

Assessing Community Support and Sustainability for Ecotourism Development

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This article develops a psychometrically reliable and valid measurement instrument of community assessment and support for the development of an ecotourism project. Based on an application of this instrument, recommendations are made regarding the type and importance of activities and promotions needed to sustain an ecotourism project from the perceptions of the local residents who are willing to pay a fee to attend associated events and activities. Specifically, ecotourism sustainability is more likely to occur when (1) the community is actively involved in the design and development of an ecotourism project and consequently becomes more environmentally conscious, (2) the community leaders develop and support programs for families and children to learn more about environmental conservation and preservation, and (3) community tourism decision makers recognize the importance of promoting and publicizing the potential economic benefits as a result of a community's ecotourism development.

While representing only 5% to 10% of the overall travel market, ecotourism is currently one of the most popular and fastest growing tourism markets. Growth rates for ecotourism are estimated to range between 10% to 30% annually compared to 4% for tourism overall, with the greatest growth in the ecotourism industry anticipated to occur in the international market (Ayala 1996; Dimanche and Smith 1996; Lindberg et al. 1997; Mader 1998; Reingold 1993). Ecotourists are typically described as a professional couple who has higher than average income and education compared to other travelers. Factors influencing the ecotourism market include an aging tourism market with travelers possessing better retirement programs and more discretionary income and an increasing awareness about environmental preservation (Meric and Hunt 1998; Wight 1996). By combining these tourism growth trends with the ecotourism traveler profile, the future for the ecotourism market is expected to continue to grow, especially considering the upcoming impact of the "baby boomer" generation on the ecotourism tourism market.

The Ecotourism Society (TES 1998) defines *ecotourism* as "responsible travel to natural areas, which conserves the environment and sustains the well-being of the local people." This brief, generic definition can and is often applied to a variety of nature tourism activities, which has created confusion as to what constitutes this segment of the nature tourism market. A number of definitions as to what is an ecotourism traveler have emerged over the years. According to Sirakaya, Sasidharan, and Sonmez (1999), who performed a content

analysis on 25 of the most widely accepted ecotourism definitions, ecotourism is operationally characterized as a form of tourism activities and development that produces (1) a minimal negative impact on the host environment, (2) an evolving commitment to environmental protection and conservation of resources, (3) a generation of financial resources to support and sustain ecological and sociocultural resources, (4) an active involvement and cooperation of local residents as well as tourists in enhancing the environment, and (5) economic and social benefits to the host community. By incorporating these concepts and activities into the framework of any definition of ecotourism, a clearer understanding of what ecotourism is and produces emerges. It is from this framework that ecotourism is approached in this study.

A key consideration in ecotourism development is sustainability. Sustainability refers to the management strategy of meeting economic commitments without sacrificing an equal or higher quality of life for future generations (MacGregor 1993). To achieve sustainability, tourism managers need to balance political support with a strategy that maintains the region's ecological integrity while demonstrating economic benefits and development for the region (Crouch and Ritchie 1999; Owen, Witt, and Gammon 1993; Ritchie 1999). There needs to be a "win-win" situation for both the host community and the travelers. Mak and Moncur (1995) recommended requiring a fee structure to provide funds not only to maintain and develop the environmental resources but also to ration and ultimately preserve the ecotourism resources. Ritchie (1999) also supported the concept of an equitable fee for long-term sustainability. Incorporation of a fee structure is a tourism management decision that provides the funds necessary to sustain the goals and objectives of an ecotourism project.

If an ecotourism project is to be successful, then community support not only financially but also politically is critical. One approach to enhancing political support from the regions' municipalities and political entities is to gain the

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support of the residents. Broad community support is a precursor to political support. Numerous studies indicate the importance of seeking the perceptions, values, and interests from community residents in designing the strategies for a viable tourism industry in a region. Economic benefits and the knowledge of these benefits positively affect what the residents believe about the importance and the future success of tourism in a region (Ap 1992; Dimanche and Smith 1996; Inskip 1991; Jurowski, Uysal, and Williams 1997; Liu and Var 1986; Payne and Dimanche 1996; Prentice 1993; Ritchie 1999; Schweitz 1996).

