NATURE-BASED TOURISM IMPACTS IN I-LAN, TAIWAN: BUSINESS MANAGERS' PERCEPTIONS

By

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By

Joe Ying Chin Yang

I dedicated this paper to my parents, Chin-Hsin Yang and Sung-I Tseng Yang & my wife, Yu-Mei Chen

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By

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Chair: Taylor V. Stein
Major Department: Forest Resources and Conservation

Nature-based tourism (NBT) is an emerging industry in Taiwan. In Taiwan's export-import oriented economy, I-Lan County has served as a leader – promoting NBT since the 1980s. Based on I'Lan's experience in NBT, this dissertation reports on research that examines the tourism business owners' perceptions of the social, economic, and environmental impacts nature-based tourism has had on I-Lan County. The framework of this study uses social exchange theory to examine perceptions of costs/benefits.

Data were collected in fall, 2005 (N=286), from fifteen types of business managers in I-Lan County. Perceptions of NBT impacts were assessed through examination of participants' socio-demographic characteristics and type and level of involvement in tourism planning.

Results indicate that 83% of respondents were raised in I-Lan and 41% operated their business between 2 to 6 years. Most business owners reported that NBT had a

moderate impact on their business – contributing approximately 30% of their annual sales and 31% of customers. Participants believed benefits to the social/cultural environment were the most apparent impact in I-Lan, followed by environment and economic benefits. Environmental, social/cultural and economic costs were not considered major problems. Neither gender nor education related to participants' perception of impacts, but participants who were raised in I-Lan rated economic costs higher than newer residents.

The findings show that social/cultural benefits are the most apparent in I-Lan and these perceptions were likely shaped by I-Lan's strong commitment to NBT over the last several decades. The reviving of cultural identity and cultural recognition in the region symbolizes the struggle of local culture versus the dominant Chinese culture, which has been the mainstream culture in Taiwan since 1950s.

Another major finding in this study is that participants' perceptions of the government are more important in determining perceptions of benefits than actual interaction with the government. It indicates that the county government might change its role from top-down decision-making style to co-partnering with local business people. The county can also alleviate its own financial burden by releasing some of its tourism activities to private sectors and use private sector resources for sustainable nature-based tourism development in I-Lan.

Results show that with a better understanding of business owners' perceived impacts, county tourism planners can improve the collaborative management of nature-based tourism in I-Lan.

CHAPTER 1
INTRODUCTION

Many nations promote nature-based tourism to promote and sustain both nature and economics (Hearne & Salinas, 2002). Taiwan, which has had much success expanding its economy over the last 40 years, is beginning to look toward to nature-based tourism (NBT) to continue its economic growth while improving its environmental integrity.

In Taiwan's export-import oriented economy, most of its counties have relied on establishing manufacturing plants and commercial companies for their economic development; however, I-Lan County has set a different tone. It promoted tourism as its primary economic activity. In fact, I-Lan County was the first tourism-oriented county in Taiwan in the 1980s.

Over the past twenty years, I-Lan has continued to attract people's attention to its tourism opportunities and environmental protection. While other counties in Taiwan began to experience the serious environmental deterioration and pollution problems of industrialization and commercialization, they have taken note of I-Lan's achievement. The major tourism events in I-Lan, such as a Children's Festival and Green Expo, have been ranked the first and third, respectively, among top ten mega tourism events in Taiwan since 1999 (Lee, 2003)

Tourism generates 16-20% of county's economic output, as much as $1.2 billion annually, and creates 46,000 jobs (I-Lan County Government Report, 2004). I-Lan's county government has led the way for tourism development in the county. Many successful events were created and developed by the county government. The local

economy relies heavily on this government-led tourism, and local businesses are an important part of the overall county tourism development. Business associations usually have a close relationship with county government and government agencies; and they also have influence on tourism development (I-Lan County Government Report, 2004). But, what has really happened in I-Lan in these years? Since tourism development in I-Lan is twenty years old, it is an appropriate time to evaluate the impacts tourism has on the county's businesses and stakeholders.

Most tourism studies in I-Lan focus on a single sector (e.g., leisure farming) or special events (Green Expo, Children's Festival). Research has not looked at tourism's effect on the entire county. Other tourism studies have focused on visitors or residents and only briefly examined local businesses. For these reasons, instead of focusing on residents' perceptions of tourism impact, this study aims to examine NBT impacts on tourism related business managers' perceptions for I-Lan County and attempts to understand the role that business managers play in county government's tourism decision making process.

When examining tourism impacts, with their dual roles as business operators and residents, business managers can provide unique perceptions about the critical issues related to tourism impacts. Thus, this study will use fifteen types of business managers as units of analysis, and the study area will cover the entire I-Lan County. The study will use existing literature, government data, interviews, surveys and observations to achieve its research objectives. By examining business managers' perceptions of NBT impacts, we can understand the factors and elements that influence NBT's economic, social/cultural and environmental impacts. The findings of this study will be valuable for

county government and researchers when planning, managing and evaluating tourism development in I-Lan.

Statement of Purpose and Objectives

The purpose of this study is to understand regional business managers' perceptions of economic, social/cultural, and environmental costs and benefits of NBT. The investigation of stakeholders' perceptions of tourism impacts enables researchers and county government to better understand the attitudes, belief, and values of the people who implement the tourism industry in the county. Therefore, this study will provide implications for regional governments in developing countries which are transitioning from traditional extractive industries to NBT. This study differs from others in the same area of study in two general perspectives. First, the study assesses factors influencing fifteen types of business managers' perceptions in the entire county. Second, the study examines the NBT development in I-Lan, where NBT is at its inception stage for the entire country.

The overall objectives of this study include to

- understand stakeholders' perceptions and attitudes regarding economic, social/cultural, environmental and other factors for NBT in I-Lan and
- examine the relationship among stakeholders' socio-demographic characteristics, type and level of involvement in tourism and their relation to perception of NBT's costs and benefits.

Research Questions

This study will attempt to answer the following questions:

1. What are the stakeholders' perceptions of economic, social/cultural and environmental costs/benefits of nature-based tourism?
2. How do stakeholders' socio-demographic characteristics (e.g., gender, age, level of education, location of residence, length of owning business) relate to their

involvement in tourism planning (as characterized by type of involvement, attitude towards the government, and level of involvement)?

3. How does stakeholders' involvement in nature-based tourism (as characterized by type of involvement, attitude towards the government, and level of involvement) relate to their perceptions of costs/benefits?

4. How do stakeholders' socio-demographic and business characteristics relate to perception of costs/benefits?

5. How do stakeholders' socio-demographic characteristics and level of involvement relate to their perception of costs/benefits?

Scope of the Study

Based on data from both I-Lan County and central Taiwan governments, several business entities including hotel/motel, restaurant/food, gift/souvenir stores, leisure farms/bed &breakfast, buses, car/motorcycle rental, whale-watching boaters, travel agency, advertising designs, printing, financing institute and other tourism related business (I-Lan County Statistical Abstract, 2004) were purposely chosen to take part in this study. In other words, the results cannot be inferred to a larger population.

Socio-demographic characteristics, business characteristics, attitudes toward the government, type of involvement and level of involvement will be selected as the indicators by which perception of costs and benefits of nature-based tourism will be measured. These form major components of the conceptual model, which will guide this study (Figure 1-1). Due to issues of time and costs of surveys, a one-time measure of each outcome variable will be used. Qualitative data from observations and interviews will be used to supplement the major findings from the overall survey, which was designed to answer the research questions.

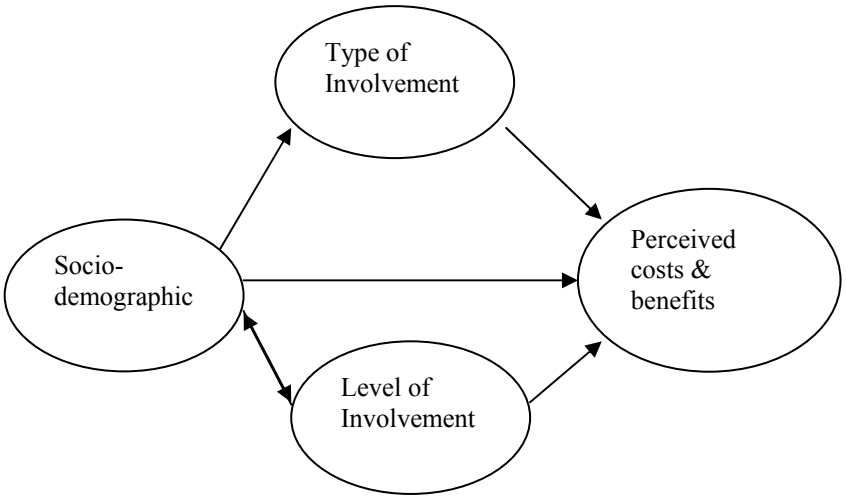

Figure 1-1. Conceptual Model of Costs/Benefits of Tourism Impacts, Type of Involvement, and Level of Involvement

Significance of Study

When Taiwan pursued economic development through developing manufacturing industries over the past forty years, I-Lan had little involvement in this movement. Its economic development has always been 10 to 20 years behind other Taiwan counties (Shi, 1994). In the 1980s, rather than accepting the traditional manufacturing industry, which had been pushed hard by the central government, I-Lan chose a tourism development policy as its direction for economic development and stressed environmental protection as part of this development.

According to the county tourism plan, tourism resulted in the combination of "Local industries" and "Local humanities and cultural environment." In the past, tourism planning was largely based on supply-demand theory, which focused mainly on environmental resources in terms of supply without considering the relationship between resources and local residents. According to I-Lan's Tourism Comprehensive Plan

(1996), the most important issues ought to be the role of local residents and their involvement in tourism when considering recreational resources.

According to the county plan, the combination of integrating and assisting local industries is the local government's fundamental task for tourism development. I-Lan is a pioneer in Taiwan's tourism development history. Since I-Lan has not followed Taiwan's traditional industrial development path, some look on I-Lan as backward with an anti-development attitude that is based on "nostalgia" (Chen, 2003). From another perspective, I-Lan has evaluated its options and chosen a unique path of development. It does not want to follow an "over-development" philosophy but is choosing to rethink and reconstruct its path using tourism as the tool (Chen, 2003; Shen, 2002).

The county government promotes "Tourism I-Lan," and also promotes "Environment I-Lan" and "Culture I-Lan" as county policies. Through developing tourism, I-Lan tries to find a solution for reviving local industries while attempting to consider both environmental protection and cultural preservation (I-Lan County Tourism Comprehensive Plan, 1996). Figure 1-2 illustrates the relation among local industries, local environment and local culture in I-Lan.

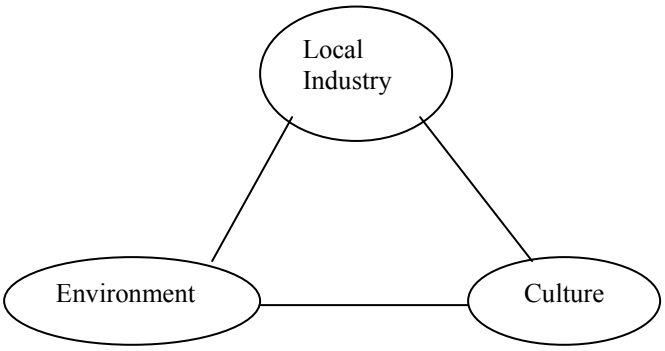

Figure 1-2. Three major Elements for Tourism Development in I-Lan: Local Industry, Environment and Culture

Nature-based tourism is a new concept in Taiwan. From Taiwan's perspective, it is meaningful to understand the county's role and its transformation from a primary fishing, agricultural society into a recreation and tourism society. In fact, I-Lan County is the first county that spent money to professionally research and identify guidelines for its county planning (Chen, 2003, Lee, 2003); however, a study of stakeholders' perceptions of nature-based tourism's impacts is needed.

Definitions

The following definitions are used in this study:

- Nature-based tourism: Tourism, which depends on nature and enhances nature (Weaver, 1998). In this paper, nature-based tourism is defined as outdoor tourism activities in natural areas such as lake, mountains, forests, wetlands, waterfalls, beaches, natural trails and engaging in leisure farming, whale-watching, bird-watching, kayaking, biking, walking, etc.

- Perception: Perception in humans describes the process whereby sensory stimulation is translated into organized experience (Lindsay and Norman, 1977)

- Tourism impact: Tourism affects individuals, social groups, economies and the environment. Tourism impacts usually are measured by economic, social, cultural and environmental aspects (Mathieson and Wall, 1982)

- Costs/benefits: Tourism impacts can be analyzed in positive (benefits) and negative (costs) ways in terms of economic, social/cultural and environmental aspects (Ap, 1992).

- Stakeholder: A stakeholder in an organization is any group or individual who can affect or be affected by the achievement of the organization's objectives (Freeman, 1984).

- Involvement: An action of information searching or extended problem solving behavior (Bettman 1979; Engel and Blackwell 1982), which could be measured by time and/or money (Havitz and Dimanche, 1990).

CHAPTER 2
LITERATURE REVIEW

Nature-based Tourism

Nature-based tourism is concerned with the direct enjoyment of some relatively undisturbed phenomenon of nature (Valentine 1992). Eagles (1997) stated that nature-based tourism had its roots in the desire of people to experience nature in their leisure time. This form of tourism refers to travel motivated totally or in part by interests in the natural history of a place, where visits combine education, recreation and often adventure (Laarman & Gregersen 1996).

Many researchers stress the importance of appropriate management for sustainable NBT development. Stein (2001, p. 6) points out that "like any use of rural and natural areas, nature-based tourism has the same potential to change, alter, and degrade the environment as other industries." Buckley and Pannell (1990) argue that NBT could result in low environmental impact, and gain high sustainable economic return if well planned and managed.

Buultjens and Davis (2001) argue that nature-based tourism has the potential to cause significant ecosystem damage without effective management. Stein (2001) argues that natural areas are unique unto themselves and when humans enter into the mix, no single guideline can provide for a best solution. The challenge for researchers is to identify and analyze the impacts of NBT to better manage for those impacts.

Attitudes and Perceptions of Tourism Impacts

This study uses business stakeholders' perceptions to examine NBT impacts in I-Lan County. Attitudes and perceptions of tourism impacts have played an important role in tourism studies. Researchers have used perceptions of residents and tourists to understand tourism impacts in many tourism destinations. For instance, Hong (2001) studied I-Lan tourism development by using the concepts of power network and county commissioners' charisma to analyze the economic development in I-Lan. Hong argued that although the development of agriculture and tourism in the 1980s and 1990s didn't improve much of the economic growth in I-Lan compared with other areas in Taiwan, the tourism policy still gained residents' strong support due to residents' awareness of the importance of environmental protection and the perceptions of maximum benefits of tourism for I-Lan.

According to Andereck and Vogt (2000), research about resident attitudes or perceptions of tourism constitutes one of the most systematic and well-studied areas of tourism. Resident attitudes toward tourism—more specifically, perceptions of tourism impacts— have been a subject of research for more than 30 years. Jafari (1986) noted that tourism research focused on the positive aspects of tourism impacts in the 1960s, the negative aspects in the 1970s, and a more balanced approach in the 1980s. Research in the 1990s has shifted focus to the study of residents at the community level. Studies of residents' attitudes toward tourism have often been conducted in rural communities where they search for opportunities to gain economic viability (Andereck and Vogt, 2000). For example, Pizam (1978) investigated residents' perceptions of the impacts of tourism in Cape Cod, Massachusetts. The study found that a much larger portion of the resident and the entrepreneur sample felt an overall negative effect from the impact of

tourism than those who felt an overall positive effect. The most negative attitudes towards tourism on the Cape were residents employed in non-tourism enterprises, followed by residents employed in tourism business, residents who were unemployed and non-tourism business owners; while the tourism business owners expressed the most positive attitudes.

Belisle and Hoy (1980) studied residents' perception of tourism at Santa Marta, Colombia. They found that in developing countries, the economic benefits of tourism might not be as great as often thought, whereas the environmental and social impacts from tourism were detrimental. The study found that positive impacts of tourism were reported more than twice as often as the level of negative impacts of tourism. Among five independent variables, distance from tourism destination, economic status, education, age and sex, only distance from tourism destination significantly affected the perception of tourism impact.

Liu and Var (1986) studied resident attitudes toward tourism impacts in Hawaii. They found that residents strongly agreed that tourism provides many economic and cultural benefits, but were ambivalent about environmental benefits. Residents regard environmental protection as being a more important priority than tourism's economic benefits, but they were not willing to lower their standard of living to achieve this goal.

The leakage of economic benefits is a major issue many residents face, and researchers have used elements of leakage to study the economic benefits of NBT. For instance, Weaver and Lawton (2001) studied residents' perceptions of tourism impacts in Australia and used *local businesses as controlled by locals* to measure the economic leakage. The researchers found that local residents did not perceive significant economic

leakage. Andriotis & Vaughan (2003) studied residents' attitudes toward tourism development in Crete and used tourism money moving to businesses outside the region as measures of economic leakage. This study found that economic leakage was apparent and perceived negatively. Kao (1994) and Chen and Ko (1994) studied tourism impacts in Taiwan and found that residents in tourism destinations perceived leakage of economic benefit as a negative economic impact.

Researchers who conducted these studies made the argument that residents' perceptions of and attitudes toward tourism impacts were as important as the actual impacts, if not more so. In most studies, perceptions of impacts or attitudes were measured using a series of agreement scales (McCool and Martin, 1994; Weaver and Lawton, 2001; Deccio and Baloglu, 2002; Andereck and Vogt 2000; Sirakaya, Teye and Somez, 2002; Andriotis and Vaughan, 2003; McGehee and Andereck, 2004). According to Mathieson and Wall (1982), there are three perceived impacts of tourism: 1) economic, 2) physical, and 3) social. This study will examine the stakeholders' perception of NBT impacts in economic, social/cultural and environmental aspects, and the measurement will be made using agreement scales. Statements of perceptions in tourism impact in this study will be mostly adapted from Ap and Crompton (1998) and Weaver and Lawton (2001) (See Appendix B)

There are several studies about residents' perceptions of tourism impacts in Taiwan. Kao (1994) studied residents' perceptions of tourism impacts at Kuan-Yin and found that residents perceived overall tourism's benefits exceeded its costs. Positive economic impacts included improving transportation, improving public utilities, increasing recreational facilities, increasing income, not increasing price of goods. Negative

impacts included increasing prices of real estate and leakage of economic revenues. Positive social impacts included promoting local history and culture and maintaining public safety. Negative impacts included the disruption of residents' daily life.

Chen and Kao (1994) indicated that residents perceived that large companies received the most benefit from tourism, but residents still saw increases in their personal incomes associated with tourism. They also noticed several negative social effects including changing social norms, increasing crime, and widening the gap between the rich and the poor. Studies from Chen (2003), Lin (2003) and P. T. Ho (2004) indicated that residents perceived more positive impacts than negative impacts, especially economic impacts. They were most concerned with negative environmental impacts followed by social/cultural negative impacts.

Social Exchange Theory

Social exchange theory emerged in the 1950s as a way to better understand interchanges between individuals and organizations. According to social exchange theory, exchange occurs between individuals who are known to each other, as well as between the anonymous traders of economic exchange (Ben-Porath 1980). Social exchange is based on the exchange of rewards and costs to quantify the values of outcomes from different situations for an individual (Thibaut and Kelley, 1959). Bagozzi (1979, p.434) stated that exchange involves "a transfer of something tangible or intangible, actual or symbolic, between two or more social actors."

Social exchange theory is based on the concept that people are reward-pursuing and punishment-avoiding, and people are motivated to action by expectation of profits. Rewards are not only the monetary returns, but may be social or psychological means (Napier and Bryant, 1980). Skidmore (1975) suggests that individuals will likely engage

in an exchange under three conditions: 1) the result of rewards are valued, 2) the exchange will produce valued rewards, and 3) perceived rewards exceed perceived costs. Yuki (1994) points out that social exchange combines both material benefit and psychological benefit. Material benefit includes salary. Psychological benefit includes position, loyalty and trust.

Foa and Foa (1974) have developed an exchange theory using six categories to describe the resources: love, status, information, money, goods and services. Based on Foa and Foa's theory, of the dimensions of particulatism and concreteness underlie the six categories, and resources perceived as similar are more likely to be exchanged than dissimilar resources. An important aspect of an exchange between individuals not directly included in Foa and Foa's theory is resource scarcity. Becker (1976) argues that the fundamental economic approach to human behavior is the allocation of scare means (or resources) to satisfy competing ends. Brinberg and Castell (1982) argue that the availability (or scarcity) of a resource influences the patterns of exchange. Social exchange theory is a framework for explicating movement of resources, during imperfect market conditions, between networks via a social process (Emerson, 1987).

Research shows that trust is positively associated with economic performance in the sense that trust greatly affects the performance of a society's institutions, including firms and governments. For example, a study by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997) showed that both economic and social performance is positively affected by trust in exchange and other social relations. The higher level of trust among actors, the more efficient the combine actions.

Studies show that mutual trust has significant positive effects on economic performance (e.g., sales on large organizations) as well as on social (and government) efficiency and public participation. Research also found that higher levels of trust also have positive effects on GNP growth, so a society with high trust is more likely to have faster GNP growth than other societies (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1997).

Fukuyama (1996) observed that industrialized societies such as the United States, Japan, and Germany have been capable of building an efficient corporate economy as a result of social cooperation by high levels of trust. These findings suggest that mutual trust within large economic organizations represent a major factor of their success in the market, which is measured by the volume of exchange. On the other hand, low trust or lack of it appears to have negative impacts on economic as well as non-economic performance (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1997).

The Difference and Similarities between Exchange and Economic Theories

According to Emerson (1962, 1972), social exchange theory differs from traditional study of exchange in economics. The major difference is that neoclassical economic theory views the actor (a person or a firm) as working with a market rather than with other actors. In the various forms of social exchange theory, the exchange relation between two specific actors is the central concept of the theory. Social and economic theories of exchange might look similar, but they remain radically different in their conceptual core.

Economic sociology regards exchange transactions as embedded in or governed by institutions, cultural values, and social relations rather than as self-regulating mechanisms (Pressman & Montecinos, 1996). According to Weber (1968), from a sociological

viewpoint, the market is not just an exchange mechanism but also a complex social structure. Exchange is in essence a special case of social action, with not only formal rationality but also extra-economic rationality.

Relationship between Exchange and Economy

Exchange has been accepted by many marketing scholars as the core concept of marketing (Bagozzi 1975; Hunt 1976; Kotler 1984). Alderson (1957, p. 15) stated "Marketing is the exchange, which takes place between consuming groups and supplying groups." Because of marketing's close association to economics, distinguishing between marketing and economics is sometimes difficult. Sahlins (1972) stated that mutual exchange began in primitive societies where exchange rates were set by social contract and equilibrium was established by reciprocity. Reciprocity is the process whereby this mutual exchange of acceptable terms is actualized. It is a social interaction in which the movement of one party evokes a compensating movement in some other party.

The economy as the realm of exchange is implicated in the socio-sphere as the most complex domain (Boulding, 1970). According to Kreps (1997), actors in economic exchange, as well as other social relations, are guided both by extrinsic and intrinsic motivation. The first is in utility/profit seeking by following the law of supply and demand and other economic laws, and the second, in altruism, the sense of duty, and the like. Intrinsic motivations express non-economic considerations, internal values and rules, norms and economic incentives interact (Kreps, 1997) in exchange as well as in other actions including household behavior (Bergstrom 1996; Lindbeck 1997).

The pertinence of various forms of altruistic behavior in an economy often is considerable, as indicated by the incidence of charity in the modern economy. Research (Rose-Ackerman, 1996) indicates that overall, 73% of Americans make voluntary

contributions (survey in 1993) to different types of charities. Research on private charity reports that most donors are guided by generous impulses and thus experience intrinsic benefits from the act of giving rather than extrinsic (monetary) payoffs (Rose-Ackerman, 1996).

Social Exchange Theory in Tourism

Due to limited explanation in previous studies about the reason for people's positive or negative attitudes toward tourism (Kayat, 2002), Ap (1992) introduced a social exchange model to explain perceptions of tourism. Social exchange theory has been considered an appropriate framework in understanding residents' perceptions of tourism (Ap 1990; Nash 1989; Long, Perdue and Allen 1990), and it has been adopted as the framework for the conceptual model presented in this paper (See Figure 1).

