Tropentag, September 10-12, 2025, hybrid conference

"Reconcile land system changes
with planetary health"

Ecosystem services and social interactions in a multiple-use protected landscape

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Abstract

Participatory management of protected areas (PAs) is a crucial interface between ecology and society in contexts where communities are highly dependent on ecosystem services (ES). One of the challenges of managing ES is dealing with the multiple actors involved in ES management, who have different interests and perceptions of ES that may be conflicting. In the Lama Forest Reserve (LFR), characterised by a strictly protected central core, a plantation zone where logging is managed, and zones designated for resettled indigenous peoples and agricultural areas, there is a need to understand local perceptions of ES in these accessible areas. Consequently, this thesis aims to identify the socio-cultural factors that shape such perceptions. Primary data are based on the Millennium Ecosystem Assessment (MEA) pre-defined categories of ES, using a group discussion and a survey of 84 representative individuals from three resettled villages within the forest, using the Dagnelie formula. Ordinal logistic regression models were used to examine the influence of socio-cultural variables on ES identification rates. Descriptive statistics were also used to analyse the perceived importance, satisfaction and trends of the services provided. The results indicate that provisioning, regulatory, cultural and supportive services are the essential ES perceived in LFR. Moreover, the interpretation of the ordinal logistic regression shows that for provisioning, regulating and supporting services, the village of residence has a positive and statistically significant effect ($p < 0.05$). For cultural services, membership of COGEPAF has a positive and highly significant effect ($p < 0.05$). This work offers valuable insights and the possibility of guiding policies to increase the involvement of local communities and sustainable use of natural resource in the co-management model of the LFR.

Keywords: Ecosystem services, governance, socio-cultural dynamics, sustainability, tropical ecosystem

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