

GEF Annual Impact Report 2008



Protected areas, including those supported by the Global Environment Facility (GEF), now cover a significant fraction

of the globe's land area. However, little is known about their net effects on local incomes or poverty rates. Community-level economic development could be reduced by restrictions on land use or resource extraction activities, but it could also be supplemented by a new tourism sector or increased environmental benefits.

Empirical work on the actual impacts of protected areas has been limited to date by the lack of data on poverty outcomes at the appropriate spatial scale and the nonrandom selection of protected area locations, which complicates the construction of a useful comparison group.

In 2008, the GEF Evaluation Office continued its evaluation of the impacts of protected areas by undertaking two quasi-experimental impact evaluations in Thailand and Costa Rica:

- **Evaluating the Local Socioeconomic Impacts of Protected Areas: A System-Level Comparison Group Approach.** This study focused on the protected area system of Thailand, which is about to receive GEF support. To measure socioeconomic outcomes, data were used from new poverty mapping techniques that estimate community-level incomes and poverty rates. To assess impacts, the study evaluated differences between communities with protected land and comparison communities in the same province or district with a similar likelihood of protection and similar preprotection development potential.
- **Measuring the Social Impacts of Protected Areas: An Impact Evaluation Approach.** This study measured the impacts of Costa Rican protected areas established before 1980 (which have received GEF support) on

changes in socioeconomic outcomes between 1973 and 2000. It used matching methods to identify suitable comparisons for communities affected by protection and thus answer the counterfactual "What would have happened if this protected area had not been established?"

These studies built on efforts undertaken by the Office in East Africa and Costa Rica and reported on in the *GEF Annual Impact Report 2007*. Like the earlier work, these evaluations were undertaken in collaboration with the GEF Scientific and Technical Advisory Panel.

Findings

The specific national-level findings should not be assumed to apply to protected area systems in other countries, since both Costa Rica and Thailand have relatively high income levels and well-developed tourism industries. Nonetheless, the two studies yield important insights on the impacts of protected areas; these findings are summarized below.

- Districts surrounding protected areas in Costa Rica and Thailand experienced less poverty than carefully controlled counterfactual districts not adjacent to protected areas with similar geographic and physical characteristics.
- Without the use of a counterfactual, the districts seemed to be poor, which could have led to the false conclusion that this was associated with the neighboring protected areas.
- Income inequality increased near protected areas in Thailand (data on this factor were not available for Costa Rica), so an aggregate income improvement may disguise pockets of worsening poverty.
- In the Costa Rica study, conventional statistical evaluation techniques (such as a difference in means test or ordinary least squares regression) produced biased es-

timates when applied to the study sample. These methods erroneously implied that protection had negative impacts on the livelihoods of local communities, which suggests that they fail to control for confounding factors or that outcome baselines can lead to inaccurate estimates. The case study demonstrates the value of an impact evaluation approach that carefully identifies suitable counterfactuals for measuring the social impacts of protected areas.

Follow-Up

Impact evaluation has become a high-profile topic in the international development arena and one subject to considerable debate, much of it focusing on the efficacy of different methodological approaches. The GEF Evaluation Office has been actively engaged in this debate and is collaborating on numerous initiatives both to remain on the cutting edge of the discussion and to share its own growing expertise.

- In 2008, the Office developed the methodology for, and conducted the initial implementation of, an impact evaluation of GEF activities aimed at the reduction of ozone-depleting substances. This evaluation takes a theory-based approach and will include extensive statistical analysis of the impacts of GEF activities as compared with those of the Multilateral Fund of the Montreal Protocol. Fieldwork will be conducted in Kazakhstan, Russia, Ukraine, and Uzbekistan. The initial findings of this work will be incorporated in the final report of the GEF Fourth Overall Performance Study (OPS4) and included in the 2009 annual impact report.
- The Evaluation Office is conducting a third case study in addition to the two quasi-experimental studies of protected area systems noted above. This study looks at a completed GEF project—the Regional Integrated Silvopastoral Approaches to Ecosystem Management Project (GEF ID 947)—which was conducted by the World Bank in Colombia, Costa Rica, and Nicaragua and had an experimental design featuring participant and control groups of farmers. The case study draws on existing research, compiled by a doctoral researcher formerly associated with the GEF Evaluation Office, and limited follow-up fieldwork to evaluate the strengths and weaknesses of the project's experimental design and impacts at the field level, including the adoption of improved silvopastoral practices, environmental benefits, socioeconomic benefits, and the sustainability of land use changes.
- The Office's extensive development of impact evaluation approaches has been fed into the design of the methodology for the evaluation of results in OPS4. In addition to including the findings of the protected area and ozone-depleting substances evaluations in the OPS4 results analysis, the Office's theory-based approach is being adapted so that it can enable an improved understanding and reporting of results throughout the GEF portfolio. Theories of change are being developed for all major areas of GEF activity; early testing has shown that they facilitate an improved understanding of the sustainability and catalytic effects of GEF support after formal project closure.

The GEF Evaluation Office is an independent entity reporting directly to the GEF Council, mandated to evaluate the focal area programs and priorities of the GEF.

The full trilingual version of the *GEF Annual Impact Report 2008* (Evaluation Report No. 48, 2009) is available in the Publications section of the GEF Evaluation Office Web site, www.gefeo.org. For more information, please contact the GEF Evaluation Office at gefevaluation@thegef.org.