in a world of transformations.* Ambio 31: 437-440.

Freeman, R.E. 1984. *Strategic Management. A Stakeholder Approach*. Cambridge University Press, Boston.

FSC. 1996. *FSC International Standard. FSC Principles and Criteria for Forest Stewardship.* Forest Stewardship Council A.C., Bonn, Germany (available at www.fsc.org/fileadmin/web-data/public/document_center/international_FSC_policies/standards/FSC_STD_01_001_V4_0_EN_FSC_Principles_and_Criteria.pdf).

G100. 2003. *Sustainability: A guide to triple bottom line reporting*. Group of 100 Incorporated. Melbourne, Australia (available at www.group100.com.au/publications/G100_guide-tbl-reporting2003.pdf).

GA. 2012. Accelerating progress towards the Millennium Development Goals: options for sustained and inclusive growth and issues for advancing the United Nations development agenda beyond 2015. Annual report of the Secretary-General. A/67/257. Sixty-seventh session of the General Assembly (available at http://www.un.org/en/development/desa/policy/untaskteam_undf/sgreport.pdf.

GfaW. 2012. *Certified Sustainable Economics. Standard for certification of sustainable business management.* Gesellschaft für angewandte Wirtschaftsethik. Version 01/2012. Bad Sooden-Allendorf, Germany (available at http://angewandte-wirtschaftsethik.org/wp-content/uploads/2011/09/en-final-Certified-Sustainable-Economics-Standard.pdf).

GlobalG.A.P. 2011a. *Control points and compliance criteria. Integrated farm assurance. All farm base.* Version 4.0. GlobalG.A.P. c/o FoodPlus GmbH, Cologne (available at www.globalgap.org/cms/front_content.php?idcat=3).

GlobalG.A.P. 2011b. *Control points and compliance criteria. Integrated farm assurance. Crops base.* Version 4.0. GlobalG.A.P. c/o FoodPlus GmbH, Cologne (available at www.globalgap.org/cms/front_content.php?idcat=3).

GlobalG.A.P. 2011c. *Control points and compliance criteria. Integrated farm assurance. Livestock base.* Version 4.0. GlobalG.A.P. c/o FoodPlus GmbH, Cologne (available at www.globalgap.org/cms/front_content.php?idcat=3).

Grenz, J., Thalmann, C., Schoch, M. & Stämpfli, A. 2011. *RISE 2.0 Field Manual*. Bern University of Applied Sciences, Zollikofen, Switzerland.

GRI. 2011a. *Sustainability Reporting Guidelines.* Version 3.1. Global Reporting Initiative, Amsterdam (available at https://www.globalreporting.org/Pages/default.aspx).

GRI. 2011b. *Sustainability Reporting Guidelines.* Version 3.1. Food Processing Sector Supplement. Global Reporting Initiative, Amsterdam (available at www.globalreporting.org/ReportingFramework/SectorSupplements/FoodProcessing).

GSCP. 2010. *Reference Tools of the Global Social Compliance Programme.* Issy-les-Moulineaux, France (available at www.gscpnet.com/working-plan.html).

GWP. 2000. Towards water security: a framework for action. Global Water Partnership, Stockholm (available at www.gwptoolbox.org/images/stories/Docs/water security_2000_doc_78_en.pdf

Haanaes, K., Arthur, S., Balagopal, B., Kong, M.T., Reeves, M., Velken, I., Hopkins, M.S. & Kruschwitz, N. 2011. *Sustainability: the 'embracers' seize advantage. Findings from the 2010 Sustainability & Innovation Global Executive Study and Research Project*. MIT Sloan Management Review and The Boston Consulting Group (available at http://c0426007.cdn2.cloudfiles.rackspacecloud.com/MIT-SMR-BCG-sustainability-the-embracers-seize-advantage-2011.pdf).

Helmholtz-Zentrum. 2007. *Antibiotika und Antibiotikaresistenzen (in German).* FLUGS-Fachinformationsdienst. Helmholtz-Zentrum, München.

