

Evan Merew

The Research Technical Bulletin Series T-141

Eco-Tourism in the Blue and John Crow Mountains National Park of Jamaica, West Indies



**Agricultural
Research
Program**

**NORTH CAROLINA A&T STATE UNIVERSITY
SCHOOL OF AGRICULTURE**

Chapter III

Planning for Ecotourism in Communities Surrounding the B&JCM National Park

by Alton Thompson, Evan Mercer and Antoine Alston

CHAPTER III Planning for Eco-Tourism in Communities Surrounding the B&JCM National Park

*by Alton Thompson, Evan
Mercer and Antoine Alston*

Introduction

Eco-tourism has become very popular among tourists looking for an alternative to conventional tours, and with many governments and communities searching for a development tool. The growing attraction of this type of tourism is evident in attempts by mass tourism packagers to use the eco-tourism label. In 1989, eco-tourism and the broader category of adventure travel captured almost 10 percent of the tourist market, and were growing at a rate of 30 percent per year (Whelen, 1991). In Belize, for example, where almost all tourism is nature-oriented, tourism receipts increased from \$8 million in 1981, to \$91 million in 1990 (25 percent of the gross domestic product) (Carter, 1995).

Decision-makers in rural communities considering tourism development must also consider the perceptions of local residents. Tourism-based rural development projects, in order to be successful, require the support of local residents. Henning (1990) and Peine and Welch (1990) stress the need for decision-makers to assess attitudes of residents when considering alternative tourism development strategies. For example, the latter researchers state: "hostile or indifferent residents can have

a negative impact on visitors. Steps to resolve conflicts between the community's values and beliefs, and tourism development may be needed. Comprehensive planning considers the potential benefits from tourism development, and the potential social and environmental costs of development."

This process of gauging residents' attitudes while building community support for eco-tourism development requires identifying community groups which are contributing to shaping the future of their community. Individual groups within the community may have different ideas concerning the future of their community. A rural development plan acceptable to all community groups can only be achieved by first identifying areas of agreement and conflict, and second, by initiating a consensus-building process (Peine and Welch, 1990; Sears, 1992).

Because eco-tourism has the potential to help preserve and enrich local indigenous cultures not only in the short term, but also through many future generations, a sustainable tourism model has great potential for developing more sustainable societies worldwide. There are, however, significant risks involved in any eco-tourism initiative. When developing an eco-tourism strategy, the vulnerability of the natural or cultural resource being promoted must be carefully assessed to ensure that any planned activities do not threaten or undermine the resource. Further, it is absolutely critical that local communities, in their struggle for sustainable livelihoods, be involved in integrating eco-tourism activities

into self-reliance projects that benefit both the community and the natural environment.

A great majority of nature tourism projects are foreign owned (Ray, 1995), and often, though tourism from foreign sources brings revenue into a nation, the local citizens do not fully benefit because resources such as hotels and transportation are owned by foreign factions. While these projects generate many employment opportunities, there is a certain resentment among the local people toward working for foreigners, who are perceived as carrying the profits off to their home countries and not investing much, if any of it, into the local communities.

Ray (1995), in an article, "Nature Tourism," states that the needs of communities in rural areas have often been ignored by conservation groups and tourism companies. Even though their cooperation is absolutely essential in the operation of the hotels, restaurants, shops, and other business interests, the needs of local citizens are often overlooked. Local citizens can help in preventing the forested lands from being overrun by illegal loggers, squatters and poachers.

The key to successful protected area management in Jamaica is local community involvement. Among Jamaican authorities, there is strong agreement that community participation in planning and managing the national park must be present, because the management of natural resources is really management of the people who use them. It is imperative to establish a system that involves local communities in the management of the

area and to heighten the communication between park management and the community.

The main objectives of community participation are to:

- Link park management to the communities which use the resources of the park, particularly those who live in the buffer zone;
- Inform park management of community problems and issues relevant to the park;
- Advise on solutions to problems and resolve issues;
- Provide information, expertise and support for the implementation of solutions;
- Provide information on activities within the park and in the buffer zones which may adversely affect the park;
- Promote management which is responsive to the various interest groups and respects local cultural values;
- Promote acceptance and compliance with regulations;
- Provide a forum for conflict resolution;
- Be a focal point for environmental education; and,
- Be a focal point for community development activities (Anderson and Smith, 1995).

