

# Management of Resources-Based Tourism at Tikal National Park in Northern Guatemala

## Introduction

**R**esources-based tourism is often an economic necessity in natural resources-dependent communities. Tikal National Park, located in the Petén region of northern Guatemala (Figure 1), contains an ancient Mayan urban center and was declared a mixed cultural–natural World Heritage Site by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) in 1979 (National Geographic Book Service 1987). Since then, the number of visitors has been growing and the park has become an important tourist attraction in Guatemala (Matola and Platt 1998). Currently the Guatemalan government and non-governmental organizations (NGOs) are making efforts to develop resources-based sustainable ecotourism in the Petén (Norris and Wilber 1998). This study investigates the economic contribution of Tikal to the economy of Guatemala and the Petén region, and examined visitors' satisfaction level, attitudes toward conservation, and demographics to identify the future possibilities of ecotourism promotion in the region.



Figure 1. Map of Guatemala showing location of Tikal National Park.

## Environmental and Development Aspects of Tourism in Guatemala

The land area of Guatemala is 108,000 sq km, of which 35% is covered with forest (World Bank 1999). The Guatemalan government's efforts to protect historically and naturally valuable areas increased the number of protected areas from 13 in 1989 to 17 in 1994. From 1989 to 1996 the extent of the protected area estate nearly doubled, reaching 18,200 sq km, or 17% of the total land area (Figure 2). International tourism is an

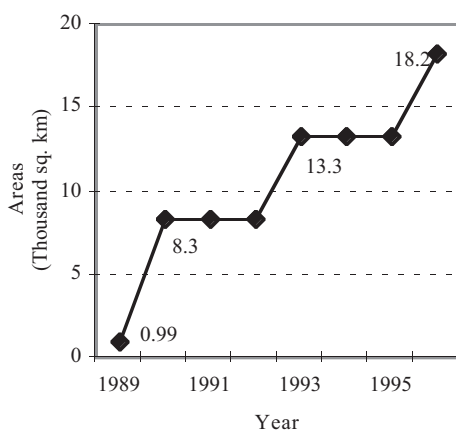


Figure 2. Nationally protected areas in Guatemala. The data are based on World Development Indicators (World Bank 1991-1999).

important source of economic growth in Guatemala. During the period 1995-1999, tourism generated US\$394 million in economic benefits and created 63,291 jobs nationwide (Global InfoGroup 1999), and the number of international tourists increased 46% (Figure 3).

## Ecotourism, Conservation and Regional Development

Ecotourism is a growing segment of the world tourism industry. The term "ecotourism" is a variant of "alternative tourism," in contrast to "mass tourism" (Cater and Lowman 1994). Ecotourism is defined as tourism to protected natural areas and stresses ecological and sociocultural integrity, responsibility, local participation, education, and sustainability (France 1997; Wight 1994).

In the past, it was perceived that an environmental program could not contribute to local economic development, and vice versa. Currently, it is recognized that ecotourism could promote sustainable development that addresses both economic development and environmental conservation (Theophile 1995). Advantages of ecotourism include diversifying local economies and achieving independence from the donations upon which environmental programs often depend. New employment opportunities in tourism-related services are the most direct local benefit. Other possible economic benefits include income from locally produced goods and fees collected from tourism (Sherman and Dixon 1997). These benefits motivate local communities' awareness of environmental and resource protection.

Central America is one of the world's major nature tourism destinations; at the same time, its nations are

facing economic and social difficulties (Weaver 1994). Tourism's contribution to the cumulative regional Gross National Product is 2%. The host-to-guest ratio ranges from 0.8:1 to 52:1. In Guatemala, the estimated host-to-guest ratio was 21:1, ranking in the middle among the 10 Central American nations. These countries are promoting resources-based development approaches that aim to integrate sustainable ecological and economic development (Ashuvud 1991).

However, ecotourism in these countries continues to constitute only

negative side effects.

