

# An Analysis of Regional Disparity on Tourism Development in Guangdong

Zhang Zheng-sheng

College of Geography

Zhongshan University, China

Zhang Duan-yang

School of Humanities and law

Northeastern University, China

**Abstract:** Guangdong is one of the most developed tourism provinces in China. But the development level varies from city to city. In order to disclose the regional disparity, an index System was established, and the methods of principle component analysis, hierarchical cluster were also used. It revealed that the scale of development and ability of organizing were the major factors of tourism development in Guangdong. Based on regional disparities, 21 cities of Guangdong province were divided into four groups, which were matured, market-styled, destination-styled and undeveloped region. Some suggestions were put forward accordingly.

**Keywords:** Guangdong province; tourism; principle component analysis; hierarchical cluster; regional disparities.

## Introduction

The tourism in Guangdong is not only the major industry of local economy; it also plays a very important role in the tourism economy of China. In 2001, all the index of annual tourist arrivals, domestic tourists, international tourism receipts and total tourism receipts took the first place in the whole country. Total tourism receipts amounted to 126,083 million yuan and international tourism receipts reached \$4,480 million, which weighed 25.2% of that of China<sup>[1]</sup>. In order to meet the challenges of economic globalization and the entering of World Trade Organization of China, a target of national travel plan and great tourism province was put forward in Guangdong. It's important to disclose the regional disparities of tourism development and make development strategy to local conditions to promote regional coordinated development.

## Overview of Tourism Research in Guangdong

Some researches on tourism of Guangdong have been carried out<sup>[3,4,5]</sup>. But the research of regional disparities of tourism in Guangdong is seldom involved. In 1996, Professor Li Jiangfan compared tourism of Guangdong with that of some other provinces and countries, cities within the province were also included. He divided the province into three groups by considering the proportion of tourism increase in local GDP, regions of higher level, which are

mainly in the Pearl River Delta, medium level, which refers to North Guangdong, and lower level, both the west and east part of Guangdong are included [6]. Based on tourism statistics of Guangdong in 2001, using the methods of multiple statistic analysis, we tried to carry out a further study on the problem of regional disparities of tourism development in Guangdong province.

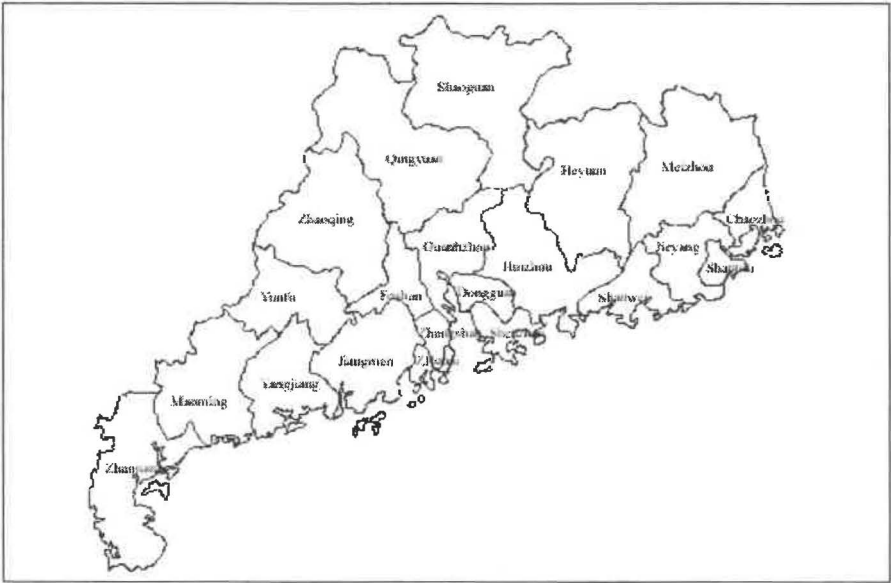


Fig. 1 Regions in Guangdong Province

### Index System

As regional travel activity is synthetic, the index of regional tourism development should also be comprehensive enough to reflect the development status. Using Professor Michael E. Porter's four aspects of competitive advantage as a reference [8] and considering the statistics acquired, we chose 4 species, 15 indexes to build the index system, which include the scale of development, ability of traveling, organizing and receiving.

