Sustainability Assessment of Food and Agriculture (SAFA) tool

Website: http://www.fao.org/3/a-i4113e.pdf

Factsheet

General description of the tool

Category	Outcome-based
Objective	"SAFA results are intended to be used as a guide for how to improve system sustainability, such as; to present an internal assessment of sustainability management; to facilitate learning and strategic planning; or to harmonize communication between stakeholders, mainly business-to-business communication"
Geographical applicability	International
Functionalities	Hotspots identification and soil carbon sequestration calculations
Target audience	Farmers, food supply chain managers, feed industry and suppliers
Developers	Food and Agriculture Organization of the United Nations (FAO) - latest update: 2014
Format	Software to download
Cost (tool and data)	Free
Past or current users	unknown

Commodities covered

All commodities

BMPs covered

Reduced tillage practices

Crop rotation, incorporating perennial or pulse crops
Fertilizer application - source

Application method - conventionally tilled land
Timing of application for plant needs*

Use of buffer zones for field crops
Cover crops

Fertilizer application - rate
Fertilizer application - timing

Siting - distance to nearest surface water body
Manage livestock access to water bodies and riparian areas (e.g. provide off-site watering)

Indicators covered

GHG emissions	Water use
Land use	Water quality
Conservation/biodiversity	Energy use
Soil carbon	Eutrophication
Soil erosion	Acidification
Nutrient use	Nutrient losses

Data inputs

Data requirements	Primary data required	Default values
Environmental conditions	Location, description of geography and size	n/a
Crop management	Practices related to GHG mitigation, GHG balance, air pollution prevention, soil improvement, land conservation and rehabilitation, landscape/marie habitat conservation, ecosystem enhancing, land use and land cover change, species conservation, agro-biodiversity, mateiral consumption, nutrient balance, waste reduction, etc.	n/a
Carbon sequestration/storage	Practices related to carbon sequestration such as afforestation and enrichment of soils with soil carbon	n/a
Livestock	Practices related to animal health, humane animal handling, animal husbandry	n/a
Energy use	Practices related to renewable energy use, energy saving, energy consumption	n/a
Primary processing	All practices related to each indicator is also applicable to primary processing activities	n/a
Water	Practices related to water conservation, water pollution prevention	n/a
Transport	No	n/a
Others	No	n/a

Scope ☑ Farm level ☑ Supply chain

Ease of use for the data collector: Can be easy, but also time consuming - If the producer decides to answer all the questions, it will take a lot of time. Qualitative data entries can be easily completed by the user.

Modelling methods

Consistency of the model with the goal and scope of the tool	Consistent - the outcomes of the tool can be used as a guidance for producers to improve the sustainbility of their practices. The tool is also an effective way for users to learn about good practices.
Transparency and quality of documentation	Guidance document: Yes - a complete guidance document is available online: Methodology document: Yes - a detailed methodology is available online: http://www.fao.org/fileadmin/templates/nr/sustainability_pathways/docs/SAFA_Indicators_final_19122013.pdf
Conformity of the methodology with the current state-of-the-art agronomic and environment sciences	Consistent - the identification of best practices are based on multiple credible sources (IPCC, FAOSTAT, EPA, WHO, etc)
Methodology	Indicators and ratings developed by SAFA
Dataset sources used for modelling	No dataset sources

Outputs / Results

- **Results** ☑ Detailed summary of results in graphs
- **Analysis** ☑ Summary of main hotspots

Limits of the tool/model

Limitations are identified for each indicator assessed in the tool -
http://www.fao.org/fileadmin/templates/nr/sustainability_pathways/docs/SAFA_Indicators_final_19122013.pdf