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Role of Different Land Use Types on Ecosystem Services Provision in Moribane Forest Reserve - Mozambique

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Abstract : Tropical forests are key providers of many Ecosystem Services (ES), contributing to human wellbeing on a global and local scale. Communities around and within Moribane Forest Reserve (MFR), Manica Province - Mozambique, benefit from ES through the exploitation of non-wood and wood forest products. The objective was to assess the provisioning capacity of the MFR in woody forest products in species and profiles of interest to local communities in the main sources of extraction. Social data relating to the basic needs of local communities for these products were captured through an exploratory study before this one. From that study, it became known about the most collected wood species, the sources of collection, and their availability in the profiles of greatest interest to them. A field survey through 39 rectangular 50mx20m plots was conducted with 13 plots established in each of the three land-use types (LUT), namely Restricted Forest, Unrestricted Forest, and Disturbed areas. The results show that 89 species were identified, of which 28 (31.4%) are assumed to be the most used by the communities. The number of species of local interest does not vary across the LUT ($p>0.05$). The most used species (MUS) is distributed in 82% in Restricted Forest, 75% in Unrestricted, and also 75% in Disturbed. Most individuals of both general and MUS found in Unrestricted Forest, and Degraded areas have lower end profiles (5-7 cm), representing 0.77 and 0.26%, respectively. The profile of individuals of species of local interest varies by LUT ($p<0.05$), and their greatest proportion (0.51%) outside the lower end is found in Restricted Forest. There were no similarities between the LUT for the species in general (JCI <0.5) but between the MUS (JCI >0.5). Conclusion, the areas authorized for the exploitation of wood forest products in the MFR tend to reduce their ability to provide local communities with forest products in species and profiles of their interest. This reduction item is a serious threat to the biodiversity of the Restricted Forest. The study can help the academic community in future studies by replicating the methodology used for monitoring purposes or conducting studies in other similar areas, and the results may support decision-makers in designing better strategies for sustainability.

Keywords : ecosystem services, land-use types, local communities, species profile, wellbeing, wood forest product
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