Farm diversity, resource use efficiency and sustainable land management in the western highlands of Kenya

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Abstract

Sub-Saharan Africa (SSA) faces further population growth in the coming decades and it is essential to increase food production in rural areas. However, development programs to enhance agricultural productivity have achieved mixed results. This study investigates farm household responses to a changing agro-environment in one of the most densely populated rural districts in SSA and examines practical implications for the promotion of sustainable land management (SLM) practices. The specific objective is to analyze farm diversity and resource use efficiency and their implications for promoting SLM in the highlands of Western Kenya. We carried out an elaborate survey of 236 households, and applied multivariate analysis to analyze farm efficiency and livelihood strategies. We found major differences in responses to a changing agro-environment between five farm types in terms of resource endowment, income strategies and farm practices. Across farm types, efficiency was low indicating poor land productivity. Our study shows that there has been a lack of intensification in land use and that households are increasingly depending on off-farm income. Our findings have a number of implications to programs aiming to promote sustainable land management in SSA. We propose that successful implementation of such programs requires targeting areas highly reliant on agriculture and within these areas focus on households mostly dependent on farming to sustain their welfare.
Keywords

- Farm typology;
- Fragmentation;
- Livelihoods diversity;
- Stochastic frontier;
- Sustainable land management;
- Kenya