

Daniel Callo-Concha

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An approach to environmental services assessment: functional biodiversity in tropical agroforestry systems (The case of Tomé-Açú, Northern Brazil)

Biodiversity plays an important role in ecosystem functioning and, hence, in the provision of environmental services. In agricultural landscapes, these are provided predominantly by agroecosystems. In this study, carried out in northern Brazil, a protocol to assess biodiversity in agroforestry systems and a management model to support biodiversity-related land-use decisions are developed. The technical qualification of farmers, their adaptability to environmental, social and political changes and their ability to pursue the system's profitability are identified as the most important factors in the optimization of land management. The protocol and model can be used as decision-support tools in biodiversity management on farms and to shape policies regarding payments for environmental services.