

Land Conversion in Southeastern Peru: A Socio-Spatial Study of Land Use Land Cover Change

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The opening and paving of roads has caused environmental and social impacts in the Amazon, generating deforestation and increasing landscape fragmentation. Within Madre de Dios, Southeastern Peru, a road transect of approximately 400 miles is being paved as part of the transoceanic highway (Transoceanica) and when completed will link the Peruvian-Brazilian border with the Peruvian Pacific coast. Impacts from the road are projected to increase deforestation along the road corridor, create new agricultural frontiers, and expand logging activities, among others. Research has shown that policy incentives and land conversion are based on how livelihood systems interact with key socioeconomic processes.

This research addresses land use land cover change of the past 20 years (1986-2006) of agricultural and forested areas and builds on the following assumptions: (a) land cover changes in the face of shifting conditions or structures through time, such as road accessibility and policies and (b) these shifts drive farmers to modify land as revealed through deforestation and represented through the conversion from primary forest, secondary forest, and non-forest through time. The study will incorporate a case study analysis of a group of farmers who benefited from agricultural incentives, such as fish farming and agricultural mechanization. Methods include land use land cover classification and modeling derived from remote sensing processing techniques and targeted household surveys. The evaluation of changing driving forces will be based on how policy interventions have impacted the outcome of economic processes, as represented previously through colonization and agrarian reform, and more recently through forestry reforms.

Keywords: Peruvian Amazon, Land Use Land Cover Change, Deforestation Patterns, Tropical Forests, Agricultural Frontiers

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