Implementation of a multi-criteria assessment of sustainability of smallholder organic and conventional farms in Kenya

Ndungu J. M.1,4, Muriuki A. W.2, Blockeel J.3, Borgemeister C.1, Biber-Freudenberger L.1, Kirui O.K.1, Gilonga J.4, Gathambiri C.5, Kiuru P.4, Kamau M.4, Kadzere I.3 and Schader C.3

Introduction

- Organic agriculture is gaining importance in Kenya.[6]
- Comprehensive assessments on the comparative sustainability of organic and conventional farming systems are still lacking[1,2,5].
- The Organic Food Systems Africa (OFSA) project aimed to evaluate social, economic, environmental, and governance sustainability dimensions and to identify hotspots for sustainability improvements.
- The Sustainability Monitoring Assessment Routine (SMART) farm tool used as per FAO Guidelines for Sustainability Assessment in Food and Agriculture (SAFA) [3,4,7].

Objectives

1. To evaluate the SMART farm tool as used in sustainability assessments in Murang’a, Machakos & Kirinyaga counties
2. Draw lessons in implementing the SMART farm tool for future improvement of tool and other studies

Research Methods

- Study sites Kirinyaga, Murang’a, and Machakos Counties (864 organic and conventional farms)
- Resource mobilization
  - Personnel (enumerator selection), staff/partners (OACK, MoALF, Limbua Group, site managers,
  - Research plans and budgets, data base
  - Equipment (laptops notebooks), vehicles
- Training
  - In-house (2 weeks)
  - Practical on 15 farms and farm tours
- Introduction and farmer sensitization meetings
- Introduction to sustainability assessment
- Introduce enumerators to farmers
- What the enumerators will be doing
- General discussions with Q&A sessions
- Data collection and monitoring
  - Data verification and cleaning
  - Farmer feedback workshops

Results/ Lessons

<table>
<thead>
<tr>
<th>Capacity development</th>
<th>Farm</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Enumerators, 10 staff</td>
<td>Farmer interviews 2.5 -3 hours</td>
<td>Farmer record keeping training</td>
</tr>
<tr>
<td>Monitoring and data collection progress</td>
<td>Each enumerator about 2 farms each day for 3 months</td>
<td>Farmers reading reports</td>
</tr>
</tbody>
</table>

Lesson Learnt

- SMART farm tool proved to be useful for the Kenyan context. However, sufficient time, human and financial resources as well as good technical capacity and peer learning and exchanges are prerequisites for its successful use.
- Good collaboration with partners, flexibility to implement changes at different sites when needed, and good communication ensured delivery to target farms.

References

4. FAO 2014. Food and Agriculture Organization of the United Nations. Sustainability Assessment of Food and Agriculture Systems (SAFA); FAO; Rome, Italy. 2014; Available online:

Next Steps

- Performance of: Organic vs conventional
- Different sites, by gender etc.

Acknowledgements

This research was funded through the Organic Foods Systems Africa (OFSA - www.proecoafrika.net) project by the Mercator Foundation Switzerland and complements the ProEcoAfrica project. We acknowledge the invaluable support received from the Research Institute of Organic Agriculture (FiBL) Switzerland, the Kenya Agricultural and Livestock Research Institute (KALRO), the International Centre of Insect Physiology and Ecology (icipe), and the Centre for Development Research (ZEF), University of Bonn, Germany, in implementing this project including the PhD study of John Ndungu. Special thanks go to the farmers, enumerators, advisory and steering committees and other partners for their various contributions in making the study a success.

Contact details
ZEF, Gerschenallee 3, 53113 Bonn, Germany.
E-mail: zef@zef.de

Author Affiliations
1 ZEF University of Bonn, Germany
2 KALRO FCRI, Kabete
3 FiBL, Switzerland
4 KALRO HRI Thika