### Methods of Analysis

Methods of Principle Component and Hierarchical Cluster were used to analysis the level of synthetic tourism development and regional disparities.

### Synthetic Evaluation On Tourism Development

After standardize original data, we calculated with SPSS10.0, extracting components when cumulative sums of Squared Loadings excess 85%.

Tab.1 Index System of the Analysis of Tourism development

Index species	Indexes
Scale of Development	Domestic Tourism Receipts (10 million yuan) $x_1$
	Commodity Income (USD 10000) $x_2$
	Service Income (USD 10000) $x_3$
	Domestic Tourists (Person) $x_4$
	Compatriots from Hongkong, Macao and Taiwan (Person) $x_5$
	Foreigners (Person) $x_6$
Ability of Traveling	Tourists to the mainland (Person) $x_7$
	Tourists to Hongkong and Macao (Person) $x_8$
	Tourists to Abroad (Person) $x_9$
Ability of Organizing	Domestic Travel Agencies (Number) $x_{10}$
	International Travel Agencies (Number) $x_{11}$
	Employees of Travel Agencies (Person) $x_{12}$
Ability of Receiving	Star Class Hotels (Number) $x_{13}$
	Number of Room $x_{14}$
	Number of Bed $x_{15}$

We can see from Tab. 2 that component 1 explained 91.893% of total variance. It extracted most information of original data. The factor load of index  $x_1$ ,  $x_2$ ,  $x_4$ ,  $x_{12}$  and  $x_{10}$  were all over 0.98, which indicates that the scale of development and ability of organizing have greater influence on tourism development of

Tab.2 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.784	91.893	91.893	13.784	91.893	91.893
2	.658	4.389	96.283			
3	.224	1.492	97.774			

Tab.3 RGER Factor Score of Tourism Development

City	Score	Place	City	Score	Place
Guangzhou	3.63598	1	Shanwei	-0.48238	12
Shenzhen	2.05087	2	Heyuan	-0.52176	13
Foshan	0.18905	3	Yangjiang	-0.52192	14
Zhuhai	0.17741	4	Jieyang	-0.55334	15
Shantou	-0.06511	5	Shaoguan	-0.56344	16
Jiangmen	-0.1378	6	Yunfu	-0.58307	17
Dongguan	-0.14458	7	Meizhou	-0.60511	18
Zhongshan	-0.16056	8	Zhanjiang	-0.61911	19
Zhaoqing	-0.26268	9	Maoming	-0.62717	20
Huizhou	-0.29209	10	Qingyuan	-0.63407	21
Chaozhou	-0.37572	11			

Guangdong Province. Domestic tourism is the most important factor. We choose the method of varimax and regression to get factor score of component 1, and get synthetic score of tourism development in each cities.

Tab. 3 reveals that:

- a) Four cities have scores over 0, including Guangzhou, Shenzhen, Foshan and zhuhai. This indicates the tourisms of these cities are much developed than other cities in Guangdong province. They are all located in the Pearl River Delta.
- b) The scores of seventeen cities are less than 0, five from the Pearl River Delta, including Jiangmen, Dongguan, Zhongshan, huizhou and Zhaoqing. The tourisms of these cities are below average level of the province. The tourism development of Guangdong has a characteristic of uneven.
- c) If we calculate the average, the score of Pearl River Delta is 0.5617, East Guangdong -0.3590, North Guangdong -0.4426, West Guangdong -0.4688. The most developed part of Guangdong is the Pearl River Delta, East Guangdong next. The disparity of North Guangdong and West Guangdong is quite little, which are all undeveloped.

### **Regional Styles of Tourism Development in Guangdong**

Then we chose Euclidean distance to standardize original data, and merged the samples by between-groups linkage. After some adjustment according to original data, we classified 21 cities of Guangdong province into 4 different groups as follow.

