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Tanzania Farming System Estimates

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Purpose

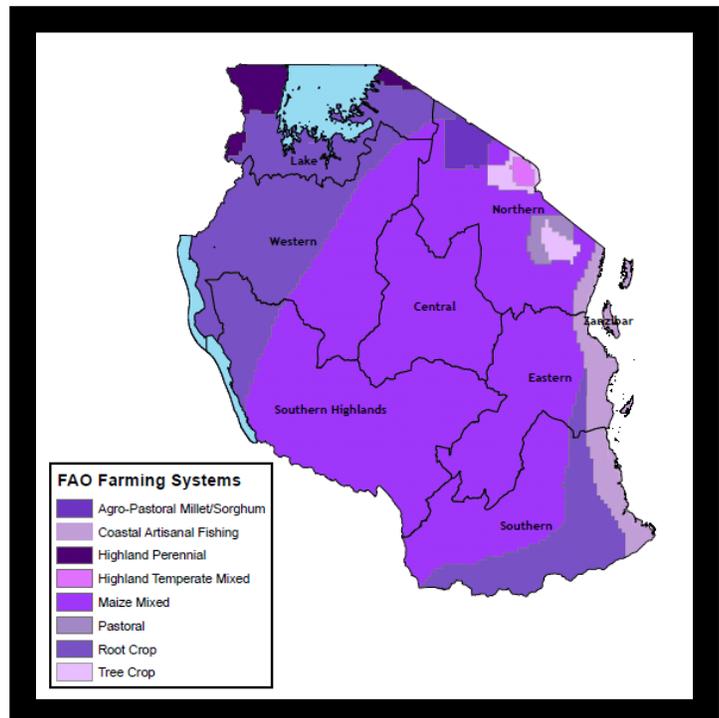
The purpose of this analysis is to provide a comparison of farming systems throughout Tanzania. The FAO defines a farming system as “a population of individual farm systems that have broadly similar resource bases, enterprise patterns, household livelihoods and constraints, and for which similar development strategies and interventions would be appropriate. Depending on the scale of the analysis, a farming system can encompass a few dozen or many millions of households.” We use the farming systems as defined by the Food and Agriculture Organization (FAO) for Sub-Saharan Africa. The FAO identifies eight main farming systems in Tanzania 1) maize mixed, 2) root crop, 3) coastal artisanal fishing, 4) highland perennial, 5) agro-pastoral millet/sorghum, 6) tree crop, 7) highland temperate mixed, and 8) pastoral. This analysis uses the Tanzanian National Panel Survey (TZNPS) LSMS - ISA which is a nationally representative panel survey for the years 2010/2011 conducted from October to September. The TZNPS includes households from seven of the eight FAO farming systems with only the smallest farming system, pastoral, lacking any representation. Please see the below map of the FAO farming systems and zones of Tanzania.

Deliverable

The attached spreadsheet displays farming system-level estimates of the number and proportion of households cultivating a crop, estimated aggregate area planted and average area planted by crop, estimated aggregate amount produced and average amount produced by crop, as well as estimated aggregate production value and average production value. We use weighted data for all surveyed households.

Estimate Caveats

The TZNPS data are statistically representative at the national and zonal level. Therefore, data for the farming system-level is for general comparison purposes only and does not constitute a statistically valid comparison. The total number of households for Tanzania was estimated with linear extrapolation based on the Tanzanian National Bureau of Statistics for the years 2002 and 2012. The weighted proportion of households by farming system was used to estimate the total number of households by farming system.



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The weighted proportions of farming system household characteristics were multiplied by the farming system estimated total number of households to estimate an aggregate value for each farming system. The cash crop variables used the cash crop definitions in the TZNPS excluding any priority crops listed. The other crop variables included all non-priority crops and non-cash crops such as vegetables, other grains, and fruit. The crop production value was estimated by obtaining a USD per kilogram value. If the household reported a crop value per kilogram this value was used. If a value per kilogram was not reported, a shadow value was constructed using the weighted average of crop value per kilogram in the farming system if there were more than 30 reported values. If there were fewer than 30 reported values in the farming system, we used a nationally weighted crop value per kilogram as the crop shadow price. Values of zero are included in the quantity and value analysis to account for households whose crop was entirely destroyed before harvest. We report a rough estimate of the number of hectares in each farming system based on GIS FAO data; however, this total estimate is 1% greater than the World Bank reports as the land area of Tanzania.

Please direct comments or questions about this research to Leigh Anderson and Mary Kay Gugerty, at eparx@u.washington.edu.