Cultural Landscape of Tourism Perceptions by Multidimensional Scaling on Wulai Aboriginal Community, Taiwan

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ABSTRACT

Tourism plays an important role in the development of aboriginal towns in Taiwan, and the goal of this study is to explore the impact of tourism on the residents of Wulai, Taipei County, an aboriginal town which for a long time has tourism as its main activity, and the meaning of the changes in their living environment and clashes caused by tourism development on their cultural landscapes.

The researchers first interviewed the local people to understand the preliminary perceptions of the residents on the changes of their own living environment, next used the skill of Perceived Projective Mapping to confirm the authenticity of local cultural sight photos, and then classified these photos through Multiple Sorting Method and Q-sort Method. The quantitative and categorical data were obtained from multiple sorting, plus multidimensional scaling and cluster analysis, to summarize the residents’ perceptions on their environment. Q-sort, on the other hand, was used to assess whether the situations in these photos were suitable or not for local development, and also gave the photos a sequence and categorization through their characteristics.

With multidimensional scaling analysis, six significant types of cultural landscape groups were found: (1) Industrial production landscapes, (2) public and social landscapes, (3) tourism-affected landscapes, (4) traditional sightseeing landscapes, (5) aboriginal life landscapes, and (6) recreational facilities landscapes. Different perceptions of such landscapes were also based on the three axles: (a) suitability of development, (b) artificial and natural environments, and (c) traditional sightseeing and tourism impacts. In-depth interviews of Wulai residents also played an important role in the classifications. In this study, both quantitative and qualitative research were carried out and used to summarize and analyze local residents’ perceptions on their cultural landscapes and the development of their local environmental perceptions. In the past, traditional sightseeing activities not only increased work opportunities, but also helped the Taiwanese people understand the indigenous culture; it was also a way to respond to the development of local tourism and the social environment through social organizations and groups. Therefore, the development of tourism in aboriginal towns must still be planned with the residents’ environmental perceptions and the significance of their cultural landscapes in mind in order to lead a bottom-up approach to drive forward the sustainable development of the aboriginal communities.

Keywords: aboriginal community, environmental perceptions, the cultural landscapes, multidimensional scaling
INTRODUCTION

The impact of tourism can mainly be classified into three categories: economic, environmental, and social culture (Matheison & Wall, 1982). After the 1980s, due to the rise of environmental awareness and a sense of community, more and more researches were conducted to explore the impact of tourism and culture shock on the local environment (Hall, 1992; Ou, 1998; Liu & Wang, 1998; Delamere, et al., 2001; Wu, 2003). Such foreign capital interventions and economic developments led by outsiders, though bringing benefits to the local economy and also helping to improve the living quality and identity of the residents, may interrupt residents’ everyday lives, and even affect their community and their lifestyle (Allen, Long, Perdue & Kieselbach, 1988; Getz, 1994).

The development of Taiwan aboriginal tourism has gone through a process similar to the other countries: it helped the aboriginal towns to bloom economically, and provided them the opportunity for development. Therefore, the analysis of the economic benefits of the development of tourism has become the focus of many academic researches and empirical analyses (Lankford & Howard, 1994; Chen, 2003; Wu, 2003; Liau et al., 2006). Aboriginal tourism, in addition to bringing about positive effects such as the cultural revitalization of tribes and the awakening of aboriginal ethnic consciousness (Altman, 1989; Guo, 1998; Song, 2002; Chuan, 2001; Tsartas, 1992; Zeppel, 1998a; Berghe & Ochoa, 2000), also produced many different cultural conflicts—tribal rituals, songs and dance have become a kind of cultural commodification (Zeppel, 1998b); aboriginal art has become mass-produced and imitated; natural resources have been destroyed, and environmental and social issues of problems of law and order have arisen, not to mention a variety of pollutions (Guo, 1998). The spatial and cultural landscapes of aboriginal towns have been drastically changed and highly affected the original social relations and social identity values.

Study Background

The venue, that has changed as a result of tourism in the long term and is the site where this study is carried out, is the Wulai aboriginal community in New Taipei City. Wulai is a famous tourist scenic spot in Taiwan, with an area of 321 square kilometers, and is the aboriginal sightseeing attraction that is the closest to the metropolitan area in Taiwan.