Henderson, G. 1994. *Cultural diversity in the workplace: issues and strategies.* Praeger, Westport (CT).

Hill, C. & Jones. G. 2007. *Strategic management theory: an integrated approach.* Houghton Mifflin Company, Boston.

HLPE. 2011. *Land tenure and international investments in agriculture. A report by the High Level Panel of Experts on Food Security and Nutrition*. Committee on World Food Security, Rome (available at www.fao.org/fileadmin/user_upload/hlpe/hlpe_documents/HLPE-Land-tenure-and-international-investments-in-agriculture-2011.pdf).

Holling, C.S. & Meffe, G.K. 1996. *Command and control and the pathology of natural resource management.* Conservation Biology 10: 328-337.

Hussein, K. 2002. *Livelihood approaches compared: A multi-agency review of current practice*. Commissioned by the UK Department for International Development's (DFID's) Sustainable Livelihoods Support Office (SLSO). London: Overseas Development Institute (available at www.eldis.org/vfile/upload/1/document/0812/LAC.pdf).

IAASTD. 2009. *International Assessment of Agricultural Knowledge, Science and Technology for Development.* www.agassessment.org

IEA. 2009. *World Energy Outlook*. International Energy Agency, Paris (available at www.iea.org/textbase/npsum/weo2009sum.pdf).

IFAD. 2007. *Lack of investment in agriculture is driving massive migration from rural areas.* International Fund for Agricultural Development, Governing Council meeting 2007. Rome (available at www.ifad.org/media/press/2007/15.htm).

IFAD/FAO. 2008. *International migration, remittances and rural development*. International Fund for Agricultural Development, Rome (available at www.ifad.org/pub/remittances/migration.pdf).

IFOAM. 2007. *The IFOAM Basic Standards for Organic Production and Processing (version 2005)*. International Foundation for Organic Agriculture Movements, Bonn, Germany (available at www.ifoam.org/about_ifoam/standards/norms.html).

IFPRI. 2009. *When speculation matters*. IFPRI issue brief 57, February 2009. International Food Policy Research Institute (available at www.ifpri.org/sites/default/files/publications/ib57.pdf).

IISD. 2009. *Bellagio STAMP: SusTainability Assessment and Measurement Principles*. International Institute for Sustainable Development, Winnipeg.

ILO. 1951.*Equal Remuneration Convention. C100.* International Labour Organization, Geneva (available at www.ilo.org/ilolex/cgi-lex/convde.pl?C100)

ILO. 1958.*Discrimination (Employment and Occupation) Convention. C111.* International Labour Organization, Geneva (available at www.ilo.org/ilolex/cgi-lex/convde.pl?C111)

ILO. 1998. *ILO Declaration on Fundamental Principles and Rights at Work*. International Labour Organization, Geneva (available at www.ilo.org/declaration/lang--en/index.htm).

ILO. 2011. *Equality at work: the continuing challenge.* Report of International Labour Conference, 100th session, 1 (B). International Labour Organization, Geneva (available at www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_166583.pdf).

ILO. 2012. *Boosting local economies*. International Labour Organization, Geneva (available at www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---led/documents/publication/wcms_175521.pdf).

IPCC. 2007. *Climate Change 2007: Synthesis Report*. Intergovernmental Panel on Climate Change, Geneva (available at www.ipcc.ch/publications_and_data/ar4/syr/en/contents.html).

ISEAL Alliance. 2010. *Assessing the impacts of environmental and social standards systems*. ISEAL Code of Good Practice, version 1.0. ISEAL Alliance, London (available at www.isealalliance.org/resources/p041-impacts-code-of-good-practice).

Isenring, R. 2010. *Pesticides and the loss of biodiversity.* Pesticide Action Network Report. Pesticide Action Network Europe, London (available at http://www.pan-europe.info/Resources/Briefings/Pesticides_and_the_loss_of_biodiversity.pdf).

ISO 14025. 2006. *Environmental labels and declarations – Type III environmental declarations – principles and procedures.* International Organization for Standardization, Geneva.

