

TREES OUTSIDE FORESTS AS INFLUENCED BY LAND USE AND SOCIO-ECONOMIC FACTORS IN RIVER SIO BASIN, KENYA

By

Kweyu¹, R.M., Obando², J.A and Murimi³, S.K

¹²³Department of Geography, Kenyatta University

Increasing population in the developing world and associated needs for agricultural production, human settlement and industrialization have led to massive destruction of tree resources through deforestation and degradation of tree landscape. Countries have restricted access to forest resources by establishing forest reserves, causing communities to depend widely on Trees Outside the Forest (TOF). Therefore, TOF are diminishing and with them their protective and productive functions due to over exploitation. TOF include stands smaller than 0.5 hectare, tree cover on agricultural land, home gardens, orchards, trees in urban environments, along roads, riverine trees and those scattered on the landscape. Communities, farmers and herders who do not have access to forest, diversify their production and protect their land by maintaining various tree systems on their farms. Trees outside forests are important on the landscape as they in principle have the same environmental and economic functions as forests. By providing many products such as fruits, fodder, fuel, timber and medicine, TOF play an important economic role. Therefore, if well managed, TOF can contribute to wealth creation by local communities. This study was aimed at analysing the spatial distribution of TOF, in Sio river basin, in relation to Land Use and socio-economic factors. The analysis helps in understanding the relations between TOF and socio economic factors in order to achieve a sustainable management of the resource. Within this context, TOF assessment was carried out using basal area (BA/ha), number of trees (NT/ha) and tree products. In the study area the survey employed stratified random sampling method. Data on Trees Outside the Forest were collected by counting trees and measuring of tree Diameter at Breast Height (DBH). Land Use data was collected by observation and an informal interview with farmers was used to establish the socio-economic factors influencing the management of Trees Outside the Forest. The collected data were categorized into 6 Land Use Categories (LUC). Data analysis was carried out in SPSS version 11.0 software which involved testing the relations between TOF and Land Use Categories. Results indicate that TOF BA/ha and NT/ha significantly correlate with LUC. This means that production systems affect the distribution of Trees Outside Forests. Results further reveal that the competitive nature of trees with food crops is the main reason refraining farmers from planting trees on their fields. Other factors include lack of enough land and tree seedlings. The survey on tree products depicts that farmers rely on TOF mainly for building followed by fuel. The study recommends that efforts of tree planting practices should be strengthened among farmers. Farmers are encouraged to plant fast growing exotic trees which will provide products such as income, building and fuel wood. However, such species should not be grown close to the river as they drain away water and might jeopardize wetland conservation efforts.

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Contact

Raphael Kweyu: rkweyu@yahoo.com