Since the 1950s Wulai, originally a pristine semi-enclosed aboriginal village became an attraction with its natural resources and indigenous peoples. With the long-term development, it gradually abandoned its previous status as an undeveloped land and became a commercialized tourist area. The local economy has suffered severe restrictions after Wulai became mainly a sightseeing spot, and it is also bound by its status as an important water resource for Taipei. In the 1990s, the government planned a series of hot spring industrial projects as the driving force of economic development, hoping to use ethnic groups as an attraction to create an image of hot spring combined with interaction with local aboriginal residents to cater to the mainstream imagery. But with the crowded Wulai streets and the constructions of large hot spring sites, the degradation of the natural environment and habitat is inevitable, and the changes of architectural styles and cultural patterns are all evidences of how the sightseeing business model is leading to the decline of the landscape quality of the environment (both natural and human). The daily lives of Wulai residents have already become part of the tourism industry. When there are countless tourists for this tourist attraction, the local residents face the dilemma of choosing between the accelerating step to stop the degradation of the development of their home and the returning to their original state of living.
Issues regarding the impact of aboriginal tourism have been discussed vastly, but the voices of the aborigines themselves are often ignored (Ryan & Huyton, 2002); from the perspective of sustainable development, for tourism to help maintain the local development, the local residents must have a common willingness to participate (Haywood, 1988; Murphy, 1985; Perdue, Long and Allen, 1990; Wilson et al., 2001; Briedenhann & Wickens, 2004). The residents are the ones who can really understand the true needs of their home. From these cultural landscapes shaped by the development of tourism, we can deduce the formation of environmental, social, ethnic, cultural and local environmental perceptions of the residents. In other words, the voices of the residents must be heard, and we must regard the perceptions and attitudes of the residents towards the local cultural landscape as a very important issue.

Study Purpose

The aim of this study is to explore how residents of Wulai perceive their cultural landscapes with respect to the suitability of the environmental and social changes that have resulted from tourism development. This study also seeks to use analyses and inductions from the meaning of the local "cultural landscape" as a methodology for this purpose. Specifically, this research attempts to address the following questions:

1. What settings and associated environmental features and changes manifest in these settings, and what do residents consider suitable and unsuitable for their community?
2. What is the degree and criteria of perceived suitability of these settings and the changes they manifest?
3. What is the underlying structure of perceptions of these settings and associated changes?
4. How does the methodology perform in terms of identifying, evaluating and classifying perceptions of environmental and social changes, and associated impacts from the perspective of local residents?

With the above objectives, this paper aims to understand the residents’ environmental perceptions and development attitudes under the development of tourism, so as to provide a basis for explaining how to re-construct a new local meaning for the aboriginal areas in the process of the development of the tourism industry.

METHODOLOGY

In the research, photos representative of residents’ perceptions of their environments and their projections of cultural landscapes are gathered first as the tools of the study; then, they were used to analyze the different types of cultural landscapes and their respective semantic meanings. In other words, this research was divided into two stages: the first stage was to investigate the Wulai residents’ projection of environmental perceptions of cultural landscapes, and the second one was to use multiple sorting and Q-sort to choose, categorize and evaluate photos of Wulai.

Projective Mapping and Photo Stimuli

Projective mapping (Zeisel, 1981; Palmer, 1983; Green, 2000; Green, 2005) was used to identify a range of environmental settings for use as stimuli in the photo sorting exercises, including natural and social settings. Six local residents of Wulai were selected to participate, and the snowball sampling method was used: the six residents were asked to invite other respondents willing to participate in this study to join in. In sum, 24 residents participated in this survey. Among them were 17 who had nothing to do with the tourism industry and 7 with experience in the tourism industry. Each took about half an hour to complete the survey. Due to how photos are convenient and highly credible (Daniel & Boster, 1976),
Beilin has used “photo interviews” as a method to do research in the rural areas in the mountains of southeastern Australia. He asked local participants to view and give a narrative interpretation of the features of the meanings of local landscapes, and also give the reasons for the changes that happened. Through the photo images, the participants were able to grasp the value of their lives and work patterns in depth (Beilin, 2005). In the end these environmental landscapes were presented in the form of 72 colored photos, and this paper aimed to use landscape photos as a representative of the cultural landscape perception.

Photographic Sorting Interviews

According to the design of the study, the photos were classified into different types. Other academic studies divided them according to two ways: Open Sorting and Closed Sorting (Boulton, 2007; Maurer & Warfel, 2004; Morville & Rosenfeld, 2006). Nowadays, in research of landscape development, an important research trend is to analyze the basic elements of landscape structure in both the generalized and the integrated ways (Brown, 2007). In order to allow these classification procedures and results to be more effective as evidence, the law of operation on documents was employed (Real & Sabucedo, 2000; Scott & Canter, 1997), and the types of landscapes based on methods of Open Sorting: multiple and Q-sort were analyzed.

