

Impact of Agroforestry Practices on Biodiversity Management and Livelihoods of Communities Adjacent Magamba Nature Reserve(MNR), Tanzania

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Abstract : The study was conducted to communities adjacent MNR, Lushoto district, Tanzania. The MNR is one of the nine nature reserves in the Eastern Arc Mountains of Tanzania with an area of 8,700ha with high biological diversity. However, biodiversity in MNR have been threatened by increasing human activities for livelihood in 1970s. The AF systems in the study area was practised since 1980s however, no study was conducted on AF impacts. This paper presents the influence of AF on livelihood of communities adjacent MNR and biodiversity conservation. Qualitative and quantitative data were collected using socio-economic survey and botanical surveys. Data were analysed using Statistical Packages for Social Sciences and content analysis. The study found that in 1970s free livestock grazing caused considerable surface runoff, soil erosion and reduction of crop production. Since 1980s, the study area received various interventions based on the land conservations and improved livelihood through practising AF systems. It was further found that the AF farming improved crop productivity, reduced soil erosion, increased firewood (80.2%) and other forest products availability and AF encouraged community members practicing indoor livestock keeping. The dominant agroforestry tree found in the study area is grevillea reported by 74.1% of respondents planting an average of 40 trees. The study found that the AF reduced pressure to MNR as forest products and fodders were obtained from community's farms in turn, currently water flow from MNR has been increased. Thus AF products support livelihood needs and conserve biodiversity. The study recommends continuity education on new AF technology packages.

Keywords : impact of agroforestry, biodiversity management, communities' livelihoods, Magamba nature reserve

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