Ap (1992) developed a social exchange model for the understanding of residents' perceptions of tourism. In terms of tourism, social exchange theory explains the exchange of tangible or intangible resources that residents and tourists may give and receive in the host-guest context. Residents are willing to enter into exchange with tourists if they receive more benefits than costs (Jurowski, Uysal and Williams, 1997). Based on social exchange, researchers assumed that economic benefits derived from tourism development in exchange for social and environmental impacts (Harrill, 2003).

Sutton (1967) used social exchange to define tourism relationships between hosts and guests. He suggested that the relationship is asymmetrical and unbalanced in character. Pearce (1989) supports the concept of asymmetry to explain hosts' negative perceptions of tourists, And states "… that marked asymmetry of frequent, transitory contact with the opportunity for exploitation and interaction difficulties due to large cultural differences are the important elements shaping a negative host reaction to tourists

(1989, p 85). Mathieson and Wall (1982) also state that the tourist-host relationships are unequal and unbalanced in character. Turner (1986) suggests that hosts will engage an exchange if they can obtain some benefit without receiving unacceptable costs.

The concept of reciprocity or equality is probably the most central to social exchange theory. Reciprocity in exchange means that each actor will provide benefits to the other equitably and with units of exchange that are important to the actors. Reciprocity suggests that the resource exchange is roughly equal, and reciprocity is interpreted and used differently by exchange theorists (Ap, 1992).

Several studies have shown that three main elements of the exchange process can be identified, economic, environmental, and social/cultural, in terms of resident perception of tourism impacts – costs and benefits (King, Pizam, and Milman 1993; Milman and Pizma, 1988; Long, Perdue and Allen 1990; Schluter and Var 1988). For instance, Jurowski, Uysal and Williams (1997), using social exchange theory, presented a study to examine attitudes towards tourism among residents in five counties at the Mount Rogers National Recreation Area, Virginia. They found that residents' perceptions of economic, social and environmental impacts depend on four independent variables: 1) economic gain, 2) community resource use, 3) community attachment, and 4) natural environment.

Gursoy, Jurowski and Uysal (2002) criticized Jurowski, Uysal and Williams' (1997) model and aggregated the costs and benefits factors into three categories: economic costs/benefits, social costs/benefits and environmental costs/benefits. They proposed a new model that expanded on the findings of Jurowski Uysal and Williams' (1997) study by segregating the impacts into costs and benefits and then examining the

influence of these two on support. They also added two new constructs: the state of the local economy and the level of community concern. Gursoy and Rutherford (2004) proposed and tested a new model which expands on the findings of the models proposed by Jurowski, Uysal and Williams (1997) and Gursoy, Juroski and Uysal (2002) by breaking down the perceived impact into five areas: 1) economic benefits; 2) social benefits; 3) social costs; 4) cultural benefits; and 5) cultural costs.

Deccio and Balogue (2002) examined nonhost community residents' perceptions of the spillover effects of the 2002 Winter Olympic Games in Salt Lake City, Utah. They found that residents, who are environmentally conscious, did not support the Olympics; those who are economically dependent on tourism and those who participate in outdoor activities generally supported the Olympics. In addition, they noted that the level of community attachment of residents did not influence the perception of the Olympics or support for the Olympics. Sirakaya, Teye and Somez (2002) used social exchange model to study residents' support for tourism development in the Central Region of Ghana. They used seven factors to examine residents' attitudes about economic, social/cultural, and environmental aspects, while also asked questions about personal involvement in the tourism decision-making process. The findings of their study support the results of other studies in developed nations that residents' support for tourism development is based on their perception of costs and benefits.

Andriotis and Vaughan (2003) used social exchange theory to examine the identification and explanation of the attitudes of urban residents toward tourism development on Crete. They found that within communities there are segments expressing different levels of support/concern for various tourism impacts (economic,

socio-cultural, and environmental). In addition, they also noted that level of education can determine residents' attitudes. Highly educated respondents were more likely to express concern about the impacts of tourism.

McGehee and Andereck (2004) used social exchange theory to examine factors predicting rural residents' support of tourism in communities in Arizona. They found that personal benefit has a significant relationship with tourism impact. Older people tend to perceive tourism more negatively. Respondents, who lived in the community as children, were more likely to perceive tourism impacts negatively. There is positive relationship between tourism planning and both support for additional tourism and tourism's negative impacts.

In Taiwan, social exchange theory has been applied in psychology, management, information technology and tourism studies. For instance, T.C. Chen (2004) studied relationships among factors affecting customers' choice, social exchange antecedents and loyalty in travel agency.

Involvement in Community Development

Involvement in community development plays an important role in tourism development. Engel and Blackwell (1982) stated that involvement could be measured by the time spent, the number of alternatives examined, and the extent of the decision process. Bettman (1979) stated level of involvement as a mediating variable in the search for information. Assael (1992) argued that involvement means understanding a person's consumer behavior and decision-making process. Stone (1984) defined involvement as time and/or intensity of effort expended in undertaking of activities.

Several researchers discussed measures of involvement including amount of time spent, frequency of participation and experience (Bryan, 1979; Donnelly, Vaske and

Graefe, 1986; McFarlane, 1994; McIntyre and Pigram, 1992; Scott and Godbey, 1994; William & Huffman, 1986). Havitz and Dimanche (1990) stated that time and money expended could explain level of involvement. Fesenmaier and Johnson (1989) used behavioral measures of involvement in Texas and they include length of planning time devoted to decision-making as the indicator. In recreation, involvement could be measured by frequency of participation, money spent, ownership of equipment, and number of memberships (Kim, Scott and Crompton, 1997).

Researchers show that there are strong linkages between the degrees of community participation and the effectiveness of tourism development. For example, Stein, Anderson and Thompson (1999) examined community benefits associated with Minnesota State Parks. Using the benefits-based management framework, they found that park mangers and planners needed more interaction with community residents. They suggested that park managers and planners needed to: 1) provide benefits related to specific community needs; 2) balance community and visitor needs; and 3) offer communities valuable partnerships with parks to provide benefits.

Jacobs (2002) examined the grassroots environmental movement in Latin America and European countries, and found that Brazilians residing in the urban periphery link their own local environmental concerns to global consideration and concern for environmental issues is closely related to a wide range of community involvement. Kull (2002) studied community-based natural resources management in Madagascar, and argued that the success of the community-based approach depends upon the real empowerment of local resource users and attention to legitimacy of local institution. The

empowerment of local community residents can bring the success of environmental issues when dealing with different level of governments.

Stem, Lassoie, Lee, Deshler, and Schelhas (2003) conducted research in Costa Rica and argued that nature-based tourism offers communities an opportunity to improve their well-being and economic livelihood. It also encourages people in the community to conserve their forests and wildlife. Stein, Anderson and Kelly (1998) studied stakeholders' values to apply ecosystem management at Red River Basin, in Minnesota and North Dakota landscape. They found that community members valued the landscape for a variety of non-economic and economic reasons. Community members perceived that the landscape not only generated income, but also affected their quality of life. Simpson, Wood and Daws (2003) studied the relationship between governments and communities and suggested that the challenge for government is to enable the processes of capacity building, participation and community ownership without creating unnecessary pressures on the time, personal energy and the finances of residents of rural communities. Providing resources to support these processes will increase the long-term benefits for rural communities.

Agrawal and Gibson (1999) argued that in examining community development and conservation, a focus on: 1) multiple interests and actors within communities, 2) how these stakeholders influence decision-making, and 3) the internal and external institutions that shape the decision-making process, are more meaningful than a focus on community itself. Haywood (2000) stated that community participation in tourism planning is a process of involving all relevant and interested parties (local government officials, local citizens, architects, developers, business people, and planners) in such a way that

decision-making is shared. According to Haywood, there are three goals of community tourism planning: 1) to identify the possibilities and choices about future tourism within the community, 2) to examine each possibility carefully in terms of probable impacts, and 3) to reflect the preferences of people, whose lives and living environment are influenced by the decision made, in tourism planning.

Resident involvement in tourism decision-making appears to influence the level of support and attitude toward tourism and tourists (Cooke, 1982). When residents are involved with various community tourism activities, they are more favorable toward community change and development (Allen and Gibson, 1987; Ayers and Potter, 1989; Rosentraub and Thompson, 1981). Madrigal (1993) studied two Arizona communities and found that residents with positive perceptions of tourism believed that they could influence tourism decisions.

The involvement in tourism decision-making and the empowerment of local community members has been practiced in I-Lan. For example, the involvement in tourism decision-making process for townships in I-Lan such as Shan-Shin and Yuan-Shan, where local communities were able to incorporate input from local residents and share the process of decision-making in tourism planning, reflected a linkage between environmental issues and tourism (I-Lan County Government Report, 2002). The empowerment of local community residents can bring the success of environmental issues when dealing with different level of governments. For instance, in I-Lan, the fifty-two acre wetland near the Lan-Yang River mouth was originally to be established as an industrial park by Taiwan central government. However, due to strong resistance from both local residents and county government based on fears of environmental pollution,

the area was established as a wetland protection zone in 1998 (I-Lan County Government Report, 2002).

Relevant Research to I-Lan

With the support of I-Lan county government, many researchers in Taiwan have studied a variety of issues in I-Lan. There are more than 100 theses and dissertations regarding I-Lan issues, and about fifty papers studying tourism in I-Lan. The following are some research projects related to tourism impact.

Studies in Economic Impact

Chen (1998) used the travel cost method to study the value Chi-Lan forest recreation and the results showed that the average recreation value was NT$223.6 per visitor. Lin and Tang (1999) conducted visitor surveys in the Fushan Botanical Garden and found that visitors' primary motivation was appreciation for the environment. They also found that sightseeing, learning about trees, and taking a walk were the most preferred activities in the garden. Li (2000) studied the recreational resource use and pricing strategies at Wu-Lo Keng Scenic Park and found that I-Lan residents agreed to pay a small portion of admission fees or cleaning fees for using the park.

Chen, Wang, Huang and Lin (2002) used the travel cost method to study the economic value of recreational benefits at Fushan Botanical Garden and concluded that the total annual economic benefits for the garden reached NT$22,830,000 (US$681,492). K.L. Chen (2002) used expenditure regressions to estimate 2001 I-Lan Green Expo and found the direct economic benefit to be NT$64,350,000 and total benefit to be NT$189,780,000. Chen and Chang (2003) studied the economic impacts of leisure agriculture and industrial culture in I-Lan. They found that the total economic benefit for I-Lan was-between NT$2,700,000 and NT$189,780,000 for eight major cultural activities

in 2000-2002. Intangible benefits were found to be-between NT$920,000 and NT$98,380,000. K.L. Chen (2004) examined the economic impact of the Green Expo in I-Lan and found that 64 businesses increased their sales revenue and 236 were unchanged.

Hong (2000) examined the perception of I-Lan's "anti-development" attitude to study local government's strategies and choices in economic development. The findings show that I-Lan's economic growth was still far behind most of the other counties in Taiwan after twenty years of tourism development. Hung used Thailand, Hong Kong and Switzerland as examples to explain tourism's contribution to their societies. The findings showed that productivity of tourism contains a smaller portion of economic revenue for an industrial country such as Switzerland compared to developing countries like Thailand. The reason was that the tourism industry produced low profits compared to the manufacturing industry, with high productivity resulting in high profits.

Shen (2002) argued that since the 1980s, the non-position party resisted pressure from the authoritarian central government and industrialization for its economic development. Adapted from Shen (2002), T.S. Chen (2003) studied the formation and promotion of tourism policy in I-Lan. He argued that in order to form the tourism policy, the county government gathered professional elites, local communities, local industries and local activists in a long-term interaction and mutual consent and accumulated experiences to establish a unique "alternative development" style in Taiwan. Kuo (2004) studied tourism development and local governance in I-Lan, and argued that I-Lan still was ahead of other areas in tourism, but that the county government should include more private sector and local non-profit organizations involvement in tourism for its sustainable development.

Y.L. Chen (2004) examined the Jiaosi hot spring industry and regional change and concluded that I-Lan regional development has been gradually entrapped into the pattern of development of Taiwan's west coast. The development of "EP, Culture, Tourism" by the county government has not created a new and productive direction for I-Lan. Instead, the government has repackaged the existing system under the pressure of economic stagnation in the 1980s. The development of the Jiaosi Hot Spring has resulted in a scarcity of hot spring resources, the region's environmental decline, and a general imbalance of local industry development.

Studies in Leisure Farming and Bed and Breakfast Lodging

F.J. Chen (2002) examined the demand for leisure housing as a result of construction of the Pei-I Highway. Using scenario analysis, Chen suggests that after the completion of Pei-I Highway in 2006, there will be an increase in the demand for people from other counties for leisure activities in I-Lan. Specifically this will include an increasing demand for leisure housing by 34%, increasing demand for membership clubs by 20% and increasing demand for leisure centers by 46%.

Yang (2003) studied visitors' evaluation of B&B's in I-Lan. In an evaluation of B&B facilities, visitors most desire kitchen and barbecue facilities, followed by parking space, and emergency lighting equipment. In an evaluation of services, visitors desired provision and arrangement of breakfast, transportation service, and arrangement of special events. In an evaluation of environmental landscapes, visitors desired indoor and outdoor trees, yard landscaping, and surrounding landscapes. For recreational activities, visitors preferred feeding animals, and participating in folk festivals.

H.Y. Chen (2004) studied how the personality of B&B managers affects their role in decision-making at the Dong-Shan River leisure agricultural area in I-Lan. The

findings concluded that agreeableness was one of the most important personality characteristics in determining their role in decision-making. This was followed by consciousness, extroversion, openness and neuroticism among characteristics of managers' personality. Yu (2004) used B&B's in I-Lan to study the meaning of home. The findings concluded that the meaning of home in B&B's is established under the effects of ideology, the meaning of object, and the personal relationship.

Chu (2004) studied leisure farming and marketing in I-Lan County. The findings indicated that the driving forces of the "operational basis" for leisure farms were the current operating situation and competitiveness. The driving forces of future development for leisure farms were market segmentation, innovation, resources integration and establishment of evaluation system.

Huang (2004) used an analytic hierarchy process to establish an evaluation model for Taiwan leisure agriculture. The findings showed that natural resources attractions were the most important. This was followed by integrating, creating customer-value, and the potential market. Recreational safety was the most important element within "natural resources attractions."

Liu (2005) studied the environmental design of leisure agricultural areas from the viewpoint of ecological design in I-Lan. The findings indicated that managers in leisure farms focus more on making profits and often make environmentally unfriendly decisions when balancing ecological concerns and commercial benefits. On the other hand, most owners in leisure agricultural areas are still devoted to traditional agricultural production; thus, they have flexible choices regarding ecological design, which is more environmentally friendly.

CHAPTER 3
METHOD

The purpose of this research was to examine I-Lan business managers' perceptions of nature-based tourism impacts and to understand the relationship among socio-demographic characteristics, level of involvement and their perception of impacts. This chapter includes a description of the study site, research design, survey instrument, data collection, and data analysis.

Study Site

Natural Environment

The study area is I-Lan County, Taiwan. Approximately 463,000 people live in the 2,143 square kilometer county, which is located in the northeast corner of Taiwan Island. I-Lan is in the shape of a triangle opening toward the northeast. It faces the Pacific Ocean on the east, and is surrounded by mountains on the west, south and north. Because of its geographic location, it has limited access to the other areas in Taiwan (Figure 3-1).

Three quarters of the county is mountainous. Combined with its wet climate, the county's rivers and creeks form a unique landscape in I-Lan. Due to the rugged environment, large-scale economic development is limited. I-Lan is situated in a subtropical climate with an average annual temperature of 22° C year round and 210 average annual days of rain. It has the most humid area in Taiwan. In winter northeast seasonal winds are as strong as light typhoons, which affect winter tourism, especially for whale watching activities.

Map of Taiwan

Map of I-Lan County

Figure 3-1. Map of Study Site

I-Lan is one of Taiwan's major commercial fishing areas. In addition, it is one of northern Taiwan's major agricultural production areas and it also has the largest forested area in northern Taiwan. I-Lan is full of diverse natural attractions, which include beaches, offshore islands, tall mountains, forests, lakes, waterfalls, hot springs and unique cold springs. Furthermore, due to its low development, I-Lan's natural landscape is well preserved.

Based on I-Lan's geography, the county is zoned into seven areas (Figure 3-2):

1. Central Plain Area: Includes the cities of I-Lan, Jiaosi, Chuang Wei, WuJih and Lou-Dong;

2. Northern Lan Yang River: Includes the city of Yuan-Shan as well as important natural attractions that include Lan Yang River, Te-Tz-Ko River, Wu-Feng-Chi waterfall, Jiaosi Hot Spring, Yuan-Shan Hot Spring, and Lake Dragon;

3. Southern Lan Yang Rive: Includes the cities of Shan-Hsin, Dong-Shan as well as Dong-Shan river, Wu-Lou-Kun, Lake Plum;

4. SuAo, NanFangAo areas: Include the city of SuAo and the natural area known as Cold Spring;

5. 5. Northern Tou-Cheng coastal area: Includes the two natural attractions known as Turtle Island and Tou-Cheng beach;

6. 6. Dong-Ao, Nan-Ao area: Includes mostly rural areas along the scenic coast of I-Lan; and

7. 7. Northern Yu-Lan Lan-Yang River Valley area: Includes the cities of Tai-Ping Shan and Ming-Chi as well as the Chi-Lan Forest Recreation Scenic areas and current residence of the remaining Atayal people (I-Lan County Tourism Comprehensive Plan, 1996).

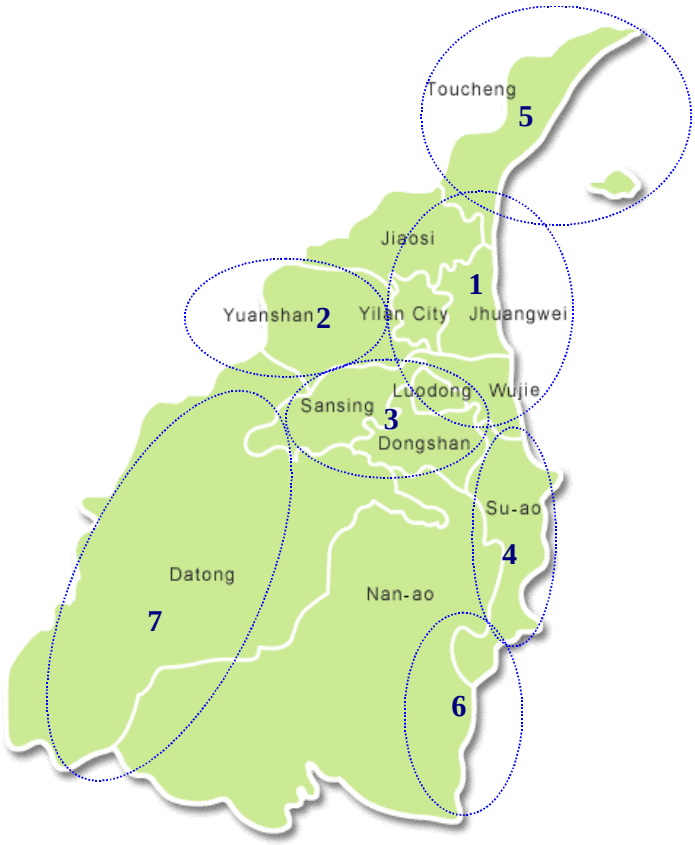

Figure 3-2: Seven Zones of I-Lan County

The History of I-Lan

I-Lan was originally named Kavalan and was named by the Atayal people (aborigines in Taiwan) who had lived in the region for more than three thousand years. In 1750, the Ching dynasty took I-Lan as part of Chinese sovereignty. Forty-six years later

Wu-Sha and his followers came to I-Lan and established agriculture throughout the area. The Chinese quickly overwhelmed the Atayal and took control of the I- Lan area. The Atayal were forced to move to coastal Hua-Dong and surrounding mountain areas.

In 1895, Japan took Taiwan from Ching dynasty after winning the war and ruled Taiwan from 1895 to 1945 (I-Lan Government Report, 2004). Industry remained low in I-Lan during Japanese rule (Shi, 1994) and the I-Lan economy was suppressed (T.S. Chen, 2003).

Demographic Structure and Population Trend in I-Lan

The population in I-Lan has been decreasing since the 1960s. Most of the outflow can be attributed to young people, who mostly move to the Taipei metropolitan area. Of the 462,200 people currently living in I-Lan, 18% have a college degree, 24% have a high school diploma, and 29% only went to school between 6-9 years (I-Lan County Statistical Abstract, 2004). As an added indication that the young adults are leaving I-Lan, the county's dependency ratio has decreased from 47.90% in 1994 to 44.62% in 2004 and the aged index has increased from 34.8 % in 1994 to 59.8 % in 2004 (I-Lan County Government Report, 2005).

Economic Development in I-Lan

After the Communist Revolution in 1949 and subsequent establishment of the Chinese Nationalists in Taiwan, the country began the development of light industry. In the 1970's through 1980's, Taiwan focused on exporting products, which continued to expand its economy (Tsai, 1986). In the 1990s,Taiwan's economic structure has further improved as it developed state-of-the-art information technology, electronics, and transportation (Kop, 1992, p21). In general, over the past forty years, Taiwan's economy

has gradually transformed from labor-intensive industry (i.e., agriculture and light industry) to capital-intensive industry (Wu, 1989,p 76).

Over this same time period, I-Lan County lagged behind the rest of Taiwan in the development of industry; however, I-Lan's economic structure started to change in the 1990s. Agriculture and manufacturing declined steadily throughout the 1990's while commerce, financing, real estate and the service sectors, increased almost 90% from 22.1% (1991) to 41.5% (2001). These emerging industries provide an output of $NT 68.1 billion, which was a 300% growth from the $NT 17 billion produced in 1991 (Table 3.1). These three entities only slightly changed from 1986 to 1991; but, they changed drastically from 1991 to 2001. The growth of tourism in the 1990s has been the major driving force for the fast growing of the third business entity in I-Lan (Lee, 2003).

Table 3-1. Production Output of Business Entity in I-Lan County, 1970-2001

Unit: $NT million

Year	Total Output	Primary Output	%	Secondary Output	%	Third Output	%
1970	5,658.75	1,193.44	21.09	4,465.31		78.91	
1976	13,133.21	3,207.68	24.42	7,407.00	56.40	2,518.53	19.18
1981	32,548.87	4,374.43	13.44	21,652.93	66.53	6,521.52	20.04
1986	57,149.16	8,798.49	15.40	36,222.52	63.38	12,128.15	21.22
1991	79,214.97	11,557.97	14.59	50,155.00	63.32	17,502.00	22.09
1996	162,311.86	10,431.32	6.43	91,812.95	56.57	60,067.59	37.01
2001	165,141.00	8,776.00	5.31	87,785.00	53.16	68,058.00	41.53

Sources:1. 1970-2004 Agriculture Annual Report, Commission of Agriculture Affairs, Executive Yuan
2. I-Lan County Comprehensive Space Plan 2005

Tourism Development in I-Lan

Three stages of tourism development can be categorized in I-Lan since 1981: Stage 1 (1981-1989): Exploration, involvement and development; Stage 2 (1989-1997): Development of cultural tourism and major tourism activities; and Stage 3 (1997-2005): Consolidation of major tourism activities.

Stage 1 (1981-1989): Exploration, involvement and development

In the 1980's, Chen Ding-Nan, I-Lan county commissioner, advocated the issue of tourism development and implementation of environmental protection as major county policies. With strong support from local residents, the county government had successfully resisted the pressure from both central government and large manufacturing companies, which often pushed county governments to establish more industrial and manufacturing plants. Three issues demonstrated I-Lan county government and residents' attitudes towards environmental protection: 1) Strong resistance to a proposed fire-power plant in 1986; 2) Strong resistance to a petrochemical plant in 1987 and 1991; and 3) Support for the establishment of water-bird protection zones at the proposed fire-plant location in 1993 (I-Lan County Government Report, 1992; Lin, 1994: 45-54).

In order to promote tourism and maintain environmental protection in I-Lan, Chen's priority was to improve the infrastructure for recreation and tourism. He began to plan for building sport parks in I-Lan City and Lo-Dong. With detailed and thorough plans, Chen was able to obtain funding for the construction from both central and provincial governments (I-Lan County Government Report, 2000). During Chen's commission tenure from 1981 through 1989, he completed the establishment of both I-Lan and Lo-Dong sport parks and began construction of facilities at Dong-Shan River and Wu-Lo-Kung scenic areas. The design and quality of the park brought much attention to I-Lan and also attracted visitors from other counties in Taiwan (Chen, 2003).

