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"Solidarity in a competing world — fair use of resources"

What Works Where for Whom – Identifying Farm Household Strategies for Food Security Across Uganda

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Abstract

East Africa's smallholder agriculture is expected to be strongly affected by climate change, which, together with a growing population and pressure on natural resources, will result in an increasing challenge to achieve food security for households and regions. Policy makers need information on what works where for which farmers in order to guide their decision making and prioritise investment for agricultural interventions to increase food security. For this, we must better understand how smallholder farm strategies for achieving food security differ across regions and farm types and what drives these strategies.

In this study we present new analyses at country and farm household level that quantify drivers of productivity and food security, and that can be used to prioritise agricultural interventions. Uganda was chosen as a case study because of data availability but the approach can be applied to other countries in sub-Saharan Africa.

First, we quantified how food security and farm types varied across Uganda, and which key factors drive this variability. We used household level data from the Living Standard Measurement Study – Integrated Survey on Agriculture (LSMS-ISA) of the World Bank and developed an approach to map and quantitatively explain food security and agricultural land use across Uganda. The resulting maps showed where which crops and livestock activities are important for which types of farm households. Subsequently, the effects of agricultural interventions on food security of different farm types were assessed.

Second, we used this information to select contrasting sites and farm households for detailed interviews, which aimed at identifying drivers of farmers' decision making, assessing farmers' vulnerability to climate change and how proposed interventions match with the farmers' socio-ecological niche.

The spatial approach we developed is a novel way to use farm household level information to generate country-wide patterns in farming systems and their productivity. It generates useful information for a quantitative assessment of what might happen to the food security of smallholder farmers in Uganda under climate change and for a country-wide targeting of agricultural interventions that aim at mitigating the effects of climate change.

Keywords: Climate change, East Africa, farm strategies, food security, spatial, Uganda

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