PROTECTED AREA ECONOMICS AND POLICY

Linking Conservation and Sustainable Development

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Distributed for the World Conservation Union (IUCN)
by
The World Bank
Washington, D.C.
1994

17

Valuing a Protected Tropical Forest: A Case Study in Madagascar

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IT HAS LONG BEEN RECOGNIZED that the increasing demand for forestland in developing countries obliges governments and donor agencies to provide economic as well as environmental justifications for creating national parks (Myers 1972). This is necessary because there are competing demands for scarce land, including extraction of forest products, clearing forests for farming, and preserving forests for conservation of biodiversity. In addition, such justifications are necessary for governments to allocate scarce capital resources to development programs (such as poverty alleviation and food production) and conservation of natural resources.

Economic analysis can provide useful information for these difficult decisions. Of course, economic analysis should only constitute one component of the process of deciding whether to create a national park (other components would include sociopolitical and ecological considerations). Traditional economic cost–benefit analysis for national parks, however, is problematic, since most of the benefits from park creation are not traded in formal markets, creating a potential policy bias in favor of competing land uses. We address this by examining the use of economic valuation techniques for evaluating the nonmarket benefits and costs of creating national parks in developing countries.

Over the past two decades, environmental and resource economists in industrialized countries have developed a number of methods for valuing nonmarket environmental benefits and have successfully applied them in the United States and other developed countries (Smith 1990). However, nonmarket valuation techniques have been applied less often in developing countries, where the ecological urgency for and economic constraints to national park creation are typically much greater (Dixon and Shermann 1990, Munasinghe 1993). In this chapter, we report on two components of some work in progress to evaluate the use of these techniques in a developing country, using the creation of the Mantadia National Park in Madagascar as a case study. The two components are: (a) valuing the impacts of establishing the park on nearby villages and (b) valuing the new park as an international tourism destination. Two additional components of the overall research effort are briefly described in Annex A.

This type of valuation study can shed light on questions such as, Is the value of a park with a buffer zone greater than one without? What is the appropriate level of compensation for local people unable to continue their forest extraction activities because of the park? How much are foreign tourists willing to pay to visit national parks in developing countries? and How might developing countries capture this willingness to pay and improve park management?

We focus on Madagascar because of the importance of its biodiversity. Madagascar, one of the economically poorest and ecologically richest countries in the world, has been designated by the international environmental community as a prime spot for biodiversity, where ecosystems are at great risk. Madagascar is on the IUCN–World Conservation Union's list of megadiversity countries because of its extraordinarily high numbers of endemic species.[1] As a result of Madagascar's important biodiversity, the international donor community is providing large amounts of money in an effort to save as much of the island's biological diversity as possible.[2] In addition, the government of Madagascar itself is taking a number of actions to control forest degradation and to protect biodiversity.

Methodology

It is difficult to attach economic values to many of the benefits of environmental projects because there are no corresponding market price data available. Although public goods such as biodiversity, wildlife reserves, and national parks are often available to consumers at no cost and may not affect private goods markets in a measurable way, many people are willing to pay significant sums to insure their continued availability. Environmental economists have devised ways to measure this existing, but not directly observable, willingness to pay for such environmental assets (Kramer and others 1992). The three main methods for empirically measuring the willingness to pay for nonmarket goods include (a) contingent valuation method, (b) travel cost method, and

[1] More than 80 percent of Madagascar's plant species, 90 percent of its reptiles, nearly all its mammals, and more than half of its bird species are endemic to Madagascar (World Bank 1988).

[2] For example, U.S. donor organizations invested $2.87 million or $49 per 1,000 hectares for biodiversity protection in Madagascar in 1989. This exceeded all other countries in Africa and Asia (Abramowitz 1991).

(c) hedonic land price method. Two of these, the contingent valuation method and the travel cost method, are applied in this study. We also use opportunity cost analysis to estimate the park-related change in the marketable agricultural and forest outputs that are produced.

The creation of a new national park generates a number of economic impacts involving both direct and indirect costs and benefits. Costs arise from land acquisition (unless the land is already under government ownership, as is the case for Mantadia), hiring park personnel, and the development of roads, visitors' facilities, and other infrastructure. The opportunity costs associated with foregone uses of park land are another important set of costs that are often ignored.

