Research on the tourism follow-up effect of Guangzhou Asian Games

XU Qiang¹

¹Tourism & Aviation Services School, Guizhou Minzu University Guizhou, Guiyang, China

Abstract—Event tourism is the combination of events and tourism, and is one of the main forms of modern tourism. Sports event tourism is one of the types of event tourism. The holding of sports events can greatly promote the development of tourism in the host area, and realize the comprehensive improvement of the economic, social and environmental benefits of the host area. However, after the end of the event, a large number of stadiums are idle or underutilized, and the event tourism is terminated due to the end of the event, which makes the development of tourism in the host city fluctuate, that is, "post event effect". Taking the Guangzhou Asian Games as an example, this paper summarizes the tourism follow-up benefits of the games, then find out the follow-up negative effect reasons and the operating mechanism, at the end, puts forward the Countermeasures for sustainable development.

1 OVERVIEW OF SPORTS EVENTS TOURISM

1.1 An overview of the tourism effect of sports events

Sports events, especially large-scale sports events, such as the Olympic Games and the World Cup football match, can greatly promote the economic and social development of the host country, and can also promote the development of local tourism to a greater extent. As a kind of tourism resources, sports events are gradually integrated into the tourism attraction system of the destination, which has different degrees of attraction to tourists before, during and after the event. Compared with the traditional tourism resources, sports events have the characteristics of short-term and mobility. The tourism effect of sports events occurs only in the period of the event, the preparation period before the event and several years after the event, and the degree of tourism effect shows different performance in each year. As a temporary and "living" tourist attraction, sports events can create or enhance the popularity and influence of the destination in the country or the world, attract world tourists, extend their stay time and increase consumption expenditure.

1.2 An overview of the tourism follow-up effects of sports events

The tourism follow-up effect of sports events refers to the total impact of sports events on the host and surrounding areas in a certain period after the sports events are held, including the positive and negative effects of tourism

follow-up. In the short term after the end of the event, driven by the strong influence of the event, the economy and society of the host city will continue to develop at a high speed for a period of time. The brand and popularity of the city will continue to grow, the environment will be continuously improved, and the surrounding areas will also be strongly radiated by the host city. The economy will develop rapidly, and tourism will usher in an unprecedented development opportunity. However, in the 2-5 years after the end of the event, due to the reduction of investment activities, the total demand for tourism is greater than the total supply, resulting in idle competition venues, recession or withdrawal of tourism related industries, decline in the number of tourists and tourism income, which is called "post event effect" or "post event trough effect", which is not conducive to the effective utilization of resources and the stable development of the host city.

2 A SUMMARY OF THE TOURISM FOLLOW-UP EFFECTS OF GUANGZHOU ASIAN GAMES

Through the quantitative analysis of the tourism income, the number of inbound tourists, the number of domestic overnight tourists, the operation status of accommodation industry, the operation status of transportation industry and the number of employees in tourism related industries of Guangdong Province and Guangzhou City in the three periods before, during and after the Guangzhou Asian Games, it is found that Guangzhou has a certain tourism follow-up effect after the Asian Games, including tourism follow-up positive Effects (such as brand effect, peak shifting effect, environmental effect) and negative effects of tourism follow-up (such as the decrease of tourism income and the number of tourists).

Email: 497628577@qq.com

2.1 Brand effect

Due to the large-scale investment, extensive media coverage and wide influence of the event, Guangzhou Asian games often become the focus of the world before and during the event. The huge "focus effect" has rapidly improved the popularity and influence of Guangzhou in Asia and the world, and established the image of Guangzhou as an international metropolis. However, after the end of the event, this brand effect will continue for a period of time, and the world's recognition of Guangzhou will not immediately decrease with the end of the competition. It is the continuation of brand effect that offsets the depression of tourism economy after the games to a certain extent, which makes the trough effect of Guangzhou appear later and lighter after the Asian Games. Guangzhou should make full use of the brand effect, do a good job in the aftermath, make full use of tourism resources, strengthen regional cooperation, develop new tourism products, increase publicity efforts, prevent the disappearance of brand effect and reduce the loss caused by the trough effect.

