



Tropentag, October 6-8, 2009, Hamburg

“Biophysical and Socio-economic Frame Conditions  
for the Sustainable Management  
of Natural Resources”

## Resilient Agro-landscapes to Climate Change in Tanzania (The ReACCT-Project)

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### Abstract

Rain fed mixed crop livestock systems of north-eastern and central Tanzania are likely to be severely affected by numerous changes caused by climate change and its impacts. This project aims at assessing the regional impacts of climate change on agro-landscapes and environment in Tanzania (Morogoro) and at identifying adaptation strategies for small-scale agriculture. Assessments on related land use sectors as forest, hydrology, nature conservation and biodiversity are considered involving local partners and farmers.

Driven by regional climate change scenarios, integrated agro-ecosystem models are used to assess combined climate change and management effects on crop production, water resources and soil fertility. These agro-ecosystem models are linked closely to hydrological models. Complementarily, stakeholders develop options of management practices in potential future agro-landscapes based on the same regional climate change scenarios.

The ReACCT - project started in May 2008. Since March 2009 a part of the project team is based in Morogoro. In this poster we share experiences of research planning and implementation in multidisciplinary researcher teams. Additionally, we show first results and conclusions elaborated in collaboration with the Sokoine University of Agriculture (SUA) in Tanzania.

CCLM modelling runs produced first promising climate scenarios for Tanzania. Historical vegetation maps of Tanzania have been identified and are currently being evaluated to create a local database of occurring tree species. Readiness for adoption of the recommended species, adapted to the relevant climate scenarios, will be explored among smallholder farmers by socioeconomic surveys. Participative research activities started in the Ngerengere catchment, which was also chosen for the hydrological modelling exercises. Trial sites for field experiments in three regions are identified and sensor installation is expected to occur soon. Together with scientists from national research institutes and the Sokoine University appropriate crops and varieties for the field experiments are selected. Supplemental irrigation and water use efficiency experiments with maize will be planted.

**Keywords:** Climate change adaptation, impact assessment, land use change, modelling, scenario development

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