Benefits include both use values and nonuse values. Since most parks, including Mantadia, do not allow exploitation of forest resources, the primary use values of a park are for tourism and research. In fact, park tourism can generate considerable revenues from both local and foreign tourists in the form of entrance fees and travel expenditures. National parks also generate a number of nonuse benefits. One of the most important of these is existence value, which economists define as the willingness to pay to preserve a resource by individuals who never plan to use the resource. Given the importance of Mantadia National Park for biodiversity protection, many people outside of Madagascar may have significant positive existence values for the park. Another important nonuse value has been referred to as option value. Residents of Madagascar (as well as foreigners) may be willing to pay to maintain the option to use the park in the future. Other benefits associated with the park may include reduced deforestation, watershed protection, and climate regulation.

Given the large array of benefits and costs associated with the creation of a park, performing a complete accounting job in a benefit–cost framework is a monumental task (Munasinghe 1992). Our study is focused on measuring some of the more important and more difficult-to-measure economic impacts. In this chapter, we discuss ongoing efforts to measure the economic impact of the park on villagers and the benefits of the new park to foreign tourists.

Opportunity cost analysis

The opportunity cost approach uses standard economic analysis of market values to determine the net economic benefits associated with the alternative uses of one or more resources. In this study, opportunity costs of interest are those associated with alternative land uses by people living in and near the park. Our initial understanding of the dependence of the villagers on the forests suggested that creating a national park out of a large tract of forests and imposing restrictions over future use was imposing a considerable economic burden on local villagers. By determining recent land use in and around the park and projecting future land use changes in the absence of the park, we can estimate the cost to villagers from losing the opportunity to exploit the park area for agricultural or forest products.

Although there are no human settlements within the Mantadia National Park boundaries, several villages lie in close proximity. These villages depend on the forests within and immediately around the park for forest products and agriculture. The method of agriculture production practiced in eastern Madagascar is critically important as a mechanism of deforestation. For several hundred years, the eastern Malagasy have practiced a form of shifting cultivation known as *Tavy*. About 200,000 hectares of land is cleared every year because of shifting cultivation in Madagascar (Andriamampianina 1985). While shifting cultivation is clearly an important factor in deforesting eastern Madagascar, it is also the only means of livelihood known to many of the inhabitants of this region.

Villagers in this area are also dependent on the forests for a number of other reasons. Fuelwood is collected from the forests on a regular basis, a wide variety of fish and animals are foraged for consumption, and a number of different types of grass are harvested and used

for assorted purposes. Forest plants and herbs also serve as important sources of medicine.

In order to estimate the opportunity costs associated with foregoing these economic activities on park land, a survey was conducted of 351 households in 17 villages. These villages lie within a 7.5-kilometer radius around the park boundary. A local nongovernmental organization, well versed in rural survey techniques, assisted in administering the survey. The survey was undertaken following a reconnaissance visit to the villages, several focus group interviews, conversations with various people who were well acquainted with the area, and a pre-test that covered about 25 households. The survey was administered in Malagasy, the national language.

The questionnaire focused principally on (a) establishing the extent of dependence of the local villagers on forests near their villages, and on forests within the park boundaries, for obtaining a variety of forest products; (b) establishing the extent to which villagers used the forests within and immediately around the park for shifting cultivation; and (c) assessing local attitudes toward conservation of forests. Questions related to socioeconomic variables, land use, time allocation, and household production activities were also asked. The final section used the contingent valuation method discussed below.

A separate questionnaire was administered to the village leaders. It focused on issues pertaining to general agricultural patterns, markets and prices of goods sold, village history and migration patterns, forest related cultural issues, and details on shifting cultivation practices.

Contingent valuation method

The contingent valuation method uses survey techniques to establish the value of goods and services that are not exchanged in markets and that, therefore, have no prices associated with them. Within this framework, demand for nonmarket goods is established by first describing a simulated market to the respondents and then asking them directly to reveal their preferences in terms of some common denominator. The advantage of using the contingent valuation method is that it is suitable for valuing a wide range of nonpriced environmental goods and services. However, it is still a relatively new technique and requires additional empirical verification and development, particularly in the context of a developing country .

