Expectations and Reality check. Evaluation of Impact Assessments of Upgrading Strategies for Food Security: case study Tanzania

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Introduction

Food security remains a global challenge.

- 795 mill. people undernourished globally, 98% are from developing countries.
- in Sub-Saharan Africa 23% of people suffer this condition (220 mill. people).

Tanzania is an interesting example.

- GDP growth of 2.3% over the last decade,
- extreme poverty declined significantly from 72% to 44% in the period 1992 to 2012;
- however the number of undernourishment increased from 6.4 to 17.0 million people in the period 1990-92 to 2012-14 .

Objective

To analyse the impact of food securing upgrading strategies (UPS) in selected regions of rural Tanzania

Research Question

- RQ1: Concerning UPS implementation, are there significant differences between stakeholder's perceptions?
- RQ2. What are the reasons behind changes in perception?

Methodology

- Impact scores have been developed through the FoPIA approach (Schinder et al 2016).
- Quantitatively analysis trough Mann Whitney U test; three comparisons made : 1) within village, 2) between regions, 3) across regions.
- Qualitative context has been provided by impact arguments and implementation status.

Background

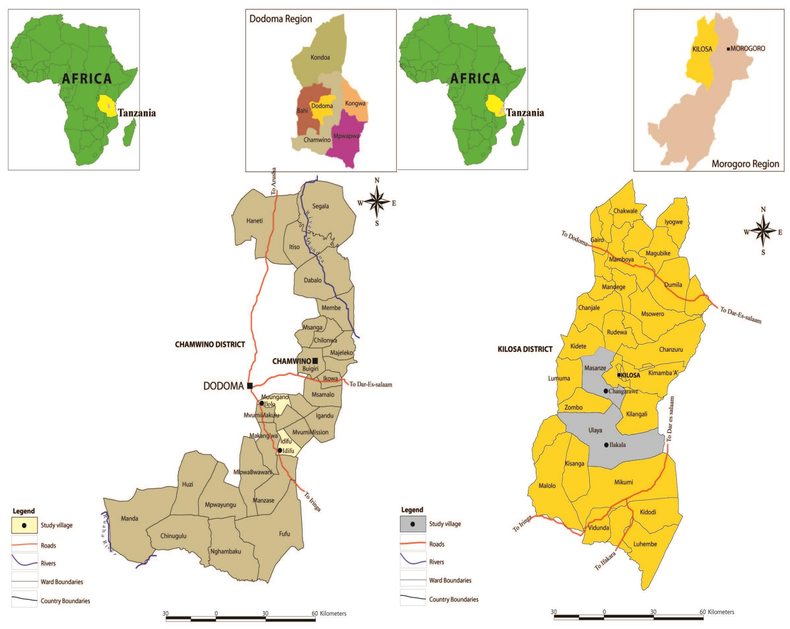
This research is part of the **international participatory R&D project Trans-SEC** (Graef et al. 2014) with the following features:

- Objective of improving food security for the most-vulnerable rural poor population of Tanzania.
- Uses the Food Value Chain as analytical framework.
- Designed to identify, test, adjust and disseminate upgrading strategies

The upgrading strategies implemented in the project are:

- Rainwater harvesting and micro fertilizing (RWH/MF)
- Tree planting
- Byproducts: Biochar
- Poultry integration
- Sunflower oil pressing
- Improved storage bags
- Improved cooking stoves
- Kitchen garden and nutrition education

