

Is Community Forestry More Effective than Protected Areas? A Comparison of Land Use/Land Cover Change in Two Neighboring Study Areas of the Central Yucatan Peninsula, Mexico.

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Mexico ranks fourth in deforestation worldwide, affecting biodiversity conservation and undermining the effectiveness of protected areas. This study compares Land Use Land Cover Change (LULCC) and examines key socioeconomic and institutional drivers associated with deforestation in two adjacent areas within the Central Yucatan Peninsular Region. La Montaña, Campeche, is part of the northern section and buffer zone of the Calakmul Biosphere Reserve, as well as part of the Mesoamerican Biological Corridor. The Zona Maya in Quintana Roo is characterized by having developed community-based forestry enterprises with world wide recognition. We use remote sensing methods to determine LULCC and logistic regression analyses to determine key variables associated with forest loss and maintenance. Results show different annual deforestation rates among the two study areas, with greater deforestation in the Campeche site (0.7% from 2000 to 2005) compared to Quintana Roo (0.002% from 2000 to 2004). Logistic regression results show that the occurrence of land clearing at La Montaña is significantly related to demographic variables as well as soil-environment types, with conservation status not related to LULCC processes at all. In the Zona Maya, despite twice the population density population variables did not strongly correlate to forest clearing. However, forest conservation or maintenance was shown to be largely driven by local community forestry institutions with landscape zoning driven by community management goals. The results show the positive role that community forestry and strong local institutions can play towards effective forest conservation.

Key words: Forest Conservation; Land use/Land Cover Change; Protected Areas, Community Forest Management, Central Yucatan Peninsular Region

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