The purpose of this chapter is to determine the extent to which residents in selected communities surrounding the B&JCM can capture the anticipated benefits of eco-tourism, and to determine the potential benefits and barriers to developing eco-tourism in the region. The extent to which these residents can be participatory in the eco-tourism planning process will be examined as well.

Methods

Descriptive statistics, factor analysis and analysis of covariance were used to examine the items on the interview schedule pertaining to the participation of local community residents in eco-tourism. In addition, a set of empirically based independent variables was included to determine the extent to which they predict benefits of, and barriers to eco-tourism.

First, frequencies and percentages were used to report the response patterns of residents in communities surrounding the B&JCM to items related to eco-tourism and park planning. Measures of variation (standard deviations and coefficients of variation) were also used to further describe these data. Conceptually, these items were grouped into four categories: demographic/economic; dimensions of community satisfaction and community organization; knowledge of the park and park management; and barriers to, and benefits from eco-tourism.

Second, factor analysis was used as a data reduction technique to empirically construct composite constructs or indices of the items related to the potential benefits of, and barriers to establishing eco-tourism in the B&JCM region. Factor analysis is based on the fundamental assumption that some underlying constructs (factors) are responsible for the covariation among the observed variables, and can be employed to assist in conceptually identifying the structure or dimensionality of a set of variables drawn from the same domain. Factor analysis was used here as an expedient

way of determining a smaller number of constructs that will be identified as the potential barriers to, and benefits of establishing eco-tourism in the B&JCM region.

Finally, analysis of covariance was used to determine whether the perceived benefits of, and barriers to eco-tourism (composite indices) would vary significantly by gender, age, education, income, community satisfaction and travel frequency (number of times traveled outside the B&JCM in the past month). This technique, an extension of the multiple regression model for analysis of variance, is applicable when the dependent variable is quantitative or metric, with one independent variable also quantitative or metric and another nominal or nonmetric. As such, it provides a straightforward method of adjusting for differences in concomitant variables associated with a dependent variable. Most commonly, the concomitant variables or covariates are incorporated into a design to remove the extraneous variation from the dependent variable, thereby leading to a reduction in the error term, and consequently, to a more sensitive analysis. In such applications, the effects of the nonmetric variables or factors are of chief concern (Johnson and Wichern, 1998; Wildt and Ahtola, 1978).

Data Collection

The major sampling objective was to adequately represent populations in selected communities surrounding the B&JCM. The second major consideration was to utilize a

percent earned between J\$11,000 and J\$40,000 per month. Forty-two percent of the residents did not respond to this question. Income is regarded as personal by a great majority of residents in the B&JCM region.

The mean monthly household income was J\$13,358 (US\$393), with a standard deviation of J\$13,786 (US\$405). The median household income per month was J\$9,600 (US\$282). Twenty percent of the residents earned less than J\$9,600 per month, while 12 percent earned between J\$9,601 and J\$22,000 per month. Nine percent of residents earned between J\$22,00 and J\$85,000 per month. Fifty-nine percent did not respond to this question. Estimating incomes in developing countries can be problematic, because individuals tend to report only cash income, omitting income resulting from productive activities such as homegrown agricultural commodities, and other homemade products. In developing countries, the value of assets is often more meaningful than income.

A series of questions was asked to get a more inclusive measure of the residents' socioeconomic status or an indicator of their quality of life. Sixty percent of the residents had indoor plumbing, while 85 percent of the residents had access to running water. Seventy-eight percent of the residents had electricity in their home. The residents without electrical power used wood for cooking. Sixty-one percent of the sample owned a television, while 21 percent had telephone service.

Poor road conditions halted access to the

communications infrastructure in the three communities surveyed. Mavis Bank, in particular, had major problems with telephone service along the Top Road. Telephone officials indicated that the road was not only too steep to establish service, but the population in that section was too sparse. In the Section/Cascade communities, the terrain was considered to be too treacherous for telephone service to be established. Millbank had similar problems with telephone service, because of the slow pace of road repair, and bridge construction.

Residents reported a wide range of occupations, with farming being the modal response (49%). Craftsmen (plumbers, carpenters, masons, etc.) made up the second most frequently reported occupation, with a percentage of 7.5. Other occupations included shop owners (6.6%), and service workers (2.8%). Most local residents worked more than one job. When residents were asked to indicate their secondary occupation, again farming was the most common type of employment cited (17%). Craftsman (8%) and shop owners (4%) were again frequently mentioned. The mean number of hours worked per week by respondents was 39.6, with a relatively large standard deviation of 16.