Stage 2 (1989-1997): Development of cultural tourism and major tourism activities

Yu, His-Kun, the county commissioner after Chen (1989-1997), continued to improve the infrastructure, and focused on reviving and preserving the local culture. Through integration of cultural tourism activities and local industry, Yu developed

marketing programs to promote major tourism activities. From 1991-1997 Yu launched a series of traditional cultural activities, such as "The Grappling with Ghosts Competition" at Tou-Cheng, which had not occurred since the early 1950's. I-Lan county government also created many cultural activities, such as developing the county historic hall, the first county historic hall in Taiwan, in 1992; holding Happy I-Lan Year in 1994; and establishing the I-Lan Study Conference in 1996. Yu also launched many tourism activities around Dong-Shan River, such as rafting activities in Dong-Shan River, and recreational activities at Dong-Shan River Water Park, holding International Collegiate Regatta in 1994, and developing Children's Festival in1996. Through these major tourism activities, I-Lan began to establish a unique and important tourism image.

Stage 3 (1997-2005): Consolidation of major tourism activities

The next county commissioner, Liu, Sho-Cheng (1997-2005), followed in the footsteps of Chen and Yu. He continued to promote major tourism activities and created new ones, such as Green Expo in 2000, Green Onion and Garlic Festival in 2001, and Chiao-Hsi Hot Spring Festival in 2003. As a result, "Culture, I-Lan" and "Tourism, I-Lan" have become the official county policies over the past twenty years (I-Lan County Government Report, 2002).

According to the Taiwan Tourism Bureau (2003), domestic tourism has grown over the past twenty years in Taiwan. The number of visitors increased from 30 million (1988) to over 100 million (2001), and the number of scenic attractions also increased from 50 (1988) to 263 (2001). The market share of the Taiwan domestic tourism reflects the progress of its tourism development in I-Lan. I-Lan's market share changed little from 2.7% in 1986 to 2.4% in 1991; however, the figure jumped from 4.2% in 1993 to 5.1% in 2001, with a total of 5,100,000 visitors annually in I-Lan.

Major Tourism Types

There are two different types of nature-based tourism in I-Lan: 1) leisure farms and 2) events and tour spots (T.S. Chen, 2003)**.** These are described below**.**

Leisure farms.

There are 27,742 acres of farmlands (13% of total land area) in I-Lan; the number of people working in agriculture is 142,466, or 30.6% of the total population (I-Lan County Statistical Abstract, 2004). The primary crops are: Cheng (2001, p. 27) defines leisure farming as "using farm village's natural ecology, humanities as resources, and through special planning, designing and managing to provide agricultural feature of recreational activities and occasions for the public." It is an industry that puts agricultural production, agricultural manufacturing and living services together. Leisure farming combines tangible and intangible resources of agriculture and farm village within a leisure context to provide entertaining and educational experiences for visitors.

In recent years, I-Lan's leisure farms have become destinations for visitors from metropolitan areas especially from Taipei. As part of the county's major events, such as I-Lan International Children's Folklore & Folk-game Festival and Green Expo, farmers have expanded the quantity and improved the quality of leisure farms. Currently, there are 100 leisure farms within I-Lan, that attract 1,820,000 visitors annually, with total annual sales revenues of NT$ 2,252,520,000 (Wu, Chen and Lin, 2004).

Meanwhile, the growing bed and breakfast (B&B) business is another category within leisure farms. The Council of Agriculture (COA), the highest administrative agency in charge of agricultural affairs in Taiwan, defines B&B's as lodging that " uses residential rooms as a family's sideline business and integrates local culture, natural landscaping, ecosystem, environmental resources, fishery and farming activities to

provide country lifestyle for visitors to stay-over" (COA,2004, p. 2). In 2001, Taiwan's government established Bed & Breakfast Management Regulation, which incorporated B&B's natural surrounding into planning in order to attract visitors and help sustain surrounding farm villages, mountain and forest areas, and aboriginal villages (CAO, 2004). The majority of B&B visitors are single, young (80% between age 20-39), higher educated, and has a middle class in income (NT$ 500,000). The reasons visitors stay at B&B's are based on reasonable rates and their proximity to nature. There are around 500 B&B in I-Lan in 2005 (Chen, 2003).

Events and tour spots.

Events and tour spots include points of interest in each township. The Green Expo, Children's Festival, Collegiate Regatta and whale-watching tours are some of the county's most popular events and tour events. Some of the county's major tourism regions include:

- Wu-Lo-Kung Scenic area, which is 400 acres and located at New Town River. It is the place where the county hosts Green Expo each year. It is a recreational park with facilities for barbecuing, family outdoor activities and camping. It attracted 487,500 visitors in 2004 (I-Lan County Statistical Abstract, 2004).

- Dong-Shan River Scenic Area contains the Dong-Shan River Water Park, which was established in 1994. It was the first "water" theme park in Taiwan. The park plans incorporate "water and green," by creating several different shapes and depth of water zones. It is a popular place for families, and the park and its surrounding river area have been used to host the International Children's Festival and International Collegiate Regatta (See Figure 3-3). The area attracted 1,121,936 visitors in 2004 (Bureau of Business & Travel, I-Lan County, 2005).

Figure 3-3. Dong-Shan River Water Park (I-Lan County Government Webpage 2005)

- Wu-Shi Fishing Harbor, located in Northern I-Lan, has been a traditional fishing harbor for the last century. It recently became the major station for Turtle Island tours and whale and dolphin watching tour-boats. The emerging whale-watching business began in 1999 in IL. There are 12 whale-watching boats at Wu-Shi that hosted 140,800 visitors and made NT$84,509,400 in sales revenues in 2004 (Bureau of Agriculture Affairs, I-Lan County, 2005).

- Jiaosi Hot Spring Area hosts 1,400,000 visitors a year (Taiwan Domestic Tourism Report, 2003) and made NT$4 billion between 1999 and 2001. Visitation has increased 15% annually. Younger visitors are frequenting the springs, and college students have become the major clients (Ho, 2004) (see Figure 3-4).

Figure 3-4. Jiaosi Hot Spring (I-Lan County Government Webpage 2005)

Tourism Strategies

I-Lan has focused on two approaches to improve nature-based tourism in the county: 1) interpretation and 2) package tour programs. Interpretation is recognized as an important strategy in sustainable tourism development (Ballantyne, & Uzzell, 1994; Moscardo, 1996). The I-Lan Tourism Ambassador Association (TBA) was established in 1996, which aims to train local tour operators to interpret natural and cultural sites. There are four categories of service in TBA: a) Travel service consulting in I-Lan, b) Travel itinerary, schedule planning & designing for visitors/groups, c) Tour guiding & interpretation for package tours, d) Training & educating for tour guides & interpreters. The interpretation includes natural flora and fauna, history of the tour area, local culture and the concept of environmental protection. Currently, there are over one hundred fifty trained tour guides and interpreters in the association (I-Lan TBA, 2004).

Package tour programs (PTP) became popular after the Children's Festival in 1996 (Chen, 2003). Business owners across different sectors combined their activities to create a series of package tour programs. For example, a two-day one night tour program includes visiting Tai-Ping Forest Recreation area, a leisure farm, whale watching, a winery, I-Lan Old street, Fu-Shan botanical Garden and a night at the Jiaosi Hot Spring hotel. Research has not shown the impacts of PTP, but business owners and the county government are hopeful they will increase the distribution of benefits throughout the county. Approximately one-third of tourism-related business owners are involved in PTP (I-Lan County Government, 2005).

Research Design

This study used a three-phase approach to answer its research questions. First, individual interviews were used to identify nature-based tourism's current role in I-Lan

and existing impacts of nature-based tourism. Second, a short survey that focused entirely on perceived impacts was given to a small sample or business managers to validate the impact indices to be used in the final phase of research. Finally, the primary data gathering technique was an on-site survey of I-Lan business managers. The research design for this study was cross-sectional strategy.

Conceptual Framework

The conceptual model used in this study combined the model of Gursoy and Rutherford (2004) and other models regarding socio-demographic characteristics, types of involvement and level of involvement (Figure 3.5).

The model illustrates the flow of this research. Based on past research, people's socio-demographic make-up and experience with tourism likely effect how they perceive the costs and benefits of tourism. Therefore, socio-demographic and business characteristic (e.g., length of owning business, respondents' organization) variables are likely an important component of this study along with two intervening variables: 1) type of involvement and 2) level of involvement. Based on this conceptual model, this study examined the interaction between socio-demographic and business characteristics and level of involvement and their relations to perceived costs and benefits of tourism impacts.

Type of business was not included in the analysis due to the large diversity of businesses working in the nature-based tourism industry.

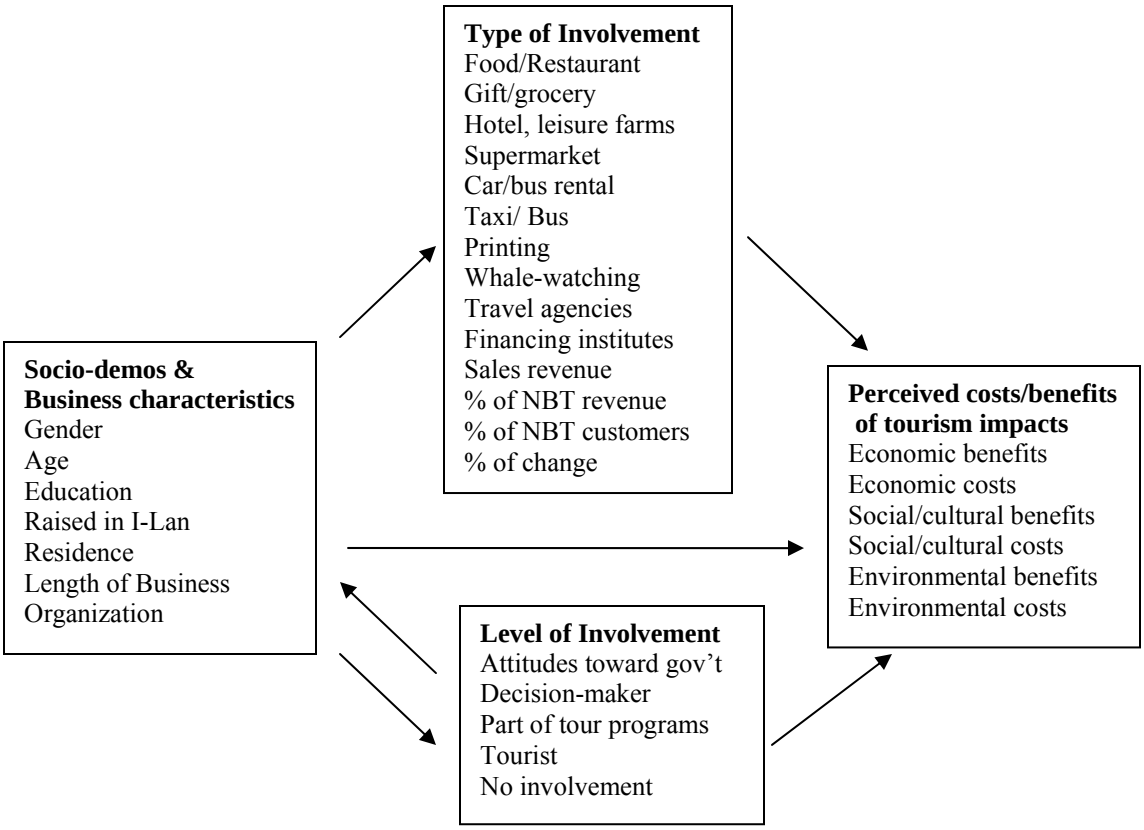

Figure 3-5. Conceptual Model of Costs/Benefits of Nature-Based Tourism (NBT) Impacts, Type of Involvement, and Level of Involvement

- **Socio-demographic and business characteristics**. Socio-demographic and business characteristics that will be examined in this study are based on past research. Specifically, this study will examine gender, age, education, respondents' organization, where they were raised, location of residence, and length of time they owned the business.

- **Type of involvement.** The type of involvement participants have with nature-based tourism is potentially an important factor in how they evaluate NBT's impacts. This study interviewed people from 15 types of businesses (I-Lan County Government Report, 2002, K.L. Chen 2002, 2004). It also examined their economic dependence on NBT using four economic descriptors related to NBT: 1) sales revenue, 2) percent of business revenue, 3) percent of customers, and revenue changes over the last five-years (K.L. Chen, 2002, 2004).

- **Level of involvement.** Members of the business community can have varying levels of involvement in county tourism planning. Based on respondents' attitudes toward government (I-Lan County Tourism Comprehensive Plan, 1996) and four choices, participants were asked to indicate their level of involvement with tourism: 1) decision maker, 2) tour provider, 3) tourist, and 4) no involvement (Smith and Krannich 1998).

- **Perceived costs and benefits of tourism impacts.** The largest part of this study focused on business managers' perception of economic, social/cultural, and environmental impacts. The majority of the items that compiled this list came from individual interviews with I-Lan business managers. Based on past research, researchers worded each impact so each was consistent within the questionnaire and with other tourism impact studies. They were also placed into appropriate categories (i.e., economic, social/cultural, and environmental). (Ap &Crompton 1998, McCool & Martin 1994, I-Lan County Tourism Comprehensive Plan.1996, Gilbert &Clark 1997, Snaith & Haley 1999, Weaver & Lawton 2001, T. S. Chen, 2003). Items were validated using a short impact study and a total of 42 items were used in the final questionnaire.

Research Questions

The following questions are addressed in this research:

1. What are the stakeholders' perceptions of economic, social/cultural, and environmental impacts of nature-based tourism?

2. How does their level of involvement in tourism planning relate to their perception of nature-based tourism's impacts?

3. How does stakeholders' socio-demographic and business characteristics relate to their level of involvement in tourism planning

4. How does stakeholders' socio-demographic and business characteristics relate to their perception of impacts?

5. How does stakeholders' socio-demographic and business characteristics and level of involvement relate to their perception of impacts?

Survey Instrument

This research used both qualitative and quantitative approaches to answer the research questions. First, individual interviews were conducted to identify stakeholders' perceptions of impacts through an open free-flowing discussion. Second, a questionnaire was used to gather quantitative data.

Development of Survey

The survey design includes three steps: 1) initial interviews, 2) impact survey, and 3) conducting the formal survey (Figure 3.6).

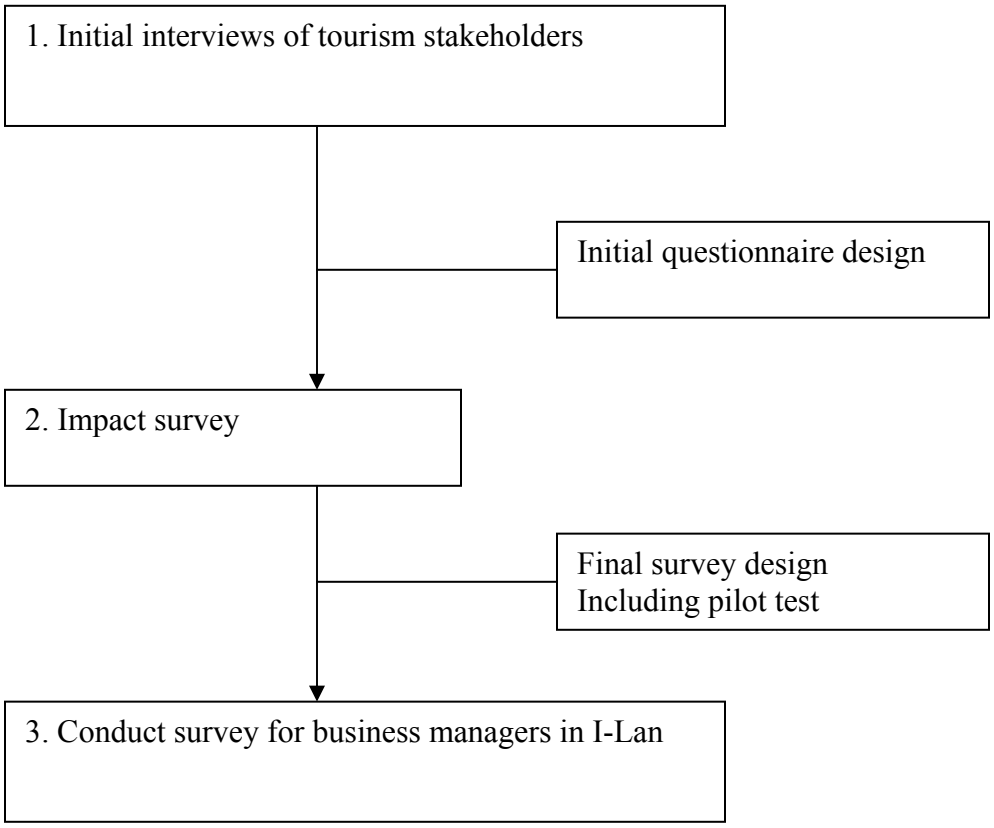

Figure 3-6. Flowchart of Survey Design

Initial interviews

The researcher conducted 15 interviews with I-Lan business managers involved in nature-based tourism in June 2004. They were asked questions regarding general issues of tourism impact. Next, the researcher interviewed five more managers by phone in July and August 2005. Respondents included county authorities, local business people, and researchers (Appendix A). Each respondent was asked to list nature-based tourism's ten most important economic, social/cultural and environmental impacts. They were instructed to include both negative and positive impacts.

Content analysis was used to analyze the responses. The primary goal of the interviews was to identify the most pervasive impacts, as defined by stakeholders. To

achieve this goal, researchers used statistical rules of consistency to identify how often an impact needed to be mentioned in order for it to be included in the scale. Based on the consistency of economic, social/cultural and environmental items listed by respondents, the acceptable scale for items in each category was set. Items were included in the scale if 80% of respondents listed that item as an economic impact, 70% listed the item in the social/cultural category, and 66% listed it in the environmental category. Upon eliminating and combining similar items, past literature was used to word the item consistently with past studies (Weaver and Lawton, 2001; Ap and Comptom, 1998; Andriotis & Vaughan, 2003; and Chen, 2003). The final list of impacts composed 16 economic impacts, 13 social/cultural impacts, and 13 environmental impacts (Table 3-2).

Impact survey

Questionnaires were e-mailed to 26 participants in the fall 2005. Six new participants who did not participate in previous interviews were also included. Twenty-one participants returned usable questionnaires (Appendix A). Items were measured using a 5-point index with two-dimensional variables, the positive and negative, where 1= Not an impact and 5= Very important Impact (See Appendix B).

To analyze the results, the researcher used mode rule for consistency to eliminate lesser important impacts. Based on 21 respondents' answers and 5-point index on each item, the researcher identified the mode for each item such as 3 (11), where 11 respondents rated 3 on the item. The procedures included several steps:

1. Identify the mode for each item.
2. Keep items rated 2, 3, 4 and 5 with mode equal to or larger than nine. Nine is set as standard for reflecting 50% of participants' responses.
3. Eliminate items with modes smaller than nine, items without a single mode, and inconsistently mentioned items. For instance, item" improved transport

infrastructure" was eliminated for inconsistency mentioned items, where six respondents chose 2, five chose 3 and five chose 4.

4. To keep proper items, checking the second largest number for items with mode number 9 or fewer. Add up second largest number with the largest number. Keep the item if the total number is more than 13, otherwise eliminated.

5. This resulted in 12 items in the economic category, 10 items in social/cultural, and 11 items in environmental.

Table 3-2. Items selected for Initial Survey of Nature-Based Tourism Impacts

Impact Type	Statement
Economic Impacts	1.Revenues for business increased
	2. More local employment
	3. Wages & fringe benefits increased
	4. Increased quality of shops, hotels and restaurants
	5. More leisure farms & bed & breakfast businesses
	6. Increased the variety of package tour programs for visitors
	7.More whale-watching business for visitors
	8. More tax revenues and expenditure from tourism
	9.Improved transport infrastructure
	10.More recreational facilities for local residents
	11.Improved the quality of Jiaosi hot spring businesses
	12.Most tourism businesses controlled by local residents
	13.Increased real estates costs
	14.Results in fewer available lands for business
	15.Increased other counties' imitation of tourism programs
	16.Competition in hotel/motel getting worse
Social/ Cultural Impacts	1.Increases cultural re-recognition
	2.More cultural activities
	3.Sense of pride
	4.Stronger sense of IL attachment
	5.Little change in lifestyle of local residents
	6.Decreased prostitution in Jiaosi
	7.Increased children's education in local history and literature
	8.Increased the learning of native language
	9.Increases quality of life of IL residents
	10.Focuses too much on attracting visitors
	11.Results in unfair resources allocation by county government
	12.Disrupt the peace and tranquility of IL
	13.Visitors over-convergence in specific seasons
Environ-mental Impacts	1.Increase environmental education for children
	2.Ecosystem has better preserved
	3.Increased local residents' awareness of the importance of maintaining natural amenities
	4.Improvement of local areas' appearance
	5.Increased traffic congestion
	6.Results in overcrowding
	7.Results in shortage of parking spaces
	8.Results in environmental decline in sensitive areas
	9.Increased waste of disposable meal boxes
	10.Increased air and noise pollution
	11.Increased litter and garbage pollution
	12.Increased resources waste in advertising and delivery mails
	13.Increased pollution in sanitation

Development of final questionnaire

The final questionnaire included thirteen sections (Appendix E). Sections 1-11 asked participants to rate the perception of impacts using the scales that were defined in the earlier research. Responses to the statements regarding impacts used a 5-point index scale ranging from “strongly disagree” (=1) to “strongly agree” (=5). A “no opinion” option was available. The statements were alternately worded positively and negatively way to aviod yea- or nay-sayer bias (Alreck and Settle 1995). Section 12 addressed respondents’ level of involvement in nature-based tourism where managers indicated title/position, and amount of times and money they are involved as a decision-maker, a tour provider, or a tourist in tourism. Section 13 asked participants for descriptive information which included type of business, economic descriptors and socio-demographic characteristics.

The survey was first written in English and then translated into Chinese by the researcher. The Chinese questionnaire was edited by a Ph. D candidate in Chinese at National Normal University and a Chinese professor at Kun-Shan University (KSU). After making corrections to the survey, a sample of sixty college students from KSU and fourteen business managers at Tou-Cheng and Jiaosi were chosen to pilot test the questionnaire in September and October 2005. This group received a cover letter explaining the study and asked for their assistance. The pretest was used to determine content validity of the instrument, flow of questionnaire, accuracy of Chinese translation, and to obtain respondents’ opinions regarding format and design of the questionnaire.

Data Collection

The Sample

The sample selected for the main questionnaire was business owners/managers' from fifteen business types (i.e., gift stores, food/restaurants, grocery/discount stores, hotels, leisure farms, bed &breakfast, car rental, bus/taxi, whale watching boaters, advertising, printing, travel agencies, farmers associations, savings and loans, banks). All businesses had some relation with nature-based tourism. Potential respondents were distributed over the entire twelve administrative districts in I-Lan County. Specifically they included I-Lan City and its eleven townships. Even though the majority of NBT attractions are located in Dong-Shan, Wu-Chich and Lou-Dong, I-Lan City, Lou-Dong and Jiaosi provide most of the supporting businesses and infrastructure (e.g., hotels, food/restaurants, transportation and travel agencies).

Study participants were purposely chosen based on two factors: 1) their role in the NBT industry, the importance each type of business has in the tourism industry, with certain types (e.g., hotels and travel agencies) having a more direct role; therefore, receiving more respondents, and 2) the number of potential businesses in a specific region, with more participants coming from cities like I-Lan City where there are a higher density of tourism businesses.

To gather business managers' names and contact information, the researcher used a I-Lan County 2005 phone book, I-Lan Hotel Association membership list, Car/Bus Rental Association list, I-Lan Leisure Farms Development Association list, I-Lan Leisure Agriculture Handbook, Bed & Breakfast related websites, county government travel information, and tourism business information.

Collecting Data

The on-site survey was conducted during October to December 2005 in I-Lan County, and 316 managers were interviewed. To obtain more in-depth information from respondents, follow-up interviews were conducted soon after the initial questionnaire was administered. These respondents included gift, bus, car rental, restaurant, hotel, leisure farms, bed & breakfast, travel agency and financial institutes.

