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Profiling Taiwanese Ecotourists Using a Self-definition Approach

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Numerous studies have profiled ecotourists but these have been done mainly in the context of North American ecotourists. This study provides one of the few examinations of the rapidly developing Asian ecotourism market in the context of domestic visitation to Taiwan's Taroko National Park. The study uses an innovative self-defined approach to defining an ecotourist. Findings include demographic results, benefits sought, travel motivation, and activities. Comparisons between Taiwanese and North American ecotourists are also made.

Keywords: ecotourism, ecotourists, visitor profiles, nature tourism, Taiwan, national park

Introduction

The growth of ecotourism has been driven by two forces: increasing interest in nature and the natural environment, and growing concern over negative impacts of uncontrolled tourism development. Ecotourism, properly operated and managed, balances both nature conservation and the needs of tourism development. Better understanding the needs and attitudes of ecotourists who travel in protected areas would help develop appropriate management plans and strategies. Such plans and strategies could contribute to establishing positive interactions among resource managers, tour operators, local residents and visitors, encouraging the effective management of protected areas.

Several researchers have profiled North American ecotourists; however, little research has been published on the Asian ecotourism market to understand the characteristics and travel motives of ecotourists in that region, particularly domestic ecotourists, a rapidly growing sector. Taiwan is an example of this situation. Taiwan evolved from a largely agricultural society prior to World War II to one of the world's most prosperous industrial economies today. At the same time, the domestic tourism market in Taiwan has grown. More recently, interest in ecotourism has emerged in Taiwan. This exploratory study strives to develop the profile of the Taiwanese ecotourists including their socio-demographic characteristics, travel motivations, benefits sought, environmental attitudes and on-site experiences by using a unique self-defined approach.

Background

In the past five decades, the people of Taiwan have created an 'economic miracle' bringing prosperity to Taiwanese society. Gross national product per capita has risen from US\$48 in 1952 to US\$13,198 in 1997 (Republic of China Govern-

ment Information Service, 1999; WCMC, 1992). The prosperity has brought higher incomes, shorter working hours, and more leisure time. Consequently, the number of Taiwanese residents participating in recreation activities and domestic travel is growing (Hung, 1995; Lee, 1996; Ou & Hsiao, 1998; Sung, 1996).

The population of Taiwan generally lives in densely populated urban areas, and the combination of a high population density and rising economic activity has resulted in some degradation of the quality of Taiwan's natural environment. In response to the awareness of the need for environmental protection as well as to respond to the growing demand for tourism opportunities, the Taiwanese Government created six national parks, 19 nature reserves, 14 wildlife refuges, and nine national forest natural conservation (preservation) areas, covering 433,861 hectares. Specifically, the six national parks drew 11,495,298 visitors in 1998 (Construction and Planning Administration, 1998; Taiwan Ecotourism Association, 2002).

As in other nations, the management of national parks and protected areas must deal with the conflicting goals of conservation, research, and recreation. In particular, most protected areas have seen attempts by local businesses to create profit-generating activities – usually tourism-based – within these sites. Many of them have introduced new recreation activities with huge impacts on the environment or exploited land without following the regulations of land utilisation (Construction and Planning Administration, 1996). Moreover, a large amount of leisure activity occurs at weekends, resulting in a large number of visitors to a small number of sites in a short period that causes huge pressure on the natural environment (Lee, 1996; Lin, & Dong, 1996; Yushan National Park Headquarter, 1986).

Despite these problems, people in Taiwan are becoming more aware of the importance of conservation and there is growing interest in ecotourism (Tourism Bureau, 1997). Understanding the needs and attitudes of ecotourists is necessary to develop comprehensive ecotourism plans and strategies. Such strategies could contribute to positive interactions among resource managers, tour operators, local residents and visitors, and maintain effective management of protected areas in Taiwan.

The profile of ecotourism in Taiwan has risen sufficiently that, in response to the UN's declaration of 2002 as World Ecotourism Year and APEC (Asia-Pacific Economic Cooperation) Tourism Charter of 2000, the Executive Yuan of Taiwan, the highest administrative organ of the State, declared 2002 as Ecotourism Year in Taiwan (Tourism Bureau, 2002). More than just an empty declaration, the Government invested as much as 30 million Taiwanese dollars (about US\$879,000) in promoting ecotourism in Taiwan (Boyce, 2002; Hsu, 2002; Tourism Bureau, 2002). According to the Ecotourism White Paper published by the Tourism Bureau (Taiwan Ecotourism Association, 2002), the Government has four policy objectives for ecotourism:

- (1) Establish Taiwan as a popular international ecotourism destination.
- (2) Achieve 1% ecotourism market share of inbound tourists by 2005.
- (3) Achieve 20% ecotourism market share of domestic tourists by 2005.
- (4) Establish 50 destinations for ecotourism by 2005.

With these benefits in mind, the purpose of this study was to establish a profile of Taiwanese ecotourists, to understand their travel motivations and benefits sought when they plan their trips, their environmental attitudes and their on-site

experiences. Two objectives are pursued in this study: (1) to profile Taiwanese ecotourists in terms of their demographic characteristics, on-site experience, benefits sought, travel motivations, and environmental attitudes; and to examine the environmental attitudes of Taiwanese ecotourists to assess whether ecotourists have positive attitudes towards environmental protection. The study is based on a survey conducted of visitors to a national park. The questionnaire used in this study was adapted from two studies of Canadian tourists who visited Kenya and Costa Rica (Ballantine, 1991; Fennell, 1990); and one study of Taiwanese tourists who visited Fushan Botanical Garden in north-eastern Taiwan (Ou & Hsiao, 1998). All three studies explored the profile and characteristics of ecotourists including their travel motivations and demographic characteristics such as age, sex, education, and household income.