## Methods

**Study site.** The Petén, which covers 33% of the nation's land area, is a culturally and ecologically significant region in Guatemala. According to the Consejo Nacional de Áreas Protegidas (CONAP), the national council for protected areas, all of Guatemala's biological reserves, 99% of its cultural monuments, and 96% of its national parks (56% of all protected areas, excluding "special protected areas") are located in the Petén. Within the

past few decades, rapid modernization and growth have occurred in the Petén (Reining and Soza 1998). The region's population has increased from roughly 20,000 in 1960 (Schwartz 1990) to more than 300,000 in the mid-1990s. Despite this, a study revealed that the region's income had decreased substantially (Ashuvud 1991). The Guatemala government explains that this is the result of a lack of efficient natural resources

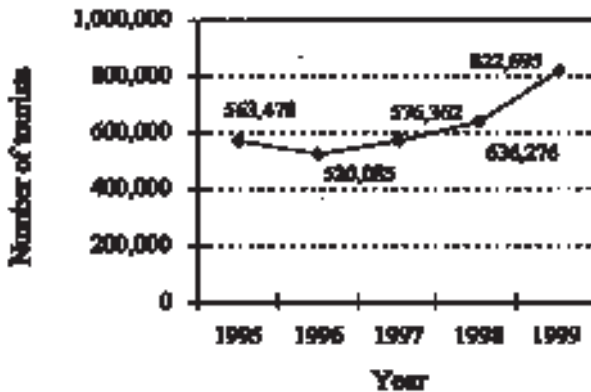


Figure 3. Number of International Tourists in Guatemala 1995-1999. The data were provided by the Sección de Estadística (Section of Statistics) of Instituto Guatemalteco de Turismo (INGUAT), Guatemala's tourism agency.

a small fraction of tourist revenues. A lack of local participation in planning and implementation, and small local economic absorption of benefits generated by ecotourism projects, are still problems (Whelan 1991). Additionally, over-dependence on tourism industries (Lea 1999; Cater 1997) and increased retail prices, land and property values, and taxes are potential

management and strategic planning of the region's resources use. It requested the assistance of IUCN-The World Conservation Union to formulate a national conservation strategy to improve resources management for long-term development. Local and international conservation groups also have been facilitating multilateral projects to develop community-based eco-

tourism and encourage visitors to explore attractions of the Petén. According to the Ecotour Center ([www.ecotour.org](http://www.ecotour.org)), because visitors typically spend only one or two days in the region, the local communities have received few benefits from tourism, although tourism is one of the Petén's primary industries.

Annual visitation to Tikal National Park has grown considerably since World Heritage Site declaration (Figure 4). From 1981 to 1999, the number of non-resident park visitors increased eight times to 110,494, and resident visitors increased 35 times to 27,400. This was 17% of visitors to Guatemala in 1999.

**Data collection.** Between 1990 and 1999, the average annual incre-

istics, expenditures in the Petén, satisfaction level, opinions, and demographics. The original English-language questionnaire was translated into Spanish, French, German, and Japanese. A park visitor survey was conducted during May 2000. All households who were spending time in the parks' two main sites (Gran Plaza and Temple IV) were asked to participate in a short on-site interview. An 87% response rate yielded 341 completed interviews, including those of 45 residents and 296 non-residents. Questionable answers were excluded.

## Results

**Trip tendency.** The non-residents' number of days stayed in Guatemala varied from 1 to more than 100. The

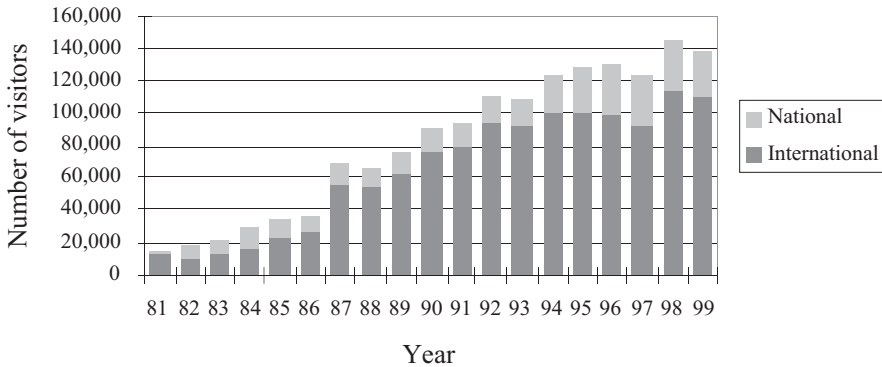


Figure 4. Number of visitors to Tikal National Park, 1981-1999. The data were provided by the Sección de Estadística of INGUAT.