#### **Matured Regions**

Four cities of Guangzhou, Shenzhen, Zhuhai and Foshan are included. The tourism of these regions is comparatively developed. They not only can attract large numbers of tourists from both domestic and abroad, but also have a lot of tourism receipts and strong ability of traveling. In 2001, they received 57.6% of tourists staying overnight, and had 72.6% of tourism receipts and 66.3% of outbound tourists. The number of tourists staying overnight received in Guangzhou amounted to 25.12 million, which weighed 29.6%, and tourism receipts was 45,525 million yuan, weighed 36.0%. Tourists outgoing took 25.0% of local residence in Zhuhai, 19.4% in Guangzhou and 18.3% in Shenzhen. They have also abundant tourism infrastructure of high quality, many travel agencies and employees. From long term, they should present ingenious tourism products, improve service quality; develop international tourism market to realize sustainable development.

#### **Market Styled Regions**

These regions include Zhongshan, Jiangmen, Shantou and Dongguan. Their tourism development level is not as high as the matured regions. But as the economy of these regions is relatively developed and with a lot of affiliations overseas, the volume of tourism development and infrastructure attain a certain degree, and the ability of travel is especially strong. In 2001, they occupied 17.3% of total tourists staying overnight with 12.6% of tourism receipts and 22.7% of outbound tourists. The rate of outbound tourists was 17.8% in Zhongshan, higher than that of Foshan. Tourists staying overnight received in Jiangmen amounted to 5.45 million, only next to Guangzhou and Shenzhen. There are 6 5-star rated hotels in Dongguan, less than Shenzhen. In order to acquire reasonable development, the chief task is to develop enough tourism products to attract more tourists, making good use of advantages of economic environment and locations.

#### **Destination Styled Regions**

Five cities are included, which are Shaoguan, Zhaoqing, Huizhou, Yangjiang, and Zhanjiang. They are rich in tourism resources and famous good tourism products, and have a large amount of tourists. They paid much attention to the construction of tourism infrastructure, but have low ability of travel

outgoing owing to their backward economy. In 2001, they received 14.1% of tourists staying overnight, and had only 8.4% of tourism receipts and 5.4% of outbound tourists. Tourists staying overnight received in Zhaoqing amounted to 4.27 million, taking the sixth place in the whole province. It has 41 5-star rated hotels, coming the seventh. It's urgent to improve the tourism infrastructure, train tourism staff, increase tourism consume projects based on resources and develop tourism market to advance tourism receipts.

### Undeveloped Regions

There are 8 cities in this group, Shanwei, Chaozhou, Heyuan, Meizhou, Maoming, Jieyang, Qingyuan and Yunfu. As a result of deficient use of tourism resources, Visitor arrivals were quite few, the ability of travel outgoing and organizing were not so strong. The volume and benefit of tourism await improvement. In 2001, they had 16.7% of total star class hotels, 16.1% of tourism employees, only 10.9% of visitor arrivals and 5.7% of tourists outgoing. Qingyuan(623 million yuan), Jieyang(642 million yuan), Maoming(780 million yuan), Heyang(940 million yuan), Meizhou (953 million yuan), took the last five places of tourism receipts. Qingyuan had the fewest visitor arrivals and Jieyang had the fewest star rated hotels. These regions have much potential in tourism development. The exploitation of tourism resources should be carried out, the investment of tourism infrastructure should also be strengthened to improve the environment and cultivate tourism market.

### Conclusions

We tried to analysis regional disparity of tourism development of Guangdong, using the methods of principle component analysis and hierarchical cluster. The index system is quite comprehensive and the conclusions are objective. If we analysis the problem on sequential years of data, the result may be more accurate.

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### *About the Author*

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**Zhang Zhengsheng** is a lecture in the Department of Geography, South China Normal University. He is now a doctor candidate in the College of Geography /Institute of Environmental Geology & Geo-Resources, Zhongshan University. His research expertise includes regional geography, regional planning, and tourism planning.

**Zhang Duanyang** is a postgraduate in the School of Humanities and law, Northeastern University. His major interest is in public administration.

