Stability of Rainforest Margins

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Abstract

The Sonderforschungsbereich (SFB 552) of the DFG (Deutsche Forschungsgemeinschaft) is a long-term Indonesian-German research program that began in July 2000. A key feature of the SFB entitled Stability of Rain Forest Margins (STORMA) is its interdisciplinary approach in analysing land use systems in tropical rain forest margins and their impact on socio-economic and agro-ecological systems. Researchers from two German universities (Göttingen and Kassel) and two Indonesian universities (Agricultural University Bogor, and University Tadulako) participate in STORMA, representing diverse disciplines such as plant and landscape ecology, agricultural and resource economics, rural sociology, cultural geography, and bioclimatology.

The research task of STORMA is to analyse and assess the factors and processes of land use that stabilize or destabilize tropical rainforest margins both in their temporal and spatial dimensions. The research area is the Lore Lindu National Park and its surroundings near Palu, Central Sulawesi, Indonesia. The **principal research objectives** of SFB 552 are:

- the analysis of key factors and processes that lead to destabilisation and forest degradation in the forest margin zone;
- the identification and assessment of social, economic, political and ecological conditions that are imperative for the stability in the forest margin zone; and
- the development of rapid appraisal systems and integrated interdisciplinary models that aim to evaluate the socio-economic and ecological consequences of existing and alternative rural development and nature conservation policies.

The research program features a joint Indonesian-German project steering and management that explicitly aims at promoting graduate and post-graduate education of young scientists, mainly from Indonesia and Germany. During the second phase (July 2003 to July 2006), the thirteen individual research projects of STORMA contribute to three focal points of investigation:

- Focus 1: Integrated modelling of land use in the rain forest margin zone: Alternative land use strategies
- Focus 2: Sustainable management of agroforestry systems
- Focus 3: Ecological and socio-economic impacts of different forest use intensities

With regard to focus 2 and 3, researchers from the socio-economic and natural sciences work in the same villages, households and plots to facilitate exchange of data, and thereby contribute to focus 1 which seeks to integrate the different data and subsystem models

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through a land use model. A key feature of STORMA is therefore the **collaboration** of the **socio-economic sciences** on the one hand and the **natural sciences** on the other: It aims at bridging a traditionally wide gap in the definition, understanding and solution of problems related to man-nature interaction. These interdisciplinary initiatives have focussed on selected themes that are particularly relevant with regard to the stability of rainforest margins. They include, for example, **(1)** the impact of deforestation on the water availability and water quality of rural households, **(2)** the impact of hunting and deforestation on endangered wildlife species and its implications for conservation, and **(3)** the spread of cacao diseases, which constitute a major problem in the research area.

Apart from the DFG as the main funder, STORMA is supported by the BMZ, the BMBF, the state of Hessia and Lower Saxony, the four partner universities, the DAAD, the Indonesian Ministry of Agriculture and Forestry as well as the Directorate General of Higher Education.