Abstract

The Kakamega Forest is the only remaining tropical rainforest fragment in Western Kenya and hosts large numbers of endemic animal and plant species. Protected areas were established decades ago in order to preserve the forest's unique biodiversity from being converted into agricultural land by the regions large number of small-scale farmers. Nonetheless, recent research shows that degradation continues at alarming rates. In this paper we address an important challenge faced by protected area management, namely, the design of a cost-effective incentive scheme that balances local demand for subsistence non-timber forest products against conservation interests. Using primary data collected from 369 randomly selected farm-households we combine a farm-household classification with mathematical programming in order to estimate the opportunity costs of conserving the Kakamega Forest and restricting access to non-timber forest product resources. We validate our model and analyze the impact of changes in major economic frame conditions on our results before we derive recommendations for an improved protected area management in the study region. Our findings suggest that a more flexible approach to determining the price of recently established forest product extraction permits would greatly enhance management efficiency without significantly compromising local wellbeing.