Land tenure in the B&JCM is a large concern not only of the local residents, but of governmental officials as well. Residents in the mountain communities surveyed typically did not own large parcels of land, but instead had staked out plots along the exterior buffer zones of the park for agricultural purposes.

The residents owned, on the average, two acres of land. The standard deviation was 4.7 acres.

To obtain an indication of the residents' knowledge of events outside their community, residents were asked how many times in the past month they had traveled outside the B&JCM. This question was used to supplement questions pertaining to access to television and telephone service. On the average, the residents had traveled outside their communities seven times during the past month. The distribution was highly variable as reflected by the standard deviation of 11 trips per month.

Economic conditions in the communities, along with inadequate roads and transportation, hindered travel outside the region. Residents who had traveled outside their communities more than 20 times per month typically were employed in metropolitan areas such as Kingston and Port Antonio. In general, however, the residents in these mountain communities were knowledgeable of activities and events occurring outside their communities.

Community Satisfaction

When residents were asked what they liked most about their communities, "favorable climatic conditions" was the modal response (66%), while "peace and quiet" accounted for 13 percent. The pretest revealed that residents had a difficult time identifying one thing they liked about their communities; therefore, they were given an opportunity to give multiple responses. When asked for the second choice of things they liked about the community,

"friends and relatives" and "low crime" accounted for 15 percent each.

In general, the majority of residents preferred the mountain environment for its climatic conditions and clean living conditions, and in contrast to the metropolitan environments of Kingston and Port Antonio. The low crime rate was emphasized often by many residents as a major reason for their satisfaction. Community members felt that the peace and quiet of the mountains added to the overall quality of the community. Researchers observed the tranquility of the mountains as a major selling point for eco-tourism development in the B&JCM National Park.

Residents were also asked to indicate what they liked least about living in their community. As expected, the most prevalent response was the road/transportation system (52 percent of the sample). Poor water conditions accounted for 33 percent of the sample.

Overall, community satisfaction was generally high. Fifty-two percent of residents indicated they were completely satisfied, and 36 percent of the residents were somewhat satisfied. As indicated earlier, residents prefer the B&JCM communities primarily because of the climate and peace and quiet, along with the low crime rate. Community dissatisfaction centered on poor road conditions and transportation system, and poor water conditions. The latter conditions were considered as major barriers to eco-tourism in the B&JCM. Researchers observed that even if residents were completely satisfied with living in their community, they still saw room for improvement.

Park Management/Operations

Publicizing the park's activities and events is a major aspect of sustaining the park. Eighty- one percent of residents surveyed had knowledge of the park's existence. Thirty-eight percent of residents indicated that the park rangers were the first to inform them of the park. Thirteen percent had gained knowledge of the park by taking a personal visit, while 12 percent of the residents indicated that relatives and friends had informed them of the park.

Residents were also queried about their knowledge of park management and park operations. Sixty percent of the local residents reported that the park rangers controlled park activities, in comparison to 31 percent who said either Mr. Robert Kerr, the former park manager, or the government planned park activities.

Local residents were asked if the creation of the B&JCM National Park had affected their daily activities. Sixty-six percent of the residents stated that the creation of the park had not affected their daily activities, whereas 22 percent of the residents indicated that the park had affected them somewhat. Eleven percent indicated the park had affected their daily activities greatly. Residents who had been affected by the park reported that the park had brought more exposure to the area (a positive effect).

Residents were also asked if the park service had been helpful to them. Forty-three percent of the residents felt the park service

had not been helpful. In contrast, 24 percent of the residents stated that the park service had been very helpful, especially in community activities.

Nearly 80 percent of the residents felt that in order for eco-tourism to be successful in their community, there should be joint planning between the park service and the community. Seventeen percent of the residents felt the community alone should plan tourism, and five percent reported that the park service should plan the activities. Almost 78 percent of the residents stated that the park service and the community needed to plan eco-tourism jointly for eco-tourism development to be successful.