In this study, contingent valuation method was used in both the village survey and the tourist survey. The exercise of formulating the contingent valuation questions for the village survey threw considerable light on local perceptions about the desirability of the park. For example, in the pre-test of the questionnaire, a number of villagers indicated that they were willing to sacrifice labor time to walk an additional distance in order to obtain forest products or to shift cultivation, if this meant that the park would be established. This seemed to indicate that the villagers were willing to pay to protect the forest. However, we soon discovered that the villagers' responses did not stem from perceived nonuse benefits related to the park, but apparently emerged from a sense of coercion by local authorities, who had made several arrests for incursions into the park area. We thus reformulated the questions in terms of willingness-to-accept compensation for having lost access to the forest contained in the park. The wording of the village contingent valuation question is given in Annex B.

In the village survey, the contingent valuation method questions required respondents to provide "yes" or "no" responses (a discrete choice format). The questions themselves referred to compensations which would make the household as well off with the park as they would have been if they continued to have access to the forests in the park. The measure used for the compensation mechanism was units of rice.

In the tourism survey, the contingent valuation method was used (as an alternative method to the travel cost method) for estimating the total value of the park to tourists. These questions were phrased in terms of how much more the foreign tourists would have

been willing to pay for their trips if the new park were available for them to visit. The contingent valuation method questions administered to the tourists are found in Annex B. These questions were also pretested and revised prior to the implementation of the tourist survey.

Travel cost method

Travel cost models use the amounts of time and money visitors spend traveling to a site as price proxies, together with participation rates and visitor attributes, to estimate the recreational value of the site. Most travel cost studies portray the problem in terms of a single-purpose, single-destination day trip to a site that affords some particular recreation experience of typical quality, which can be substituted for those available at many similar sites. Recreation in Madagascar's national parks contrasts sharply with these assumptions. Recreators in Madagascar can be divided into two groups, consuming distinct goods: local recreators who make day trips to national parks to view the local natural environment, and international nature tourists who undertake lengthy trips to experience unusual natural settings and cultures.

Standard travel cost models can be directly applied to estimate the demand of local recreators. Demand by international tourists, however, requires a reformulation of the traditional models. Our study focuses on international tourists. The full international nature tourism travel cost model used in this study is presented in a paper by Mercer and Kramer (1992). It is based on the assumption that individuals travel to a single country, such as Madagascar, and engage in a variety of activities. The activities consist of traveling to specific natural areas for recreation and travel enjoyment. Estimating this model requires specific data on how each household distributes its time across activities during the time horizon of the model, and a specification of the features of the activities. Ideally, this implies collecting full trip itinerary data, as well as travel cost data, for foreign visitors. The itinerary data includes the distribution of time between activities for each individual, the costs of pursuing the activities, and the features of the various activities that lead to differences across individuals in their ability to produce them.

Based on the theoretical model, questionnaires were prepared and translated into French and administered to visitors to the small Perinet Forest Reserve, adjacent to the Mantadia National Park. The questionnaires consisted of a series of questions on the costs of the current trip to Madagascar, details on previous international nature tourism related trips, the process for deciding on trip destinations, contingent valuation questions for willingness to pay for visiting the Mantadia National Park, and a series of socioeconomic and demographic questions. The questionnaires were tested in the United States in May 1991 with a focus group of previous visitors to Madagascar through the Wildlife Preservation Trust in Philadelphia. In Madagascar, the questionnaires were revised following pretests with a small sample of visitors to the Perinet Reserve and discussions with our local Malagasy collaborators.[3]

Initial data collection efforts were successful, with a total of 94 tourists completing the surveys. Unfortunately, political unrest and a resulting general strike caused a drastic reduction in the numbers of tourists coming to Madagascar from mid-July through the fall of 1991. As a result of the almost complete reduction in tourist traffic, we called a halt to further efforts to collect data in late October 1991. The data collected in Madagascar have been supplemented with additional data from an expert opinion survey administered to U.S. and European tour operators who specialize in nature oriented tourism.

[3] Two local Malagasy research consultants (trilingual in English, French, and Malagasy) were hired to administer the questionnaires to visitors to the Perinet Reserve.

Empirical Results

In this section, some preliminary results of the village component and the tourism component of the study are presented. While estimation of the total values of the park for these two groups is still under way, we report here some of the key results.

Village component

The survey covered a total population of 1,598, with an average household size of 4.6 persons (Table 17–1). The average annual per capita income in Madagascar in 1988 was $190 (World Bank 1989), and the households covered in our survey may well have income levels below this average. Many of the villages do not have access to any medical facilities, running tap water, electricity, or primary schooling. Several of the villages are very isolated; in fact, it takes over half a day to walk from the nearest road to some of the villages.