Ou and Hsiao's work (1998) on environmental attitudes provides a basis for assessing the environmental attitudes of ecotourists. Their scale presents respondents with statements expressing a range of possible attitudes towards the environment with the invitation to the respondent to indicate his or her degree of agreement.

Definitions of Ecotourism and Ecotourist

There is no shortage of definitions of 'ecotourism'. A typical definition is that of the Canadian Market Demand Study (Scace *et al.*, 1992), in which the clients and consultants used the ecotourism definition developed by the Canadian Environmental Advisory Council: 'ecotourism is an enlightening nature travel experience that contributes to the conservation of the ecosystem, while respecting the integrity of host communities'. Ecotourism is often implicitly assumed to be a form of sustainable tourism. It should be acknowledged, though, that not all tourism products that are positioned as 'ecotourism' are truly sustainable. For example, the World Wide Fund for Nature (WWF, 2001) argues that no form of ecotourism is any more sustainable than any other form of tourism because of the frequent use of long-haul commercial air travel by ecotourists. The WWF cites this mode of transportation as being a major contributor to climate change and as consuming disproportionate amounts of fossil fuel. Ideally, though, ecotourism could be sustainable when, through appropriate management and operation, it can be an effective means of satisfying the needs of this tourism market, while at the same time maintaining the integrity of protected areas.

Furthermore, some authors require that any activity deemed to be ecotourism must contribute to the economy of the local host community (Ceballos-Lascurain, 1993). This particular criterion is a source of some inconsistency among definitions. Most ecotourism research has been carried out in developing countries, and attention given to the economic benefits of such travel activities to host countries or to maintain the operation of the national park and protected area system is a common perspective (Ballantine, 1991; Blangy & Wood, 1992; Ceballos-Lascurain, 1993; Fennell, 1990). However, this requirement may not be relevant in developed countries where the economy is based on well-developed industries, such as Taiwan. Taiwan's economy is founded on international trade and technology-intensive industries. The operational budgets of the park system comes from taxes paid by individuals and businesses. Protected areas do not

depend on self-financing nor do local communities have to look to ecotourism as a form of economic development.

For the purposes of this study, ecotourism is conceptually defined as:

a form of tourism taking place in a natural setting, providing environmental education, respecting natural conservation, and maintaining the sustainable management of an integrated environment as its goal.

Ecotourists are conceptually defined as:

anyone travelling with the primary motivation of viewing, enjoying, and experiencing nature in a relatively undisturbed or uncontaminated natural area and undertaking at least one ecotourism experience during their trip can be considered an ecotourist. (Blamey, 1995; Burger *et al.*, 1995)

In this definition, 'ecotourism experience' specifically means participating in any activity that is consistent with the definition of ecotourism.

Understanding travel motivation is critical to understanding tourist behaviour. Travel motivation, in the sense that Fennell (1990) uses the term, refers to experiences or benefits that directly influence the choice of a type of trip or destination. Motivations tend to be transitory or changeable; the motivations that influence a person's decision for one trip may be very different from those motivations that shape the next trip decision.

A related but distinct concept is that of 'attitude'. An attitude is a person's enduring evaluation of people, objects, and ideas (Aronson *et al.*, 1999). Attitudes can influence which motives drive a person; they can also influence how a visitor may behave on-site. For example, consider two visitors to Taroko National Park. One is motivated to visit by a love of nature; the other by the desire to simply enjoy a drink in a scenic setting. The motivation of the first visitor is shaped by that person's attitudes, which include a belief in the value and importance of the natural environment. The second person's motivation is also shaped by attitudes, perhaps the need to periodically escape a congested environment in order to rest and relax. Both persons are engaged in the same generic tourism activity – visiting a national park. However, their specific activities differ because of, first, different motivations and, more fundamentally, different attitudes.

Methods

Although ecotourism is a popular type of travel and has been extensively discussed in recent years, there is no universally accepted operational definition on which to base profiles of ecotourists. This study uses a self-definition tactic for operationally defining ecotourists. In other words, respondents were first asked if they had heard of the concept of 'ecotourism' and, if so, whether they considered themselves to be an ecotourist.

Research setting

Taiwan is located in the middle of a chain of islands in the West Pacific stretching from Japan in the north to the Philippines in the south. It lies off the south-east coast of China and is separated from it by the Taiwan Strait (see Figure 1). Shaped somewhat like a leaf, Taiwan is 394 km long and 144 km wide at its broadest point



Figure 1 The location of Taiwan
 Source: Central Intelligence Agency (2002)

(Republic of China Government Information Service, 1999). At only 35,570 km², the island is about the size of the Netherlands (Reid, 1989). In addition to Taiwan proper, the Penghu (the Pescadores), the islands of Kinmen (Quemoy) and Matsu, Orchid Island, Green Island, and the Tiaoyutai Bank are also administered by the Republic of China Government seated in Taiwan.

The island straddles the Tropic of Cancer and has an oceanic, monsoon climate (Reid, 1989; Republic of China Government Information Service, 1999). There are two distinct seasons: hot (May to October) and cool (November to April) (Reid, 1989). Much of the island is mountainous with significant rainfall and cool temperatures in the mountains even in the summer (Storey, 1994; Storey *et al.*, 1995). Winter snow is common above 3000 metres (Storey, 1994). The mountains consist of five ranges that intercept the humid oceanic air currents resulting in a variety of micro-climates (Chen, 1985). As a result, Taiwan has an extensive and unusual biodiversity including tropical, subtropical, temperate, and sub-arctic

characteristics. This ecological condition stands in marked contrast to many other parts of the earth at the same latitudes that are desert or semi-desert.