ISO 14040. 2009. *Environmental management – Life cycle assessment – Principles and framework (ISO 14040:2006)*. German and English version, November 2009. Deutsches Institut für Normung e.V., Berlin.

IWMI. 2007. *Water for food, water for life: A comprehensive assessment of water management in agriculture*. London: Earthscan, and Colombo: International Water Management Institute. 645 pp.

Jörissen, J., Kopfmüller, J. & Brandl, V. 1999. *Ein integratives Konzept nachhaltiger Entwicklung* (in German). Wissenschaftliche Berichte FZKA 6393. Forschungszentrum Karlsruhe, Germany

Loew, T. & Braun, S. 2006. *Organisatorische Umsetzung von CSR. Vom Umweltmanagement zur Sustainable Corporate Governance*. Institute 4 Sustainability, Berlin & future e.V., München (available at www.4sustainability.org/downloads/Loew_Braun_2006_Organisatorische_Umsetzung_von_CSR.pdf).

Maak, T. & Ulrich, P. 2007. *Integre Unternehmensführung. Ethisches Orientierungswissen für die Wirtschaftspraxis* (in German). Schäefer Poeschel Verlag, Stuttgart, Germany.

McCann, K.S. 2000. *The diversity-stability debate*. Nature 405: 228-233.

McInroy, N. & Longlands, S. 2010. *Productive local economies creating resilient places*. Centre for Local Economic Strategies, Manchester, UK (available at www.cles.org.uk/wp-content/uploads/2011/01/Resilience-for-web1.pdf).

MEA. 2005. *Ecosystems and Human Well-being: Synthesis*. Millennium Ecosystem Assessment. (available at www.maweb.org/en/index.aspx).

MSC. 2010. *MSC Fisheries Standard. Principles and Criteria for Sustainable Fishing*. Marine Stewardship Council (available at www.msc.org/about-us/standards/standards/msc-environmental-standard).

Nagoya Protocol. 2009. *Nagoya Protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilization to the convention on biological diversity* (available at www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf).

Nelson, J. & Prescott, D. 2008. *Business and the Millennium Development Goals: A Framework for Action* (2nd edition) (available at www-dev.iblf.org/docs/BMDG_final_w.pdf).

Norberg-Hodge, H. & Gorelick, S. 2002. *Think Global... Eat Local*. The Ecologist (UK) 32(7): 28-31 (available at www.rightlivelihood.org/fileadmin/Files/PDF/Literature_Recipients/Ladakh/Norberg-Hodge_-_Think_Globally.pdf).

OECD. 2002. *Glossary of key terms in evaluation and results based management.* Organisation for Economic Co-Operation and Development, Paris.

OECD. 2003. *OECD Environmental Indicators. Development, measurement and use.* Reference paper. Organisation for Economic Co-Operation and Development, Paris (available at www.oecd.org/document/28/0,3746,en_2649_33793_39681244_1_1_1_1,00.html).

OECD. 2004. *Principles of Good Corporate Governance*. OECD, Paris.

OECD. 2010. *Local development benefits from staging global events: Achieving the local development legacy from 2012*. Organisation for Economic Co-operation and development. Department of communities and local government. Paris (available at www.oecd.org/dataoecd/57/61/46207013.pdf).

OECD. 2011. *OECD Guidelines for multinational enterprises*. 2011 Edition. Organisation for Economic Co-Operation and Development (available at www.oecd.org/dataoecd/43/29/48004323.pdf).

OECD/IEA. 2008. *Towards a sustainable energy future*. International Energy Agency, Paris (available at www.iea.org/G8/2008/G8_Towards_Sustainable_Future.pdf).

Oldeman, L.R., Hakkeling, R.T.A.& Sombrock W.G. 1991. *Global Assessment of Soil Degradation - GLASOD. World map of the status of human-induced soil degradation*. ISRIC, Wageningen and UNEP, Nairobi.