Subsequently, residents were asked to identify ways that the park service and the community could plan eco-tourism. Planning attractions and activities accounted for 22 percent of the responses. Over 50 percent of the respondents stated they could help to provide transportation services. In addition, about 10 percent of the residents felt they should become involved in road improvement and job creation. Overall, researchers found a willingness among residents to become involved in park (tourism) planning. In general, the data indicated a willingness among the community residents to become more involved in planning park activities, including, but not limited to, eco-tourism.

Local Advisory Committees (LACs)

In order for successful eco-tourism to occur, there must be a medium through which

communication between the park service and local community residents takes place. Local advisory committees (LACs) serve this purpose. The LACs consist of community residents from various occupations and social strata, who have a common interest in community development. One of the functions of a LAC is to present community concerns to the park service, while working jointly with park officials to achieve common goals.

A LAC, like any viable organization, must have objectives to give the organization structure, focus, and direction. Sixty-seven percent of the residents who were knowledgeable of the LAC indicated that they were aware of its objectives. Forty-one percent of these residents stated the primary objective of the LAC was to improve basic infrastructure. Ten percent of the residents cited improving educational opportunities, while six percent cited improving occupational opportunities, and building more attractions such as cabins and a visitor's center. Four percent of the residents indicated that cleaning and beautifying the community were important objectives of the LAC. It should be noted, however, that about 60 percent of the residents were not aware of the LAC in their community.

The LACs within Cascade/Section and Millbank were very active and issue driven. Fifty-four percent of residents stated that the LACs had improved the basic infrastructure of the communities. The Cascade/Section LAC had initiated a community electrification project, and residents also indicated that a community health clinic had been built in

cooperation with the park service. The Millbank LAC, in cooperation with the park service, had constructed a suspension bridge across the Rio Grande River.

Twenty-eight percent of residents indicated that the LACs were highly effective, compared to 43 percent who indicated that LACs were neither effective or ineffective. Thirteen percent of residents were undecided relative to the effectiveness of the LAC. Residents stated the LAC was effective because of the influx of community projects (44%) and basic infrastructure improvement (11%). Improving employment opportunities accounted for 5.6 percent of the responses, as did improving educational opportunities.

Residents were also asked how effective the LACs had been in helping to plan the national park or park activities. One-fourth of the residents (53) indicated that the LACs were somewhat effective in park planning or park activities. Forty-four percent (94) of the residents were indecisive, i.e., they stated that the LACs were neither effective nor ineffective in planning the national park. The residents seem to think that poor organization and lack of planning with public officials contributed to the ineffectiveness of LACs. Environmental Impact of Eco-tourism

Community residents were asked, "Among the important issues for _____ (community), how important is protecting the environment?" Eighty-eight percent of residents felt that protecting the environment was very important, compared to 10 percent who stated that it was important. Less than two

percent of the residents stated that protecting the environment was not an important issue. Overall, the community residents felt a strong attachment to the environment and protecting its resources, and recognized the interdependency between sustaining the environment and their livelihood.

Over 97 percent of respondents indicated that environmental education programs are needed and should be incorporated in the school curriculum. Forty-seven percent of residents stated that wildlife conservation should be initiated, 42 percent wanted to see the initiation of plant/soil conservation education programs, and 60 percent of the residents indicated that classes on protecting the environment should be offered.

Benefits of Eco-Tourism

One of the primary objectives of this project was to determine the potential benefits of eco-tourism to residents adjacent to the park. Sixty percent of the residents stated that eco-tourism in the B&JCM would provide many benefits. About one-third of the residents felt that some benefits would result from eco-tourism, compared to six percent who stated that no benefits would be gained. Overall, most of the residents perceived eco-tourism as an asset to their community; however, they were quick to note that proper planning was imperative.

When residents were asked to identify the the expected benefits if eco-tourism were developed in their communities, nearly two-

thirds of the residents cited job creation and employment opportunities. About one-third of the residents reported a consequent increase in financial well being. Fourteen percent of the residents felt that eco-tourism would result in better roads for the communities, while 10 percent stated that eco-tourism would increase the attractiveness of their communities. It is also important to note that 94 percent of the residents felt that eco-tourism would improve their quality of life.

Residents were also queried relative to their perceptions on which cities/communities of the island would receive the most benefit from tourism in the B&JCM National Park. Fifty-six percent of the residents stated that all communities in Jamaica would benefit from eco-tourism, compared to 30 percent who felt that only the communities surrounding the B&JCM would benefit. Less than five percent of the residents felt that the major cities such as Kinston, Port Antonio, and Ocho Rios would receive more benefits than their communities.

