Tropentag, September 17-19, 2018, Ghent

"Global food security and food safety:
The role of universities"

Multiplier Effects and Food Security Outcomes of an Increased African Indigenous Vegetable Demand in Kenya

Henning Krause[1], Anja Fasse[2], Ulrike Grote[1]

[1] *Leibniz Universität Hannover, Institute for Environmental Economics and World Trade, Germany*
[2] *Weihenstephan-Triesdorf University of Applied Sciences, TUM Campus Straubing, Environmental Policy and Resource Economics, Germany*

Abstract

Despite continuous efforts of policy makers to improve food security outcomes in the country, Kenya is still among the countries with the highest micronutrient deficiency worldwide. African indigenous vegetables (AIVs) can be an answer to this problem thanks to their high contents of micronutrients. In fact, those crops have seen a rise in appreciation and demand in urban areas of Kenya over the last decade. Income effects for farmers adopting AIVs are ambiguous and depend on the availability of assets, markets and public infrastructure. However, measuring only direct effects can understate the income and food security effects of an increased demand of AIVs on the rural population. Thus, the following research questions arise: a) What are the characteristics of food insecure households in the villages? b) Which crop has the best direct and indirect income effects for food insecure households?

For the analysis, a total of 706 small-scale vegetable producers were interviewed in Kiambu, Nakuru, Kakamega and Kisii County in Kenya in 2015. A two-step cluster analysis is applied to the sample with several food security indicators to cover the multidimensionality of food security. This way, households are grouped into food secure and food insecure households in peri-urban and rural areas. A social accounting matrix is then generated to show direct and indirect income effects of different food secure households in the village economy. Results show a significant higher prevalence of food insecurity in the rural areas especially in the utilisation and stability dimension. Food secure producers have higher levels of education and own more land, have more income from off-farm employment and less from crop production than food insecure ones. AIVs have higher multiplier effects in the village economy than many traditional cash crops like coffee, tea or maize. Among rural food insecure households, especially the less commonly produced AIVs such as Miroo (Slenderleaf - *Crotalaria ochroleuca*), Murenda (Jute mallow - *Corchorus olitorius*), Pumpkin leaves (*Cucurbita moschata*) and Enderema (Vine spinach - *Basella alba*) have the highest income effects.

Keywords: African indigenous vegetables, cluster analysis, food security, Kenya, social accounting matrix

Contact Address: Henning Krause, Leibniz Universität Hannover, Institute for Environmental Economics and World Trade, Königsworther Platz 1, 30451 Hannover, Germany, e-mail: krause@iuw.uni-hannover.de