PENN Behavioral Health. 2008. *Developing cultural competency at work: How organizations can benefit from opportunities provided by a multi-cultural staff*. University of Pennsylvania, Philadephia (PA) (available at www.pennbehavioralhealth.org/documents/cultural_competency.pdf).

Pfister, S., Koehler, A. & Hellweg, S. 2009. *Assessing the Environmental Impacts of Freshwater Consumption in LCA*. Environ. Sci. Technol., 43: 4098-4104.

Pimm, S.L. & Raven, P. 2000. *Extinction by numbers*. Nature Volume 403: 843-845

Pinter, L., Hardi, P., Martinuzzi, A. & Hall, J. 2011. *Bellaggio STAMP: Principles for sustainability assessment and measurement*. Ecological Indicators 17: 20-28.

Pitts, D. 2006. *Implementation of Diversity Management Programs in Public Organizations: Lessons from Policy Implementation Research*. Georgia State University, Department of Public Administration and Urban Studies Fiscal Research Center. Working Paper 6-17. Atlanta (GA) (available at http://aysps.gsu.edu/pitts_implementationdiversity.pdf).

Porter, T. 2008. *Managerial applications of corporate social responsibility and systems thinking for achieving sustainability outcomes*. Systems Research and Behavioral Science 25: 397-411.

Rockström *et al.*, 2009. *A safe operating space for humanity*. Nature 461: 472-475.

RSB. 2010. *RSB Principles & Criteria for Sustainable Biofuel Production*. Roundtable on Sustainable Biofuels, Lausanne, Switzerland (available at http://rsb.epfl.ch/page-67254-en.html).

RSB. 2011a. *RSB Conservation Impact Assessment Guidelines.* Roundtable on Sustainable Biofuels, Lausanne , Switzerland (available at http://rsb.epfl.ch/page-67254-en.html).

RSB. 2011b. *RSB Social Impact Assessment (SIA) Guidelines.* Roundtable on Sustainable Biofuels, Lausanne , Switzerland (available at http://rsb.epfl.ch/page-67254-en.html).

SAI Platform. 2008. *Social accountability 8000. SAI Standard SA8000*. Social Accountability International.

SAI Platform. 2012. Sustainability performance assessment of farming practices. Guidelines for developers of quantitative monitoring tools. Version 1.0 (available at www.saiplatform.org).

SAM. 2011. SAM Research Corporate Sustainability Assessment Questionnaire. SAM Group Holding AG, Zürich, Switzerland (available at www.sam-group.com/images/sample-questionnaire_tcm794-267819.pdf).

SAN. 2010a. *Sustainable Agriculture Standard*. Sustainable Agriculture Network. San José, Costa Rica (available at http://sanstandards.org/sitio).

SAN. 2010b. *Standard for Sustainable Cattle Production Systems*. Sustainable Agriculture Network. San José, Costa Rica (available at http://sanstandards.org/sitio).

SAN. 2011a. *Group Certification Standard (version 2)*. Sustainable Agriculture Network. San José, Costa Rica (available at http://sanstandards.org/sitio).

SAN. 2011b. *SAN Climate Module. Criteria for mitigation and adaptation to climate change*. Sustainable Agriculture Network. San José, Costa Rica (available at http://sanstandards.org/sitio).

Schaltegger, S. *et al.*, 2003. *Managing and measuring the business case for sustainability. Capturing the Relationship between Sustainability Performance, Business Competitiveness and Economic Performance* (available at www.greenleaf-publishing.com/content/pdfs/bcsintro.pdf).

Stoob, K., Schmitt, H. & Wanner, M. 2005. *Antibiotikaeinsatz in der Landwirtschaft – Folgen für die Umwelt* (in German). EAWAG News 59d. EAWAG, Dübendorf, Switzerland.

Taylor, M.B., Zandvliet, L. & Forouhar, M. 2009. *Due diligence for human rights: a risk-based approach*. Working Paper No. 53. Corporate Social Responsibility Initiative, Harvard University (available at www.hks.harvard.edu/m-rcbg/CSRI/publications/workingpaper_53_taylor_etal.pdf).