The survey included several indicators of wealth. Approximately 95 percent of the households control some land. However, the average amount of land is only 1.9 hectares per household (Table 17–2). Other proxies for wealth relate to ownership of watches, radios, and oil lamps. In our sample, 36 percent of the households surveyed own a watch, while 33 percent own radios, and 97 percent of the households have a kerosene lamp to light their huts.

The average household produces 487 kilograms of paddy rice per year, worth about $128. Most households also engage in shifting cultivation. Eighty percent of the households surveyed said that they would add to existing land for cultivation. Ninety-nine percent of these respondents acknowledged that they planned to cut forests to add to their land. The average household expected to cut 1.7 hectares of forested land in the coming year to undertake shifting cultivation. Further details on land use are presented in Table 17–2.

As expected, our tabulation of the data on forest products suggests that fuelwood is the most important forest product collected. Annually, the average household collects about 6,164 kilograms of fuelwood. The total value of the firewood collected is $13,289 or about $38 per household per year. Ranking next to fuelwood in terms frequency of harvesting are fish, crabs, wood for other purposes, and a variety of grasses. Grasses are used as material for house construction, for weaving mats, and for making clothing and hats. Values of some of the forest products are given in Table 17–3.

To estimate the opportunity cost to villagers of establishing the Mantadia National Park, cash flow analysis was used. Income from agricultural and forestry activities was estimated for three different groups of villages. Then, depending on the extent to which land in the park had been used by villagers for gathering forest products and practicing swidden agriculture (based on analysis of aerial photographs of the park), estimates were made of the income losses associated with the loss of access to park land. The mean value of losses was $91 per household per year. Aggregating over all households living in the vicinity of the park and using a 10 percent discount rate and 20-year time horizon, the net present value of the opportunity costs was estimated to be $566,010.

In order to assess local views about conservation and to set the stage for the contingent valuation exercise, the questionnaire included a number of questions which specifically probed villagers' perceptions of forests. Although 65 percent agreed that floods occur less frequently with forests, 40 percent seemed to think that forests did not help soil protection. Interestingly, 91 percent of the respondents agreed that primary forests were "more fun" than secondary forests. This suggests that recreation may be an important forest use. Another surprising result was that 77 percent of the villagers interviewed seemed to think that preserving forests in order to protect ancestral graves was not very important. This is a surprising result because conventional wisdom suggests that one of the most important uses of the forests to the Malagasy is as a

resting place for their ancestors.[4] Finally, 68 percent of the villagers seemed to think that it is advantageous to clear forests as a form of pest management.

The responses to the contingent valuation questions indicate that on average, a compensation of rice equivalent in value to $108 per year per household would make households as well off with the park as without. Aggregating over the population in the park area, this implies a necessary one-time compensation of approximately $673,078, assuming a 10 percent discount rate and 20-year time horizon.

Tourism component

In this section, we provide some information from the tourist questionnaires. Table 17–4 presents summary statistics for the complete sample of tourists. Income for the visitors ranged from $3,000–$300,000, with a mean of $59,156. The average tourist was 39 years old and had completed 15 years of education. Visitors came from 13 countries (primarily from Europe). Trips ranged from 3 to 100 days in length (mean of 27 days), with 1–8 days spent at Perinet (mean of 2 days). Expenditures for their trips to Madagascar ranged from $335 to $6,363, with an average trip costing $2,874.

Using data from the tourist survey supplemented by data from the travel experts survey, an econometric analysis was conducted to apply the travel cost approach. The econometric model used is referred to in the literature as a random utility model. The model examines the allocation of trip choices to Madagascar and other international nature tourism destinations as a function of travel costs, socioeconomic characteristics, and quality variables. The model was then used to predict the project benefits to tourists, assuming that the Mantadia National Park will result in a 10 percent increase in the quality of local guides, educational materials, and facilities for interpreting natural areas in Madagascar. The average increase in willingness to pay per trip was estimated to be $24 per tourist. Based on the conservative assumption that the same number of foreign tourists (3,900) would visit the new park as currently visit the Perinet Reserve, there would be an annual benefit to foreign tourists of $93,600. At a 10 percent discount rate and a 20-year project life, this would generate a net present value of $796,870 of benefits associated with the park.