A team of five people conducted the interviews. They included the lead researcher, the researcher's wife Chen, an experienced field researcher who teaches at Kun-Shan University, and three local college students with training doing interviews. Self-administered questionnaires were distributed using face-to-face interviews and mail between October and December 2005. Two hundred and forty were collected by the interviewers and 76 were collected by mail in some of the more remote communities. By December 13, which was set as the deadline for returning questionnaires, four weeks after mailing of original questionnaire, a total of 316 completed questionnaires were obtained. Thirty of the questionnaires were eliminated due to missing data and responses from people not related to NBT businesses. This resulted in a total of 286 usable questionnaires, a response rate of 90%.

Data Analysis

SPSS 12.0 for Windows was used to calculate descriptive statistics, t-tests, regression, one-way ANOVA, and factor analysis.

Variables

Dependent variables used in this study included the perception of nature-based tourism impacts. Twenty costs and benefits were considered economic items, seven costs

and benefits formed the social/cultural category, and nine costs and benefits formed the environmental category.

There were three groups of independent variables (i.e., type of involvement, level of involvement and socio-demographic characteristics). Type of involvement was measured by identifying the type of business the participant managed and the percent of nature-based tourism that makes up the business' sales revenue and customers. Also, how the business has changed in terms of size and revenue over the last five years was examined. Four levels of involvement: involvement in decision-making, involvement as part of tour provider, involvement as tourist, and no involvement were measured. Socio-demographic characteristics were measured by gender, age, education, living in IL as a child, location of residence, and length of own business.

Factor Analysis

To better assess tourism impacts, the researcher used factor analysis to confirm and improve the final indices used to measure business managers' perceptions of economic, social/cultural and environmental impacts. Factor analysis is a class of multivariate statistical methods that defines the underlying structure in a data set matrix. It analyzes the structure of interrelationships (correlations) among a large number of variables by defining a set of common underlying dimensions, known as factors. With factor analysis, the researcher can first identify the separate dimensions of the structure and then determine the extent to which each variable is explained by each dimension (Hair, Anderson, Tatham and Black, 1998, P. 87-88).

Additionally, factor analysis reduces the number of statements that can be used to measure a factor, therefore, improving the accuracy of the final indices. In this study,

factor analysis was primarily used to improve the model fit and enhance construct validity.

Internal reliability of multi-item scales (indices) can be estimated by Cronbach's alpha to assess the accuracy or precision of the measurement (Malhotra, 1999). Following the procedure by Hair et al. (1998), factor analysis was conducted using exploratory principle components analysis (PCA) and varimax rotation. Cronbach's alpha tests were conducted to verify economic, social/cultural and environmental dimensions.

Since 58 items used in the questionnaire came from a variety of sources calculating Cronbach's alpha with the factors helped to specify the items used to measure a specific impact index (e.g., social/cultural benefit or environmental cost). The reliability scales of economic costs/benefits, social/cultural costs/benefits and environmental costs/benefits were tested. The total variance explained by PCA was 66%. There were nine factors with 36 items left in these tables, which eliminated items with lower loadings (redundant or unimportant items) (Table 3-3-Table 3-5).

Details of nine factors are explained as follows.

- Economic Benefit 1 (ECB1): Includes statements regarding increases of sales revenue, job opportunity, wage and whale watching business.
- Economic Benefit 2: Package Tour Programs (ECB2): Includes statements regarding issues of package tours.
- Economic Cost 1: Land Prices (ECC1): Includes statements regarding increases of land prices.
- Economic Cost 2: Tourism Variability (ECC2): Includes statements regarding tourism seasonality and tourism resource variability.
- Economic Cost 3: Leakages (ECC3): Includes statements regarding economic profit leaking to outsiders.
- Social/Cultural Benefit: Cultural Identity and Recognition (SCB): Includes statements regarding tourism affects on cultural identity and recognition.
- Social/Cultural Cost (SCC): Includes statements regarding tourism effects on social norms and behaviors.
- Environmental Benefit (ENB): Includes statements regarding tourism's positive environmental changes.

- Environmental Cost (ENC): Includes statements regarding tourism's negative effects on the environment.

Factor analysis eliminated several items, which did not contribute to the ability of an index to measure an index type. For example, the items "increasing leisure farms and Bed& Breakfast," "upgrades the quality of tourism in IL" and" Increasing quality of shops, hotels and restaurants" were eliminated from the analysis. In contrast, items that did not receive noticeably high means such as "tourism leaks heavily to outsiders" and "most tourism profits obtained by big companies" stood out as major economic costs after the analysis categorized them into their own factor.

Factor analysis shows that two categories are needed to explain economic benefits: 1) job and sales revenue issues; 2) package tour program. ECB2: Package Tour Programs was not used in future analysis of perception of impacts. The benefit items within that factor were too specialized for purposes of this analysis, and only a small percentage of participants (35%) were involved in package tours. There were three categories in economic costs: 1) tourism variability; 2) land prices, and 3) economic leakages (Table 3-3). The item 'increasing whale watching businesses' was retained in category of ECB1 due to its importance of representing NBT.

Table 3-3. Reliability Analysis for Economic Impacts

	Corrected Item Total Correlation	Alpha If Item Deleted
ECB1 (Economic Benefit 1: job and sales revenue issues)		
Increasing revenues for business	.5779	.6842
Increasing job opportunities	.6970	.6053
Increasing wages & fringe benefits	.5583	.6963
Increasing whale watching businesses	.3970	.7694
Cronbach's Alpha = .7541		
ECB2 (Economic Benefit 2: Package Tour Program--PTP)		
Increased the variety of package tour programs	.7678	.8997
Upgrades the quality of service of PTP	.7904	.8952
Increases customers from PTP	.7791	.8976
Increases sales revenues from PTP	.7438	.9041
Integrates local industries from PTP	.7102	.9069
Increases name-recognition for businesses from PTP	.8018	.8940
Cronbach's Alpha = .9149		
ECC1 (Economic Cost 1: Land prices)		
Increased rent of houses and lands	.5897	.6387
Increased in housing and land prices which only happened in tourism development areas	.6524	.5596
Increased in housing and land prices, which is related to Pei-I freeway	.4803	.7549
Cronbach's Alpha = .7436		
ECC2 (Economic Cost 2: Tourism Variability)		
Visitors over-convergence in specific seasons	.4756	.7994
Over-using tourism resources in peak seasons	.6817	.7360
Under-using tourism resources in low seasons	.6558	.7446
Affecting the balance of revenue, expenses and willingness of investment	.5582	.7757
Resulting in spatial environment carrying pressure	.5731	.7713
Cronbach's Alpha = .8042		
ECC3 (Economic Cost 3: Leakages)		
Tourism profits leaked heavily to outsiders	.5565	
Most tourism benefits obtained by big companies	.5565	
Cronbach's Alpha = .7113		

Social/cultural costs and benefits factored into predefined categories of items (Table 3-4).

Table 3-4. Reliability Analysis for Social/Cultural Impacts

	Corrected Item Total Correlation	Alpha If tem Deleted
SCB (Social/Cultural Benefit: Tourism's affect on cultural identity & recognition)		
Increased diversity of cultural activities among different ethnic groups	.6461	.8328
Improved autonomy in the community	6780	.8212
Improved the understanding among different communities & cultures	.6363	.8375
Cronbach's Alpha = .8530		
SCC (Social/Cultural Cost)		
Increasing drinking and vandalism	.7851	.8466
Increasing prostitution	.7793	.8485
Increasing traffic accidents	.6771	.8867
Decreasing public safety	.7874	.8450
Cronbach's Alpha = .8889		

Environmental costs and benefits factored into predefined categories of items (Table 3-5). Reliability of .9051 in environmental cost indicates the internal consistency of these items.

Table 3-5. Reliability Analysis for Environmental Impacts

	Corrected Item Total Correlation	Alpha If tem Deleted
ENB (Environmental Benefit)		
Enhancing preservation of ecosystem	.4721	.4943
Increasing local residents' awareness of importance of maintaining natural amenities	.4560	.5080
Improving local areas' appearance	.4064	.5699
Cronbach's Alpha = .6264		
ENC (Environmental Cost)		
Overcrowding	.7251	.8902
Increasing traffic congestion	.7868	.8815
Increasing shortage of parking spaces	.6533	.9002
Increasing litter and garbage pollution	.7633	.8845
Increasing air and noise pollution	.7989	.8790
Increasing resources waste in advertising and delivery mails	.7080	.8931
Cronbach's Alpha = .9051		

CHAPTER 4
RESULTS

This chapter describes the results of the I-Lan business owners' survey using a variety of descriptive and multivariate statistics. It will first provide a discussion of the overall sample in terms of the independent variables (e.g., socio-demographic characteristics, business characteristics, attitudes toward the government, and involvement in tourism planning). It will then examine the relationships between the variables (i.e., independent variables and perception of benefits). Where significant differences are identified, those differences will be discussed in detail.

Description of Sample

Socio-Demographic Characteristics

Results showed that most respondents (64.3%) were between 36-55 years old (with a mean of 43 years) and 59% were male and 41% were female. (Table 4-1) A little more than one-third of respondents (36.1%) possessed a high school/vocational diploma and 44% had a college degree or higher. The portion of respondents with a college degree (44%) was higher than that of the county data (18%)**,** which might indicate tourism development attracts better educated people. Most participants (83%) lived in I-Lan as children. There were 26% respondents who resided at I-Lan City, the largest administrative district and also the major commercial center in I-Lan (Table 4-1).

Table 4-1. Frequency of Respondents' Socio-Demographic Characteristics

Variable	Category	Percent1
Gender	Male	59
	Female	41
Age	20-35	26
	36-45	34
	46-55	30
	56-75	10
Education	Less than high school	20
	High school /vocational	36
	Technical/associates degree	27
	College graduate & advanced degree	17
Raised in I-Lan	Yes	83
	No	17
Residence	IL City	26
	Lou-Dong	16
	Jiaosi	15
	DongShan	9
	YuanShan	9
	Tou-Cheng	6
	Su-Ao	5
	ChaungWei	4.
	Wu-Jih	4
	Ta-Tung	3
	Shan-Hsin	2
	Nan-Ao	1.
	Other	7

1 N=286

Business Characteristics

The 347 respondents were categorized in 16 business types (Table 4-2). Almost three quarters of respondents managed hotels (18%), restaurants (16%), B&B's (15%), leisure farms (12%) and gift shops (11%). Ten percent of respondents chose more than one type of business, with the largest overlap between people saying they were employed in leisure farms, B&B's, and restaurants.

On average, the participants owned a business in the community for 13.8 years, with 41% owning a business between 2-6 years. About 38% of respondents, who owned a gift shops worked at the National Center for Traditional Arts. Almost half of the

participants (46%) were members of Business Organizations (e.g., I-Lan County Hotel Association). Forty-three percent of participants were not members of an organization or association.

Table 4-2. Respondents' Type of Business, Length of Business and Organization

Variable	Category	Percent (%)
Type of Business (N = 347)	Gift	11
	Market	3
	Food	16
	Taxi/Bus	2
	Hotel	18
	Leisure Farm	12
	B&B	15
	Adv/printing	2
	Rental	7
	Whale watching	2
	Travel Agency	3
	Farmers Ass.	5
	S&L	1
	Bank	4
	Other	3
Length of Owning Business (N = 263)	Less than 2 years	11
	2-6 years	41
	7-15 years	24
	16-30 years	16
	31- 150 years	9
Organization (N = 263)	Local official/consultant	0
	Representative	0
	Reps of Tourism Assoc.	11
	Private Reps/ Org	46
	Independent Businesses	43

The financial success and role NBT tourism plays in receiving financial revenues was evaluated in terms of total sales revenue, percent of sales and customers from NBT, and change in sales revenue in the last 5-years.

Almost one third of the respondents reported making less than NT$1,200,000 (USD 40,000) and 13.6% reported more than NT$50,000,000 (USD 1,680,000) in annual sales revenue. Sales revenue data show that businesses made an average of 30% of annual sales and 31% of customers from NBT. Whale watching businesses had the highest percentage of sales (59.3%) and customers (56.4%) from NBT. Gift shops (37.5% of

revenue and 38.8% of customers) and B&B (35.5% of revenue and 38.0% of customers) had the next highest percents from NBT (Table 4-12).

More leisure farm, B&B and gift store businesses have increased their sales revenue rather than decreased over the last five years. Since tourism has also grown over this period, this might indicate that these businesses gain more from tourism than other businesses. For all business types, 56% of respondents reported increases in sales revenue and 43% reported decreases (Table 4-3).

Table 4-3. Relationships between type of Business and Sales Revenue

Type	Sample Size (n)	Percent of Sales that derives from NBT	Percent of Customers that derives from NBT	Percent Increase in Revenue over the Last Five Years	Percent Decrease in Revenue over the Last Five Years
Whale	8	59.3	56.4	10.0	15.0
Gift	33	37.5	38.8	24.7	23.3
B&B	51	35.5	38.0	26.0	36.3
Printing	5	32.3	29.4	11.0	17.5
L. Farm	38	31.4	33.5	20.0	26.3
Food	46	27.7	27.5	24.0	22.0
Market	9	26.8	26.8	30.0	25.0
Bus	5	16.0	18.0	20.0	10.0
Hotel	58	30.6	31.3	15.4	23.8
Car Rent	5	29.3	31.5	18.3	19.6
Travel	9	28.6	30.9	35.0	11.5
Farmers A	11			22.5	15
S&L	2			15.0	
Bank	9			20.0	21
Mean		30	31		

N=265; 56% of respondents reported increase in sales and 43% of them reported decrease

Attitudes Toward Government and Level of Involvement

Generally, most participants have positive attitudes towards the government and how it is working with stakeholders in tourism planning. Over 75% of respondents agreed that county government invited them to assist in tourism planning and knew their concerns (Table 4.4) and 60% of respondents agreed that they could influence tourism

planning. When the three items where combined into an overall Attitudes Toward Government index (reliability = .8953), the index had a mean of 3.65.

Table 4-4. Distribution of Respondents' Perceptions of County Government

	Percent[1]						
	Strongly Disagree	Disagree	No opinion	Agree	Strongly Agree	Mean	SD
Statement (Attitudes toward county government)							
County government invites you to participate in tourism planning	1.7	6.6	15	65.4	11.2	3.78	.80
County government knows your concerns and issues of tourism planning	1.7	10.5	16.8	61.2	9.8	3.67	.86
County government accepts your opinions	2.4	7.7	21	58.7	10.1	3.66	.85
You influence county tourism planning	2.8	14	23.8	50	9.4	3.49	.94
[1] N = 261; Mean = 3.65	2.2	9.7	19.2	58.8	10.1	3.65	

Although attitudes toward the government's inclusion of stakeholders into planning are high, most participants do not actively work with the government. Nearly 50% of the respondents had never participated in tourism planning either as a decision maker or provider of county tourism programs. Only 6% of them had participated more than 10 times in tourism planning in the past 12 months. Nearly 56% of respondents had participated in tourism activities as tourists in the past 12 months, and about 30% of respondents had participated in tourism planning as decision makers or tour providers in the past 12 months. Nearly 60% of respondents had never donated money to tourism planning or activities in the past 12 months, but 5% of them had contributed more than NT$50,000 in the past 12 months (Table 4-5).

Table 4-5. Distribution of Respondents' Level of Involvement

	Percent[1]				
	Never Partici-pated	1 – 5 times	6 – 10 times	11 – 20 times	More than 20 times
Statement (Decision Maker)					
How many times have you participated in local government's tourism planning, as a major decision-maker, in the past 12 months?	52.4	34.3	7.3	3.5	2.4
How many times are you willing to participate in local government's tourism planning, as a major decision-maker, over the next 12 months?	24.5	50.7	14.3	4.5	4.3
Total	38.5	42.6	10.8	4	3.4

	Percent[2]			
Statement (Tour Provider)	Never Partici-pated	1 – 3 times	4 – 6 times	More than 6 times
How many times have you participated in implementing local government's tourism activities, as a tour provider, in the past 12 months?	56.3	31.1	7.3	4.9
How many times have you used local government's tourism projects, as a tour provider, in the past 12 months?	51.7	36.4	6.3	4.9
Total	54	33.8	6.7	4.9

	Percent[3]			
Statement (Tourist)	Never Partici-pated	1 – 6 times	6 – 20 times	More than 20 times
How many times have you participated in local government's tourism activities, as a tourist, over the last 12 months?	33.6	55.9	7.7	2.1

	Percent [4]				
Statement (Donation)	No Money	1 - 3000	3000 – 10,000	10,000 – 50,000	More Than 50,000
How much money have you contributed in local government's tourism planning or activities, over the last 12 months? NT$	59.8	12.2	15.7	6.6	4.5

[1] N = 256
[2] N= 259
[3] N= 259
[4] N= 258

Research Question 1: Overall Perceptions of Benefits and Costs

Stakeholders have similarly high perceptions of NBT's benefits, with all the groups having means between 3.6 and 4.2. In terms of individual factors, Economic benefit 2 (ECB2) package tour program had the highest mean (4.2), followed by Social/cultural Benefits (SCB) (4.1) , while social/cultural Cost (SCC) (3.0), and Economic 3: Leakages (EC3) (2.9) ranked last (Table 4-6). Social/cultural benefits group ranked at the top among other benefits groups, followed by environmental benefits group and economic benefits

Respondents perceived the most benefit from the Social/cultural Benefit group, which might be related to the county government's promotion of cultural activities since 1990s. This might also help to explain respondents' low perception of socio-cultural costs. Respondents also perceived tourism variability and rising land prices as major economic costs. Leakage outside the county was the lowest perceived impact. This might indicate that respondents perceived rising land prices as the most important concern, (mean 4.23), but they didn't perceive leakage of tourism profit as a big problem. Although ECB 2 package tour program (PTP) had the highest mean, survey data showed that only 38% of respondents participated in PTP, and many respondents failed to answer the specific PTP question. Thus, this paper will not further analyze costs and benefits of PTP.

Overall, respondents perceived lower cost than benefit in economic, social/cultural and environmental groups except ECC1 (mean3.9) and ECC2 (mean 3.7). Especially, respondents perceived much lower cost in environmental cost, social cost and economic cost3 (tourism leakages) than the relative benefit groups (Table 4-6).

With NBT benefits receiving rather high scores, respondents apparently have a strong positive perception of nature-based tourism; therefore, the analysis will focus on respondents' perceptions of benefits – rather than costs. Also, when models focusing on cost were analyzed, the conceptual model explained little.

Table 4.6 Overall Perceptions of Costs/Benefits of Tourism Impacts

	N	Mean	Percent				
			Strongly Disagree 1	2	3	4	Strongly Agree 5
ECB2 (Economic Benefit 2: Package Tour Program--PTP)	168	4.20	0	2	6	63	27
Increased the variety of package tour programs	171	4.21	0	1	4	58	27
Upgrades the quality of service of PTP	169	4.17	0	3	5	63	28
Increases customers from PTP	169	4.22	0	1	4	66	29
Increases sales revenues from PTP	167	4.04	0	5	10	62	23
Integrates local industries from PTP	167	4.13	0	1	8	65	25
Increases name-recognition for businesses from PTP	167	4.19	0	1	7	64	28
SCB (Social/Cultural Benefit: Tourism's affect on cultural identity & recognition)	286	4.06	2	18	15	56	8
Increased diversity of cultural activities among different ethnic groups	286	4.10	1	9	7	71	12
Improved autonomy in the community	286	4.01.	2	18	13	58	9
Improved the understanding among different communities & cultures	286	4.09	2	28	26	40	4
ENB (Environmental Benefit)	286	3.80	2	16	15	55	13
Enhancing preservation of ecosystem	286	3.40	3	22	18	46	11
Increasing local residents' awareness of importance of maintaining natural amenities	286	3.98	0	10	12	64	14
Improving local areas' appearance	286	4.00	1	6	10	61	22
ECB1 (Economic Benefit 1: job and sales revenue issues)	286	3.60	1	15	17	59	9
Increasing revenues for business	286	3.83	1'	9	7	71	12
Increasing job opportunities	286	3.55	2	18	13	58	9

Table 4.6 Continued

	N	Mean	Percent				
			Strongly Disagree				Strongly Agree
			1	2	3	4	5
Increasing wages & fringe benefits	286	3.14	2	28	26	40	4
Increasing whale watching businesses	286	3.81	0	5	20	65	10
ECC1 (Economic Cost 1: Land prices)	286	3.90	1	7	10	60	22
Increased rent of houses and lands	286	3.69	1	12	16	59	12
Increased in housing and land prices which only happened in tourism development areas	286	3.91	1	6	11	64	18
Increased in housing and land prices, which is related to Pei-I freeway	286	4.23	1	2	5	57	35
ECC2 (Economic Cost 2: Tourism Variability)	286	3.70	1	12	17	55	15
Visitors over-convergence in specific seasons	286	4.05	0	8	7	56	28
Over-using tourism resources in peak seasons	286	3.54	0	18	21	51	10
Under-using tourism resources in low seasons	286	3.61	1	14	19	54	12
Affecting the balance of revenue, expenses and willingness of investment	286	3.72	1	9	19	58	13
Resulting in spatial environment carrying pressure	286	3.68	1	10	20	56	13
ENC (Environmental Cost)	286	3.40	3	21	15	47	15
Overcrowding	286	3.35	2	25	20	42	11
Increasing traffic congestion	286	3.59	2	18	13	53	14
Increasing shortage of parking spaces	286	3.69	2	15	14	51	18
Increasing litter and garbage pollution	286	3.50	4	21	12	49	14
Increasing air and noise pollution	286	3.43	4	22	14	47	13
Increasing resources waste in advertising and delivery mails	286	3.47	2	23	18	39	18

Table 4.6 Continued

	N	Mean	Percent				
			Strongly Disagree				Strongly Agree
			1	2	3	4	5
SCC (Social/Cultural Cost)	286	3.0	5	32	25	33	5
Increasing drinking and vandalism	285	3.16	4	26	27	38	5
Increasing prostitution	286	3.23	3	24	28	38	7
Increasing traffic accidents	286	2.70	7	47	19	23	4
Decreasing public safety	286	3.0	7	30	24	34	5
ECC3 (Economic Cost 3: Leakages)	286	2.90	6	29	38	27	1
Tourism profits leaked heavily to outsiders	286	2.99	4	24	44	27	1
Most tourism benefits obtained by big companies	286	2.81	8	33	32	26	1

Correlation in between overall impact groups

Results showed that ECB1 (Economic benefit1: job and sales revenue issues) was significantly correlated with ECC (Economic cost), SCB (social/cultural benefit) and ENB (Environmental benefit) (Table 4-6-1). ENB was positive significantly correlated with ECB1, SCB, and SCC, while ENB was negative significantly correlated with ENC.

All benefits were positively correlated with each other, which brought high mean of SCB (4.1) and ENB (3.8). ECB1 (3.6) was positively correlated with ECC, which might explain the high mean of ECC (3.5).Respondents' perception of high economic costs also was co-respondent with their perception of lower economic benefits compared with social/cultural and environmental benefits. ENC (3.4) was negatively correlated with SCC (3.0), which might indicate that when respondents focused less in negative social/cultural impact, they turned their attention to negative environmental impact

Table 4-6-1. Correlation in between Overall Impact Factors

		ECB1	ECC	SCB	ENB	ENC	SCC
ECB1	Pearson Correlation	1	.298(**)	.256(**)	.258(**)	.037	.059
	Sig. (2-tailed)	.	.000	.000	.000	.532	.318
	N	286	286	286	286	286	286
ECC	Pearson Correlation		1	.235(**)	.103	.260(**)	.009
	Sig. (2-tailed)		.	.000	.081	.000	.882
	N		286	286	286	286	286
SCB	Pearson Correlation			1	.240(**)	.005	.183(**)
	Sig. (2-tailed)			.	.000	.934	.002
	N			286	286	286	286
ENB	Pearson Correlation				1	-.253(**)	.263(**)
	Sig. (2-tailed)				.	.000	.000
	N				286	286	286
ENC	Pearson Correlation					1	-.413(**)
	Sig. (2-tailed)					.	.000
	N					286	286
SCC	Pearson Correlation						1
	Sig. (2-tailed)						.
	N						286

** Correlation is significant at the 0.01 level (2-tailed).

Research Question 2: Socio-demographic Relationship with Tourism Involvement

Using the conceptual model, it was necessary to understand if different types of people in I-Lan (based on socio-demographic characteristics) have different attitudes toward the government and type and level of involvement in tourism. This section will describe how specific socio-demographic characteristics relate to these variables.

