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Tree Utilisation and Management in Africa: A Case Study from Semi-Arid Tanzania

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Abstract

Tree products are considered important by local people, but forest area is rapidly decreasing throughout Africa and specifically in Tanzania. A series of interdisciplinary investigations, aimed at understanding tree use in semi-arid Tanzania were undertaken. Use of communal and privately forested areas around Gairo was mapped through a variety of socio-anthropologic methods, including household surveys, ethnobotanical studies and wealth and area ranking. Identification and abundance of woody species was established and livestock use of woody species determined. Extent of woodland conversion to cropland in the past 30 years was measured. Dung beetle frequency and diversity on cropland or forested areas was investigated. All investigations concluded that the local villagers are extremely dependent on woodlands and tree species to maintain livelihoods and that the importance of these species is recognised by the local people. Firewood and construction are the most important uses of trees with indigenous trees used for a wider variety of purpose than exotic species. Woody species diversity and density was greatest in the communal forest closest to the village. This area is most heavily used for grazing and extraction of forest products. Woodland areas contained more diverse populations of dung beetles than farmland, providing a useful ecosystem service for soil fertility. Free ranging small ruminant diets contained an average of 76 % woody species during the dry season and 56 % during the wet season, whereas cattle diets contained only 28 and 18 % woody species in the dry and wet season. Despite the measured and articulated understanding of importance, only 3 % and 57 % of two originally allocated communal woodland areas remained. The rest was converted to farmland. It is concluded that the need for croplands coupled with the continued availability of alternative sources of wood products has reduced the marginal utility value of local woodland areas and woodland species. This prioritisation by local people should be taken into account when advocating reforestation schemes.

Keywords: Forestry, Tanzania, grazing management, ecology, ethnobotany

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