The stimuli photographs were used in both multiple sorting (Groat, 1982; Weller & Romney, 1988; Scott & Canter, 1997; Bimler & Kirkland, 1998; Real & Sabucedo, 2000) and Q-sort (Pitt & Zube, 1979; Palmer, 1983; Green, 2000) photographic sorting techniques were used to collect data with respect to how the respondents perceptually categorized, described and evaluated the depicted settings. The quantitative and categorized data obtained from multiple sorting was then sorted according to multidimensional scaling and cluster analysis of environmental perception. The Q method, then, was used to employ the criteria of suitability of the development for the place to assess the sequence of the photos and the features of each photo Group, and also draw out the true subjective thoughts hidden inside the minds of the subjects by using the implicit meanings of the differences or similarities between the photo groups (Exel & Graaf, 2005). The period of the study was from January to May 2012, and it was conducted in the Wulai activity center and the visitor center. The accumulated number of subjects was 304 people.

RESULTS

Through the multidimensional scaling, 2-5 dimensions and stress values were produced, and further the study used RSQ to understand how suitably each mode data matrix was associated with each other. Three of these dimension solutions were chosen based on the Kruskal theory, because they had very good stress values (0.024) and high RSQ values (0.997).

With multidimensional scaling analysis and cluster analysis, six group types were produced: industrial production landscapes, public and social landscapes, tourism-affected landscapes, traditional sightseeing landscapes, aboriginal life landscapes, and recreation facilities landscapes. These three analysis results were used as a basis for neighboring groups, using suitable - not suitable for the horizontal axis, and the rest of the three dimensions were artificial - natural and traditional tourism – impact of tourism (as shown in Figure 1 and Figure 2 below).
Fig 1: MDS stimulus configuration with neighborhood groupings. Dimension 1: “not suitable — suitable” (horizontal left to right) and Dimension 2: “natural — artificial” (vertical bottom to top).

Fig 2: MDS stimulus configuration with neighborhood groupings. Dimension 1: “not suitable — suitable” (horizontal left to right) and Dimensions 3: “traditional tourism — impact of tourism” (vertical bottom to top).
DISCUSSION

In the classification of the six categories of perceptions of environmental landscapes through Q method, “tourism-affected landscapes” and “recreation facilities landscapes” were evaluated as the ones least beneficial for local development. For example, the parking along the streets and traffic jam were evaluated as the landscapes that were the least beneficial for local development (M = 6.51, M = 6.24; SD = 0.80, SD = 0.72). On the other hand, “aboriginal life landscapes” and “traditional sightseeing landscapes” were evaluated as often seen in the daily life of residents, and the most suitable for local culture and tourism development. For example, the Nanshih Creek and harvest festivals were rated as beneficial for the development of Wulai (M = 1.86; SD = 0.95, SD = 0.68). Multidimensional scaling analysis results were used to understand through in-depth interviews the individual differences of local residents’ views on the environmental and social impact of tourism.

Group 1 (Industrial production landscapes): The representatives of this group are Wulai’s local industries: agriculture, aquaculture and forestry landscapes. They include mushroom shops (on the Old Street or in Fushan Village), trout farming, bamboo forests, organic vegetable gardens, Cheliaoping settlements, and Tuntou hills. The residents believed that these cultural landscapes were the most basic industries for their aboriginal environment and part of the industry in their lands was contributed by tourism and catering (as in providing food for the tourists). In-depth interviews of environmental perception showed that such cultural landscapes had important life and sociocultural implications, and could be used as a way to express the local traditional productions and the way of life in Wulai’s past.

Group 2 (Public and social landscapes): This group is focused on the cultural landscapes of the residents’ social organizations, daily life and public relations. They include the Wulai Church, sports fields, the Women’s Club, the activity center, church, post office, Farmers’ Association, Town Office, hydroelectric Plant, Takasago Monument, Myoshinji Temple, Baoping Palace, Xindian Bus Terminal, Yingyi Chianjubei Monument, health center and community care center. These cultural landscapes inform us about the Wulai residents’ daily life and public spaces of social relationship, and organizations such as churches and associations were evaluated as appropriate and beneficial for the local development of environment perception. Respondents in this group believed that Wulai isn’t a big political subdivision to begin with, and friendly relations with fellow townspeople were a must. They understand the importance of having a space for public social relations, for such places are not just for meeting people, but also represent identity and belonging. Through participation and vocal opinions, the residents are able to respond to the invasion of foreign capitals. Therefore, these landscapes were evaluated as suitable for local development (M = 3.96; SD = 0.85).