2.2 Peak shifting effect

During the Asian Games, due to the great attraction of the event, a large number of world and domestic tourists flocked to Guangzhou, and the number of tourists increased sharply. As a result, the demand of tourists, tourism transportation, tourism accommodation and tourism practitioners in Guangzhou showed a concentrated and substantial increase, forming the "giant peak effect". Then, during the event, a large number of tourists often cause traffic congestion, environmental degradation, noise pollution, public facilities tension and other negative effects in Guangzhou. Therefore, some tourists choose to avoid the huge tourist group. They may choose to travel to the cities around Guangzhou during the event, such as Shenzhen, Dongguan, Foshan, or choose to go to Guangzhou after the Asian Games, forming "peak shifting effect".

2.3 Environmental effect

The successful application of the Asian Games has put forward higher requirements for the environmental conditions of Guangzhou. The investment in environmental protection is an important part of the investment in the Asian Games. However, the environmental effect has not been well reflected in the 16 days since the Asian Games was held. The air pollution and garbage increase brought by a large number of tourists have damaged the ecological environment of Guangzhou. However, after the end of the Asian Games, the pressure on the ecological environment of Guangzhou has been greatly relieved. The holding of the Asian Games for the cultivation of the ecological concept of Guangzhou citizens makes them still attach importance to the protection of the environment after the end of the games, and the environmental benefits begin to show.

2.4 Valley effect

The holding of the Asian Games in Guangzhou not only brings huge economic, social and environmental effects to Guangzhou, but also has negative effects, especially the trough effect after the Asian Games. The trough effect of Guangzhou Asian Games is mainly reflected in the following four aspects: first, the surplus of resources, after the end of the Asian Games, a large number of competition venues and infrastructure are idle, the real estate transaction rate invested by developers is low, and the room rental rate of hotels / hotels begins to decline, resulting in asset waste; second, the scale of inbound tourists is reduced, especially the number of foreigners among inbound tourists, while receiving tourists. Although the total amount is increasing, the growth rate has slowed down; third, the foreign exchange income of tourism has decreased, the growth rate of total tourism income has slowed down, and the tourism economic effect has weakened; fourth, the number of employees in tourism related industries has decreased, such as the number of social employees in accommodation, catering, transportation, post and telecommunications, culture, sports and entertainment industries has begun to decrease after the Asian Games.

3 ANALYSIS ON THE REASONS AND OPERATION MECHANISM OF TOURISM FOLLOW-UP NEGATIVE EFFECT OF GUANGZHOU ASIAN GAMES

3.1 An analysis of the reasons for tourism follow-up negative effects in Guangzhou Asian Games

3.1.1 Tourism market supply and demand imbalance, resource surplus

From the perspective of market supply, oversupply and resource surplus caused by supply exceeding demand are the direct reasons for the negative effects of Guangzhou Asian Games tourism. In the preparation period of the Asian Games, Guangzhou has built, rebuilt or expanded a large number of competition venues, training venues and supporting facilities, and invested in improving the infrastructure. At the same time, the transportation industry, accommodation industry, catering industry, entertainment industry and travel agency industry related to tourism also increased the investment in fixed assets. According to statistics, the total investment of Guangzhou Asian Games is more than 120 billion yuan. The investment mainly includes three aspects: first, the construction and maintenance of venues for the Asian Games and the Asian Paralympic Games, with an investment of about 6.3 billion yuan; second, the operation funds of the Asian Games and the Asian Paralympic Games, with an investment of about 7.3 billion yuan; third, the improvement of urban appearance and environment, with an investment of about 109 billion yuan, including subway construction and urban roads Road, bridge and infrastructure, comprehensive environmental improvement, industrial sewage treatment

and other funds. The huge investment has brought the sufficient supply of tourism market. During the holding period of the Asian Games and the short period after the Asian Games, the continuous source of tourists ensures the sufficient market demand, so as to achieve the balance of supply and demand, and the tourism economy grows steadily and rapidly.

After the end of the Asian Games for a long time, tourism investment and market demand gradually decreased, the development of tourism economy slowed down significantly, most of the Asian Games venues were not fully utilized, and the social employees were surplus, resulting in the dual waste of material and human resources, tourism supply exceeded demand, and supply and demand imbalance, which eventually led to the underestimation effect of the Asian Games.

3.1.2 Tourists' rational choice of tourism mode

From the perspective of market demand, after the end of the Asian Games, the "giant peak effect" brought by the Asian Games to Guangzhou tourism market gradually disappeared, and tourists began to travel rationally. Influenced by the great attraction of the Asian Games, Guangzhou attracted the attention of the whole world during the games, and world tourists gathered here. After the Asian Games, the price of Guangzhou rose, the real estate bubble began to expand, the negative externalities appeared, and the tourist market became dim. What tourists pursue is an optimal way of tourism, trying to achieve the Pareto optimal state in economics, that is, to achieve the best tourism experience on the premise of not making other tourists feel worse. After the end of the Asian Games, Guangzhou has lost its status as the best tourist destination in the eyes of tourists. On the contrary, tourists will continue to choose the tourist destination that can make them reach Pareto optimal state, or other cities, or improved Guangzhou.