PROBLEM AND PURPOSE OF THE STUDY

The issue in this study is to how to best develop a sustainable ecotourism project that has community input and support. Specifically, the purpose of this study is to assess local residents' perceptions of the goals and objectives of an ecotourism project—namely, the World Birding Center—designed to measure the level of interest, need, and support for developing and sustaining a major regional ecotourism project. Without the support of the local residents, political leaders are certainly less willing to support the development of any new regional projects, especially financially. The academic literature was helpful in identifying ecotourism issues, but it did not provide an established psychometrically designed ecotourism instrument to assess the attitudinal perceptions of residents on the development of a community ecotourism project. This issue became the focus of this study.

ECOTOURISM PROJECT: WORLD BIRDING CENTER

In 1998, the Texas Parks and Wildlife Department initiated a plan to develop a sustainable ecotourism project that would serve as the model for the future development and application of conservation, education, and economic growth. The core part of the ecotourism project is the World Birding Center (WBC). The WBC is composed of a central visitors center, two major interpretive areas, two gateway visitor facilities, and five destination sites located approximately 30 miles between sites that will feature quality habitats, trails, and structures designed to promote wildlife viewing. The WBC will have state-of-the-art interpretation and exhibitry, educational programs, and services to enhance wildlife viewing. In addition to birding, other forms of nature tourism projects are being considered for ecotourists, such as the butterfly and native plant viewing along with cultural tourism activities and events. Essential in the developmental phase of the project is community input. Using community input as a guide, this project was designed as a collaborative effort with the Texas Parks and Wildlife Department and 10 municipalities in the Lower Rio Grande Valley of South Texas (Hiel, Eubanks, and Lindsay 1999). An ecotourism corridor could eventually be developed that runs along the East Coast of the United States through Texas and Mexico and extends along the eastern South American coastline.

HYPOTHESES

To assess residents' attitudes, perceptions, and support toward the creation and development of an ecotourism project (namely, the World Birding Center), we needed information that would ascertain local residents' attitudes and acceptance of the proposed ecotourism project in accordance with the goals and objectives of the WBC. The initial draft of an instrument was obtained based on information gathered from the academic tourism literature regarding ecotourism development in local communities (Allen et al. 1993; D'Amore 1993; Luzar et al. 1998; Malloy and Fennell 1998; McCool and Martin 1994; Payne and Dimanche 1996; Wight 1996). In addition, the proposed goals and objectives of the WBC as well as the perceptions and views of practitioners or industry professionals were incorporated into the questionnaire design (Hiel, Eubanks, and Lindsay 1999). Based on the goals and objectives of the WBC and the supporting documentation from the academic literature and industry professionals, four hypothesized concepts or factors as specified in factor analysis methodology were proposed that are considered essential for assessing community support for ecotourism development and sustainability:

Factor 1: A community that is environmentally consciousness. This factor is interpreted as a community that has an appreciation, understanding, and active involvement in the conservation of the region's wildlife habitat and environment.

Factor 2: A community that encourages and supports developing educational goals and programs that promote conservation for current and future generations.

Factor 3: A community that demonstrates recognition and support for sustainable economic development in accordance with conservation goals and ecotourism development.

Factor 4: A community that has or is willing to develop ethical/moral conservation regulations and enforcement codes.

By combining these factors into a summated rating scale instrument, an attitudinal assessment of community residents' support for the development and sustainability of an ecotourism project can be measured. The construction of this attitudinal instrument provides community leaders or ecotourism practitioners with a scientifically tested instrument on which to base resident acceptance and support for the development of an ecotourism project in their community.

RESEARCH DESIGN

Instrumentation

An attitudinal rating scale instrument was developed based on the procedures recommended by Spector (1992). Initially, 42 Likert-type statements were developed based on the academic literature and input from a group of ecotourism practitioners to represent the four factors. Eight to 12 statements were generated per factor. A 5-point scale from *strongly agree* to *strongly disagree* was used to assess attitudes. The first draft of the questionnaire was tested with a surrogate student sample of 30 students. Sixteen attitudinal