Type of Involvement. From the General Linear Model Multivariate test (Table 4-7), there was no significant difference between socio-demographic characteristics and type of business. However, there was a significant relationship between gender and type of business (p= .052) at the p=0.1 level.

Table 4-7. Significant Level between Socio-Demographics and Type of Business

Variable	F	Error df	Sig
Age	1.37	1.000	.545
Gender	152.11	1.000	.052
Education	2.20	1.000	.470
Raised in I-Lan as children	5.06	1.000	.266
Length of owning business	1.30	1.000	.570
Residence	2.80	1.000	.439
General Linear Model: Multivariate test			
Significant level P < .10			

All male respondents were involved in bus and whale watching businesses while 62% and 56% of respondents were female in travel agencies and farmers' associations respectively (Table 4-8)

Table 4-8. Relationship between Gender and Major Types of Business

	Whale	Bus	Travel	Car Rental	B&B	Hotel	L. Farm	Gift	Food	Farm Asso.
Male	100	100	38	72	69	64	64	54	54	44
Female	0	0	62	28	31	36	36	46	46	56

N =258; unit: percent

Attitudes toward government and level of involvement.

Results show that there is little relationship between socio-demographic variables and participants' attitudes toward the government and involvement in tourism planning.

The model used to examine level of involvement is specified as follows:

Yi = a + b1X1 + b2X2 + …+ bkXki

Y1 = a + b1X1 + b2X2 + … + b8X8 (Table 4-9)

Where subscript i denotes the ith observation in the sample, Y is the outcome of the attitudes toward government and level of involvement, a is a constant, b1, b2 … bk are the coefficients associated with each explanatory variable X1, X2, ….Xki. The explanatory variables used to explain attitudes toward government and level of involvement in the model include Organization (X1)- respondents' organization, Gender (X2) Male, female, Age (X3) 20-75, Education (X4), Child (X5) Raised in IL as children, Residence (X6) respondents' residence, LBZ1 (X7) operating business less than one year, LBZ2 (X8) operating business more than one year.

Table 4-9. Variables in Model

Dependent Variables	Independent Variables
M1 Govall (Y1) attitudes toward government	Organization (X1)- respondents' organization, Gender (X2) Male, female, Age (X_3) 20-75, Education (X_4), Child (X_5) raised in IL as children, Residence (X_6) respondents' residence, LBZ1 (X_7) operating business less than one year, LBZ2 (X8) operating business more than one year
M 2 Passtime(Y2) past participated in tourism planning over the past 12 months	Same as above
M 3 Futrtime (Y_3) willing to participate in tourism planning in the next 12 months	Same as above
M 4 Implemt (Y_4) implementation of tourism planning,	Same as above
M 5 Partake (Y_5) used tourism projects over the last 12 months	Same as above
M 6 Tourist (Y_6) participating in tourism activities as a tourist	Same as above
M 7 Donate (Y_7) donating money to tourism planning.	Same as above

Results showed that there were no significant relationships between socio-demographics and attitudes toward government. The model predicted or explained only 2% of the variance in Govall (Table 4-9-1)

Table 4-9-1. Multiple Regression Results of Attitudes toward Government

Variable	B	SE	t	Sig.
Constant	4.112	.677	6.076	.000
Organization	-.052	.066	-.783	.434
Gender	-.038	.109	-.348	.728
Age	.004	.005	.662	.509
Education	-.013	.050	-.260	.795
Raised in I-Lan as children	-.118	.142	-.826	.410
Residence	.017	.017	.969	.334
Owning business less than one year	-.095	.234	-.408	.684
Owning business more than one year	.000	.003	.055	.956
Significant level at $P < 0.05$, $r^2 = .016$				

Respondents' organization was significantly related to participating in tourism planning in the past 12 months. The model predicted or explained 24% of the variance in Passtime (Table 4-10). Respondents who represented tourism associations participated more in tourism planning.

Table 4-10. Multiple Regression Results of Past Participation in Tourism Planning over the Past 12 Months

Variable	B	SE	t	Sig.
Constant	3.409	.665	5.128	.000
Organization	-.468	.065	-7.172	.000
Gender	-.157	.108	-1.458	.146
Age	.009	.005	1.753	.081
Education	.037	.049	.767	.444
Raised in I-Lan as children	-.043	.140	-.309	.758
Residence	.026	.017	1.540	.125
Owning business less than one year	-.075	.230	-.327	.744
Owning business more than one year	-.001	.003	-.254	.800
Significant level at $P < 0.05$, $r^2 = .239$				

Respondents' organization was significantly related to willingness to participate in tourism planning over the next 12 months. The model predicted or explained 12% of

variance in Futrtime (Table 4-11). Respondents who represented tourism associations were willing to participate more in tourism planning over the next 12 months.

Table 4-11 Multiple Regression Results of Willing to Participate in Tourism Planning over the next 12 Months

Variable	B	SE	t	Sig.
Constant	4.688	.800	5.859	.000
Organization	-.388	.079	-4.945	.000
Gender	-.193	.129	-1.491	.137
Age	-.007	.006	-1.149	.252
Education	.002	.059	.037	.970
Raised in I-Lan as children	.067	.168	.400	.690
Residence	.015	.020	.713	.476
Owning business less than one year	-.272	.277	-.984	.326
Owning business more than one year	.001	.003	.299	.765
Significant level at $P < 0.05$, $r^2 = .116$				

Respondents' organization and residence were significantly related to implementation of tourism planning. The model predicted or explained 15% of variance in Implemt (Table 4-12). There was no correlation between organization and residence Table 4-26).

Table 4-12. Multiple Regression Results of Implementation of Tourism Planning

Variable	B	SE	t	Sig.
Constant	2.613	.669	3.907	.000
Organization	-.352	.066	-5.369	.000
Gender	.065	.108	.601	.549
Age	.009	.005	1.742	.083
Education	.083	.049	1.691	.092
Raised in I-Lan as children	-.056	.141	-.395	.693
Residence	.039	.017	2.279	.024
Owning business less than one year	-.210	.231	-.908	.365
Owning business more than one year	.001	.003	.222	.824
Significant level at $P < 0.05$, $r^2 = .152$				

Respondents' organization and education were significantly related to participating in government tourism programs. The model predicted or explained 19% of variance in Partake (Table 4-13). There was no correlation between organization and education (Table 4-26).

Table 4-13. Multiple Regression Results of Participation in Government Tourism Projects

Variable	B	SE	t	Sig.
Constant	2.787	.638	4.368	.000
Organization	-.398	.063	-6.355	.000
Gender	.050	.103	.481	.631
Age	.007	.005	1.472	.142
Education	.125	.047	2.662	.008
Raised in I-Lan as children	.081	.134	.607	.544
Residence	.008	.016	.490	.624
Owning business less than one year	-.197	.220	-.893	.373
Owning business more than one year	-.001	.003	-.307	.759
Significant level at $P < 0.05$, $r^2 = .186$				

Respondents' organization was significantly related to donating money to tourism activities. The model predicted or explained 24% of the variance in Donate (Table 4-14). Respondents' who represented tourism associations and private organizations contributed more money to tourism planning. On the other hand, respondents who represented individual businesses donated less money to tourism planning.

Table 4-14. Multiple Regression Results of Contributing Money to Tourism Planning

Variable	B	SE	t	Sig.
Constant	3.442	.901	3.818	.000
Organization	-.665	.088	-7.518	.000
Gender	-.012	.146	-.082	.935
Age	.004	.007	.568	.571
Education	.100	.066	1.519	.130
Raised in I-Lan as children	.198	.190	1.045	.297
Residence	-.034	.023	-1.487	.138
Owning business less than one year	.300	.311	.965	.336
Owning business more than one year	.001	.004	.366	.714
Significant level at $P < 0.05$, $r^2 = .236$				

Research Question 3: Tourism Involvement's Relationship with Perception of Benefits

Four benefit groups were used to examine relationships between perceived benefits and respondents' attitudes toward the government and items referring to the four levels of involvement: 1) decision-maker, 2) tour provider, 3) tourist and 4) no involvement.

The model used to examine perceptions of costs/benefits is specified as follows:

$Y_1 = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7$ (Table 4-15)

Where subscript i denotes the *i*th observation in the sample, Y is the perceived impacts of the outcome, a is a constant, b_1, b_2 … b_k are the coefficients associated with each explanatory variable X_1, X_2, ….X_{ki}. The explanatory variables used to explain NBT's impacts in the model include attitudes toward the government (X_1), past participated in tourism planning in the past 12 months (X_2), willingness to participate in tourism planning over the next 12 months (X_3) implementation of tourism planning (X_4), used tourism projects over the last 12 months (X_5) participation in tourism activities as a tourist (X_6), and donation of money to tourism activities (X_7).The nine factors derived from factor analysis were the dependent variables in the model.

Table 4-15. Variables in Model

Dependent Variables	Independent Variables
ECB1: Economic benfit1: job and sales revenue issues	Govall (X_1):attitudes toward the government; Passtime (X_2)-Past participation in the pass 12 months, Futrtime (X_3) willing to participate in tourism planning over the next 12 months, Implemt (X_4) implementation of tourism planning, Partake (X_5) Used tourism projects over the last 12 months Tourist (X_6) participated as a tourist over the last 12 months and Donate (X_7) contributing money to tourism planning.
SCB: Social benefit	Same as above
ENB: Environmental benefit	Same as above

Results showed that participants' attitudes toward the government and their reported participation in tourism were weakly related to their perceptions of benefits (Tables 4.16-4.18). The three models did show that many significant relationships existed between the dependent variables and participants' perception of benefits. Where significance was shown, only small amounts of variance were explained.

Attitudes toward the government and participation in tourism planning in the next 12 months were significantly related to social/cultural benefit. The model predicted or explained 12% of variance in SCB (Table 4-16). Respondents who interacted more with county government and respondents who were willing to participate in tourism planning over the next 12 months perceived more social/cultural benefits than other respondents. There was no correlation between attitudes toward the government and willing to participate over the next 12 months (Table 4-26).

Table 4-16. Multiple Regression Results of *Social/cultural Benefit*

Variable	B	SE	t	Sig.
Constant	3.119	.171	18.28	.000
Attitudes toward the government	.162	.041	3.943	.000
Past participation over the last 12 months	-.066	.049	-1.328	.185
Willing to participate over the next 12 months	.102	.041	2.475	.014
Implemented tourism activities over the last 12 months	.016	.066	.240	.811
Used tourism projects over the last 12 months	.060	.065	.923	.357
Participated as a tourist over the last 12 months	.058	.051	1.142	.254
Contributed over the last 12 months	.006	.033	.173	.863
Significant level at $P < 0.05$, $r^2 = .12$				

The model predicted or explained 4% of variance for participants' perception of Economic Benefit 1 (ECB1): Job and Sales Revenue (Table 4-17).

Table 4-17. Multiple Regression Results of *Economic Benefit 1*

Variable	B	SE	t	Sig.
Constant	3.038	.211	14.38	.000
Attitudes toward the government	.111	.051	2.178	.030
Past participation over the last 12 months	-.020	.061	-.319	.750
Willing to participate over the next 12 months	.055	.051	1.084	.279
Implemented tourism activities over the last 12 months	-.020	.082	-.247	.805
Used tourism projects over the last 12 months	.128	.080	1.593	.112
Participated as a tourist over the last 12 months	-.020	.063	-.322	.748
Contributed over the last 12 months	-.042	.041	-1.042	.298
Significant level at $P < 0.05$, $r^2 = .043$				

Attitudes toward the government and willingness to participate in tourism planning over the next 12 months were significantly related to perceptions of environmental benefits; however, the model only predicted or explained 6% of variance in ENB (Table 4-18). Respondents who interacted more with county government and respondents who were willing to participate in tourism planning over the next 12 months perceived more environmental benefits than other respondents.

Table 4-18. Multiple Regression Results of *Environmental Benefit*

Variable	B	SE	t	Sig.
Constant	2.953	.220	13.415	.000
Attitudes toward the government	.150	.053	2.819	.005
Past participation over the last 12 months	.032	.064	.505	.614
Willing to participate over the next 12 months	.108	.053	2.022	.044
Implemented tourism activities over the last 12 months	-.026	.085	-.300	.764
Used tourism projects over the last 12 months	-.039	.083	-.467	.641
Participated as a tourist over the last 12 months	.042	.066	.639	.523
Contributed over the last 12 months	-.015	.042	-.356	.722
Significant level at $P < 0.05$, $r^2 = .057$				

In all, attitudes toward the county government is the major factor affecting business managers' involvement in tourism planning. In all cases, respondents who had more positive attitudes toward the government perceived more social/cultural benefits, followed by economic and environmental benefits. Respondents' more willing to participate in decision-making over the next 12 months perceived more social/cultural and environmental benefits.

Reversed variables measurement

In order to better understand the relationship between level of involvement and respondents' perception of tourism impacts, this study used the above models by reversing the dependent and independent variables to examine their relationships. The independent variables include ECB1, SCB and ENB. The dependent variables include

attitudes toward the government, past participation over the last 12 months, willing to participate over the next 12 months, Implemented tourism activities over the last 12 months, used tourism projects over the last 12 months, participated as a tourist over the last 12 months, contributed over the last 12 months.

Respondents' perception of SCB and ENB were significantly related to attitude toward the government (Table 4-18-1). The model predicted or explained 10% of variance in attitude toward the government. There was a significant correlation between SCB and ENB, r (285) = .24, P < .01 (Table 4-6-1).

Table 4-18-1. Multiple Regression Results of Attitudes toward Government

Variable	B	SE	t	Sig.
Constant	1.558	.393	3.965	.000
ECB1 (Economic Benefit 1)	.102	.071	1.430	.154
SCB (Social/cultural Benefit)	.301	.085	3.549	.000
ENB (Environmental Benefit)	.149	.068	2.183	.030
Significant level at P < 0.05, r^2 = .10				

Respondents' SBC (social/cultural benefit) was significantly related to willing to participate over the next 12 months (Table 4-18-2). However, this model only predicted or explained 6% of variance in willing to participate over the next 12 months.

Table 4-18-2. Multiple Regression Results of Willing to Participate in Tourism Planning over the next 12 Months

Variable	B	SE	t	Sig.
Constant	-.006	.519	-.012	.990
ECB1 (Economic Benefit 1)	.031	.093	.330	.741
SCB (Social/cultural Benefit)	.347	.111	3.128	.002
ENB (Environmental Benefit)	.162	.089	1.813	.071
Significant level at P < 0.05, r^2 = .062				

Respondents' SBC (social/cultural benefit) was significantly related to "used tourism projects over the last 12 months." However, this model only predicted or explained 5% of variance in used tourism project over the last 12 months (Table 4-18-3).

Table 4-18-3. Multiple Regression Results of Used Tourism Projects over the last 12 Months

Variable	B	SE	t	Sig.
Constant	.086	.428	.200	.841
ECB1 (Economic Benefit 1)	.105	.077	1.366	.173
SCB (Social/cultural Benefit)	.291	.092	3.150	.002
ENB (Environmental Benefit)	.000	.074	-.006	.996
Significant level at $P < 0.05$, $r^2 = .052$				

Results also showed the significant relationship between SCB and other variables in level of involvement. However, their predicted powers were very low. In all, respondents' perception of social/cultural benefit was strongly related to their level of involvement. That indicated if they perceived benefit from social/cultural aspect they would be likely to involve in tourism planning.

Research Question 4: Socio-demographics and Business Characteristics Relationship to Perceptions of Benefits

The model used to examine perceptions of NBT benefits is specified as follows:

$Y_i = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7$ (Table 4-19)

Table 4-19. Variables in Model

Dependent Variables	Independent Variables
Model 1 (ECB1: Economic benfit1: job and sales revenue issues)	Organization (X1)- respondents' organization, Gender (X2) Male, female, Age (X_3) 20-75, Education (X_4), Child (X_5) raised in IL as children, Residence (X_6) respondents' residence, LBZ1 (X_7) operating business less than one year, LBZ2 (X8) operating business more than one year
M 2 (SCB: Social/cultural benefit)	Same as above
M 3 (ENB: Environmental benefit)	Same as above

As shown below (Tables 4-20 through 4-22) age and if they operated their business longer than one year seem to have the biggest affect on perception of benefits; however, they explain only small percents of the variance.

Only respondents' organization was significantly related (p< .05) to Social/Cultural Benefit (SCB). The model predicted or explained 5% of variance in SCB (Table 4-20).

Table 4-20. Multiple Regression Results of *Social/cultural Benefit*

Variable	B	SE	t	Sig.
Constant	3.956	.551	8.466	.000
Organization	-.104	.046	-2.287	.023
Gender	.021	.075	.284	.776
Age	.002	.004	.693	.489
Education	.010	.034	.289	.772
Raised in I-Lan as children	.071	.097	.732	.465
Residence	.021	.012	1.780	.076
Owning business less than one year	.109	.163	.667	.505
Owning business more than one year	.000	.002	.230	.818
Significant level at P < 0.05, r^2 = .045				

Respondents' age and if they operated their business longer than one year was significantly related (p< .05) to perception of Economic Benefit 1 (ECB1): Job and Sales Revenue. However, the model only predicted or explained 5% of the variance for this variable (Table 4-21).

Table 4-21. Multiple Regression Results of *Economic Benefit 1: Job & Sales Revenue*

Variable	B	SE	t	Sig.
Constant	3.445	.551	6.248	.000
Organization	-.006	.054	-.108	.914
Gender	-.120	.088	-1.364	.174
Age	.009	.004	2.052	.041
Education	.011	.040	.279	.780
Raised in I-Lan as children	.042	.114	.368	.713
Residence	.002	.014	.152	.880
Owning business less than one year	-.038	.192	-.197	.844
Owning business more than one year	-.006	.002	-2.440	.015
Significant level at P < 0.05, r^2 = .053				

There were no significant relationship (p<0.1) between all socio-demographic variables and environmental benefits (Table 4-22).

Table 4-22. Multiple Regression Results of *Environmental Benefit*

Variable	B	SE	t	Sig.
Constant	4.161	.577	7.29	.000
Organization	-.003	.056	-.058	.954
Gender	-.095	.092	-1.030	.304
Age	.006	.004	1.440	.151
Education	.027	.042	.648	.518
Raised in I-Lan as children	-.147	.120	-1.231	.220
Residence	-.006	.015	-.383	.702
Owning business less than one year	-.212	.201	-1.055	.293
Owning business more than one year	-.004	.002	-1.527	.128
Significant level at $P < 0.05$, $r^2 = .032$				

Research Question 5: Interaction of Socio-demographic Characteristics and Level of Involvement to Perception of Benefits

Regression and a one-way ANOVA were used to examine how the respondents' socio-demographics interacted with their attitudes toward the government and level of involvement related to their perception of benefits.

The model used to examine perceptions of NBT benefits is specified as follows:

$Y_i = a + b_1X_1 + b_2X_2 + \ldots + b_kX_{ki}$

$Y_1 = a + b_1X_1 + b_2X_2 + b_3X_3 + \ldots + b_{14}X_{14} + b_{15}X_{15}$ (Table 4-23)

Where subscript i denotes the *i*th observation in the sample, Y is the perceived impacts of the outcome, a is a constant, b_1, b_2 …b_k are the coefficients associated with each explanatory variable X_1, X_2, ….X_{ki}. The explanatory variables used to explain NBT's impacts in the model include attitudes toward the government (X_1), past participated over the past 12 months (X_2), willingness to participate in tourism planning over the next 12 months (X_3) implementation of tourism planning (X_4), used tourism projects, (X_5) participation in tourism activities as a tourist (X_6), contribution to tourism activities (X_7), respondents' organization(X_8) , Gender (X_9), Age (X_{10}), Education (X_{11}), raised in IL as children (X_{12}), respondents' residence(X_{13}) , operating business less than one year (X_{14}), and operating business more than one year(X_{15}) .

Table 4-23. Independent and Dependent Variables in Model

Dependent Variables	Independent Variables
Model 1 (ECB1: Economic benfit1: job and sales revenue issues)	Govall (X_1)-attitudes toward government, Passtime (X_2)-past participated in tourism planning over the past 12 months, Futrtime (X_3) wiling to participate in tourism planning over the next 12 months, Implemt (X_4) implementation of tourism planning, Partake (X_5) used tourism projects over the past , Tourist (X_6) participating in tourism activities as a tourist and Donate (X_7) contribution to tourism planning. Organization (X_8)- respondents' organization, Gender (X_9) Male, female, Age (X_{10}) 20-75, Education (X_{11}), Child (X_{12}) raised in IL as children, Residence (X_{13}) respondents' residence, LBZ1 (X_{14}) operating business less than one year, LBZ2 (X_{15}) operating business more than one year.
M 2 (SCB: Social/cultural benefit)	Same as above
M 3 (ENB: Environmental benefit)	Same as above

Attitudes toward government, participating in tourism planning over the past 12 months, and willingness to participate in tourism planning over the next 12 months were significantly related to the perception of Social/cultural Benefit (SCB). The model predicted or explained 16% of the variance in SCB (Table 4.24). There was a significant correlation between participating in tourism planning over the past 12 months and willingness to participate in tourism planning over the next 12 months, $r (280) = .60$, $P < .01$ (Table 4-26). In other words, respondents who participated in tourism planning over the past 12 months would be willing to participate in tourism planning over the next 12 months.

However, these variables showed opposite affects on the perception of SCB. There was a significant correlation between perception of government and participating in tourism planning over the past 12 months, $r (285) = -.19$, $P < .01$ (Table 4-26), which also

explained the opposite affects on the perception of SCB. People who stated that they participated more in decision-making perceived less SCB. If they were willing to participate more, they perceived more benefits.

Table 4-24. Multiple Regression Results of *Social/cultural Benefit*

Variable	B	SE	t	Sig.
Constant	2.840	.518	5.481	.000
Perception of government.	.174	.044	3.965	.000
Past participation over the last 12 months	-.121	.061	-1.984	.048
Willing to participate over the next 12 months	.135	.046	2.948	.004
Implemented tourism over the last 12 months	-.012	.077	-.153	.878
Used tourism projects over the last 12 months	.093	.079	1.174	.242
Participated as a tourist over the last 12 months	.059	.055	1.084	.280
Contributed over the last 12 months	-.019	.038	-.494	.622
Organization	-.078	.051	-1.542	.124
Gender	.020	.074	.268	.789
Age	.002	.004	.491	.624
Education	.000	.033	.010	.992
Raised in I-Lan as children	.076	.095	.800	.425
Residence	.016	.012	1.394	.165
Owning business less than one year	.182	.157	1.160	.247
Owning business more than one year	.001	.002	.280	.780
Significant level at $P < 0.05$, $r^2 = .161$				

Attitudes toward the government, age, and if they operated their business longer than one year were significantly related to Economic Benefit 1 (ECB1): Job and Sales Revenue; however, the model only predicted or explained 10% of the variance in ECB1 (Table 4-25). There was a significant correlation between age and operating their business longer than one year, $r (267) = .16$, $P < .05$(Table 4-26). There was no correlation between age and perception of government. Respondents who were older than 35 tended to operate their business longer than that of younger respondents. However, respondents who operated their business longer than one year did not perceive more jobs and sales revenue benefits.