Study site

In an effort to ensure that respondents surveyed in this study had a high probability of being ecotourists, the study was set in a location that would offer ecotourism experiences including a relatively undisturbed natural area with native flora, fauna and other natural resources as its attractions (Ou & Hsiao, 1998). The site selected was Taroko National Park, one of the most spectacular natural sites in Taiwan. It was established in 1986 and covers 92,000 hectares. It is located in northeastern Taiwan, facing the Pacific Ocean (see Figure 2). The sheer cliff walls dominating the scenery of the narrow Taroko Gorge are the main attractions. In addition to the Taroko Gorge, several mountains rise above 3000 m and are influenced by the north-east monsoon. Both the monsoon and the mountains cause gradual changes in climate across the landscape. This, plus the great diversity in the landform, results in many breathtaking sunrises, sunset clouds, peaceful snow scenes, and mountain fogs. In addition, Taroko National Park has abundant cultural heritage resources including prehistoric sites and the culture of the Atayal aborigines.

Data collection

A questionnaire was designed to collect information on the travel motivation and benefits sought, the activities, the environmental attitudes, and personal characteristics of Taiwanese tourists to Taroko National Park. Likert scales, multiple choice, and open-ended questions were employed in the questionnaire. The questionnaire consisted of four sections that contained 76 questions. Section A consisted of two sets of questions from the Canadian Tourism Attitude and Motivation Study (CTAMS). CTAMS provides a useful starting point for the development of a questionnaire for this type of study. The statements used in CTAMS have been tested and used in a variety of domestic and international surveys conducted by Tourism Canada since the mid-1980s, and thus lend themselves for application in a cross-cultural study such as this one.

Questions taken from CTAMS included one set related to benefits sought by travellers when considering a trip. Another set of statements from CTAMS related to travel motivations that specifically refer to attractions that draw travellers. Not all statements were used, however; only items fitting the setting of Taroko National Park were chosen from CTAMS (for example, statements related to fine dining or gambling were not included because these activities are not available in Taroko National Park). On the other hand, several items relating specifically to nature or the attributes of Taroko National Park were added in the travel motivation section in order to develop a more precise definition of Taiwanese ecotourist motivations. For each question, the importance scale ranged from 4 'not at all important' to 1 'very important'.

Section B consisted of questions about environmental attitudes. This section was based on one part of the survey by Ou and Hsiao (1998) in Taiwan. Their study profiled characteristics of Taiwanese ecotourists who visited Fushan Botanical Garden in north-eastern Taiwan, including environmental attitudes. Section C of the survey dealt with travellers' on-site experiences of trips to

