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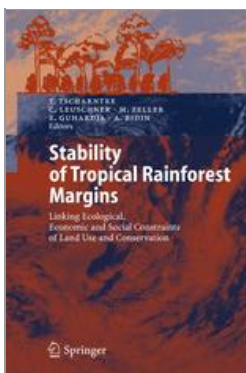
## Assessing economic preferences for biological diversity and ecosystem services at the Central Sulawesi rainforest margin — a choice experiment approach

### Abstract

Recognition of the importance of economically sound conservation strategies is one of the foundations of the Convention on Biological Diversity. Because of their exceptional contribution to global biological diversity, the conservation of the Central Sulawesi (Indonesia) rainforests is a particularly important case for a successful application of such strategies. One of the obstacles to the design and implementation of economically sound conservation strategies is the lack of knowledge on the economic value of non-market benefits generated by tropical forest ecosystems and the agricultural land use systems that replace them.

In this paper, we identify and quantify economically relevant preferences towards biological diversity at the rainforest margin that operate at the regional level around Lore Lindu National Park in Central Sulawesi. For economic valuation, choice experiments (CE) were used. We focused on indirect use benefits generated from different local and regional ecosystem functions. An ecosystem service approach was applied to avoid problems of respondent unfamiliarity with ecosystem functioning. One CE study covers preferences for the conservation of the endemic dwarf buffalo anoa, the preponderance of shading trees in cacao plantations, and the availability of water and of rattan. It was conducted in 12 villages across the entire project region (n=249). A second CE was conducted in three selected villages in the Kulawi subdistrict investigating preferences for protection against soil erosion, flooding and — to our knowledge, for the first time ever — for protection against *uncertain* future environmental threats (preferences for “ecosystem health”; n=585).

The results indicate substantial economic preferences for all biodiversity and ecosystem goods and services studied. Preference variations can be explained by attitudes of and perceptions on the human-environment relation. In particular, (i) several attitudinal variables from Protection Motivation Theory explain preference heterogeneity; (ii) preferences for ecosystem health depend on stated respect for *Katawua* — a normative principle on harmony between humans, supreme beings, and the environment. For an optimistic resource and biodiversity protection scenario, total aggregated mean WTP in the project region is 1.6 billion IDR/yr (~136,000 €/yr). This local demand for the studied environmental non-market services does not suffice to compensate financial benefits from rainforest conversion or agroforestry intensification that accrue to individual households.



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#### Authors

- Jan Barkmann <sup>(6)</sup> <sup>(9)</sup>
- Klaus Glenk <sup>(6)</sup> <sup>(9)</sup>
- Handian Handi <sup>(7)</sup>
- Leti Sundawati <sup>(7)</sup>
- Jan-Patrick Witte <sup>(8)</sup> <sup>(9)</sup>
- Rainer Marggraf <sup>(9)</sup>

#### Author Affiliations

6. Junior Scientist Group “Economic Valuation of Ecosystem Functions and Services”, Department of Agricultural Economics and Rural Development, Georg-August-Universität Göttingen, Platz der Göttinger Sieben 7, D-37073, Göttingen, Germany
9. Environmental and Resource Economics, Department of Agricultural Economics and Rural Development, Georg-August-Universität Göttingen, Platz der Göttinger Sieben 7, D-37073, Göttingen, Germany
7. Laboratory for Social Forestry, Faculty of Forestry, Institute Pertanian Bogor, Bogor, Indonesia
8. Landscape Ecology, Institute of Geography, Georg-August-Universität Göttingen, Goldschmidtstr. 5, D-37077, Göttingen, Germany

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