



Tropentag, October 6-8, 2009, Hamburg

“Biophysical and Socio-economic Frame Conditions
for the Sustainable Management
of Natural Resources”

Native Woody Plant Community Organisations around Farms and their Role to Improve Diversity of Trees on Farms: The Case of North West Ethiopia

ABRHAM ABIYU-HAILU, GEORG GRATZER

*University of Natural Resources and Applied Life Sciences, Department of Forest and Soils Sciences,
Institute of Forest Ecology, Austria*

Abstract

RRA and PRA tools are used to understand drivers of land use practices and land allocation to different land use types with a special reference to remaining native woody plant communities in NW Ethiopia. A collaborative planning and implementation process shall lead to improved sustainability and productivity of land use. In a first step, a survey with questionnaire and semi-structured interviews were used to collect information on tree species preferences and tree niches and uses as well as selected socio-economic characteristics of farms of 100 households. Group discussion was carried out to prioritise woody plants against selected attributes. Floristic diversity differences between households were analysed by using species richness, Shannon and Simpson diversity and evenness indices. As a result, 60 plant species were identified. Diversity values differed markedly between farms. Multiple linear regression of diversity statistics on household characteristics showed significant relationship: much of the variation was explained by wealth, age, gender, educational level of the households, and size of land holding, explaining from 2 — 53% of the variation. From group discussions, eight attributes with which farmers value a tree species have been identified. Prioritisation of tree attributes showed major constraints and motivations for growing trees. Prioritisation of trees was based on their importance for fodder, compost and fuel wood. Poor survival due to moisture stress, propagule supply and free grazing has been mentioned as major constraints. Urgent needs for finding solutions leading to improved survival of seedlings were detected. Diversity and abundance of trees on farms might be increased by using household socio-economic characteristics as extension entry points. Recommendations on research priorities of native plant species and on how to maximise the species pools for future conservation and restoration efforts are provided.

Keywords: Farm forests, household characteristics, native woody plants