Table 4-25. Multiple Regression Results of *Economic Benefit 1*

Variable	B	SE	t	Sig.
Constant	2.730	.630	4.331	.000
Perception of government.	.126	.053	2.349	.020
Past participation over the last 12 months	-.099	.074	-1.336	.183
Willing to participate over the next 12 months	.065	.056	1.169	.243
Implemented tourism activities over the last 12 months	.020	.093	.213	.831
Used tourism projects over the last 12 months	.105	.096	1.095	.275
Participated as a tourist over the last 12 months	.032	.066	.488	.626
Contributed over the last 12 months	-.051	.046	-1.092	.276
Organization	-.020	.062	-.329	.742
Gender	-.113	.090	-1.260	.209
Age	.009	.004	2.096	.037
Education	.020	.041	.500	.617
Raised in I-Lan as children	.046	.115	.397	.692
Residence	-.006	.014	-.438	.662
Owning business less than one year	.044	.190	.233	.816
Owning business more than one year	-.006	.002	-2.661	.008

Significant level at $P < 0.05$, $r^2 = .103$

Table 4-26. Correlation between Socio-Demographics, Business Characteristics and Level of Involvement

		ORGANIZATION	PASSTIME	FUTRTIME	IMPLEMT	PARTAKE	TOURIST	DONATE	GENDER	AGE	EDU	CHILD	RESIDENCE	LBZ1	LBZ2	GOVALL
ORGANIZATION	Pearson Correlation	1	-.440(**)	-.322(**)	-.345(**)	-.384(**)	-.243(**)	-.449(**)	.177(**)	-.148(*)	-.024	-.017	.005	-.128(*)	.004	-.050
	Sig. (2-tailed)	.	.000	.000	.000	.000	.000	.000	.003	.015	.694	.787	.935	.034	.952	.405
	N	277	277	272	276	275	275	274	277	266	277	271	277	274	268	277
PASSTIME	Pearson Correlation		1	.601(**)	.650(**)	.570(**)	.343(**)	.525(**)	-.161(**)	.185(**)	-.044	.031	.086	.075	-.007	.191(**)
	Sig. (2-tailed)		.	.000	.000	.000	.000	.000	.006	.002	.463	.609	.147	.207	.913	.001
	N		286	281	285	284	284	283	286	275	286	280	286	283	277	286
FUTRTIME	Pearson Correlation			1	.555(**)	.471(**)	.315(**)	.444(**)	-.115	.004	.015	.016	.010	.013	-.007	.066
	Sig. (2-tailed)			.	.000	.000	.000	.000	.054	.954	.808	.794	.868	.834	.905	.271
	N			281	281	280	280	279	281	271	281	275	281	279	273	281
IMPLEMT	Pearson Correlation				1	.785(**)	.390(**)	.484(**)	-.056	.138(*)	.042	-.010	.131(*)	.022	.029	.160(**)
	Sig. (2-tailed)				.	.000	.000	.000	.350	.023	.481	.867	.027	.714	.637	.007
	N				285	284	284	283	285	274	285	279	285	282	276	285
PARTAKE	Pearson Correlation					1	.432(**)	.527(**)	-.077	.084	.117(*)	.084	.037	.032	.009	.180(**)
	Sig. (2-tailed)					.	.000	.000	.194	.167	.050	.162	.535	.588	.886	.002
	N					284	283	282	284	273	284	278	284	281	275	284
TOURIST	Pearson Correlation						1	.298(**)	.033	-.014	.118(*)	.013	-.040	-.031	.027	.112
	Sig. (2-tailed)						.	.000	.578	.814	.047	.825	.501	.609	.654	.059
	N						284	282	284	273	284	278	284	281	275	284
DONATE	Pearson Correlation						.298(**)	1	-.079	.074	.114	.100	-.076	.113	.035	.097
	Sig. (2-tailed)						.000	.	.184	.223	.055	.095	.204	.060	.564	.105
	N						282	283	283	272	283	277	283	280	274	283
GENDER	Pearson Correlation						.033	-.079	1	-.219(**)	-.031	.072	-.024	-.156(**)	-.035	-.067
	Sig. (2-tailed)								.	.000	.598	.231	.682	.009	.564	.259

Table 4-26 Continued

		ORGANIZATION	PASSTIME	FUTRTIME	IMPLEMT	PARTAKE	TOURIST	DONATE	GENDER	AGE	EDU	CHILD	RESIDENCE	LBZ1	LBZ2	GOVALL
	N								286	275	286	280	286	283	277	286
AGE	Pearson Correlation									1	-.377(**)	.029	.048	.072	.156(*)	.099
	Sig. (2-tailed)									.	.000	.630	.427	.235	.010	.101
	N									275	275	271	275	273	268	275
EDU	Pearson Correlation										1	.138(*)	-.058	.107	.037	-.084
	Sig. (2-tailed)										.	.021	.328	.073	.541	.156
	N										286	280	286	283	277	286
CHILD	Pearson Correlation											1	.041	.064	-.141(*)	-.042
	Sig. (2-tailed)											.	.491	.289	.020	.480
	N											280	280	277	271	280
RESIDENCE	Pearson Correlation												1	-.041	-.071	.074
	Sig. (2-tailed)												.	.493	.238	.214
	N												286	283	277	286
LBZ1	Pearson Correlation													1	.165(**)	-.010
	Sig. (2-tailed)													.	.006	.867
	N													283	277	283
LBZ2	Pearson Correlation														1	.013
	Sig. (2-tailed)														.	.828
	N														277	277
GOVALL	Pearson Correlation															1
	Sig. (2-tailed)															.
	N															286

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Summary

Social/cultural benefits were the most highly perceived benefits group, followed by economic benefits; however, all three-benefit groups had fairly close means (all between 3.6 and 4.1). All costs were perceived as being lower than benefits. Attitudes toward county government affected respondents' perceptions in economic, social/cultural and environmental benefits.

Sales revenue shows that 30% of annual sales and 31% of customers were from NBT. Whale watching business has the highest mean scores of percentage of sales from NBT and the highest percentage customers from NBT, followed by gift shops and B&B. Leisure farm, B&B and gift store businesses have increased their sales revenue rather than decreased over the last five years.

Older respondents perceived more economic benefit than younger respondents. Male respondents participated more in tourism planning than female respondents. Respondents' organization was significantly related to their level of involvement.

In terms of involvement, it appears that attitudes toward the governments' ability to work with stakeholders was one of the major variables that influences people's perception of benefits. Occasionally, other variables associated with tourism involvement would be significant, but these were rare. Therefore, one of the major results of this study pertains to stakeholders' *perception* of interaction and collaboration rather than *direct involvement* in tourism planning. Results in reversed multiple regression indicated that respondents' perception of social/cultural benefit was significantly related to respondents' level of involvement in tourism planning.

CHAPTER 5
DISCUSSION AND SUGGESTION

The purpose of this study was twofold. First, it was to understand stakeholders' perceptions of economic, social/cultural environmental and other factors for nature-based tourism in I-Lan. Second, it was to examine the relationships among stakeholders' socio-demographic characteristics, type and level of involvement in tourism and their relations to perceptions of nature- based tourism's costs and benefits. This chapter will revisit each of the five research objectives and highlight major findings for each objective. Next, it will summarize implications for planning and future research.

Research Question 1: Perception of Impacts

Results show that respondents perceived the social/cultural benefits higher than environmental and economic benefits, as well as all costs. In fact, social/cultural costs were the least reported costs. The I-Lan County government has engaged in culture activities as major tourism activities since 1990s. For example, the county held the Grappling with Ghosts Competition at Tou-Cheng in 1991, Come back! Turtle Island in 1991, Building I-Lan House in 1994, Happy I-Lan Year since 1994, holding International Collegiate Regatta in 1994 and Children's Festival in1996. These activities were often co-sponsored by local businesses, which activated the local industry.

In the recent past, the central Taiwan government had suppressed many such cultural activities. Integrating cultural activities with tourism might likely have increased the sense of local sprit and cultural identity for participating tourism businesses. These are possible reasons why socio/cultural benefits had such high means. I-Lan was ranked

the first in “sense of pride” among 21 counties and cities in Taiwan in 1996 and 1997 surveyed by Foreseeing Magazine, and was also ranked the first as “the most favorable living place in Taiwan” in several recent surveys (Lee, 2002). Furthermore, these cultural activities have successfully attracted visitors and generated sales revenue for local business.

Results also show that environmental benefit ranked second followed by economic benefits. The county government has stressed the importance of environmental protection (EP) when engaging tourism since 1980s. The county rejected polluting manufacturing plants being built in I-Lan (Lee 2003, Chen 2003). The county also established and implemented environmental protection standards and regulations in the 1980s and 1990s, which later became environmental protection policies for the central Taiwan government (Hong, 2001, Lee, 2003, Chen 2003). Using an EP monitoring system, the county has been able to detect manufacturing plants that violated the EP standards (I-Lan County Government 2000, Hong, 2000, Chen, 2003). As a result, the environment in I-Lan is well conserved compared to other areas in Taiwan. This relates to why I-Lan is so popular among nature-based tourists.

Results show that economic benefits ranked last in benefits, which might reflect the economic structure in I-Lan. Past research revealed that the economic benefits generated from tourism are a small portion of the economy due to tourism’s labor intensive and low profit feature (Hong, 2001). Thus, the economic benefit derived from tourism in I-Lan has been unable to offset its economic gap. In addition, overall group impacts (Table 4-6) show that ECC1 (Economic cost1: land prices; mean 3.9) and ECC2 (Economic cost2: tourism variability; mean 3.7) are slightly higher than ECB1 (economic cost1: job and

sales revenue issues; mean 3.6), which might explain the respondents' perception of low economic benefit compared with their perception of social/cultural and environmental benefits. The positive correlation between ECB1 and ECC (Table 4-6-1) also indicates the weak economic benefit.

The family income and the unemployment rate in I-Lan describe the economic situation in I-Lan. I-Lan's family income was ranked 14 among Taiwan's 21 counties (DGBAS, 2003), and the unemployment rate in I-Lan has always been 5%-15% higher than that of other areas in Taiwan (DGBAS, 2002). Also, tourism in I-Lan has reached a consolidation stage. The number of visitors has remained the same or has slightly decreased since 2001. I-Lan has gradually lost its advantage in tourism due to competition from other counties (initial survey, 2005)

Another explanation for the ranking might be individual respondent's perception in economic versus group or whole society's perceptions in social/cultural and environmental issues. Perceptions of economic issues are usually related to short-term, direct and personal experience, while perceptions of social/cultural and environmental issues are usually related to long-term, indirect or related to whole society's experience instead of personal experience. Several respondents asked the researcher how to answer the questionnaire regarding social/cultural and environmental items. They were not sure if they should rate the question based on their own experience or based on I-Lan society's viewpoints. This might explain the high mean of social/cultural benefits, which was rated upon group perception instead of respondent's individual perception. When answering economic items, respondents would rate these items based on their own personal

perceptions not I-Lan society's perceptions. Thus, the results in economic benefits appear to be lower than social/cultural and environmental benefits.

Research Question 2: Socio-demographic characteristics and type of involvement

Results show that most socio-demographic characteristics have little role in affecting the type of involvement I-Lan business managers have in tourism. However, traditional gender roles continue to exist. For example, males were significantly more likely to operate businesses like whale watching and females were more likely to be operating travel agencies. Results also show that males have significantly more positive attitudes towards the government's involvement of stakeholders in planning, probably because males are more involved in decision-making positions.

Results also show that well-educated respondents participated more in the four levels of involvement. Survey data show that 44% of respondents have a college degree, which is much higher than county average (18%) (Table 4-1). It also means that respondents with better education are likely to be non-natives, who bring capital to invest in I-Lan. As investors, these respondents would tend to participate more in tourism planning.

Respondents' organization was related to level of involvement. This confirms that people who are involved in tourism associations or other private business organizations are more likely to take part in the government's tourism program, either as a decision-maker or actively participating in government sponsored programs. Almost half of the participants (43%) are involved in independent businesses and are not members or business organizations or tourism associations. These participants believe the government

is open to their participation in tourism programs; although, they apparently do not take advantage of these opportunities.

Research Question 3: Tourism Involvement's Relationship with Perception of Benefits

More than 48% of respondents did not participate in county tourism planning over the last 12 months and only 6% of respondents participated more than 11 times in the past 12 months. There is a need for the county to better understand why stakeholders do and do not participate. Using the social exchange theory as the underlying context, this study used perception of benefits to help understand business people's involvement in tourism planning. A key finding related to participation in tourism planning was the generally positive attitudes most participants had of the government's ability to interact with stakeholders and integrate their desires into planning. The fact that they have these positive attitudes toward the government, but do not actively work with the government shows that stakeholders have a complex relationship with the government in terms of tourism planning.

Attitudes toward the government and willingness to participate in decision making had small affects on respondents' perception of social/cultural benefits. Even with these weak relationships, this result does highlight the uniqueness of social/cultural benefits and shows that business managers' attitudes towards collaboration are more important than actual behaviors (e.g., participating in decision-making, taking part as tourists, and donating money) when examining their perception of benefits. Since these relationships were positive (more positive attitudes toward the government and higher willingness to participate resulted in higher perception of social/cultural benefits), these results might indicate that when people do participate, their perception of benefits might even decline.

Both economic and environmental benefits do not appear as significant as social/cultural benefits.

The reversed multiple regression in involvement also indicates perception of both social/cultural and environmental benefits affect respondents' attitudes towards government. Respondents' perception of social/cultural benefits affects all level of involvement even though most of them are weak relationships.

These findings indicate that participants' attitudes and behavior towards participation need to be better understood. Nearly 34% of respondents have never participated in tourism activities as tourists and 56 % of them have only participated in the programs 1-6 times over the last 12 months. Business managers are apparently not interested in these tourism programs as business ventures or as tourists. This can partly be explained for a variety of reasons. Specifically, business managers do not see these activities directly providing the benefits, and they believe their own tourism activities are more likely to provide these benefits. Also, managers might not believe these programs are valuable. For example, the number of visitors to the Green Expo and Children's Festival in 2005 both dropped 10% and 30% respectively from 2004 participation rates. Business mangers might see these two events as losing their ability to attract new or repeated visitors. So, although they see nature-based tourism providing overall benefits to the county, the specific county programs might not be providing these benefits.

Nearly 60% of respondents have never donated money to tourism planning and only less than 5% of respondents have donated more than NT$50,000 to tourism planning, which reflect that the concept of donation has not prevailed for business managers in I-Lan. Most respondents are not willing to contribute any money to tourism planning

because they do not perceive any benefit for such action. Donation is not a part of traditional social/cultural norm in Taiwan.

Research Question 4: Socio-demographics Relationship to Perceptions of Benefits

Socio-demographic and business characteristics did little to explain respondents' perception of benefits. Results show there were no significant relationships among socio-demographic and business characteristics with perception of environmental benefits. This corresponds with past research that found that most socio-demographics do not relate to participants' perceptions of impact (e.g. Belisle and Hoy 1980; Liu and Var 1986; Allen, Perdue and Long 1993; Brayley and Var 1989; Davis, Allen, and Cosenza 1988; Madrigal 1993, 1995; Pizam 1978; Ryan, Scotland, and Montgomery 1998).

Although socio-demographic relationships did not relate to perception of benefits, business characteristics did explain small amounts of variance. Organization and residence of the business were significantly related to social/cultural benefits. Also operating a business longer than one year was significantly related to the perception of economic benefits.

Research Question 5: Interaction of Socio-demographic Characteristics and Level of Involvement to Perception of Benefits

The models were most predictive when all variables were included within a single model. Although they showed no significant relationships for the environmental benefit group, the models did explain 16% of the variance for social/cultural benefits and 10% of the variance for economic benefits.

Results show that attitudes toward the government and age were positively related to economic benefits that described job and sales revenue issue. However, operating a business longer than one year was negatively related to economic benefit 1.

Although respondents who had more positive attitudes towards the government were more likely to perceive social/cultural benefits; actual interaction with the government programs, in terms of past participation in decision-making, visiting programs as a tourist, and donating to tourism programs, were not significantly related to perceptions of these benefits. As stated earlier, this highlights the finding that participants' perception of the government is more important in determining perceptions of benefits than actual interaction with the government. Past research in social exchange reveals that higher level of trust people have with a decision-maker has a positive affect on GNP and social performance (La Porta et al, 1997). This could be the case in I-Lan. Business managers had positive perceptions toward the government, but they lost trust with the government when they interacted with the government.

Other research (Madrigal 1993) shows that residents with positive perceptions of tourism believe that they could influence tourism decisions. Business managers in I-Lan could lose trust with the government as they become more involved in the government's tourism programs (as decision-makers or participants). This could result in a gradual eroding of support for NBT in I-Lan – at least as a county initiative.

Respondents who were older than 35 perceived more benefits from job and sales revenue, which might indicate that these older respondents have operated their business longer and they generate more sales revenue and perceive more job opportunities. Another explanation is that older respondents have more money to invest in tourism; thus, they are able to earn more sales revenue.

Respondents who have operated businesses longer than one year had a negative relationship to economic benefits. This again highlights how behavior in the tourism

field contradicts people's attitudes toward tourism's benefits. Actual involvement in tourism lessened people's perceptions of economic benefits. They have perhaps seen decreases in economic benefits. Based on the collected data and follow-up interviews, business managers' expressed that they did not generate more sales revenue, even though they have more customers due to competition and higher operating costs. These operating costs include aggressive price-cutting within business sectors and paying kickbacks to tour guides. Newer business managers have not noticed these decreases; therefore, they do not perceive more or less economic benefit.

Lessons Learned from I-Lan

Based on existing data, observation and follow-up interviews, there are several points to be addressed.

NBT is the right direction:

Ninety percent of respondents in follow-up interviews agreed that nature-based tourism was good for I-Lan and should continue to be developed as a tool for sustainable development.

> Tourism in I-Lan should be positioned in nature-based tourism, which would be a sustainable way for I-Lan. Countryside landscape and well preserved environment would be our advantage compared with other areas in Taiwan (Male. 51, restaurant owner).
>
> There were only domestic visitors in I-Lan and no international visitors. There was major competition with hotel businesses, which reduced the hotel rates sharply. County government should manage B&B properly. There were 500 B&B in I-Lan and most of them were unregistered, which would negatively affect our environment. Nature-based tourism would be good for I-Lan, which would be our advantage compared to other counties (Male, 55, hotel manager).
>
> Though nature-based tourism would be the right direction for I-Lan, county government needs to manage well in environmental sensitive areas by setting standards of carrying capacity to control visitors. Also establishment of evaluation system for nature-based tourism was needed (Female, 55, car rental & travel agency).

As mentioned earlier, when I-Lan began to initiate tourism in the 1980s, it also stressed the importance of environmental protection. The sense of environmental protection was rising as the county struggled with rejecting polluting manufacturing plants in the 1980s and 1990s (Hong, 2001; Chen, 2003). Results show that most business managers (78%) are aware that they need to keep a well-managed environment for continuing their tourism businesses. Results also show that environmental cost was not a major concern for respondents. County data show that environmental disasters such as mudslides and water pollution are rare in I-Lan (I-Lan County Government, 2002).

The cultural activities enhanced the cultural identity and cultural recognition in I-Lan. For example, the I-Lan county government established the first county historical museum in Taiwan in 1994 and National Center for Traditional Art (I-Lan County Government, 2004). These cultural centers not only boosted the local spirit, but they also made I-Lan a unique cultural place in Taiwan. Business managers and county officials stressed that I-Lan should be positioned as Taipei's back-garden. I-Lan needs to keep its "small and pretty" countryside landscape, recreational environment and also exhibit its unique local culture to attract people from Taipei area (Chen, 2003; Yu, Director of I-Lan County Land Administration, 2004 in interview).

Role of County Government

For the last twenty years, county government has been in charge of all of the major tourism activities in I-Lan. According to this study's findings, most business managers have positive attitudes toward the government's ability to work with them in tourism planning. However, actual interaction with the government did not show that

their perceptions increased, and there was even some evidence that perceptions of benefits decreased.

Tourism planning and development has become a heavy burden for the county (Chen, T.S. 2003). Working with the government might not be as rewarding for I-Lan business managers as they might think it could be. Although these results do not show working with the county has a significantly negative impact on respondents' perception of benefits, it certainly does not help.

County government has controlled and managed most tourism resources in I-Lan over the last twenty-years. While tourism development has reached its consolidation stage (Lee, 2003; Shen, 2002), the county government needs to release its resources and invite more private sector involvement in tourism (Kuo, 2004). Several respondents discussed the need to involve the private sector better.

> When the Children's Festival just started in 1996 and 1997, the county government asked local businesses to support by allocating tickets to each business association to promote the activity for collecting admission fees. After a few years later, when visitors of the Children's Festival reached 1,000,000, the county government would not release any tickets to us in advance or offer any discount for local businesses (Male, 43, hot spring hotel owner).

> County government didn't really listen and understand what we needed. Instead they just did what they thought the right things such as Green Expo, which has been fading and is unable to attract more visitors due to similar activities in other counties. These major events needed to be held in a permanent, sustainable way instead of tearing down the installation and decoration each time after the event (Male, 36, B&B owner).

> County government operated the large-scale events beyond I-Lan's ability, which would affect its tourism in the long-run. There were really no unique tourism resources in I-Lan compared with other counties in Taiwan where Tainan with cultural resources and Hualien with scenic resources (Male, 55, restaurant owner).

These comments support the study's findings that businesses have positive attitudes toward tourism and the government, but they would like to pursue these benefits as independent businesses – not in collaboration with the government.

Better communication between the county government and local business managers is needed

The county government is missing a valuable opportunity. It has worked hard to promote and develop tourism, but the businesses that should benefit from these tourism programs are not actively taking part in programs or their planning. In fact, when they do take part, it does not improve their perception of benefits. I-Lan should work to improve how they interact and communicate with businesses to ensure that stakeholders have positive experiences with the government in tourism planning; thereby, improving their overall perception of tourism's impact in I-Lan.

Research has shown that governments can influence cooperation and collaboration between businesses (Lee, 2002; Shen 2003; Chen 2003). Since this study showed businesses are more likely to interact independently rather than with the government, there may be opportunities for the government to provide opportunities for businesses to form more valuable partnerships. In the past, some of I-Lan's hotels formed strategic alliances because there was a perception that the I-Lan government was supporting leisure farms and B&B's to the detriment of hotels. One respondent characterized the conflict:

> It was unfair for us when county government fully promoted leisure farming and B&B. Leisure framing and B&B could obtain managerial and financial support from both central and county government. It was easier to setup a leisure farm or B&B business with loose regulations and lower taxes. On the other hand, hotel businesses paid higher taxes and had to follow much more regulations, which increased our cost. The county government should try to know what our problems

> were and help us (Female, 38, hotel manager; male, 43, hotel owner; male, 50, hotel manager).

Instead of supporting specific industries, such as leisure farms and B&B's, I-Lan could work collaboratively between industries to ensure benefits are distributed equitably.

Pei-I Freeway impact

Pei-I freeway (30.8 km) was completed and opened on June 16, 2006 after fifteen years of construction, which shortened the travel distance from three hours to 40 minutes between Taipei and I-Lan. A major section in the freeway is the world's fourth longest tunnel—Shu-Shan tunnel (12.8 km). Based on survey data and follow-up interviews, over 90% of respondents expressed mixed feelings about the freeway. They agreed that Pei-I would bring visitors and help their economy. On the other hand, they were also worried about the negative impacts on social/cultural values and damage to the fragile environment, which will undoubtedly follow.

Visitors are able to use I-Lan as a mid-point stop for further travel to Hua-lien in one day without staying overnight at I-Lan. Some hotel managers expressed their concerns about future business. In addition, housing and land prices will be affected by Pei-I as well. Results showed that over 92% of respondents agreed that the increase in housing and land prices was related to the Pei-I freeway. Since the opening of Pei-I freeway will change I-Lan's overall outlook in economic, social/cultural and environmental aspects, future research will need to be conducted to identify and measure these impacts.

Theoretical Implications

The important theoretical implications of this study are that its findings confirm the usefulness of social exchange theory in explaining business managers' perceptions of tourism impacts. Social exchange theory assumes that engaging in exchange includes the rational estimation of costs and benefits that structure economic exchange (Meeker 1971). The benefits will likely combine both monetary and psychological benefits but in many cases research shows that the economic benefits usually are the primary concern for the host community. In tourism, social exchange assumes that residents in host communities will engage in tourism activities if they perceive that tourism benefits exceed tourism's costs. In other words, social exchange assumes that residents' perceptions of tourism's impact based on trade-offs in between economic benefits and social/cultural and environmental costs.

The findings show that business managers perceived more social/cultural, economic, and environmental benefits than costs. The correlations between impact factors show that the economic benefits group was correlated with social/cultural and environmental benefits (Table 4-6-1). The respondent's perception of economic benefits might be based on their individual experience, but their perceptions of social/cultural and environmental benefits might be from society's standpoint. The findings highlights the complicated ways people perceive costs and benefits. Apparently, the importance of benefits can be learned (as is the case of social/cultural and environmental benefits), and override the traditional high value of economic benefits. This has important practical and theoretical implications. Since this study was not designed to predict future behavior, just measure existing attitudes, this aspect of the theory is of minor importance in terms of this study's overall findings. Furthermore, since this study used only a single theoretical

framework to examine the tourism impacts, the findings that show supporting the theory are not a big idea.

