Bringing food availability to scale: Mapping livelihood strategies for household food availability across Uganda

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East Africa's smallholder agriculture is affected by climate change, population growth and pressure on natural resources, resulting in increasing challenges to achieve food security for households and regions. To plan food security investments, policy makers need information on which interventions are required where and for which households. For this, we must better understand how livelihood strategies for food security differ across regions and between households. We present new analyses for Uganda at country level to determine patterns of household food availability (approximating food security) and of related livelihood strategies that can be used to prioritise interventions.

We used household level data from the Living Standard Measurement Study – Integrated Survey on Agriculture (LSMS-ISA) of the World Bank to quantify potential household food availability (FA) and related livelihood strategies across Uganda (Figure 1). We explored spatial variability of these indicators using regression kriging and explaining factors on climate, soil conditions, population density and market access.

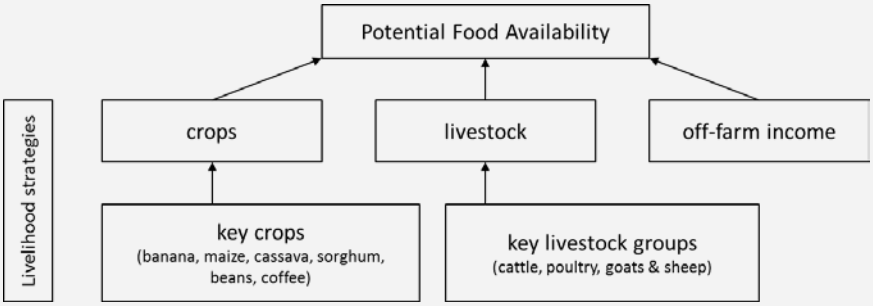

Figure 1: Potential food availability and contributing livelihood strategies

Despite larger mean FA in Southwest (>30,000 kcal cap^{-1} d^{-1}) than in Northeast Uganda (<10,000 kcal cap^{-1} d^{-1}), 80% of the variability was on short distance. FA thus varied more within regions than across agroecologies indicating that wealth inequality must be addressed country-wide beyond targeting vulnerable zones. Only crops for which temperature and rainfall determine their distribution (e.g. banana, Figure 2) could be linked to food availability patterns, while other crops were ubiquitous. Off-farm income was important across Uganda, while local variation in livestock largely overruled across-country patterns.

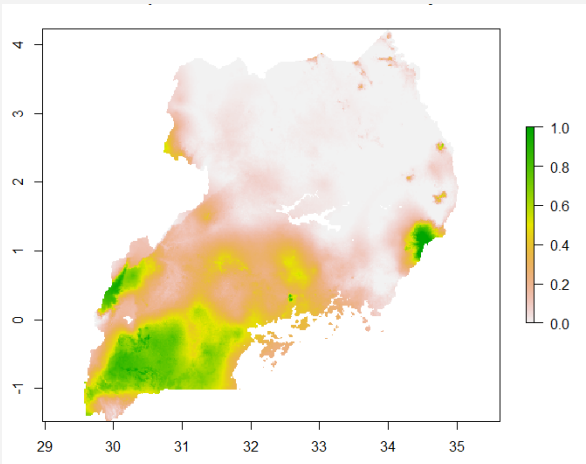

Figure 2: (Mean) proportional contribution of banana to crop part of potential food availability in Uganda

Our approach uses household data to generate country-wide analyses of farming systems and their productivity. It can be used for multi-step and multi-scale targeting: country-wide patterns can support decisions on which crops to select for interventions on improving crop productivity, while local information on the diversity of productive resources and livelihood strategies help to define the target household population.