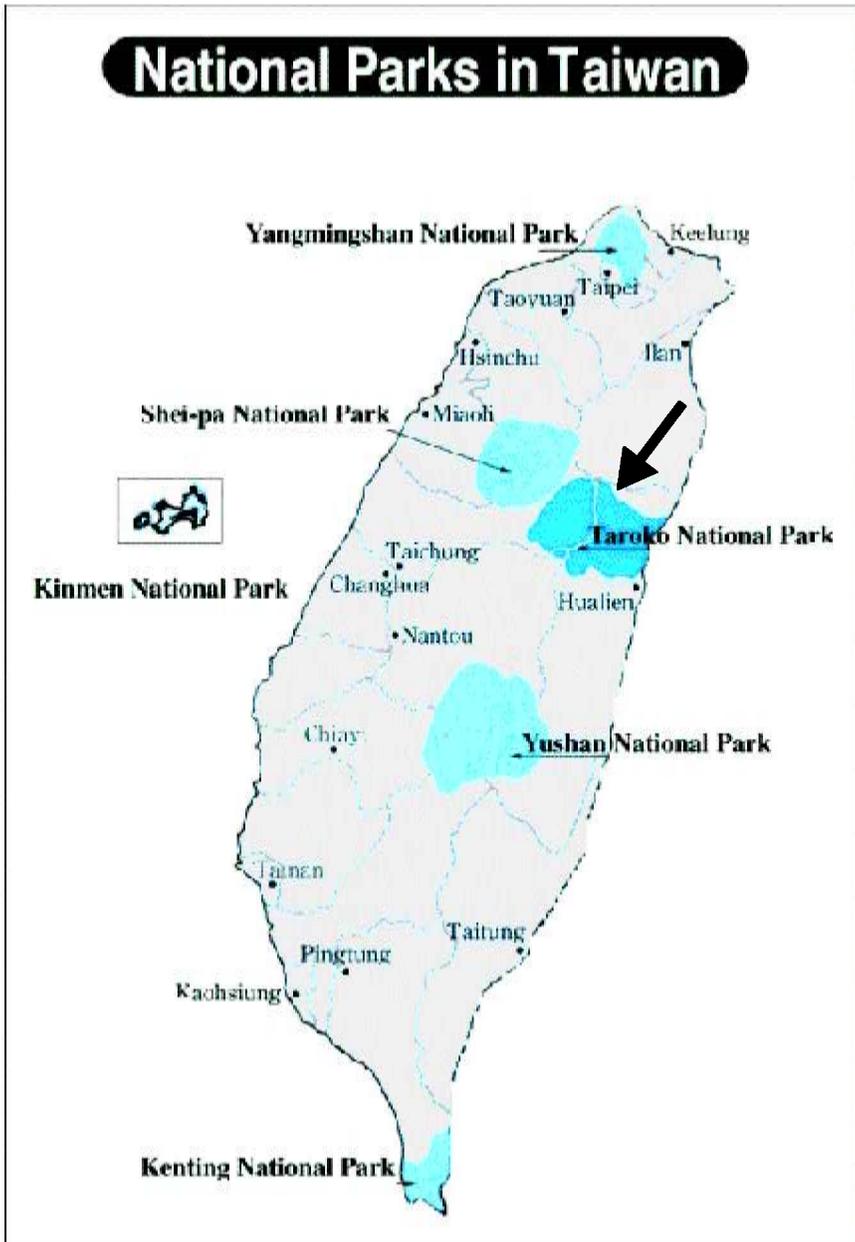


Figure 2 The location of Taroko National Park

Source: *National Parks in Taiwan*, by Taroko National Park – Map, 2001. ©2001 by Taroko National Park. Reprinted with permission of the organization.

Taroko National Park in order to understand the influence of the specific destination. Section D contained questions related to demographic information about respondents. For age, education, and household income, categories were based on the survey of general Taiwanese population from the Directorate General of

Budget Accounting and Statistics Executive Yuan in Taiwan, Republic of China in 1999. The age and education of the sample were compared with the general Taiwanese population.

The sampling frame in this study consisted of visitors, 20 years of age or older, to Taroko National Park from 5–25 July in 1999. The legal age for adults in Taiwan is 20 and it was presumed that a person of that age was aware of his or her aspirations for the trip. A cluster sampling method (based on different areas within the park) was applied and the questionnaire was self-administered on-site. The questions 'Do you think of yourself as an ecotourist?' and 'Why do you think of yourself as an ecotourist?' allowed all respondents to express whether and why they perceived themselves as ecotourists in the interview. These questions enabled the study sample to be separated into 'self-defined ecotourists' and 'non-self-defined ecotourists' (the latter are referred to here as 'general national park visitors'). A series of cross-tabulations, chi-square tests, and *t*-tests were conducted to explore the similarities and dissimilarities between the two subgroups on their travel motivations, benefits sought, activities participated in, environmental attitudes, and socio-demographic characteristics.

The validity of the content and wording of the research instrument to ensure its applicability in Taiwan was addressed in several ways: use of a panel of experts, back-translation, and two different tests. First, a bi-national (Canada and Taiwan) panel of experts on survey design, attitude measurement, ecotourism, and the study population was consulted throughout the questionnaire design phase. The author also consulted seven bilingual professors of geography, environmental education, ecotourism, horticulture, natural resource management, recreation and tourism management, and leisure studies about the questionnaire in order to identify different responses of the items of the questionnaire.

The questionnaire was then translated into Chinese and the Taiwanese members of the panel were also consulted about the clarity and cultural appropriateness of the translated survey contents. A test of the survey was also conducted using members from a university Taiwanese Student Association. After they completed the questionnaires, they were asked to make comments about the clarity, ease of use, and the reasons why they answered in specific ways.

The results of these tests produced in some minor revisions to the Chinese questionnaire. This was then back-translated into English by an independent senior translator working for the Bureau of International Trade in Taipei without having a copy of the original questionnaire. The results of the back-translation confirmed the reliability and accuracy of the English-to-Chinese translation. Next, a field test was conducted in Taroko National Park. A total of 17 questionnaires were distributed to the staff in the Interpretation Division and Tourism Division of the park. Out of this total, 12 were completed and collected (nine from the Interpretation Division and three from the Tourism Division). The park staff who completed the questionnaires confirmed the clarity and applicability of the specific items in the survey instrument. All these precautions produced a meaningful Chinese-language questionnaire.

Results

Data were analysed using SPSS. Frequencies, percentages, and means were calculated for each question/statement to provide a general profile of domestic Taiwanese ecotourists.

A total of 410 questionnaires were distributed to park visitors, of which 404 questionnaires were completed giving a response rate of 98.5%. Of these 404, 70.8% indicated they were familiar with the term 'ecotourism'; 158 respondents of the 404 (39.1%) thought of themselves as ecotourists. The relatively high percentage of respondents who indicated they had heard of ecotourism (more than two out of three) suggests that the respondents could generally answer the question about whether they considered themselves to be an ecotourist at an informed level. Further support for this assumption can be inferred from the fact that none of the respondents indicated any confusion or inability to understand how to reply to the question about whether they considered themselves to be an ecotourist during the survey process.

Demographic profile

The age of self-defined ecotourists ranged from 20 to 70 with a mean age of 33.7 years. This is younger than the general population but older than other visitors to the parks and protected areas in Taiwan (Table 1; Cheng, 1993; Hung, 1995; Kao, 1995; Ou & Hsiao, 1998; Wang, 1995). As Table 1 shows, self-defined ecotourists were mostly male (59.9% male and 40.1% female). The split in the general Taiwanese population is 51.2% males and 48.8% females. This result suggests that males have a higher propensity for recognising themselves as ecotourists than females. Self-defined ecotourists are highly educated, with many more respondents at graduate school level (15.8%) and university level (48.1%) than those in the general population (graduate: 0.9%; university: 7.4%) (Ministry of Interior, Taiwan, 1999).

The majority of self-defined ecotourists (75.4%) earned incomes less than 1,250,000 TWD (Taiwanese dollars) in 1998. In comparison, only 68.8% of the Taiwanese general population had incomes that low in 1997 (Third Bureau, 1999). In sum, self-defined ecotourists are young, male, highly educated, with low to middle incomes. This finding contrasts with North American research that finds ecotourists are generally older and have higher incomes (Ballantine, 1991; Boo, 1990; Eagles & Cascagnette, 1995; Fennell & Smale, 1992; Hvenegaard, 1994). The profile of Taiwanese ecotourists resembles that of university students or recent graduates. Indeed, over a quarter of the respondents were students (26% or 105 respondents), a distinctive quality of Taiwanese ecotourists versus those in North America.