Second, the findings of this study indicate reciprocity in social exchange is not a major issue among study participants. This might indicate that the majority of respondents either did not know or not really care about reciprocity due to high percentage of respondents choosing" no opinion" in reciprocity issues. For example, 44% of respondents chose "no opinion" on the item "tourism profits leaked heavily to outsiders," and 32% of them chose "no opinion" on the item "most tourism benefits obtained by big companies" (Table 4-6, ECC3). Thirty-one percent of respondents chose "no opinion" on the item "allocating tourism resources unevenly among townships," and thirty-two percent of them chose "no opinion" on the item "widen the gap between the rich and the poor" (Appendix F, Economic costs: item 34 and 37). The reason might be that most respondents did not perceive the possible unfairness of allocation of tourism resources, that it was unknown to them.

Future Research

This study did not test the relationship between type of business and levels of involvement. Further studies about economic factors relating to levels of involvement and type of business are needed. Results did show a small difference between economic factors and types of business; however, due to the diversity of business types and small sample size for many of these types, it was difficult to statistically analyze the relationship. Since this study only examined the relationship between socio-demographics and level of involvement and their interaction in relating to perception of tourism impact, it would be meaningful to examine the relationship between type of

involvement and level of involvement and understand whether there are any relationships between them.

Longitudinal studies are recommended to examine changes in business managers' perceptions of nature-based tourism impacts. Perception of tourism impacts is dynamic and constantly changing as the tourism environment changes. To better understand long-term business managers' perception, it is recommended that researchers regularly survey business managers in reference to major changes in the tourism environment. For example, the Pei-I Freeway will bring changes to I-Lan's tourism and research should monitor this change over time. The opening of the freeway marks the end of I-Lan's geographic isolation image and it also opens the doors for tourism and businesses in the region as well. Though it is not certain what kind of impact Pei-I will have on I-Lan, the study of freeway impact on I-Lan's tourism is needed.

Package tour program (PTP) has been practiced across business sectors since 1996 in I-Lan but has not been studied. Results show that 38% of respondents had participated in PTP and of these respondents, 90% agreed that PTP helped their business. However, respondents' data also showed that many respondents failed to answer specific items regarding PTP, which made it difficult to analyze. PTP has become an important part of tourism in I-Lan, and future study in this field is needed. Future study needs to design clear, unconfused questions for PTP participants. Also, packaging tour businesses together in other parts of the world is a key strategy to improve the ability of businesses to obtain benefits and should be more heavily studied in a variety of tourism-dependent regions.

In terms of type of business, further study could combine similar type of business and select larger samples in each type of business. For examples, many travel agencies, which brought visitors to I-Lan, were located outside the region. Sampling should include these non-local operators especially in the Taipei metropolitan area. Some local tour bus companies also functioned as travel agencies. For example, they worked together in grouping visitors, and they often share resources and profits. Some advertising/printing firms in Taipei have long-term business relationships with I-Lan County Government. They are heavily involved in the marketing aspects of tourism – designing and printing posters, brochures, and pamphlets for major tourism events. Financial institutions, such as bank, savings & loans and farmers' association have similar function and services; thus, they could be categorized in the same type to make a larger sample.

Conclusion

The findings show that social/cultural benefits are the most apparent in I-Lan and these perceptions were likely shaped by I-Lan's strong commitment to NBT over the last several decades. The reviving of cultural identity and cultural recognition in the region symbolizes the struggle of local culture versus the influence of Chinese culture, which has been the mainstream culture in Taiwan since 1950s**.**

Another major finding in this study is that participants' perception of the government is more important in determining perceptions of benefits than actual interaction with the government. It indicates that the county government might change its role from top-down decision-making style to co-partnering with local business people. The county can also alleviate its own financial burden by releasing some of tourism activities to private sectors and use private sectors resources for sustainable nature-based tourism development in I-Lan.

The results of this study indicate that with a better understanding of business owners' perceived impacts, county tourism planners can improve the collaborative management of nature-based tourism in I-Lan. In addition, the findings of this study might provide an implication for tourism development in other countries, where regional communities seek for tourism as an alternative for their economic development without falling into traditional manufacturing type of development.

APPENDIX A
INITIAL INTERVIEW DATA AND TOURISM IMPACT SCALE

Table A-1. List of interviewees in I-Lan, Taiwan. June 2004 & August-September, 2005

Gender	Title	Organization	Participating in Interview	Participating in survey
M	County Commissioner	IL County Gov.		●
M	Dept. Director	Business & Travel, ILCounty Govt	●	●
M	Director	Land Admin. IL County Govt	●	●
M	Director	Cultural Admin. IL County Govt		●
M	Dept. Director	Planning, IL County Gov		●
M	Dept Director	Agricultural Affairs, IL County Govt		●
F	Researcher	National IL University	●	●
F	Editor, Researcher	IL county historical museum		●
M	Teacher	Tou-Cheng Elementary School	●	●
M	Director	Farmer's Association	●	●
F	President	IL Tourism Ambassador		●
M	Director	IL Tourism Asso	●	●
F	Secretary	IL Tourism Asso		●
M	CPA	Yu-Ca CPA	●	●
M	Director	Wu-Wei Kung Foundation	●	●
F	Owner	Jiaosi Spring Mochi		●
M	Owner	Leisure Farm	●	●
M	Owner	Ta-Cheng Hotel	●	●
M	President	IL Hotel Association	●	●
M	Manager	Li-Kou Travel	●	●
M	Whale-watching	New FU-Fung Boat	●	●
M	President	Wild-bird Association, I-Lan	●	
M	President	The Society of Wilderness, I-Lan Branch	●	
M	Owner	San-Fu Garden & Leisure Farm, Dong-Shan	●	

Table A-2. Interview Questions for Tourism Impacts in I-Lan, Taiwan July-August 2005

1. What is your opinion regarding tourism development in I-Lan?
2. What are the most important tourism impacts in economic aspect in I-Lan, please list out ten items regarding positive and negative impact?
3. What are the most important tourism impacts in social/cultural aspect in I-Lan, please list out ten items regarding positive and negative impact?
4. What are the most important tourism impacts in environmental aspect in I-Lan, please list out ten items regarding positive and negative impact?
5. What do you think about Pei-I Freeway impact in tourism?
6. What is the direction regarding NBT development in I-Lan?

Tourism Impact Scale

Ap and Crompton (1998)

TABLE A-3. POSITIVE AND NEGATIVE ECONOMIC IMPACTS OF TOURISM THAT HAVE BEEN REPORTED IN THE EMPIRICAL LITERATURE

Positive economic impacts
- Contributes to income and standard of living
- Improves the local economy
- Increases employment opportunities
- Improves investment, development, and infrastructure spending in the economy
- Increases tax revenues
- Improves public utilities
- Improves transport infrastructure
- Increases opportunities for shopping

Negative economic impacts
- Increased price and shortage of goods and services
- Increased price of land and housing
- Increased cost of living/property taxes

TABLE A-4 POSITIVE AND NEGATIVE ENVIRONMENTAL IMPACTS OF TOURISM THAT HAVE BEEN REPORTED IN THE EMPIRICAL LITERATURE

Positive environmental impacts
- Preservation of the natural environment/does not cause ecological decline
- Preservation of historic buildings and monuments
- Improvement of the area's appearance

Negative environmental impacts
- Increased traffic congestion
- Overcrowding (**Carrying capacity**)
- Increased noise pollution and litter

TABLE A-5. POSITIVE AND NEGATIVE SOCIAL AND CULTURAL IMPACTS OF TOURISM THAT HAVE BEEN REPORTED IN THE EMPIRICAL LITERATURE

Positive social impacts
- Improves the quality of life
- Increases availability of recreation facilities/opportunities
- Improves quality of fire protection
- Improves quality of police protection

Positive cultural impacts
- Improves understanding and image of different communities or cultures
- Promotes cultural exchange (an educational experience)
- Preserves cultural identity of host population
- Increases demand for historical and cultural exhibits

Negative social and cultural impacts
- Increased prostitution
- Increased alcoholism
- Increased smuggling
- Heightened tension
- Increasingly hectic community and personal life
- Creation of a phony folk culture

Summarized Responses to Tourism Statements (Weaver& Lawton, 2001)

Tamborine Mountain (TM) is a unique destination and should not try to imitate the Gold Coast
Tourism creates employment opportunities
Tourism has resulted in TM residents having a greater range of choice with regard shopping facilities, etc.
Most tourism-related businesses are controlled by people who live in this community
Improving public tourism facilities is not a waste of ratepayers' money
TM offers a high quality tourism product to visitors
Overall, tourism increases the quality of life of TM residents
Overall, the benefits of tourism to the community on TM outweigh its costs
Tourism brings important economic benefits to the residents of TM
The cost of living on TM has not increased because of tourism
Most tourists visiting our community are considerate of local people
Tourism has increased the pride of TM residents in their community
TM could not support itself without tourism
There are more recreational opportunities available to local residents on TM because of tourism
Tourism enriches the cultural and social life of TM residents
Tourism has contributed positively to the overall appearance of the TM area
Because of tourism, roads and other local services are maintained at a higher level than otherwise would be
There is no increase in crime on TM because of tourism
Real estate prices have not increased on TM because of tourism

Tourism has made TM a more exciting and interesting place in which to live
Tourism on TM is not too commercialized
Many local residents benefit from the tourism industry on TM
The community should do more to promote TM as a destination
The tourism industry on TM is being properly managed
Tourism has contributed to the preservation of the natural environment on TM
The residents of TM have adequate control over the local tourism industry
Tourism does not disrupt the peace and tranquility of TM
There is no additional litter on TM because of tourism
I personally benefit from the presence tourism on TM
Tourism has not created divisions among the residents of TM
Tourism does not cause traffic congestion on TM

APPENDIX B
INITIAL SURVEY QUESTIONNAIRE

Dear I-Lan business owner,

This survey is meant to investigate business owners' perceptions towards nature-based tourism (NBT) development in I-Lan (IL). Nature-based tourism is the tourism activities, which based on natural, ecological landscapes in I-Lan. For examples, variety of industrial culture activities, Green Expo, Onion & Garlic Festival, forest recreational areas, botanical gardens, lakes, rafting, waterfalls, natural trails, hot springs, cold springs, leisure farming, orchards, dolphin & whale watching and bird watching etc. Your valuable response is extremely helpful to this study. Responses to this questionnaire will be completely anonymous. Your identity will remain anonymous. We greatly appreciate you taking time to complete this questionnaire.

Joe Yang, Graduate Student, Principal Investigator
Taylor Stein, Ph.D., Supervisor
School of Forest Resources and Conservation, University of Florida

Rate the degree of impact with the items below. Use an index of 1to 5, where 1.0 = Not an Impact and 5.0 = Very Important Impact. You may use a "1.0" or a "5.0" or any number in between to tell us your opinion. The larger number indicates more important impact. Please fill the number in ( ).

Degree of impact of IL NBT development **Please fill the number in ( )**

in *Economic* 1= Not an impact, 5= Very Important Impact

- Revenues for business increased ---------- ( )
- More local employment ---------- ( )
- Wages & fringe benefits increased ---------- ( )
- Increased quality of shops, hotels and restaurants ---------- ( )
- More leisure farms & Bed & breakfast businesses ---------- ( )
- Increased the variety of package tour programs for visitors ---------- ( )
- More whale-watching business for visitors ---------- ( )
- More tax revenues and expenditure from tourism ---------- ( )
- Improved transport infrastructure ---------- ( )
- More recreational facilities for local residents ---------- ( )
- Improved the quality of Jiaosi hot spring businesses ---------- ( )

- Most tourism businesses controlled by local residents ---------- ( )
- Increased real estates costs ---------- ( )

- Results in fewer available lands for business ---------- ( )
- Increased other counties' imitation of tourism programs ---------- ( )
- Competition in hotel/motel getting worse ---------- ( )

Degree of impact of IL NBT development **Please fill the number in ( )**

in *Social/cultural* **1= Not an impact, 5= Very Important Impact**

- Increases cultural re-recognition ---------- ( )
- More cultural activities ---------- ( )
- Sense of pride ---------- ( )
- Stronger sense of IL attachment ---------- ( )
- Little change in lifestyle of local residents ---------- ( )
- Decreased prostitution in Jiaosi ---------- ( )
- Increased children's education in local history and literature ---------- ( )
- Increased the learning of native language ---------- ( )
- Increases quality of life of IL residents ---------- ( )
- Focuses too much on attracting visitors ---------- ( )
- Results in unfair resources allocation by county government ---------- ( )
- Disrupt the peace and tranquility of IL ---------- ( )
- Visitors over-convergence in specific seasons ---------- ( )

Degree of impact of IL NBT development **Please fill the number in ( )**
in *Environmental* **1= Not an impact, 5= Very Important Impact**

- Increase environmental education for children ---------- ( )
- Ecosystem has better preserved ---------- ( )
- Increased local residents' awareness of the importance of maintaining natural amenities ---------- ( )
- Improvement of local areas' appearance ---------- ( )
- Increased traffic congestion ---------- ( )
- Results in overcrowding ---------- ( )
- Results in shortage of parking spaces ---------- ( )
- Results in environmental decline in sensitive areas ---------- ( )
- Increased waste of disposable meal boxes ---------- ( )
- Increased air and noise pollution ---------- ( )
- Increased litter and garbage pollution ---------- ( )
- Increased resources waste in advertising and delivery mails ---------- ( )
- Increased pollution in sanitation ---------- ( )

Any other items:

Thank you for your cooperation!!

APPENDIX C
QUESTIONNAIRE RESOURCES

Table C-1. Socio-demographic characteristics from literature reviews	
Variables	Literature Review
Gender	Pizam (1978), Belisle & Hoy (1980), Lu & Var (1986), Lankford and Howard (1994), Ap & Crompton (1998), Andereck & Vogt (2000), Weaver &Lawton (2001)
Age	Pizam (1978), Belisle & Hoy（1980）, Lu & Var (1986), Lankford and Howard (1994), Ap & Crompton (1998), Andereck & Vogt (2000), Weaver &Lawton (2001)
Education	Pizam (1978), Belisle & Hoy (1980), Lu & Var (1986), Lankford and Howard (1994), Ap & Crompton (1998), Andereck & Vogt (2000), Weaver &Lawton (2001), Sirakaya, Teye & Sonmez (2002)
Living in I-Lan as a child,	Brougham and Butler (1981), Davis, Allen and Cosenza (1988), Jurowski, Uysal and Williams (1997), Landford and Howard (1994), McCool and Martin (1994), Sheldon and Var (1984), Um and Crompton (1987), McGehee & Andereck (2004)
Residence	Brougham and Butler (1981), Davis, Allen and Cosenza (1988), Jurowski, Uysal and Williams (1997), Landford and Howard (1994), Sheldon and Var (1984), Um and Crompton (1987), Faulkner & Tideswell (1997), Sirakaya, Teye & Sonmez (2002), Deccio & Baloglu (2002), McGehee & Andereck (2004)
Length of business	Lankford (1994), Siegel and Jekus (1995), McGehee & Andereck (2004)
Title/position.	Chen, K.L. (2001, 2003,2004)

6.

Table C-2. Type of Involvement	
Variables	Literature Review
Type of business	Chen, K.L (2001,2003,2004), I-Lan County Report (2003)
Sales revenue	Chen (2001, 2003,2004)
% of NBT revenue	Chen (2001, 2003,2004)
% of NBT customers	Chen (2001, 2003,2004)
% of change	Chen (2001, 2002, 2003, 2004)

Table C-3. Level of Involvement	
Variables	Literature Review
Decision-maker	Smith and Krannich 1998
Part of tour provider	
Tourist	
No involvement	Smith and Krannich 1998

Table C-4. Perceived economic benefits

Variables	Section 1. Tourism Impacts	Literature Review
Economic Benefits	a. Increasing revenues for business b. Increasing job opportunities c. Increasing wages & fringe benefits d. Increasing leisure farms and Bed& Breakfast e. Increasing whale-watching businesses f. Increasing quality of shops, hotels and restaurants g. Increasing more competition in hotel/motel h. Increasing quality of life for IL residents Section 3. Local own/operation business a. Most tourism businesses are owned and/or operated by local residents b. Outsiders and outside investment have positive impact on IL e. Whether the business owned and/or operated by locals is not important, as long as people continue to invest in IL Section 4. Competition/imitation b Upgrades the quality of tourism in IL c. Brings positive economic impacts for IL Section 5. Resource Allocation a.Used resources mostly in tourism development c. Increasing social welfare benefits d. Narrowing the gap in cities and townships Section 10. Package tour programs a. Increased the variety of package tour programs b. Upgrades the quality of service c. Increases customers d. Improves competition e Increases sales revenues f. Integrates local industries g. Increases name-recognition for businesses Section 11 What percent of your customers come from package tour programs _____%	McCool & Martin (1994) I-Lan County Tourism Comprehensive Plan.(1996) Gilbert &Clark (1997) Ap & Crompton (1998) Snaith & Haley(1999) Weaver & Lawton(2001) Chen,T.S.(2003) Chen, K.L. (2003,2004) Gursoy & Rutherford (2004) Prelim. Interview 2004 Back & Lee (2005) Phone interviews 2005 Andriotis & Vaughan (2003)

Table C-5. Perceived economic costs		
Variables	Section 2. Housing & Land Prices	Literature Review
Economic Costs	a. Increased rent of houses and lands b. Increased in housing and land prices which only happened in tourism development areas c. Increased in housing and land prices, which is related to Pei-I freeway d. Decreased the availability of land for tourism Section 3. Local own/operation business c. Tourism profits leaked heavily to outsiders d. Most tourism benefits obtained by big companies Section 4. Competition/imitation a. Brings negative economic impacts for IL d. Results in decline of visitors Section 5. Resource Allocation b. Allocating tourism resources unevenly among townships e. Widening the gap between the rich and the poor Section 6. Visitors' Impact a. Visitors over-convergence in specific seasons b. Over-using tourism resources in peak seasons c. Under-using tourism resources in low seasons d. Affecting the balance of revenue, expenses and willingness of investment	McCool & Martin(1994) I-Lan County Tourism Comprehensive Plan.(2001) Gilbert &Clark(1997) Ap & Crompton (1998) Snaith & Haley(1999) Weaver & Lawton(2001) Chen,T.S.(2003) Chen, K.L. (2003,2004) Gursoy & Rutherford (2004) Prelim. Interview 2004 Back & Lee (2005) Phone interviews 2005 Andriotis & Vaughan (2003)

TableC-6. Perceived Social/cultural benefits & costs		
Variables	Section 7. Community	Literature Review
Social/Cultural Benefits	a. I am definitely part of IL b. What happens in IL is important to me d. I am proud of being an IL resident e. I have an emotional attachment to the IL area f. I prefer hiring IL residents as my employees g. I am willing to invest my time and effort to make IL area an even better place h. I am willing to participate in community activities or community meetings i. I plan to run my business long-term in IL (At least six years from now). j. I support NBT in IL Section 8. a. Increased diversity of cultural activities among different ethnic groups b. Improved autonomy in the community c. Improved the understanding among different communities & cultures d. Improved cultural preservation & enhanced identity	McCool & Martin(1994) I-Gilbert &Clark(1997) Ap & Crompton (1998) Weaver & Lawton (2001) Chen,T.S.(2003) Chen, K.L. (2003,2004) Gursoy & Rutherford (2004) Prelim. Interview 2004 Back & Lee (2005) Phone interviews 2005
Variables	Section 1. Tourism Impacts	Literature Review
Social/Cultural Costs	i. Focusing too much on attracting visitors Section 9. Disruption a. Increasing nightlife activities b. Increasing drinking and vandalism c. Increasing prostitution d. Increasing traffic accidents e. Decreasing public safety	Ap &Crompton (1998) Weaver & Lawton (2001) Chen,T.S.(2003) Prelim. Interview 2004 Phone interview 2005

Table C-7. Environmental benefits & costs		
Variables	Section 1. Tourism Impacts	Literature Review
Environmental Benefits	j. Enhancing preservation of ecosystem k. .Increasing local residents' awareness of importance of maintaining natural amenities l. Improving local areas' appearance	I-Lan County Tourism Comprehensive Plan. (2001) Ap & Crompton (1998) Weaver (2001) I Prelim. Interview 2004 Phone interview (2005)
Variables	Section 1. Tourism Impacts	Literature Review
Environmental Costs	m. Overcrowding n. Increasing traffic congestion o. Increasing shortage of parking spaces p. Increasing environmental decline in sensitive areas q. Increasing litter and garbage pollution r. Increasing air and noise pollution s. Increasing resources waste in advertising and delivery mails Section 6. Visitors' Impact e. Resulting in spatial environment carrying pressure	Ap & Crompton (1998) Weaver & Lawton (2001) Chen, K.L. (2003, 2004) Prelim. Interview 2004 Phone interview 2005

APPENDIX D
FACTOR ANALYSIS

Factor Analysis

Communalities

	Raw		Rescaled	
	Initial	Extraction	Initial	Extraction
ECB1	.617	.345	1.000	.559
ECB2	.901	.721	1.000	.799
ECB3	.914	.606	1.000	.663
ECB5	.462	.118	1.000	.255

Extraction Method: Principal Component Analysis.

Total Variance Explained

		Initial Eigenvalues(a)			Extraction Sums of Squared Loadings		
	Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Raw	1	1.789	61.804	61.804	1.789	61.804	61.804
	2	.492	16.985	78.789			
	3	.368	12.712	91.501			
	4	.246	8.499	100.000			
Rescaled	1	1.789	61.804	61.804	2.276	56.897	56.897
	2	.492	16.985	78.789			
	3	.368	12.712	91.501			
	4	.246	8.499	100.000			

Extraction Method: Principal Component Analysis.
a When analyzing a covariance matrix, the initial eigenvalues are the same across the raw and rescaled solution.

Component Matrix(a)

	Raw	Rescaled
	Component	Component
	1	1
ECB1	.587	.748
ECB2	.849	.894
ECB3	.778	.814
ECB5	.343	.505

Extraction Method: Principal Component Analysis.
a 1 components extracted.

Rotated Component Matrix(a)

a Only one component was extracted. The solution cannot be rotated.

