

The Link Between Agroecology and Adoption of Soil erosion Control in Local Discourses

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Introduction

Agroecological approaches have been recommended for providing context-specific solutions since they consort the socioeconomic and ecological constraints among farming communities.

Despite the increasing efforts through conventional agricultural advisory services, adoption of soil erosion control measures remains a challenge.

Soil erosion control adoption manifests both socioeconomic and ecological limitations requiring context specificity.

Aim

To understand if agroecology can provide a panacea for sustainable adoption of soil erosion control measures.

Research questions

1. How should soil erosion control measures for adoption be developed
2. What are the roles of the different actors in the control of soil erosion
3. How can sustainable adoption of soil erosion control be attained

Materials and Methods

Case study of 25 smallholder farmers producing *Coffea arabica* on the Rwenzori mountain in Uganda.

The study used qualitative design (interviews-25, field observations-25 and focus group discussions-5).



Pic 1. Contrasting cleared fields with natural fallows promoted by cultural practices (T.K. Tibasiima)



Pic 2. Coffee field with no soil erosion control measures implemented (D.M. Ekyaligonza)

Data analysis

Qualitative: Content analysis was used to contrast the local discourses on soil erosion with the ten elements of agroecology described by the FAO.

Results and discussion

RQ1: Developing soil erosion control measures

Participatory development of soil erosion control involving farmers, local leaders and researchers in the local context.

The local discourse on participatory development of soil erosion control measures reflected the agroecology elements; **1) efficiency, 2) diversity and 3) recycling**. This was found to be lacking in current interventions on soil erosion control hence low adoption of existing methods.

RQ2: Roles of the actors involved in soil erosion control

- Developing and adopting of the erosion control measures was viewed to best be done by all actors supporting in different ways.
- Cultural leaders exclusively have the trust to implement a punitive and reward system for non-adopters and adopters respectively.
- The agroecology elements that reflect in the local discourses on the roles for the different actors include; **4) synergies, 5) resilience and 6) respect for culture and food traditions**.

RQ3: Strategies for adoption

With appropriately developed soil erosion control measures in place, then, a motivation system that rewards and apprehends adopters and non-adopters respectively was suggested. In the local discourses the reward and punitive system would be maintained based on resources realised through an implementation of the agroecology elements;

7) Co-creation and sharing of knowledge, 8) human and social values, 9) responsible governance, and 10) circular and solidarity economy.



Pic 3. Farmer managed contour bands susceptible to soil erosion (T.K. Tibasiima)

Conclusion

- The local discourses on soil erosion control link to the ten Agroecology elements. Thus, to enhance sustainable adoption of soil erosion control, the agroecology elements should be basis for a framework for developing the soil erosion control measures, assigning roles of specific actors and developing strategies for sustainability.
- Farmers, cultural, religious and farmer institutions hitch the sustainability of soil erosion control on an agroecological approach.
- Government extension advisers are locked-in a top-bottom approach that results into short lived adoption of soil erosion.

Recommendations

- (1) Agroecology elements should be seriously considered in designing soil erosion control initiatives.
- (2) Government extension advisers should be trained on agroecology to appropriately respond to context specific constraints.
- (3) Cultural and religious leaders should implement a reward and punitive system for adopters and non-adopters respectively.

Acknowledgements:

- Financed by the Austrian Partnership Programme in Higher Education and Research for Development (APPEAR) Vienna, Austria.
- Farmers, farmer advisors and cultural leaders in the Rwenzori region are appreciated for voluntarily participating in the interviews, focus group discussions and observation of their fields.