



How to increase the benefits of soil carbon projects for smallholder farmers? A case study from Kenya

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I. INTRODUCTION

- Sustainably Agricultural Land Management (SALM) practices improve soil fertility, increase agricultural productivity, enhance climate resilience, and ultimately improve food security at household level
- Soil carbon projects aim at Soil Organic Carbon (SOC) sequestration through SALM practices and thus generating CO₂ certificates
- Kenya faces insufficient supply of agricultural extension service to farmers; international organizations try to close this gap but are confined with limited funding and finite project durations
- Revenues from CO₂ certificates have potential to finance the provision of agricultural extension services to smallholder farmers and disseminating SALM practices

II. METHODOLOGY

1. Case study design

Field research from November until December 2022 in Western Kenya (counties of Bungoma, Kakamega, Siaya)

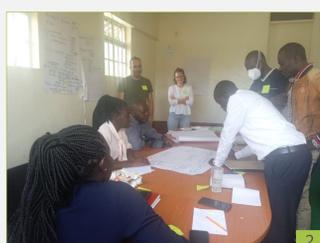
- Investigation of Western Kenya Soil Carbon Project (WKSCP) stemming from GIZ "Soil Protection and Rehabilitation for Food Security" (ProSoil) which promotes soil conservation and rehabilitation measures improving soil quality and maintaining agricultural productivity

Research objectives:

- Identifying the benefits for smallholder farmers to participate and sustaining their engagement in soil carbon projects with durations over 20 years
- Exploring different ways of giving and receiving feedback among actors in the WKSCP with the objective to secure and improve smallholder farmers' adoption of SALM practices

2. Net-Maps and semi-structured interviews

- The Participatory mapping tool Net-Map presents the monitoring process within the soil carbon project, identifying the role of different actors, level of influence, flow of information, and bottlenecks
- Key informant interviews selecting interviewees with the snowball sampling technique were employed for triangulating information from Net-Maps



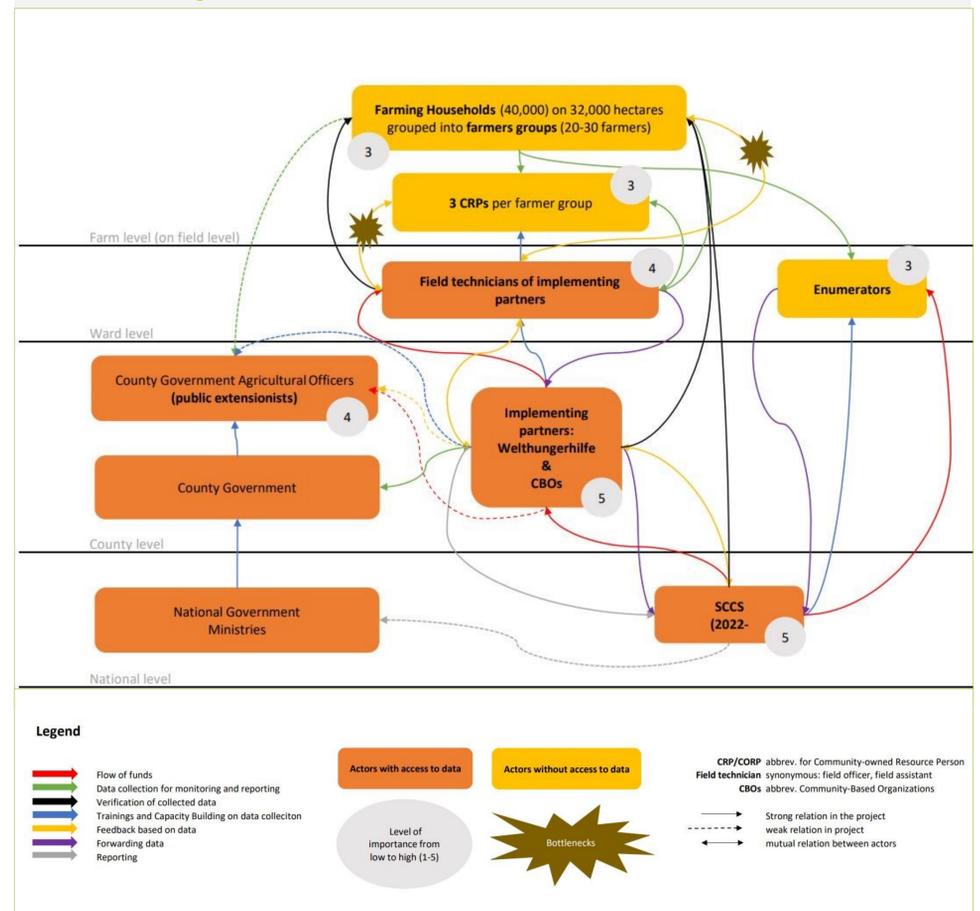
1. Semi-structured interview with key informant; 2. Net-Map session, 3. Introduction of PRA tools (own pictures)

3. Participatory Rural Appraisal (PRA) methods: Cellphilm and Photovoice

- PRA tools engage smallholder farmers to express their methods of soil quality assessment using visualizing tools producing photos and short videos
- Tools untap tacit knowledge and provide valuable insights of smallholder farmers' experiences and elicit their needs
- Focus Group Discussions with smallholder farmers complement the PRA findings and support formulation of recommendations

III. FINDINGS

1. Net-Map



2. Cellphilm and Photovoice:

- Smallholder farmers associate soil quality and fertility with the well-being of their crops and yields, soil color and texture among others
- Participants of ProSoil project have greater understanding of soil protection practices and improving soil quality compared to non-participants
- Smallholder farmers request more trainings on value-addition of crops and soil testing as promoted by the project; however, soil tests are expensive, and project has limited budget to subsidize soil samples

IV. RECOMMENDATIONS AND CONCLUSION

- Project must sustain resources for long-term provision of extension service delivered by implementing partners (IPs) to farmers, and thus improving food security and climate resilience of farmland
- Strong collaboration between project owner and IPs is crucial for effective and long-lasting project operations
- Regular and physical follow-up meetings of field technicians with farmers are pivotal for continued SALM practices and maintain SOC sequestration
- Strengthening Community Resource Persons (CRPs) to provide trainings and feedback meetings to farmer group independently

Employing 2 strategies to increase farmers' benefits:

1. Participatory monitoring involving CRPs in data collection and monitoring for soil carbon projects
2. Sharing collected data with farmers to provide feedback on their farming performance

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