The residents were asked a fixed alternative question pertaining specifically to the perceived benefits of eco-tourism for their communities. The intensity of their responses was also assessed. These data appear in Table 3.2.

Seventy percent of the residents felt that eco-tourism would result in a large improvement in the roads leading into and through their community, while 63 percent of the residents indicated that eco-tourism would result in a large improvement in transportation.

Sixty-four percent of the residents felt that eco-tourism would yield significantly more employment opportunities, while 60 percent of the residents felt that eco-tourism would result in significantly more income. Sixty percent of residents indicated the quality of life would improve with eco-tourism.

Analysis of covariance was performed to determine the effects of selected exogenous variables on an empirically constructed benefits index. The composite benefits index consisted of six variables: money, jobs, roads, transportation, community service, and quality of life. Income and community satisfaction had significant effects on the perceived benefits of eco-tourism. Generally, the higher a person's income, the more they perceive eco-tourism as beneficial. Residents with higher incomes tended to think that eco-tourism would provide more benefits to the communities. It should be noted, however, that the median monthly income was about J\$5,800 (US\$170), and 70 percent earned less than J\$8,700 (US\$255), while the figures for household income were J\$9600 (US\$250) and J\$16,100 (US\$473) respectively.

The more satisfied residents were with their communities, the more benefits they perceived from eco-tourism. One special observation should be noted in relation to community satisfaction. Residents were satisfied with living in their communities; however, they were aware of the need for improvements. The remaining variables (age, education, visits outside B&JCM, gender, and benefits of eco-tourism) were not statistically

significant. The overall model, on the other hand, was statistically significant, and the exogenous variables as a set explained an appreciable amount of the variation in the benefits index.

Barriers to Eco-Tourism

The residents were also queried relative to a number of barriers that would inhibit eco-tourism in their communities, and the intensity of their responses was assessed. These data appear in Table 3.3. At least 75 percent of residents indicated that road conditions and the availability of transportation were large barriers to eco-tourism. Fifty-seven percent of the residents indicated that basic medical service was a large barrier to eco-tourism development. "Money to get started" was cited as a large problem in eco-tourism development by 41 percent of the residents, while 39 percent of residents indicated lodging was a large barrier to eco-tourism. Slightly more than 50 percent of the residents felt that harm to the environment, disposal of garbage, protection of tourists, availability of electricity and attitudes/interests of the community were not inhibitive factors to developing eco-tourism in the B&JCM.

Analysis of covariance was also performed to determine the effects of selected exogenous variables on an empirically constructed barriers index. The composite barriers index consisted of five variables: harm to the environment, disposal of garbage/trash, protection of tourists, availability of electricity and

bathrooms, and attitudes/interests of community residents. The two main effects, gender and benefits of eco-tourism, emerged as statistically significant determinants of the perceived barriers to eco-tourism. To be specific, male residents were more likely than female residents to cite potential barriers to eco-tourism development. Contrary to expectations, residents who believed their community would benefit from eco-tourism were more likely to cite potential barriers to eco-tourism than residents who did not believe that eco-tourism would benefit their community. This finding, however, resulted from a statistical artifact, that is, only six percent of the residents stated that their community would not receive any benefits from eco-tourism.

Three of the five covariates achieved statistical significance. Residents who were less satisfied with their community, and those with higher levels of education and income, were significantly more likely to cite barriers to eco-tourism than their counterparts. Age and whether the person traveled outside of the B&JCM failed to achieve statistical significance.

Conclusions

The data to examine the objectives of this component of the research project were taken from a random sample of 213 residents in three communities surrounding the B&JCM. The objectives were threefold: (1) to determine the potential barriers and benefits of eco-tourism in the B&JCM National Park; (2) to determine

the extent to which the anticipated benefits of the reserves can be captured by the local residents; and (3) to determine how the ideas and opinions of local residents can be incorporated into a park management plan.

Obtaining local control of eco-tourism is a task fraught with many difficulties; however, local control is important for successful eco-tourism development. Place (1991), for example, found that Costa Ricans living adjacent to a popular national park were unable to maintain control over tourism in their community. Rapid investment by outside developers denied the community residents the necessary time to accumulate enough capital to start tourist-oriented businesses. Tourism projects in low-income countries have been typically foreign-owned, but by scaling down production processes and returning power to local units of governance, eco-tourism can potentially avoid economic leakage and concentrate the benefits locally.

