



Tropentag, October 5-7, 2011, Bonn

“Development on the margin”

## The Nexus between Poverty and Smallholders' Investments in Agroforestry: A Case Study from Tanzania

ANJA FASSE, ULRIKE GROTE

*Leibniz Universität Hannover, Institute for Environmental Economics and World Trade, Germany*

### Abstract

Environmental degradation and poverty of rural households are closely linked in developing countries particularly in Sub-Saharan Africa. The majority of the rural poor derive a high share of their income by extracting natural resources *e.g.* firewood and timber from forests. In the course of environmental degradation and the awareness about scarce natural resources special emphasis is given to the protection of high valued areas such as forests. As a consequence, the integration of agroforestry on smallholders' plots gained centre stage in recent years providing new income possibilities as well as a promising solution to alleviate soil erosion on agricultural plots which helps stabilising yields.

Tree cultivation on farms implies an environmental long-term farm investment, where the individual time preferences paraphrased as individual future evaluation is argued to play a significant role in. Yet, there have been only a few empirical studies assessing the rates of time preference among rural poor in the nexus with environmental conservation measures, *e.g.* Holden et al. (1998) with regard to investments in soil conservation technologies, but no study is known to the authors with respect to agroforestry.

This paper aims to analyse the nexus between poverty and smallholders' long-term investments in tree cultivation considering their future evaluation. The analysis is based on a data set compiled using household survey data from a village located in the Uluguru Mountains in Tanzania in 2010. Tree density, wealth and the present value are significantly positively correlated. In the regression on tree density, the estimated coefficient for time preference is highly significant. If the present value – the proxy for time preference – increases by TZS 1889 (= €1) the tree density increases by 1.13%. A low present value implies that the poor are less likely to invest in environmental conservation measures than the rich.

**Keywords:** Agroforestry, environmental conservation, poverty, time preferences