TABLE 1
RESIDENT RESPONSES REGARDING SUPPORT FOR THE ECOTOURISM PROJECT

Variable	Original Sample (<i>n</i> = 463)			Validation Sample (<i>n</i> = 506)		
	Yes	No	Missing	Yes	No	Missing
Would visit the World Birding Center (WBC)						
Number	363	94	6	397	105	4
%	79.4	20.6	1.3	79.1	20.9	0.8
Would pay a fee to visit the WBC						
Number	318	143	2	344	153	9
%	69.0	31.0	0.4	69.2	30.8	1.8
Would purchase a season pass to visit the WBC						
Number	207	243	13	215	277	14
%	46.0	54.0	2.8	43.7	56.3	2.8
Would drive 30 miles to visit a satellite center						
Number	305	150	8	318	177	11
%	67.0	33.0	1.7	64.2	35.8	2.2
Consider yourself to be a birdwatcher?						
Number	148	312	3	160	334	12
%	32.2	67.8	0.6	32.4	67.6	2.4

statements that did not statistically correlate ($p < .01$) with the summated attitudinal score were deleted. Next, the revised questionnaire was presented to a focus group of WBC staff and ecotourism and birding experts who added five additional questions in adherence with the academic literature and the goals and objectives of the WBC. The group also made suggestions for improving the wording of some of the statements. A balance of positive and negative statements was included to control for response bias. A second pilot study was performed with 83 students to once again assess which of the statements were the best measures of the hypothesized four resident attitudinal dimensions. Finally, a 27-item Likert-type attitudinal scale was created from the highest correlations, with the best representation among the four constructs initially identified to measure resident attitudes toward the creation of an ecotourism project. This proposed attitudinal scale yielded an overall Cronbach alpha reliability measure of .70 from the pilot study data, which was well within the required guidelines for exploratory studies (Nunnally 1978; Peterson 1994). This scale served as the resident attitudinal ecotourism assessment instrument for the study.

Also, relevant demographic data were identified and included in the questionnaire along with questions concerning financial support. To accommodate Spanish-speaking respondents in the region, the questionnaire was translated into Spanish. The questionnaire was also back translated to ensure accuracy, clarification, and content preservation.

Sampling Design

Data collection using a mall-intercept sampling methodology was employed since this procedure is relatively fast and inexpensive. Local residents were randomly selected from the five regional malls located in the region and surveyed over a 2-week period. To ensure that all possible times were represented when residents went to a mall, we divided the time the mall was open into three time intervals. Field researchers were positioned at the high-traffic locations near the entrances for the random selection of respondents. The number of rejections was small, estimated to be less than 10%. The primary concern with mall-intercept sampling lies

with the possibility of nonrepresentativeness of the sample to the population. However, a prior tourism study regarding the same resident population using mall-intercept sampling produced results that are comparable to census data for the target population (Vincent et al. 1999). This study found no statistical differences in the three demographic variables of gender, ethnicity, and income between the mall-intercept sample and census data. While this comparison does not mean a random sample was achieved, it does suggest that the sample reflects the population profile.

Because of the large sample size, the data were randomly split into two groups by the SPSS computer package command: an original sample of 463 residents and a validation sample of 506 residents. The purpose of the validation sample is to compare the results obtained in the original sample with the validation sample to ensure the generalizability of the results to the resident population and to test the comparability and stability of the two factor models. This method of data analysis is recommended when sufficient sample sizes exist to perform the analysis (Hair et al. 1998; Spector 1992).

Demographics

There were slightly more women in both the original sample (58%) and the validation sample (51%) than there were men. The median age in the original sample was 28 years as compared to 30 years in the validation sample. In both samples, 41% were married, while 45% of the original sample was single compared to 43% in the validation sample. Educational levels were also comparable between groups; in the original sample, 22% of the respondents had less than a high school degree compared to 17% in the validation sample, and 15% of the original sample had a college degree compared to 16% in the validation sample. The median income for the original sample was \$30,000 compared to \$28,500 in the validation sample. The percentage of missing data averaged slightly more than 2% on the demographic data in both groups, with 4% missing in the income category.

Respondents to the mall-intercept survey were also questioned on their support for the proposed development of the WBC (Table 1). There are no statistically significant differences ($\alpha = .01$) between the results in the original sample and

TABLE 2
FACTOR ANALYSIS OF RESIDENTS' PERCEPTIONS OF ECOTOURISM DEVELOPMENT:
ORIGINAL SAMPLE (*n* = 463)

