

## Parks as Agents of Social and Environmental Change in Eastern and Southern Africa

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Together with faculty and graduate students from several departments, I've been involved for the last several years in an interdisciplinary multi-institutional project, supported by NSF funding, that examines the impacts of parks in Tanzania, Uganda, Botswana, and Namibia. The parks and landscapes around them span ecologic and demographic gradients from mid-altitude forests to semiarid savannas and very densely to relatively sparsely populated regions.

My own research has focused mainly on Kibale National Park (KNP) in western Uganda, and the densely populated landscape around it (300+ per sq km). I've done fieldwork there since 2004, together with UF professors Michael Binford and Jane Southworth, graduate students Joel Hartter, Amy Panikowski, Karen Kirner, and Katherine Mullan, and several

Ugandan and other collaborators.

Among our recent findings are that, despite the park's "fortress" characteristics, and the animal hazards faced by many farmers, most people in our sample within 5 km of KNP feel that they benefit from the park, and a surprisingly small proportion cite negative impacts. The benefits most noted are forms of ecosystem services (improved climate, etc.) rather than direct economic benefits (employment, income). Resource restrictions and expulsion were not widely cited by our respondents, but crop raiding is important in some (but not all) locations. Contrary to expectations, the patterns of responses do not vary significantly by wealth, gender or ethnicity, but they do vary strongly by distance from the park boundary. We believe that important explanatory factors for these responses include that the large majority of current residents migrated to the area after the park (or forest reserve) had been established, and that the area around

the park has been so thoroughly domesticated. Similar conditions are likely also to be true for other mid-altitude forests in East Africa.

Among our other recent findings are that the unprotected small forests and wetlands outside KNP are declining rapidly with extraction and agricultural conversion. This is one of several indications that in the absence of at least moderately effective enforcement of park boundaries, Kibale forest would likely disappear. Agricultural land use continues to intensify in our survey locations, but productivity is almost universally declining. In addition to roads and other infrastructure, the presence of the park has led to the establishment of a number of new women's craft groups throughout the area, which have generated small but important enhancements to women's incomes.

The broader project includes Tarangire National Park in northern Tanzania; Chobe in northern Botswana; and Bwabwata and Mudumu in northeastern Namibia. Collaborators include Brian Child (Geography, UF), numerous UF graduate students, and colleagues at the Universities of Colorado and North Carolina. Our comparative findings are that: (a) the areas around savanna and forest parks have had different dynamics and trajectories of change; and (b) differences in both the content and stability of national-level conservation policies have led to quite different outcomes, especially in attitudes to parks and the impacts of parks on livelihoods and risks.

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