Benefits sought

A *t*-test to compare the means of importance ratings on benefits sought and travel motivations was carried out. As Table 2 shows, the most significant benefits sought by self-defined ecotourists are 'learning about nature' (mean = 1.66; *t* = -3.92) and 'participating in recreation activities' (mean = 1.92; *t* = -3.34) (Table 2). Both benefits were sought at significantly higher levels by the ecotourists than the general visitors. This finding is consistent with the study of Crossley

Table 1 Age, gender, education level, and household income of self-defined ecotourists, non-self-defined ecotourists, and general population by percentage

	<i>Self-defined</i>	<i>Non-self-defined</i>	<i>GP*</i>
<i>Age</i>			
20-29	39.2	46.3	24.6
30-39	28.5	34.6	25.4
40-49	27.8	15.9	21.6
50-59	3.2	2.4	11.6
60 or older	1.3	0.8	16.8
<i>Sex</i>			
Male	59.9	53.7	51.2
Female	40.1	46.3	48.8
<i>Education</i>			
Not completed primary school	0	0.4	8.2
Self-educated	0.6	0	0.8
Completed primary school	0	0.4	18.2
Junior high school	1.3	1.2	25.0
Senior high school	4.4	7.7	8.5
Senior vocational school	8.9	12.6	21.5
College	20.9	24.4	9.5
University	48.1	40.2	7.4
Graduate school [†]	15.8	13.0	0.9
<i>Household Income[‡]</i>			
Less than \$599,999	30.4	25.4	
\$600,000 to 899,999	20.9	23.4	
\$900,000 to 1,249,999	24.1	23.8	
\$1,250,000 to 1,749,999	12.0	16.8	
\$1,750,000 and up	12.7	10.7	

Note:

* GP = The socio-demographic characteristics of the general population of 1998 in Taiwan, The Ministry of Interior, Taiwan (1999).

† Respondents at Taroko with graduate school level includes self-defined ecotourists on master level (13.3%) and doctoral level (2.5%), and non-self-defined ecotourists on master level (11.8%) and doctoral level (1.2%).

‡ The currency unit of the household income is Taiwanese dollar (TWD).

and Lee (1994) in the US that learning and/or experiencing nature was rated significantly higher by ecotourists than by mass tourists. On the other hand, both subgroups expressed similar levels of agreement with the desire to get a

Table 2 The importance ratings of benefits sought and destination attractions between self-defined ecotourists and non-self-defined ecotourists

<i>Statements</i>	<i>Self-Defined</i>		<i>Non Self-Defined</i>		<i>t</i>	<i>p</i>
	<i>Mean</i>	<i>sd</i>	<i>Mean</i>	<i>sd</i>		
<i>Benefits sought</i>						
Significantly different and important to self-defined ecotourists						
Learning about nature	1.66	0.62	1.93	0.74	-3.92	0.000
Participating in recreation activities (e.g. hiking, bird watching)	1.92	0.70	2.17	0.80	-3.34	0.001
<i>Similar importance</i>						
Having fun, being entertained	1.74	0.63	1.86	0.68	-1.78	0.075
Being physically active	1.79	0.69	1.88	0.68	-1.27	0.205
Getting a change from a busy job	1.68	0.64	1.76	0.71	-1.11	0.266
Travelling to places I feel safe and secure	1.87	0.72	1.95	0.76	-1.04	0.297
Being free to act the way I feel	1.69	0.75	1.63	0.69	0.80	0.426
Seeing as much as possible in the time available	1.72	0.72	1.76	0.67	-0.49	0.624
Experiencing new and different lifestyles	1.97	0.71	1.96	0.70	0.07	0.941
<i>Destination Attractions</i>						
Significantly different and important to self-defined ecotourists						
Birds	1.94	0.72	2.38	0.82	-5.64	0.000
Ecological protection areas	1.83	0.73	2.19	0.81	-4.57	0.000
Wilderness/undisturbed areas	1.74	0.71	1.92	0.76	-2.30	0.002
Landform and geologic features	1.54	0.60	1.67	0.63	-2.16	0.031
<i>Similar importance</i>						
Waterfall, water and stone	1.63	0.64	1.68	0.61	-0.75	0.022
Scenic spots on the central cross island highway	1.67	0.72	1.71	0.65	-0.66	0.513
Mountain	1.75	0.69	1.79	0.67	-0.54	0.589
Sea of clouds, snow, or mountain fog	1.76	0.67	1.90	0.75	-1.94	0.053
Lake and streams	1.83	0.69	1.93	0.65	-1.41	0.160

Note: Four-point response format coded from 1 for "very important" to 4 "not at all important".

change from home or work, and to take a trip to be free to act the way they feel. They also sought personal rewards such as seeing as much as possible in the time available, having fun, being entertained, being physically active, and experiencing new and different lifestyles that provide for feelings of mastery and achievement.