In addition, the products provided by the Asian Games to tourists are short-lived and perishable. It is difficult for tourists' short-term and instantaneous consumption demand to keep consistent with their long-term and stable consumption habits. This is also one of the reasons why a large number of tourists have decreased after the Asian Games and Guangzhou's tourism economy has fallen into a low ebb.

3.2 Analysis on the operation mechanism of tourism follow-up negative effects in Guangzhou Asian Games

The operation mechanism of the tourism negative effects of Guangzhou Asian Games can be explained by the theory of system dynamics. System dynamics was founded by Professor J.W. Forrester of Massachusetts Institute of technology in 1956. It is a discipline of analyzing and studying information feedback system, and it is also an interdisciplinary subject to understand and solve system problems.

In this paper, the application of system dynamics in the post event effect is based on the research results of Bao

Jigang, Xu Honggang, Dai Guangquan and other well-known scholars in "the influence and theoretical explanation of farewell to the Three Gorges Tour".

The system dynamics model of Guangzhou Asian Games tourism is a complex system, which consists of four subsystems: tourists, public infrastructure, infrastructure and scenic spots. The key part is the structure of tourists. Figure 1 shows the simplified model of tourist subsystem of Guangzhou Asian Games.

Figure1. simplified causality diagram and structure chart of Guangzhou Asian Games tourism development

The tourist structure of Guangzhou Asian Games tourism system dynamics model consists of six parts: the number of tourists who are interested in Guangzhou (TA), the number of tourists who have lost interest in Guangzhou (TL), the stock of potential tourists in Guangzhou (TP), the revisit tourists (TR), the tourists to Guangzhou (T) and the preparation time (t). Among them, the tourists to Guangzhou are affected by the other five factors, and there is a quantitative relationship between them.

$$T = Tp / t \quad (1)$$

$$Tp = \int (Ta + Tr - T - Tl) dt \quad (2)$$

From formula (1), under the influence of travel preparation time, there is a negative feedback and positive correlation between the number of tourists to Guangzhou and the stock of potential tourists in the early stage of full source guarantee. The negative feedback is that if the number of tourists to Guangzhou increases, the inventory of potential tourists will decrease, thus hindering the further increase of the number of tourists; the positive correlation is that the number of field tourists is based on the stock of potential tourists, and only sufficient inventory can be converted into considerable tourist statistics.

From formula (2), we can see that the stock of potential tourists in Guangzhou is the integral of the tourists who are interested in the Guangzhou Asian Games and the tourists who have lost their interest in Guangzhou. This shows that the stock of potential tourists has a positive correlation with interested tourists and revisited tourists, and negatively correlated with actual tourists and tourists who have lost interest.

TABLE I. TABLE OF CHANGE TOURISTS IN DIFFERENT STAGES

<i>time interval</i>	<i>T_a</i>	<i>T_r</i>	<i>T_l</i>	<i>T_p</i>	<i>t</i>	<i>T</i>
Asian Games held	↑	↑	≈	↑	↓	↑ sharp increase
Within a short time after the end of the Asian Games	↓	↓	↑	↓	↑	↓ sharp decline
A long time after the end of the Asian Games	↑	↑	↓	↑	↑	↑ Slow growth

Note: ↑ indicates increase, ↓ indicates decrease, ≈ indicates basically unchanged

When the Guangzhou Asian Games was held, the great influence of the event attracted a large number of world and domestic tourists. The number of tourists who went to Guangzhou for tourism increased sharply and the travel preparation time decreased. However, with the deepening of the competition, the number of tourists interested in Guangzhou Asian Games Tourism increased, and the number of revisited tourists also increased. The number of tourists who lost interest in Guangzhou remained basically unchanged. At this time, the stock of potential tourists will increase, rather than decrease in theory, because the increase of the number of field tourists will take away more potential tourists with interest and revisit tourists.