ments of resident and non-resident visitation were 6.6% and 6.9%, respectively. Using past data as a guide, the 2000 visitation was estimated to be 117,787 for residents and 29,291 for non-residents, or 147,078 in total.

The survey instrument included five types of questions: trip character-

average was 17 days, while 58% of visitors spent fewer than 10 days in Guatemala. The proportion of residents staying overnight in the Petén region (78%) was slightly higher than those of non-residents (72%). Sixty-three percent of the non-residents spent one or two days in the region, while 62% of the residents spent more

than three days. On average, residents stayed longer (3.8 days) than non-residents (2.8 days).

While 13% of non-residents traveled alone, all the residents traveled with other people. The average number of household members in a party of resident visitors (3.2) was larger than that of non-resident visitors (1.8). Only 30% of the non-resident visitors were using package tours.

**Estimating visitor expenditures.**

The mean expenditures per household per trip within the Petén were \$176.21 for residents and \$192.62 for non-residents (Table 1). Dividing the average total household expenditures by the average number of accompanying household members, the average expenditure per trip per person was \$55.07 for residents and \$107.01 for non-residents. On average, non-resident visitors spent nearly twice as much as did residents. Transportation, lodging, and food composed about 60% of total expenditures for both groups. The “other expenditures” in Table 1 included Internet, telephone, and facsimile services, and laundry.

Using the predicted number of visitors to the park, the total annual expenditures were estimated as follows:

$$E_n N_n + E_r N_r$$

where “ $E_n$ ” and “ $E_r$ ” are average household expenditures of non-resident and resident visitors, respectively, and “ $N_n$ ” and “ $N_r$ ” are the estimated number of days of non-resident and resident visitation in 2000, respectively. The estimated direct annual expenditure was \$1.6 million by resident

visitors, \$12.6 million by non-resident visitors, and \$14.2 million in total (Table 2).

**Satisfaction level and opinions.**

Overall, the survey participants indicated high satisfaction levels with the service, facilities, and environment in the Petén (Figure 5).

For both groups, safety and hotels in the Petén received high ratings. For the residents, information availability and price level received the lowest ratings. Those who were dissatisfied with the price level pointed out the high prices in the region. For non-residents, information availability and transportation were the two issues with the lowest ratings. Levels of agreement with described statements were also converted to numerical values (Table 3). Chi-square test showed different levels of agreement between residents and non-residents.

More than 80% of the respondents answered that they were willing to pay higher entrance fees to support park conservation. Compared with the non-resident answer, the resident answer was skewed to “strongly agree” (Figure 6). The mean value was slightly higher for resident visitors (3.3) than for non-resident visitors (3.1). More than half of the respondents thought that the restrictions imposed for conservation purposes in the park were enough, while nearly 30% of the non-resident visitors did not think so ( $X^2 = 16.91$ ,  $df = 2$ , significance = 0.0005). A majority of both resident (66%) and non-resident (53%) visitors answered that the number of the days they spent in the Petén was not enough ( $X^2 = 18.16$ ,  $df = 2$ , significance = 0.0005).

Table 1. Itemized average household expenditures of resident and non-resident visitors.

