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Sustainable Development of China's National Parks in Urban Fringe: A Case Study

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ABSTRACT

While tourism in China is undergoing tremendous growth, China's national parks are facing intensified pressure from the needs of local economic development, the travel and recreational needs of 12 billion people, and the needs to protect the vanishing original environment. From the study of the National Park of Dr. Sun Yat-sen's Mausoleum, one finding is that the local visitors from the neighboring city constitute the largest portion of these parks' overall visitors. One of the most important keys to sustainable development of these national parks is to control the distribution of visitor flow by developing the less famous scenic spots to attract local visitors in order to lessen the pressure of the hot spots. Another key is to coordinate completely with the neighboring municipal government to avoid the negative effects brought by the urban development.

INTRODUCTION

China's tourism industry has developed very fast since an open policy began in the end of 1970s. In 1997 China welcomed more than 57 million tourists from overseas (CNTA 1998). There is no precise statistic for mainland Chinese visitors, but the total quantity was estimated above 300 million in 1997. The World Tourism Organization predicted that China would be the largest tourist destination in the world in 2020 (WTO 1997).

As the main attraction for both Chinese and foreign visitors, China's 119 national parks have played an important role in the development of China's tourism industry. Unlike the National Park Service in United States, the objectives of China's national parks not only include "protecting the biological environment and biodiversity", but also include "developing tourism industry" and "achieving economic benefits and social benefits through development of national parks" (Construction Department of PRC, 1994). The objectives are reasonable for a developing country, but sometimes the
objective of economic gain has overshadowed those related to protection. Consequently, some original biological environment and valuable historical sites have been damaged in some national parks (such as Jiuzhaigou National Park in Sichuan Province).

CONCEPTUAL FRAMEWORK

Tourism is generally thought of as an ideal way to protect the benefits of future generations while supporting the economic development, since the demand of tourism development for original landscape and natural environment satisfies the needs for sustainable development. Sustainable development is recognized as an essential approach to achieving development goals without depleting natural and cultural resources or degrading the environment (McIntyre 1993). Brundtland Commission defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their needs” (World Commission on Environment and Development 1987: 4). In contrast, Butler (1993) defines sustainable development in the context of tourism as:

“...tourism which is developed and maintained in an area (community, environment) in such a manner and at such a scale that it remains viable over an indefinite period and does not degrade or alter the environment (human and physical) in which it exists to such a degree that it prohibits the successful development and well-being of other activities and processes.”

Woodley (1993) argued that “any kind of sustainability must first be based on ecosystems”. He rooted his ideas on the origin of the concept of sustainable development. However, unlike western national parks, some of China’s national parks are the combination of natural beauty and historical sites (especially the national parks neighboring large cities), and some of these parks have been famous for hundreds of years. Their ecosystems have already been transformed into a highly humanized one, and it will make little sense to advocate protecting the ecosystems of these parks.

China has some national parks that are located in the urban fringe of large cities. The concept of Urban Fringe was first recognized by the German geographer Herbert Louis in 1936 and is used to describe “zones of spatial contact between town and country” (Mortimore 1975). It is an area characterized by some degree of rurality, but still increasing under urban encroachment and influence. The nature of fringe can be described as change and transitional (Beesley 1994; Browder, Bohland, and Scarpaci 1995). Along with the city development, the area of urban fringe can move outward and the former urban fringe can be transformed into urban area. The geographic location of urban fringe of national parks brings both many advantages and disadvantages to the existence and development of these national parks. On one hand, proximity to large cities provides a steady flow of tourists. Convenient transportation allows visitors’ rapid access, and the sophisticated infrastructure and tourist facilities provide additional support. On the other hand, the continuous land encroachment of urban expansion brings pollution and noise into these national parks.

It seems that the theory of sustainable development is the solution for many of the problems of these national parks. Unfortunately, most of the discussion regarding
sustainable development focuses on a broad view instead of applying it to a detailed, practical solution. Since China's national parks differ greatly in terms of geographical locations, characteristics of attractions, and management style, the policies of sustainable development that the government enacted have limited practical uses. This article focuses on one specific national park in urban fringe, the National Park of Dr. Sun Yat-sen's Mausoleum, and tries to develop the key solutions using the underlying theory of sustainable development.

BACKGROUND

History of the National Park of Dr. Sun Yat-sen's Mausoleum

The National Park of Dr. Sun Yat-sen's Mausoleum is located on the urban fringe of Nanjing City (Gu, 1995) (Map 1). As the capital of Jiangsu Province, Nanjing is located in the eastern of China, about 200 kilometers west of Shanghai. Nanjing is a famous city with 2,400 years of history. It is reputed as the Capital of Ten Dynasties in China's history.

