

The project CONNESSA is focusing on non-responsive soils and the aim of establishing knowledge networks, developing tools and elaborating policy recommendations. While it has not been an easy journey for the consortium due to the challenge of raising additional funds, the partners have built up a good working relationship and networks have been established.

The Research Institute of Organic Agriculture (FiBL) conducted in close cooperation with Kenyatta University (KU, Department of Sociology) further sociological and socio-economic research and implemented innovation platforms with a spatial focus on two sites in Kenya, Machanga (Embu) and Sabatia (Vihiga). Intensive exchange on landuse scenarios was done with the University of Hohenheim for modelling tasks. In February 2016, the annual project meeting was held in Eldoret (Kenya) with the participation of FiBL.

## Results

According to findings of University of Eldoret and KU Leuven (in WP 1) nutrient imbalance reduces crop production in poorly responsive soils and the addition of secondary and micronutrients improves NPK fertilizer use efficiency. However, the cost implications of some of the fertilizer blends reduce their economic benefits and further assessment on the fertilizer blends is indispensable to realize the right economical combinations and rates.

KU and FiBL organized workshops and innovation platforms (IP) bringing together main stakeholders to discuss and define alternative management scenarios to overcome soil depletion. The following four scenarios were defined by the stakeholders in Sabatia to potentially improve soil fertility and crop productivity:

- Increased area under legumes by intercropping all maize fields with *Desmodium intortum*.
- Intensified use of manure by increasing the number of cattle and/or improving manure management.
- Planted trees result in a forest cover of 10% of the communal area (which is the share requested by Kenyan law), e.g. along rivers or in steep and marginal areas.
- Constructed water reservoirs for rain water storage and irrigation of water intense cash crops, e.g. vegetables.

The University of Hohenheim is actually testing these scenarios with the LUCIA model (WP 2) to understand how the productivity of crops, soil fertility and soil erosion are affected by these management changes for the next ten years. Further stakeholder IPs are planned for the verification of model results.

Results from the KU/FiBL sociology studies in Sabatia showed that the societal organization and their stability as groups or communities pose some challenges: Gender roles and youth perception are core issues influencing decision making on farming, cooperation and the management of soil fertility. Two KU master students have been involved for exploring societal factors influencing the level of gender participation and youth in soil fertility management in both sites, Machanga and Sabatia. Thanks to the support of the University of Hohenheim, funds were received from the German government for these theses and additional IPs.

## Outlook

CONNESSA is in its final phase and will end on the 31<sup>st</sup> of July 2017 – a no-cost extension period is requested until the end of 2017. FiBL and KU will focus in 2017 on the supervision of master students, implementation of innovation platforms and assistance in LUCIA modelling. In cooperation with all project partner general recommendation and policy advice will be derived by integrating bio-physical and sociological research as well as model outputs.

[Annex photo legends]

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Children of Sabatia – Future dependants and drivers of soil fertility management [Children\_Sabatia\_070220167179]

Livestock – A key for soil fertility management [Livestock\_Sabatia\_070220167162]

Holders of many (decision) keys – elderly men of Sabatia [Men-Group\_village-elders\_080220167227]

Dr. Kerre Group (Kenyatta University) interviewing a men group in Sabatia, [Men-group\_Kerre\_080220167221]

Dr. Wangaruru (Kenyatta University) and Mrs. Bernice Munini (University of Eldoret) discussing land management scenarios with women representatives during an innovation platform in Sabatia [Women-group\_Wangaruru\_060220167118]