Group 3 (Tourism-affected landscapes): This group clearly stood for the environmental, social and cultural impact of tourism, and was evaluated as the least beneficial kind of landscape (M = 5.75; SD = 0.78). Landscapes in this group include Wulai Street (Sausages Street), messy pipelines, new construction works, traffic jams, parking all over the street, signs scattered everywhere, restaurant of mountain products, Chunqiu Wulai Park, strange entrance images, strange tribal totems, and waiting taxis. When holidays or winters approach, Wulai becomes a place for tourists to have fun and enjoy hot spring and leisure attractions, which always brings messiness and traffic congestions. These situations represent the problems spawned by the tourism industry. The majority of respondents said that it is a necessary evil brought by the development of tourism, mainly due to such centralized and commercialized activities of the tourism industry. Wulai was forced to transform from a quiet and rustic town into a back garden for tourism and leisure, infested with traffic problems and littering.
Group 4 (Traditional sightseeing landscapes): Photos of this Group reflected traditional aboriginal culture and eco-tourism activities, and they were evaluated as an appropriate cultural landscape characteristic (M = 3.72; SD = 0.95). This group includes trolleys, thermal hot springs, Yunhsien Park (cable cars), Tuoluoge, Chief’s cultural dance theater, Naluwan Plaza, Wulai Hotel, Wulai Trolley Museum, the entrance of Zhongzhi village, entrance image of the Atayal tribal totem, Wulai weaving Association, Qingliu garden, drunken stair classes, and the Bed & Breakfast Art Village. This group, like groups 3 and 6, offer the locals work and business opportunities, but is at the same time beneficial for maintain culture, history, and the traditions of the aborigines, as well as preserves natural ecological activities. Such positive responses to the development of tourism help us understand the residents’ thoughts on how, in the past, using aboriginal performances and natural, ecological means as the main tourist attractions was a more suitable way to develop local tourism.

Group 5 (Aboriginal life landscapes): This group aimed to reflect the lifestyle of indigenous people in the woodlands, their cultural heritage rituals, and social settlement patterns. They included within Neidong Forest Recreation Area, Wulai Waterfalls, Wulai rhododendrons, Taman Mountain, Shunxian drawbridge, Nanshih River, Hapen Ridge Road, Wulai elementary school and junior high, Fushan elementary school, bitter flower fish, Fushan Village Yaweibona, bamboo rice, Tudigong Temple, tribal classrooms, Bafu Ridge Road, Harvest Festivals, Jiajuliao River Trail, ancestral spirit offerings, and Tonghou River. The residents believed that they represented “joy”, “aboriginal culture” and “tradition.” It was also evaluated as very suitable for the cultural landscape of aborigines (M = 2.75; SD = 0.90).

Group 6 (Recreation facilities landscapes): This group, to residents, was somewhere between the “traditional sightseeing landscapes” group and the “tourism-affected landscapes” group, and was evaluated as “somewhat” unsuitable for the local development (M = 4.65; SD = 1.07). This group includes the Cherry Blossom Road, Lansheng Bridge, Atayal museums, Spa Museum (Huanshan Rd.), B & Bs (at Shalida), Juilong mountain villa, and campsites. They were considered to be artificial facilities to attract foreign tourists by making the features of the towns overly prominent. Although the aborigine residents have not directly become managers of such recreational facilities, these recreational industries have entered Wulai earlier and are therefore more familiar to the Wulai aborigines. They identify themselves with the Wulai residents more and are very willing to hire local residents.

Over the past years of the development of tourism in Wulai, residents’ perception of their environmental cultural landscape is affected by the industry, social relations, tourism, traditional tourism, daily life and recreational facilities. Through the Multidimensional Scaling, this study summarized residents’ perceptions into groups, and analyzed them from three dimensions: “suitable – not suitable”, “artificial – natural”, “traditional tourism – impact of tourism”. The above research results and analysis appeal to us that the Wulai residents have already perceived that the tourism industry has developed in Wulai for such a long term that it has become an indispensable local cultural landscape, but they also believe that the wonderful traditional sightseeing and performances activities are dying because foreign capitals intervene and destroy local natural landscapes. Through correlation analysis by Q sort and MDS coordinate values, the numbers reflect that the traditional landscapes are more suitable to the local development, and they were greatly contrasted with the impact caused by the tourism industry. Through the photos respondents summarize the degree of suitability of the impacts on their cultural landscape and local development, and this quantitative method was used to highlight the residents’ psychological evaluation and classification of their environmental perceptions (Osgood, Suci, & Tannenbaum, 1957).
CONCLUSION