Reliability

```
****** Method 1 (space saver) will be used for this analysis ******
```

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                              Mean        Std Dev       Cases
  1.     ECB1               3.8322          .7857       286.0
  2.     ECB2               3.5455          .9494       286.0
  3.     ECB3               3.1399          .9559       286.0
  4.     ECB5               3.8112          .6801       286.0
                                                     N of
Statistics for       Mean   Variance    Std Dev  Variables
      SCALE       14.3287     6.6635     2.5814          4

Item-total Statistics

               Scale          Scale      Corrected
               Mean         Variance       Item-            Alpha
              if Item        if Item       Total           if Item
              Deleted        Deleted    Correlation        Deleted

ECB1          10.4965         4.1877        .5779           .6842
ECB2          10.7832         3.3423        .6970           .6053
ECB3          11.1888         3.6976        .5583           .6963
ECB5          10.5175         4.9944        .3970           .7694

Reliability Coefficients
N of Cases =    286.0                    N of Items =  4
Alpha =    .7541
```

Factor Analysis

Communalities

	Raw		Rescaled	
	Initial	Extraction	Initial	Extraction
SCB11	.407	.256	1.000	.630
SCB12	.474	.335	1.000	.708
SCB13	.368	.304	1.000	.827
SCB14	.432	.273	1.000	.632

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Component	Initial Eigenvalues(a)			Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Raw	1	1.169	69.550	69.550	1.169	69.550	69.550
	2	.233	13.885	83.436			
	3	.194	11.520	94.956			
	4	.085	5.044	100.000			
Rescaled	1	1.169	69.550	69.550	2.797	69.913	69.913
	2	.233	13.885	83.436			
	3	.194	11.520	94.956			
	4	.085	5.044	100.000			

Extraction Method: Principal Component Analysis.

a When analyzing a covariance matrix, the initial eigenvalues are the same across the raw and rescaled solution.

Component Matrix(a)

	Raw	Rescaled

	Component	Component
	1	1
SCB11	.506	.794
SCB12	.579	.841
SCB13	.551	.909
SCB14	.523	.795

Extraction Method: Principal Component Analysis.
a 1 components extracted.

Rotated Component Matrix(a)

a Only one component was extracted. The solution cannot be rotated.

Reliability

```
****** Method 1 (space saver) will be used for this analysis ******
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
                              Mean        Std Dev       Cases
  1.     SCB11             4.1014          .6381       286.0
  2.     SCB12             4.0105          .6882       286.0
  3.     SCB13             4.0874          .6064       286.0
  4.     SCB14             4.0804          .6573       286.0
                                                     N of
Statistics for       Mean   Variance    Std Dev  Variables
      SCALE       16.2797     4.6653     2.1599          4

Item-total Statistics

               Scale          Scale      Corrected
               Mean         Variance       Item-            Alpha
              if Item        if Item       Total           if Item
              Deleted        Deleted    Correlation        Deleted

SCB11         12.1783         2.8628        .6461           .8328
SCB12         12.2692         2.6676        .6780           .8212
SCB13         12.1923         2.6541        .8317           .7580
SCB14         12.1993         2.8268        .6363           .8375

Reliability Coefficients
N of Cases =    286.0                    N of Items =  4
Alpha =    .8530
```

Reliability

```
****** Method 1 (space saver) will be used for this analysis ******

  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                              Mean        Std Dev       Cases

  1.     SCB11             4.1014          .6381       286.0
  2.     SCB12             4.0105          .6882       286.0
  3.     SCB13             4.0874          .6064       286.0
  4.     SCB14             4.0804          .6573       286.0
                                                     N of
Statistics for       Mean   Variance    Std Dev  Variables
      SCALE       16.2797     4.6653     2.1599          4

Item-total Statistics
```

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
SCB11	12.1783	2.8628	.6461	.8328
SCB12	12.2692	2.6676	.6780	.8212
SCB13	12.1923	2.6541	.8317	.7580
SCB14	12.1993	2.8268	.6363	.8375

Reliability Coefficients
N of Cases = 286.0 N of Items = 4
Alpha = .8530

Factor Analysis

Communalities

	Raw		Rescaled	
	Initial	Extraction	Initial	Extraction
SCC3	.965	.747	1.000	.773
SCC4	.990	.763	1.000	.771
SCC5	1.053	.698	1.000	.663
SCC6	1.113	.889	1.000	.799

Extraction Method: Principal Component Analysis.

	Component	Initial Eigenvalues(a)			Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Raw	1	3.096	75.134	75.134	3.096	75.134	75.134
	2	.497	12.056	87.189			
	3	.312	7.567	94.756			
	4	.216	5.244	100.000			
Rescaled	1	3.096	75.134	75.134	3.006	75.140	75.140
	2	.497	12.056	87.189			
	3	.312	7.567	94.756			
	4	.216	5.244	100.000			

Total Variance Explained

Extraction Method: Principal Component Analysis.
a When analyzing a covariance matrix, the initial eigenvalues are the same across the raw and rescaled solution.

Component Matrix(a)

	Raw	Rescaled
	Component	Component
	1	1
SCC3	.864	.879
SCC4	.873	.878
SCC5	.835	.814
SCC6	.943	.894

Extraction Method: Principal Component Analysis.
a 1 components extracted.

Rotated Component Matrix(a)

a Only one component was extracted. The solution cannot be rotated.

Reliability

```
****** Method 1 (space saver) will be used for this analysis *****

  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                              Mean        Std Dev       Cases

  1.     SCC3               3.1655          .9826       284.0
  2.     SCC4               3.2289          .9949       284.0
  3.     SCC5               2.6972         1.0261       284.0
  4.     SCC6               2.9965         1.0550       284.0
                                                     N of
Statistics for       Mean   Variance    Std Dev  Variables
      SCALE       12.0880    12.3632     3.5161          4

Item-total Statistics

               Scale          Scale      Corrected
               Mean         Variance       Item-            Alpha
              if Item        if Item       Total           if Item
              Deleted        Deleted    Correlation        Deleted

SCC3           8.9225         7.2449        .7851           .8466
SCC4           8.8592         7.2098        .7793           .8485
SCC5           9.3908         7.5039        .6771           .8867
SCC6           9.0915         6.8891        .7874           .8450

Reliability Coefficients

N of Cases =    284.0                    N of Items =  4
Alpha =    .8889
```

Factor Analysis

	Component	Initial Eigenvalues(a)			Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Raw	1	1.444	61.025	61.025	1.444	61.025	61.025
	2	.503	21.270	82.294			
	3	.419	17.706	100.000			
Rescaled	1	1.444	61.025	61.025	1.661	55.360	55.360
	2	.503	21.270	82.294			
	3	.419	17.706	100.000			

Communalities

	Raw		Rescaled	
	Initial	Extraction	Initial	Extraction
ENB1	1.103	.924	1.000	.837
ENB2	.636	.287	1.000	.452
ENB3	.628	.233	1.000	.372

Extraction Method: Principal Component Analysis.

Total Variance Explained

Extraction Method: Principal Component Analysis.
a When analyzing a covariance matrix, the initial eigenvalues are the same across the raw and rescaled solution.

Component Matrix(a)

	Raw Component 1	Rescaled Component 1
ENB1	.961	.915
ENB2	.536	.672
ENB3	.483	.610

Extraction Method: Principal Component Analysis.
a 1 components extracted.

Rotated Component Matrix(a)

a Only one component was extracted. The solution cannot be rotated.

Reliability

```
****** Method 1 (space saver) will be used for this analysis *****
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
                              Mean        Std Dev       Cases

  1.     ENB1              3.3951         1.0502       286.0
  2.     ENB2              3.8252          .7975       286.0
  3.     ENB3              3.9825          .7923       286.0
                                                     N of
Statistics for       Mean   Variance    Std Dev  Variables
      SCALE       11.2028     4.0640     2.0159          3
Item-total Statistics
               Scale          Scale      Corrected
               Mean         Variance       Item-            Alpha
              if Item        if Item       Total           if Item
              Deleted        Deleted    Correlation        Deleted

ENB1           7.8077         1.6787        .4712           .4943
ENB2           7.3776         2.3201        .4560           .5080
ENB3           7.2203         2.4320        .4064           .5699
Reliability Coefficients

N of Cases =    286.0                    N of Items =  3
Alpha =    .6264
```

Factor Analysis

Communalities

	Initial	Extraction
ENC1	1.000	.667
ENC2	1.000	.742
ENC3	1.000	.570
ENC5	1.000	.708
ENC6	1.000	.754
ENC7	1.000	.637

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %

1	4.078	67.961	67.961	4.078	67.961	67.961
2	.742	12.373	80.334			
3	.478	7.971	88.306			
4	.353	5.878	94.183			
5	.180	3.006	97.189			
6	.169	2.811	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component 1
ENC1	.817
ENC2	.861
ENC3	.755
ENC5	.841
ENC6	.868
ENC7	.798

Extraction Method: Principal Component Analysis.
a 1 components extracted.

Reliability

```
****** Method 1 (space saver) will be used for this analysis ******
  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
                                Mean        Std Dev       Cases
  1.     ENC1                 3.3579         1.0303       285.0
  2.     ENC2                 3.5860         1.0090       285.0
  3.     ENC3                 3.6842          .9957       285.0
  4.     ENC5                 3.4912         1.0734       285.0
  5.     ENC6                 3.4246         1.0903       285.0
  6.     ENC7                 3.4737         1.0894       285.0
                                                        N of
Statistics for       Mean   Variance    Std Dev  Variables
      SCALE       21.0175    26.8553     5.1822          6
Item-total Statistics
               Scale          Scale      Corrected
               Mean         Variance       Item-            Alpha
              if Item        if Item       Total           if Item
              Deleted        Deleted    Correlation        Deleted

ENC1          17.6596        19.2394        .7251           .8902
ENC2          17.4316        18.9293        .7868           .8815
ENC3          17.3333        20.0399        .6533           .9002
ENC5          17.5263        18.6305        .7633           .8845
ENC6          17.5930        18.2281        .7989           .8790
ENC7          17.5439        18.9532        .7080           .8931

Reliability Coefficients

N of Cases =    285.0                    N of Items =  6
Alpha =    .9051
```

Factor Analysis

Communalities

	Initial	Extraction

GOV1	1.000	.785
GOV2	1.000	.890
GOV3	1.000	.852

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.528	84.255	84.255	2.528	84.255	84.255
2	.319	10.617	94.872			
3	.154	5.128	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component 1
GOV1	.886
GOV2	.944
GOV3	.923

Extraction Method: Principal Component Analysis.
a 1 components extracted.

Reliability

```
****** Method 1 (space saver) will be used for this analysis ******

  R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                              Mean        Std Dev       Cases
  1.     GOV1               3.7762          .7984       286.0
  2.     GOV2               3.6678          .8573       286.0
  3.     GOV3               3.6643          .8538       286.0
                                                     N of
Statistics for       Mean   Variance    Std Dev  Variables
      SCALE       11.1084     5.3110     2.3046          3
Item-total Statistics
               Scale          Scale      Corrected
               Mean         Variance       Item-            Alpha
              if Item        if Item       Total           if Item
              Deleted        Deleted    Correlation        Deleted

GOV1           7.3322         2.6928        .7559           .9127
GOV2           7.4406         2.3175        .8653           .8207
GOV3           7.4441         2.4021        .8236           .8574

Reliability Coefficients
N of Cases =    286.0                    N of Items =  3
Alpha =    .9065
```

APPENDIX E
FORMAL SURVEY QUESTIONNAIRE

Dear I-Lan business owner/manager,

This survey is meant to investigate business owners'/managers' perceptions towards nature-based tourism (NBT) development in I-Lan (IL). Nature-based tourism is the tourism activities, which based on natural, ecological landscapes in I-Lan. For examples, variety of industrial culture activities, Green Expo, Onion & Garlic Festival, forest recreational areas, botanical gardens, lakes, rafting, waterfalls, natural trails, hot springs, cold springs, leisure farming, orchards, dolphin & whale watching and bird watching etc. Your valuable response is extremely helpful to this study. The information participants provide will be used by the county government in the future planning efforts. Your participation is greatly appreciated. All of your responses will be kept anonymous. Your identity will remain anonymous.

Joe Yang, Graduate Student, Principal Investigator
Taylor Stein, Ph.D., Supervisor
School of Forest Resources and Conservation, University of Florida

Section 1. Tourism Impacts

In this part, we would like to know your opinion about **nature-based tourism (NBT) development in economic, social/cultural and environmental impacts** in I-Lan (IL).
Please indicate how strongly you agree or disagree with the following statements.

NBT results in ……..	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. Increasing revenues for business					
b. Increasing job opportunities					
c. Increasing wages & fringe benefits					
d. Increasing leisure farms and Bed& Breakfast					
e. Increasing whale-watching businesses					
f. Increasing quality of shops, hotels and restaurants					
g. Increasing more competition in hotel/motel					
h. Increasing quality of life for IL residents					
i. Focusing too much on attracting visitors					
j. Enhancing preservation of ecosystem					
k. Increasing local residents' awareness of importance of maintaining natural amenities					
l. Improving local areas' appearance					
m. Overcrowding					
n. Increasing traffic congestion					
o. Increasing shortage of parking spaces					
p. Increasing environmental decline in sensitive areas					
q. Increasing litter and garbage pollution					
r. Increasing air and noise pollution					
s. Increasing resources waste in advertising and delivery mails					

Section 2. Housing & Land Prices

What is your opinion about housing, land prices and availability of lands in IL?

STATEMENT NBT results in ……	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. Increased rent of houses and lands					
b. Increased in housing and land prices which only happened in tourism development areas					
c. Increased in housing and land prices, which is related to Pei-I freeway					
d. Decreased the availability of land for					

tourism					
Section 3. **Local own/operation business**					
What is your opinion about local own/operation and investment in NBT in IL?					
For IL, I believe **…….**	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. Most tourism businesses are owned and/or operated by local residents					
b. Outsiders and outside investment have positive impact on IL					
c. Tourism profits leaked heavily to outsiders					
d. Most tourism benefits obtained by big companies					
e. Whether the business owned and/or operated by locals is not important, as long as people continue to invest in IL					

Section 4. **Competition/imitation**					
What is your opinion about the impact of other county's tourism competition in IL?					
STATEMENT	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. Brings negative economic impacts for IL					
b Upgrades the quality of tourism in IL					
c. Brings positive economic impacts for IL					
d Results in decline of visitors					
Section 5. **Resource Allocation**					
What is your opinion about resource allocation in IL?					
STATEMENT NBT results in **…….**	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. Used resources mostly in tourism development					
b. Allocating tourism resources unevenly among townships					
c. Increasing social welfare benefits					
d. Narrowing the gap in cities and townships					
e. Widening the gap between the rich and the poor					

Section 6. Visitors' Impact

NBT resulting in visitors' over-concentrated in certain season. Please indicate how strongly you agree or disagree with the following statements.

STATEMENT	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. Visitors over-convergence in specific seasons					
b. Over-using tourism resources in peak seasons					
c. Under-using tourism resources in low seasons					
d. Affecting the balance of revenue, expenses and willingness of investment					
e. Resulting in spatial environment carrying pressure					

Section 7. Community

What are your attitudes about your community?

STATEMENT	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. I am definitely part of IL					
b. What happens in IL is important to me					
d. I have negative feeling for IL area					
e. I am proud of being an IL resident					
f. I have an emotional attachment to the IL area					
g. I prefer hiring IL residents as my employees					
h. I am willing to invest my time and effort to make IL area an even better place					
i. I am willing to participate in community activities or community meetings					
j. I plan to run my business long-term in IL (At least six years from now).					
k. I support NBT in IL					

Section 8. How much do you agree with the following for IL?

STATEMENT NBT results in **……**	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. Increased diversity of cultural activities among different ethnic groups					
b. Improved autonomy in the community					
c. Improved the understanding among different communities & cultures					
d. Improved cultural preservation & enhanced identity					

Section 9. Disruption

What is your opinion about **level of disruption** of residents' daily life in IL?

STATEMENT NBT results in **……**	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. Increasing nightlife activities					
b. Increasing drinking and vandalism					
c. Increasing prostitution					
d. Increasing traffic accidents					
e. Decreasing public safety					

Section 10. Package tour programs

If you participate the package tour programs please **answer** the following. **Otherwise skip to Section 12.**

Participating in package tour programs …….	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. Increased the variety of package tour programs					
b Upgrades the quality of service					
c. Increases customers					
d. Improves competition					
e. Increases sales revenues					
f. Integrates local industries					
g .Increases name-recognition for businesses					

.

Section 11. What percent of your customers come from package tour programs? _____%

Section 12. Involvement

The following questions ask about how involved you are in tourism planning in IL.

STATEMENT	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. County government invites you to participate in tourism planning					
b. County government knows your concerns and issues regarding NBT					
c. County government accepts your opinions					
d. You influence county tourism planning					

Please indicate the title/position you hold (check more than one if necessary)
e. You serve as a…
☐Consultant of local governments/ public sectors ☐County councilman/township representative
☐Representative of Tourism Association ☐Representative of business/industry organization
☐Other_____

Please indicate times and money you spend in the following.

f. How many times have you participated in local government's tourism planning, as a major decision-maker, in the past 12 months?

☐No Time ☐ 1 ~ 5 times ☐ 6 ~ 10 times ☐ 11 ~ 20 times ☐More than 20 times

g. How many times are you willing to participate in local government's tourism planning, as a major decision-maker, over the next 12 months?
☐No Time ☐ 1 ~ 5 times ☐ 6 ~ 10 times ☐ 11 ~ 20 times ☐More than 20 times

h. How many times have you participated in implementing local government's tourism activities, as a tour provider, over the last 12 month?

☐Never participated ☐ 1 ~ 3 times ☐ 4 ~ 6 times ☐More than 6 times

i. How many times have you participated in partaking local government's tourism projects, as a tour provider, over the last 12 month?

☐Never participated ☐ 1 ~ 3 times ☐ 4 ~ 6 times ☐More than 6 times

j. How many times have you participated in local government's tourism activities, as a tourist, over the last 12 months?

☐Never participated ☐ 1 ~ 6 times ☐ 6 ~ 20times ☐More than 20 times

k. How much money have you contributed to local government's tourism planning or activities over the last 12 months? NT$

☐No money ☐ 1 ~ 3000 ☐ 3,000 ~ 10,000 ☐ 10,000 ~ 50,000 ☐ More than 50,000

Section 13 The following questions will help us summarize about I-Lan business owners/managers. The data will remain strictly confidential; you will not be individually identified your answers.
a. What types of business do you own/manage? Please check all that apply.
☐ Gift/grocery store ☐ Supermarket/discount store ☐ Food/restaurant

☐ Taxi, bus ☐ Hotel ☐ Leisure farms
☐ Bed & Breakfast ☐ Advertising designs ☐ Printing
☐ Car /bus, motor rental ☐ Whale-watching tour boater ☐ Travel agency
☐ Farmers' Associations ☐ Savings & Loans ☐ Banks
☐ Other _____

b. What is your gender? ☐ Male ☐ Female
c. How old are you? _____ (Actual age)
d. What is your highest level of education? (Please select only one category)
☐ Elementary ☐ Jr. high school
☐ High school/ vocational school ☐ Jr. college
☐ 4-year college ☐ Graduate degree
☐ Other professional degree
e. Have you lived in IL as a child? ☐Yes ☐No
f. How many years has your organization been operated in I-Lan?
Less than one year _____ ; Years: _____
g. What is the annual sales revenue for your organization? NT$
☐ 0~1,200,000 ☐ 1,200,000~3,000,000
☐ 3,000,000~5,000,000 ☐ 5,000,000~10,000,000
☐ 10,000,000~30,000,000 ☐ 30,000,000~50,000,000
☐ More than 50,000,000
h. What percent do your customers generate from nature-based tourism? _____ %
i. What percent does your annual business revenues generate from nature-based tourism? _____ %
j. In the last five years, have your business revenues increased ☐ or decreased ☐ ? _____ %
k. Any other comments, which you think important impacts of IL NBT?

Thank you for your cooperation!

APPENDIX F
OVERALL TOURISM IMPACTS

Table F-1. Frequency Distribution of Respondents' perceptions of Tourism Impacts

Statement	Strongly Disagree	Disagree	No opinion	Agree	Strongly Agree	Mean	SD
Social/Cultural Benefits							
43. I am definitely part of IL	0	0	3	55	43	4.40	.55
47. I have an emotional attachment to the IL area	0	.3	5	54	41	4.36	.59
44. What happens in IL is important to me	0	1	6	57	36	4.28	.63
52. I support NBT in IL	0	3.1	4.5	55	37	4.26	.69
49. I am willing to invest my time and effort to make IL area an even better place	0	0	11	57	33	4.22	.62
51. I plan to run my business long-term in IL(six years)	0	2	14	51	37	4.15	.72
53. Increased diversity of cultural activities among different ethnic groups	.3	3	5	70	22	4.10	.64
46. I am proud of being an IL resident*	.7	4	12	52	31	4.09	.80
55. Improved the understanding among different communities & cultures	0	1	10	67	22	4.09	.61
56. Improved cultural preservation & enhanced identity	0	4	6	68	22	4.08	.66
54. Improved autonomy in the community	0	4	12	64	20	4.01	.69
48. I prefer hiring IL residents as my employees	.3	5	22	48	25	3.93	.83
50. I am willing to participate in community activities or community meetings	.7	4.5	31	46	18	3.76	.83
8. Increasing quality of life for IL residents	.3	15	21	54	9	3.57	.88
Total						3.80	.69
Cronbach's α = .8957							
Economic Benefits							
64. Increases customers from PTP	0	.7	2	39	17	4.22	.58
62. Increased the variety of package tour programs	0	.7	2	41	16	4.21	.56
68 .Increases name-recognition for businesses	0	.7	4	37	16	4.19	.60
63. Upgrades the quality of service from PTP	0	2	3	37	17	4.17	.66

67. Integrates local industries from PTP	.3	.7	5	38	15	4.13	.65
4. Increasing leisure farms and Bed& Breakfast	.3	3.1	7	62	27	4.12	.70
66. Increases sales revenues from PTP	0	3	6	36	14	4.04	.72
6. Increasing quality of shops, hotels and restaurants	0	7	14	62)	18	3.91	.76
30.Upgrades the quality of tourism in IL	.3	6	10	75	9	3.86	.66
1. Increasing revenues for business	1	9	7	71	12	3.83	.79
5. Increasing whale-watching businesses	0	5	20	65	11	3.81	.68
65. Improves competition	1	8	9	30)	10	3.70	.97
25. Outsiders and outside investment have positive impact on IL	1	13	21	54	11	3.59	.90
2. Increasing job opportunities	2	18	13	59	9	3.55	.95
24. Most tourism businesses are owned and/or operated by local residents	1	20	18	54	11	3.47	.94
31. Brings positive economic impacts for IL	1	19	22	53	6	3.43	.90
36. Narrowing the gap in cities and townships	.3	25	23	48	4	3.31	.90
28. Whether the business owned and/or operated by locals is not important, as long as people continue to invest in IL	7	24	22	41	6	3.14	1.08
3. Increasing wages & fringe benefits	2	28	26	40	4	3.14	.96
35. Increasing social welfare benefits	5	32	29	33	1	2.93	.95
Total						3.74	.79
Cronbach's α = .8216							
Environmental Benefits							
12. Improving local areas' appearance	.7	6	10	61	22	3.98	.79
11.Increasing local residents' awareness of importance of maintaining natural amenities	0	10	12	64	14	3.83	.80
10. Enhancing preservation of ecosystem	3	22	18	46	11	3.40	1.05
Total						3.73	.88
Cronbach's α = .6264							
Economic Costs							
22. Increased in housing and land prices, which is related to Pei-I freeway	1	2	5	57	35	4.23	.73
38. Visitors over-convergence in specific seasons	3	8	7	56	28	4.05	.83
21. Increased in housing and land prices which only happened in tourism development areas	1	6	11	64	18	3.91	.79
41. Affecting the balance of revenue, expenses and willingness of investment	1	9	19	58	13	3.72	.85

20. Increased rent of houses and lands	1	12	16	59	12	3.69	.86
40. Under-using tourism resources in low seasons	1	14	19	54	12	3.61	.91
34. Allocating tourism resources unevenly among townships	2	6	31	51	9	3.58	.84
23. Decreased the availability of land for tourism *	.3	12	32	45	11	3.55	.85
39. Over-using tourism resources in peak seasons	0	18	21	51	11	3.54	.90
9. Focusing too much on attracting visitors	2	22	26	43	7	3.32	.95
7. Increasing more competition in hotel/motel *	2	27	27	27	31	3.25	1.13
45. I have negative feeling for IL area *	5	22	23	45	5	3.25	1.05
32 Results in decline of visitors *	2	31	20	40	7	3.20	1.02
27. Most tourism benefits obtained by big companies *	1	26	32	33	8	3.19	.96
33. Used resources mostly in tourism development	2	27	25	43	3	3.18	.94
37. Widening the gap between the rich and the poor *	2	30	32	32	6	3.10	.95
29. Brings negative economic impacts for IL *	2	34	23	37	5	3.10	.99
26. Tourism profits leaked heavily to outsiders *	4	24	44	27	1	3.01	.71
Total						3.47	.90
Cronbach's α = .6928							
Environmental Costs							
15. Increasing shortage of parking spaces *	2	14	14	51	18	3.69	1.00
42. Resulting in spatial environment carrying pressure *	.7	11	20	56	13	3.69	.854
14. Increasing traffic congestion *	2	18	13	53	14	3.59	1.01
17. Increasing litter and garbage pollution *	4	21	13	49	14	3.50	1.08
19.Increasing resources waste in advertising and delivery mails *	2	23	18	40	18	3.47	1.09
16.Increasing environmental decline in sensitive areas *	3	20	17	47	13	3.46	1.05
18. Increasing air and noise pollution *	4	22	14	47	13	3.43	1.09
13. Overcrowding *	2	25	20	42	11	3.35	1.03
57. Increasing nightlife activities *	1	27	21	44	6	3.27	.97
59. Increasing prostitution *	3	24	28	38	7	3.23	1.00
Total						3.47	1.02
Cronbach's α = .8204							
Social/Cultural Costs							
60. Increasing traffic accidents *	4	23	19	48	7	3.30	1.03
58. Increasing drinking and vandalism *	4	26	27	38	5	3.16	.98

61. Decreasing public safety *	5	34	24	30	7	3.00	1.06
Total						3.15	1.02
Cronbach's α = .9228							
Overall reliability Cronbach's α = .8542							
* Items reverse coded prior to analysis							

N = 286; Unit: percent

Items coded on 5-point index with 1=Strongly Disagree, 2=Disagree, 3= No opinion, 4= Agree, 5= Strongly Agree

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BIOGRAPHICAL SKETCH

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