Statement	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Identifying environmental organizations and causes that promote volunteerism	<i>.65</i>				
Can protect the environment and at the same time create jobs	<i>.58</i>				.33
More family recreational facilities are needed	<i>.54</i>				
Restoration of historical sites would promote tourism	<i>.53</i>				
Involvement of residents in environmental activities enhances tourism	<i>.48</i>				
Tourism activities are integrated with region's conservation programs	<i>.47</i>		.38		
Stricter laws are needed to protect the environment	<i>.45</i>				
Tourism generates more recreational opportunities for residents	<i>.45</i>				
Bird watching is a major tourism attraction	<i>.44</i>				
Tourism developments should be discouraged when they harm the environment		.69			
State is doing all it can do to lower the region's high unemployment rates		.67			
Opportunities are needed to learn more about environment		.53			
Economic gains are not more important than environment		.43		.36	
Personally have more money because of increased tourism to region			.69		
Tourism lowers unemployment rate			.64		
Shopping facilities are better as a result of tourism			.58		
Quality of public service has improved due to tourism		-.31	.52		
Economic development funds should be used to promote tourism				.70	
Increase in tourism results in increased recreational opportunities for local residents				.65	
Tourism generates more jobs			.32	.55	
Region needs more wildlife reserves		.34		.55	
Wildlife refugees are considered a good place for families to visit					.64
Environmental educational programs lead to improvement in natural resources					.58
Children need to learn about the environment	.37				.49
Environment needs more protection					.38
Eigenvalue	4.11	2.93	1.80	1.36	1.1
% of variance	15.2	10.9	6.7	5.0	4.3
Cumulative % of variance	15.2	26.1	32.8	37.8	42.1
Cronbach's alpha	0.66	0.65	0.58	0.62	0.63

Note: Extraction method: principal component analysis with varimax rotation. Measure of sampling adequacy (MSA) = 0.80. Bartlett's Sphericity, $p < .001$. Overall Cronbach's alpha = 0.74. Factors are as follows: Factor 1—Community Environmental Consciousness, Factor 2—Ethical/Moral Conservation Guidelines, Factor 3—Current Tourism Economic Benefits, Factor 4—Potential Ecotourism Economic Benefits, and Factor 5—Environmental Educational Objectives. Loadings of .40 or higher are italicized.

the validation sample on the five questions. Seventy-nine percent of the residents indicated they would visit the WBC, with 69% indicating a willingness to pay a fee. Thirty-two percent in both groups considered themselves to be bird-watchers. More than 40% indicated interest in a season pass, and almost two-thirds indicated they would be willing to drive up to 30 miles to visit satellite centers. The average fee a person was willing to pay was \$4.73 for the original sample and \$4.41 for the validation sample.

Data Analyses

To test the four hypotheses, we performed a principle component factor analysis with a varimax rotation procedure on the original sample items to identify the number of factors and their relative loadings (see Table 1). This procedure was performed on the 27 Likert-type scale statements originally identified from the pilot study to determine if the four hypothesized ecotourism constructs could be confirmed by the residents' perceptions. All negatively worded statements were rescaled so that all the statements were in the same sense. Bartlett's test and the measure of sampling adequacy (MSA) (see Tables 2 and 3) demonstrated a significant

number of nonzero correlations and groupings of these correlations to perform factor analysis for both the original sample and the validation sample. Initially, the number of factors extracted in the original sample was 6, which was determined by the number of eigenvalues greater than 1 and an examination of the scree plot (see Figure 1). To have at least a minimum of three loadings per factor, we selected a five-factor solution for the original sample as the optimal solution. Two items were deleted from the original sample items because of insignificant loadings ($< .30$), leaving 25 items for analysis. For the sample sizes generated, loadings of .30 or higher are considered significant (Hair et al. 1998). For clarity in interpreting the factor loadings, stronger loadings of .40 or higher are italicized in Tables 2 and 3. The four hypothesized factors were verified by the factor analysis of the original sample. In addition, a fifth factor, current tourism economic benefits, was identified. A check against an oblique rotation solution did not improve the solution, indicating that a varimax solution was appropriate and preferred, especially since the factors would then be independent of each other. Cronbach's alphas, even though low, fall in the 0.6 range—acceptable values for each of the factors, particularly in an exploratory study of this nature (Nunnally 1978; Peterson, 1994)—and

TABLE 3
FACTOR ANALYSIS OF RESIDENTS' PERCEPTIONS OF ECOTOURISM DEVELOPMENT:
VALIDATION SAMPLE (N = 506)