The cultural landscape perception of the development of tourism in Wulai came mainly from environment, social changes, and impacts. Shields (1975) made a broad definition that social impact came from the change of the system and environment, and he also mentioned six general types: alternating and migration, demographic population, social systems, economic impact, community cohesion and the disintegration of lifestyle. The results of this study echoed the majority of the impacts discussed above. One of the dimensions (tourism impact and traditional tourism) showed that residents attributed the social change to modern commercial tourism facilities and foreign investment. For example, Chunchiu Wulai Park (photo 66) is a representative of the invasion of foreign capitals, and the signs scattered everywhere (photo 51) are also a good representative of the obvious impact of cultural landscape perception. Similar impacts of tourism also occurred in other countries (Mansperger, 1995; Welford, Bjarne, & Eligh, 1999; Teye, Sonmez, & Sirakaya, 2002; Tosun, 2002).

The surveyed people for this study were all local residents in Wulai who used hunting, trolleys, Catholicism, and other industrial activities to share the valuable local resources before the development of tourism. Their traditional society was used to gathering and having fun with family members and friends after a day of work, eating together and entertaining each other. Their daily living space conveyed unique emotions, cultures, histories, and spirits. Through the visual aesthetic, personal beliefs, thinking, behaviors and values, they make nature and the environment significant, reflecting the tribe's self-definition and the existence of the relationship between the self and the environment (Antrop, 2005; Brown & Raymond, 2007; Greider & Garkovich, 1994; Rice & Urban, 2006; Terkenli 2002). Now, the aboriginal residents found that such traditional social activities were scarce and impossible to recover on the Wulai Old Street, Huansha Road and the bustling area around it, which are full of commercial activities and tourism industries. Instead, such activities have moved to more remote tribal areas. Many respondents explained that since aborigines are relatively simple, they often sign contracts to sell land after drinking a bit, resulting in the distrust between the aborigines and the Han people. The social impact, that this change in the use of land shows doubtlessly, and affects the community cohesion and lifestyle. It also leads to the collapse of the established local emotions (Brown & Perkins, 1992).

Another social impact is that the local residents have already lost the beautiful river landscape because of the development of tourism. The Nanshi Creek (photo 32) has been destroyed by private plumbing pipelines and constructing engineering activities (photo 37). The taxis docked at the trolley station and the Xindian Terminal (photo 12), looking for guests to take their rides. They caused an impact of the cultural landscape perception for the residents, and also gave a bad impression to some tourists. In the interviews in this study, the changes in river water quality were caused by the projects applied and excessive extraction of water resources. All these reasons were the results of excessive use of land resources.

The excessive commercial tourism activities and the improper use of resources have become the biggest problem for the development of tourism in Wulai and other aboriginal towns. This phenomenon is also seen in McKercher’s (1993) study. The concept of carrying capacity includes physiological and psychological levels, and problems will emerge when the carrying capacity of a place declines, before the social disruptions lessen. All these issues helped to confirm the type of tourism impact (Walter, 1982) mentioned in the study. The psychological carrying capacity will drop due to experiencing an overly-crowded environment, noise, and the disappearing of natural beauty and the sense of security.
This study aimed to become a response to understanding the social impact of the development of tourism to the residents of aboriginal towns, and to see how they perceived the changes of their cultural landscapes. In the result groups, part of the local social and cultural change was brought by tourism and its related development, and they were seen by the residents as negative impacts on the natural environment and the socio-cultural traditions, resulting in the disappearance of the traditional way of life (Chindahporn, 2001). The study employed the multidimensional scaling method to understand the development of tourism, and its impact on cultural landscape perception, and it helped to explain how aboriginal towns couldn’t just switch off the traditional social culture—the intervention of foreign capital did not entirely cause a sudden breakage from the past. Instead, it’s a development process built on the basis of the already existing social network. Through the summarized quantitative analysis and qualitative interviews, the study manifested that methods of studying the impact of tourism on aboriginal town residents’ perceptions really did help plan and design future projects for aboriginal towns, and also when developing a future plan for aboriginal towns, the original natural environment and the traditional cultural tourism types should be maintained in order to draw out a social network pattern that residents actually agree on. On this way, aboriginal tourism can be driven by endogenous forces to sustainable development.

REFERENCES