Expenditure categories	Resident		Non-resident	
	\$	Percent	\$	Percent
Lodging	39.75	22.6	46.04	23.9
Transportation within Petén	39.68	22.5	32.86	17.1
Eating and drinking establishments	32.64	18.5	35.06	18.2
Souvenirs and gifts	22.11	12.5	11.89	6.2
Food from grocery stores	10.51	6.0	6.78	3.5
Car rental	9.51	5.4	1.77	0.9
Tour packages or guide services	6.90	3.9	28.70	14.9
Entrance fees	4.07	2.3	15.07	7.8
Tips	1.86	1.1	6.90	3.6
Other	9.19	5.2	7.54	3.9
Total	176.21	100.0	192.62	100.0

**Demographics.** The respondents were from 32 countries. The five highest proportions were from the United States (26%), Guatemala (14%), England (11%), Germany (6%), and the Netherlands (5%). The mean ages of resident and non-resident visitors were similar (Table 4). The largest proportion of visitors was in the age class 21 to 30 for both residents (44%) and non-residents (53%). The proportion of non-residents that were between 11 and 30 was 63%. The proportion of males (69%) was more than twice of that of females (31%) for residents, while the female proportion (57%) was larger than the male proportion (43%) for non-residents. The ratio of single to married was exactly

equal for residents, while 72% of the non-residents were singles. Seventy-seven percent of residents had less than \$20,000 in annual income. For non-residents, 43% answered that they had less than \$20,000, and 78% answered less than \$60,000.

### Discussion

The results of this survey showed that despite the park's inconvenient location, people did not stay long in the region. However, more than half of the survey participants answered that the number of days they spent in the Petén was not enough. A previous survey found that ecotourists were older than mass tourists, and the age group 45-64 was likely to have more holidays

Table 2. Estimated annual expenditures by park visitors.

	Total per trip expenditure per person	Number of estimated visitors	Estimated total expenditures by visitors
Resident	\$55.07	29,291	\$1,613,055.37
Non-resident	\$107.01	117,787	\$12,604,386.87
Total			\$14,217,442.24

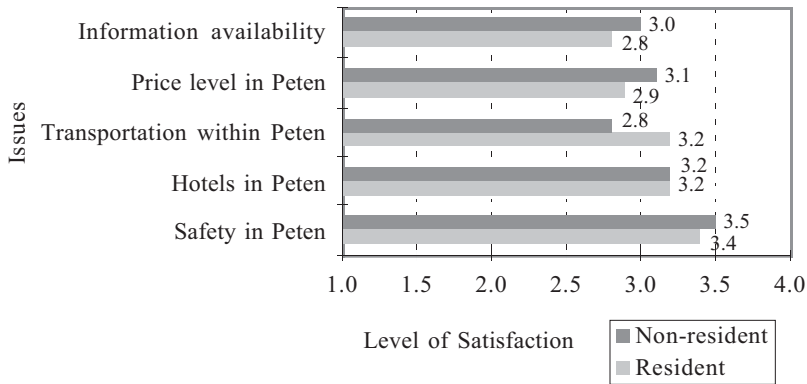


Figure 5. Level of satisfaction. Mean is based on the scale: 1 = very dissatisfied, 2 = dissatisfied, 3 = satisfied, 4 = very satisfied.

annually (Boo 1990). However, this study showed a relatively young mean age for visitors, and a majority of non-resident visitors were singles. The relatively low average household income of non-resident visitors was probably because of variability in their nationalities, their youth, and the large proportion of single visitors. Nearly even gender proportions for non-resident visitors indicated that the park attracts both males and females. Seasonality may influence these visitors' demographics.

Despite residents having longer stays and a larger average number of household members traveling with them, the average household expenditure of non-residents (\$192.62) was higher than that of residents (\$176.21). The estimated annual expenditure in the Petén during 2000 was \$14.2 million. All visitors' expenditures may not be locally absorbed. However, these direct expenditures should generate an indirect and induced economic impact, including a general rise in income level, creation of

Table 3. Level of agreement. Mean is based on the scale: 1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree.

Statement	Resident mean	Non-resident mean
<i>1. Attitude toward conservation in the park</i>		
You will be willing to pay more entrance fee if it is used for environmental conservation of Tikal	3.3	3.0
<i>2. Perception about conservation in the park</i>		
The restriction in the park is enough to protect the environment	3.2	2.8
<i>3. Satisfaction with trip length</i>		
The number of days in Petén region is enough	2.4	2.4



Table 4. Demographics of visitors.