TEEB. 2009. *The Economics of Ecosystems and Biodiversity for National and International Policy Makers. Summary: Responding to the Value of Nature 2009* (available at www.teebweb.org).

Toscano, G. 1997. Brief: *Dangerous jobs*. In Bureau of Labor Statistics. Compensation and Working Conditions, Summer, 57–60.

Ulrich, P. 2008. *Integrative economic ethics: foundations of a civilized market economy.* Cambridge University Press.

UN, 1948. *Universal Declaration of Human Rights*. United Nations, Geneva (available at www.un.org/en/documents/udhr).

UN. 1966a. *International Covenant on Economic, Social and Cultural Rights*. United Nations Organization, New York.

UN. 1966b. *International Covenant on Civil and Political Rights*. United Nations Organization, New York.

UN. 1992. *Agenda 21. The United Nation's Programme of Action from Rio*. UN, New York (available at www.un.org/esa/dsd/agenda21).

UN. 2004. *The rule of law and transitional justice in conflict and post-conflict societies.* Report of the Secretary-General. United Nations Security Council (available at www.unrol.org/files/2004 report.pdf).

UN. 2007. *Indicators of Sustainable Development: Guidelines and Methodologies – Third edition*. Methodology sheets. United Nations Publications, New York (available at www.un.org/esa/sustdev/natlinfo/indicators/Guidelines.pdf).

UN. 2010. *Retooling global development*. World Economic and Social Survey 2010. United Nations, Department of Economic and Social Affairs, New York (available at www.un.org/esa/policy/wess/wess2010files/wess2010.pdf).

UN. 2011. *The Millennium Development Goals Report 2011*. United Nations, New York (available at www.un.org/millenniumgoals/11_MDG Report_EN.pdf).

UNDP. 2011. *Sustainability and Equity: A Better Future for All*. 2011 Human Development Report. United Nations Development Programme, New York (available at http://hdr.undp.org/en/reports/global/hdr2011).

UNECE. 2007. Guidance Document on Control Techniques for Preventing and Abating Emissions of Ammonia. United Nations Economic Commission for Europe (available at www.unece.org/env/documents/2007/eb/wg5/WGSR40/ece.eb.air.wg.5.2007.13.e.pdf)

UNEP. 1992. *Basel Convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal.* United Nations Environment Programme (available at www.basel.int/Portals/4/Basel Convention/docs/text/BaselConventionText-e.pdf).

UNEP. 2011. *Towards a Green Economy. Pathways to sustainable development and poverty eradication*. United Nations Environment Programme (available at www.unep.org/greeneconomy).

UNEPFI. 2006. *Sustainability management and reporting. Benefits for financial institutions in developing and emerging economies.* UNEP Finance Initiative Sustainability Management and Reporting Project. UNEP, Geneva.

UNESCAP. 2009. *What is Good Governance?* United Nations Economic and Social Commission for Asia and the Pacific, Bangkok.

UNESCO. 2001. *UNESCO Universal declaration on cultural diversity* (available at http://unesdoc.unesco.org/images/0012/001271/127160m.pdf).

UNESCO. 2003. *1st UN World Water Development Report: Water for People, Water for Life*. Paris, New York and Oxford. UNESCO (United Nations Educational, Scientific and Cultural Organization) and Berghahn Books.

UNESCO. 2008. *UNESCO and cultural diversity* (available at www.unescobkk.org/culture/cultural-diversity/cultural-diversity-programming-lens/unesco-and-cultural-diversity).

UNESCO. 2009. Water in a Changing World. The United Nations World Water Development Report 3. UJESCO Publishing, Paris, and Earthscan, London (available at www.unesco.org/water/wwap/wwdr/wwdr3/pdf/WWDR3_Water_in_a_Changing_World.pdf)

UNGC. 2010. *United Nations Global Compact Management Model. Framework for Implementation*. United Nations Global Compact, New York (available at www.unglobalcompact.org/docs/news_events/9.1_news_archives/2010_06_17/UN_Global_Compact_Management_Model.pdf).

