

Land Use Profitability in Northeast Tanzania

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For the past two summers now, I have had the opportunity to work in the East Usambaras, part of the Eastern Arc mountain range and located in northeast Tanzania. This part of the world hosts unique biodiversity and poses interesting challenges in how to conserve the remaining biodiversity.

It is one of 25 hotspots worldwide. Its proximity to the Indian Ocean and relative isolation from other mountains has created a continuously moist climate and rainforests that support 16 species found nowhere else. Too, this is where the African violet came from.

Last summer I collected data for my master's research, which concerned governance of protected areas, specifically Village Forest Reserves (VFR). Tanzania's efforts to improve conservation and encourage local participation have been to devolve forestry rights and management. VFRs are communally owned and usually are small forest fragments within a mountainous landscape of diverse land uses. My research dealt with understanding the extent to which local community members were participating in management activities and findings were that participation is low, however perceptions of governance are still quite optimistic. People also have positive attitudes towards protected areas, which differ from many southern African narratives regarding protected areas.

This year the purpose of my research fell within agricultural economics, quite a different field. However, institutions play a very important role in shaping and affecting landscape dynamics and so this informed and helped in my understanding of local



conditions. My research concerned smallholder land use systems and describes these systems in economic terms, including private costs and returns.

Since the introduction of cardamom a few decades ago, deforestation has increased. Cardamom is shade growing and often farmers develop a multi-crop agro-forestry system. But, as yields decline, after about 15 years, the agro-forestry system is converted to support more sun loving crops, such as annual food crops, thereby contributing to deforestation. Understanding land use dynamics and decision-making by farmers in their livelihood strategies contribute to better understanding the potential of integrated conservation strategies. Complex, improved agro-forestry, in which cardamom production is prolonged through fallowing seems feasible from a

development perspective, but perhaps not from a farmer's perspective. Current market mechanisms do not support sustainable farm practices. Payments for environmental services or eco-certification schemes may provide better incentives to practice improved agro-forestry that supports both rural livelihoods and conserves biodiversity.

Fieldwork in this area has been challenging and rewarding, ranging from trekking through knee high mud to stunning views of mountains and the Indian Ocean. As a researcher, my hope is that my work contributes to better understandings of how people and the environment can support each other into the future.

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