Characteristic	Resident	Non-resident
Age (mean)	31.5	31.1
Gender proportion (male:female)	69:31	42:57
Marriage status (single:married)	1:1	7:3
Income (median)	<\$20,000	\$20,000-39,999

employment, and increases in governmental tax revenue.

Both groups were highly satisfied with the facilities, services, and environment in the Petén. Tourism-related facilities, infrastructure, and services in the region are probably well developed to host various types of tourists from abroad. The majority of respondents answered that they were willing to pay more entrance fees for the park's conservation. This indicates the high environmental awareness of the visitors.

visitors will bring a larger gain to the region's economy.

There are possibilities for attracting visitors who would stay longer in the region. The wide range of ages, even male and female gender proportions for non-resident visitors, and relatively lower average income indicate variability of visitor types. More than half of the non-resident survey participants were in the age bracket of between 11 and 30. These people may have the flexibility to participate in locally designed ecotourism pro-

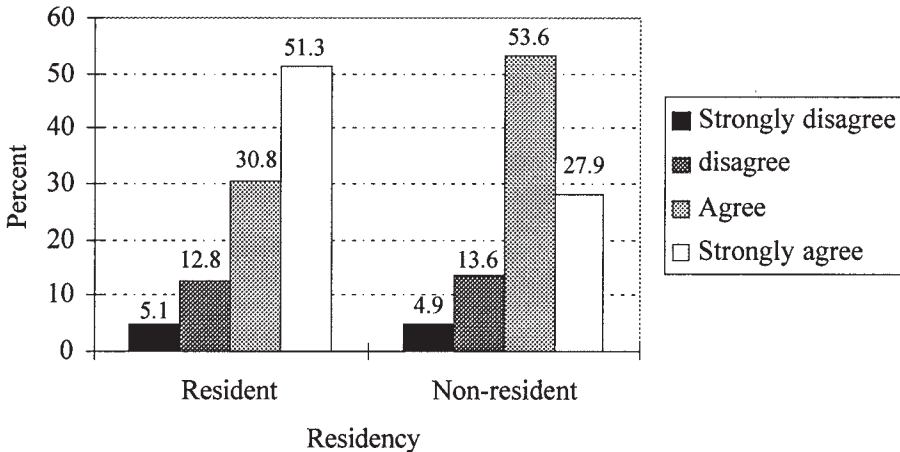


Figure 6. Level of agreement with Statement 1 ( $\chi^2 = 9.51$ ,  $df = 3$ , significance = 0.025).

### Recommendations

Based on the rising popularity of ecotourism and increased visits to Tikal National Park during the past 20 years, use of the park will likely increase in the future. Having more

grams. Improvement of facilities and services is an issue managers should address. The issues that showed a lower satisfaction level, including information availability, price level, and transportation, should be



addressed first when planning future programs. For example, prior information about ecotourism programs and other national parks in the Petén region could influence the length of stays of visitors. Since more than half of the survey participants answered that the number of days they spent in the Petén were not enough, there is a potential to extend visitors' stay in the region.

Reassessment of the park's conservation measures and entrance fees will help future management planning. Nearly 30% of the non-residents

answered that visitor restrictions in the park were not enough for environmental protection. More than 80% of the respondents answered that they were willing to pay a higher entrance fee for improvement of environmental conservation of the park. To be environmentally sound and to promote the moral and ethical responsibilities of all players are basic premises of ecotourism development (Wight 1994). These efforts facilitate achievement of long-term local and national benefits from resource-based tourism, as well as sustainable resource management.

### Acknowledgments

I wish to thank the interviewers, Sergio, Hector, Chie, the members of the Association of Guides Tourism in Petén, José Luis Montúfar of CONAP, and the Sección de Estadística of INGUAT for offering information resources. Special thanks go to Jon Moris, Dale Blahna, Akiko Ogawa, and Paul Hogue for their invaluable advice.

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