In addition to the travel cost method, the contingent valuation method was used to directly value the park for foreign tourists. Visitors were provided with information about the new park and then asked how much *more* they would have been willing to pay for their trip to Madagascar to visit the new national park (a) if they saw twice as many lemurs, and (b) if they saw the same number of lemurs as they saw on the current visit to the Perinet Reserve (which we believe to be the more realistic scenario). A discrete choice format was utilized for the contingent valuation questions. The mean bid for their additional willingness to pay to for their trip if the park had been available (conditional on seeing the same number of lemurs) was $65. Assuming current visitation patterns continue, the total additional willingness to pay to visit the new park would be $253,500 annually. This amounts to $2.16 million as the present value for the stream of benefits over 20 years—assuming a 10 percent discount rate.

Conclusions

Several tentative conclusions can be drawn from this study. Based on our experiences in the field and on the results thus far, nonmarket valuation techniques can provide useful information for economic evaluation of national parks. A major strength of this study is the opportunity to compare valuation techniques (see Table 17–5). For the village component, the estimated welfare estimates based on two entirely different methods, opportunity cost analysis and contingent valuation method, were remarkably similar ($91 and $108 per household per year). The estimates of tourist

[4] In fact, there is a Malagasy term which refers to the forests as the "robe of the ancestors" (Olson 1984).

benefits based on the travel cost method and contingent valuation method were somewhat more disparate ($24 versus $65 per trip), but it is noteworthy that the benefit estimates are of the same order of magnitude. Furthermore, the travel cost estimate is for use values only, while the higher contingent valuation estimate may reflect some nonuse values in addition to use values.

The results from such valuation efforts can be incorporated more fully in benefit cost analysis of projects, including conservation components, to determine their economic viability. Further research of this type has implications for policies, investment decisions, resource mobilization, and project design and management. Such information can help governments decide how (a) to allocate scarce capital resources among competing land use activities, and (b) to choose and implement investments for natural resource conservation and development. Results can also be used in determining, or influencing, pricing, land use, and incentive policies. At the local level, the findings can be used to determine compensation for local villagers for foregone access to forest areas designated as national parks. In addition, the research findings can show the value of a park as a global environmental asset to foreigners, thus influencing external assistance for conservation programs at the local level.

At the same time, the findings indicate future issues that need further exploration. Reliance on willingness to pay is fundamental to the economic approach to valuation, but tends to overemphasize the importance of value ascribed to richer foreign visitors (because ability to pay is also a key element). If conflicting claims to park access were to be determined purely on this basis, Malagasies (especially the poor local villagers) are more likely to be excluded. Therefore, other aspects of sustainable development, especially social goals like distributional equity (see Munasinghe, this volume), would need to be invoked to protect the basic rights and needs of local residents.

Table 17–1. Socioeconomic Characteristics of Surveyed Households

Variable	Number of observations	Range	Mean
Number of household members	351	1 – 13	4.55
Number of males per household	335	1 – 8	2.38
Number of females per household	339	1 – 7	2.35
Age (years)	2,012	.5 – 100	17
Education (years)	1,542	0 – 14	2.35
Nonfarm labor days per year per household	115	8 – 504	107
Nonfarm income per year per household ($)	106	8 – 789	108

Table 17–2. Land Use Information for Villages

Variable	Number of observations	Range	Mean
Total quantity of farmland per household (hectares)	311	0 – 9	1.89
Planned increase in cultivated land per household (hectares)	256	0 – 10	1.7
Annual quantity of farmland planted with rice per household (hectares)	289	0.04 – 5	1.04
Total annual rice yield per household (kilograms)	296	2 – 3,600	487
Total annual quantity of rice marketed per household (kilograms)	249	0 – 990	41.8
Total annual value of rice yield per household ($)	296	$0.5 – 1,101	$128

Table 17–3. Value of Forest Products Collected by Villagers

Forest products	Number of observations	Total annual value for all villages (US$)	Mean annual value per household (US$)
Fuelwood	316	$13,289	$38
Crayfish	19	$220	$12
Crab	110	$402	$3.7
Tenreck	21	$125	$6
Frog	11	$71	$6.5

Table 17–4. Summary Statistics for Complete Sample of Tourists

Variable	*Number of observations*	*Range*	*Mean*
Income	71	$3,040 – $296,400	$59,156
Education (years)	86	10 – 18 years	15 years
Age	87	16 – 71 years	38.5 years
Number of days in Madagascar	83	3 – 100 days	26.6 days
Number of days in Perinet	80	1 – 8 days	2 days
Total cost of trip to Madagascar	78	$335 – $6,363	$2,874
Transport cost to Madagascar	47	$352 – 5,000	$1,388
Transport cost in Madagascar	43	$8 – 2,000	$588