Destination attractions

Destination attractions that are significantly more important to self-defined ecotourists can be categorised into two groups: site characteristics and natural attractions (see Table 2). Ecological protection areas (mean = 1.83; $t = -4.57$) were more significant to self-defined ecotourists although they were also strongly attracted by wilderness and/or undisturbed areas (mean = 1.74; $t = -2.30$) and magnificent landform and geological features (mean = 1.54; $t = -2.16$). This implies that self-defined ecotourists were more aware of Taroko National Park as a protected area than general national park visitors. The finding is consistent with several domestic and international studies in North America that the benefits of 'experiencing remote and unspoiled nature' and 'experiencing undisturbed nature' and the destination attraction of 'wilderness and undisturbed areas' were rated significantly higher by ecotourists than mass tourists (Ballantine, 1991; Crossley & Lee, 1994; Eagles, 1992; Fennell, 1990; Kretchman & Eagles, 1990). Birds (mean = 1.94; $t = -5.64$) were ranked as the highest attraction by self-defined ecotourists. It suggests that quite a few bird watchers identify themselves as ecotourists. On the other hand, both subgroups are also strongly drawn by: waterfalls, water and stone, scenic spots on the central cross island highway, mountains, 'sea of clouds', snow, mountain fog, and lakes and streams.

Activity participation

Participation in certain types of activities (considered to be 'ecotourism activities') is often an element in operational definitions of ecotourists. The use of a self-defined approach permits the independent – as opposed to a researcher-specified – identification of activities in which ecotourists engage. Self-defined ecotourists reported significantly higher rates of participation than non-self-defined ecotourists in landform and geological features observation, plant and/or wildlife observation, nature study, bird watching, mountain climbing, and astronomy (see Table 3). These activities are consistent with their self-definition as ecotourists, and offer support for the conceptual definition of ecotourists presented earlier, that is, 'at least one ecotourism experience during trips is a crucial component of defining ecotourists' (Blamey, 1995; Burger *et al.*, 1995).

Environmental attitudes

The observed level of agreement with Ou and Hsiao's (1998) scale assists one's understanding of ecotourists' environmental attitudes. Frequency distribution and mean scores of agreement ratings of environmental attitudes are provided for both subgroups in Table 4. Self-defined ecotourists have slightly stronger pro-environmental attitudes than general national park visitors. Both groups displayed more strongly positive environmental attitude scores for statements addressing environmental issues in general and somewhat less positive scores for statements that referred to specific environmental issues in Taiwan. This suggests that while both groups place a high value on the abstract notion of environmental protection, they are less demanding when confronted with applying those general principles to Taiwanese issues.

Table 3 Significance of difference in activities participation between self-defined ecotourists and non-self-defined ecotourists

<i>Activity participation</i>	<i>Self-defined (%)</i>	<i>Non-self-defined (%)</i>	χ^2	<i>df</i>	<i>p</i>
<i>Significant differences</i>					
Landform and geologic features observation	77.8	58.1	16.632	1	0.000
Plants/Wildlife observation	51.9	35.0	11.364	1	0.001
Nature study	48.7	27.2	19.384	1	0.000
Bird watching	40.5	18.7	23.090	1	0.000
Mountain climbing	34.8	20.3	10.494	1	0.001
Astronomy observation	27.8	18.3	5.114	1	0.024
<i>Non-significant differences</i>					
Sightseeing	85.4	82.5	0.601	1	0.438
Hiking/Walking	82.9	80.9	0.262	1	0.609
Photography	52.5	46.3	1.476	1	0.224
Playing in water, swimming	41.8	43.1	0.068	1	0.794
Hot spring bath	38.0	40.7	0.288	1	0.592
Join different interpretative programmes	36.1	28.0	2.889	1	0.089

Note: % refers to the percentage of respondents indicating participation in activity.

Why do people think of themselves as ecotourists?

Of the 158 respondents (39.1% of all respondents) who think of themselves as ecotourists, 131 offered explanations why they think of themselves as such. The majority of the reasons can be grouped into six general categories, as summarised in Table 5: (1) having a sense of environmental responsibility (60.3% of reasons given; multiple reasons could be given); (2) having a strong interest in learning about nature (53.4%); (3) having a love of nature (35.9%); (4) participating in activities the respondents characterised as 'ecotourism activities' (27.5%); (5) visiting national parks and other natural areas (8.5%), and (6) others (4%) (Table 5).

With respect to the general category of 'environmental responsibility', responses to statements within this category illustrate individuals have varying levels of commitment to be environmentally responsible (ranging from minimising impacts to enhance environmental areas or habitats). With respect to the category, 'learning', again, different statements within this category indicate individuals have varying levels of interest in nature and/or cultural phenomena.

Responses to statements related to 'love of nature' also showed variation. With reference to 'participating in activities', respondents were more likely to mention 'ecotourism activities' such as observing wildlife than 'general outdoor recreational activities' such as walking.

As noted, the most prominent reason given why self-defined ecotourists thought of themselves as ecotourists is their perception that they hold environmentally responsible attitudes. These include being highly concerned about the environment, and understanding the importance of protecting and maintaining

Table 4 Environmental attitude agreement of self-defined and non-self-defined ecotourists

