PARKS AND PEOPLE PROJECT

Do parks hurt local people? – assessing the human welfare effects of establishing protected areas for biodiversity conservation

This joint project of the Wildlife Conservation Society and Boston College is designed to assess the positive or negative impacts of establishing protected areas on the welfare of local people. The study will document the welfare of 800 park influenced and 800 control households over a 5 year period.

Sites

We chose 4 of the 12 new national parks in Gabon as study sites. Several of the sites that recently received national park status had previously had some legal protected status (Lopé, Moukalaba-Doudou, Minkébé, Loango), albeit with varying degrees of on-the-ground management. Given that we cannot control for the effects of prior management at these sites, they were eliminated from the choice of study sites. Two parks (Akanda and Pongara) appear unlikely to receive any support for intensive management in the next 18 months and were also dropped from the list of potential study sites. We also felt that Mayumba national park, as the only marine park in Gabon, is a special case and the methods required would be somewhat different from the other sites. This left a short-list of 6 parks: Birougou, Waka, Monts de Cristal, Ivindo, Mwagne and Batéké Plateau. We dropped the Batéké Plateau from the list of potential sites, as much of the pressure on this park comes from across the border in Republic of Congo and therefore the effects of anti-poaching on park-adjacent populations would be impossible to measure unless the survey was to take place in both countries. We dropped Mwagne because it is so isolated that no communities live closer than 20km from its borders and thus are unlikely to rely on park resources for a significant portion of their livelihoods.

The final list of parks to survey is therefore: Birougou National Park, Waka National Park, Ivindo National Park, and Monts de Cristal National Park. In all four of these parks there has not yet been any form of anti-poaching or community development. In Ivindo National Park wildlife at a 'bai' deep in the forest have been monitored continuously for the last 3 years, but with no impact on any human population surrounding the park.

Research methods

The project is divided into three components: 1) a pilot study to test and refine survey methods; 2) an extensive survey of 1,600 households (200 park influenced and 200 controls surrounding each of the four study sites) and 3) an intensive survey of a sub-sample of 576 households (72 park influenced and 72 controls surrounding each of the four study site).

The extensive survey is designed to capture information on household composition, education, measures of short-term mortality, health, income, wealth, and self-assessments of wellbeing, family function and social capital. These surveys are being conducted at present (April-September 2005), as a baseline, and will then be repeated using the same panel of household 36 and 60 months later. The intensive survey, which will commence after the extensive survey baseline is completed, is designed to gather information on household consumption of wild, cultivated, and manufactured goods, and to provide more information on income, and health. The intensive study will be completed on the same sub-sample panel of households twice per year, to capture information on household welfare during both dry and wet seasons. Each park influenced and control household will be visited on six consecutive days. On each visit all household residents will be asked to recall all edible and non-edible goods consumed (i.e., harvested, purchased, acquired as gifts or through barter) and all income generated during the prior 24 hours. On one of the days measures of short-term health of all household residents will also be collected.

Study households will be selected from as many villages as possible as we expect that inter-household variance in welfare

measures will be greater between villages than within villages.

Park influenced households are defined as those that reside in communities that have traditional claims on and have traditionally used natural resources within what is now the borders of a national park. Spatial use of natural resources by communities is determined by conducting participatory resource use mapping exercises in each community that lies within 20km of the boundary of each park in the study. Control communities are those located greater than 20km from the park boundary, and do not have traditional claims nor use natural resources within what is now the border of the national park as determined by participatory resource use mapping exercises. Household are selected within control communities to match the variance in ethnicity, wealth and market access that exists across all park influenced households.

Village level information

For each community within which park influenced or control households are resident, the following data are being collected: the name of the community, its geographic location, the number of residents and households, the number of years the settlement has been in its present location, market access and access to social services (proxied by the travel time to: a taxi, a permanent market, a market town, the capital Libreville, a pharmacy, a clinic, a hospital, a primary school, and a secondary school), access to electricity, and whether community members participate in community work activities. Data are also collected on the village price of a standard basket of 22 different goods.

Household level information

Demographic information (age, gender, years of education, and ethnicity) are gathered on all household residents, with the latter defined as all individuals sleeping in the residence in the seven days prior to the survey. Anthropometric information (body-mass index calculated as weight/height2, % body fat, and mid-upper-arm circumference) is gathered on all household residents older than 1 year in age, as measures of short-term health. All household residents are also asked to estimate how often in the previous month they suffered from malaria, diarrhea, and the common cold.

Household residents are asked to recall the amount of income generated during the previous month from salaries, wages, retirement benefits, revenue from commercial enterprises and the sale of farm and forest goods, gifts and remittances. For all goods sold household residents report the provenance of each good. Household wealth is assessed using the total value of a standard basket of 22 assets owned by household members. A second measure of wealth is an index based on the materials used to construct the family residence. The male of female head of household is also asked to provide a self-assessment of their wellbeing, how many days during the last month they have not eaten anything, and whether they feel that they can trust the other residents of the community. Lastly, the head of household is asked if he or she have heard anything about the national park and if so what.

During the intensive survey, over six days, all household residents will be asked to recall all edible and non-edible goods consumed (i.e., harvested, purchased, acquired as gifts or through barter) and all income generated during the 24 hours prior to the survey.

Assistance with the initial study design

The study was designed with the assistance and feedback of an advisory panel that included:

Dr. Katherine Homewood, Anthropology, University College, London; Dr. Ricardo Godoy, Economic Anthropology, Brandeis University; Dr. William Leonard, Physical Anthropology, Northwestern University; Dr. Paul W. Glewwe, Economics, University of Minnesota and The World Bank Living Standards Measurement Study; and Dr. Dean S. Karlan, Economics, Princeton University.

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