Table 17–5. Summary of Economic Analysis of Mantadia National Park

Estimates of welfare losses to local villagers from establishment of park		
Method used	*Annual mean value per household*	*Aggregate net present value*
Opportunity cost	$91	$566,070
Contingent valuation	$108	$673,078
Estimates of welfare gains to foreign tourists from establishment of park		
Method used	Annual mean value per trip	Aggregate net present value
Travel cost	$24	$796,870
Contingent valuation	$65	$2,160,000

Annex 17–A

Additional Components of Research Study

Flooding–Deforestation Component

By means of a productivity analysis, we are also measuring the benefits to villagers of reduced flooding from reduced deforestation resulting from the establishment of the park and buffer zone. Productivity analysis is a valuation method suitable for examining the effects of environmental quality on products which enter into market transactions. This approach has been used in the past to value the effects of various types of environmental change on agriculture, forests, and fisheries (Freeman 1979). The basic notion is that changes in environmental quality reduce (or increase) the quantity and quality of products being marketed. Once those physical changes are identified and estimated with the help of physical and biological scientists, the productivity changes can be valued through economic analysis.

The effect of deforestation on flooding is a continued source of concern on the eastern half of the island of Madagascar due to regular flooding caused by monsoon rains. Anecdotal evidence suggests that the incidence and magnitude of flooding has increased in recent years as deforestation expanded. In addition, research conducted in the Mantadia area shows evidence of increased runoff in watersheds cleared for swiden agriculture.

The analysis is proceeding, starting with the estimation of deforestation rates in the Mantadia area using remote sensing. Deforestation rates for the future are projected with and without the park. These land use changes are then used to project effects on flooding. Finally, to the extent that flooding is reduced by the park and buffer zone, the reduced crop losses caused by flooding will be estimated and valued in economic terms.

U.S. Rainforest Survey Component

Many of the benefits of biodiversity protection efforts accrue outside the country where the project is implemented. While some of these benefits are due to future pharmaceutical and other products developed from protected species, some benefits are more intrinsic in nature (Van Schaik and others 1992). Many people value tropical forests and the biodiversity they contain, even if they have no planned direct use of the forests or their products. Economists refer to this as existence value and point to contributions to organizations such as the World Wildlife Fund as evidence of the importance of these economic values. Our research uses the contingent valuation method to estimate the benefits to U.S. residents of protecting tropical forests.

A mail survey was administered to a random sample of 1,200 U.S. residents in June 1992. The purpose of the survey was (a) to measure the willingness to pay of U.S. residents for preserving tropical forests, and (b) to determine the attitudes toward issues concerning tropical rainforest preservation and management (such as compensation). Of course, many of the benefits of biodiversity protection occur in places other than the United States, especially Europe, so this will serve as a pilot study to see if the contingent valuation method is workable for valuing a global good of this nature.

Annex 17–B

Contingent Valuation Questions

A. Village Component

Suppose you are asked to use only the buffer zone, set aside for collecting forest products and for growing crops and are asked not to use the rest of the forests any more. Suppose in order to make up for asking you not to use the forests in the park, you are given _____ *vatas* of rice every year from now on. Would this make you as content as before when you could use the forest in the national park?

If YES, would ____ *vatas* of rice make you as content?

If NO, would ____ *vatas* of rice make you as content?

B. Tourism Component

The government of Madagascar is establishing a 10,000 hectare national park near the 800 hectare Perinet Reserve. The main purpose of the park is to preserve and protect the rainforest in its natural state. I will now ask you a few questions concerning your potential use of this new park. In answering these questions, assume the new park will have:

- ten times as many nature and hiking trails as the current reserve
- an educational center

Now imagine that you were able to see twice as many lemurs and birds at this new national park than at the current Perinet Reserve. Would you have been willing to pay $_____ more than you paid for your trip to Madagascar to visit the new national park?

_____ Yes
_____ No

Would you have been willing to pay $_____ more than you paid for your current trip to Madagascar to visit the new National Park if you still saw the same number of lemurs and birds as you do now when you visit the current Perinet Reserve?

_____ Yes
_____ No

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