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The Correlation Between Household Food Security and Cassava - Constructing an Index to Analyse the Impact of Specific Crops on Food Security

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Abstract

As cassava is known as an undemanding crop that grows on poor and even tired soils, its cultivation can be expected as a contribution to the food security (FS) of households in poor rural areas. In Tanzania cassava is the main crop in terms of production, reaching more than 5 million tons in 2012.

The aim of this research is to (1) develop a household food security index (HFSI) and (2) to analyse if local cassava cultivation and availability has a direct impact on the FS of people in the Kilosa and Chamwino regions. The research will be based on the FS definition of the World Summit in 1996 that leads to four dimensions: availability, access, utilisation and stability. Subsequently, the hypothesis that households cultivating cassava or with access to it suffer less chronic food insecurity will be verified.

In the context of the Tran-Sec project, conducted by fifteen institutions of Germany, USA, Kenya and Tanzania, an extensive survey has been realised. About 900 households of the regions have been surveyed. The collected data provided information regarding the food status at household level, crop production, consumption, etc. Multivariate statistics will be applied, and through a principal component analysis (PCA) variables will be sorted out and new indicators (based on PCA) will be obtained. A HFSI that includes all the four dimensions of food security will be designed to fit in the available data. This HFSI will be categorised in temporal food security intensities (ranging from constant FS to constant food insecurity). Thereafter, a cluster analysis will be conducted to realise regional pattern recognition and indicated if FS is correlated with the presence of cassava or not.

Preliminary results indicated that, despite being the main agricultural production in the country, cassava is cultivated in less than 10% of the surveyed households. The next steps will examine how the cultivation of cassava is correlated to the HFSI. In the sequence, the methodology will be applied to other significant crops of the regions to examine their correlation to FS. Finally, this approach may uncover some roots of food insecurity in the surveyed regions.

Keywords: Crop production, food security, household survey, *Manihot esculenta*