In terms of the communities surrounding the B&JCM, the residents have positive, optimistic, and encouraging attitudes toward eco-tourism development. These attitudes need to be captured in an insightful manner by the park service to avoid the hostility toward eco-tourism development that has occurred in other countries seeking to develop a sustainable eco-tourism industry. Joint planning of eco-tourism, as it currently exists by the community and the park service, will ensure local input and control, and hence, the basis of successful eco-tourism development.

The road conditions and transportation

system were considered the major barriers to eco-tourism. These problems definitely need to be addressed. Researchers found the road conditions to be very treacherous and hazardous. Thus, the second recommendation, obviously, involves comprehensive road repairs in the region. The number of ecotourists visiting the B&JCM region would significantly increase with an improved road and transportation system.

Another major recommendation involves the resident's preferences for a tranquil community, i.e. not the hustle and bustle of cities like Kingston. Most residents reported climate, serenity, and low crime rate as the preferred reasons to live in the mountains. In order for eco-tourism to become a major industry, the Jamaican Tourist Board should widely publicize these attributes about the B&JCM region. The attributes listed earlier can attract ecotourists to the region, which would bring social, cultural, and economic benefits to the communities, and thereby enhance the overall quality of life in the B&JCM region.

Eco-tourism is a viable industry that can have a major impact upon the quality of life of residents living in communities surrounding the B&JCM National Park. Residents in the region possess a wide array of skills, such as farming, craftsmanship (jewelry, trinkets, etc.), shop ownership, and tour guidance. Successful eco-tourism would embellish these skills and contribute positively to sustainable development.

An additional recommendation involves the LACs. LACs are the voice of the commu-

nity, communicating their concerns about eco-tourism to the park service. The LACs in the B&JCM have traditionally been issue-driven. LACs need to maintain some form of consistency, in program planning and structure. Further, since over 40 percent of the local residents stated the park service had not been helpful at all, enhanced cooperation between the park service and the LACs would greatly facilitate eco-tourism development.

In general, residents stated that the planning of park activities should be a joint effort between the community and the park service. Park rangers need to have more contact with community residents, especially in communities such as Mavis Bank, where the LAC is virtually nonexistent. This, in turn, will foster good will between the community and the park service. Another issue of concern is the lack of knowledge of LAC objectives and activities by community residents, particularly in Mavis Bank. Flyers should be posted in prominent places around the community to keep residents abreast of the issues that affect them and the park, as well as the meeting dates.

Environmental education programs, including the development of appropriate curriculum, should be fully developed for youth in the region. These programs will have the effect of fostering a sense of environmental appreciation among youth that hopefully will be passed on to future generations. Residents indicated a need for instruction in soil conservation and wildlife management.

The residents in these selected communities also communicated a need for lodging for

ecotourists. Some lodging already exists for tourists in Cascade/Section area, but other communities lack such facilities. Sufficient lodging needs to be constructed in order for eco-tourism to be fully developed in the B&JCM National Park.

The telephone system in the area should also be improved. In order for tourism ventures to be successful, there must be a good communications system in place. This is an activity in which a joint effort between the park service and community could yield significant results.

Finally, job creation is an essential component of any economic improvement strategy. In order for residents to gain the benefits of eco-tourism development, residents must have gainful employment. One benefit of eco-tourism is the creation of additional jobs in the communities surrounding the park. Service-oriented occupations such as waiters, house-