<i>Statement</i>			<i>SD</i>	<i>D</i>	<i>N</i>	<i>A</i>	<i>SA</i>	<i>mean</i>	<i>sd</i>
1.	The supply of natural resources is inexhaustible and will not be used up	S-D	51.3	32.3	2.5	6.3	7.6	1.87	1.21
		N-S-D	47.3	33.9	4.1	9.4	5.3	1.91	1.17
2.	For the sake of improved leisure opportunities, it is good to develop more recreation areas.	S-D	27.4	34.4	17.8	11.5	8.9	2.40	1.25
		N-S-D	18.4	43.4	16.8	12.7	8.6	2.50	1.18
3.	When economic growth is in conflict with environmental conservation, environmental conservation should be given the priority.	S-D	3.2	0.6	6.3	24.7	65.2	1.52	0.89
		N-S-D	2.5	2.0	7.0	38.1	50.4	1.68	0.88
4.	Living space is a severe problem in Taiwan, therefore it is appropriate to convert farmland to build public housing.	S-D	32.7	44.2	13.5	8.3	1.3	2.01	0.96
		N-S-D	27.5	47.0	18.6	4.7	2.1	2.07	0.92
5.	At present, the implementation of environmental conservation in Taiwan is well done.	S-D	38.6	40.5	19.0	1.9	0.0	1.84	0.79
		N-S-D	34.6	46.9	16.9	1.6	0.0	1.86	0.75
6.	Taiwan has limited land and is crowded with people, therefore, it is inappropriate to establish endangered animal sanctuaries.	S-D	43.9	53.5	1.3	1.3	0.0	1.60	0.59
		N-S-D	45.9	45.0	7.0	2.1	0.0	1.65	0.70
7.	Enjoying natural resources is a personal right. It is inappropriate for the Government to make laws to control people's use of natural resources.	S-D	51.0	38.2	7.0	1.3	2.5	1.66	0.87
		N-S-D	41.7	50.0	4.5	2.1	1.7	1.72	0.79
8.	Human beings have the right to satisfy their own needs by altering the natural environment.	S-D	54.1	41.4	3.2	0.6	0.6	1.52	0.66
		N-S-D	56.1	34.8	7.8	0.8	0.4	1.55	0.71
9.	When human beings engage in any leisure and recreational activities, they should avoid disturbing local natural environment.	S-D	1.9	0.6	1.9	19.6	75.9	1.33	0.73
		N-S-D	0.8	0.4	0.4	27.3	71.0	1.33	0.59

Note: Five-point response format from 1 for "strongly disagree" to 5 for "strongly agree" except statement 3 and 9 are from 5 for "strongly disagree" to 1 for "strongly agree".

SD= strongly disagree; D = disagree; N = neutral; A = agree; SA = strongly agree; S-D = self-defined ecotourists; N-S-D = non-self-defined ecotourists.

Table 5 Reasons why people think of themselves as ecotourists

<i>Reasons</i>	<i>n</i>	<i>%</i>
<i>Environmental responsibility</i>		
Expressing environmentally responsible attitudes	38	29.0
Having environmentally responsible behaviour	33	25.2
Helping others to have environmentally responsible behaviour	6	4.6
Requiring little infrastructure and luxurious accommodation; environmental effects of visit are absorbed by existing support system	2	1.5
Total	79	60.3
<i>Learning</i>		
Desire to learn about nature Behaviour leads to learning about nature	32	24.4
Behaviour leads to helping others to learn about nature	18	13.7
Tend to join such a tour that can learn and experience local natural and/or cultural ecosystems, custom, and the dynamic relationship between natural and cultural environments	5	3.8
Behaviour leads to learning and experiencing local natural and/or cultural ecosystems and customs.	6	4.6
Pre-trip preparation and information collection	2	1.5
Stays longer in the destination	5	3.8
Total	2	1.5
70	53.4	
<i>A love of nature</i>		
Likes nature	11	8.4
Enjoying nature	10	7.6
Desire to approach nature	9	6.9
Behaviour leads to approaching nature	2	1.5
Admiring nature	8	6.1
Does not like artificial settings and/or attending these areas (e.g. amusement parks)	7	5.3
Total	47	35.9
<i>Participating in activities</i>		
Participated in ecotourism activities (e.g. wildlife/plants observation, bird-watching, mountain climbing, diving)	28	21.4
Participated in general outdoor recreational activities (e.g., sightseeing, walking)	8	6.1
Total	36	27.5
<i>Location</i>		
Attending natural and protected areas	4	3.1
Attending wilderness and undisturbed areas	4	3.1
Attending natural and scenic areas	3	2.3
Total	11	8.5
<i>Others</i>		
Ownership of outdoor recreation equipment	1	0.8
Likes to go outdoors	1	0.8
Interested in travel	1	0.8
Interested in leisure	1	0.8
Desire to escape to natural areas	1	0.8
Total	5	4.0

the equilibrium of the ecosystem; believing that human beings are part of the biosphere, equal to other creatures, who need to respect and live in harmony with nature; claims that they are conscious of the relationship between nature and human beings; and expressing the hope that the natural flora and fauna currently present in Taiwan will be seen by future generations.

Respondents also cited their environmentally responsible behaviour when travelling. This includes engaging in behaviour that will not interfere with and disturb local natural environments; not dumping garbage, destroying natural settings, or picking plants; taking photographs rather than buying souvenirs; when noticing the alteration of the environment, trying to understand why such alteration exists; criticising unnecessary artificial settings; participating in environmentally friendly recreational activities (e.g. picnicking) rather than prohibited activities (e.g. fishing); actively cleaning up the local environment; conforming to the required protective measures even though that might be inconvenient; and joining conservation clubs. A desire to learn about nature and the love of nature were also popular as explanations why one considered oneself to be an ecotourist.

Conclusions

This study represents a first look at Taiwanese ecotourists. While Taiwanese ecotourists share many of the characteristics found in North American ecotourists – positive attitudes towards environmental protection, an interest in certain types of activities such as wildlife observation, and similar motivations such as the desire to learn more about nature, there are some differences. Most importantly, Taiwanese ecotourists appear to be younger and with lower incomes than the general population. This is attributed to the fact that the stereotypical ecotourist in Taiwan is a male university student or recent graduate. This may reflect the relatively recent emergence of ecotourism in Taiwan as a form of outdoor activity involving both a love of nature, an enlightened (or well-educated) background, and a love of physical activity.