UNGC/IFC. 2009. *Corporate Governance. The foundation for corporate citizenship and sustainable business*. United Nations Global Compact / International Finance Corporation. New York & Washington D.C. (available at www.unglobalcompact.org/docs/issues_doc/Corporate_Governance/Corporate_Governance_IFC_UNGC.pdf).

UN Habitat. 2009. *Promoting Local Economic Development through Strategic Planning. Volume 5: Trainer's Guide.* United Nations Human Settlements Programme, Nairobi (available at www.unhabitat.org/pmss/listItemDetails.aspx?publicationID=1922).

UNHRC. 2008. Report of the Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises. Addendum. *Corporations and human rights: a survey of the scope and patterns of alleged corporate-related human rights abuse* (available at www.reports-and-materials.org/Ruggie-2-addendum-23-May-2008.pdf).

UNHRC. 2011. Report of the Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises. *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*. A/HRC/17/31 (available at www.business-humanrights.org/media/documents/ruggie/ruggie-guiding-principles-21-mar-2011.pdf).

UNIDO. 2011. *Industrial Value Chain Diagnostics: An Integrated Tool*. United Nations Industrial Development Organization (UNIDO). Vienna.

UN Principles for Responsible Investment. www.unpri.org

Unilever. 2010. *Unilever Sustainable Agriculture Code* (available at www.sustainable-living.unilever.com/wp-content/uploads/2010/12/SustainableAgrCode2010UL.pdf).

van der Ploeg, R.R., Ehlers, W. & Horn, R. 2006. *Schwerlast auf dem Acker* (in German). Spektrum der Wissenschaft, August 2006.

Vitousek PM, Aber JD, Howarth RW, Likens GE, Matson PA, Schindler DW, Schlesinger WH, Tilman D. 1997. *Human alteration of the global nitrogen cycle: sources and consequences*. Ecol. Appl. 7: 737–750.

von Wirén-Lehr S. 2001. *Sustainability in agriculture – an evaluation of principal goal-oriented concepts to close the gap between theory and practice*. Agriculture, Ecosystems and Environment 84: 115-129

Wackernagel M. & Rees W. 1997. *Unser ökologischer Fussabdruck: Wie der Mensch Einfluss auf die Umwelt nimmt* (in German). Birkhäuser, Basel/Boston/Berlin.

Wal-Mart. unknown year. *Wal-Mart Supplier Sustainability Assessment* (available at http://walmartstores.com/Sustainability/9292.aspx).

WBCSD. 2000. *Eco-efficiency. Creating more value with less impact*. World Business Council for Sustainable Development, Geneva (available at www.wbcsd.org/web/publications/eco_efficiency_creating_more_value.pdf).

WCED. 1987. *Report of the World Commission on Environment and Development: Our common future* (available at www.un-documents.net/wced-ocf.htm).

WDC. 2007.*Indicators, Balanced Regional development and the National Development Plan 2007-2013*. Western Development Commission, Republic of Ireland (available at www.wdc.ie/wpcontent/uploads/reports_IndicatorsBRDandNDP2007-2013.pdf).

WEF. 2010. *Realizing a New Vision for Agriculture. A roadmap for stakeholders.* World Economic Forum (available at www3.weforum.org/docs/IP/AM11/CO/WEF_AgricultureNewVision_Roadmap_2011.pdf).

WHO. 2007. Food safety and foodborne illness. World Health Organisation, Geneva (available at www.who.int/mediacentre/factsheets/fs237/en).

WHO. 2009. *Chemical risks in food.* World Health Organisation, Geneva (available at www.who.int/foodsafety/chem/general/en/index.html).

World Bank. 2011. *World dataBank. World Development Indicators (WDI) & Global Development Finance (GDF).* World Bank, Washington D.C. (available at data-bank.worldbank.org/ddp/home.do?Step=12&id=4&CNO=2).

World Soil Charter. 1981. (available at www.fao.org/docrep/T0389E/T0389E0b.htm).