

# Eco-economic construction and sustainable development of natural scenery cities in China

Yan Fu

Wuling College, Zhangjiajie City, Hunan Province, Zhangjiajie 427000, China

Liu De-mei Yang He-ping

People's Government of Zhangjiajie City, Hunan Province, Zhangjiajie 427000, China

**Abstract**—As a country of rich natural resources, China has many beautiful natural scenery resorts. Due to rapid growth in tourism, cities of various sizes have been formed with the development of these scenery resorts. The rapid growth of these cities, while bringing benefits to local people, also produces some serious problems. In this paper, general introduction is given to the studies of natural scenery cities in China. Types and functions of scenery cities in China are discussed, and their relation to tourism and urban ecosystem is defined. Special attention is given to the local and nationality factors in the construction of these cities. The problems the people are now facing in the construction of the natural scenery cities are analyzed and solutions presented.

**Keywords:** natural scenery cities, eco-economic construction, tourism, national culture.

## 1 Introduction

China is endowed with rich natural tourist resources and boasts of numerous natural scenic spots. During the long time development of these scenic areas, scenery cities of various sizes have been formed. About one fourth of the 300 cities under provincial government are famous for their scenic beauty and one third of the 2183 counties in China have natural tourist resources of comparatively high value for exploitation. With the modernization of China, these cities enjoy rapid growth in size and economy, which has brought many benefits to the local people. However, some serious problems have arisen in the construction process, which poses a serious threat to the sustainable development for these cities. Therefore, the eco-economic construction of these cities should be a priority in their agenda. It is expected that the solutions raised in this paper should shed some light on the studies of the sustainable development of the natural scenery cities in China.

## 2 Natural scenery cities in china: relationship, types and functions

### 2.1 Relationship between natural scenery cities and urban ecosystem

Natural scenery cities can be defined as cities around scenery areas and directly serve the tourism. Some natural scenery cities also include the scenic spots, which have become an integral part of the whole city. Jinan, the City of Spring, and Suzhou, the Garden City, are good examples. These cities play an important part in the tourism economy. They are the material basis for the development of the tourism economy. High priority should be given to their construction in the national eco-economic construction.

### 2.2 Types of natural scenery cities

There are approximately five types of natural scenery cities in China: big-sized scenery cities with long history, such as Hangzhou, Suzhou, Kunming and Jinan, etc.; medium-sized scenery cities with long history, such as Tai'an, Guilin, and Beihai, etc.; small-sized scenery cities with long history, such as Huayin, Er'nei Mountain and Putuo Mountain, etc.; flourishing new scenery cities of medium sizes, such as Zhangjiajie, Huang Mountain, and Zhuhai, etc.;

flourishing new scenery cities of small sizes, such as Jiuzhaigou, Huanglong and so on.

Many large and medium sized natural scenery cities are also the political, economic, and cultural centers of certain provinces and regions. The development of many natural scenery cities with long history are closely related to the development of China's traditional cultures such as taoism and buddhism.

### **2.3 Functions of natural scenery cities**

As far as structure and functions are concerned, natural scenery cities differ from the industrial cities and cities with political, economic and cultural functions in the following ways: (a) The main function of natural scenery cities is to provide a place with good natural environment for sightseeing and recreation, so the natural environment is the main component and the most important part of the city eco-economic system. In the meantime, natural scenery cities serve as the window and medium to people both at home and abroad, contributing to the development of political, economic and cultural activities and exchanges of science and technologies; (b) service industry is predominant in the economic structure of the natural scenery cities; (c) the population flow in the natural scenery cities are generally influenced by the slack and peak seasons of tourism; (d) energy flow in the natural scenery cities are mostly energy with low density used for city life activities; (e) the main commodities of the natural scenery cities are tourist consumer products, and the commodity flow is comparatively low; (f) natural scenery cities are often the convergent points for important information and play an important role in the exchanges of all kinds of information; (g) the capital flow of the natural scenery cities mainly depends on the tourist flow; (h) natural scenery cities of natural reserves contribute a lot to the conservation of bio-diversity.

Therefore, adjustment and optimization of the eco-economic structure of the natural scenery cities and strengthening eco-economic construction are the prerequisites of the sustainable development for both the tourism industry and these natural scenery cities.

### **2.4 Local and national characteristics of eco-economic construction of the scenery cities**

In China, natural scenery cities in different regions have their unique natural tourist resources. The eco-economic construction of these cities should be harmonious with their local natural tourist resources. For instance, such cities as city of mountains and rivers, city of lakes and canals, city of islets and beaches, city of snow mountains can be good examples. The diversity of these natural scenery cities and areas is the basis for the sustainable development of China's tourism.

China is a multi-ethnic country with diverse ethnic cultures which can be seen in its religious beliefs, attire, food, architecture, folklore, music, dances, handicrafts, languages, customs, etc. Ethnic culture is a certain kind of ecological civilization, formed under certain natural and economic conditions over a long period of time. It should be inherited, enriched and shown to the outside world. This is another basis for the sustainable development of China's tourism.

In the course of eco-economic construction of the natural scenery cities, local and national characteristics should be kept and highlighted. The experiences of other cities can be learned, but duplication should be avoided in order to keep the diversity of the scenery cities. A unique position in the world tourism industry can be taken up unless the city has its own characteristics. What is more, both tourism economy and cultural activities are open systems, that is, China should learn from the more advanced cultures brought by the tourists while keeping the local cultures and avoiding the negative influences by the outside cultures.

