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Preferences for Rattan Around Lore Lindu National Park, Central Sulawesi (Indonesia) as an Ecosystem Product: A Socio-Ecological Open Access Dilemma at Work

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Abstract

After the demise of the resource elsewhere, Central Sulawesi is a main source of rattan worldwide (*Calamus* spp.). Encounter distance to harvesting locations increased already from 4.4 km (1990) to 14.5 km (2001) around Lore Lindu National Park (LLNP). Although a concession system is established and extraction from LLNP forbidden, observations suggest that rattan extraction follows an open access pattern. We use data from a study with 301 representatively sampled households from 12 villages in the LLNP region to test if the local (as well as growing international) scarcity of rattan is reflected in economic preferences for this important non-timber forest product.

Preference data were generated by a choice experiment including a rattan attribute operationalized by the encounter distance of the nearest extracting location measured from the forest margin (5, 10, 15, 20 km). 289 valid interviews were obtained. 12.8 % of respondents were rattan collectors, most belonging to the poorest third of the population. Nested logit analysis reveals a mean valuation of 5,600 IDR km⁻¹ change in rattan encounter distance per rattan collecting household/year. One km encounter distance is associated with a time saving of 0.4 hours ($p < 0.01$; OLS regression; $n = 37$). With 18 rattan collecting campaigns per rattan collecting household/year and income from unskilled wage labour of about 10,000 IDR/10 h (i.e., an absolute poverty income of less than 1USD day⁻¹), 1 km translates into 7.2 h time saved equating 7,200 IDR rattan⁻¹ collecting household/yr.

Accounting for the fact that rattan extraction is a highly unpleasant ‘drudge’-type work with lowest social prestige, our results indicate that rattan collectors value changes in the economic status of the local rattan resource roughly at the time saving associated with the changes. We interpret this result as indicating the existence of a socio-ecological dilemma typical for open access situations in which the poorest population segment of different localities competes for the resource without any regard for its increasing scarcity. Locally perceived values are the result of a ‘run to the bottom’ as they approach absolute physical subsistence requirements for the reproduction of the labour needed for its extraction.

Keywords: Absolute poverty, ecosystem services, open access, rattan extraction, socio-ecological dilemma

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