Statement	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Can protect the environment and at the same time create jobs	.70 ^a				
Identifying environmental organizations and causes that promote volunteerism	.68 ^a				
Restoration of historical sites would promote tourism	.63 ^a				
Stricter laws are needed to protect the environment	.61 ^a				
Involvement of residents in environmental activities enhances tourism	.52 ^a	.34			
Bird watching is a major tourism attraction	.40 ^a				
Tourism lowers the unemployment rate	.39	.62 ^a			
Shopping facilities are better as a result of tourism		.59 ^a			
Personally have more money because of increased tourism to region		.56 ^a			
Tourism activities are integrated with region's conservation programs		.40			
Region's environment needs more protection			.64 ^a		
Children need to learn about the environment			.64 ^a		
More family recreational facilities are needed	.33		.45		
Environmental educational programs lead to improvement in natural resources		.43	.45 ^a		
Tourism generates more recreational opportunities for residents				.66	
Tourism generates more jobs		.35		.65 ^a	
Economic development funds should be used to promote tourism				.51 ^a	
Region needs more wildlife reserves			.35	.45 ^a	
Opportunities are needed to learn more about the environment				.40	.33
Economic gains are not more important than environment					.64 ^a
Tourism developments should be discouraged when they harm the environment	.35			.38	.54 ^a
State is doing all it can do to lower the region's high unemployment rates					.44 ^a
Wildlife refuges are considered a good place for families to visit		.35	.35		
Eigenvalue	4.46	2.53	1.63	1.30	1.2
% of variance	16.5	9.4	6.0	4.8	4.5
Cumulative % of variance	16.5	25.9	31.9	36.7	41.2
Cronbach's alpha	0.69	0.58	0.59	0.59	0.55

Note: Extraction method: principal component analysis with varimax rotation. Measure of sampling adequacy (MSA) = 0.79. Bartlett's Sphericity, $p < .001$. Overall Cronbach's alpha = 0.72. Factors are as follows: Factor 1—Community Environmental Consciousness, Factor 2—Current Tourism Economic Benefits, Factor 3—Environmental Educational Objectives, Factor 4—Potential Ecotourism Economic Benefits, and Factor 5—Ethical/Moral Conservation Guidelines. Loadings of .40 or higher are italicized.

a. Denotes that the same item loads on the same factor in both the original and validation samples.

FIGURE 1
SCREE PLOT: ORIGINAL SAMPLE (n = 463)

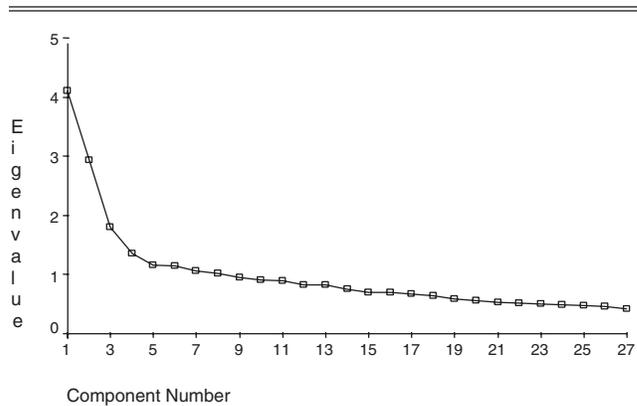
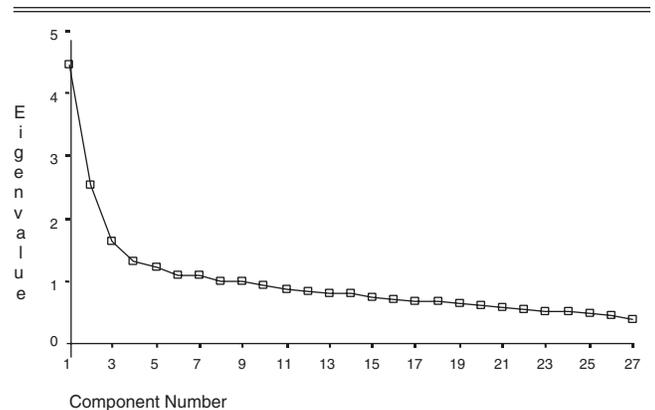


FIGURE 2
SCREE PLOT: VALIDATION SAMPLE (n = 506)



therefore confirm the reliability of each factor (see Table 2). The overall reliability measures for the attitudinal items were .74 for the original sample and .72 for the validation sample.