In a short time after the end of the Asian Games in Guangzhou, due to the aggravation of urban pollution, the decline of tourism service quality and the decrease of tourist space during the Asian Games, most tourists believe that with the end of the Asian Games, the tourism products of Guangzhou will disappear, and the number of tourists who are interested in Guangzhou and revisited will decrease, and the number of tourists who lose their interest in tourism will increase. With the increase of travel preparation time and the lack of tourists' supplement, the stock of potential tourists will naturally decline, and the number of tourists going to Guangzhou for field tourism will drop rapidly.

In a long period after the end of the Asian Games in Guangzhou, if various remedial measures are taken properly and the "residual temperature effect" and "brand benefit" of the Asian Games are brought into full play, the follow-up negative effects of tourism will gradually subside and the tourism market will tend to be stable. The number of tourists who are interested in Guangzhou will increase, and the number of tourists who lose their interest in tourism will decrease, and the inventory of potential tourists will increase. Therefore, the total number of tourists to Guangzhou will continue to increase at this stage. In addition, due to the lack of the strong attraction of the Asian Games, tourists become cautious and rational travel, travel preparation time *t* will naturally decline.

4 STUDY ON THE STRATEGY OF SUSTAINABLE DEVELOPMENT OF TOURISM IN GUANGZHOU ASIAN GAMES

4.1 From the perspective of resource utilization, sharing Asian Games venues and improving the utilization rate of venues

According to the characteristics of the venues, Guangzhou Asian Games venues can be divided into three categories: comprehensive venues, large venues, small and medium-sized venues. Due to the constraints of geographical location, venue conditions, supporting facilities, regional economy, sports resources and other objective factors, the utilization of Asian Games venues after the games should consider the individual characteristics of venues, and put forward different follow-up utilization suggestions for different types of venues.

4.1.1 Comprehensive venues group: refers to the venues with various types, perfect functions and rich projects, including the venues of Guangdong Olympic Center and Tianhe Sports Center. After the games, the comprehensive venues should introduce high-end sports resources, build a comprehensive competition performance platform, leisure and entertainment platform, sports and cultural communication platform in Guangzhou, strive to reflect the functional diversity of venues, integrate excellent social resources, and enrich the amateur cultural life services of Guangzhou citizens.

4.1.2 Large scale venues: refers to the large-scale venues that can be used for professional sports competitions and large-scale group activities. Such venues have become an important urban landscape in Guangzhou. Large and medium-sized cultural and sports activities can be focused on, and cooperation with well-known enterprises at home and abroad can be actively introduced to create a regional sports center and a tourist resort for citizens.

4.1.3 Small and medium-sized stadiums and stadiums: they are small-scale stadiums and stadiums that mainly carry out national fitness activities and undertake basic public sports services. After the games, the small and medium-sized stadiums and gymnasiums should focus on the national fitness activities, ensure the opening hours, improve the service level and protect the citizens' basic sports rights.

4.2 From the perspective of product development, innovate tourism products and improve the participation of tourists

After the Asian Games, in order to ensure the sustainable development of tourism, ensure the potential stock of

tourists, improve the revisit rate of tourists and enrich the types of tourists, Guangzhou and other co host cities should jump out of the sports tourism products, not only develop sports tourism products, but also develop complex tourism products that meet the market demand, such as sightseeing tourism products, exhibition tourism products and business tourism products, incentive tourism products, festival tourism products.

To strengthen the inter regional tourism cooperation, under the background of the overall development of domestic multi regional, multi-level and multi field tourism cooperation, Guangzhou should formulate a comprehensive regional tourism cooperation strategy after the Asian Games: first, Guangzhou should strengthen the tourism cooperation with surrounding cities, especially the tourism cooperation among the cities in the Pearl River Delta, promote the integration of tourism in the Pearl River Delta, and build regional gold The second is to strengthen the tourism cooperation between Guangzhou and overseas, especially to realize the tourism interaction between Guangzhou and Hong Kong, Macao, Southeast Asia, Europe and the United States, and to strengthen the two-way flow of overseas tourism talents.

4.3 From the perspective of industrial adjustment, realize industrial transformation and enhance industrial vitality

4.3.1 Realize the transformation from economic tourism to cultural tourism. Culture is the main driving force of tourism activities, and the development of cultural tourism is the objective need of tourism transformation and upgrading. Guangzhou should inherit the excellent traditional culture, carry forward the advanced socialist culture, explore a new way to integrate the characteristic culture and tourism, and vigorously develop the culture and tourism industry. In the development of tourism products after the Asian Games, Guangzhou should focus on the cultural development of tourism resources, deeply tap and enrich its cultural value, vigorously develop cultural tourism products, promote industrial agglomeration and integrated development through the construction of Cultural Tourism Industrial Park, cultural creative industry park and cultural tourism industry cluster area, so as to make tourism and culture coexist and form culture Tourism symbiosis and Industry Association will drive the development of cultural industry in other related areas.