## **3 Problems and solutions**

With the development of tourism, tourist activities will exert more and more pressure on the

ecological environment of scenic areas and natural scenery cities. At the initial stage, such influences always appear to be negative. The relationship between tourists and local people and their influences on the city and scenic environment will change with different stages of tourism development of a certain area (initial stage—growth stage—maturity stage—saturation stage—upgrading or recession) and the number, composition and activity types of tourists. The ecological protection of the natural scenery cities is a dynamic process, different measures and policies should be implemented at different stages of development.

At present, the following problems are produced in the course of the eco-economic construction of the scenery cities: city expansion; duplicated construction; oversupply of tourist receiving facilities in most cities while such facilities in a few hot scenic areas are far from enough; lack of scientific planning of tourist and other activities; pollution for the sake of economic profits; lack of representative building styles, e. g. with a modern appearance but without local taste and nationality characteristics; occupation of land in the scenic spots by city construction which results in the destruction of the natural beauty; backward production of local tourist products; insufficient sanitation and immunization facilities; insufficient development of human tourist resources; low educational level of the local residents with regard to ecological awareness.

The solutions are presented as follows: (a) Scientific planning should be made and strictly implemented; (b) size of the cities should be strictly controlled; (c) tourist products manufacturing should be encouraged and pollution should be limited or inhibited; (d) buildings should have their distinct local and nationality characteristics and inharmonious buildings in the cities should not be approved for construction; (e) urbanization of the scenic spots should be prevented; (f) education and people's ecological awareness should be improved and enhanced; (g) laws and regulations should be improved and enforced.

#### 4 Cases studies

Since the late 1970s, tourism in China has undergone unprecedented development. Environmental protection measures and renovation work have been taken in existing scenery cities, and measures for building ecological cities with unique features are being explored in numerous new cities.

**Guilin:** Guilin is a world-known city for its picturesque karst peaks and rivers. In the past two years, emphasis has been put on the construction of the city's infrastructure, and the chronic transportation problems have been mostly solved. Meanwhile, city afforestation has been reinforced and public green area per capita has reached 36.1 m<sup>2</sup>. 99% of both banks of Lijiang River is green and its water is quite clean. In 1997, Guilin received 450000 overseas tourists. Four American presidents have been to Guilin and reached the following consensus: Guilin is the most beautiful city in the world.

**Suzhou:** Suzhou, a world cultural heritage, which is well-known for its beautiful rivers and ancient gardens. In order to protect the ancient style of the city during the fast economic development period, the local government moved more than 130 plants out of the city proper and closed 32 factories. Only those factories which will not cause pollution and will serve the tourists have been kept. Meanwhile, 53 resident villages with average area of 50000 m<sup>2</sup> are built around the existing old city. Approximately 2,000 workers in 27 municipal organizations have been moved from the city center. More than 800 ancient alleys and 163 bridges have been renovated and 35 km of the old river has been dredged. In 1997, Suzhou received 10 million tourists from home and abroad, an increase of 100% over 1986.

**Zhangjiajie:** Zhangjiajie has been listed as the world natural heritage. It is famous for its picturesque natural scenic spots, such as karst caverns, river through canyons and beautiful quartz sandstone scenery areas with numerous peaks with an area of 369 km<sup>2</sup>. In the past 15 years, Zhangjiajie has seen a rapidly developing tourism industry. Urban and scenic system has enjoyed rapid development.

The following work is being done for the city eco-economic construction: (a) High standard afforestation is being done around the vast mountain area of this shuttle-shaped city, thus providing abundant fresh air for the city residents. The green area in the city is now more than 20% of the total city area and trees used for afforestation are mainly local strains; (b) the Li River, which runs through the city center, is a typical mountainous river. Its maximum flow during the flood season can exceed 10000 m<sup>3</sup>/s, while its minimum flow volume is only 6 m<sup>3</sup>/s during the dry season. Moreover, the water is muddy during the flood season and the sewage discharged into the river accounts for 1/6 of the total flow of the river during the dry season. Therefore, the construction of the flood-prevention embankment and clean water supply remains the most important problems to be solved with regard to urban water project construction. Work is now being done to achieve these goals; (c) city population is being controlled within 1/20—1/25 the annual capacity of the tourists. In the meantime, educational measures have been taken to raise city residents' ecological awareness; (d) service industry is predominant in the local economy and industries causing pollution are being strictly controlled; (e) Zhangjiajie is a minority-inhabited region and minority people account for 70% of the total local population. Building styles of Tujia, Bai and Miao minorities should be highlighted in the urban buildings and modern highrises should be discouraged. (f) greenfood bases are now being established in the city suburbs to provide grain, edible oil, fruits and vegetable supplies.

The ultimate goal of the local government is to make Zhangjiajie a beautiful ecological city, a garden city of mountains and Rivers. It is expected that it will become an international tourist city in the near future.

## References

- Lu Y L, 1994. Urban ecological development: research and application. Beijing: China Environmental Science Press. 118—132  
Wang R S, 1994. Urban ecological development: research and application. Beijing: China Environmental Science Press. 1—20  
Zheng G G, 1992. Journal of Chinese People's University, 3:46—53