The same factor-analytic procedures were performed on the validation sample and produced results similar to those obtained from the original sample (see Table 3 and Figure 2), confirming the replicability of the results to the defined

population of area residents. The validation sample produced 23 rather than 25 items but with the same factors in a different order with comparable reliabilities (see Table 3). The items deleted from the validation sample either had insignificant factor loadings (< .30) or multiple cross-loadings on the factors. In addition, a comparison was made between the original sample and the validation sample to identify those

TABLE 4
DISCRIMINANT FUNCTION SUMMARY ANALYSIS

Stepwise Analysis: ^a Factors	Original Sample (<i>n</i> = 461)		Validation Sample (<i>n</i> = 497)	
	Structure Matrix		Structure Matrix	
	Loadings	Rank	Loadings	Rank
Potential Ecotourism Economic Benefits	.623	1	.375	3
Environmental Educational Objectives	.548	2	.469	2
Community Environmental Consciousness	.469	3	.680	1
Ethical/Moral Conservation Guidelines ^b	.022	4	-.005	5
Current Tourism Economic Benefits ^b	-.002	5	-.009	4

Note: Dependent variable is pay fee to visit an ecotourism project.

a. Wilks's lambda = 0.86 and 0.89, respectively, which is statistically significant at $p < .001$.

b. Variables not statistically significant at the .01 level for both analyses and consequently not included in the stepwise analysis.

TABLE 5
CLASSIFICATION MATRIX

Pay Fee to Visit Ecotourism Project	Predicted Group Membership		Total	Correctly Classified (%)	Cross- Validation (%) ^a
	No	Yes			
Original sample (<i>n</i> = 461)	44	99	143	73.1	72.7
	25	293	318		
	43	100	143		
	26	292	318		
Validation sample (<i>n</i> = 497)	37	116	153	71.2	70.8
	27	317	344		
	36	117	153		
	28	316	344		

a. Twenty-five percent above the proportional chance criterion is 73%.

items that loaded on the same factor. These items are identified in the validation sample presented in Table 3. With the exception of one item, they represent the highest loadings on that factor, with at least three items per factor. Future use and refinement of this scale should concentrate on using these items as the basis for the scale.

The next step in the data analysis was to test the hypothesis of the sustainability issue regarding ecotourism projects and development. In the survey, residents were asked if they were willing to pay a fee to attend an ecotourism educational center and its associated activities (see Table 1). The willingness of local residents to pay or not pay a fee to support ecotourism projects is critical in determining the sustainability of ecotourism goals, projects, and developments in a region (Clark and Ng 1993; Mak and Moncur 1995). Knowledge of the five factors identified above, specifically in regard to which factors discriminate between those individuals who will financially support ecotourism growth and development, is important in designing ecotourism marketing and promotional plans. To assess the importance of the each of the five factors in financially sustaining ecotourism, we performed a multivariate discriminant analysis in which the criterion variable is the willingness to pay or not to pay to support ecotourism projects and development, with the discriminating variables being the five factor scores generated from the factors identified in the factor analysis.

A stepwise discriminant analysis of the factor scores, which were generated from the factors attained from Tables 2 and 3, identifies the same three factors in both the original

and validation samples but in a different rank order that discriminates between financial and nonfinancial supporters of a WBC ecotourism project (see Table 4). Both discriminant functions in the two different samples have statistically significant ($p < .001$) Wilks's lambda values, and an analysis of the classification matrix (see Table 5) indicates that the hit ratio for both samples meets the recommended hit ratio of 25%, in excess of the proportional chance criterion (Hair et al. 1998), confirming that the model discriminates between the two groups of residents who are willing to pay compared to those who are not willing to pay. The factors discriminating between the two groups are (1) an environmentally conscious community, (2) a community that supports environmental educational objectives, and (3) a community that recognizes and supports sustainable economic development in accordance with conservation goals and objectives. The ethical/moral conservation regulations factor and the current tourism economic benefits factor did not discriminate between the two groups.

