



Tropentag, October 7-9, 2008, Hohenheim

“Competition for Resources in a Changing World:
New Drive for Rural Development”

Plant Diversity Hot Spots along the Eastern Escarpment of the Rift Valley of Northern Ethiopia: Key to Conservation Priority

ERMIAS AYNEKULU¹, MANFRED DENICH², PAUL L. G. VLEK²

¹*Mekelle University, Faculty of Dryland Agriculture and Natural Resources, Ethiopia*

²*University of Bonn, Center for Development Research (ZEF), Germany*

Abstract

Northern Ethiopia is characterised by rugged and mountainous landscapes. It once was well covered with dense forest. Considering current land use conflicts, it is not feasible to implement broad range conservation strategies at the landscape level.

The aim of this study was to identify the diversity rich zone in a landscape where biodiversity conservation may take priority. We measured the plant diversity in two sites using twenty eight quadrats (50m*50 m). Quadrats were located along altitudinal gradients ranging from 1000 to 2700 m a.s.l. Both transects were selected to pass through Dessea forest which is one of the national forest conservation priorities habitat types. For both transects vascular plant species richness increased steadily with increasing altitude up to 2000 m and declined thereafter. The minimum species richness was 4 species per plot at the lower altitude, the maximum was 45 species per plot obtained between 1900 and 2100 m a.s.l. Hence, the altitudinal zones in the range of 1900-2100 m can be considered as biodiversity hot spot corridor that require biodiversity conservation priority. Conserving such species rich zones may serve as an important habitat and corridor for birds and wild life. Being a source of seed, conserving such diverse corridors will also facilitate the vegetation restoration activities that are widely undertaken in the degraded zones of northern Ethiopia. The diversity of vascular plants along altitudinal gradients, the different plant communities and their structural composition, including some key stone species, were analysed and will be further discussed.

Keywords: Altitudinal gradient, dessea forest, Ethiopia, plant diversity, species richness