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MSc. Land and Water Management



Title of thesis: Factors affecting the adoption of soil organic carbon enhancement technologies and their spatial distribution among small-scale farmers in Kenya and Ethiopia.

Summary of work done

- **Problem investigated and why**

With continued land degradation that is affecting populations globally and in SSA and the interventions by the governments and NGOs for small scale farmers to uptake soil organic carbon enhancement technologies (SOCETs) and curb this problem, adoption has remained low with positive results being lower than anticipated. The study sought to establish the socioeconomic and biophysical factors that constrain the adoption of SOCETs.

- **Key findings**

Factors constraining adoption were identified as those related to access of information, access to inputs and credit, household characteristics, and biophysical characteristics. Lack of tenure security constrained the adoption of manure, agroforestry, residue management, grass strips, and crop rotation. Inability to access extension services and low education level constrained the adoption of agroforestry, fertilizers, grass strips, and manure. Inability to access markets and credit constrained the adoption of fertilizer, agroforestry, manure, intercropping, and crop rotation. Plot size constrained the adoption of agroforestry and grass strips while the distance to plot constrained the adoption of manure and residue management

Take home message

Fertilizer use was the most adopted technology in both Kenya and Ethiopia at 99% followed by intercropping at 80%, manure at 50 %, use of crop residues at 50%, crop rotation at 40% and grass strips at 30%. Factors constraining adoption of Soil organic carbon enhancements technologies were identified as those related to access of information, access to inputs and credit, household characteristics and biophysical characteristics.

Selected pictures of interest from the study



Most interesting part about your MSc/PhD study program:

Land and water management encompasses all aspects of managing the land and water resources protecting them from the effects of climate change and ensuring continued agricultural production. It includes methods of mitigating the effects of climate change such as irrigation, agroforestry and climate services in agriculture.