Dr. Sun Yat-sen's Mausoleum is the most famous attraction in Nanjing, which is named after the famous Chinese revolutionary Dr. Sun Yat-sen, who overthrew the feudalism in China in 1911. In fact this area has been famous since the Dynasty of Three Kingdoms, when Sun Quan, one emperor of three kingdoms, was buried here about 1,700 years ago. In Ming Dynasty (around 1400 AC), the first emperor Zhu Yuanzhang was also buried here. At that time, his tomb was guarded by several legions of soldiers. Long before Dr. Sun's remains was buried here in 1929, this area has already been famous and the whole ecosystem has been transformed into a highly humanized one. At his point, this national park is more like a national historic park in the United States. The forestation of this area mostly came into shape after the burial ceremony in 1929.

Characteristics of Attractions of Dr. Sun Yat-sen's Mausoleum

Three main characteristics of the national park are:

1. High density of scenic spots:
   The national park has an area about 31 km² with more than 200 scenic spots in it. Most scenic spots are all related to each other in terms of historical and culture origins and they aggregate in several small areas in the park.
Map 1: Nanjing City and the National Park of Dr. Sun Yat-sen’s Mausoleum

2. The integration of natural landscape and historical sites:
   The park is located on and around Purple Mountain, in which the highest peak, Wanzhun Peak is about 448.9 m. These historical sites are all surrounded by beautiful landscape. In fact, this characteristic is the general characteristic of most national parks in China. It’s rooted in the Chinese philosophy of “integration of nature and human”, which is reflected in the development of China’s national parks.

3. Most of the dynasties in China’s history have relics in the national park:
   From the Dynasty of Three Kingdoms (220-280 AC), most dynasties have relics in this area. The relics include tombs and mausoleums, scriptures of poems and essays, and memorial pavilions and statues.

Tourism Industry and Management

   From 1993 to 1997, the park welcomed over 26 million visitors from China and overseas. The Administration Bureau of Dr. Sun Yat-sen’s Mausoleum is responsible for management and maintenance of the national park. Both local government and the administration service emphasize on tourism industry development. The main income of the park is from entrance fee, which is about 16RMB (Chinese currency, about 2 USD). Because of the geographical locations, the quantity of tourists in national parks on urban fringe is far greater than other kinds of national parks. In 1997, the overall visitors to the mausoleum exceeded 5,380,000 while Huangshan National Park, another famous national park in China not in urban fringe, only had about 850,000 visitors. Nevertheless, the quantity of visitors of the mausoleum was declining. Many methods have been
implemented to stimulate tourist arrivals. The two main methods were building new scenic spots and holding events to attract more tourists. Most newly built scenic spots and facilities, including the five-star hotel and telpher, attracted few tourists, and some of them accelerated the urbanization process of the national park area. On the contrary, many events held gained great success, including International Plum Blossom Festival and some performance in holidays aimed at Nanjing citizens. Due to the increased price of entrance ticket, the overall income kept increasing even though the visitors’ arrivals had declined.

METHODS

Three approaches were used in order to investigate the development-related problems and characteristics of the national park of Dr. Sun Yat-sen’s Mausoleum. Since this area has been famous since Ming dynasty, the first approach was to study the historical documents and visitors’ records of this area. Another approach involved interviewing employees and heads of the administration bureau regarding the management of the national park, problems they were facing, their opinion about these problems and their proposed resolving methods. The third approach was a large survey aimed at examining the visitors to the park. The survey was administered from 9/3/1997 – 6/28/1998, and was distributed at the gate to the mausoleum and completed by the visitors with the help of assistants. The main contents of the questionnaire included demographic data, visitors’ preference, visitors’ behavior, and degree of satisfaction, suggestions and complaints. In total, 43,753 visitors completed the questionnaire forms, constituting approximately 3% of all the tourists visiting the mausoleum during the investigation period.

ANALYSIS

Characteristics of Visitor Flow and Visitor Behavior

The following characteristics of visitor flow and visitor behavior can be concluded from the investigation:

1. The quantity of visitors to the national parks in urban fringe greatly exceeded the quantity of visitors to non-urban fringe national parks;
2. The quantity of visitors varied greatly in different month in a year (Figure 1);

![Figure 1: Monthly Distribution of Visitors (Average in 1993 – 1997)](image-url)
3. The visitors from neighboring city constituted 28.9% of all the visitors to the national park;
4. In different time in a year, local visitors had different proportion in total visitors;
   For example, in different month in one year, the proportion of local visitors was different (Figure 2). Compared with Figure 1, the proportion of local visitors was high while the total quantity of visitors was low. Through comparing with other types of national parks, one can conclude that the variation of the quantity of visitors of the national parks in urban fringe is comparatively small. It can be concluded that the participation of local visitors reduced the variation of the quantity of visitors across time scale. It's the advantages of these national parks in urban fringe.
5. More local visitors were interested in less famous scenic spots while most remote visitors only visited the most famous scenic spots;

![Graph: Variation of the Proportion of Local Visitors in A Year (Average in 1993 – 1997)](image)

From the survey, the local visitors constituted about 53.0% of visitors to the Filial Tomb of Ming Dynasty (cold spot) while the local visitors to the mausoleum (hot spot) only had a proportion of less than 10.4%.

