

Co-Identification and Co-Assessment of local Best Water Management Practices on Farm and Community Level

Project Background and Approach

Water availability in Nakuru County highly varies over time and space. Decreasing predictability of precipitation and increasing events of extreme weather challenge especially low external input farmers who are less able to access and/or invest in mitigation measures such as irrigation. The CollAqua project aims at co-developing inclusive technical and social innovations for sustainable water resource management in such farming systems and their communities through the application of transdisciplinary research methods. Transdisciplinary research recognises that complex, context-dependent and uncertain problematic situations need to be managed collaboratively by scientists, the concerned practitioners and other societal actors. It puts the research partners on par, values actors' local knowledge and orientates itself towards actors' needs and aims. The Master Thesis will take up at this point:

Focus Area

Innovations generated in research and development institutions are often not adopted by smallholders, as they do not take into consideration the conditions in these low external input production systems as well as the specific environmental, socio-cultural and economic context. Local best practices or innovations however have grown in response to and within these specific conditions. Identifying them, and having farmers learn and discuss about them serves on the one hand, the diffusion of suitable innovations and, on the other hand, allows to retrace why and how the innovation was developed, how they fit into the respective production system and the specific characteristics of the local practice that renders it beneficial or not for other farmers.

Proposed Research Questions to be addressed:

- Identification of documented, innovative/ best water management practices for low-external input production systems
- Identification of innovative local water management practices that farmers know of or practice: Description of composition and functioning of the practices, of the constraints and disturbances addressed through the innovative practice
- Validation of the identified innovative practices through other local actors: Capture other farmers' observations on relevant traits and activities, on usefulness and applicability of the identified innovative practice

The documented practices will be identified through secondary data analysis (published literature, project reports etc.) or through expert interviews with e.g. local extension or NGO workers.

Identification of the local innovative strategies developed and implemented on farms in Nakuru County will require creativity of the Msc student as their identification is usually challenging: farmers do not self-report as they are usually not aware of their own innovativeness. Methods suggested for the identification of local farmer innovations include field observation, key informant interviews, farmer group interviews, community sensitization, chain or snowballing sampling methods, contests and radio programs. The subsequent further examination of the identified innovations can be

conducted through e.g. participatory observation and semi-structured interviews. The innovative practices can be co-assessed with further actors through the analysis of farmer-to-farmer knowledge exchange sessions and subsequent group discussions and/or individual interviews. The gained information will be analysed applying an activity and knowledge analysis as described in Restrepo, M. J., Lelea, M. A., & Kaufmann, B. (2016). Second-Order Cybernetic Analysis to Re-construct Farmers' Rationale When Regulating Milk Production. *Systemic Practice and Action Research*, 29(5), 449–468. <https://doi.org/10.1007/s11213-016-9371-x>.

Complementary, quantitative data might be collected based on actors' expressed interest in such results. This ensures that the research process remains relevant to the actors, which forms the basis for the joint learning and collective action process.

Time Frames and Study Area

The full **research proposal** shall be **developed between November 2019 and April 2020** with presentations at the Department and Faculty scheduled for May and June 2020.

Data shall be subsequently **collected over a three month period between July to September 2020** in pre-selected research sites **in Nakuru County, Kenya**. This shall be done in close collaboration with the other MSc student, the PhD student and, if needed, field assistant(s).

Prerequisites

- Willingness to actively and in partnership collaborate with people involved in water management in rural smallholder communities
- Willingness and time for frequent on-site visits
- Strong interest (at best experience) in application of social science methodologies associated with a transdisciplinary action research approach.

Funding

Costs for fieldwork including transportation to and from data collection site, supplies such as facilitation materials, field translation services (if needed) and transcription can be covered by the project. The project can unfortunately not offer a personal scholarship for the MSc student.

Application Process

Please send your application (CV, transcript of records, motivation letter) to Eva Hilt (e.hilt@ditssl.org) or ask for further information.