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"Development on the margin"

# Quantitative Accessibility Models in Evaluating Resource Use Patterns: Examples from the Peruvian Amazonia

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**Abstract**

Physical accessibility is an important determinant of land use patterns both in urban and rural regions. In Amazonia, accessibility to urban centres and product markets is a key factor determining welfare of rural dwellers: economic viability of different livelihood choices, health care opportunities and educational possibilities are all affected by rural to urban transportation options. On the other hand, deforestation and exploitative resource use are often linked with enhanced accessibility. Thus, spatial patterns of accessibility are of great interest for actors aiming at improved human livelihoods or worried about the land use pressure on Amazonian protected areas and biodiversity. Although the relevance of accessibility questions in Amazonia is widely acknowledged, deeper analyses of accessibility patterns and their impacts on Amazonian people and environment are scarce.

We have developed a quantitative model for describing spatial variation of accessibility in the north-eastern Peruvian Amazonia (Salonen et al. 2011, accepted in Applied Geography). In our presentation, we discuss the applicability of such a model by introducing two case studies from NE Peru. First, we compare the effects of different transportation network types on regional accessibility patterns. We demonstrate how livelihood choices and resource use patterns along road networks differ from those along dynamic river systems. This is particularly topical now that considerable investments for infrastructural improvements are planned in the Amazon region. Secondly, we show how accessibility is a powerful predictor of land use change in the Amazonian lowlands. A particular focus is given to the importance of quantifying accessibility in a meaningful way – not just relying on Euclidean distances that so far have been the primary measures of accessibility in Amazonia.

**Keywords:** Accessibility, Amazonia, livelihoods, resource use

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