6. Local visitors were more interested in outdoor recreation activities while remote visitors were more interested in landscape.
   In the period of Plum Blossom Festival in 1998, the local visitors constituted above 78% of all the visitors to the Filial Tomb of Ming Dynasty while in ordinary days the proportion was only about 30%.

7. The local tourists were more price-sensitive, as reflected by the complaints in the questionnaire.
   About 14.5% local tourists complained about the high price of entrance fee, while only 4.9% remote tourists have the same feeling.

Conflicts of Sustainable Development of the National Park and City Development

The conflicts of the national park and the neighboring city can be viewed as the conflicts of the needs of sustainable development of the national park and the needs of urban development. On the one hand, the needs of sustainable development require not
only controlled visitor flow, which should be under the capacity of the national park, but also the original landscape, which is free of any modern construction. On the other hand, in a developing country, the need of urbanization is a necessary phase. The growth of urban population, the expansion of urban area, and the construction of transportation system can not be avoided. The recreational needs of citizens of the neighboring city should also be taken into serious consideration. As a national park in urban fringe, the mausoleum is in the battlefield of these two powers. Many problems have emerged. These include:

1. Noise, pollution, and boundary conflicts due to expansion of Nanjing City

   About two years ago, a highway was constructed along the fringe of the national park, which brought noise and pollution to this area. Another example is the construction of International Conference Hotel, which is just located in the national park, about several hundreds meters to a main scenic spot of the national park. At the beginning of these construction projects, there were heated discussions and evaluations of the environmental impacts to the park, but eventually the needs of economic development overwhelmed others and the evaluations were just biased paper work to serve the ultimate goals of economic development.

2. Unbalanced distribution of visitors in terms of time and space

   In hot seasons (holidays and weekends), the quantity of visitor increased hugely compared with weekdays. Figure 1 shows that the quantity of visitors in spring and fall (hot season) was much more than the quantity of visitors in winter and summer. At the same time, the large quantity of visitor all rushed to several famous spots while in other less famous spots the visitors were rarely seen.

3. The quantity of visitors exceeded the park's social carrying capacity in holidays, especially when events were held, many visitors had unpleasant experience.

4. The conflict of land use

   There are also 11 villages and 90 working units in this area. The operation of some companies and the everyday life of local residents polluted and desecrated the national park.

**STRATEGIES FOR DEVELOPMENT**

From the above analysis, the following sustainable development solutions can be concluded: On one hand, the encroachment of scenic area must be stopped, and the villages and factories in the national park area should be moved out; on the other hand, the needs of neighboring citizens should be satisfied.

In general, the national parks in urban fringe have many advantages, but they are also in the battlefield of the collision of urban and rural area. The conflicts of the needs of urban development and protection of environment and historical sites require the theory and strategy of sustainable development. The strategy of sustainable development of these national parks should focus on the equilibrium of the city and the national park. Especially in a developing country like China, the objective of economic benefits from tourism industry can not be overlooked. The real problem is to find a way to keep a balance between fulfilling the needs of economic development and the needs of protecting the existence of the national park and its environment.

Since the ecosystems of these national parks have already been transformed into a highly humanized one, there will be no need to protecting the ecosystem in terms of
wildlife. The key elements of sustainable development will be to control the visitor flow to lessen the pressure of the hot spot in hot seasons, and to coordinate more completely with municipal government in terms of land use, environment protection and the control of visitors. In brief, the following strategies are proposed:

1. In order to balance the distribution of visitors along the time scale and space scale, the administration agency should develop the less famous scenic spots according to the taste of local visitors and attract more local visitors in hot season to lessen the pressure of the hot spots;

2. Hold more outdoor recreation activities to attract local visitors and satisfy the needs of the neighboring citizens. The outdoor activities include outdoor concert, hiking, camping, festivals with different topics;

3. Change the pricing strategy to attract more local visitors in "cold" seasons to balance the visitor flow. In weekdays or cold winter or hot summer, lower the price of entrance fee to attract more neighboring citizens;

4. Strictly control the land use in and around the national park. Detailed evaluation of the influence of construction project should be carried out before the induction of the project.

In China, the governmental officials have the strongest power in the society and they can impose crucial influence on every aspect of the development of the national parks. The most important step in the implementing process of sustainable strategy is to educate them with the modern concepts and theories of sustainable development. The emphasis is that sustainable development can not be sacrificed in order to reach current economic goals.

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