Literature Cited

- Anderson, Susan; Smith, David. 1995. "The Role of Local Communities in the Management of Protected Areas in Jamaica; The Blue and John Crow Mountains National Park." Jamaica Conservation Development Trust.
- Carter, E. 1995. "Eco-tourism in the Third World—Problems and prospects for Sustainability." In E. Cater and G. Lowman, eds. *Eco-tourism: A Sustainable Option?* Chichester: John Wiley & Sons. 68-87. *Development* 6(2)/7(1):3-10.
- Henning, S.A. 1990. *Measuring Leadership Perceptions of Recreation and Tourism Development in Rural Coastal Zones*. Southern Rural Development Center, Mississippi State, Miss. SRDC Report No. 133.
- Jamaica Library Service. 1978. page 5. *Reminiscences of A Community- Mavis Bank*
- Johnson, Richard A. and Dean W. Wichern. 1998. *Applied Multivariate Statistical Analysis*. Upper Saddle River, NJ: Prentice Hall., Inc.
- Peine, J.D. and Welch, H.G. 1990. "Sustainable Development Strategies for Communities with Tourism-Based Economies in the Southern Appalachian High-lands." Southern Appalachian Man and the Biosphere Cooperative, Great Smoky Mountains National Park, Uplands Field Research Laboratory, Gatlinburg, Tenn.
- Ray, Thomas. 1995. "Nature Tourism" <http://www.hip.atr.co.jp/~ray/pubs/r>.
- Sears, D.W. 1992. "Gearing Up for Success: Organizing a State for Rural Development." Washington, D.C.: The Aspen Institute.
- Whelen, T. ed. 1991. *Nature Tourism: Managing for the Environment*. Washington, D.C. Island Press.
- Wildt, Albert R., Ahtola, Ollie T. 1978. *Quantitative Applications in Social Sciences, "Analysis of Covariance"*. Beverly Hills: Sage Publishers.

Appendix, Chapter III

Table 3.1 Sociodemographic Variables of Residents in Selected Mountain Communities in the B&JCM

Item	Values	Frequency	Percent
Gender			
	Male	130	61
	Female	83	39
	Total	213	100
Age			
	18-29	65	30.7
	30-49	100	46.9
	50-65	25	11.7
	66+	23	10.7
	Total	213	100
	Mean 39		
	Standard Deviation 16.14		
Education			
	0-3	5	2.4
	4-7	28	13.1
	8-10	74	34.7
	11-14	30	14.0
	15-18	65	30.5
	19+	11	5.3
	Total	213	100
	Mean 11.6		
	Standard Deviation 4.83		
Monthly Income (JS) (JS1=US\$34)			
	JS\$0.00-JS\$6000	28	13.1
	JS\$6000-JS\$11000	31	14.5
	JS\$11000-JS\$40000	65	30.7
	Non-Response	89	41.7
	Total	213	100
	Mean JS\$8239.50		
	Standard Deviation JS\$7979.34		
	Median JS\$5800		
Monthly Household Income (JS) (JS1=US\$34)			
	JS\$0.00-JS\$9600	42	19.7
	JS\$9601-JS\$22000	25	11.7
	JS\$22001-JS\$85000	20	9.3
	Non-Response	126	59.3
	Total	213	100
	Mean JS\$13,357.77		
	Median JS\$9,600.00		
	Standard Deviation JS\$13,786.82		

Table 3.2 Benefits of Ecotourism in the B&JCM National Park: Perceptions of Local Residents

BENEFITS	NO	YES SMALL	YES MODERATE	YES LARGE
MORE MONEY	5.6%	13.6%	21.6%	59.2%
MORE JOBS	4.7%	13.1%	17.8%	64.3%
BETTER ROADS	4.2%	4.2%	21.6%	70.0%
BETTER TRANSPORTATION	8.0%	5.2%	23.5%	63.4%
BETTER COMMUNITY SERVICES	6.1%	8.9%	30.5%	54.5%
BETTER WAY OF LIFE	3.3%	11.3%	25.4%	60.1%

Table 3.3 Barriers to Ecotourism in the B&JCM National Park: Perceptions of Local Residents

Barriers	No Problem	Small Problem	Medium Problem	Large Problem
Road Conditions	4.2%	5.6%	4.7%	85.4%
Transportation Availability	3.8%	10.8%	10.3%	75.1%
Availability of Basic Medical Services	15.0%	12.2%	15.5%	57.3%
Availability of Tourism Attractions	28.2%	19.7%	19.7%	32.4%
Availability of Lodging	26.3%	19.2%	16.0%	38.5%
Harm to the Environment	56%	7.1%	9.4%	27.4%
Disposal of Garbage/Trash	52%	13.1%	10.3%	24.4%
Protection of Tourists	57%	9.9%	8.5	24.9%
Availability of Electricity, Bathrooms	51%	11.3%	16.0%	21.6%
Money to Get Started	21%	16.9%	18.8%	40.8%
Attitudes/Interest of Community	53%	12.3%	12.3%	22.6%