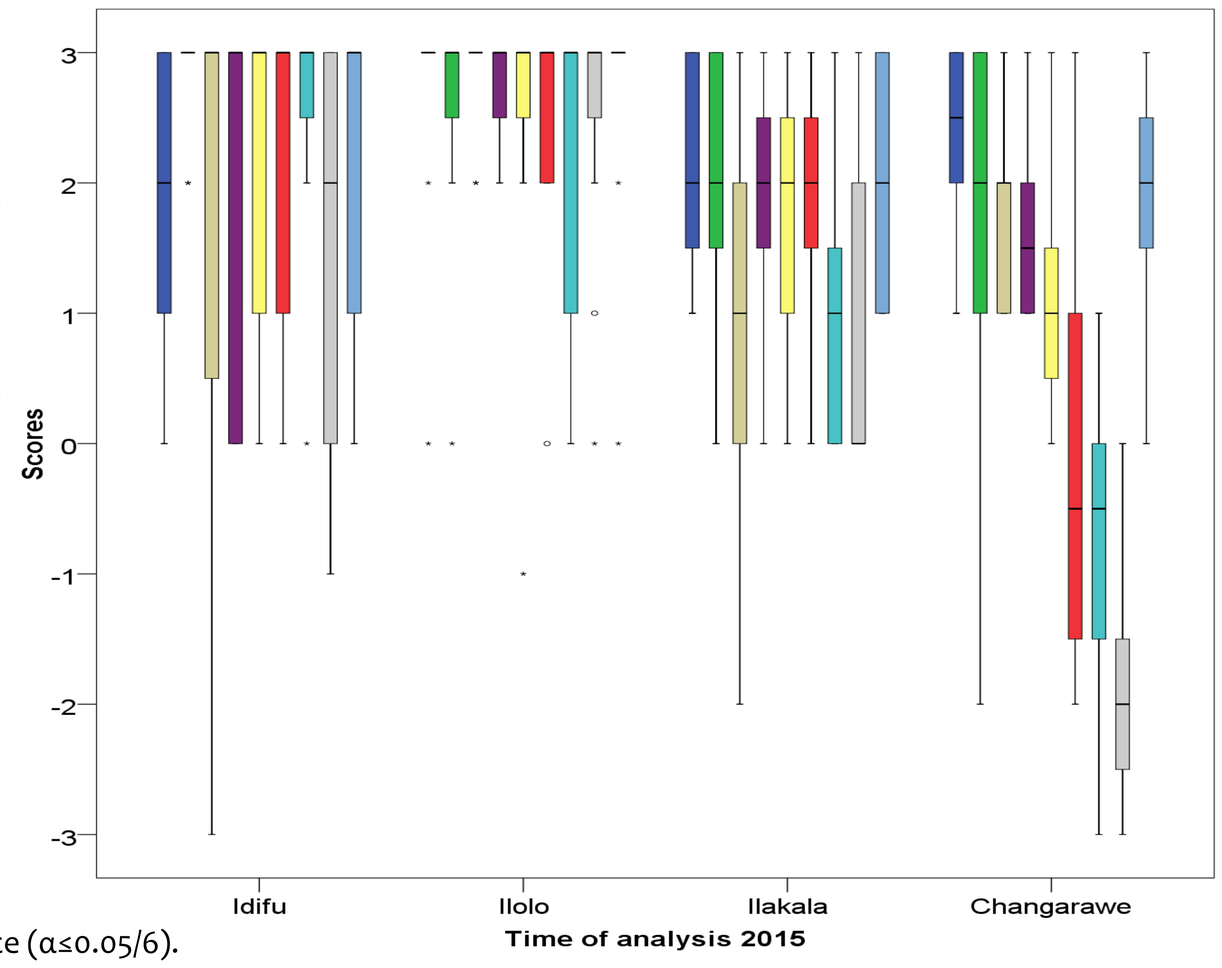
Case Study



Region **Dodoma**	Region **Morogoro**
Villages **Idifu** and **Ilolo**	Villages **Ilakala** and **Changarawe**
(semi-arid)	(semi-humid)

Selected Results

Across villages comparison. Upgrading strategy-Kitchen garden



Kitchen Garden U test	t	Food availability	Social relations	Working conditions	Production	Income	Market participation	Soil fertility	Available soil water	Agrodiversity
Idifu/Ilolo	20	0.073	0.493	0.265a	0.216a	0.705	0.863	0.245a	0.149a	0.226a
Idifu/Ilakala	15	0.719	0.016a	0.085a	0.648a	0.199	0.395	0.004	0.430	0.596
Idifu/Changarawe		0.458	0.028a	0.271a	0.599a	0.078	0.010	0.000	0.000	0.461
Ilolo/Ilakala		0.116	0.110	0.000	0.021	0.044	0.179	0.073	0.011	0.049
Ilolo/Changarawe		0.208	0.125	0.002	0.004	0.011	0.004	0.001	0.000	0.029
Ilakala/Changarawe		0.655	0.896	0.143	0.486	0.303	0.012	0.010	0.000	0.965

Kitchen garden U test significant value. Highlighted cells are criteria with a significant difference ($\alpha \leq 0.05/6$).

Changarawe had comparatively the lowest performance. Significant differences ($P > 0.05$) were found between Ilolo and Changarawe for criteria *production* and *market participation*. Additionally significant differences appeared ($P \leq 0.001$) for *available soil water* between Changarawe and the pair comparison with Idifu, Ilolo and Ilakala.

Conclusions

- Significant differences between assessment periods 2014 and 2015. Overall decline in assessments of the impact on food security, but the impact is still high.
- Managerial and climate related shocks negatively affect farmer's perceptions of UPS impact.
- Impact arguments and implementation status are essential to understand and contextualize changes especially for midterm evaluations.

Selected Publications

Graef, F.; Sieber, S.; Mutabazi, K.; Asch, F.; Biesalski, H. K.; Bitegeko, J. et al. (2014): Framework for participatory food security research in rural food value chains. In *Global Food Security* 3 (1), pp. 8–15. DOI: 10.1016/j.gfs.2014.01.001.

Schindler, Jana; Graef, Frieder; König, Hannes Jochen; Mchau, Devotha; Saidia, Paul; Sieber, Stefan (2016): Sustainability impact assessment to improve food security of smallholders in Tanzania. In *Environmental Impact Assessment Review* 60, pp. 52–63. DOI: 10.1016/j.eiar.2016.04.006.