The role of aspirations and personality traits for smallholder farmers' decision to adopt agroforestry: Evidence from Kenya

Luzia Deissler[1], Kai Mausch[2], Alice Karanja[3], Stepha McMullin[3], Ulrike Grote[1]

[1] *Leibniz University Hannover, Institute for Environmental Economics and World Trade, Germany*
[2] *Center for International Forestry Research (CIFOR)-World Agroforestry (ICRAF), Nairobi, Kenya and Bonn, Germany,*
[3] *Center for International Forestry Research (CIFOR)-World Agroforestry (ICRAF), Nairobi, Kenya,*

Abstract

Current challenges such as climate change and population growth exert increasing pressure on existing farming systems and world food production. The need for sustainable solutions is high. Yet, the adoption of already existing sustainable practices remains low. Agroforestry as one such practice has been proven to combine economic, social and ecological benefits.

To understand the adoption process of agroforestry technologies by smallholder farmers, we analyse a primary dataset of 272 households from Kenya. The paper aims to improve the understanding of the adoption process by examining the connected influences of aspirations and personality traits. Structural equation modelling (SEM) is used to perform confirmatory factor analysis on personality traits, the Big Five model, and aspirations. Using path analysis, their impact on the adoption decision of smallholder farming households is analyzed.

From the SEM, openness and extraversion showed a statistically significant positive correlation with aspirations. This indicates that more open-minded and socially active people tend to also have higher life aspirations. Further, the adoption decision is also positively linked with high aspirations and openness and extraversion. To broaden the understanding, we further assessed these influencing factors in the context of standard household characteristics. Households that adopted agroforestry rely on income from crops and livestock rather than income from business and their members travel more often outside of the village than average. Beyond the binary adoption outcome, adoption diversity and intensity are included. Diversity is a measure of the diversity of the species components of agroforestry households adopted while intensity measures the share of total land under agroforestry. Households that adopted value the observability of the outcome and the availability of inputs and natural resources as most important for the adoption decision. The close connection between personality traits, aspirations and the adoption of agroforestry point to one part of the adoption decision that has previously been underexplored. It could potentially be utilised to improve development projects' design and outcomes once these aspects are better understood.

Keywords: Adoption, aspirations, Big Five, sustainable farming, trees

Contact Address: Luzia Deißler, Leibniz University Hannover, Institute for Environmental Economics and World Trade, Königsworther Platz 1, 30167 Hannover, Germany, e-mail: deissler@iuw.uni-hannover.de