4.3.2 Realize the transformation from non Hallmark sports events to Hallmark sports events. Hallmark sports events refer to the sports events held repeatedly in one place, and the events have been closely linked with the host place. Compared with the non hallmark sports events only held once or a limited number of times in a certain place, the hallmark sports events can be held in a certain place for countless times. As far as the host city is concerned, there is no obvious peak period of tourism economy and low period of tourism economy for hallmark

sports events, but it has been developing steadily and rapidly. Therefore, Guangzhou can apply for holding some hallmark sports events, that is, holding a certain event regularly in Guangzhou. Through the holding of the hallmark sports events, let the events become the symbol and pronoun of Guangzhou, and make use of the long-term and continuous pulling effect of the hallmark sports events to reduce the influence of the post event effect as far as possible, so as to bring stable tourist volume to Guangzhou and promote the sustainable development of Guangzhou's tourism economy.

5 SUMMARY

With the rapid development of the sports industry, there is an upsurge of holding sports events at home and abroad. All kinds of sports competitions are held all the time in the world. The integration of sports industry and tourism industry not only promotes the development of tourism, but also promotes the prosperity of sports industry. The holding of sports events, especially super large and large-scale sports events, can greatly promote the economic, social and ecological benefits of the host area. As an attraction, event resources attract tourists from all over the world. However, behind the prosperity and development of event tourism, there are various problems. After the event, the utilization rate of event resources is low, and the tourism economy is in a low ebb. Especially, the waste of competition venues after the Games is very serious, and the follow-up development and utilization of venues has become a worldwide problem.

In the two to five years after the end of the Asian Games in Guangzhou, there are still many "post event effects" in Guangzhou, especially the decrease of inbound tourists, the decrease of foreign exchange income, the decrease of room rental rate, the decrease of employees in tourism related industries, and the idleness of Asian Games venues. Therefore, the research of this paper is still meaningful. Based on the empirical study of Guangzhou Asian Games, this paper hopes to have certain reference significance for the sports events and other events that are being held and will be held, so as to avoid the negative effects brought by the events as far as possible, and prolong the follow-up positive effects of tourism.

REFERENCES

1. Hall, C. M. Hallmark Tourism Event: Impact, Management and Planning[M]. London : Belhaven Press. 1992.
2. Roche, M. Mega - events and Modernity: Olympics and expos in the growth of global culture[M]. London: Routledge. 2000.
3. Getz Donald. Festival, Special Events and Tourism[M]. New Your: Van Nostrand Reinhold International Company Limited. 1991.
4. Getz Donald. Event Management & Event Tourism[M]. New Your: Cognization Communication. 1997.7

5. Ritchie, J.R.B, and Smith,Brian H. The Impact of a Mega-eventon Host Region Awareness: A Longitudinal Study[J] :Journal of Tracel Research, 1991, 30 (01):3 - 10.
6. Luo Qiuju. A preliminary study on event tourism [J]. Jiangxi Social Sciences, 2002 (09): 218-219.
7. Li Yan. Research on the follow-up effect of Sydney Olympic Games tourism and Its Enlightenment to Beijing Olympic tourism [D]. Southwest Jiaotong University, 2007.
8. Dai Guangquan, Bao Jigang. Concept, content, method and Inspiration of Western event and Event Tourism Research (I) [J]. Journal of tourism, 2003 (05): 26-34.
9. Zou Tongzhu. Olympic tourism effect: the driving force of 2008 Beijing Olympic Games on China's tourism [M]. Beijing: Social Science Literature Press. August 2007.
10. Qian Yonggang. Research on Sports Tourism Development [D]. Huaqiao University (Quanzhou) 2007.
11. Wang Chunlei. A review of studies on the impact of major events abroad [J]. Tourism science, 2003 (04) .
12. Dai Guangquan. Festival, event and Event Tourism: theory, case and planning [M]. Beijing: Science Press. September 2005
13. Tian Li, ban Xuan. Research on the phenomenon of large-scale festival tourism and its countermeasures [J]. Ideological front, 2011 (04): 118-121.
14. Bao Jigang, Xu Honggang, Dai Guangquan. The influence of "farewell to the Three Gorges" and its theoretical explanation [J]. Geographic research, 2002 (05).