The self-defined method in this research was advantageous in several ways. First, further understanding of the profile of ecotourists was obtained by contrasting the results of a series of statistical analyses with the results of in-depth interviews on the question, 'Why do you think of yourself as an ecotourist?', that encouraged self-defined ecotourists to reflect on their answers rather than quickly checking off closed-ended responses. Second, the reasons for self-definition, shown in Table 5, revealed several significant points:

- (1) Environmentally responsible attitudes and behaviours were the two most important reasons for considering oneself to be an ecotourist. Although many researchers refer to environmental attitudes as part of a conceptual definition of ecotourists, few empirical studies have included a measure of personal attitude towards the environment.
- (2) There were substantial differences among people who espoused positive environmental attitudes. Some indicated they were conscious of behaving in an environmentally appropriate way while they travel, but did not urge others to act the same way. Others, though, not only expect appropriate behaviours of themselves and their travelling companions, they readily urged strangers to act in environmentally appropriate ways.

- (3) The three most important reasons were personally intrinsic in the sense that they refer read to attitudes or interests. The attempt by an analyst to apply the label, 'ecotourist' to a person solely or primarily on the basis of observed activities could lead to an incorrect identification of someone as an ecotourist.
- (4) The range of reasons cited and the fact that many visitors provided multiple reasons for considering themselves to be ecotourists highlights the multifaceted nature of being an ecotourist. Attitudes, interest, behaviours all intermingle as part of one's self-awareness of being an ecotourist.

Despite the differences noted, there are several similarities between Taiwanese and North American ecotourists. Many benefits sought, travel motivations, activities participated in, and positive environmental attitudes are common to both groups. This suggests that these criteria are central to the nature of ecotourists. Considering the importance that environmental attitudes have in characterising self-defined ecotourists, further examination of environmental attitudes could be beneficial. In particular, more attention might be given to a more detailed analysis of attitudes related to engaging in environmentally responsible behaviour and encouraging others to engage in similar ways.

In addition, this study finds a consistent pattern between benefits sought and activities engaged in by ecotourists. Such relationships presumably might extend to a connection between environmental attitudes and tourism behaviour. The information about ecotourists' environmental attitudes provided by this study could be used as a basis for future research that not only explores the environmental attitudes of respondents but also examines the connection between these attitudes and their tourism activities.

The information provided by this study expands the range and the different aspects of studying ecotourists. In recent years, Taiwan has started developing the concept and practice of ecotourism. The information found in this research may be useful in developing promotional activities by the tourism industry, government agencies, park managers, local conservation organisations, international foundations, and conservation groups to promote ecotourism. For example, tourism private enterprises, due to their 'market-led' rather than 'product-based' approach, tend to emphasise ecological resource attractions, and not include conservation concepts and educational activities in their itineraries, or contribute to maintaining the natural and cultural resources of destinations on which their so-called ecotourism depends. By further understanding the characteristics of their target market (such as why do people travel to particular locations, and what are the attractions they look for in a destination), tourism enterprises might be more motivated to work jointly with protected area managers to pool skills to develop tourist products that are environmentally, socially and economically sustainable. They should, for example, identify the most interesting features, facilities and services that will be attractive to tourists and the means of targeting appropriate markets (FNNPE, 1993).

This study suggested that there is an increasing environmental awareness among Taiwanese park visitors. It is hoped that such awareness of social and environmental

issues can expand in the future to government policy towards the tourism industry and to giving financial support for local environmental conservation in Taiwan.

Finally, as with many exploratory studies, this project has raised more questions than it has answered. These include:

- (1) Would the profiles of domestic Taiwanese ecotourists found at settings other than Taroko National Park resemble or be different from those in this report? For example, would visitors to a marine-based park with a coral coast, sand beaches, lagoons and so on, have the same profiles as visitors to Taroko National Park? It is certain that many activities would differ because of the differences in the natural environment, but would demographic, benefits sought, and environmental attitudes differ?
- (2) If the core profile (other than activities undertaken) is reliable, is the profile changing over time? Experience in the evolution of ecotourist profiles in other countries may give some hints about possible changes to anticipate, if any, in Taiwan.
- (3) The concept of engaging in an 'ecotourism experience' is part of this project's operational definition of an ecotourist; the operational definition of 'ecotourism experience' in the report was self-reported participation in any of a series of predetermined activities. However, an ecotourism experience might actually be better measured using more sophisticated criteria, possibly including clusters of related activities, measures of environmental quality, visitor satisfaction, and measures of the duration or psychological involvement in the activity.
- (4) This study found that self-defined ecotourists express more strongly pro-environment attitudes when measured using generic statements. Statements related to more specific or salient situations tied to Taiwan elicited softer support. Better understanding of the reasons for this divergence in attitudes might yield useful insights into gauging the depth of public support for environmental policies in Taiwan.
- (5) A related research task is that of empirically testing whether the self-defined ecotourists actually engage in environmentally appropriate behaviours to the degree they report (the difficulty of undertaking this task is acknowledged).
- (6) More generally, research is needed on identifying and monitoring the environmental impacts specifically associated with ecotourists in order to ensure that ecotourism sites are sustainably managed.
- (7) This project invited those respondents who considered themselves to be ecotourists to explain why. Asking those who did not describe themselves as ecotourists why they declined to characterise themselves as ecotourists might have yielded additional insights. It should be noted that declining to characterise oneself as an ecotourist is probably not the same as characterising oneself as a 'non-ecotourist'. Probing the self-assessment characteristics of respondents who did not classify themselves as ecotourists might yield some useful, perhaps even unexpected, insights.

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