CONCLUSIONS AND RECOMMENDATIONS

Community Interest and Economic Impact of the WBC

Both the original sample and the validation sample showed strong support for the WBC ecotourism project, with

79% of the local residents indicating that they would attend the WBC. Even more important, 69% indicated a willingness to pay a fee to attend. The resident interest in the WBC exceeds the interest in attending professional sporting activities of spring training baseball (55%), professional football preseason games (57%), and professional hockey (40%) if such activities were offered in the area (Vincent et al. 1999). Based on the projected fee of approximately \$5 for each visitor and \$23 for an individual season pass with more than a million permanent and seasonal visitors, revenue estimates range from \$4 to \$5 million for the first year of operation alone for the WBC. For every 100,000 visitors to the WBC complex of sites, economic model estimates project \$56 million in local expenditures, \$1.7 million in local tax revenues, and approximately 930 new jobs to the area (Hiel, Ubanks, and Lindsay 1999). As time goes by, revenues will be more a function of facilities, ecotourism programs, marketing strategies, and support and compliance with community ecotourism goals and objectives. No doubt, the WBC will complement other tourism interests and enhance the prospect of additional sustainable tourism ventures for South Texas.

Assessing Community Support and Sustainability

To assess the local resident attitudes toward acceptance and support of the goals and objectives of the WBC, we performed a factor analysis of the 27 Likert-type scale items that produced five identifiable factors for both the original and validation samples. The four hypothesized factors considered necessary for community ecotourism development and sustainability—(1) an environmentally conscious community, (2) educational goals and programs promoting conservation, (3) sustainable economic support, and (4) ethical/moral conservation guidelines and regulations—were confirmed in both the original sample and the validation sample. One additional factor was generated, current tourism economic benefits. This factor represents what local residents consider to be benefits to the community and to themselves as a result of tourism to the area.

Sustainability of ecotourism has a direct relationship to the monies generated to support conservation and ecotourism goals and objectives for a community. Therefore, the five factors identified from the factor analysis were used as discriminating variables in a discriminant function model in which the criterion is whether the local residents would be willing to pay a fee to attend an ecotourism project and its related activities. Both the original sample and the validation sample produced the same three factors as discriminating between residents willing to pay a fee and those unwilling to pay a fee to attend an ecotourism project (i.e., the WBC) for this study (see Table 4). The activities and promotions important for tourism decision makers to consider and develop to support ecotourism sustainability to an area can be gleaned from the statements that comprise the three discriminating factors. For example, an environmentally conscious community would be one that develops ecotourism projects that protect the environment and at the same time creates jobs. One way to protect the environment is to enforce existing laws and develop stricter laws against environmental abuse. Additional jobs could possibly be created through the development of other related tourism activities, such as heritage and cultural tourism along with ecotourism

projects. An environmentally conscious community would also involve the residents in environmental activities (e.g., community advisory groups) and promote environmentally related volunteerism to enhance tourism to the area. In terms of developing and supporting the programs for educational conservation and preservation, tourism community leaders should develop programs involving schoolchildren in learning more about environmental conservation and nature and also provide more facilities and activities that are family oriented around nature and wildlife. The last factor was the promotion and recognition of potential economic benefits from ecotourism to an area. Tourism decision makers need to publicize the importance of ecotourism in terms of jobs and recreational opportunities for local residents. Special ecotourism events and festivals are vehicles for achieving greater visibility and promotion. Economic development funds can be used to promote tourism and develop more nature and wildlife preserves for local residents and travelers. By incorporating these concepts and activities into the community tourism decision model, ecotourism planners and developers would be balancing residents' environmental concerns and recommendations with a level of continued financial and political support, thereby enhancing the likely success of an area's ecotourism development and sustainability. The tourism policy development approach and recommendations resulting from this study adhere to many aspects of the conceptual model developed by Ritchie (1999) in the Banff-Bow Valley study as well as conclusions regarding community support, promotion, development, and sustainability of tourism development in other studies (Ap 1992; Chase et al. 1998; Evans 1997; Johnson, Snepenger, and Akis 1994; Jurowski, Uysal, and Williams 1997; Liu and Var 1986; Mak and Moncur 1995; Owen, Witt, and Gammon 1993; Schweitz 1996).

In summary, this study produced a psychometrically reliable and valid instrument to assess local residents' perceptions regarding the support and development of a regional ecotourism project. Based on this instrument, ecotourism activities and promotions were identified to assist ecotourism planners in the development and sustainability of an ecotourism project. While the instrument, methodology, and procedures could be modified for application to other similar ecotourism development projects, instrument refinement, customization, and application to other situations in different locales, at different times, and with different subjects are recommended to establish generalizability of the results. Additional research is recommended on modifying and refining the scale through confirmatory factor analysis in structural equation modeling.

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